GLENDALE UNIFIED SCHOOL DISTRICT

CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)

GLENDALE, CA

100% CONSTRUCTION DOCUMENTS

OWNER
GLENDALE UNIFIED SCHOOL DISTRICT
349 W. MAGNOLIA AVENUE
GLENDALE, CA 91204
(818) 507-0201
CONTACT: JEFF BOHN

ARCHITECT
NAC ARCHITECTURE
837 N. SPRING STREET
LOS ANGELES, CA 90012
(323) 475-8075
CONTACT: DAWN BRISCO

CIVIL ENGINEER
BRANDOW & JOHNSTON
700 S. FLOWER STREET SUITE 1800
LOS ANGELES, CA 90017
(213) 596-4500
CONTACT: ED S. MELO

STRUCTURAL ENGINEER
KPFF
700 S. FLOWER STREET SUITE 2100
LOS ANGELES, CA 90017
(213) 418-0201
CONTACT: JORGE A. RIVERA

MECHANICAL ENGINEER
HENDERSON ENGINEERS
510 W. 6TH ST #800
LOS ANGELES, CA 90014
(213) 254-4750
CONTACT: SIMON UBHI

ELECTRICAL ENGINEER
HENDERSON ENGINEERS
510 W. 6TH ST #800
LOS ANGELES, CA 90014
(213) 254-4750
CONTACT: SIMON UBHI

PLUMBING ENGINEER
HENDERSON ENGINEERS
510 W. 6TH ST #800
LOS ANGELES, CA 90014
(213) 254-4750
CONTACT: SIMON UBHI

TELECOM
HENDERSON ENGINEERS
510 W. 6TH ST #800
LOS ANGELES, CA 90014
(213) 254-4750
CONTACT: SIMON UBHI

FIRE SPRINKLER
HENDERSON ENGINEERS
510 W. 6TH ST #800
LOS ANGELES, CA 90014
(213) 254-4750
CONTACT: SIMON UBHI

FIRE ALARM
HENDERSON ENGINEERS
510 W. 6TH ST #800
LOS ANGELES, CA 90014
(213) 254-4750
CONTACT: SIMON UBHI

SECURITY
HENDERSON ENGINEERS
510 W. 6TH ST #800
LOS ANGELES, CA 90014
(213) 254-4750
CONTACT: SIMON UBHI

STATEMENT OF GENERAL CONFORMANCE

FOR ARCHITECTS/ENGINEERS WHO UTILIZE PLANS, INCLUDING BUT NOT LIMITED TO SHOP DRAWINGS, PREPARED BY OTHER LICENSED DESIGN PROFESSIONALS AND/OR CONSULTANTS (APPLICATION NO. A# 03-120696 FILE NO. 19-H13)

- [x] THE DRAWINGS LISTED IN THE INDEX ON THIS COVER PAGE
- [ ] THIS DRAWING, PAGE OF SPECIFICATIONS/CALCULATIONS

HAVE BEEN PREPARED BY OTHER DESIGN PROFESSIONALS OR CONSULTANTS WHO ARE LICENSED AND/OR AUTHORIZED TO PREPARE SUCH DRAWINGS IN THIS STATE. IT HAS BEEN EXAMINED BY ME FOR:

1. DESIGN INTENT AND APPEARS TO MEET THE APPROPRIATE REQUIREMENTS OF TITLE 24, CALIFORNIA CODE OF REGULATIONS AND THE PROJECT SPECIFICATIONS PREPARED BY ME, AND
2. COORDINATION WITH MY PLANS AND SPECIFICATIONS AND IS ACCEPTABLE FOR INCORPORATION INTO THE CONSTRUCTION OF THIS PROJECT

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 4-336, 4-341, AND 4-344" OF TITLE 24, PART 1 (TITLE 24, PART 1, SECTION 4-317(b))

I FIND THAT:
- [x] ALL DRAWINGS OR SHEETS LISTED ON THE COVER OR INDEX SHEET
- [ ] THIS DRAWING OR PAGE

- [x] IS/ARE IN GENERAL CONFORMANCE WITH THE PROJECT DESIGN, AND
- [x] HAS/HAVE BEEN COORDINATED WITH THE PROJECT PLANS AND SPECIFICATIONS.

Dawn Brisco — 09/04/2020
SIGNATURE — DATE
ARCHITECT OR ENGINEER DESIGNATED TO BE IN GENERAL RESPONSIBLE CHARGE

DAWN BRISCO
PRINT NAME

C-37573 — 05/31/2021
LICENSE NUMBER — EXPIRATION DATE

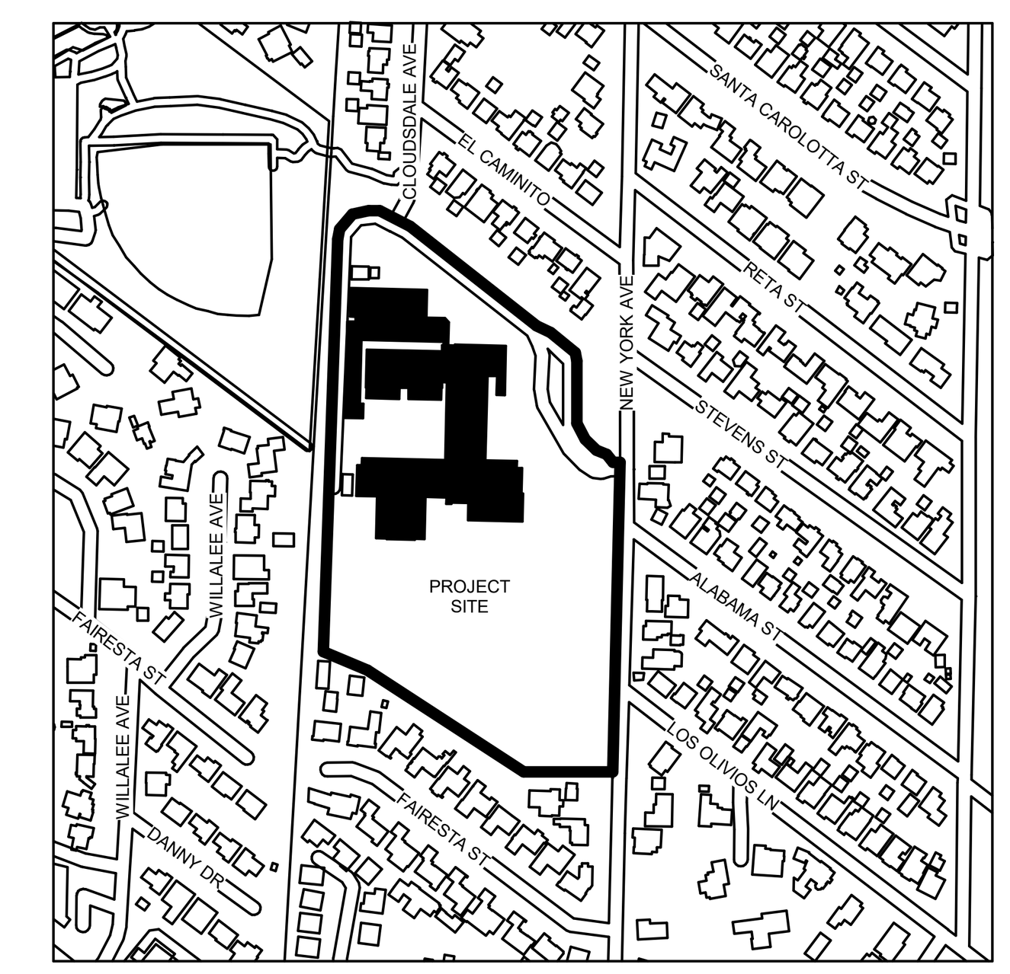
- [x] IS/ARE IN GENERAL CONFORMANCE WITH THE PROJECT DESIGN, AND
- [x] HAS/HAVE BEEN COORDINATED WITH THE PROJECT PLANS AND SPECIFICATIONS.

SIGNATURE — DATE
ARCHITECT OR ENGINEER DESIGNATED TO BE IN GENERAL RESPONSIBLE CHARGE

PRINT NAME

LICENSE NUMBER — EXPIRATION DATE

N
LOCATION MAP
Scale: NTS



N
VICINITY MAP
Scale: NTS

SHEET INDEX

INDEX OF DRAWINGS

INDEX OF DRAWINGS

SCOPE OF WORK

1. NEW CONSTRUCTION OF A TYPE V-B FULLY SPRINKLERED 1-STORY CLASSROOM BUILDING THAT HOUSES WOOD, METAL, AND CNC FABRICATION SPACES, MATERIAL STORAGE AND A ROBOTICS TESTING ARENA.
2. UPGRADE ENTRY DOOR AND SIDELITES EXISTING TYPE V - NON RATED, PARTIALLY SPRINKLERED EXISTING BUILDING (A#69448, NOT CERTIFIED).
3. NEW PASSENGER DROP-OFF AND LOADING ZONE IN FRONT OF ADMINISTRATION BUILDING (BUILDING AA)
4. UPGRADED FIRE LINE TO PROVIDE MINIMUM 1,500 GPM, THIS SCOPE TO BE DONE BY WATER PURVEYOR.

BUILDING INFORMATION

BUILDING HEIGHT:	SINGLE STORY, 23'-3"
BUIDING AREA:	7,567 SF
OCCUPANCY GROUP:	E, S2
OCCUPANCY LOAD:	146
CONSTRUCTION TYPE:	V-B, FULLY SPRINKLERED

GEOTECHNICAL INVESTIGATION REPORT

THE GEOTECHNICAL INVESTIGATION REPORT PREPARED BY GROUP DELTA CONSULTANTS, INC. DATED MARCH 16, 2020 GDC PROJECT NO. LA-1420 IS HEREBY MADE A PART OF THE CONTRACT DOCUMENTS. ALL FINDINGS AND RECOMMENDATIONS ARE TO BE INCLUDED IN THE SCOPE OF WORK AND TO BE REFLECTED IN THE COST OF THE CONTRACTOR'S BID PROPOSAL.

CGS PROJECT #03-CGS4386

DEFERRED APPROVALS

1. STOREFRONT GLAZING SYSTEM

APPLICABLE CODE SECTIONS

LIST OF 2019 CALIFORNIA CODE RECULATIONS (C.C.R.)

APPLICABLE CODE AS OF JANUARY 1. 2020

PART 1	2019 CALIFORNIA BUILDING STANDARDS ADMINISTRATIVE CODE, TITLE 24 C.C.R.
PART 2	2019 CALIFORNIA BUILDING CODE VOL. 1 & 2, TITLE 24 C.C.R. (2018 INTERNATIONAL BUILDING CODE OF THE INTERNATIONAL CODE COUNCIL, WITH CALIFORNIA AMENDMENTS)
PART 3	2019 CALIFORNIA ELECTRICAL CODE, TITLE 24 C.C.R. (201X NATIONAL ELETRICAL CODE OF THE NATIONAL FIRE PROTECTION ASSOCIATION, NFPA)
PART 4	2019 CALIFORNIA MECHANICAL CODE, TITLE 24 C.C.R. (201X UNIFORM MECHANICAL CODE OF THE INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS, IAPMO)
PART 5	2019 CALIFORNIA PLUMBING CODE, TITLE 24 C.C.R. (201X UNIFORM PLUMBING CODE OC THE INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS, IAPMO)
PART 6	2016 CALIFORNIA ENERGY CODE TITLE 24, C.C.R.
PART 7	CURRENTLY VACANT
PART 8	2019 CALIFORNIA HISTORICAL BUILDING CODE, TITLE 24 C.C.R.
PART 9	2019 CALIFORNIA FIRE CODE, TITLE 24 C.C.R.
PART 10	2019 CALIFORNIA EXISTING BUILDING CODE, TITLE 24 C.C.R. (201X INTERNATIONAL EXISTING BUILDING CODE OF THE INTERNATIONAL CODE COUNCIL, WITH AMENDMENTS)
PART 11	2019 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN CODE), TITLE 24 C.C.R. WITH AUGUST 2019 SUPPLEMENT
PART 12	CALIFORNIA REFERENCED STANDARDS CODE, TITLE 24 C.C.R.

PARTIAL LIST OF APPLICABLE STANDARDS:

2019 CALIFORNIA BUILDING CODE (FOR SMF) REFERENCED STANDARD CHAPTER 35

CAL GREEN CODE

PROJECT MUST MEET THE MANDATORY MEASURES OF THE 2019 CALIFORNIA GREEN BUILDING STANDARDS CODE (CALGREEN) CODE (TITLE 24, PART 11 - EFFECTIVE 1/1/20)

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

LICENSED ARCHITECT
DAWN BRISCO
Dawn Brisco
No. C-37573
Exp. 5-31-21
STATE OF CALIFORNIA

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09-04-2020

100% CONSTRUCTION DOCUMENTS

COVER SHEET

G0.00

© 2019 NAC inc

ARCHITECTURAL SYMBOLS

GRID LINE

DOOR IDENTIFICATION

RELITE IDENTIFICATION

WINDOW TYPE

LOUVER TYPE

REVISION

MATCH LINE
Shaded area is side considered

WORK POINT, DATUM POINT, CONTROL POINT

DETAIL
Upper mark denotes drawing number
Lower mark denotes sheet

PARTIAL BUILDING SECTION

BUILDING CROSS SECTION

INTERIOR ELEVATION
Elevation number denoted in arrow
Sheet number denoted in box

ROOM IDENTIFICATION

CODED NOTE

WALL TYPE

EQUIPMENT IDENTIFICATION

DASHED LINE
Used to denote items hidden, overhead, not in contract (NIC), or to be removed

BREAK LINE
Material to continue

CENTER LINE, GRID LINES

PROPERTY LINE

EXISTING CONTOUR, DISTURBED

NEW CONTOUR

EXISTING CONTOUR, UNCHANGED

NEW FINISH GRADE

EXISTING GRADE

TOP OF FOOTING

TOP OF WALL

TOP OF CURB

TOP OF PAVEMENT

ABBREVIATIONS

	ANGLE
	CENTERLINE
#	POUND OR NUMBER
&	AND
@	AT
°	DEGREE
±	PLUS / MINUS
Ø	DIAMETER
A/C	AIR CONDITIONING
AB	ANCHOR BOLT
AC	ASPHALT CONCRETE
ACOUS	ACOUSTICAL
AD	AREA DRAIN
ADDL	ADDITIONAL
ADJ	ADJUSTABLE
ADJT	ADJACENT
AFF	ABOVE FINISHED FLOOR
AGGR	AGGREGATE
AJ	ACCENT JOINT
AL	ALUMINUM
ALT	ALTERNATE
ANC	ANCHOR(AGE)
ANOD	ANODIZED
APC	ACOUSTICAL PANEL CEILING
APF	ACOUSTICAL PANEL FABRIC
APPD	APPROVED
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL
ASB	ASBESTOS
ASPH	ASPHALT
AUTO	AUTOMATIC
AWP	ACOUSTICAL WALL PANEL
BD	BOARD
BET	BETWEEN
BITUM	BITUMINOUS
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BOF	BOTTOM OF FRAME
BOM	BOTTOM OF MASONRY
BOTT	BOTTOM
BRG	BEARING
BSMT	BASEMENT
BUR	BUILT UP ROOF
C	COURSES
CAB	CABINET
CB	CATCH BASIN, CHALKBOARD
CC	CUBICLE CURTAIN & TRACK
CEM	CEMENT
CER	CERAMIC
CFB	CEMENT FIBER BOARD
CG	CORNER GUARD
CI	CAST IRON
CIP	CAST-IN-PLACE CONCRETE
CJ	CONTROL JOINT
CLG	CEILING
CLKG	CAULKING
CLO	CLOSET
CLR	CLEAR, COLOR
CMU	CONCRETE MASONRY UNIT
CNR	CORNER
CNTR	COUNTER
CO	CLEANOUT
COL	COLUMN
COMBO	COMBINATION TPD, SNR, & SCD
COMP	COMPOSITION, COMPOSITE
CONC	CONCRETE
CONN	CONNECTION
CONST	CONSTRUCTION
CONT	CONTINUOUS
CONTR	CONTRACTOR
COORD	COORDINATE
CORR	CORRIDOR
CPT	CARPET
CRTN	CURTAIN
CT	CERAMIC TILE
CTR	CENTER
CW	CURTAIN WALL
CWP	COMPOSITE WALL PANEL
D	DEEP, DEPTH
DBL	DOUBLE
DEMO	DEMOLISH, DEMOLITION
DET	DETAIL
DF	DRINKING FOUNTAIN
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DISP	DISPOSAL
DIV	DIVISION
DN	DOWN
DP	DAMPPROOF(ING)
DR	DOOR
DS	DOWNSPOUT
DSP	DRY STANDPIPE
DWG	DRAWING
DWR	DRAWER
E	EAST
EA	EACH
EHD	ELECTRIC HAND/ HAIR DRYER
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EM	ENTRY MAT
EMB	ENAMELIZED MARKING BOARD
EMER	EMERGENCY
ENCL	ENCLOSURE
EP	ELECTRICAL PANELBOARD, EPOXY PAINT
EPT	EPOXY PAINT
EQ	EQUAL
EQUIP	EQUIPMENT
EW	EYEWASH
EWC	ELECTRIC WATER COOLER
EXC	EXCAVATE
EXH	EXHAUST
EXIST	EXISTING
EXP	EXPOSED, EXPANSION
EXT	EXTERIOR
F	FILE (DRAWER)
FA	FIRE ALARM
FAB	FABRICATE
FD	FLOOR DRAIN
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEC	FIRE EXTINGUISHER CABINET (RECESSED)
FEC-S	FIRE EXTINGUISHER CABINET (SEMI-RECESSED)
FF	FACTORY FINISHED
FFL	FINISHED FLOOR LINE
FHC	FIRE HOSE CABINET
FIN	FINISH
FLASH	FLASHING
FLR	FLOOR, FLOORING
FLUOR	FLUORESCENT
FOC	FACE OF CONCRETE
FOF	FACE OF FINISH
FOM	FACE OF MASONRY
FOS	FACE OF STUDS
FOSH	FACE OF SHEATHING
FP	FIREPROOF
FR	FIRE RESISTANT
FRMG	FRAMING
FRP	FIBER REINFORCED PLASTIC
FRTW	FIRE RETARDANT TREATED WOOD
FS	FLOOR SINK
FSS	FOLDING SHOWER SEAT
FT	FOOT, FEET
FTG	FOOTING
FURR	FURRING
FUT	FUTURE
FWC	FABRIC WALL COVERING
GA	GAUGE
GALV	GALVANIZED
GB	GRAB BAR
GEN	GENERAL
GI	GALVANIZED IRON
GL	GLASS
GLB	GLUE LAMINATED BEAM
GLZ	GLAZING
GMU	GLAZED MASONRY UNIT
GND	GROUND
GR	GRADE
GYP	GYPSUM BOARD (SCHEDULES ONLY)
GYP BD	GYPSUM BOARD
H	HIGH
HB	HOSE BIB
HC	HOLLOW CORE, HANDICAP (ACCESSIBLE)
HD	HEAD
HDW	HARDWARE
HDWD	HARDWOOD
HORIZ	HORIZONTAL
HS	HAND SANITIZER
HSS	HOLLOW STEEL SECTION
HT	HEIGHT
HTG	HEATING
HVAC	HEATING/ VENTILATING/ AIR CONDITIONING
HWH(T)	HOT WATER HEATER (TANK)
I/S	INSIDE
ID	INSIDE DIAMETER (DIM)
INCL	INCLUDE
INFO	INFORMATION
INSUL	INSULATION
INT	INTERIOR
INTERCOM	INTERCOMMUNICATION
IRD	IMPACT RESISTANT DOOR
JAN	JANITOR
JST	JOIST
JT	JOINT
KIT	KITCHEN
L	LENGTH, LONG
LAB	LABORATORY
LAM	LAMINATE
LAV	LAVATORY
LIN	LINOLEUM
LKR	LOCKER
LMS	LIQUID MARKING SURFACE
LT	LIGHT, LEFT
LV	LOUVER
MACH	MACHINE
MAP	MUSIC ACOUSTICAL PANEL
MATL	MATERIAL
MAX	MAXIMUM
MB	MARKING BOARD
MBR	MEMBER
MC	MEDICINE CABINET
MCSP	MINERAL COMPOSITE SCULPTURAL PANEL
MDF	MEDIUM DENSITY FIBERBOARD
MECH	MECHANICAL
MED	MEDIUM
MEMB	MEMBRANE
MEZZ	MEZZANINE
MFR	MANUFACTURER
MH	MANHOLE, MOP HOLDER
MIN	MINIMUM
MIR	MIRROR
MIR-S	MIRROR W/ SHELF
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MT(D)	MOUNT(ED)
MTL	METAL
MUL	MULLION
N	NORTH
NAT	NATURAL
NIC	NOT IN CONTRACT
NO	NUMBER
NOM	NOMINAL
NTS	NOT TO SCALE
O/S	OUTSIDE
OA	OVERALL
OBS	OBSCURE
OC	ON CENTER
OCC	OCCUPANT, OCCUPANCY
OD	OUTSIDE DIAMETER (DIM)
OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
OFF	OFFICE
OFOI	OWNER FURNISHED OWNER INSTALLED
OH	OVERHEAD
OHD	OVERHEAD DOOR
OPNG	OPENING
OPP	OPPOSITE
ORIG	ORIGINAL
PAR	PARALLEL
PB	PEG BOARD
PC	PRECAST
PCC	PORTLAND CEMENT CONCRETE
PCD	PAPER CUP DISPENSER
PERF	PERFORATED
PERP	PERPENDICULAR
PL	PLATE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLMB	PLUMBING
PLYWD	PLYWOOD
PNL	PANEL
POL	POLISHED
POS	POSITIVE
PR	PAIR
PREFAB	PREFABRICATE(D)
PREFIN	PREFINISH(ED)
PROJ	PROJECT
PS	PROJECTION SCREEN
PT	POINT, PAINT
PTD	PAPER TOWEL DISPENSER
PTDR	COMBINATION PAPER TOWEL DISPENSER & RECEPTACLE
PTN	PARTITION
PTR	PAPER TOWEL RECEPTACLE
PVMT	PAVEMENT
PWP	PLASTIC WALL PROTECTION
QT	QUARRY TILE
R	RISER, RADIUS
R&S	CLOSET ROD & SHELF
RAF	RESILIENT ATHLETIC FLOORING
RB	RUBBER BASE
RCP	REFLECTED CEILING PLAN
RD	ROOF DRAIN
RDO	ROOF DRAIN, OVERFLOW
REBAR	REINFORCING BAR
RECD	RECEIVED
REF	REFERENCE
REFL	REFLECTED
REFR	REFRIGERATOR
REINF	REINFORCE(D)(ING)
REQD	REQUIRED
RESIL	RESILIENT
RF	ROOF
RFT	RESILIENT FLOORING TILE
RH	ROBE HOOK
RM	ROOM
RO	ROUGH OPENING
RSD	RECESSED SOAP DISPENSER
RSS	RUBBER STAIR STRINGER
RSTR	RUBBER STAIR TREAD / RISER
RT	RIGHT, RUBBER TILE
RWL	RAIN WATER LEADER
S	SOUTH
SC	SOLID CORE
SCD	SEAT COVER DISPENSER
SCHED	SCHEDULE
SD	SOAP DISPENSER
SDG	SIDING
SECT	SECTION
SHR	SHOWER
SHT	SHEET
SHTG	SHEETING / SHEATHING
SIM	SIMILAR
SLR	SEALER
SND	SANITARY NAPKIN DISPENSER
SNR	SANITARY NAPKIN RECEPTACLE
SPEC	SPECIFICATION
SQ	SQUARE
SS	STAINLESS STEEL, SOLID SURFACE
SSK	SERVICE SINK
STD	STANDARD
STL	STEEL
STN	STAIN
STOR	STORAGE
STRFT	STOREFRONT
STRUCT	STRUCTURAL
SUB	SUBSTITUTE
SUSP	SUSPENDED
SV	SHEET VINYL
SWC	SANITARY WALL COVERING
SYM	SYMMETRICAL
SYS	SYSTEM
T	TREAD, TEE
TB	TOWEL BAR, TACK BOARD
TC	TOP OF CURB
TEL	TELEPHONE
TEMP	TEMPORARY
TERR	TERRAZZO
TF	TOP OF FOOTING
THK	THICK
THRU	THROUGH
TOF	TOP OF FRAME
TOM	TOP OF MASONRY
TP	TOP OF PAVEMENT
TPD	TOILET PAPER DISPENSER
TR	TOWEL RACK
TS	TUBE STEEL
TV	TELEVISION
TVB	TELEVISION BRACKET
TW	TOP OF WALL
TYP	TYPICAL
UNFIN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UPT	UNGLAZED PORCELAIN TILE
UR	URINAL
USK	UTILITY SINK
VB	VAPOR BARRIER
VCT	VINYL COMPOSITION TILE
VENT	VENTILATE
VERT	VERTICAL
VEST	VESTIBULE
VOL	VOLUME
VRB	VENTILATING RUBBER BASE
VTR	VENT THROUGH ROOF
VWC	VINYL WALL COVERING
W	WEST, WIDE, WIDTH
W/	WITH
W/D	WASHER/DRYER
W/O	WITHOUT
WC	WATER CLOSET
WD	WOOD
WDW	WINDOW
WFAP	WOOD FIBER ACOUSTICAL PANEL
WH	WALL HUNG
WP	WATERPROOF, WALL PADS
WPTL	WOOD PRESERVATIVE TREATED LUMBER
WR	WATER REPELLENT
WS	WEATHER STRIPPING
WSCT	WAINSCOT
WT	WEIGHT
WTR	WATER
WWF	WELDED WIRE FABRIC

GENERAL NOTES

1. ANY DISCREPANCIES BETWEEN THE CONSTRUCTION DOCUMENTS AND SITE OBSERVATIONS SHALL BE BROUGHT TO THE ARCHITECTS ATTENTION IMMEDIATELY, IN WRITTEN FORM.
2. SHOP DRAWINGS SHALL BE SUBMITTED FOR ALL NEW WORK. SHOP DRAWINGS SHALL BE OF A SCALE WHICH SPECIFIC COMPONENTS CAN BE IDENTIFIED.
3. EACH CONTRACTOR SHALL TAKE ALL PRECAUTIONARY MEASURES TO PROTECT EXISTING PIPELINES AND UTILITIES THAT ARE TO REMAIN IN SERVICE. EACH PRIME CONTRACTOR SHALL VERIFY WITH THE CONSTRUCTION MANAGER THAT THOSE PIPELINES AND UTILITIES THAT ARE TO BE REMOVED, HAVE BEEN DISCONNECTED, SHUT DOWN OR ABANDONED PRIOR TO ATTEMPTING REMOVAL OR DEMOLITION IN A MANNER TO AVOID ANY DISRUPTION OF EXISTING FACILITIES.
4. ALL DAMAGE DONE TO EXISTING CONSTRUCTION AS A RESULT OF DEMOLITION OR INSTALLATION SHALL BE COMPLETELY REPAIRED BY EACH PRIME CONTRACTOR AT NO COST TO OWNER. REPAIRED WORK SHALL MATCH EXISTING CONSTRUCTION.
5. PRODUCTS OF DEMOLITION/CONSTRUCTION SHALL BE STORED AND/OR INSTALLED IN A MANNER SUCH THAT NO MATERIALS ARE DAMAGED AND PUBLIC SAFETY IS MAINTAINED.
6. EACH CONTRACTOR SHALL THOROUGHLY CLEAN AND SECURE THE AREA OF CONSTRUCTION AFTER EACH DAY OF WORK.
7. EACH CONTRACTOR SHALL COORDINATE ALL WORK SHOWN ON THE ARCHITECT'S DRAWINGS WITH THE WORK SHOWN ON THE CIVIL, LANDSCAPE, STRUCTURAL, MECHANICAL, PLUMBING, ELECTRICAL, FIRE PROTECTION. ANY DISCREPANCIES FOUND SHALL BE BROUGHT TO THE ARCHITECTS ATTENTION BY RFI (REQUEST FOR INFORMATION) BEFORE ANY WORK IS STARTED.
8. SHUT DOWN OF EXISTING AND OPERATING PLUMBING AND ELECTRICAL SYSTEMS OR PORTIONS THERE OF SHALL BE COORDINATED WITH THE CONSTRUCTION MANAGER.
9. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK IS TO BE IN ACCORDANCE WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NONCOMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CALIFORNIA CODE OF REGULATIONS, A CCD, SHALL BE SUBMITTED TO AND APPROVED BY THE DIVISION OF THE STATE ARCHITECT BEFORE PROCEEDING WITH THE WORK.
10. PARKED VEHICLES SHALL NOT OBSTRUCT REQUIRED EXITS.
11. STOCKPILES OF DEBRIS AND OTHER CONSTRUCTION RELATED MATERIALS MUST BE PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY THE FORCES OF WIND OR WATER.
12. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY OTHER DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTES ON SITE UNTIL THEY CAN BE DISPOSED OF AS SOLID WASTE.
13. TRASH AND CONSTRUCTION RELATED DEBRIS MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF RAINWATER AND DISPERSAL BY WIND.
14. DETAILS ARE REFERENCED FOR CONVENIENCE ONLY, DETAILS & NOTES SHALL APPLY IN ALL SIMILAR CASES, WHETHER OR NOT SPECIFICALLY REFERENCED.
15. WRITTEN DIMENSIONS TAKE PRECEDENCE OVER SCALE. DO NOT SCALE THE DRAWINGS ALL WORK SHALL CONFORM TO TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)
16. AN INSPECTOR WHO IS SPECIALLY QUALIFIED IN MECHANICAL AND ELECTRICAL WORK WILL BE REQUIRED FOR THIS PROJECT.
17. EACH CONTRACTOR SHALL INVESTIGATE, VERIFY, AND BE RESPONSIBLE FOR ALL CONDITIONS AND DIMENSIONS OF THE PROJECT AND SHALL NOTIFY THE CONSTRUCTION MANAGER OF ANY CONDITION REQUIRING MODIFICATION OR CHANGE BEFORE PROCEEDING WITH THE WORK.
18. DIMENSIONS ARE TYPICALLY TAKEN TO GRID LINE OR CENTERLINE OF STUD WALL, UNLESS NOTED OTHERWISE.CONCRETE OR MASONRY WALLS ARE MEASURED TO THE FACE, UNLESS NOTED OTHERWISE.
19. ALL MATTERS OF COLOR,TEXTURE, DESIGN AND INTERPRETATION OF PLANS SHALL BE REFERRED BY THE CONTRACTOR TO THE ARCHITECT FOR RESOLUTION.
20. WRITTEN DIMENSIONS GOVERN OVER SCALED DIMENSIONS, AND LARGE SCALE DETAILS GOVERN. EXISTING BUILDING DIMENSIONS ARE SHOWN FOR INFORMATION ONLY. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS IN THE FIELD.
21. ALL CONSTRUCTION DOCUMENTS ARE COMPLEMENTARY AND WHAT IS SPECIFIED BY ONE SHALL BE BINDING AS IF SPECIFIED BY ALL. ANY WORK SHOWN OR REFERRED TO ON CONSTRUCTION DOCUMENTS, WHETHER DRAWINGS OR SPECIFICATIONS, SHALL BE PROVIDED AS THOUGH IT WERE SHOWN IN ALL RELATED DOCUMENTS.
22. THE GENERAL CONDITIONS AND OWNER/ CONTRACTOR AGREEMENT SHALL CONTROL THE EXECUTION, CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS.
23. THERMOSTAT LOCATIONS ON MECHANICAL DRAWINGS ARE DIAGRAMMATIC. CONTRACTOR SHALL VERIFY ALL THERMOSTAT LOCATIONS WITH ARCHITECT.
24. EACH CONTRACTOR SHALL COORDINATE FOR THE INSTALLATION OF ALL NECESSARY BLOCKING, BACKING, FRAMING, HANGERS, OR OTHER SUPPORT FOR ALL FIXTURES, EQUIPMENT, CABINETRY, FURNISHINGS, AND ALL OTHER ITEMS REQUIRING THE SAME INCLUDING OFCI.
25. EACH CONTRACTOR SHALL INVESTIGATE AND VERIFY THAT ALL NEW WALL, FLOOR, AND OTHER FINISHES ARE APPLIED ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS.
26. THE ELECTRICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY BACKBOARDS, ELECTRICAL OUTLETS, CONDUIT, AND ETC., AS REQUIRED BY THE OWNER'S TELEPHONE COMPANY,TO ACCOMMODATE THEIR INSTALLATION.
27. TELEPHONE AND ELECTRICAL OUTLETS ON THE OPPOSITE SIDES OF COMMON WALLS SHALL BE LOCATED IN SEPARATE STUD CAVITIES. NO BACK-TO-BACK OUTLETS SHALL BE ALLOWED WHERE SPECIFIC DIMENSIONS CONTRADICT THIS NOTE, THE CONTRACTOR SHALL RELOCATE ONE OUTLET TO THE OPPOSITE SIDE OF THE STUD NEAREST THAT DIMENSION.
28. ALL ELECTRICAL, PHONE, MECHANICAL AND PLUMBING LINES SHALL BE CONCEALED UNLESS OTHERWISE NOTED AND COORDINATING WITH METAL STUD PENETRATION REQUIREMENTS.
29. ALL CONSTRUCTION APPARATUS & ACTIVITIES SHALL BE LIMITED TO DESIGNATED AREAS. ALL WORK SHALL BE DONE IN A MANNER WHICH WILL NOT ENDANGER THE USERS OF THE EXISTING CAMPUS.
30. THERE SHALL NOT BE ANY TRESPASSING ON THE ADJOINING PROPERTY. NO MATERIALS SHALL BE STORED ON THE ADJOINING PROPERTY. THE OAR & EACH PRIME CONTRACTOR ARE TO INSPECT ALL SIDEWALKS INCLUDING THE ADJOINING PROPERTY PRIOR TO COMMENCING WORK. ALL EXISTING DAMAGE SHALL BE NOTED AND AGREED TO BY ALL PARTIES. ANY DAMAGE TO THESE SIDEWALKS OR ADJOINING PROPERTY DURING THE CONSTRUCTION SHALL BE REPAIRED PRIOR TO COMPLETION.
31. FUELS, OILS, SOLVENTS AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND ARE NOT TO CONTAMINATE THE SOIL AND SURFACE WATERS. ALL APPROVED STORAGE CONTAINERS ARE TO BE PROTECTED FROM WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF IN A PROPER MANNER. SPILLS MAY NOT BE WASHED INTO THE DRAINAGE SYSTEM.
32. ALL MATERIAL USED IN THIS PROJECT SHALL BE NEW AND OF A KIND & QUALITY REQUIRED BY CONSTRUCTION DOCUMENTS.
33. TRENCHES OR EXCAVATIONS 5 FEET OR MORE IN DEPTH INTO WHICH A PERSON IS REQUIRED TO DESCEND REQUIRE A SEPARATE PERMIT FROM THE STATE OF CALIFORNIA, DIVISION OF INDUSTRIAL SAFETY.
34. ALL KNOWN EXISTING UTILITIES ARE SHOWN AND ARE ASSUMED WITHIN +/- 10' AS DRAWN ON THE SITE PLAN.
35. PROVIDE PEDESTRIAN BRIDGES OR COVERED WALKWAYS WHEN CONSTRUCTION POSES A HAZARD OR NEAR OCCUPIED SPACES OR PEDESTRIAN CROSSINGS.
36. ANY PENETRATION THROUGH AIR/VAPOR BARRIER AT EXTERIOR WALL SHOULD BE INSTALLED PER BARRIER MANUFACTURER RECOMMENDATIONS.
37. THE CONTRACTOR SHALL VERIFY AND COORDINATE ALL DRAWINGS, DIMENSIONS, SPECIFICATIONS AND SCHEDULES PRIOR TO PROCEEDING WITH ANY WORK OR FABRICATION. NOTIFY ARCHITECT IMMEDIATELY OF ANY UNCERTAINTY OR DISCREPANCY.
38. DRAWINGS SHALL NOT BE SCALED.
39. MASONRY IS DIMENSIONED NOMINALLY TO THE FACE. ACTUAL DIMENSIONS WILL BE +3/8" FOR INSIDE DIMENSIONS AND MASONRY OPENINGS, AND -3/8" FOR OUTSIDE DIMENSIONS.
40. WHERE NOTES ON THE DRAWINGS INDICATE A CONDITION AT ONE LOCATION, WHETHER INDICATED AS TYPICAL OR NOT, THE NOTE SHALL APPLY TO ALL SIMILAR LOCATIONS UNO.
41. SEE SHEET G0.01 FOR SYMBOLS, & ABBREVIATIONS, ETC.
42. SEE CODE PLAN & DETAIL, SHEETS G1.01, G1.02, & G1.03 FOR EXTENT OF RATED WALLS, CEILINGS & OPENINGS AS WELL AS CONSTRUCTION REQUIREMENTS.
43. ALL BUILDING SIGNAGE AND IDENTIFYING DEVICES TO COMPLY WITH THE REQUIREMENTS OF THE ADA (AMERICANS WITH DISABILITIES ACT).
44. METAL STUD SIZES ARE AS SPECIFIED IN ASSEMBLY TYPES AND FLOOR PLAN. REFER TO SHEETS A3.00, A3.01, AND STRUCTURAL DOCUMENTS FOR ADDITIONAL INFORMATION.
45. ALL GYPSUM BOARD PRODUCTS TO BE TYPE 'X' GYPSUM BOARD UNLESS NOTED OTHERWISE.
46. REFER TO ENLARGED PLANS FOR DIMENSIONS & NOTES. SEE ALSO DOOR/ RELITE SCHEDULE AND FINISH SCHEDULE FOR ADDITIONAL INFORMATION.
47. REFER TO CIVIL PLANS FOR INFORMATION OUTSIDE THE BUILDING, INCLUDING WALKS, DRIVES, CURBS, ETC.
48. FINISH FLOORING TO EXTEND TO WALLS BELOW ALL CASEWORK NOT PERMANENTLY ATTACHED TO THE FLOOR UNLESS NOTED OTHERWISE.
49. PROVIDE SOLID BLOCKING AT ALL CASEWORK AT TOP AND BOTTOM OF UPPERS AND AT TOP OF COUNTERS AND LOWER CABINETS. ALSO PROVIDE BLOCKING IN WALLS FOR WALL MOUNTED/ SUPPORTED ITEMS INCLUDING TV BRACKETS, SHELVES, MARKER BOARDS, ETC.

DSA NOTES:

1. ALL WORK SHALL CONFORM TO 2019 EDITION TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR). A COPY OF TITLE 24 PARTS I THROUGH 5 SHALL BE KEPT ONSITE DURING CONSTRUCTION.
2. CHANGES TO THE APPROVED DRAWINGS AND SPECIFICATIONS SHALL BE MADE BY ADDENDA OR CONSTRUCTION CHANGE DOCUMENT (CCD) APPROVED BY DSA, AS REQUIRED BY SECTION 4-338, PART 1, TITLE 24, CCR.
3. A "DSA CERTIFIED CLASS I" PROJECT INSPECTOR EMPLOYED BY THE DISTRICT (OWNER) AND APPROVED BY DSA SHALL PROVIDE CONTINUOUS INSPECTION OF THE WORK. THE DUTIES OF THE INSPECTOR ARE DEFINED IN SECTION 4-342, PART 1, TITLE 24, CCR.
4. A DSA ACCEPTED TESTING LABORATORY DIRECTLY EMPLOYED BY THE DISTRICT (OWNER) SHALL CONDUCT ALL THE REQUIRED TESTS AND INSPECTIONS FOR THE PROJECT.
5. THE INTENT OF THESE DRAWINGS AND SPECIFICATIONS IS THAT THE WORK OF THE ALTERATION, REHABILITATION, OR RECONSTRUCTION IS TO BE IN ACCORDANCE WITH TITLE 24, CCR. SHOULD ANY EXISTING CONDITIONS SUCH AS DETERIORATION OR NON-COMPLYING CONSTRUCTION BE DISCOVERED WHICH IS NOT COVERED BY THE CONTRACT DOCUMENTS WHEREIN THE FINISHED WORK WILL NOT COMPLY WITH TITLE 24, CCR, A CONSTRUCTION CHANGE DOCUMENT (CCD), OR A SEPARATE SET OF PLANS AND SPECIFICATIONS, DETAILING AND SPECIFYING THE REQUIRED WORK SHALL BE SUBMITTED TO AND APPROVED BY DSA BEFORE PROCEEDING WITH THE WORK. (SECTION 4-317(C), PART 1, TITLE 24, CCR).
6. GRADING PLANS, DRAINAGE IMPROVEMENTS, ROAD AND ACCESS REQUIREMENTS AND ENVIRONMENTAL HEALTH CONSIDERATIONS SHALL COMPLY WITH ALL LOCAL ORDINANCES.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL
TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT
DAWN BRISCO
No. C-37573
Exp. 5-31-21
STATE OF CALIFORNIA

NAC ARCHITECTURE

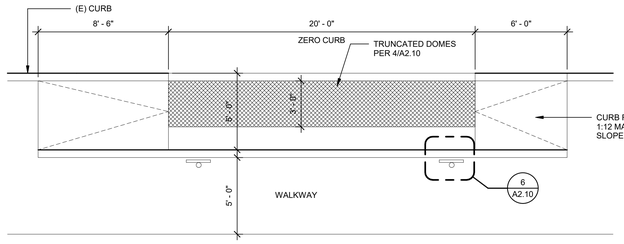
NAC NO. 161-19034
DATE 09-04-2020

100% CONSTRUCTION DOCUMENTS

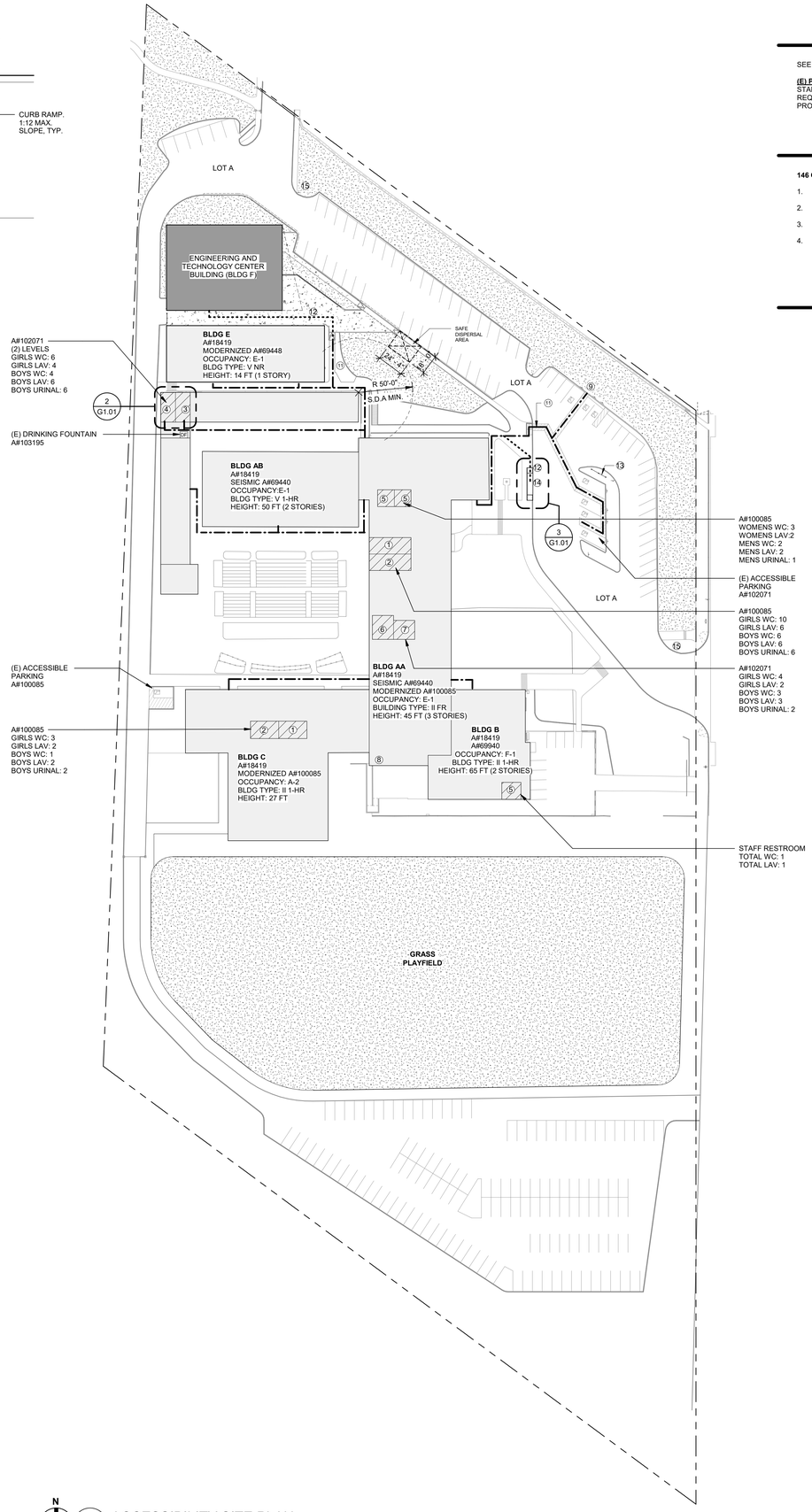
GENERAL NOTES

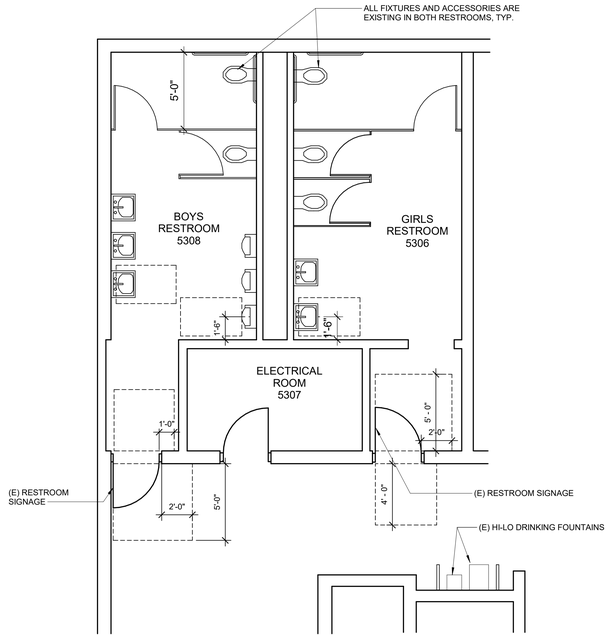
G0.01

© 2019 NAC Arc



3 DROP-OFF AISLE
Scale: 1/4" = 1'-0"





GENERAL NOTES

RESTROOM PLAN AND FIXTURE LAYOUT AS APPROVED UNDER A# 102071 WITH THE FOLLOWING EXCEPTIONS:
1. DOOR SERVING 5308 MIRRORED TO PROVIDE ADEQUATE PULLSIDE CLEARANCE
2. FOURTH URINAL REMOVED FROM ROOM 5308.
3. SECOND DOOR (VESTIBULE) REMOVED FROM 5306

2 (E) RR 5308 & 5306 A# 102071
Scale: 1/4" = 1'-0"

1 ACCESSIBILITY SITE PLAN
1" = 50'-0"

PARKING CALCULATIONS

SEE SITE PLAN FOR APPLICABLE A#'S

(E) PARKING LOT A
STANDARD STALLS: 66
REQUIRED ADA STALLS: 3 (1 VAN + 2 REG)
PROVIDED ADA STALLS: 7 (2 VAN + 5 REG)

SAFE DISPERSAL AREA

146 OCCUPANTS x 3 SF/OCCUPANT = 438 SF SAFE DISPERSAL AREA

1. THE AREA SHALL BE OF A SIZE TO ACCOMMODATE NOT LESS THAN 3 SQUARE FEET FOR EACH PERSON (452.1.3).
2. FOR GROUP E BUILDINGS, THE AREA SHALL BE LOCATED ON THE SAME LOT AT LEAST 50 FEET AWAY FROM ANY BUILDING.
3. THE AREA SHALL BE PERMANENTLY MAINTAINED AND IDENTIFIED AS A SAFE DISPERSAL AREA.
4. THE AREA SHALL BE PROVIDED WITH A SAFE AND UNOBSTRUCTED PATH OF TRAVEL FROM THE BUILDING.

PROJECT STATUS

DSA A#	STATUS
100085	APPROVED 03/26/1998, CLOSED 03/14/2001
102071	APPROVED 07/06/1999, CLOSED 07/22/2003
103195	APPROVED 04/26/2000, CLOSED 07/26/2002
105049	APPROVED 07/25/2001, CLOSED 06/03/2002
105274	APPROVED 08/23/2001, CLOSED 12/21/2005
114572	APPROVED 05/22/2012, CLOSED 09/23/2014

KEYNOTES

1. ACCESSIBLE GIRLS' RESTROOM (A#100085)
2. ACCESSIBLE BOYS' RESTROOM (A#100085)
3. ACCESSIBLE WOMENS' RESTROOM (A#102071)
4. ACCESSIBLE MENS' RESTROOM (A#102071)
5. ACCESSIBLE ALL GENDER RESTROOM (A#100085)
6. ACCESSIBLE GIRLS' RESTROOM (A#102071)
7. ACCESSIBLE BOYS' RESTROOM (A#102071)
8. ACCESSIBLE ELEVATOR (A#102071)
9. (E) ACCESSIBLE PARKING (A#114572)
10. (E) ACCESSIBLE PARKING (A#100085)
11. (E) ACCESSIBLE PATH OF TRAVEL (A#103195)
12. (N) ACCESSIBLE PATH OF TRAVEL
13. (E) PERMANENTLY ANCHORED STUDENT BICYCLE RACK
14. (N) PASSENGER DROP-OFF AND LOADING ZONE, SEE 3/ G1.01
15. TOW-AWAY SIGN, SEE 7. A5.60

ACCESSIBILITY PLAN LEGEND

- (E) BUILDING
- (N) BUILDING
- (E) GRASS PLAYFIELD
- (E) ACCESSIBLE PATH OF TRAVEL
- (N) ACCESSIBLE PATH OF TRAVEL

ACCESSIBILITY PLAN NOTES

1. SITE WALKWAYS SHALL PROVIDE A BARRIER FREE PATH OF TRAVEL FOR A PERSON IN A WHEELCHAIR. THE BATH OF TRAVEL SHALL BE A HARD, DURABLY AND SLIP RESISTANT ROUTE A MINIMUM OF 48 INCHES IN WIDTH (11B-403.5.1 EXCEPTION 3) AND WITH A MAXIMUM CROSS-SLOPE OF 2% (11B-403.3) ABRUPT CHANGES IN LEVEL SHALL NOT EXCEED A BEVELED SLOPE OF 1:2 WITH A 1/2" IN VERTICAL HEIGHT AND 1/4" MAXIMUM IN VERTICAL DIFFERENTIAL LEVELS. CONCRETE FINISH SHALL BE STABLE, FIRM, AND SLIP-RESISTANT (11B-302).
2. PATH OF TRAVEL (P.O.T.) AS INDICATED, IS A COMMON BARRIER FREE EGRESS/ ACCESS ROUTE WITHOUT ANY ABRUPT VERTICAL CHANGES EXCEEDING 1/2" BEVELED AT 1:2 MAXIMUM SLOPE, EXCEPT THAT LEVEL CHANGES DO NOT EXCEED 1/2" VERTICAL AND IS AT LEAST 48" WIDE. THE PATH SURFACE IS SLIP RESISTANT, STABLE, FIRM, AND SMOOTH. PASSING SPACES (11B-403.5.3) AT LEAST 60"X60" ARE LOCATED NOT MORE THAN 200' APART. PARTS OF P.O.T. WITH CONTINUOUS GRADIENTS HAVE 60" LEVELS AREAS (11B-403.7) NOT MORE THAN 400' APART. THE CROSS-SLOPE DOES NOT EXCEED 2% AND SLOPE IN THE DIRECTION OF TRAVEL AND IS LESS THAN 5% UNLESS OTHERWISE INDICATED. (P.O.T.) SHALL BE MAINTAINED FREE OF OVERHANGING OBSTRUCTIONS TO 80" MINIMUM.)11B-307.4) AND PROTRUDING OBJECTS GREATER THAN 4" PROJECTION FROM WALL AND ABOVE 27" AND LESS THAN 80" (11B-307.2) THAT THERE ARE NO BARRIERS IN THE P.O.T.
3. GATES IN THE PATH OF TRAVEL SHALL HAVE ACCESSIBLE HARDWARE AND KICK PLATES.
4. FOR ALL SITE GRADIENTS SEE CIVIL PLANS.
5. EXISTING DOORS ALONG THE PATH OF TRAVEL ARE ACCESSIBLE AND MEET THE CLOSER PRESSURE REQUIREMENTS. PROJECT INSPECTOR TO TEST.

PATH OF TRAVEL STATEMENT

THE P.O.T. IDENTIFIED IN THESE CONSTRUCTION DOCUMENTS IS COMPLIANT WITH THE CURRENT APPLICABLE CALIFORNIA BUILDING CODE ACCESSIBILITY PROVISIONS FOR PATH OF TRAVEL REQUIREMENTS FOR ALTERATIONS, ADDITIONS AND STRUCTURAL REPAIRS. AS PART OF THE DESIGN OF THIS PROJECT, THE P.O.T. THAT WERE DETERMINED TO NONCOMPLIANT 1) HAVE BEEN IDENTIFIED AND 2) THE CORRECTIVE WORK NECESSARY TO BRING THEM INTO COMPLIANCE HAS BEEN INCLUDED WITHIN THE SCOPE OF THIS PROJECT'S WORK THROUGH DETAILS, DRAWINGS AND SPECIFICATIONS INCORPORATED INTO THESE CONSTRUCTION DOCUMENTS. ANY NONCOMPLIANT ELEMENTS, COMPONENTS OF PORTIONS OF THE P.O.T. THAT WILL NOT BE CORRECTED BY THIS PROJECT BASED ON VALUATION THRESHOLD LIMITATIONS OR A FINDING OF UNREASONABLE HARDSHIP ARE SO INDICATED IN THESE CONSTRUCTION DOCUMENTS.

DURING CONSTRUCTION, IF P.O.T. ITEMS WITHIN THE SCOPE OF THE PROJECT REPRESENTED AS CODE COMPLIANT ARE FOUND TO BE NONCONFORMING BEYOND REASONABL CONSTRUCTION TOLERANCES, THEY SHALL BE BROUGHT TO COMPLIANCE WITH THE CBC AS PART OF THIS PROJECT BY MEANS OF A CONSTRUCTION CHANGE DOCUMENT.

CONSTRUCTION TOLERANCES: INCASES WHERE SLOPE PERCENTAGES AND DIMENSIONS ARE IDENTIFIED ON THESE PLANS FOR ELEMENT REGULATED BY THE AMERICAN WITH DISABILITIES ACT AND CHAPTER 11B OF THE CALIFORNIA BUILDING CODE, THE SLOPE PERCENTAGES AND DIMENSIONS SHOWN MAY BE MORE STRINGENT THAN REQUIRED BY CODE. DIMENSIONS AND SLOPE GRADIENTS ALLOWED IN SHAPTER 11B OF THE CBC SHALL BE ACCEPTABLE AND DEEMED TO BE IN COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS, PROVIDED THAT THE DIMENSION OR SLOPE GRADIENT VARIATION DOES NOT HAVE A NEGATIVE IMPACT ON ADJOINING WORK.

PLUMBING FIXTURE COUNT

TOTAL REQUIRED (1500 STUDENTS)
WC: 40 (15 MEN + 25 WOMEN)
URINALS: 8
LAV: 38

TOTAL PROVIDED
WC: 43 (15 + 27 WOMEN + 1 SINGLE OCCUPANCY)
URINALS: 20
LAV: 36 (18 WOMEN + 17 MEN + 1 SINGLE OCCUPANCY)

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT
DAWN BRISCO
No. C-37573
Exp. 5-31-21
STATE OF CALIFORNIA

NAC ARCHITECTURE

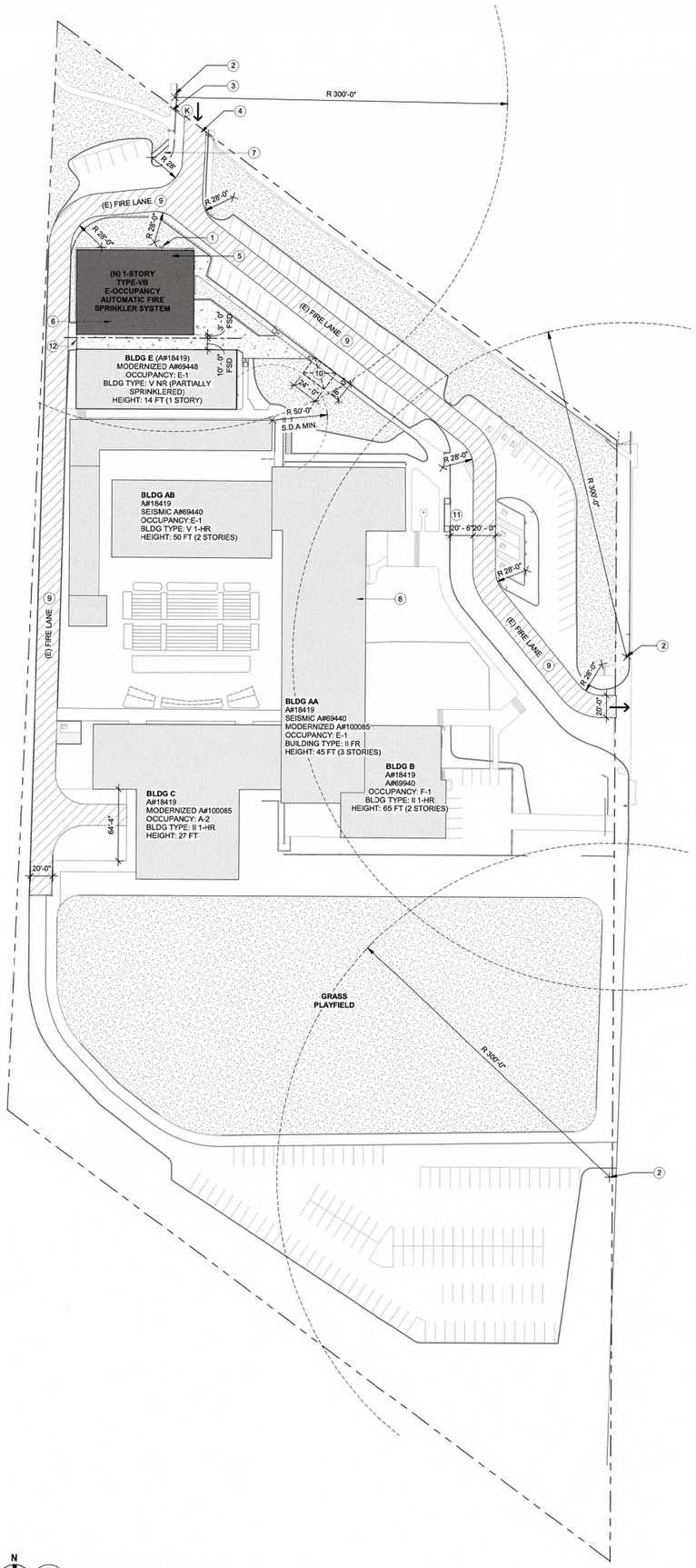
NAC NO. 161-19034
DATE 09-04-2020

100% CONSTRUCTION DOCUMENTS

ACCESSIBILITY PLAN

G1.01

© 2019 NAC, Inc.



N

1 FIRE ACCESS PLAN
1" = 50'-0"

8/5/2020 9:32:33 AM D:_Revit\161-19034-Clark-CTE_hdickson_NAC.rvt

FIRE ACCESS PLAN LEGEND

- (E) BUILDING
- (N) BUILDING
- (E) FIRE APPARATUS ACCESS ROUTE W/ NO VERTICAL OVERHEAD OBSTRUCTIONS.
- (E) GRASS PLAYFIELD
- FIRE DEPARTMENT ACCESS TO SITE
- FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION (FDC)
- (K) FIRE DEPARTMENT CONNECTION (FDC)

KEYNOTES

1. FIRE DEPARTMENT CONNECTION
2. (E) FIRE HYDRANT
3. PEDESTRIAN GATE
4. (E) ROLLING GATE, (N) KNOX BOX TO BE MOUNTED ONTO GATE JAMB (MINIMUM 20' WIDTH)
5. FIRE RISER
6. FIRE ALARM CONTROL PANEL
7. DOUBLE DETECTOR CHECK ASSEMBLY PER C5.01
8. MAIN FIRE CONTROL PANEL (EXISTING)
9. EXISTING FIRE LANE (A# 03-114572)
10. SAFE DISPERSAL AREA
11. (N) PASSENGER DROP-OFF AND LOADING ZONE PER 3/G1.01
12. (N) 8' H. CHAIN LINK FENCING, W/ SINGLE 3' W. PEDESTRIAN GATE

BUILDING INFORMATION

NEW BUILDING INFORMATION:

BUILDING HEIGHT:	SINGLE STORY, 22'-7"
BUIDING AREA:	9,153 SQ. FT.
OCCUPANCY GROUP:	E
CONSTRUCTION TYPE:	V-B, FULLY SPRINKLERED

FIRE LANE MARKING

SCOPE
THE FIRE DEPARTMENT IS AUTHORIZED TO DIRECT INSTALLATION OF APPROVED SIGNS OR OTHER APPROVED NOTICES FOR THE IDENTIFICATION OF FIRE LANES. IDENTIFICATION MAY INCLUDE ONE OR MORE OF THE FOLLOWING:

REQUIREMENTS

RED CURB MARKING:
CURB TOP AND SIDE SHALL BE PAINTED RED, AND THE WORDS, "FIRE LANE" SHALL BE STENCILED ON THE TOP AND SIDE OF ALL RED CURBS AT A MAXIMUM INTERVAL OF 50 FEET. LETTERS SHALL BE THREE INCHES (3") IN HEIGHT WITH A MINIMUM 3/4-INCH IN STROKE.

ALTERNATIVELY, IF THE ROADWAY HAS NO CURBING, A 12-INCH WIDE RED STRIPE WITH THE WORDS "FIRE LANE" IN WHITE MAY BE PAINTED ALONG AND PARALLEL WITH THE EDGE OF THE ROADWAY, THE LETTERING SHALL BE 8-INCHES HIGH WITH A 3/4-INCH STROKE.

SIGNAGE:
SIGNS SHALL BE OF METAL CONSTRUCTION, MEASURING 12-INCHES WIDE AND 18-INCHES HIGH, AND OF A REFLECTIVE TYPE. PLASTIC OR WOODEN SIGNS ARE NOT ACCEPTABLE. SEE DETAIL A.

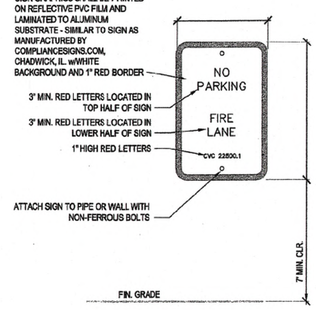
SIGNS SHALL READ: "NO STOPPING - FIRE LANE 22500.1 CVC." LETTERING SHALL BE NOT LESS THAN ONE-INCH IN HEIGHT ANDEARLY VISIBLE FROM A VEHICLE.

SIGNS SHALL BE IN VISIBLE LOCATIONS AND MOUNTED ON GALVANIZED METAL POLES AT A HEIGHT OF 80 INCHES. SIGNS SHALL BE MAINTAINED UNOBSTRUCTED BY FOLIAGE, ETC.

THE DISTANCE BETWEEN SIGNS POSTED ALONG THE FIIRE LANE SHALL NOT EXCEED 125 FEET. NOT LESS THAN TWO SIGNS SHALL BE POSTED FOR EACH FIRE LANE. IF TRAFFIC FLOWS IN TWO DIRECTIONS, SIGNS MUST BE POSTED SO AS TO BE READABLE FROM EITHER DIRECTION.

ROADWAY SURFACE MARKING:
OUTLINING OR PAINTING THE FIRE LANE AREA IN RED WITH THE WORDS "FI LANE" IN WHITE, AT INTERVALS OF NOT MORE THAN 50 FEET OR AS OTHERWISE DIRECTED BY THE FIRE DEPARTMENT. SIZE OF LETTERING SHALL BE NOT LESS THAN 24 INCHES IN HEIGHT AND THREE INCHES (3") IN STROKE.

SIGN GRAPHICS SHALL BE PRINTED ON REFLECTIVE PVC FILM AND LAMINATED TO ALUMINUM SUBSTRATE - SIMILAR TO SIGN AS MANUFACTURED BY COMPLIANCESIGNS.COM, CHADWICK, IL. w/WHITE BACKGROUND AND 1" RED BORDER



DSA 810

FIRE & LIFE SAFETY SITE CONDITIONS SUBMITTAL

Division of the State Architect (DSA) documents referenced within this publication are available on the DSA Forms or DSA Publications webpages.

To facilitate the Division of the State Architect's (DSA) fire and life safety plan review of project site conditions, DSA requires the design professional to provide the following information at time of project submittal for projects consisting of construction of a new campus, construction of new building(s), additions to existing buildings, and for site alternate design means for fire department emergency vehicle access, and fire suppression water supply.

Information associated with compliance items 1 through 3 below is to be provided for all project types indicated above. Information associated with items 4 through 7 is to be completed when an alternate means is utilized. Acknowledgement by the school district and signature from the Local Fire Authority (LFA) is only required when an alternate design means is being requested.

The Project Information and Fire & Life Safety Information sections are to be completed for all projects and imaged onto the fire access site plan. When an alternate design/means is proposed, all sections on pages 1 and 2 are to be completed and imaged on the fire access site plan.

For additional information refer to the instructions at the end of this form and DSA Policy *PL 09-01: Fire Flow for Buildings*.

PROJECT INFORMATION	
School District/Owner:	Glendale Unified School District
Project Name/School:	Clark Magnet High School - Engineering and Technology Center
Project Address:	4747 New York Avenue, Glendale, CA 91214

FIRE & LIFE SAFETY INFORMATION				
1.	Has a fire hydrant flow test been performed within the past 12 months? *(If yes, provide a copy of the test data.)*	Yes ☑		No ☐
2.	Was the fire hydrant water flow test performed as part of this LFA review?	Yes ☑		No ☐
3.	Is the project located within a designated fire hazard severity zone (FHSZ) as established by Cal-Fire? *(If yes, indicate FHSZ classification below.)*	Yes ☐		No ☑
	Refer to the following website for FHSZ locations: http://egis.fire.ca.gov/FHSZ/	Moderate ☐	High ☐	Very High ☐
	Wildland Interface Area (WIFA) *(If any designations are checked, project design must meet the requirements of CBC Chapter 7A.)*			WIFA ☐

DGS DSA 810 (revised 01/2020) DEPARTMENT OF GENERAL SERVICES Page 1 of 4
DIVISION OF THE STATE ARCHITECT STATE OF CALIFORNIA

DSA 810
FIRE & LIFE SAFETY SITE CONDITIONS SUBMITTAL

CONDITION MEANS AND METHODS RESOLUTION		ALTERNATE ACCEPTED			
		Yes	No	N/A	N/R
4.	Emergency vehicle access roadways do not meet CFC requirements.				
4a.	**Acceptable Alternate:** Emergency vehicle and personnel access as proposed by the project architect is acceptable for providing fire suppression and protection of life and property.	✓			
5.	**Fire Hydrants:** Number and spacing does not meet CFC requirements.				
5a.	**Acceptable Alternate:** Number of fire hydrants and spacing as proposed by the project architect is acceptable for fire suppression and protection of life and property.	✓			
6.	**Fire Hydrants:** Water flow and pressure are less than CFC minimum.				
6a.	**Acceptable Alternate:** The available flow and pressure is acceptable for providing fire suppression and protection of life and property.		See Note		
7.	Location of fire department connection(s) serving fire sprinkler systems or standpipe systems does not meet CFC requirements.				
7a.	**Acceptable Alternate:** The location of fire department connection serving the fire sprinkler system and/or standpipe system is acceptable for providing fire suppression and protection of life and property.	✓			

School District Acceptance of Acceptable Design Alternates

By signing this form, the school district acknowledges and accepts the proposed design as an alternative to California Building Code (CBC) and California Fire Code (CFC) minimum requirements, as indicated by one or more of the conditions indicated at items 4a, 5a, 6a or 7a, for providing fire and life safety protection of life and property.

Accepted by: HAGOP KASSABIAN Title: ADMINISTRATOR PLANNING, DEVELOPMENT & FACILITIES

Signature: _____ Date: 9/16/2020

LOCAL FIRE AUTHORITY (LFA) INFORMATION	
LFA Agency Name:	GLENDALE FIRE DEPT.
LFA Review Official:	SITA DEMIRJIAN
Title:	SR. FIRE ENV. SAFETY SPECIALIST
Work Phone:	818-937-8105
Work Email:	sdemirjian@glendaleca.gov

LFA Reviewer's Signature: _____ Date: 08.03.2020

#04 - UPGRADES TO THE CVWD MAIN ARE PART OF SCOPE. ONCE COMPLETE THERE SHOULD BE ADEQUATE WATER FLOW

DGS DSA 810 (revised 01/2020) DEPARTMENT OF GENERAL SERVICES Page 2 of 4
DIVISION OF THE STATE ARCHITECT STATE OF CALIFORNIA

FIRE ACCESS NOTES

FIRE DEPARTMENT NOTES

FIRE FLOW
1. CFC BB105.1 EXCEPTION A. REDUCTION IN REQUIRED FIRE FLOW OF UP TO 75 PERCENT IS ALLOWED WHEN THE BUIDLING IS PROVIDED WITH AN APPROVED AUTOMATIC SPRINKLER SYSTEM
2. CFC TABLE BB105.1 REQUIREF FIRE-FLOW FOR TYPE VB 8,439 SF BUILDING
   A. 2,250 GPM X 0.25 = 563 GPM
   B. 1,500 GPM (MIN. FIRE FLOW WHEN REDUCTION USED)
3. CFC TABLE CC105.1 FOR 1,750 GPM FIRE-FLOW OR LESS REQUIRED , A MINIMUM OF 1 HYDRANT LOCATED A MAXIMUM DISTANCE OF 250' FROM ANY POINT ON THE STREET OR ROAD FRONTAGE. AVERAGE SPACING BETWEEN HYDRANTS 500'.
4. 1,500 GPM REQUIRED. GUSD TO PROVIDE UPDATED FIRE FLOW UPON COMPLETION OF FIRE LINE UPGRADE BY WATER PURVEYOR.

FORM 196 Rev. 04/03

COUNTY OF LOS ANGELES FIRE DEPARTMENT
FIRE PREVENTION DIVISION

Fire Prevention Engineering
5823 Rickenbacker Road
Commerce, CA 90040
Telephone (323) 890-4125 Fax (323) 890-4129

Information on Fire Flow Availability for Building Permit

For All Buildings Other Than Single Family Dwellings (R-3)

INSTRUCTIONS:

Complete parts I, II (A) when:
Verifying fire flow, fire hydrant location and fire hydrant size.

Complete parts I, II (A), & II (B) when:
For buildings equipped with fire sprinkler systems, and/or private on-site fire hydrants.

PROJECT INFORMATION
(To Be Completed By Applicant)

PART I

Building Address: 4747 NEW YORK AVE
City or Area: LA CRESCENTA
Nearest Cross Street: EL CAMINITO
Distance of Nearest Cross Street: 200'
Applicant: Glendale Unified School Telephone: 818 254-6526
Address: 223 North Jackson ST.
City: Glendale CA, 91206
Occupancy (Use of Building): Classroom Sprinklered: Yes ☑ No ☐
Type of Construction: 2 HR V
Square Footage: 6,000 Number of Stories: Single
Present Zoning: School

Applicant's Signature _____ Date 1-30-20

PART II-A **INFORMATION ON FIRE FLOW AVAILABILITY**
(To be completed by Water Purveyor)

Location 4747 New York Ave.

Distance from Nearest Property Line 20' — Hydrant Number Page 6 FH#3 — Size of Hydrant 6"x4"x2.5" — Size of Water main 8"
Static PSI 102 — Residual PSI 55 — Orifice size 2.5" — Pitot 75 P.S.I.
Fire Flow at 20 PSI 1,341 — Duration 4 hours — Flow Test Date / Time 2-28-20 11:20 AM

Location _____
Distance from Nearest Property Line _____ — Hydrant Number _____ — Size of Hydrant _____ — Size of Water main _____
Static PSI _____ — Residual PSI _____ — Orifice size _____ — Pitot _____
Fire Flow at 20 PSI _____ — Duration _____ — Flow Test Date / Time _____

Location _____
Distance from Nearest Property Line _____ — Hydrant Number _____ — Size of Hydrant _____ — Size of Water main _____
Static PSI _____ — Residual PSI _____ — Orifice size _____ — Pitot _____
Fire Flow at 20 PSI _____ — Duration _____ — Flow Test Date / Time _____

PART II-B **SPRINKLERED BUILDINGS/PRIVATE FIRE HYDRANTS ONLY**

Detector Location (check one) ☐ Above Grade ☐ Below Grade ☐ Either
Backflow Protection Required (Fire Sprinklers/Private Hydrant) (check one) ☐ Yes ☐ No
Minimum Type of Protection Required (check one) ☐ Single Check Detector Assembly ☐ Double Check Detector Assembly ☐ Reduced Pressure Principle Detector Assembly

Crescenta Valley Water Dist — Water Purveyor — Date 2/28/2020
Signature — Senior Engineer — Title

This Information is Considered Valid for Twelve Months

Fire Department approval of building plans shall be required prior to the issuance of a Building Permit by the jurisdictional Building Department. Any deficiencies in water systems will need to be resolved by the Fire Prevention Division only prior to this department's approval of building plans.

CRESCENTA VALLEY WATER DISTRICT
FIRE FLOW TEST FORM

REQUEST

Applicant's Name & Address: Glendale USD, 223 N Jackson ST, Glendale CA 91206 — Applicant's Telephone: 818 254-6526 ( )
☑ Property Owner or ☐ Owner's Representative
Address of Building Requiring Fire Flow Test: 4747 NEW YORK AVE, LA CRESCENTA CA, 91214
Zoning: School — Type of Construction: 2 HR V
Occupancy or Use: School — 2 HRED BATH FIX Design
Fire Flow Requirements: _____ gpm @ _____ lb. duration as required by L.A. County/Glendale Fire Department
Signature of Applicant: _____ Date: 1-30-20
District Approval of Flow Test: _____ Date: 2/28/2020 — C-KP2550 — ☑ Fee Paid

RESULTS: To Be Completed By Tester:	RESULTS: To Be Completed By District:
Flow Hydrant Distance from Structure: 20'	Flow Hydrant No.: Page 6 FH#3
Flow Hydrant Static Pressure: 97 PSI	Flow Hydrant Street: Cloudsdale
Flow Hydrant Pitot Gauge Read (psi): 35	Flow Hydrant Cross Street: El Caminito
Flow Hydrant Orifice Size (in.): 2.5"	Flow Hydrant Dist. to Cross Street: 120
Flow Rate (gpm): 993	Flow Hydrant Main Size: 8"
Flow Rate @ 20 psi Residual: 1,341	Residual Hydrant No.: Page 7 FH#28
Residual Hydrant Static Pressure (psi): 102	CVWD Witness: PETER HILKE
Residual Hydrant Residual Pressure (psi): 55	Flow Test Date: 2-28-20
Tester's Name: David Rawlings	Comments: FLOWED FOR 4 HRS.
Tester's Company: Crescenta Valley Water	
Tester's Phone: (818) 248-3925	

Fire Hydrant No. 7 is on ...

GLENDALE FIRE PREVENTION (818) 548-4810
AUG 0 8 2020
APPROVED BY
SUBJECT TO FIELD INSPECTION

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

LICENSED ARCHITECT DAWN BRISCO No. C-37573 Exp. 5-31-21 STATE OF CALIFORNIA

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09-04-2020

100% CONSTRUCTION DOCUMENTS

FIRE ACCESS SITE PLAN

G1.02

© 2019 NAC Inc.

FIRE STOPPING NOTES

ALL PENETRATIONS MADE THROUGH FIRE-RATED WALLS, CEILINGS AND FLOOR ASSEMBLIES, BOTH EMPTY HOLES AND HOLES ACCOMMODATING SUCH ITEMS AS DUCTS, PIPES, CONDUIT, AND OTHER PENETRATING ITEMS SHALL BE FIRE- STOPPED. PENETRATIONS SHALL BE FIRE STOPPED TO RETAIN THE INTEGRITY OF THE TIME-RATED CONSTRUCTION BY MAINTAINING AN EFFECTIVE BARRIER AGAINST THE SPREAD OF FLAME, SMOKE, AND GASES, IN ACCORDANCE WITH THE REQUIREMENTS OF SECTION 07270 - FIRESTOPPING. MECHANICAL AND ELECTRICAL RELATED PENETRATIONS SHALL BE THE RESPONSIBILITY OF THE SUBCONTRACTOR MAKING THE PENETRATION - SEE MECHANICAL AND ELECTRICAL.

FIRE PROTECTION NOTES

1. SMOKE CONTROL SYSTEM IS NOT REQUIRED.
2. FIRE EXTINGUISHERS ARE LOCATED AS SHOWN ON THE ARCHITECTURAL FLOOR PLANS.

CODE PLAN GENERAL NOTES

1. SEE MAIN FLOOR PLAN FOR DIMENSIONS AND WALL TYPE REFERENCES.
2. SEE DOOR AND RELITE SCHEDULES, SHEET A3.10 AND DIVISION 8 SPECIFICATION FOR DOOR HARDWARE AND OTHER FIRE RATING REQUIREMENTS FOR DOORS AND RELITES.
3. SEE ELECTRICAL FOR EXIT SIGNS AND EMERGENCY EGRESS LIGHT FIXTURES.
4. STORAGE AND USE OF CLASS I, II AND IIIA LIQUIDS ARE PROHIBITED EXCEPT IN APPROVED QUANTITIES AS NECESSARY IN CLASSROOMS FOR OPERATION AND MAINTENANCE. THE QUANTITIES OF OTHER HAZARDOUS MATERIALS SHALL BE AS APPROVED BY THE FIRE MARSHALL.
5. BUILDING IS COMBUSTIBLE FULLY SPRINKLERED CONSTRUCTION. AREAS OF EVACUATION ASSISTANCE ARE NOT REQUIRED. QUICK RESPONSE HEADS ARE USED WHERE ALLOWED BY IBC CHAPTER 9 AND A WRITTEN EVACUATION PLAN WILL BE SUBMITTED FOR APPROVAL PRIOR TO OCCUPANCY.
6. ALL ASSEMBLY ROOMS SHALL BE POSTED WITH ROOM CAPACITY SIGNS PER IBC 103.2.2.5 AND DIVISION 10 SPECIFICATIONS.
7. SEE MECHANICAL AND ROOF PLAN, SHEET A3.04 FOR ROOF PENETRATIONS.
8. ARCHITECT SHALL REVIEW ALL DEFERRED SUBMITTALS AND VERIFY COMPLIANCE WITH THE DESIGN CONCEPT AND CODE REQUIREMENTS RELATING TO:
   A. AUTOMATIC SPRINKLER SYSTEM DESIGN DRAWINGS.
   B. MANUAL AND AUTOMATIC FIRE ALARM DRAWINGS.
   C. INSTALLATION DETAILS OF ACOUSTICAL CEILING SUSPENSION SYSTEM.
   D. INSTALLATION DETAILS OF MEMBRANE AND THROUGH-PENETRATION FIRE STOPS, AND FIRE-RESISTIVE JOINT SYSTEMS.
   E. DESIGN DETAILS AND STRUCTURAL CALCULATIONS FOR THE SEISMIC ANCHORAGE AND BRACING OF EACH PIECE OF FLOOR MOUNTED AND ROOF MOUNTED MECHANICAL AND OTHER EQUIPMENT WEIGHING 400 POUNDS OR MORE.
   F. WRITTEN FIRE AND LIFE SAFETY EMERGENCY PLAN, WHICH SPECIFICALLY ADDRESSES THE EVACUATION OF PERSONS WITH DISABILITIES.
   G. BASKETBALL BACKBOARD DRAWINGS.
9. APPROVED AUDIBLE SPRINKLER FLOW ALARMS SHALL BE INSTALLED WITHIN THE BUILDING AND ON THE EXTERIOR IN APPROVED LOCATIONS; ACTUATION SHALL CONFORM TO IBC CHAPTER 9. ELECTRICAL VALVE MONITORING FOR SPRINKLER SYSTEM AND WATER FLOW SWITCHES SHALL BE INSTALLED AND CONNECTED TO AN APPROVED CENTRAL, REMOTE, OR PROPRIETARY MONITORING STATION.
10. AN APPROVED MANUAL AND AUTOMATIC FIRE ALARM SYSTEM SHALL BE INSTALLED AS SPECIFIED IN THE FIRE CODE; VISIBLE ALARMS COMPLYING WITH WSBC SECTION 1106.15.2 SHALL BE INSTALLED IN ALL COMMON-USE AREAS, ASSEMBLY AREAS, TOILET ROOMS, HALLWAYS, LOBBIES AND CORRIDORS.
11. AT JOINTS BETWEEN FIRE RESISTIVE ASSEMBLIES A FIRE RESISTIVE JOINT SYSTEM SHALL BE PROVIDED. SUBMIT MANUFACTURER'S LITERATURE DESCRIBING FIRE RATING TESTING AND SPECIFIC DETAIL REQUIREMENTS FOR THE INSTALLATION OF THE SYSTEM. IF REQUIRED TO COMPLY WITH MANUFACTURER'S REQUIREMENTS, SURROUNDING CONSTRUCTION SHALL BE MODIFIED, ONLY WITH PRIOR APPROVAL OF THE ARCHITECT, TO ALLOW FOR THE INSTALLATION OF THE PROPOSED SYSTEM.
12. INTERIOR WALL AND CEILING FINISHES SHALL CONFORM TO IBC SECTION 803 AND TABLE 803.11 FOR FLAME SPREAD REQUIREMENTS.

GLENDALE UNIFIED SCHOOL DISTRICT
"Preparing our students for their future"
349 W. Magnolia Avenue, Glendale, CA 91204
Telephone: 818-507-0201 • Fax: 818-507-4911

PLANNING, DEVELOPMENT & FACILITIES

Thursday, August 27, 2020

Division of the State Architect
355 S. Grand Ave., #2100
Los Angeles, CA 90071

To whom it may concern,

As requested, below is a list of the types and quantities of materials/chemicals that are anticipated to be stored in the new building at Clark Magnet High School. The hazardous materials shall not exceed the exempt quantities indicated on CBC Tables 307.1(1) and 307.1(2). If you have any additional questions, please contact our department at 818-507-0201.

Materials/Chemicals	Qty.	Unit
Acetone	1	Gallon
Denatured Alcohol	1	Gallon
Odorless Mineral Spirits	1	Gallon
WD40	1	Gallon
Brake Cleaner	8	Aerosol Can
Carburetor Cleaner	4	Aerosol Can
Spray Paint/Primer, various	16	Aerosol Can
Mobile Vactra No. 2 Way Oil	1	Gallon
SAE 30 Oil	1	Gallon
Blaser Synergy 735 Water Miscible Metalworking Fluid	10	Gallon
Gasoline	2	Gallon
MAP-Pro Gas	2	14.1oz Canister
Butane	2	8oz canister
Compressed Argon Gas	4	Industrial Size 200 cylinder
Compressed Nitrogen Gas	4	Industrial Size 200 cylinder
Compressed 75% Ar / 25% CO2 welding gas mix	2	Industrial Size 200 cylinder

Sincerely,

Hagop Kassabian
Administrator: Planning, Development and Facilities
Glendale Unified School District

PROJECT INFORMATION

PROJECT NAME: CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)

PROJECT ADDRESS: 4747 NEW YORK AVE
GLENDALE, CA 91214

ARCHITECT: NAC ARCHITECTURE
837 N. SPRING STREET
LOS ANGELES CA 90012

CONTACT: CONTACT: DAWN BRISCO
PHONE: (323) 475-8075
FAX:

DESCRIPTION: CONSTRUCTION OF A TYPE V-B SPRINKLERED 1-STORY ROBOTICS AND ENGINEERING WORKSHOP BUILDING (BUILDING F). BUILDING WILL INCLUDE WORKSHOPS AND SUPPORT SPACES. BUILDING EXTERIOR WALLS ARE CMU; ROOF IS CONCRETE/ METAL DECK OVER STEEL FRAMING. ASSOCIATED SITE WORK INCLUDES SITE GRADING/RETAINING AND NEW PLAZA ADJACENT TO BUILDING 'F'.

PLAN LEGEND

1 HR WALLS

ACCUMULATED OCCUPANT LOAD FROM ROOMS DIRECTLY INTO CORRIDOR OR EXIT

EXIT FROM ROOMS. NUMBER INDICATES THE CALCULATED ACCUMULATED LOAD AT THAT ROOM OR BUILDING EXIT. ARROW INDICATES EXIT DIRECTION.

ROOM NUMBER — X | X — AREA
X | X | X — OCCUPANT LOAD
OCCUPANT LOAD FACTOR
OCCUPANCY

BUILDING CODE ANALYSIS

GOVERNING CODES:

2019 CALIFORNIA BUILDING CODE
2019 CALIFORNIA MECHANICAL CODE
2019 CALIFORNIA FIRE CODE
2019 CALIFORNIA PLUMBING CODE
2019 CALIFORNIA ELECTRICAL CODE
2019 CALIFORNIA ENERGY CODE
2019 CALIFORNIA GREEN CODE
NATION ELECTRICAL CODE (NFPA 70) LATEST EDITION
NPDES/SUSMP EROSION AND SEDIMENTATION CONTROL REGULATIONS

OCCUPANCY GROUP:

E, S-2 OCCUPANCY

CONSTRUCTION TYPE:

TYPE V-B, FULLY SPRINKLERED

ALLOWABLE FLOOR AREA:

TYPE V-B, SINGLE STORY, FULLY SPRINKLERED

$A_a = A_t + (NS \times I_f)$

A_a = Allowable area (square feet)
A_t = Tabular allowable area factor
N_s = Tabular allowable area factor for a nonsprinklered building
I_f = Area increase due to frontage

E OCCUPANCY
A_a = 38,000 + (14,500 x I_f)
A_a = 38,000 + (14,500 x 0)
A_a = 38,000 SF

ACTUAL AREA
BUILDING AREA: 7,567 SF

ALLOWABLE BUILDING HEIGHT/NUMBER OF STORIES:

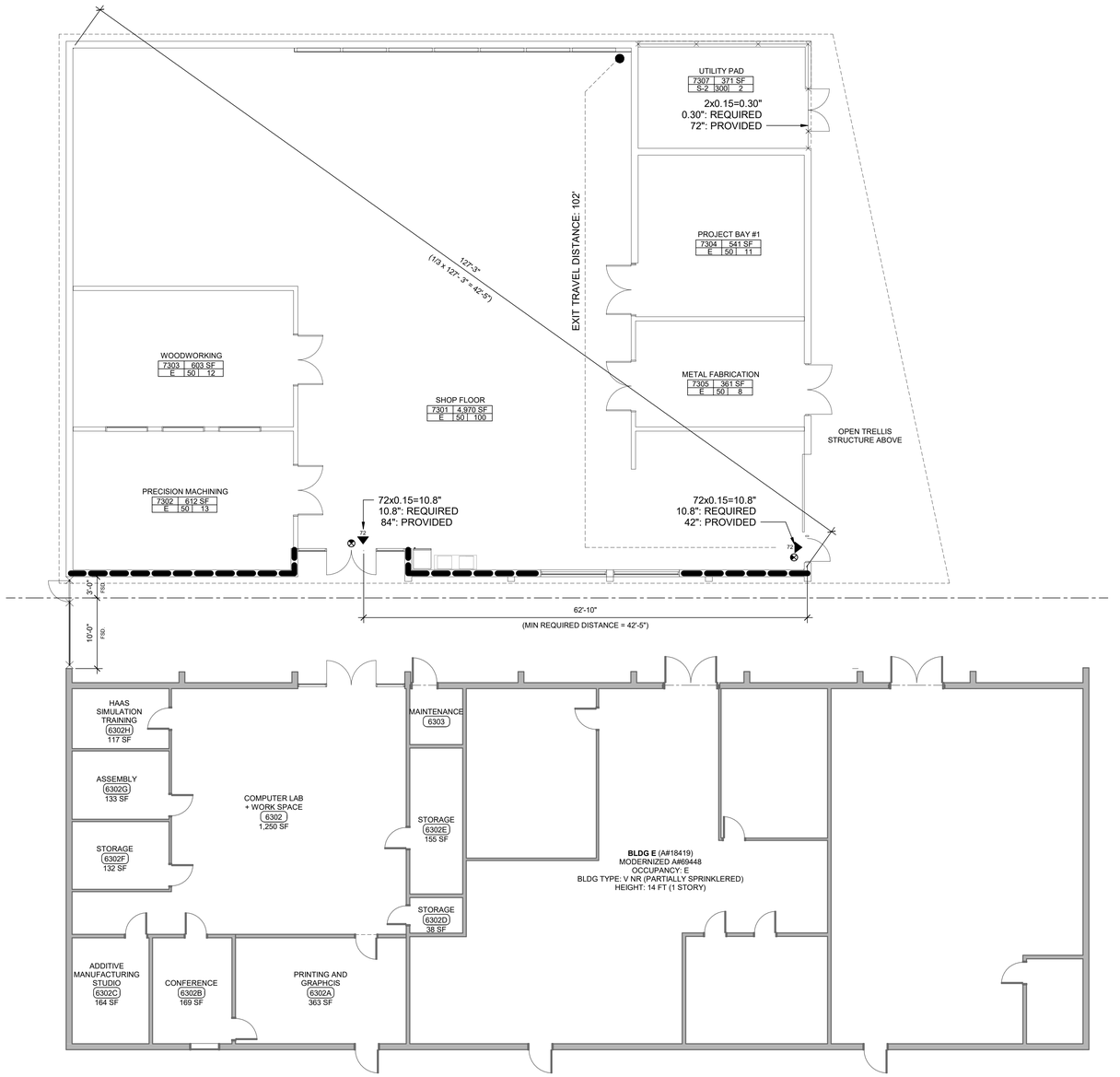
ALLOWABLE HEIGHT (E):	60 FEET (W/O AREA INCREASE)
ACTUAL HEIGHT:	22'-7" FEET
ALLOWABLE NO. OF STORIES (E):	2 STORY (W/O AREA INCREASE)
ACTUAL NO. STORIES:	1 STORY

MEANS OF EGRESS / OCCUPANT LOAD:

FIRST FLOOR OCCUPANT LOAD:	146 PERSONS
MIN. NO. OF EXITS:	2 EXITS
MAXIMUM DEAD ENDS (SPRINKLERS):	50'
MIN. WIDTH OF STAIRWAYS (X0.2):	1 STORY
WIDTH OF STAIRWAY PROVIDED:	48"
MIN. WIDTH OF CORRIDOR (X0.15):	10.8" (36" MIN.)
WIDTH OF CORRIDOR PROVIDED:	N/A
MAX. EXIT TRAVEL DISTANCE:	250'-0"

FIRE-RESISTANCE RATING REQUIREMENTS FOR BUILDING ELEMENTS

BUILDING E	REQ. RATING
1. PRIMARY STRUCTURAL FRAME	NON-RATED
2. BEARING WALLS - EXTERIOR	NON-RATED
3. BEARING WALLS - INTERIOR	NON-RATED
4. NONBEARING WALLS - EXTERIOR	WEST/NORTH/EAST: NON-RATED SOUTH: 1-HOUR (TABLE 602)
5. NONBEARING WALLS - INTERIOR	NON-RATED
6. FLOOR CONSTUCTION	NON-RATED
7. ROOF CONSTRUCTION	NON-RATED



1 CODE ANALYSIS - LEVEL 1
Scale: 1/8" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT DAWN BRISCO No. C-37573 Exp. 5-31-21 STATE OF CALIFORNIA

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09-04-2020

100% CONSTRUCTION DOCUMENTS

CODE ANALYSIS

G1.03

© 2019 NAC Arc

GENERAL NOTES:

1. ALL WORK DETAILED ON THESE PLANS SHALL BE CONSTRUCTED IN ACCORDANCE WITH "STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION," STANDARD PLANS FOR PUBLIC WORKS CONSTRUCTION (LATEST EDITION AND SUPPLEMENTS), THE UNIFORM BUILDING CODE (FOR EXCAVATION AND GRADING), CALIFORNIA BUILDING CODE (CBC) AND GUSD STANDARD PLANS.
2. ALL GEOTECHNICAL RECOMMENDATIONS IMPOSED BY THE CONSULTANT OR CONTAINED IN THE CONSULTANT GEOTECHNICAL REPORT ARE TO BE COMPLIED WITH AND ARE HEREBY MADE AN INTEGRAL PART OF THE GRADING SPECIFICATIONS AND NOTES.

   GEOTECHNICAL REPORT DATED: 03/16/2020
   REPORT NUMBER: LA-1420
   PREPARED BY: GROUP DELTA CONSULTANTS, INC.

3. CONTRACTOR SHALL BE RESPONSIBLE FOR THE REPAIR, REPLACEMENT, AND MAINTENANCE OF EROSION CONTROL PLAN.
4. PRIOR TO POURING OF CONCRETE, THE GEOTECHNICAL ENGINEER SHALL INSPECT AND APPROVE THE FOOTING EXCAVATIONS AND LEAVE A CERTIFICATE ON THE SITE FOR THE PROJECT INSPECTOR AND THE CONTRACTOR. NO CONCRETE SHALL BE POURED UNTIL THE PROJECT INSPECTOR HAS ALSO INSPECTED AND APPROVED THE FOOTING EXCAVATIONS.
5. IF AT ANY TIME DURING THE GRADING AND EXCAVATION OPERATIONS, UNFAVORABLE SOILS CONDITIONS ARE ENCOUNTERED, THE WORK SHALL STOP UNTIL APPROVED CORRECTIVE MEASURES ARE OBTAINED.
6. ALL GRADES AND CONTOURS INDICATED ON THE PLANS ARE TO FINISHED SURFACE, AND NOT ROUGH GRADES. CONTRACTOR SHALL SUBTRACT THE STRUCTURAL THICKNESS OF PAVEMENTS AND TOP-SOIL THICKNESS IN LANDSCAPED AREAS, TO OBTAIN DESIRED ROUGH GRADES.
7. NO FILL TO BE PLACED, UNTIL THE PROJECT INSPECTOR HAS INSPECTED AND APPROVED THE BOTTOM EXCAVATION.
8. ALL CONCENTRATED DRAINAGE MUST BE CONDUCTED TO THE STREET IN APPROVED NON-EROSIVE DEVICES OR TO EXISTING STORM DRAIN SYSTEM.
9. EXCAVATIONS SHALL BE MADE IN ACCORDANCE WITH THE REGULATIONS OF THE STATE OF CALIFORNIA, DIVISION OF INDUSTRIAL SAFETY. ALL EXCAVATIONS SHALL BE STABILIZED WITHIN 30 DAYS OF INITIAL EXCAVATION. ALL TEMPORARY EXCAVATIONS SHALL BE DONE IN ACCORDANCE WITH THE RECOMMENDATIONS OF THE GEOTECHNICAL REPORT.
10. MAN MADE FILL SHALL BE COMPACTED TO A MINIMUM RELATIVE COMPACTION OF 90% MAX. DRY DENSITY, UNLESS A LOWER RELATIVE COMPACTION (NO LESS THAN 90% OF MAX. DRY DENSITY) IS JUSTIFIED BY THE SOILS ENGINEER.
11. THIS PLAN IS FOR GRADING PURPOSES ONLY AND DOES NOT CONSTITUTE APPROVAL OF BUILDINGS.
12. ALL DEBRIS AND FOREIGN MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF AT APPROVED DISPOSAL SITES. THE CONTRACTOR SHALL OBTAIN NECESSARY PERMITS FOR THE TRANSPORTATION OF MATERIAL TO AND FROM THE SITE.
13. EXISTING TOPOGRAPHY SHOWN HEREON WAS TAKEN FROM A SURVEY DATED OCTOBER 24, 2019 BY PSOMAS.
14. CONSTRUCTION STAKING FOR IMPROVEMENTS SHOWN ON THESE PLANS SHALL BE PERFORMED BY A LICENSED LAND SURVEYOR.
15. STRAIGHT GRADE SHALL BE MAINTAINED BETWEEN CONTOUR LINES AND SPOT ELEVATIONS UNLESS OTHERWISE SHOWN ON THE PLANS.
16. DIMENSIONS TO PIPELINES ARE TO CENTERLINE UNLESS OTHERWISE NOTED.
17. ALL DIMENSIONS ARE IN FEET OR DECIMALS THEREOF.
18. ALL CURB DIMENSIONS AND RADII ARE TO BOTTOM OF CURB FACE.
19. CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT (USA) AT (800-422-4133) PRIOR TO ANY EXCAVATION.
20. CONTRACTOR TO BE AWARE OF ALL OVERHEAD LINES AT ALL TIMES, SO AS NOT TO DISTURB THEM.
21. CONTRACTOR SHALL COORDINATE REMOVAL OR RELOCATION OF ANY PUBLIC UTILITY LINES (IF ENCOUNTERED DURING CONSTRUCTION) WITH THEIR RESPECTIVE OWNERS. SEPARATE PERMITS MAY BE REQUIRED.
22. THE CONTRACTOR SHALL REPLACE ALL EXISTING IMPROVEMENTS DAMAGED DURING CONSTRUCTION AT HIS OWN EXPENSE AND TO THE SATISFACTION OF THE OWNER. MATCH EXISTING MATERIALS, SURFACE TREATMENT, AND COLORS. SAME SHALL APPLY TO PERMANENT UTILITY TRENCH RESURFACING.
23. STORM DRAINAGE SHOWN ON THESE PLANS HAVE BEEN DESIGNED FOR THE FINAL SITE CONDITION AT COMPLETION OF THE PROJECT. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ADEQUATE DRAINAGE OF THE SITE, DURING INTERIM CONDITIONS OF CONSTRUCTION.
24. CUT AND FILL SLOPES SHALL BE NO STEEPER THAN TWO HORIZONTAL ONE VERTICAL.
25. ANY TEMPORARY STOCKPILING OF EXCESS MATERIAL ON SITE SHALL BE APPROVED BY THE PROJECT INSPECTOR AND THE OWNER'S AUTHORIZED REPRESENTATIVE, INCLUDING PROTECTION AND EROSION CONTROL, PRIOR TO EXCAVATION.
26. PROJECT INSPECTOR IS REQUIRED ON GRADING AND FOUNDATION EARTHWORK.
27. STAKE AND FLAG THE PROPERTY LINES IN ACCORDANCE WITH A LICENSED SURVEY MAP.
28. CONTINUOUS INSPECTION BY THE SOIL ENGINEER/GEOLOGIST IS REQUIRED AS DESCRIBED IN THE SOIL REPORT.

NOTICE TO CONTRACTORS:

1. PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL VERIFY ALL JOIN ELEVATION CONDITIONS FOR GRADING AND DRAINAGE WORK. IF CONDITIONS DIFFER FROM THOSE SHOWN ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AND SHALL NOT BEGIN CONSTRUCTION UNTIL THE CHANGED CONDITIONS HAVE BEEN EVALUATED.
2. THE EXISTENCE, LOCATION AND CHARACTERISTICS OF UNDERGROUND UTILITY INFORMATION SHOWN ON THESE PLANS HAVE BEEN OBTAINED FROM A REVIEW OF AVAILABLE RECORD DATA. NO REPRESENTATION IS MADE AS TO THE ACCURACY OR COMPLETENESS OF SAID UTILITY INFORMATION. THE CONTRACTOR SHALL TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.
3. THE CONTRACTOR FURTHER SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY, AND SHALL NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT
4. THE CONTRACTOR SHALL FAMILIARIZE HIMSELF WITH THE PLANS, THE SOILS AND/OR GEOLOGY REPORTS, AND THE SITE CONDITIONS PRIOR TO COMMENCING WORK.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES THAT OCCUR SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT OR THE ENGINEER, PRIOR TO THE START OF CONSTRUCTION SO THAT A CLARIFICATION CAN BE ISSUED. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT THEIR OWN EXPENSE AND NOT TO THE EXPENSE OF THE OWNER OR ENGINEER.
6. ALL CHANGES TO THE CONSTRUCTION DOCUMENTS FOR THIS PROJECT SHALL BE DONE IN WRITING AND APPROVED BY THE ENGINEER OF RECORD. THE ENGINEER SHALL NOT BE RESPONSIBLE, OR LIABLE FOR UNAUTHORIZED CHANGES OR USES OF THE CONSTRUCTION DOCUMENTS.
7. SHOULD CONFLICTING INFORMATION BE FOUND ON THE PLANS, THE CONTRACTOR SHALL NOTIFY THE PROJECT ARCHITECT OR ENGINEER BEFORE PROCEEDING WITH THE WORK IN QUESTION.
8. THE CONTRACTOR SHALL OBTAIN AN OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (O.S.H.A.) PERMIT FROM THE CALIFORNIA DIVISION OF INDUSTRIAL SAFETY PRIOR TO THE CONSTRUCTION OF TRENCHES OR EXCAVATIONS WHICH ARE 5 FEET OR DEEPER.
9. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS.

ENVIRONMENTAL QUALITY NOTES:

A. ALL UNPAVED DEMOLITION AND CONSTRUCTION AREAS SHALL BE WETTED AT LEAST TWICE DAILY DURING EXCAVATION AND CONSTRUCTION, AND TEMPORARY DUST COVERS SHALL BE USED TO REDUCE DUST EMISSIONS AND MEET SCAQMD DISTRICT RULE 403.

B. THE CONTRACTOR SHALL KEEP THE CONSTRUCTION AREA SUFFICIENTLY DAMPENED TO CONTROL DUST CAUSED BY CONSTRUCTION AND HAULING, AND AT ALL TIMES PROVIDE REASONABLE CONTROL OF DUST CAUSED BY WIND.

C. EROSION CONTROL TO BE INSTALLED YEAR ROUND THROUGHOUT ENTIRE PROJECT. OBTAIN GRADING INSPECTOR'S APPROVAL OF PROPOSED PROCEDURES.

D. ALL LOADS SHALL BE SECURED BY TRIMMING, WATERING OR OTHER APPROPRIATE MEANS TO PREVENT SPILLAGE AND DUST.

E. ALL MATERIALS TRANSPORTED OFF-SITE SHALL BE EITHER SUFFICIENTLY WATERED OR SECURELY COVERED TO PREVENT EXCESSIVE AMOUNT OF DUST.

F. ALL CLEARING, EARTH MOVING, OR EXCAVATION ACTIVITIES SHALL BE DISCONTINUED DURING PERIODS OF HIGH WINDS (I.E., GREATER THAN 15 MPH), SO AS TO PREVENT EXCESSIVE AMOUNTS OF DUST.

G. GENERAL CONTRACTORS SHALL MAINTAIN AND OPERATE CONSTRUCTION EQUIPMENT SO AS TO MINIMIZE EXHAUST EMISSIONS.

H. THE PROJECT SHALL COMPLY WITH THE NOISE ORDINANCES WHICH PROHIBIT THE EMISSION OR CREATION OF NOISE BEYOND CERTAIN LEVELS AT ADJACENT USES UNLESS TECHNICALLY INFEASIBLE.

I. CONSTRUCTION AND DEMOLITION SHALL BE RESTRICTED TO THE HOURS OF 7:00 AM TO 6:00 PM MONDAY THROUGH FRIDAY, AND 8:00 AM TO 6:00 PM ON SATURDAY.

J. CONSTRUCTION AND DEMOLITION ACTIVITIES SHALL BE SCHEDULED SO AS TO AVOID OPERATING SEVERAL PIECES OF EQUIPMENT SIMULTANEOUSLY.

K. THE PROJECT CONTRACTOR SHALL USE POWER CONSTRUCTION EQUIPMENT WITH STATE-OF-THE-ART NOISE SHIELDING AND MUFFLING DEVICES.

L. THE CONTRACTOR SHALL COMPLY WITH THE NOISE INSULATION STANDARDS OF TITLE 24 OF THE CALIFORNIA CODE REGULATIONS, WHICH INSURE AN ACCEPTABLE INTERIOR NOISE ENVIRONMENT.

M. ALL WASTE SHALL BE DISPOSED OF PROPERLY. USE APPROPRIATELY LABELED RECYCLING BINS TO RECYCLE CONSTRUCTION MATERIALS INCLUDING: SOLVENTS, WATER-BASED PAINTS, VEHICLE FLUIDS, BROKEN ASPHALT AND CONCRETE, WOOD, AND VEGETARIAN. NON RECYCLABLE MATERIALS/WASTES SHALL BE TAKEN TO AN APPROPRIATE LANDFILL. TOXIC WASTES MUST BE DISCARDED AT A LICENSED REGULATED DISPOSAL SITE.

O. PAVEMENT SHALL NOT BE HOSED DOWN AT MATERIAL SPILLS. DRY CLEANUP METHODS SHALL BE USED WHENEVER POSSIBLE.

P. DUMPSTERS SHALL BE COVERED AND MAINTAINED. UNCOVERED DUMPSTERS SHALL BE PLACED UNDER A ROOF OR BE COVERED WITH TARPS OR PLASTIC SHEETING.

Q. GRAVEL APPROACHES SHALL BE USED WHERE TRUCK TRAFFIC IS FREQUENT TO REDUCE SOIL COMPACTION AND THE TRACKING OF SEDIMENT INTO STREETS SHALL BE LIMITED.

R. ALL VEHICLE/EQUIPMENT MAINTENANCE, REPAIR, AND WASHING SHALL BE CONDUCTED AWAY FROM STORM DRAINS. ALL MAJOR REPAIRS SHALL BE CONDUCTED OFF-SITE. DRIP PANS OR DROP CLOTHES SHALL BE USED TO CATCH DRIPS AND SPILLS.

ACCESSIBILITY NOTES:

CALIFORNIA ACCESS COMPLIANCE, TITLE 24 CCR

1. WALKS AND SIDEWALK SURFACE CROSS SLOPES SHALL NOT EXCEED 1/4" PER FOOT (2% GRADIENT) (SEC. 11B-403.3)
2. WHEN THE SLOPE IN THE DIRECTION OF TRAVEL OF ANY WALK EXCEEDS 1:20 (5% GRADIENT) IT SHALL COMPLY WITH THE PROVISIONS OF SECTION 11B-401 AS A PEDESTRIAN RAMP (SEC. 11B-403.3)
3. WALK AND SIDEWALK SURFACES WITH A SLOPE OF LESS THAN 6% GRADIENT SHALL BE AT LEAST AS SLIP-RESISTANT AS THAT DESCRIBED AS A MEDIUM SALTED FINISH. (SEC. 11B-403.2)
4. WALK & SIDEWALK SURFACES WITH A SLOPE OF 6% OR MORE GRADIENT SHALL BE SLIP-RESISTANT. (SEC. 11B-403.2)
5. ALL WALKS WITH CONTINUOUS GRADIENTS SHALL HAVE LEVEL AREAS AT LEAST 5' IN LENGTH AT INTERVALS OF' AT LEAST EVERY 400'. (SEC. 11B-403.7)
6. WALKS SHALL BE PROVIDED WITH A LEVEL AREA NOT LESS THAN 60" WIDE AND DOOR+36" DEEP AT A DOOR OR GATE THAT SWINGS TOWARD THE WALK, AND NOT LESS THAN 48" WIDE AND DOOR+12" DEEP AT A DOOR OR GATE THAT SWINGS AWAY FROM THE WALK. (SEC. 11B-404.2.4.1 (c) OR (d))
7. WALKS AND SIDEWALKS SHALL HAVE A CONTINUOUS COMMON SURFACE, NOT INTERRUPTED BY STEPS OR BY ABRUPT CHANGES IN LEVEL EXCEEDING 1/2", AND SHALL BE A MINIMUM OF 48" WIDE. (SEC. 11B-403.1, 11B-403.2, 11B-403.5.1, 11B-403.5.3, 11B-302.1)
8. WHEN ABRUPT CHANGES IN LEVEL NOT EXCEEDING 1/2" OCCUR, THEY SHALL BE BEVELED WITH A SLOPE NO GREATER THAN 1 UNIT VERTICAL TO 2 UNITS HORIZONTAL (50%), EXCEPT THAT LEVEL CHANGES NOT EXCEEDING ¼" MAY BE VERTICAL (SEC. 11B-403.4 AND FIGURES 11B-5E (c) AND (d))
9. ABRUPT CHANGES IN LEVEL ALONG ANY ACCESSIBLE ROUTE EXCEEDING 1/2" SHALL COMPLY WITH THE REQUIREMENTS FOR CURB RAMPS. (SEC. 11B-303.4)
10. WALKS SHALL EXTEND A MINIMUM OF 36" TO THE SIDE OF THE STRIKE EDGE OF A DOOR OR GATE THAT SWINGS TOWARD THE WALL (SEC. 11B-404.2.4.1 (d))
11. WALKS, SIDEWALKS, AND PEDESTRIAN WAYS SHALL BE FREE OF GRATINGS WHEREVER POSSIBLE. GRID OPENINGS IN GRATINGS SHALL BE 1/2" WIDE MAX IN THE DIRECTION OF TRAFFIC FLOW. ELONGATED OPENINGS, IF PROVIDED SHALL BE PLACED SO THAT THE LONG DIMENSION IS PERPENDICULAR TO THE DOMINANT DIRECTION OF TRAVEL (SEC. 11B-302.3)
12. ABRUPT CHANGES IN LEVEL, 4" OR MORE, EXCEPT BETWEEN A WALK OR A SIDEWALK AND ADJACENT STREETS OR DRIVEWAYS SHALL BE IDENTIFIED BY A 6" HIGH CURBS ABOVE WALK SURFACE (SEC. 11B-303.5)
13. PROVIDE SIGNS DISPLAYING THE INTERNATIONAL SYMBOL OF ACCESSIBILITY AT EVERY PRIMARY PUBLIC ENTRANCE AND AT EVERY MAJOR JUNCTION ALONG OR LEADING TO AN ACCESSIBLE ROUTE OF TRAVEL. SIGNS SHALL INDICATE THE DIRECTION TO ACCESSIBLE BUILDING ENTRANCES AND SHALL COMPLY WITH SECTION 11B-703 (SEC. 11B-216.6)

PAVING NOTES:

1. A PRE-PAVING MEETING WITH PROJECT INSPECTOR AND ENGINEER IS REQUIRED 48 HOURS PRIOR TO PAVING.
2. CRUSHED AGGREGATE BASE SHOULD CONFORM TO SECTION 200-2.2 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND SHOULD BE COMPACTED TO A DRY DENSITY OF AT LEAST 95 PERCENT OF THE MAXIMUM DRY DENSITY AT NEAR OPTIMUM MOISTURE CONTENT AS DETERMINED BY ASTM D 1557-02.
3. THE PCC PAVEMENT SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF APPROXIMATELY 3,000 PSI FOR PEDESTRIAN AREAS.
4. ADJACENT PAVEMENTS SLAB SECTIONS SHALL HAVE FLUSH TRAPEZOIDAL KEYED CONSTRUCTION JOINT, AS AN ALTERNATIVE TO THE KEYED JOINT, DOWELING BETWEEN CONSTRUCTION JOINTS CAN BE USED. DOWELS SHALL CONSIST OF SMOOTH, #4bar REINFORCING STEEL, 18 INCHES LONG, EMBEDDED A MINIMUM OF SIX INCHES INTO THE SLAB ON EITHER SIDE OF THE CONSTRUCTION JOINT.

GENERAL UTILITY NOTES:

1. CONTRACTOR TO PROTECT IN PLACE ALL EXISTING UTILITY LINES AND UNDERGROUND STRUCTURES, SHOWN ON THESE PLANS THAT LAY WITHIN THE LIMITS OF THE NEW CONSTRUCTION, AND ARE NOT SPECIFICALLY MARKED TO BE REMOVED OR ABANDONED. SEE NOTICE TO CONTRACTORS #2 FOR ADDITIONAL INFORMATION.
2. THE CONTRACTOR'S ATTENTION IS DIRECTED TO SECTION 7-10.4.1 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION AND THE AMENDMENTS IN REGARD TO SAFETY ORDERS.
3. INSTALLATION OF PIPES IN TRENCHES SHALL BE IN ACCORDANCE WITH SECTION 306 OF THE STANDARD SPECIFICATIONS, AND APPLICABLE SPPWC AND GUSD STANDARD PLANS.
4. PIPE BEDDING SHALL BE CLEAN SAND. SEE DETAILS 2&3 ON SHEET C202.
5. THE CONTRACTOR MAY VARY THE GRADE AND/OR ALIGNMENT OF THE WATER AND GAS LINES IF FIELD CONDITIONS WARRANT WITH APPROVAL OF THE ENGINEER.
6. ALL UTILITY TRENCHES SHALL BE BLOCKED AT THE PRESCRIBED INTERVALS FROM BOTTOM TO TOP WITH A DOUBLE ROW OF SANDBAGS PRIOR TO BACKFILL. SEWER TRENCHES SHALL BE BLOCKED AT THE PRESCRIBED INTERVALS WITH A DOUBLE ROW OF SANDBAGS EXTENDING DOWNWARD, TWO SANDBAGS FROM THE GRADED SURFACE OF THE STREET. SANDBAGS ARE TO BE PLACED WITH ALTERNATE HEADER AND STRETCHER COURSES. THE INTERVALS PRESCRIBED BETWEEN SANDBAG BLOCKINGS, SHALL DEPEND ON THE SLOPE OF THE GROUND SURFACE, BUT SHALL NOT EXCEED THE FOLLOWING:

GRADE OF THE STREET	INTERVAL
LESS THAN 2%	AS REQUIRED
2% TO 4%	100 FEET
4% TO 10%	50 FEET
OVER 10%	25 FEET

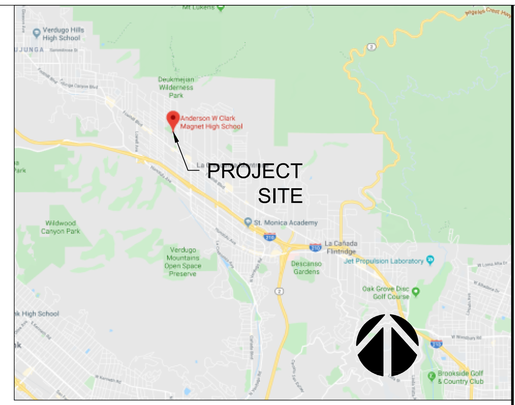
7. THE CONTRACTOR SHALL PROVIDE THE DESIGN OF, OBTAIN THE REQUIRED PERMITS FOR, AND FURNISH AND INSTALL ALL THE TEMPORARY SHORING, UNDERPINNING AND BRACING REQUIRED TO SAFELY EXECUTE THE WORK AND PROTECT EXISTING IMPROVEMENTS.
8. CONTRACTOR SHALL EXPOSE EXISTING UTILITY LINES AT THE DOWNSTREAM CONNECTION LOCATIONS FOR VERIFICATION OF JOIN ELEVATIONS. DISCREPANCIES WITH THE PLANS SHALL BE REPORTED TO THE ENGINEER, PRIOR TO CONTINUING WITH CONSTRUCTION.
9. SPECIAL PROVISIONS SUCH AS FLEXIBLE OR SWIVEL JOINTS SHALL BE MADE FOR BURIED UTILITIES TO ALLOW FOR DIFFERENTIAL VERTICAL DISPLACEMENT.
10. CONSTRUCTION INSPECTION SHALL BE DONE FOR SUBBEDDING, BEDDING, PIPE LAYING, PIPE TESTING, AND MANHOLE CONSTRUCTION, TRENCHING, CONSOLIDAITON OF BACKFILL, PAVING, RESURFACING.
11. NO CONCRETE SHALL BE PLACED UNTIL THE FORMS AND REINFORCING STEEL HAVE BEEN PLACED, INSPECTED AND APPROVED BY THE INSPECTOR.
12. CONCRETE FOR UTILITY STRUCTURES SHALL BE PORTLAND CEMENT CONCRETE WITH AN ULTIMATE 28 DAY COMPRESSIVE STRENGTH OF 3250 P.S.I. UNLESS OTHERWISE NOTED.
13. FINAL CLEANOUT RIM ELEVATIONS SHALL BE ADJUSTED TO MEET FINAL GRADES, IF NEEDED.
14. ALL WATER LINES SHALL BE INSTALLED WITH 36" MINIMUM COVER FROM TOP OF PIPE TO FINISHED GRADE, UNLESS OTHERWISE NOTED.

ABBREVIATIONS

PROPERTY LINE	P OR
CENTER LINE	℄ OR
GRADE CHANGE	G.C. OR
FINISH (DESIGN) GRADE CONTOUR	858.00
PRESENT GRADE CONTOUR	(858.0)
FLOW LINE	F.L. OR
RIDGE LINE	R
NEW DRAIN LINE	ND
NEW DRAIN LINE	D
NEW ELECTRICAL CONDUIT	E
NEW GAS LINE	G
NEW SEWER LINE	S
NEW WATER LINE	W
EXISTING FENCE TO REMAIN	x x
EXISTING FENCE TO BE REMOVED	⊗ ⊗
NEW OR RELOCATED FENCE (HEIGHT NOTED ON PLAN)	xx xx
EXISTING GRADE ELEVATION	(858.00)
FINISH (DESIGN) GRADE ELEVATION	858.50
TREE, EXISTING (SIZE NOTED)	X"
REMOVE EXISTING TREE (SIZE NOTED)	X"
ACRYLONITILE-BUTADIENE-STYRENE PIPE	ABSPIPE
ASPHALTIC CONCRETE	AC
CAST IRON PIPE	CIP
CEMENT CONCRETE	CC
CHAIN LINK FENCE	CLF
CLEAN OUT	CO
CRUSHED AGGREGATE BASE	CAB
CRUSHED MISCELLANEOUS BASE	CMB
DRIVEWAY	DWY
EXISTING	(E)
EXISTING UTILITY (D,E,G,S OR W) LINE	(W)
EXPANSION JOINT	EJ
HIGH DENSITY POLYETHYLENE PIPE	HDPEPIPE
INLET ELEVATION FOR ATRIUM GRATE	INL
INVERT	INV
METAL STORAGE CONTAINER	MSC
PLANTING AREA	PA
POINT OF CONNECTION	POC
POLYVINIL CHLORIDE	PVC
SCORE LINES	SL
TOP OF CATCH BASIN	TCB
TOP OF CURB	TC
TOP OF FLOOR DRAIN	TFD
TOP OF WALL	TW
VITRIFIED CLAY PIPE	VCP
WOOD STORAGE CONTAINER	WSC
YARD BOX (SEWER,GAS,ELECTRIC,WATER)	YB (S,G,E,W)

LEGEND:

- PROPERTY LINE
- RIDGE LINE
- GRADE BREAK LINE
- SAWCUT LINE
- LIMITS OF BUILDING OVEREXCAVATION
- FENCE
- GAS MAIN
- SANITARY SEWER
- STORM DRAIN
- WATER MAIN
- RECLAIMED WATER
- FIRE WATER
- ELECTRIC CABLE (FOR REF. ONLY)
- TELEPHONE (FOR REF. ONLY)
- EXIST. GAS MAIN
- EXIST. SANITARY SEWER
- EXIST. STORM DRAIN
- EXIST. WATER MAIN
- EXIST. RECLAIMED WATER
- EXIST. FIRE WATER
- EXIST. ELECTRIC U/G CABLE
- EXIST. TELEPHONE
- ADA PATH OF TRAVEL
- PATH OF DRAINAGE
- PROP. CONTOUR (1/2' INTERVAL)
- EXIST. CONTOUR (1/2' INTERVAL)
- 462.50 FS — PROPOSED SPOT ELEVATION
- (462.50) FS — EXISTING SPOT ELEVATION
- WALL
- SANDBAGS
- VALVE
- NEW CONCRETE PAVEMENT
- NEW ASPHALT CONCRETE PAVEMENT
- ADA PATH OF TRAVEL



VICINITY MAP

SCALE: N.T.S.

PREPARED BY

BRANDOW & JOHNSTON, INC.
700 SOUTH FLOWER ST. SUITE 1800
LOS ANGELES, CA. 90017
TEL (213) 596-4500
FAX (213) 596-4599

REPRESENTATIVE:

ED MELO, PE
DIRECTOR OF CIVIL ENGINEERING

PREPARED FOR

GLENDALE UNIFIED SCHOOL DISTRICT
ANDERSON W. CLARK MAGNET HIGH SCHOOL
4747 NEW YORK AVENUE
GLENDALE, CA 91214

REPRESENTATIVE:

NAC ARCHITECTURE
323-475-8075

INDEX OF DRAWINGS

CALIFORNIA CODE OF REGULATIONS:

APPLICABLE CODES AS OF JANUARY 1, 2020

2019 BUILDING STANDARDS ADMINISTRATIVE CODE, PART 1, CBSC
2019 CALIFORNIA BUILDING CODE (CSC), PART 2, CBSC
(2018 IBC AND CALIFORNIA AMENDMENTS)
2019 CALIFORNIA PLUMBING CODE (CPC), PART 5, CBSC
(2018 UNIFORM PLUMBING CODE AND CALIFORNIA AMENDMENTS)
2019 CALIFORNIA FIRE CODE, PART 9, CBSC
(2018 INTERNATIONAL FIRE CODE AND CALIFORNIA AMENDMENTS)

LIST OF FEDERAL CODES AND STANDARDS

- AMERICANS WITH DISABILITIES ACT (ADA), TITLE II
- STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (SPPWC)
- FOR TITLE II: ADA STANDARDS FOR ACCESSIBLE DESIGN (APPENDIX A OF 28 CFR PART 36). (28 CFR 35.151(e))

NOTE: TITLE II APPLIES TO PROJECTS FUNDED AND/OR USED BY STATE AND LOCAL GOVERNMENT SERVICES.

BENCH MARK

HORIZONTAL CONTROL DATUM
ASSUMED LOCAL COORDINATE SYSTEM WITH GRID-TO-GROUND SCALE FACTOR = 1.00000000 AND ORIGIN AT CONTROL POINT NO. 77 BEING A COFG DISK IN WELL DOWN 0.42' AT INTERSECTION OF NEW YORK AVENUE AND LOS OLIVOS LANE PER CITY OF GLENDALE TIE BOOK 155, PAGE 18 HAVING COORDINATE VALUE OF NORTH 5000.0000 AND EAST 10000.0000.

VERTICAL CONTROL DATUM
VERTICAL VALUES SHOWN HEREON ARE BASED UPON NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29) UTILIZING CITY OF GLENDALE BENCHMARKS LISTED BELOW.

BENCHMARK NO: BM651 (2017 ADJUSTMENT)
ROUND HEAD NAIL IN N'LY CURB EL CAMINITO 38.7 FT W'LY BCR N-W'LY CORNER MKD 'BM' AT INTERSECTION OF NEW YORK AVE AND EL CAMINITO.
ELEVATION = 1849.84 FEET

BENCHMARK NO: BM836 (2017 ADJUSTMENT)
ROUND HEAD NAIL IN LEAD IN N'LY CURB OF DRAIN AT N-E'LY CORNER SCHOOL PROP AND 1.0 FT BK WK MKD 'BM' CLOSE TO INTERSECTION OF NEW YORK AVE AND STEVENS ST.
ELEVATION = 1829.83 FEET

BENCHMARK NO: BM652 (2017 ADJUSTMENT)
ROUND HEAD NAIL IN LEAD IN W'LY CURB NEW YORK AVE IN N'LY HEADWALL CB MKD 'BM' AT INTERSECTION OF NEW YORK AVE AND ALABAMA ST.
ELEVATION = 1797.37 FEET

BENCHMARK NO: BM2702 (2017 ADJUSTMENT)
DISK IN WELL @ C/L INTERSECTION OF NEW YORK AVE AND LOS OLIVOS LN.
ELEVATION = 1758.88 FEET

BENCHMARK NO: BM839 (2017 ADJUSTMENT)
ROUND HEAD NAIL IN LEAD IN S'LY CURB FAIRESTA ST 29.0 FT W'LY BCR S-W'LY CORNER MKD 'BM' AT INTERSECTION OF NEW YORK AVE AND FAIRESTA ST.
ELEVATION = 1712.77 FEET

Underground Service Alert of Southern California
Call: TOLL FREE 1-800 227-2600
TWO WORKING DAYS BEFORE YOU DIG

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

CONSULTANT
BRANDOW & JOHNSTON
STRUCTURAL-CIVIL ENGINEERS (B&J HSK, INC.)
700 S FLOWER ST #1800, LOS ANGELES, CA 90017
T: (213) 596-4500 WWW.BJSCE.COM
EST. 1945

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL
TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

REGISTERED PROFESSIONAL ENGINEER — RICHARD S. WILLIS — No. C28053 — Civil — State of California
FOR BRANDOW & JOHNSTON

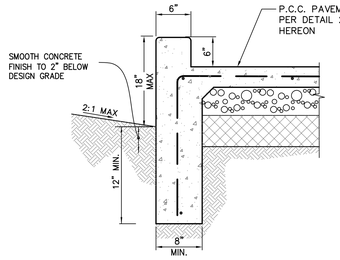
NAC ARCHITECTURE
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

TITLE SHEET AND GENERAL NOTES

C1.01

© 2019 NAC Inc

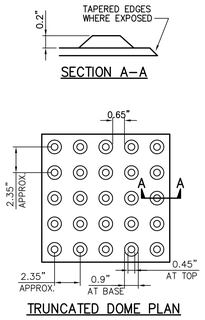


NOTES:

1. PORTLAND CEMENT CONCRETE, fc'=3000 psi

THICKEN EDGE WITH CURB DETAIL

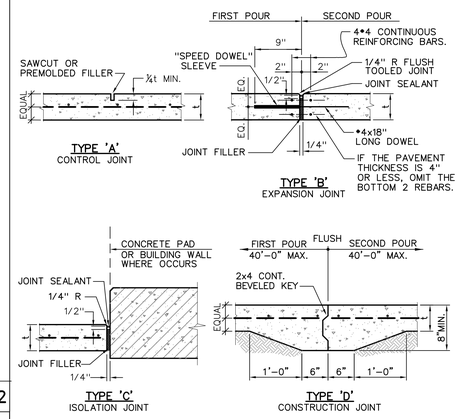
SCALE: NO SCALE | 16



TRUNCATED DOME PLAN

TRUNCATED DOMES (DSA APPROVED PRODUCT ONLY)

SCALE: NO SCALE | 12



SUGGESTED SPACING OF CONTROL JOINTS

PAVEMENT/SLAB TICKNESS (IN)	LESS THAN 3/4 INCH AGGREGATE: SPACING (FT)	LARGER THAN 3/4 INCH AGGREGATE: SPACING (FT)
3	4	6
4	8	10
5	10	13
6	12	15
7	14	18
8	16	20
9	18	23
10	20	25

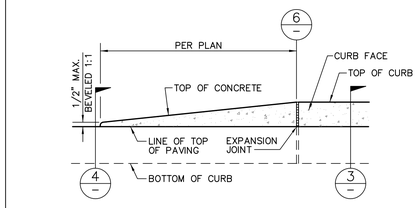
* GIVEN SPACING ALSO APPLY TO THE DISTANCE FROM CONTROL JOINTS TO PARALLEL ISOLATION JOINTS OR TO PARALLEL EXPANSION JOINTS.

NOTES:

1. SEE SPECIFICATIONS FOR TYPE OF JOINT SEALANT AND JOINT FILLER.
2. PLACE 18" LONG #4 DOWELS AT 24" O.C. (TYPE 'B' ONLY)
3. SPACING OF JOINTS PER TABLE HEREON.
4. STOP SLAB REINFORCING AT EXPANSION JOINT.

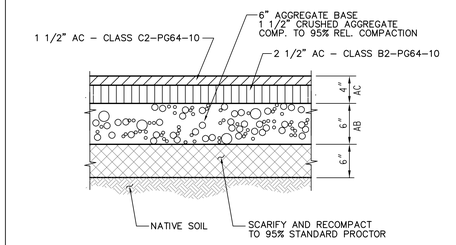
CONSTRUCTION JOINTS

SCALE: NO SCALE | 9



TAPERED CONCRETE CURB DETAIL

SCALE: NO SCALE | 5

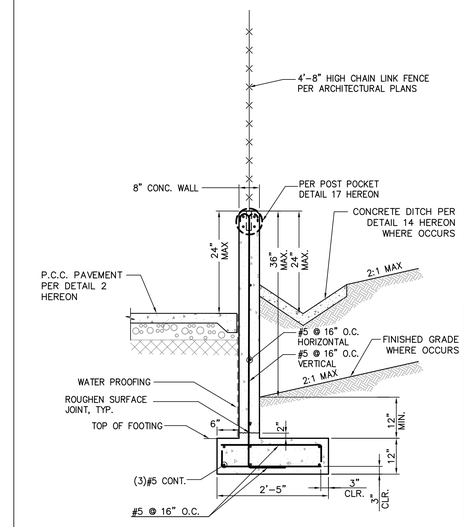


NOTES:

THE ACTUAL PAVEMENT THICKNESS WILL BE DETERMINED BY GEOTECHNICAL ENGINEER, BASED ON TRAFFIC INDEX AND AFTER SOIL TESTING.

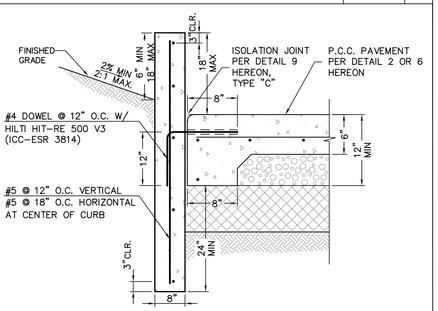
AC PAVEMENT DETAIL

SCALE: NO SCALE | 1



8" RETAINING WALL DETAIL

SCALE: NO SCALE | 16

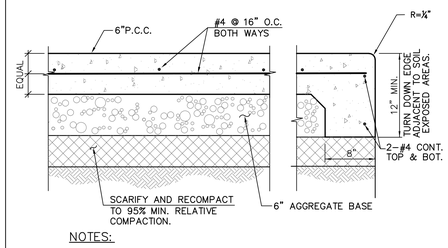


NOTES: (TYPICAL @ ALL SIMILAR CONDITIONS)

1. BOTTOM OF CURB TO BE SET ON COMPACTED SUB–BASE OR NATURAL UNDISTURBED SOIL (PER SOILS REPORT).
2. FINISH ALL EXPOSED CONCRETE SURFACES SMOOTH.
3. PROVIDE 1/2" EXPANSION JOINTS AT 25'–0" O.C. MAX. AND AT CURVES, TANGENTS AND CORNERS.
4. PORTLAND CEMENT CONCRETE, fc'=3000 psi

RAISED CURB DETAIL

SCALE: NO SCALE | 13

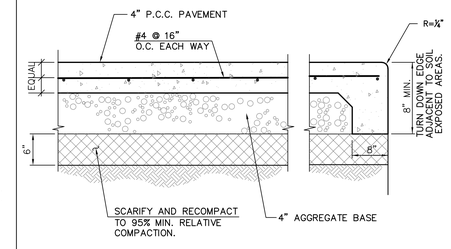


NOTES:

1 – PORTLAND CEMENT CONCRETE, fc=3200 psi, W/C RATIO 0.5 MAX.
2 – EXPANSION JOINTS–PER DETAIL 9 HEREON. SPACING – 32' O.C. OR LESS TO FIT WITH CONTROL JOINT SPACING PER DETAIL 9 HEREON.
3 – CONTROL JOINTS – PER DETAIL 9 HEREON.
4 – FINISH – SEE ARCHITECT DRAWING
5 – VEHICULAR LOADING (H–20)

TRAFFIC RATED CONCRETE PAVEMENT

SCALE: NO SCALE | 6



NOTES:

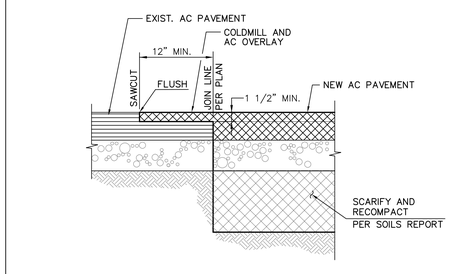
1 – PORTLAND CEMENT CONCRETE, fc=3000 psi, W/C RATIO 0.5 MAX.
2 – EXPANSION JOINTS–PER DETAIL 9 HEREON. SPACING – 32' O.C. OR LESS TO FIT WITH CONTROL JOINT SPACING PER DETAIL 9 HEREON.
3 – CONTROL JOINTS – PER DETAIL 9 HEREON.
4 – FINISH – SEE ARCHITECT DRAWING

PEDESTRIAN CONCRETE WALKWAY

SCALE: NO SCALE | 2

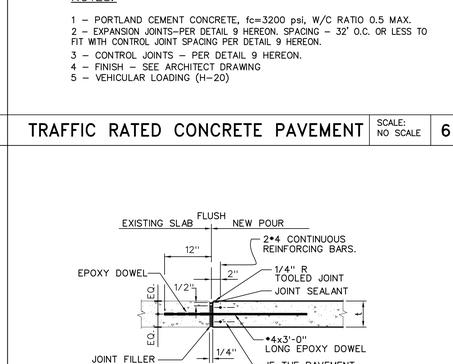
CONCRETE PAVED DITCH

SCALE: NO SCALE | 14



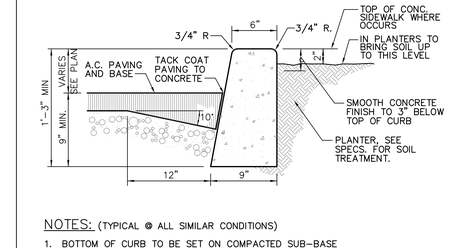
AC PAVEMENT JOINT DETAIL

SCALE: NO SCALE | 10



CONSTRUCTION JOINT AT (E) CONC.

SCALE: NO SCALE | 7



NOTES:

1. SEE SPECIFICATIONS FOR TYPE OF JOINT SEALANT AND JOINT FILLER.
2. PLACE THE DOWELS AT 24" O.C. (2 DOWELS MIN.)
3. 12" MAX. BETWEEN THE CONCRETE EDGE AND THE FIRST DOWEL.

CONCRETE CURB DETAIL

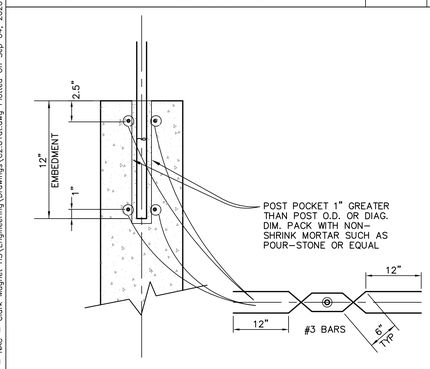
SCALE: NO SCALE | 8

NOTES: (TYPICAL @ ALL SIMILAR CONDITIONS)

1. BOTTOM OF CURB TO BE SET ON COMPACTED SUB–BASE OR NATURAL UNDISTURBED SOIL (PER SOILS REPORT).
2. FINISH ALL EXPOSED CONCRETE SURFACES SMOOTH.
3. PROVIDE 1/2" EXPANSION JOINTS AT 25'–0" O.C. MAX. AND AT CURVES, TANGENTS AND CORNERS.
4. PORTLAND CEMENT CONCRETE, fc'=3000 psi

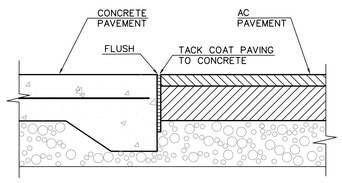
CONCRETE CURB DETAIL (APWA 120–1)

SCALE: NO SCALE | 3



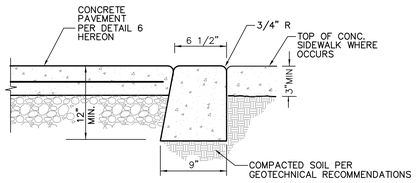
POST POCKET DETAIL

SCALE: NO SCALE | 17



AC TO CONCRETE PAVEMENT TRANSITION

SCALE: NO SCALE | 15

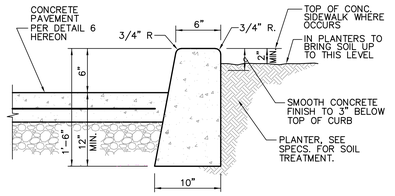


NOTES: (TYPICAL @ ALL SIMILAR CONDITIONS)

1. BOTTOM OF CURB TO BE SET ON SUBGRADE SOIL COMPACTED TO 95% STANDARD PROCTOR.
2. FINISH ALL EXPOSED CONCRETE SURFACES SMOOTH.
3. PROVIDE 1/2" EXPANSION JOINTS AT 25'–0" O.C. MAX. AND AT CURVES, TANGENTS AND CORNERS.
4. PORTLAND CEMENT CONCRETE, fc'=3000 psi

FLUSH CURB DETAIL

SCALE: NO SCALE | 11

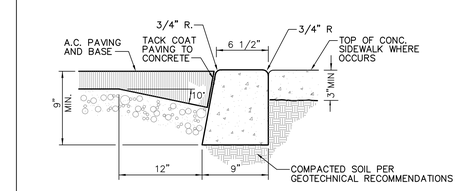


NOTES: (TYPICAL @ ALL SIMILAR CONDITIONS)

1. BOTTOM OF CURB TO BE SET ON COMPACTED SUB–BASE OR NATURAL UNDISTURBED SOIL (PER SOILS REPORT).
2. FINISH ALL EXPOSED CONCRETE SURFACES SMOOTH.
3. PROVIDE 1/2" EXPANSION JOINTS AT 25'–0" O.C. MAX. AND AT CURVES, TANGENTS AND CORNERS.
4. PORTLAND CEMENT CONCRETE, fc'=3000 psi

CONCRETE CURB DETAIL

SCALE: NO SCALE | 8



NOTES: (TYPICAL @ ALL SIMILAR CONDITIONS)

1. BOTTOM OF CURB TO BE SET ON SUBGRADE SOIL COMPACTED TO 95% STANDARD PROCTOR.
2. FINISH ALL EXPOSED CONCRETE SURFACES SMOOTH.
3. PROVIDE 1/2" EXPANSION JOINTS AT 25'–0" O.C. MAX. AND AT CURVES, TANGENTS AND CORNERS.
4. PORTLAND CEMENT CONCRETE, fc'=3000 psi

FLUSH CURB DETAIL

SCALE: NO SCALE | 4

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

CONSULTANT

BRANDOW & JOHNSTON
STRUCTURAL-CIVIL ENGINEERS (B&J HSK, INC.)
700 S FLOWER ST #1800, LOS ANGELES, CA 90017
T: (213) 596-4800 WWW.BJSCE.COM
EST. 1945

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT

CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT

4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

REGISTERED PROFESSIONAL ENGINEER
CIVIL
No.C80534
State of California

FOR BRANDOW & JOHNSTON

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

TYPICAL DETAILS

C2.01

©2015 NAC Arc

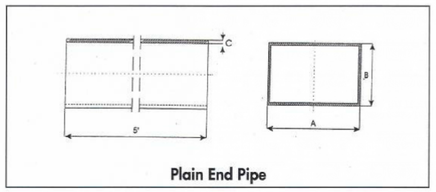
H:_C19–0080 – NAC – Clark Magnet HS_Engineering_Drawings_C2.01.dt.dwg Plotted On Sep 04, 2020–8:52am by vlantcheva

12/30/2015 9:39:00 AM File Path

Curb-O-Let™ Thru The Curb Drain

Rectangular Steel Pipe and Fittings Product List:

Product #	Size	Round Equivalent	Round Transverse Area
CP - SP 305	3" x 5" x 5'	4" Ø	13.06 Sq. In.
CP - SP 308	3" x 8" x 5'	5" Ø	20.02 Sq. In.
CP - SP 312	3" x 12" x 5'	6" Ø	30.52 Sq. In.
CP - SP 317	3" x 17" x 5'	8" Ø	50.75 Sq. In.
CP - SP 414	4" x 14" x 5'	8" Ø	50.75 Sq. In.
CP - SP 422	4" x 22" x 5'	10" Ø	78.54 Sq. In.



Plain End Pipe

PRODUCT SPECIFICATIONS

Product #	A	B	C
CP - SP 305	5"	3"	10 Ga.
CP - SP 308	8"	3"	10 Ga.
CP - SP 312	12"	3 - 1/8"	10 Ga.
CP - SP 317	17 1/8"	3 - 1/8"	10 Ga.
CP - SP 414	14 1/2"	4"	10 Ga.
CP - SP 422	21 3/4"	4"	10 Ga.

MATERIAL: 10 Gauge Galvanized A653 G90 meets ASTM A-653. Tensile Strength 50,000. Yield 36,000
COATING: Asphalt emulsified bentonite clay. Complies with ASTM D-1227-87 Type 3. ASTM D-1187-82 Type 1.
COATING APPLICATION: Spray/Roll/Brush
RECTANGULAR CONNECTION: Lead & Oakum, Lead Wool, Epoxy Binding or other approved method.
ROUND CONNECTION: Cast iron/plastic pipe connection use cast iron or plastic to steel couplings

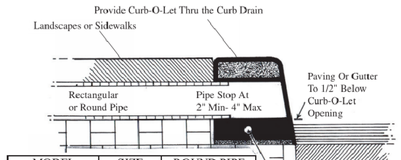
CURB-O-LET RECTANGULAR PIPE | SCALE: NO SCALE | 6

Curb-O-Let™ Thru The Curb Drain

Architects and Engineers
Curb-O-Let Thru the Curb Drain
Specifications & Cut Sheet

Visit our website at: http://www.curboletproduct.com

Install As Per Manufacturer's Recommendations



MODEL	SIZE	ROUND PIPE EQUIVALENT
TCD 3RD	3" Round	3
TCD 4RD	4" Round	4
TCD 35	3" X 5"	4
TCD 38	3" X 8"	5
TCD 312	3" X 12"	6
TCD 414	4" X 14"	8
TCD 420	4"X 20"	10

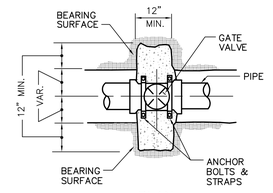
NOT TO SCALE

Curb-O-Let Thru The Curb Drain

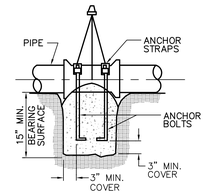
(714) 903-2468
(562) 867-4587
Fax (562) 920-1994

Permission is granted to copy this page.

CURB-O-LET THRU CURB DRAIN DETAIL | SCALE: NO SCALE | 5

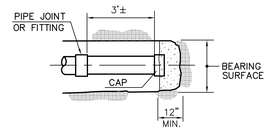


PLAN

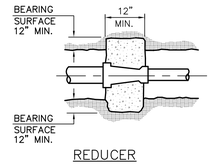


ELEVATION

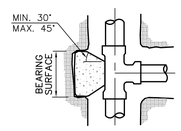
VALVE ANCHORS



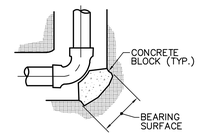
CAPPED END



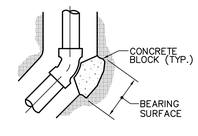
REDUCER



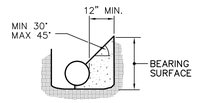
TEE



90° ELBOW



45° ELBOW



TYPICAL SECTION OF THRUST BLOCK

NOTES:

1. ALL THRUST/ANCHOR BLOCKS SHALL BEAR AGAINST UNDISTURBED SOIL.
2. CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 3000 P.S.I. AT 28 DAYS.
3. ALL ANCHOR RODS AND ANCHOR BOLTS SHALL BE MINIMUM 1/2" DIA. & ANCHOR STRAPS SHALL BE 1/4" X 2" BAR.
4. THRUST BLOCK DESIGN IS BASED ON A WATER PRESSURE OF 150 P.S.I., AND A MAXIMUM ALLOWABLE SOIL BEARING VALUE OF 2000 P.S.F. FOR MAXIMUM SOIL BEARING VALUES OF 1000 P.S.F. INCREASE BEARING SURFACES BY A FACTOR OF 2.
5. THE RATIO OF WIDTH TO HEIGHT OF THRUST BLOCKS SHALL NOT EXCEED 1 TO 1.
6. ANCHOR BLOCKS FOR VERTICAL BENDS SHALL BE CONSTRUCTED PER SPECIAL DETAIL AS REQUIRED.
7. THRUST BLOCKS SHALL BE OF A CONCRETE MIX NOT LEANER THAN ONE PART CEMENT, TWO AND ONE HALF PARTS SAND, AND FIVE PARTS STONE (NFPA 24 10.8.2.2).

THRUST BLOCK BEARING AREAS – S.F.

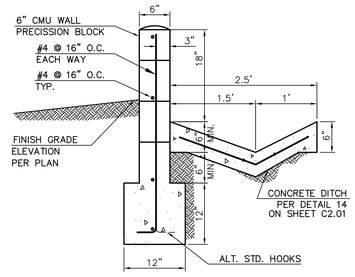
MAIN SIZE	TEE *	BEND 90°	BEND 45°	BEND 22.5°	BEND 11.25°
4"	4	2	2	2	2
6"	4	5	3	2	2
8"	5	8	5	3	2
10"	9	13	7	4	3
12"	13	18	10	5	3

* INCLUDES TEES, PLUGS, CAPS, HYDRANTS & VALVES.

THRUST AND ANCHOR BLOCK DETAILS | SCALE: NO SCALE | 1

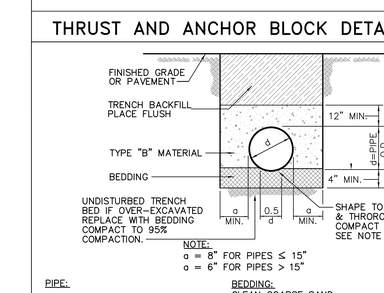
STRUCTURAL NOTES

1. CONCRETE
   A. STRUCTURAL CONCRETE SHALL BE 3200 PSI AT 28 DAYS.
   B. CONCRETE MATERIALS, MIX PROPORTIONING AND PLACING SHALL CONFORM TO APPLICABLE CODE.
   C. CLEAR BAR COVER SHALL BE AS INDICATED ON THE PLANS. BARS SHALL TERMINATE 2 IN. CLEAR FROM FACE OF CONCRETE.
   D. CONCRETE SHALL BE MAINTAINED IN A MOIST CONDITION FOR AT LEAST FIVE DAYS AFTER PLACEMENT.
2. MASONRY
   A. UNLESS OTHERWISE SPECIFIED ON THE PLANS, BLOCKS SHALL BE HOLLOW, LOAD BEARING CONCRETE UNITS, CONFORMING TO ASTM C–90, GRADE 'N'. NO SPECIAL INSPECTION REQUIRED FOR MASONRY CONSTRUCTION.
   B. BLOCK CELLS SHALL BE UNOBSTRUCTED AND SHALL HAVE VERTICAL CONTINUITY. CELLS SHALL BE FILLED WITH GROUT AS NOTED ON THE WALL SECTIONS. MAXIMUM HEIGHT OF POUR SHALL BE 4 FEET.
   C. 2,000 PSI MORTAR MIX FOR MASONRY UNITS SHALL BE TYPE 'M' OR 'S'.
   D. GROUT MIX FOR MASONRY SHALL BE 1 PART CEMENT TO 3 PARTS SAND, TO WHICH NO MORE THAN 1/10 PART LIME MAY BE ADDED. FOR COARSE GROUT, THE 3 PARTS SAND MAY BE REDUCED TO 2 PARTS, TO WHICH 2 PARTS OF 3/8 IN. (MAX.) GRAVEL ARE ADDED. THE MINIMUM GROUT STRENGTH SHALL BE 2000 PSI.
3. REINFORCING STEEL
   A. REINFORCING STEEL SHALL BE ASTM A–615, GRADE 40.
   B. UNLESS OTHERWISE NOTED ON THE PLANS, BAR SPLICES SHALL BE 48 BAD DIA. AND SHALL BE STAGGERED WHERE POSS I BLK.
   C. WHERE HEIGHTS OF WALL MAKE IMPRACTICAL TO HAVE A CONTINUOUS BAR EXTENDING UPWARD FROM THE FOOTING, A 48 DIA. SPLICE MAY BE PROVIDED AT THAT POINT.
   D. TOP HORIZONTAL STEM BARS SHALL BE CONTINUOUS THROUGH BENDS AND CORNERS.
   E. HORIZONTAL STEM BARS SHALL BE PLACED FROM THE BOTTOM COURSE TO THE MAXIMUM SPECIFIED SPACING. DOUBLE BARS SHALL BE PROVIDED WHERE INDICATED.
   F. REINFORCING BENDS AND STANDARD HOOKS SHALL CONFORM TO APPLICABLE CODE.
   G. NO FIELD WELDING OF REINFORCEMENT SHALL BE ALLOWED WITHOUT PERMITTING AGENCY APPROVAL.



4. FOUNDATION AND SOILS
   A. ALL FOOTINGS SHALL BE POURED AGAINST UNDISTURBED NATURAL SOIL OR CERTIFIED COMPACTED FILL. ANY OVER EXCAVATION AND BACKFILL SHALL BE INSPECTED BY GEOTECHNICAL ENGINEER.
   B. ALL EXCAVATION, BACKFILL AND BEARING STRATA SHALL BE INSPECTED AND APPROVED BY THE PROJECT GEOTECHNICAL ENGINEER. IN ADDITION. ALL EARTHWORK SHALL COMPLY WITH THE REQUIREMENTS CONTAINED IN THE SOILS REPORT.
   C. PRIOR TO POURING OF CONCRETE, THE GEOTECHNICAL ENGINEER SHALL INSPECT AND APPROVE THE FOOTING EXCAVATIONS AND LEAVE A CERTIFICATE ON THE SITE FOR THE CITY BUILDING INSPECTOR AND THE CONTRACTOR. NO CONCRETE SHALL BE POURED UNTIL THE CITY BUILDING INSPECTOR HAS ALSO INSPECTED AND APPROVED THE FOOTING EXCAVATIONS.

SPLASH WALL DETAIL | SCALE: NO SCALE | 7



NOTE:
a = 8" FOR PIPES ≤ 15"
a = 6" FOR PIPES > 15"

PIPE:
FOR GRAVITY FLOW SAN. SEWERS AND DRAINAGE P.V.C CONFORMING TO A.S.T.M. D–3034 MAXIMUM SDR 35, GASKETED JOINT, 15" DIA. MAXIMUM PIPE SIZE.

COMPACTION:
PIPE EMBEDMENT AND TRENCH BACKFILL SHALL BE COMPACTED IN ACCORDANCE WITH SECTION 306–1.3 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, LATEST EDITION. WATER DENSIFIED BACKFILL SHALL NOT BE USED.

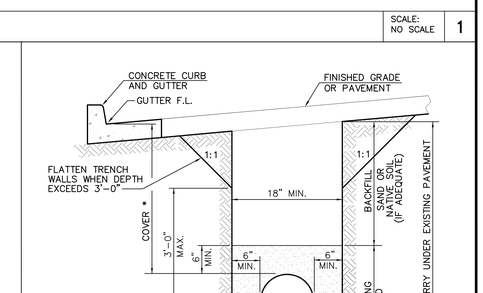
BEDDING:
CLEAN COARSE SAND

BEDDING TYPE B:
SAND OR OTHER GRANULAR MATERIAL WITH SAND EQUIVALENT VALUE NOT LESS THAN 30 AND SHALL BE COMPLETED PRIOR TO PLACING THE BALANCE OF THE BACKFILL. THE MAXIMUM ROCK SIZE FOR BEDDING TYPE B SHALL BE 3/4" IN THE GREATEST DIMENSION. NESTING OF ROCKS WILL NOT BE PERMITTED.

TRENCH BACKFILL:
BACKFILL WITH ONSITE OR IMPORT SOILS TO MINIMUM 95% RELATIVE COMPACTION

TRENCH RESURFACING AT EXISTING PAVEMENT:
PER SPPWC STD. PLANS 132–3 OR 133–3 (WHICHEVER IS APPLICABLE)

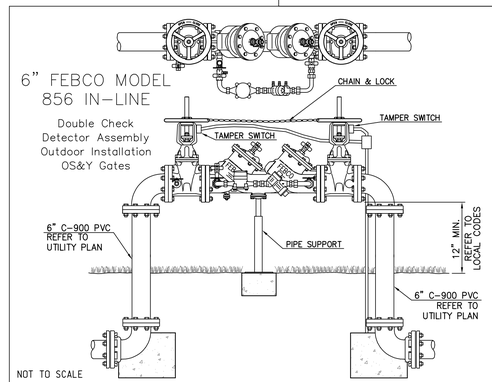
FLEXIBLE PIPE BEDDING AND TRENCH DETAIL | SCALE: NO SCALE | 3



NOTES:
* 48" MAX./36" MIN. FOR 12"DIA. AND LARGER PIPE.
42" MAX./30" MIN. FOR 10"DIA. AND SMALLER PIPE.
36" MIN. FOR PRIVATE FIRE SERVICE MAINS INSTALLED UNDER DRIVEWAYS OR ROADWAYS. (NFPA 13, SECTION 10.4.2.2.3)

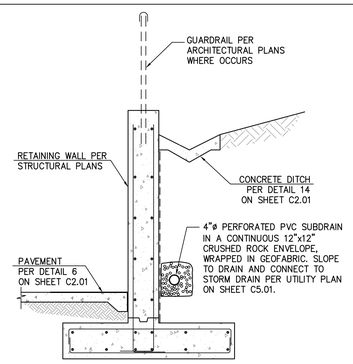
TRENCH RESURFACING AT EXISTING PAVEMENT – PER SPPWC STD. PLANS 132–3 OR 133–3 (WHICHEVER IS APPLICABLE)

TYPICAL TRENCH SECTION FOR WATER/GAS PIPE | SCALE: NO SCALE | 2

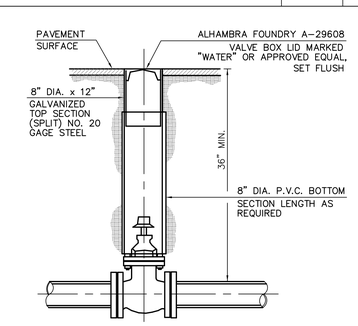


NOT TO SCALE

DOUBLE CHECK DETECTOR ASSEMBLY | SCALE: NO SCALE | 10

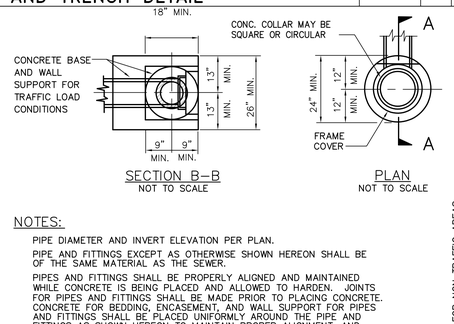


SUBDRAIN DETAIL | SCALE: NO SCALE | 9



NOTE:
PROVIDE APPROPRIATE CORROSION CONTROL METHODS.

VALVE COVER DETAIL | SCALE: NO SCALE | 8

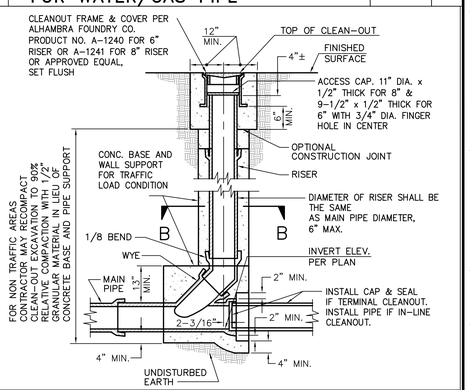


SECTION B–B
NOT TO SCALE

PLAN
NOT TO SCALE

NOTES:
PIPE DIAMETER AND INVERT ELEVATION PER PLAN.
PIPE AND FITTINGS EXCEPT AS OTHERWISE SHOWN HEREON SHALL BE OF THE SAME MATERIAL AS THE SEWER.
PIPES AND FITTINGS SHALL BE PROPERLY ALIGNED AND MAINTAINED WHILE CONCRETE IS BEING PLACED AND ALLOWED TO HARDEN. JOINTS FOR PIPES AND FITTINGS SHALL BE MADE PRIOR TO PLACING CONCRETE. CONCRETE FOR BEDDING, ENCASEMENT, AND WALL SUPPORT FOR PIPES AND FITTINGS SHALL BE PLACED UNIFORMLY AROUND THE PIPE AND FITTINGS AS SHOWN HEREON TO MAINTAIN PROPER ALIGNMENT, AND SHALL BE CLASS 420–C–2000.
THE ACCESS FRAME, AND CAP SHALL BE CAST IRON. THE FINGER HOLES MAY BE DRILLED OUT OR MAY BE BLOCKED OUT PRIOR TO CASTING, THEY SHALL NOT BE PUNCHED OUT.

CLEANOUT FRAME & COVER PER ALHAMBRA FOUNDRY CO. PRODUCT NO. A–1240 FOR 6" RISER OR A–1241 FOR 8" RISER OR APPROVED EQUAL. SET FLUSH



CLEANOUT DETAIL | SCALE: NO SCALE | 4

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

CONSULTANT
BRANDOW & JOHNSTON
STRUCTURAL-CIVIL ENGINEERS (S&J HSK, INC.)
700 S FLOWER ST #1800, LOS ANGELES, CA 90017
T: (213) 596-4800 WWW.BJSCE.COM
EST. 1942

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER
Edward S. Kelly
No.C80534
STATE of California
FOR BRANDOW & JOHNSTON

NAC ARCHITECTURE
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

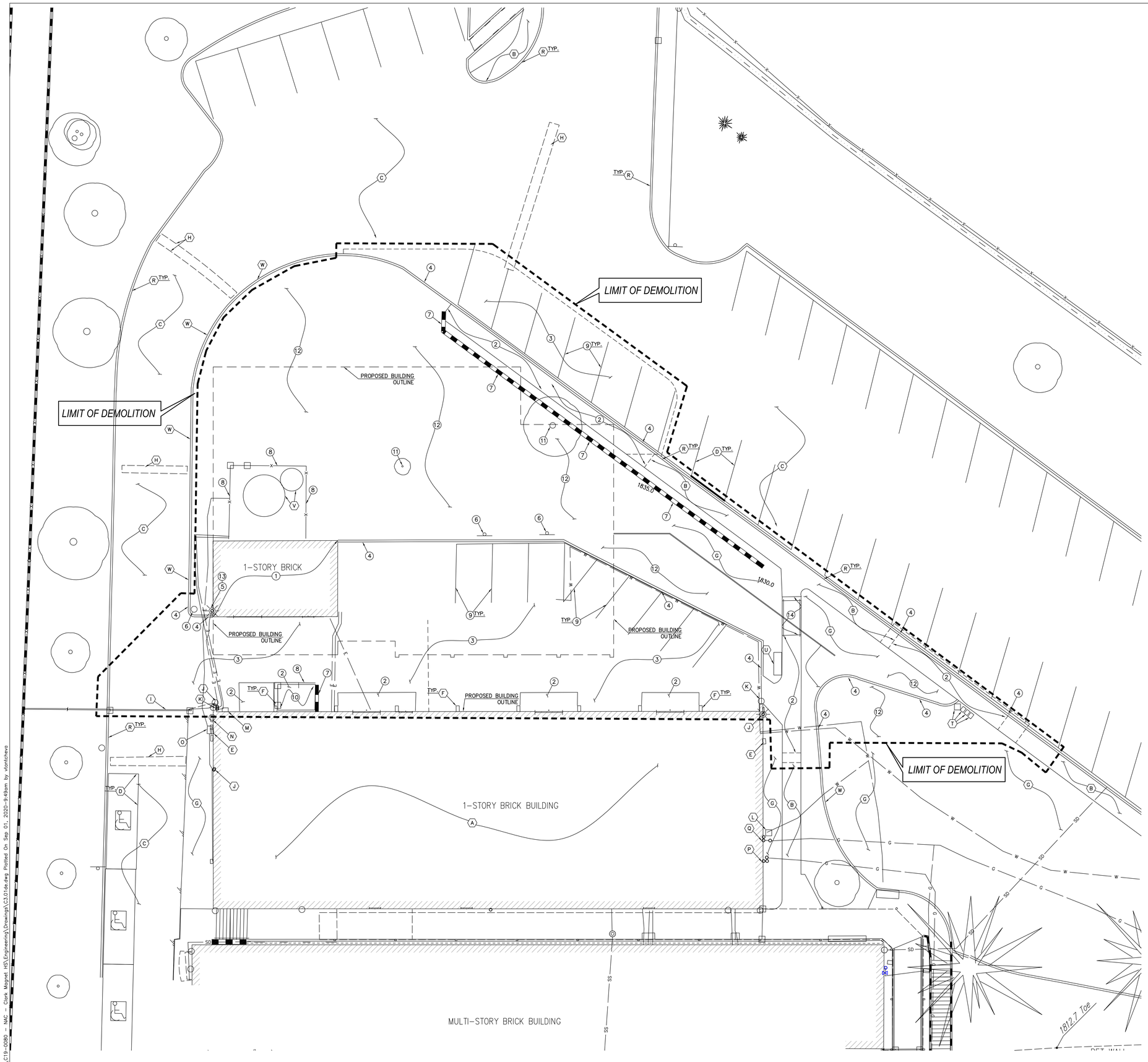
TYPICAL DETAILS

C2.02

© 2015 NAC Inc.

H:\C19-0080 – NAC – Clark Magnet HS\Engineering\Drawings\C2.02dt.dwg Plotted On Sep 01, 2020–9:48am by xbortcheva

12/30/2015 9:39:00 AM File Path



DEMOLITION NOTES:

1. REMOVE EXISTING BUILDING PER ARCHITECTURAL PLANS.
2. REMOVE EXISTING CONCRETE PAVEMENT.
3. REMOVE EXISTING ASPHALT CONCRETE PAVEMENT.
4. REMOVE EXISTING CONCRETE CURB.
5. REMOVE EXISTING LIGHT. REFER TO ELECTRICAL PLANS FOR REMOVAL.
6. REMOVE EXISTING SIGN POLE.
7. REMOVE EXISTING WALL.
8. REMOVE EXISTING CHAIN LINK FENCE.
9. REMOVE EXISTING PARKING STRIPE.
10. REMOVE EXISTING NITROGEN ENCLOSURE. REFER TO DISTRICT FOR REMOVAL.
11. REMOVE EXISTING TREE.
12. REMOVE EXISTING LANDSCAPING.
13. REMOVE EXISTING ELECTRICAL RISER. REFER TO ELECTRICAL PLANS FOR DEMO.
14. REMOVE EXISTING STAIRS.

SALVAGE NOTES:

- A. PROTECTING EXISTING BUILDING.
- B. PROTECTING EXISTING CONCRETE PAVEMENT.
- C. PROTECTING EXISTING ASPHALT CONCRETE PAVEMENT.
- D. PROTECTING EXISTING PARKING STRIPE.
- E. PROTECTING EXISTING SECURITY LIGHT.
- F. PROTECTING EXISTING BUILDING COLUMN.
- G. PROTECTING EXISTING LANDSCAPE.
- H. PROTECTING EXISTING SPEED BUMP.
- I. PROTECTING EXISTING WROUGHT IRON FENCE.
- J. PROTECTING EXISTING ELECTRICAL RISER.
- K. PROTECTING EXISTING SECURITY CAM.
- L. PROTECTING EXISTING WATER METER.
- M. PROTECTING EXISTING ELECTRIC SWITCH BOX.
- N. PROTECTING EXISTING ELECTRICAL PANEL.
- O. PROTECTING EXISTING ELECTRICAL PULL BOX.
- P. PROTECTING EXISTING WATER RISER.
- Q. PROTECTING EXISTING UTILITY RISER.
- R. PROTECTING EXISTING CURB & GUTTER.
- S. PROTECT EXISTING STAIRS.
- T. REMOVE AND RELOCATE EXISTING IRRIGATION BOX.
- U. REMOVE BENCH AND RETURN TO AGENCY, FOR STORAGE OR RELOCATION REFER TO DISTRICT.
- V. REMOVE AND RELOCATE EXISTING SATELLITE. REFER TO DISTRICT FOR STORAGE OR RELOCATION.
- W. PROTECTING EXISTING CURB.

LEGEND:

- LIMITS OF DEMOLITION
- EXISTING BUILDING
- PROPERTY LINE
- NEW BUILDING OUTLINE
- SAWCUT LINE

NOTES

1. AREA OF DEMOLITION – 18,850 SF±
2. NO DEMOLITION SHALL BEGIN UNTIL PLANS INCLUDING DEMOLITION WORK HAVE BEEN APPROVED BY DSA.
3. FOR UTILITY REMOVAL REFER TO UTILITY PLAN.

NORTH

SITE DEMOLITION PLAN

0' 5' 10' 20'

GRAPHIC SCALE : 1"=10'

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

CONSULTANT
BRANDOW & JOHNSTON
STRUCTURAL-CIVIL ENGINEERS (B&J HSK, INC.)
700 S FLOWER ST #1800, LOS ANGELES, CA 90017
T: (213) 596-4800 WWW.BJSCE.COM
EST. 1945

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER
No.C80534
STATE OF CALIFORNIA
FOR BRANDOW & JOHNSTON

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

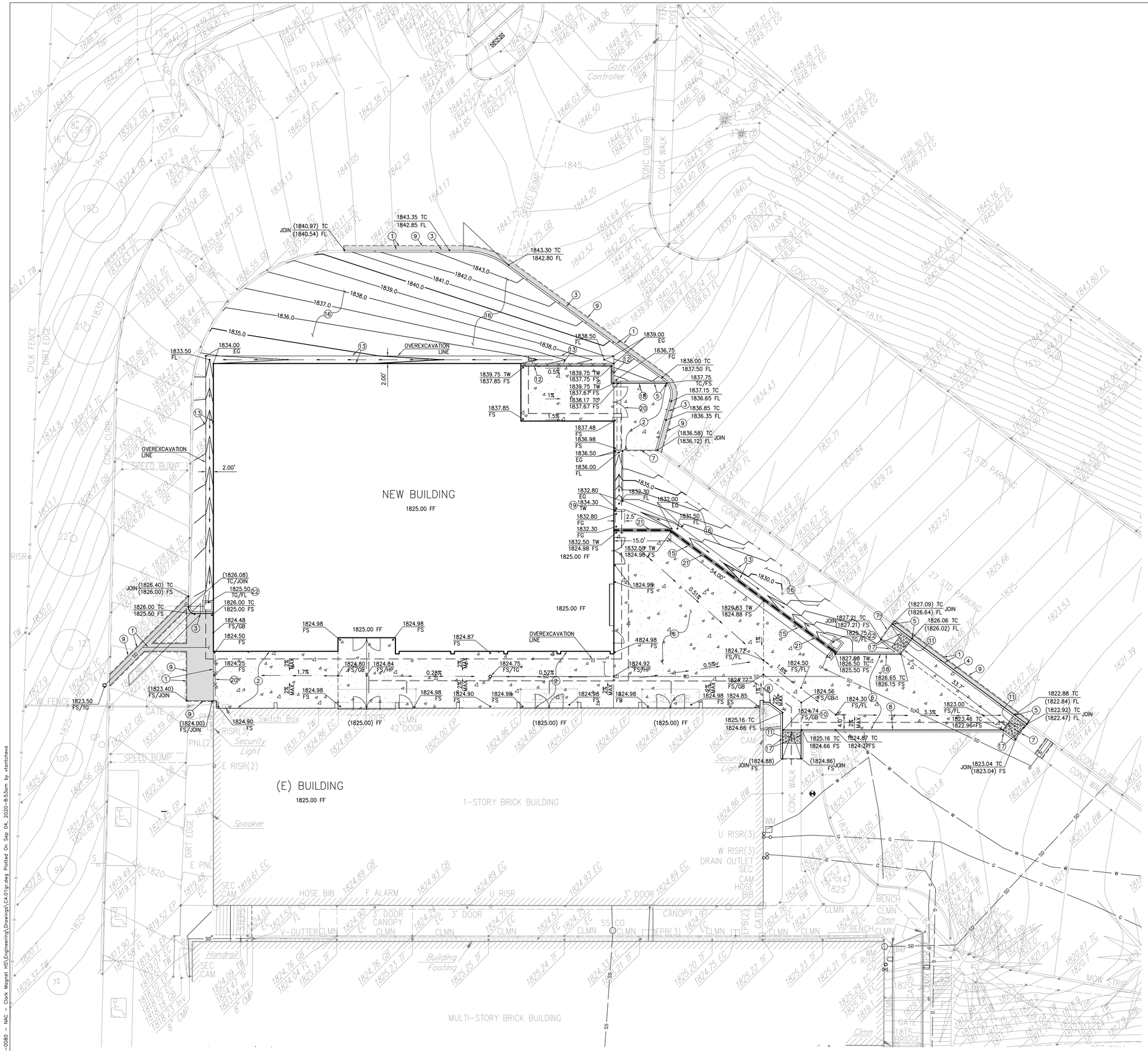
SITE DEMOLITION PLAN

C3.01

© 2019 NAC, Inc.

H:\C19-00980 - NAC - Clark Magnet HS\Engineering\Drawings\C3.01de.dwg Plotted On Sep 01, 2020-8:49am by vtontcheva

12/30/2015 9:39:00 AM File Path



CONSTRUCTION NOTES:

1. CONSTRUCT ASPHALT CONCRETE PAVEMENT PER DETAIL 1 ON SHEET C2.01.
2. CONSTRUCT PEDESTRIAN CONCRETE PAVEMENT PER DETAIL 2 ON SHEET C2.01.
3. CONSTRUCT CONCRETE CURB PER DETAIL 3 ON SHEET C2.01.
4. CONSTRUCT FLUSH CONCRETE CURB PER DETAIL 4 ON SHEET C2.01.
5. CONSTRUCT TAPERED CONCRETE CURB PER DETAIL 5 ON SHEET C2.01.
6. CONSTRUCT TRAFFIC RATED CONCRETE PAVEMENT PER DETAIL 6 ON SHEET C2.01.
7. EXISTING TO NEW CONCRETE PAVEMENT TRANSITION PER DETAIL 7 ON SHEET C2.01.
8. CONSTRUCT CONCRETE CURB PER DETAIL 8 ON SHEET C2.01.
9. EXISTING TO NEW ASPHALT CONCRETE TRANSITION PER DETAIL 10 ON SHEET C2.01.
10. CONSTRUCT FLUSH CONCRETE CURB PER DETAIL 11 ON SHEET C2.01.
11. INSTALL TRUNCATED DOMES PER PLAN AND DETAIL 12 ON SHEET C2.01.
12. RETAINING WALL PER DETAIL 16 ON SHEET C2.01.
13. CONSTRUCT 24" WIDE CONCRETE DITCH PER DETAIL 14 ON SHEET C2.01.
14. ASPHALT TO CONCRETE PAVEMENT TRANSITION PER DETAIL 15 ON SHEET C2.01.
15. CONSTRUCT CONCRETE RETAINING WALL PER STRUCTURAL PLANS.
16. GRADE PER PLAN.
17. CONSTRUCT CONCRETE CURB RAMP PER PLAN.
18. CONSTRUCT CONCRETE CURB PER DETAIL 13 ON SHEET C2.01.
19. SPLASH WALL PER DETAIL 7 ON SHEET C2.02.
20. GATE/CHAIN LINK FENCE PER ARCHITECTURAL PLANS.
21. GUARDRAIL PER ARCHITECTURAL PLANS.
22. STORM DARIN INLET. REFER TO UTILITY PLAN ON SHEET C5.01.

LEGEND:

- LIMITS OF WORK
- EXISTING BUILDING
- PROPERTY LINE
- RIDGE LINE
- GRADE BREAK LINE
- SAWCUT LINE
- LIMITS OF BUILDING OVEREXCAVATION
- FENCE
- PROP. CONTOUR (1' INTERVAL)
- EXIST. CONTOUR (1' INTERVAL)
- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- NEW RETAINING WALL
- NEW CONCRETE CURB
- ADA PATH OF TRAVEL
- NEW CONCRETE PAVEMENT
- NEW ASPHALT CONCRETE PAVEMENT

NOTE TO CONTRACTOR:

1. CONTRACTOR TO PROVIDE TEMPORARY SHORING AS REQUIRED TO CONSTRUCT NEW WORK.

NORTH

PRECISE GRADING PLAN

0' 5' 10' 20'

GRAPHIC SCALE : 1"=10'

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

CONSULTANT

BRANDOW & JOHNSTON
STRUCTURAL-CIVIL ENGINEERS (B&J HBK, INC.)
700 S FLOWER ST #1800, LOS ANGELES, CA 90017
T: (213) 596-4500 WWW.BJSCE.COM
EST. 1945

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT

CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT

4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER
Steven S. Kim
No.C80534
State of California

FOR BRANDOW & JOHNSTON

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

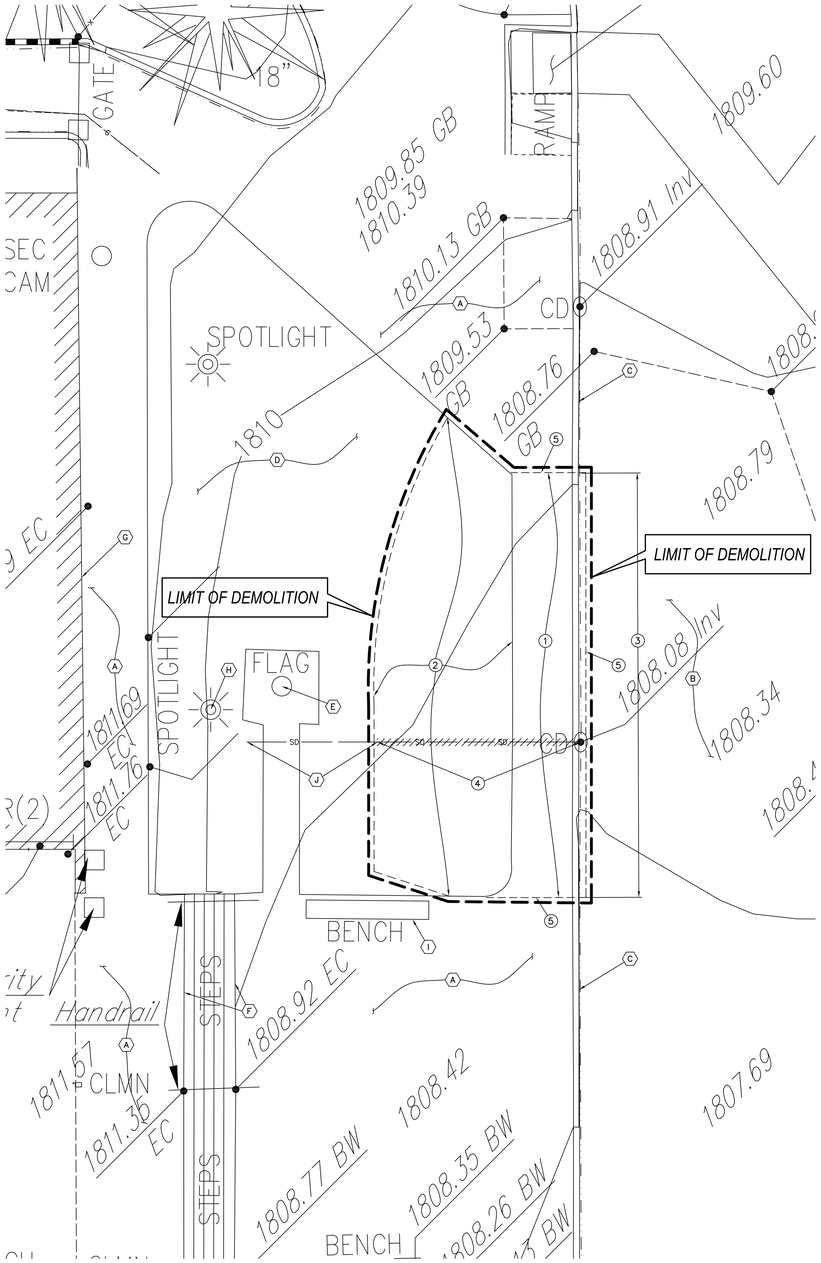
PRECISE GRADING PLAN

C4.01

© 2015 NAC Inc.

H:\C19--0080 -- NAC - Clark Magnet HS\Engineering\Drawings\C4.01gr.dwg Plotted On Sep 04, 2020--8:53am by vtontchev

12/30/2015 9:39:00 AM File Path



DEMOLITION NOTES:

1. REMOVE EXISTING CONCRETE PAVEMENT.
2. REMOVE EXISTING LANDSCAPING.
3. REMOVE EXISTING CONCRETE CURB AND 6" MIN. OF ADJACENT AC PAVEMENT.
4. REMOVE PORTION OF EXISTING STORM DRAIN PIPE AND CURB DRAIN. VERIFY EXACT LOCATION IN FIELD BEFORE COMMENCING CONSTRUCTION.
5. SAWCUT EXISTING PAVEMENT.

SALVAGE NOTES:

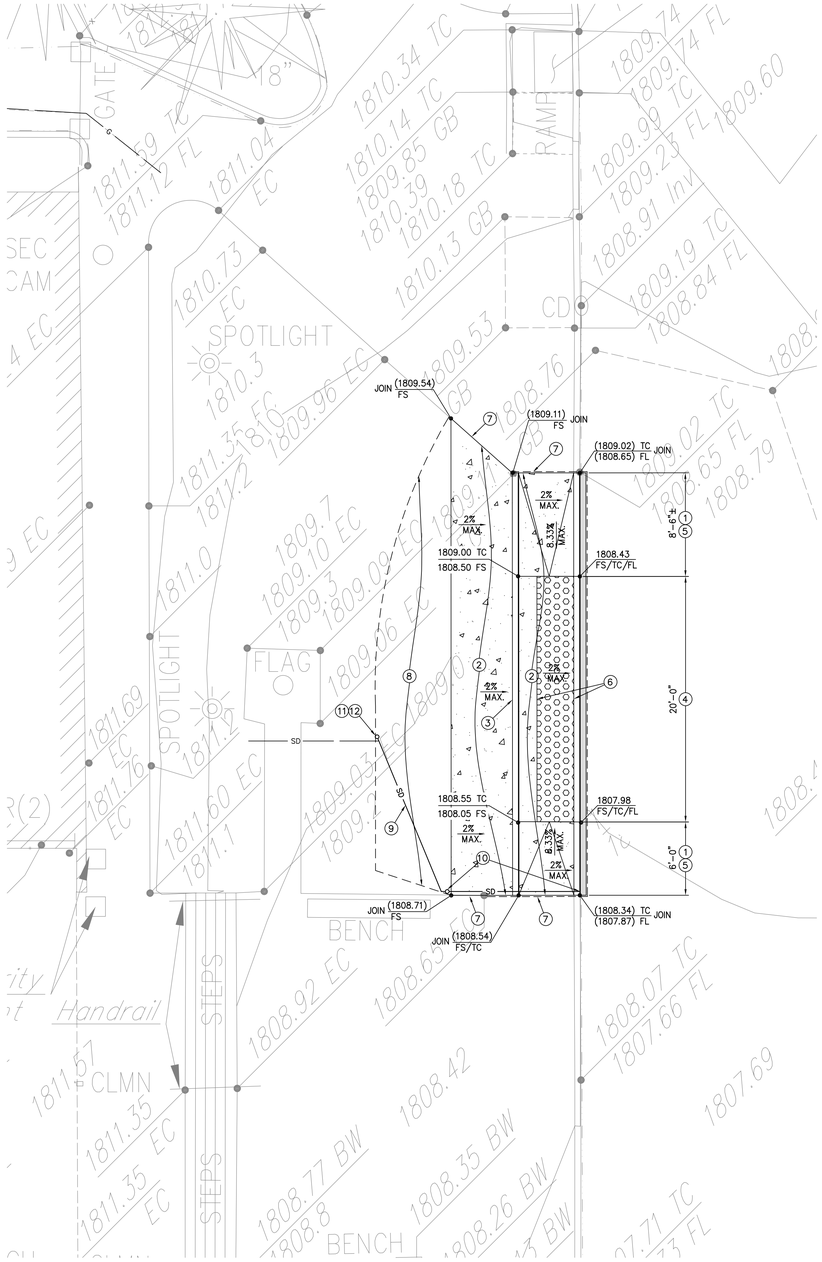
- (A) PROTECT EXISTING CONCRETE PAVEMENT.
- (B) PROTECT EXISTING ASPHALT CONCRETE PAVEMENT.
- (C) PROTECT EXISTING CURB.
- (D) PROTECT EXISTING LANDSCAPE.
- (E) PROTECT EXISTING FLAGPOLE AND SURROUNDING PAVEMENT.
- (F) PROTECT EXISTING STEPS AND HANDRAILS.
- (G) PROTECT EXISTING BUILDING
- (H) PROTECT EXISTING LIGHT.
- (I) PROTECT EXISTING BENCH
- (J) PROTECT PORTION OF EXISTING STORM DRAIN LINE. VERIFY EXACT LOCATION IN FIELD BEFORE COMMENCING CONSTRUCTION.

NORTH

DEMOLITION PLAN DROP-OFF AREA

0' 2.5' 5' 10'

GRAPHIC SCALE : 1"=5'



CONSTRUCTION NOTES:

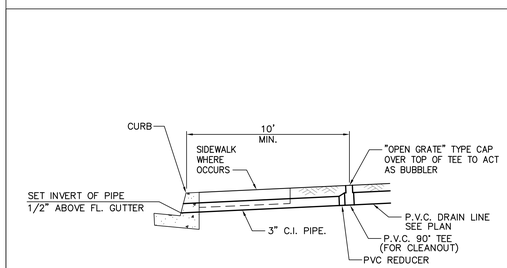
1. CONSTRUCT CONCRETE CURB RAMP PER PLAN.
2. CONSTRUCT PEDESTRIAN CONCRETE PAVEMENT PER DETAIL 2 ON SHEET C2.01.
3. CONSTRUCT CONCRETE CURB PER DETAIL 8 ON SHEET C2.01.
4. CONSTRUCT FLUSH CONCRETE CURB PER DETAIL 1 HEREON.
5. CONSTRUCT TAPERED CONCRETE CURB PER DETAIL 5 ON SHEET C2.01.
6. INSTALL 3'-0" WIDE TRUNCATED DOMES PER PLAN AND DETAIL 12 ON SHEET C2.01.
7. EXISTING TO NEW CONCRETE PAVEMENT FLUSH TRANSITION PER DETAIL 7 ON SHEET C2.01.
8. PROVIDE REMEDIAL GRADING AND LANDSCAPE TO ACCOMMODATE NEW CONSTRUCTION
9. REROUTE EXISTING DRAIN PIPE PER PLAN. MATCH THE SIZE OF EXISTING PIPE. PROVIDE 1% MINIMUM POSITIVE DRAINAGE FOR THE NEW PIPE. FIELD VERIFY EXACT EXISTING DRAIN LOCATION BEFORE COMMENCING CONSTRUCTION.
10. CONSTRUCT CURB OUTLET REPLACEMENT PER DETAIL 2 HEREON.
11. CONSTRUCT CLEANOUT PER DETAIL 4 ON SHEET C2.02.
12. POINT OF CONNECTION. FIELD VERIFY BEFORE COMMENCING CONSTRUCTION.

LEGEND:

- LIMITS OF WORK
- EXISTING BUILDING
- PROPERTY LINE
- RIDGE LINE
- GRADE BREAK LINE
- SAWCUT LINE
- LIMITS OF BUILDING OVEREXCAVATION
- FENCE
- NEW STORM DRAIN
- EXISTING STORM DRAIN TO REMAIN
- EXISTING STORM DRAIN TO BE REMOVED
- PROP. CONTOUR (1' INTERVAL)
- EXIST. CONTOUR (1' INTERVAL)
- PROPOSED SPOT ELEVATION
- EXISTING SPOT ELEVATION
- NEW RETAINING WALL
- NEW CONCRETE CURB
- ADA PATH OF TRAVEL
- NEW CONCRETE PAVEMENT
- NEW ASPHALT CONCRETE PAVEMENT

NOTE TO CONTRACTOR:

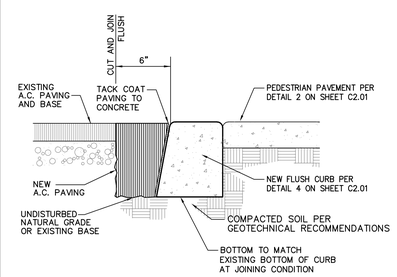
1. CONTRACTOR TO PROVIDE TEMPORARY SHORING AS REQUIRED TO CONSTRUCT NEW WORK.



NOTES:

1. CONTRACTOR TO USE MULTIPLE 3" C.I. PIPES AS NECESSARY TO MATCH THE CAPACITY OF THE EXISTING CURB DRAINPIPE. PROVIDE 3" MIN. CLEARANCE BETWEEN THE PIPES.
2. CONTRACTOR TO PROVIDE 2% MIN. POSITIVE DRAINAGE SLOPE FOR THE C.I. PIPES.

CURB OUTLET REPLACEMENT DETAIL | SCALE: NO SCALE | 2



NOTES:

FOR ALL CURB INFORMATION NOT SHOWN – SEE DETAIL 4 ON SHEET C2.01

NEW FLUSH CURB AT (E) AC | SCALE: NO SCALE | 1

NORTH

GRADING & DRAINAGE PLAN DROP-OFF AREA

0' 2.5' 5' 10'

GRAPHIC SCALE : 1"=5'

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

CONSULTANT

BRANDOW & JOHNSTON
STRUCTURAL-CIVIL ENGINEERS (S&J HSK, INC.)
700 S FLOWER ST #1800, LOS ANGELES, CA 90017
T: (213) 596-4500 WWW.BJSCE.COM
EST. 1945

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL
TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER
Edward S. Ferris
No.C80534
Civil
STATE OF CALIFORNIA
FOR BRANDOW & JOHNSTON

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

DEMOLITION AND PRECISE GRADING & DRAINAGE PLAN DROP-OFF AREA

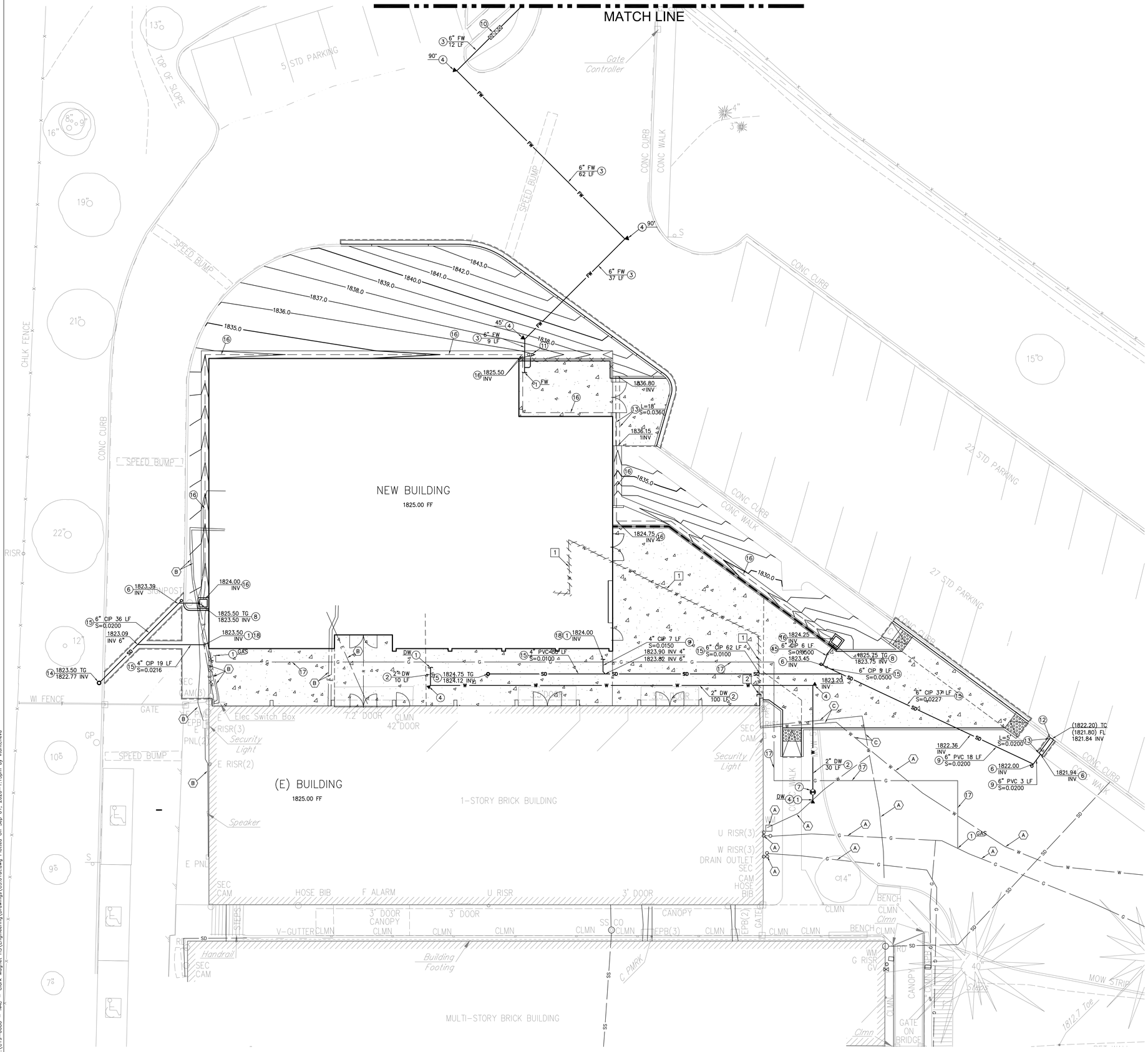
C4.02

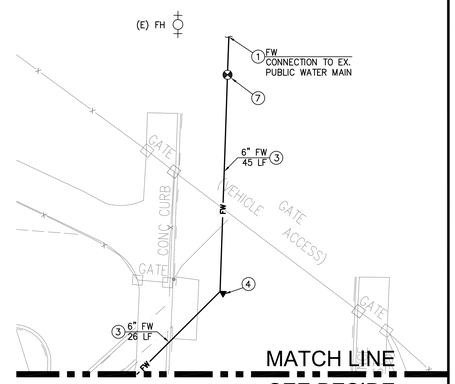
© 2019 NAC Inc.

H:\C19-0080 – NAC – Clark Magnet HS\Engineering\Drawings\C4.02pr.dwg Plotted On Sep 01, 2020–9:59am by vtantcheva

12/30/2015 9:39:00 AM File Path

SEE BESIDE
MATCH LINE





MATCH LINE
SEE BESIDE

CONSTRUCTION NOTES:

1. POINT OF CONNECTION.
2. INSTALL COPPER WATER TUBE, TYPE K SOFT. SIZE & LENGTH PER PLAN. SEE DETAIL 2 ON SHEET C202 FOR TRENCH. CORROSIVE PROTECTION PER GEOTECHNICAL RECOMMENDATIONS AND TECHNICAL SPECIFICATIONS.
3. INSTALL PVC WATER LINE, PER AWWA C-900, CLASS 200 W/ D.I. FITTINGS. SIZE & LENGTH PER PLAN. SEE DETAIL 2 ON SHEET C202 FOR TRENCH. CORROSIVE PROTECTION PER GEOTECHNICAL RECOMMENDATIONS AND TECHNICAL SPECIFICATIONS.
4. CONSTRUCT TRUST BLOCK PER DETAIL 1 ON SHEET C202.
5. INSTALL SPEE-D BASIN NDS#101 AND GRATE NDS#918SC OR APPROVED EQUAL.
6. CONSTRUCT CLEANOUT PER DETAIL 8 ON SHEET C202.
7. INSTALL GATE VALVE PER DETAIL 8 ON SHEET C202.
8. INSTALL 24"X24" GRATE AND CATCH BASIN 2424L24 PER BROOKS PRODUCTS OR APPROVED EQUAL. USE 2424L12 WHERE NECESSARY TO ACHIEVE INVERT ELEVATION PER PLAN.
9. INSTALL PVC SDR 35 STORM DRAIN PIPE W/ BELL & SPIGOT JOINTS. SIZE AND LENGTH PER PLAN. SEE DETAIL 3 ON SHEET C202 FOR TRENCHING.
10. INSTALL DOUBLE DETECTOR CHECK ASSEMBLY, WILKINS MODEL 350ADA OR APPROVED EQUAL. INSTALL CHAIN AND LOCK BOX TO SECURE VALVES IN OPEN POSITION. INSTALL TAMPER SWITCH. SIZE TO MATCH SIZE OF THE FIRE SERVICE LINE.
11. INSTALL FIRE DEPARTMENT CONNECTION (FDC).
12. INSTALL CURB-O-LET THRU THE CURB DRAIN OR APPROVED EQUAL. REFER TO DETAIL 5 ON SHEET C202.
13. INSTALL CURB-O-LET RECTANGULAR PIPE. REFER TO DETAIL 6 ON SHEET C202. CORROSIVE PROTECTION PER GEOTECHNICAL RECOMMENDATIONS AND TECHNICAL SPECIFICATIONS.
14. INSTALL 6" POP-UP DRAINAGE EMITTER WITH ELBOW PER NDS OR APPROVED EQUAL.
15. INSTALL CAST IRON STORM DRAIN PIPE W/PUSH-ON JOINTS. SIZE AND LENGTH PER PLAN. SEE DETAIL 3 ON SHEET C202 FOR TRENCHING. CORROSIVE PROTECTION PER GEOTECHNICAL RECOMMENDATIONS AND TECHNICAL SPECIFICATIONS.
16. 4" PERFORATED PVC SUB-DRAIN PIPE PER DETAIL 9 ON SHEET C2.02. INVERT ELEVATIONS PER UTILITY PLAN.
17. GAS LINE PER PLUMBING PLANS.
18. CONNECT PROPOSED ROOF DRAINS TO THE UNDERGROUND STORM DRAIN SYSTEM.

UTILITY DEMOLITION NOTES:

1. REMOVE EXISTING UTILITY LINE AND ALL APPURTENANCES. COORDINATE THE DISCONNECTION WITH THE DISTRICT AND/OR UTILITY COMPANY PRIOR TO COMMENCE DEMOLITION.
2. CAP REMAINING END FOR FUTURE USE.

UTILITY PROTECTION NOTES:

- (A) PROTECT EXISTING UTILITY IN PLACE. KEEP THE UTILITY LINE OPERATIONAL AT ALL TIMES. COORDINATE ANY NECESSARY INTERRUPTIONS WITH THE DISTRICT.
- (B) REMOVE/PROTECT EXISTING ELECTRICAL/TELECOMMUNICATION UTILITY LINES AND APPURTENANCES PER ELECTRICAL PLANS.
- (C) CONTRACTOR TO VERIFY DEPTH OF EXISTING UTILITY AND RELOCATE ACCORDINGLY IF IN CONFLICT WITH PROPOSED IMPROVEMENT.

LEGEND

- PROPERTY LINE
- CENTER LINE
- FENCE
- EXIST. FENCE
- SS — SANITARY SEWER
- SD — STORM DRAIN
- W — WATER MAIN
- RW — RECLAIMED WATER
- FW — FIRE WATER
- G — GAS MAIN (FOR REF. ONLY)
- E — ELECTRIC CABLE (FOR REF. ONLY)
- T — TELEPHONE (FOR REF. ONLY)
- EXIST. GAS MAIN
- EXIST. SANITARY SEWER
- EXIST. STORM DRAIN
- EXIST. WATER MAIN
- EXIST. RECLAIMED WATER
- EXIST. FIRE WATER
- EXIST. ELECTRIC U/G CABLE (FOR REF. ONLY)
- EXIST. TELEPHONE (FOR REF. ONLY)
- VALVE
- FIRE HYDRANT
- FIRE DEPARTMENT CONNECTION
- DOUBLE DETECTOR CHECK ASSEMBLY

NORTH

SITE UTILITY PLAN

0' 5' 10' 20'
GRAPHIC SCALE : 1"=10'

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

CONSULTANT

BRANDOW & JOHNSTON
STRUCTURAL-CIVIL ENGINEERS (B&J HBK, INC.)
700 S FLOWER ST #1800, LOS ANGELES, CA 90017
T: (213) 596-4800 WWW.BJSCE.COM
EST. 1945

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER
LEILANI S. WILLIS
No.C80534
State of California
FOR BRANDOW & JOHNSTON

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

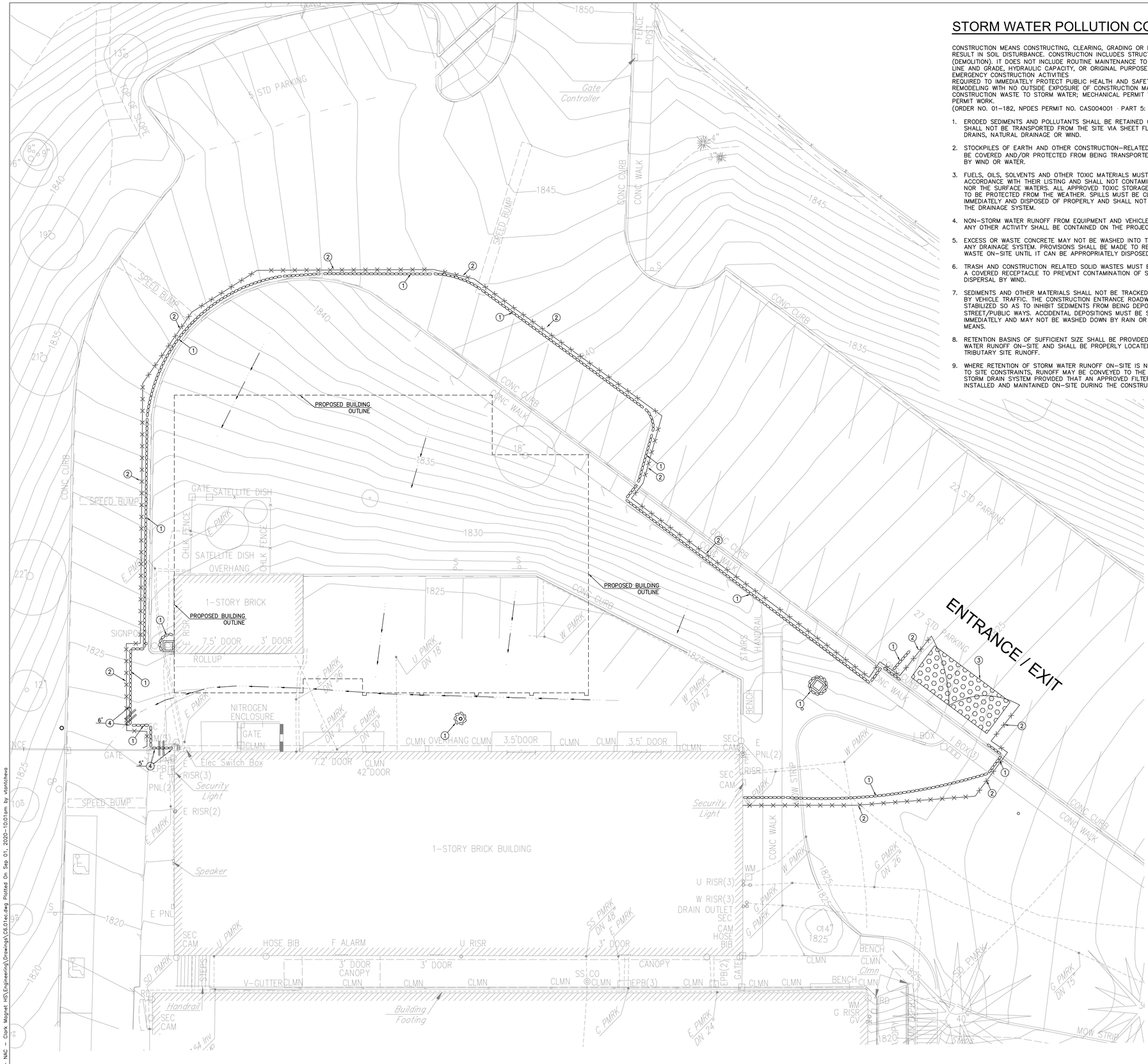
SITE UTILITY PLAN

C5.01

© 2019 NAC Inc.

H:\C19-0080 - NAC - Clark Magnet HS\Engineering\Drawings\C5.01ut.dwg Plotted On Sep 01, 2020-11:13pm by vtontcheva

12/30/2015 9:39:00 AM File Path



STORM WATER POLLUTION CONTROL

CONSTRUCTION MEANS CONSTRUCTING, CLEARING, GRADING OR EXCAVATION THAT RESULT IN SOIL DISTURBANCE. CONSTRUCTION INCLUDES STRUCTURE TEARDOWN (DEMOLITION). IT DOES NOT INCLUDE ROUTINE MAINTENANCE TO MAINTAIN ORIGINAL LINE AND GRADE, HYDRAULIC CAPACITY, OR ORIGINAL PURPOSE OF FACILITY; EMERGENCY CONSTRUCTION ACTIVITIES
REQUIRED TO IMMEDIATELY PROTECT PUBLIC HEALTH AND SAFETY; INTERIOR REMODELING WITH NO OUTSIDE EXPOSURE OF CONSTRUCTION MATERIAL OR CONSTRUCTION WASTE TO STORM WATER; MECHANICAL PERMIT WORK; OR SIGN PERMIT WORK.
(ORDER NO. 01-182, NPDES PERMIT NO. CAS004001 - PART 5: DEFINITIONS)

1. ERODED SEDIMENTS AND POLLUTANTS SHALL BE RETAINED ON SITE AND SHALL NOT BE TRANSPORTED FROM THE SITE VIA SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE OR WIND.
2. STOCKPILES OF EARTH AND OTHER CONSTRUCTION-RELATED MATERIALS SHALL BE COVERED AND/OR PROTECTED FROM BEING TRANSPORTED FROM THE SITE BY WIND OR WATER.
3. FUELS, OILS, SOLVENTS AND OTHER TOXIC MATERIALS MUST BE STORED IN ACCORDANCE WITH THEIR LISTING AND SHALL NOT CONTAMINATE THE SOIL NOR THE SURFACE WATERS. ALL APPROVED TOXIC STORAGE CONTAINERS ARE TO BE PROTECTED FROM THE WEATHER. SPILLS MUST BE CLEANED UP IMMEDIATELY AND DISPOSED OF PROPERLY AND SHALL NOT BE WASHED INTO THE DRAINAGE SYSTEM.
4. NON-STORM WATER RUNOFF FROM EQUIPMENT AND VEHICLE WASHING AND ANY OTHER ACTIVITY SHALL BE CONTAINED ON THE PROJECT SITE.
5. EXCESS OR WASTE CONCRETE MAY NOT BE WASHED INTO THE PUBLIC WAY OR ANY DRAINAGE SYSTEM. PROVISIONS SHALL BE MADE TO RETAIN CONCRETE WASTE ON-SITE UNTIL IT CAN BE APPROPRIATELY DISPOSED OF OR RECYCLED.
6. TRASH AND CONSTRUCTION RELATED SOLID WASTES MUST BE DEPOSITED INTO A COVERED RECEPTACLE TO PREVENT CONTAMINATION OF STORM WATER AND DISPERSAL BY WIND.
7. SEDIMENTS AND OTHER MATERIALS SHALL NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE STREET/PUBLIC WAYS. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR BY ANY OTHER MEANS.
8. RETENTION BASINS OF SUFFICIENT SIZE SHALL BE PROVIDED TO RETAIN STORM WATER RUNOFF ON-SITE AND SHALL BE PROPERLY LOCATED TO COLLECT ALL TRIBUTARY SITE RUNOFF.
9. WHERE RETENTION OF STORM WATER RUNOFF ON-SITE IS NOT FEASIBLE DUE TO SITE CONSTRAINTS, RUNOFF MAY BE CONVEYED TO THE STREET AND THE STORM DRAIN SYSTEM PROVIDED THAT AN APPROVED FILTERING SYSTEM IS INSTALLED AND MAINTAINED ON-SITE DURING THE CONSTRUCTION DURATION.

BEST MANAGEMENT PRACTICES FOR CONSTRUCTION ACTIVITIES

DETAILED IN THE CALIFORNIA STORM WATER BEST MANAGEMENT PRACTICES HANDBOOK – CONSTRUCTION. JULY 2012

EROSION CONTROL
EC-1 SCHEDULING

SEDIMENT CONTROL
SE-5 FIBER ROLLS
SE-6 GRAVEL BAG BERM
SE-7 STREET SWEEPING AND VACUUMING
SE-10 STORM DRAIN INLET PROTECTION

TRACKING CONTROL
TC-1 STABILIZED CONSTRUCTION ENTRANCE/EXIT
TC-3 ENTRANCE/OUTLET TIRE WASH

WIND EROSION CONTROL
WE-1 WIND EROSION CONTROL

NON-STORM WATER CONTROL
NS-1 WATER CONSERVATION PRACTICES
NS-3 PAVING AND GRINDING OPERATIONS
NS-6 ILLICIT CONNECTION/ILLEGAL DISCHARGE DETECTION AND REPORTING
NS-8 VEHICLE AND EQUIPMENT CLEANING
NS-9 VEHICLE AND EQUIPMENT FUELING
NS-10 VEHICLE AND EQUIPMENT MAINTENANCE
NS-11 PILE DRIVING OPERATION

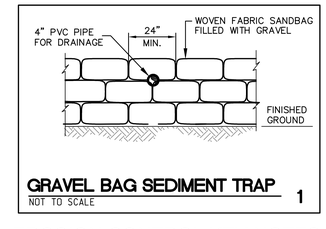
WASTE MANAGEMENT AND MATERIALS POLLUTION CONTROL
WM-1 MATERIAL DELIVERY AND STORAGE
WM-2 MATERIAL USE
WM-3 STOCKPILE MANAGEMENT
WM-4 SPILL AND PREVENTION CONTROL
WM-5 SOLID WASTE MANAGEMENT
WM-8 CONCRETE WASTE MANAGEMENT
WM-9 SANITARY/SEPTIC WASTE MANAGEMENT

SECTION 2 OF THE CASQA BMP CONSTRUCTION HANDBOOK, JULY 2012, IS PART OF THESE EROSION CONTROL PLANS, INCLUDING BUT NOT LIMITED TO:

- MINIMUM REQUIREMENTS
- GOOD HOUSEKEEPING PRACTICES
- STAFF TRAINING
- SITE INSPECTIONS
- BMP MONITORING AND MAINTENANCE
- STORMWATER POLLUTION CONTROL DOCUMENTATION

TYPICAL DEMOLITION DEBRIS NOTES

1. EROSION CONTROL DEVICES SHOWN ON THE PLAN MAY BE REMOVED WHEN APPROVED BY THE BUILDING OFFICIAL. IF THE DEMOLITION OPERATION HAS PROGRESSED TO THE POINT WHERE THEY ARE NO LONGER REQUIRED.
2. ALL SILT AND DEBRIS SHALL BE REMOVED FROM ALL DEVICES WITHIN 24 HOURS AFTER EACH RAINSTORM AND BE DISPOSED OF PROPERLY.
3. A GUARD SHALL BE POSTED ON THE SITE WHENEVER THE DEPTH OF WATER IN ANY DEVICE EXCEEDS TWO FEET. THE DEVICE SHALL BE DRAINED OR PUMPED WITHIN 24 HOURS AFTER EACH RAINSTORM. PUMPING AND DRAINING OF ALL BASINS AND DRAINAGE DEVICES MUST COMPLY WITH THE APPROPRIATE BMP FOR DEWATERING OPERATIONS.
4. THE PLACEMENT OF ADDITIONAL DEVICES TO CONTAIN POLLUTANTS WITHIN THE SITE IS LEFT TO THE DISCRETION OF THE FIELD ENGINEER. ADDITIONAL DEVICES AS NEEDED SHALL BE INSTALLED TO RETAIN SEDIMENTS AND OTHER POLLUTANTS ON SITE.
5. STORM WATER POLLUTION DEVICES ARE TO BE MODIFIED, AS NEEDED, AS THE PROJECT PROGRESSES, THE DESIGN AND PLACEMENT OF THESE DEVICES IS THE RESPONSIBILITY OF THE FIELD ENGINEER. PLANS REPRESENTING CHANGES MUST BE SUBMITTED FOR APPROVAL IS REQUESTED BY THE BUILDING OFFICIAL.
6. EVERY EFFORT SHOULD BE MADE TO ELIMINATE THE DISCHARGE OF NON-STORM WATER FROM THE PROJECT SITE AT ALL TIMES.
7. POLLUTANTS MUST BE RETAINED ON-SITE AND MAY NOT BE TRANSPORTED FROM THE SITE VIA PUMPS, SHEET FLOW, SWALES, AREA DRAINS, NATURAL DRAINAGE COURSES, OR WIND.
8. CONTRACTORS ARE RESPONSIBLE TO INSPECT THAT ALL BMPS ARE INSTALLED AND FUNCTIONING PROPERLY IF THERE IS A 40% CHANCE OF 0.25 INCHES OR GREATER OF PREDICTED PRECIPITATION, AND AFTER ACTUAL PRECIPITATION. A CONSTRUCTION SITE INSPECTION CHECKLIST AND INSPECTION LOG SHALL BE MAINTAINED AT THE PROJECT SITE AT ALL TIMES AND AVAILABLE FOR REVIEW BY THE BUILDING OFFICIAL.
9. MATERIALS MAY NOT BE TRACKED FROM THE SITE BY VEHICLE TRAFFIC. THE CONSTRUCTION ENTRANCE ROADWAYS MUST BE STABILIZED SO AS TO INHIBIT SEDIMENTS FROM BEING DEPOSITED INTO THE PUBLIC WAY. ACCIDENTAL DEPOSITIONS MUST BE SWEPT UP IMMEDIATELY AND MAY NOT BE WASHED DOWN BY RAIN OR OTHER MEANS.
10. A STAND-BY CREW FOR EMERGENCY WORK SHALL BE AVAILABLE AT ALL TIMES DURING THE RAINY SEASON (NOVEMBER 1 TO APRIL 15). NECESSARY MATERIALS SHALL BE AVAILABLE ON-SITE AND STOCKPILED AT CONVENIENT LOCATIONS TO FACILITATE RAPID CONSTRUCTION OF EMERBENCY DEVICES WHEN RAIN IS IMMINENT.



GRAVEL BAG SEDIMENT TRAP 1
NOT TO SCALE

EROSION CONTROL KEY NOTES

1. SINGLE ROW GRAVEL BAGS – 2 BAGS HIGH (PER SE-8 OF CASQA BMP MANUAL).
2. INSTALL TEMPORARY CONSTRUCTION FENCE WITH WIND SCREEN.
3. ENTRANCE STABILIZATION DURING CONSTRUCTION.
4. SEDIMENT TRAP OUTLET PER DETAIL 1 HEREON.

LEGEND

GRAVEL BAGS OR STRAW WADDLE
SCREENED FENCE
DRAINAGE FLOW

NORTH

EROSION CONTROL PLAN

0' 5' 10' 20'
GRAPHIC SCALE : 1"=10'

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

CONSULTANT

BRANDOW & JOHNSTON
STRUCTURAL-CIVIL ENGINEERS (B&J HSK, INC.)
700 S FLOWER ST #1000, LOS ANGELES, CA 90017
T: (213) 596-4500 WWW.BJSCE.COM
EST. 1945

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER STEVEN S. WEI No.C80534 Civil State of California

FOR BRANDOW & JOHNSTON

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

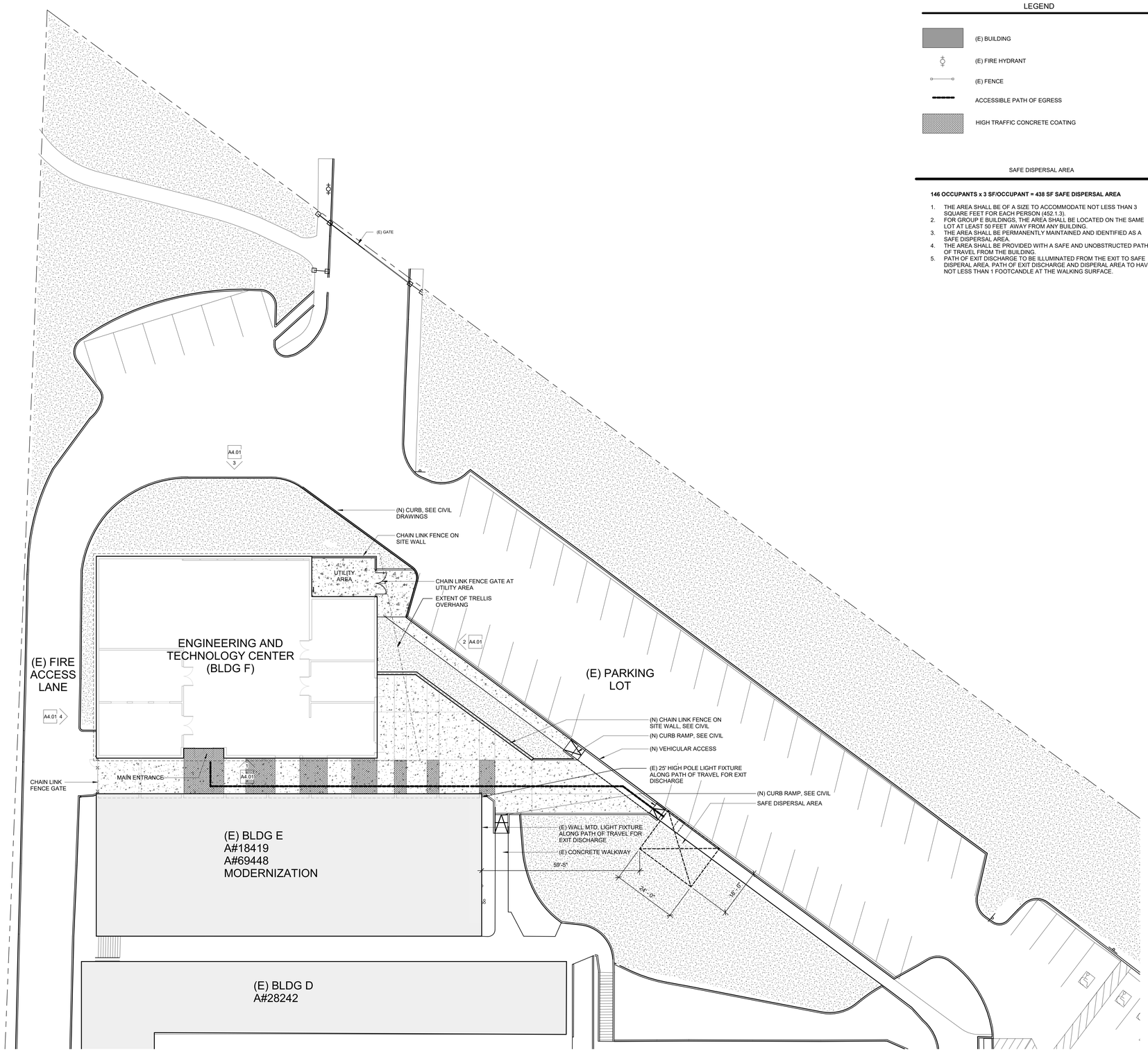
EROSION CONTROL PLAN

C6.01

© 2019 NAC Inc.

H:\c19-0080 - NAC - Clark Magnet HS\Engineering\Drawings\c6.01ec.dwg Plotted On Sep 01, 2020-10:01am by vtantcheva

12/30/2015 9:39:00 AM File Path



N

1 ENLARGED SITE PLAN
1/16" = 1'-0"

LEGEND

- (E) BUILDING
- (E) FIRE HYDRANT
- (E) FENCE
- ACCESSIBLE PATH OF EGRESS
- HIGH TRAFFIC CONCRETE COATING

SAFE DISPERSAL AREA

146 OCCUPANTS x 3 SF/OCCUPANT = 438 SF SAFE DISPERSAL AREA

1. THE AREA SHALL BE OF A SIZE TO ACCOMMODATE NOT LESS THAN 3 SQUARE FEET FOR EACH PERSON (452.1.3).
2. FOR GROUP E BUILDINGS, THE AREA SHALL BE LOCATED ON THE SAME LOT AT LEAST 50 FEET AWAY FROM ANY BUILDING.
3. THE AREA SHALL BE PERMANENTLY MAINTAINED AND IDENTIFIED AS A SAFE DISPERSAL AREA.
4. THE AREA SHALL BE PROVIDED WITH A SAFE AND UNOBSTRUCTED PATH OF TRAVEL FROM THE BUILDING.
5. PATH OF EXIT DISCHARGE TO BE ILLUMINATED FROM THE EXIT TO SAFE DISPERAL AREA. PATH OF EXIT DISCHARGE AND DISPERAL AREA TO HAVE NOT LESS THAN 1 FOOTCANDLE AT THE WALKING SURFACE.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT
DAWN BRISCO
No. C-37573
Exp. 5-31-21
STATE OF CALIFORNIA

NAC ARCHITECTURE

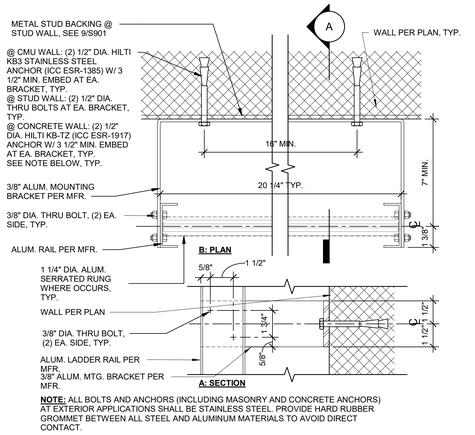
NAC NO. 161-19034
DATE 09-04-2020

100% CONSTRUCTION DOCUMENTS

ENLARGED SITE PLAN

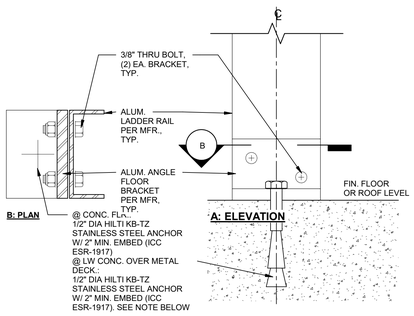
A2.01

© 2019 NAC, Inc.



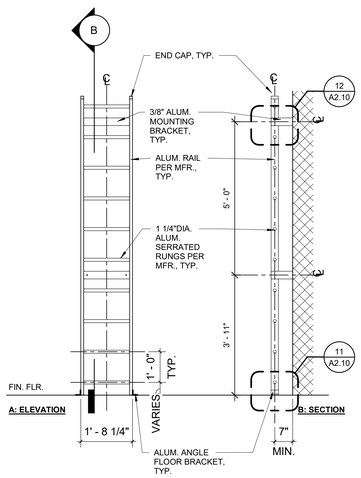
NOTE: ALL BOLTS AND ANCHORS (INCLUDING MASONRY AND CONCRETE ANCHORS) AT EXTERIOR APPLICATIONS SHALL BE STAINLESS STEEL. PROVIDE HARD RUBBER GROMMET BETWEEN ALL STEEL AND ALUMINUM MATERIALS TO AVOID DIRECT CONTACT.

12 LADDER WALL ANCHORAGE
Scale: 3" = 1'-0"

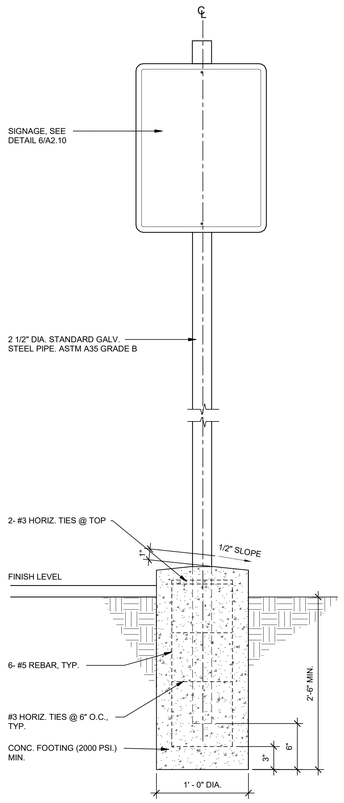


NOTE: ALL BOLTS AND ANCHORS (INCLUDING MASONRY AND CONCRETE ANCHORS) AT EXTERIOR APPLICATIONS SHALL BE STAINLESS STEEL. PROVIDE HARD RUBBER GROMMET BETWEEN ALL STEEL AND ALUMINUM MATERIALS TO AVOID DIRECT CONTACT.

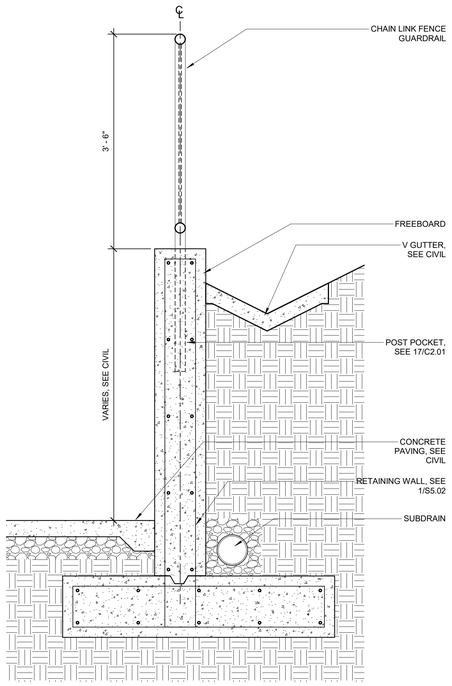
11 LADDER BASE DETAIL
Scale: 6" = 1'-0"



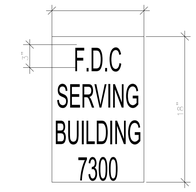
10 LADDER AT UTILITY AREA
Scale: 1/2" = 1'-0"



9 SIGN POLE MOUNTING
Scale: 1 1/2" = 1'-0"

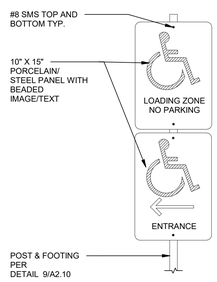


8 SITE RETAINING WALL
Scale: 1" = 1'-0"

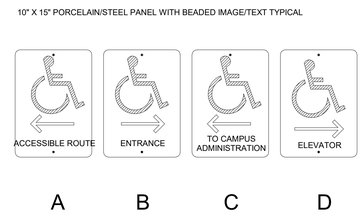


1. METAL REFLECTORIZED SIGN
2. SIZE: MINIMUM 12"x18"
3. MINIMUM 3" LETTERING
4. WHITE BACKGROUND WITH RED LETTERING

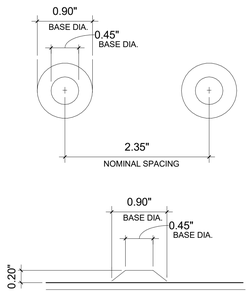
7 FDC SIGNAGE
Scale: 3/16" = 1'-0"



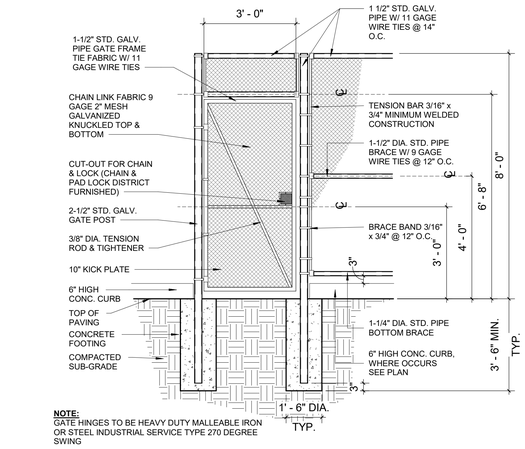
6 ACCESSIBLE LOADING ZONE SIGNAGE
Scale: 1/2" = 1'-0"



5 TYPICAL DIRECTION SIGNAGE
Scale: 1/2" = 1'-0"

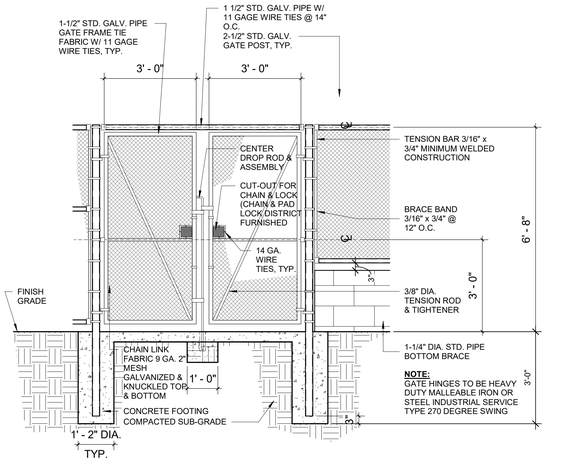


4 TRUNCATED DOME
Scale: 12" = 1'-0"



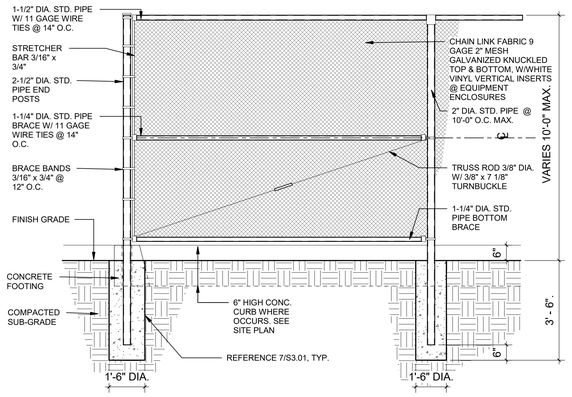
NOTE:
GATE HINGES TO BE HEAVY DUTY MALLEABLE IRON OR STEEL INDUSTRIAL SERVICE TYPE 270 DEGREE SWING

3 CHAIN LINK GATE
Scale: 1/2" = 1'-0"



NOTE:
GATE HINGES TO BE HEAVY DUTY MALLEABLE IRON OR STEEL INDUSTRIAL SERVICE TYPE 270 DEGREE SWING

2 CHAIN LINK GATE @ EQUIPMENT ENCLOSURE
Scale: 1/2" = 1'-0"



1 CHAIN LINK FENCE ELEVATION, TYP.
Scale: 1/2" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT
DAWN BRISCO
No. C-37573
Exp. 5-31-21
STATE OF CALIFORNIA

NAC ARCHITECTURE

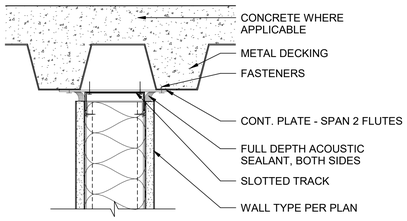
NAC NO. 161-19034
DATE 09-04-2020

100% CONSTRUCTION DOCUMENTS

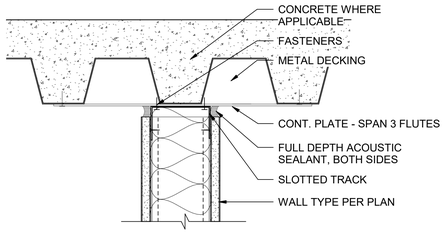
SITE DETAILS

A2.10

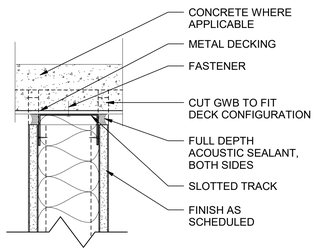
© 2019 NAC Arc



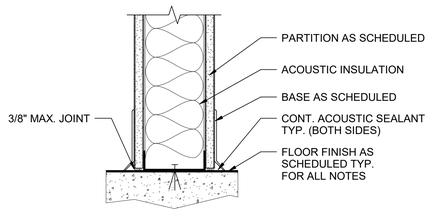
8 WALL PARALLEL TO FLUTES - HIGH FLUTE
Scale: 3" = 1'-0"



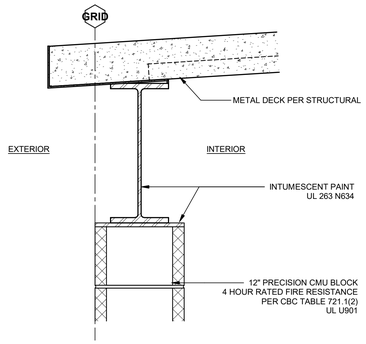
7 WALL PARALLEL TO FLUTES - LOW FLUTE
Scale: 3" = 1'-0"



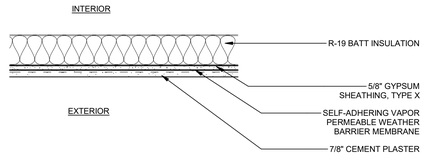
6 WALL PERPENDICULAR TO FLUTES
Scale: 3" = 1'-0"



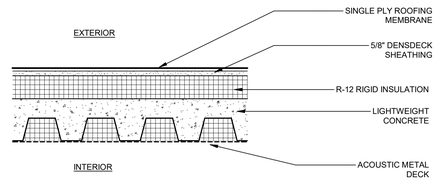
3 TYP. WALL SILL DETAIL
Scale: 3" = 1'-0"



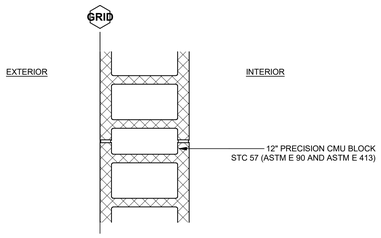
1 HR RATED ASSEMBLY
Scale: 1 1/2" = 1'-0"



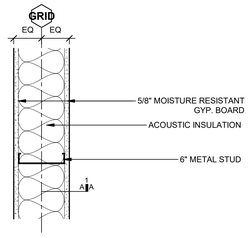
C-4 SOFFIT
Scale: 1 1/2" = 1'-0"



ROOF ASSEMBLY
Scale: 1 1/2" = 1'-0"



COMMON EXTERIOR WALL TYPES
Scale: 1 1/2" = 1'-0"



COMMON INTERIOR WALL TYPES
Scale: 1 1/2" = 1'-0"

WALL ASSEMBLIES

WALL FLAG KEY:

1/A — NUMBER INDICATES SUBSTRATE
LETTERS INDICATE SHEATHING TYPE SIDE OF WALL AFFECTED
ASTERISK INDICATES PARTIAL HEIGHT WALL +3'-6" AFF UNO ON INT ELEVATIONS

NOTES:

1. TYPICAL INTERIOR WALL ASSEMBLY IS TYPE A/2/A AND TYPICAL EXTERIOR WALL ASSEMBLY IS 21/A UNLESS SHOWN OTHERWISE. THE TYPICAL INTERIOR AND EXTERIOR WALL ASSEMBLIES ARE NOT FLAGGED EXCEPT FOR CLARITY. ALL NON-TYPICAL ASSEMBLIES ARE CALLED OUT.
2. A WALL ASSEMBLY CONTINUES THE FULL ROOM LENGTH, INCLUDING ANY JOGS, ANGLES, RECESSES, OR STUB WALLS FOR THE SIDE OF THE WALL UPON WHICH THE FLAG OCCURS.
3. WHERE DIFFERENT STUD SIZES OCCUR ALONG A CORRIDOR WALL, IT IS INTENDED THAT THE CORRIDOR SIDE FINISHES ALIGN.
4. ALL INTERIOR STUD FRAMING AND FURRING IS 16" OC UNO.
5. SEE SHEET G1.03 FOR FIRE RATING CLASSIFICATIONS OF WALLS.
6. EXTEND FRAMING, INSULATION, & SHEATHING COMPONENTS TO BOTTOM OF DECK ABOVE UNO.
7. COMBINATION SHEATHING SUCH AS "B,C" INDICATES ONE SHEATHING MATERIAL ABOVE OR BELOW THE OTHER. SEE INTERIOR ELEVATIONS FOR EXTENT.
8. REFER TO DETAILS, STRUCTURAL DRAWINGS AND NOTES FOR PROPER INSTALLATION OF MATERIALS LISTED IN WALL ASSEMBLIES, INCLUDING INFILL CONNECTIONS AND CONNECTIONS TO FOUNDATION AND DECK.
9. ALL GYPSUM BOARD TO BE TYPE "X" UNO. ALL GYPSUM BOARD IN "WET" ROOM WALLS (TOILET ROOMS, CUSTODIAL ROOMS) TO BE WATER RESISTANT TYPE EXCEPT AS NOTED. DO NOT USE WATER RESISTANT GYPSUM BOARD ON CEILINGS. WALLS BEHIND CERAMIC TILE FINISH TO RECEIVE CEMENT BACKER BOARD.
10. ALL GYPSUM BOARD SURFACES TO BE PREPARED FOR PAINT GRADE FINISH UNO.
11. FOR FINISHES, REFER TO FINISH SCHEDULE AND INTERIOR ELEVATIONS.
12. WALL ASSEMBLY TAGS DESCRIBE MAJOR EXTENT OF EXTERIOR WALL ASSEMBLY, SEE ELEVATIONS AND DETAILS FOR TRANSITIONS IN, AND LOCATIONS OF, CHANGES IN EXTERIOR WALL ASSEMBLIES.
13. PROVIDE ABUSE RESISTANT GYPSUM BOARDS WHERE NOTED ON INTERIOR ELEVATIONS.
14. ON EXTERIOR WALLS, SEE ELEVATIONS FOR LOCATION OF TRANSITION OF EXTERIOR CLADDING. WALL ASSEMBLY REFLECTS GENERAL WALL CONDITION, DETAILS & ELEVATIONS WILL INDICATE CHANGES.

EXTERIOR WALL FINISH MATERIALS

S 1" STUCCO

EXTERIOR WALL SUBSTRATE MATERIALS

20 WATER RESISTIVE BARRIER
1/2" GYPSUM SHEATHING
6" METAL STUD W/ R-19 BATT INSULATION

21 12" CONCRETE MASONRY UNIT

INTERIOR WALL SHEATHING MATERIALS

A 5/8" GYPSUM BOARD

INTERIOR WALL SUBSTRATE MATERIALS

1 6" METAL STUD

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL
TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT
DAWN BRISCO
No. C-37573
Exp. 5-31-21
STATE OF CALIFORNIA

NAC ARCHITECTURE

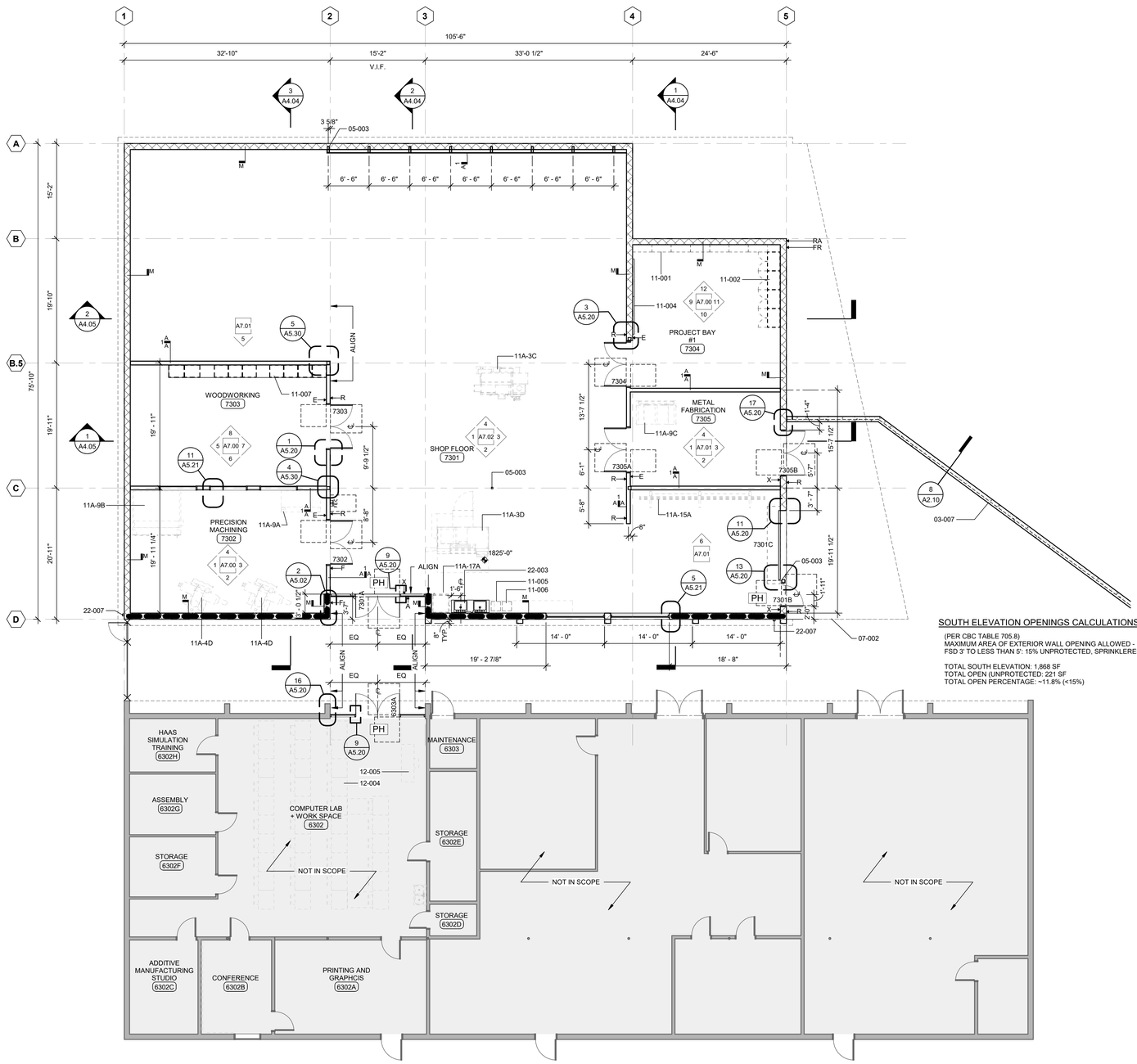
NAC NO. 161-19034
DATE 09-04-2020

100% CONSTRUCTION DOCUMENTS

ASSEMBLY TYPES

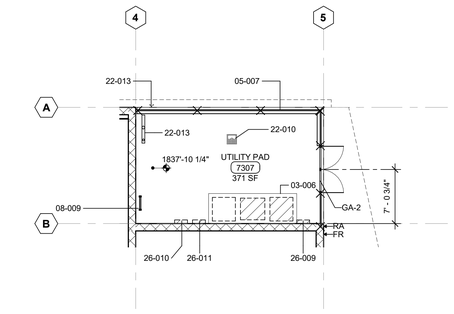
A3.00

© 2019 NAC, Inc.

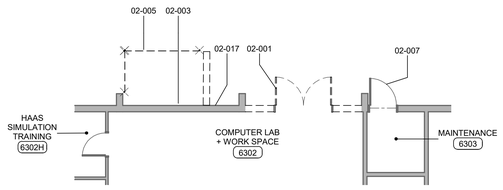


N

1 LEVEL 1 - FLOOR PLAN
1/8" = 1'-0"



3 UTILITY PAD PLAN
Scale: 1/8" = 1'-0"



2 PARTIAL DEMO PLAN
Scale: 1/8" = 1'-0"

SOUTH ELEVATION OPENINGS CALCULATIONS (G.L. D)

(PER CBC TABLE 705.8)
MAXIMUM AREA OF EXTERIOR WALL OPENING ALLOWED -
FSD 3' TO LESS THAN 5': 15% UNPROTECTED, SPRINKLERED

TOTAL SOUTH ELEVATION: 1,868 SF
TOTAL OPEN (UNPROTECTED: 221 SF
TOTAL OPEN PERCENTAGE: ~11.8% (<15%)

KEYNOTE LEGEND	
Key Value	Keynote Text
02-001	REMOVE (E) DOOR, FRAME & HARDWARE WITH ALL RELATED ANCHORS & ATTACHMENTS
02-003	(E) ELECTRICAL PANEL AND RELATED SUPPORTS TO REMAIN
02-005	REMOVE (E) FENCING AND ALL ASSOCIATED POSTS AND FOOTINGS
02-007	(E) DOOR TO REMAIN
02-017	(E) MASONRY WALL TO REMAIN
03-006	HOUSEKEEPING PAD
03-007	CONCRETE RETAINING WALL WITH CHAIN LINK FENCE, SEE CIVIL
05-003	HSS, SEE STRUCTURAL
05-007	CHAIN LINK FENCE
07-002	ROOF ABOVE
08-009	ROOF HACTCH ACCESS LADDER
11-001	OPEN SHELVING
11-002	FULL HEIGHT CASEWORK
11-004	MARKERBOARD
11-005	WASTE RECEPTACLE O.F.O.I
11-006	RECYCLING RECEPTACLE O.F.O.I
11-007	BASE CABINET
11A-3C	HAAS ST-10 LATHE
11A-3D	HAAS VF-2 MILL
11A-4D	BRIDGEPORT STYLE 9X49 KNEE MILLING MACHINE
11A-9A	FABLIGHT FL4500 TUBE AND SHEET
11A-9B	BAILEIGH BP-3305CNC PRESS BRAKE
11A-9C	PEXTO 36" FOOT-ACTUATED SHEAR
11A-15A	CANTILEVER MATERIAL RACK FOR RAW MATERIAL
11A-17A	REFRIGERATOR (OFOI)
12-004	STUDENT CHAIR AND DESKS, OFOI
12-005	TEACHER CHAIR AND DESK, OFOI
22-003	ADA SINK
22-007	DOWNSPOUT
22-010	FLOOR SINK
22-013	FIRE RISER
26-009	PANEL - (L1)
26-010	PANEL - (P2)
26-011	PANEL - (P3)

SIGNAGE LEGEND

A ACCESSIBLE SIGNAGE SEE 5/A5.60
D DIRECTIONAL SIGNAGE SEE 1/A5.60
E EXIT ROUTE SIGNAGE SEE 1/A5.60
R ROOM SIGNAGE SEE 1/A5.60
RA ROOF ACCESS SIGNAGE 6/A5.60
X EXIT SIGN SIGNAGE SEE 1/A5.60
O MAXIMUM OCCUPANCY SIGNAGE SEE 8/A5.60
FR FIRE RISER INSIDE SIGNAGE SEE 4/A5.60
E F.A.C.P. INSIDE SIGNAGE SEE 4/A5.60

FLOOR PLAN LEGEND

NOTE: NOT ALL TYPES MAY BE USED

- 60" WHEELCHAIR TURNING CIRLE
- ACCESSIBLE LAVATORY, SEE 1&2 ON A9.41
- DOOR ADA CLEARANCES (24" @ EXT. DOORS; 60"; 18"; 12"; 48")
- DRINKING FOUNTAIN,
- 30x48 CLEAR SPACE (4'-0"; 2'-6")
- FLOOR DRAIN @ CONC. FLOOR PER 1/A9.40
- FLOOR DRAIN @ TILED FLOOR (DEPRESSED CONCRETE)
- FIRE-RATED WALL FULL HEIGHT TO DECK, SEE SHEET G1.03 FOR FIRE RATING REQUIREMENTS.
- LINE OF FLOOR/ ROOF ABOVE
- WHEELCHAIR SPACE
- SEMI-RECESSED FIRE EXTINGUISHER CABINET, SEE 10/A9.41 (30"; 48")
- SURFACE MOUNTED FIRE EXTINGUISHER, SEE 11/A9.41 (30"; 48")
- BRACKET MOUNTED FIRE EXTINGUISHER (30"; 48")
- O.F.O.I. FURNITURE, TYP.
- PH PANIC HARDWARE, SEE DOOR HARDWARE SCHEDULE

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT DAWN BRISCO No. C-37573 Exp. 5-31-21 STATE OF CALIFORNIA

NAC ARCHITECTURE

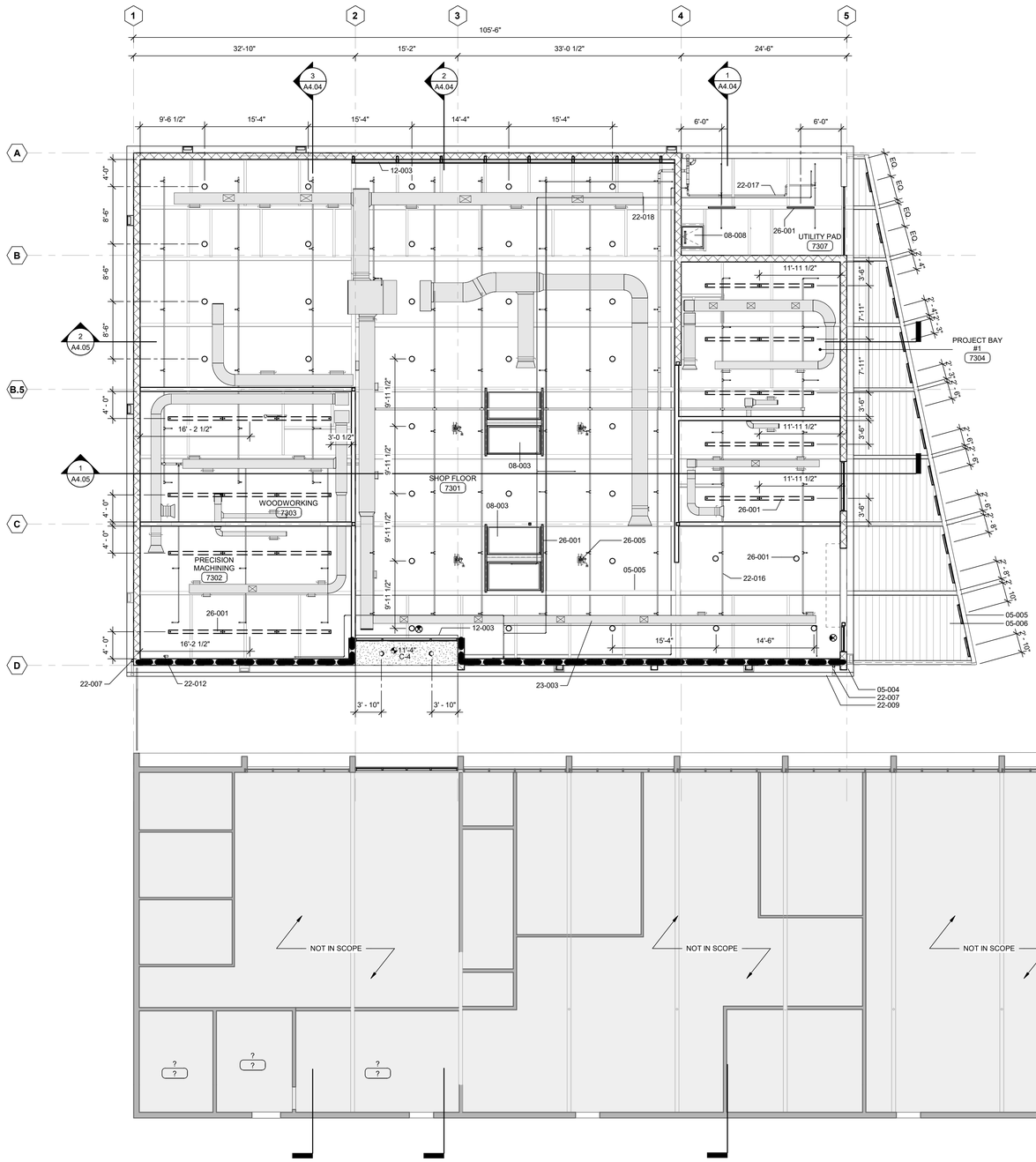
NAC NO. 161-19034
DATE 09-04-2020

100% CONSTRUCTION DOCUMENTS

FLOOR PLAN - LEVEL 1

A3.01

© 2019 NAC, Inc.



N

1 REFLECTED CEILING PLAN

1/8" = 1'-0"

GENERAL RCP NOTES

1. LIGHT FIXTURES TO AVOID MECHANICAL EQUIPMENT. COORDINATE EXACT LOCATION IN FIELD WITH ARCHITECT.
2. GENERALLY CENTER CEILING GRIDS IN EACH ROOM TO PROVIDE EQUALLY SIZED PANELS ON OPPOSITE WALLS. IF PLANS INDICATE A GRID ALIGNING WITH A COLUMN, WALL, SOFFIT, ETC, START GRID AT THE INDICATED SURFACE. AVOID PANELS LESS THAN 12" IN WIDTH.
3. SEE FINISH SCHEDULE FOR COLORS.
4. ALL WALLS EXTEND TO STRUCTURAL DECK ABOVE, UNLESS NOTED OTHERWISE. SEE CODE PLANS FOR ADDITIONAL INFORMATION.
5. SEE DETAILS X/G1.X FOR TYPICAL LATERAL BRACING OF SUSPENDED ACOUSTICAL PANELS.
6. ALL GYP BD CEILING AND SOFFITS TO BE PAINTED.
7. ALL EXPOSED STEEL FRAMING AND DECK AT CEILINGS TO BE PAINTED.
8. EXCEPT AT STORAGE, MECHANICAL AND ELECTRICAL UTILITY ROOMS PAINT ALL EXPOSED DUCTWORK, PIPING AND CONDUITS.
9. SEE DETAILS X.X&X/AX.XX FOR TYPICAL SUSPENDED CEILING AND SOFFIT EDGES AND CONNECTIONS.
10. CEILING HEIGHT TO BE MEASURED FROM FINISH FLOOR LEVEL OF THE ROOM OR THE AREA WHERE CEILING IS IN. CEILING HEIGHT ABOVE RAMP TO BE MEASURED FROM BOTTOM OF LOWEST LEVEL LANDING OF RAMP.
11. ALL FIRE SPRINKLERS AT LINEAR METAL CEILING SYSTEM AND AT GYP BD CEILING CLOUDS TO BE RECESSED, TYP.

CEILING TYPES

C-4 STUCCO SOFFIT

KEYNOTE LEGEND	
Key Value	Keynote Text
05-004	METAL DECK, PTD.
05-005	STEEL FRAMING, PTD.
05-006	WELDED CARBON STEEL BAR GRATING, PTD.
08-003	CURBED MOUNTED SKYLIGHT WITH ELECTRIC ROLLER SHADE
08-008	ROOF HATCH
12-003	MOTORIZED WINDOW SHADE
22-007	DOWNSPOUT
22-009	GUTTER
22-012	GAS, SEE PLUMBING
22-016	PREACTION FIRE SPRINKLER
22-017	DRY FIRE SPRINKLER
22-018	COMPRESSED AIR PIPE
23-003	MECHANICAL DUCTS
26-001	LIGHT FIXTURE
26-005	RETRACTABLE HOSE REEL, SEE 9/S8.00

LEGEND

- FIRE-RATED WALL FULL HEIGHT TO DECK, SEE SHEET G1.03 FOR FIRE RATING REQUIREMENTS.
- METAL DECK
- STEEL BAR GRATING
- STUCCO SOFFIT
- LIGHT FIXTURES
- SUPPLY DIFFUSERS
- RETURN AIR REGISTER OR EXHAUST FAN
- EXIT LIGHT
- SMOKE DETECTOR
- HEAT DETECTOR
- INTERCOM
- PAGING SPEAKER
- INFRARED DETECTOR
- SPEAKER
- FIRE PROTECTION SPRINKLER
- VIDEO CAMERA
- DAYLIGHT SENSOR
- OCCUPANCY SENSOR
- MOTION DETECTOR
- ALARM SIREN
- FIRE ALARM HORN
- FIRE ALARM STROBE

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT

CLARK MAGNET HIGH SCHOOL AND TECHNOLOGY CENTER (BUILDING F)

4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT
DAWN BRISCO
No. C-37573
Exp. 5-31-21
STATE OF CALIFORNIA

NAC ARCHITECTURE

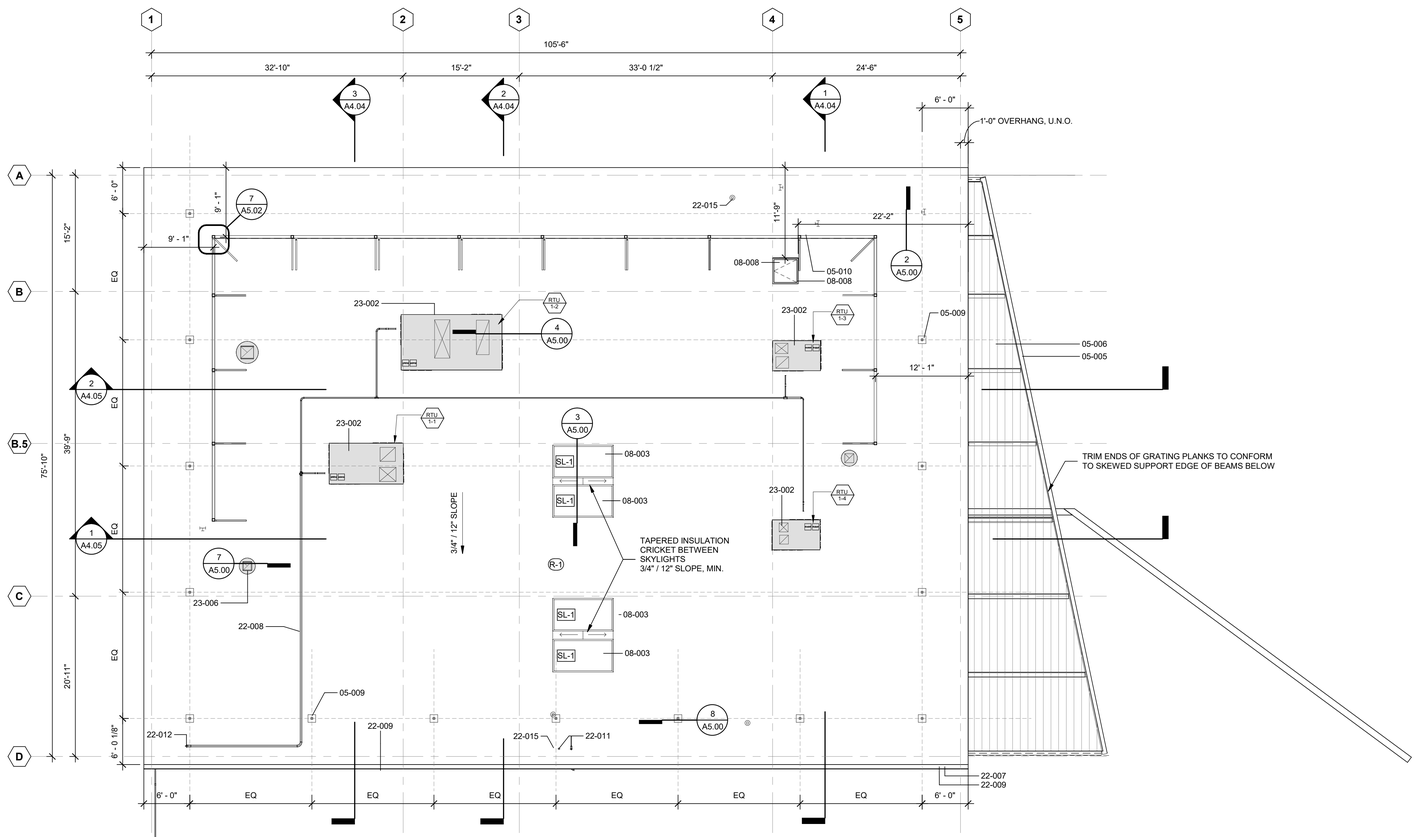
NAC NO. 161-19034
DATE 09-04-2020

100% CONSTRUCTION DOCUMENTS

REFLECTED CEILING PLAN

A3.02

© 2019 NAC Arc



N

1 ROOF PLAN
1/8" = 1'-0"

GENERAL ROOF NOTES

1. TYPICAL NEW ROOF CONSTRUCTION IS PVC MEMBRANE OVER (1) LAYER 5/8" ROOF BOARD OVER RIGID INSULATION OVER 5-1/4" LWC. & MTL. DECK
2. ALL ROOF STRUCTURE IS SLOPED 3/4" / 12", UNO.
3. VENTS, EXHAUST, & COWLS ARE MECHANICAL ROOF PENETRATION ITEMS. SEE MECHANICAL FOR LOCATIONS, TYPES, SIZES AND QUANTITY OF ALL PENETRATIONS. PENETRATIONS SHALL BE MIN 18" FROM ANY RIDGE VALLEY HIP, OR EDGE OF ROOF.
4. ALL FLASHING & ROOFING TIE-INS TO PLUMBING & HVAC PENETRATIONS ARE BY ROOFING CONTRACTOR.
5. SEE EXTERIOR ELEVATIONS AND SECTIONS FOR ADDITIONAL ROOFING DETAIL INDICATIONS.

LEGEND

DIRECTION OF SLOPE TO DRAIN

DS DOWNSPOUT

ROOF TYPES

R-1 PVC MEMBRANE (CLASS 'A') OVER (1) LAYER 5/8" ROOF BOARD OVER RIGID INSULATION OVER 5-1/4" LWC. & MTL. DECK

R-2 WELDED CARBON STEEL BAR GRATING, PTD. MCNICHOLS 6W-150 (19W4) - 24" X 240" - 3/16" X 1 1/2" BARS W/ 1" SPACE BETWEEN

KEYNOTE LEGEND	
Key Value	Keynote Text
05-005	STEEL FRAMING, PTD.
05-006	WELDED CARBON STEEL BAR GRATING, PTD.
05-009	FALL ARREST POST ANCHOR
05-010	MECHANICAL SCREEN
08-003	CURBED MOUNTED SKYLIGHT WITH ELECTRIC ROLLER SHADE
08-008	ROOF HATCH
22-007	DOWNSPOUT
22-008	GAS METER
22-009	GUTTER
22-011	HOSE BIBB, SEE PLUMBING
22-012	GAS, SEE PLUMBING
22-015	VENT
23-002	ROOF TOP UNIT
23-006	EXHAUST FAN

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT

CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)

4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT
DAWN BRISCO
No. C-37573
Exp. 5-31-21
STATE OF CALIFORNIA

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09-04-2020

100% CONSTRUCTION DOCUMENTS

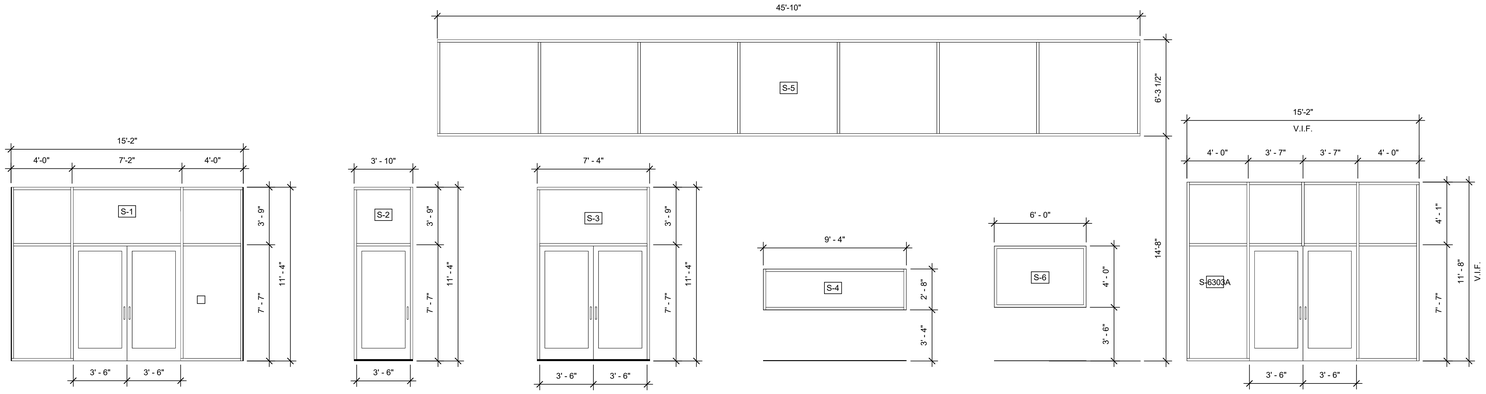
ROOF PLAN

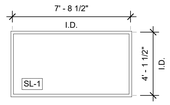
A3.03

© 2019 NAC | AC

WINDOW NOTES

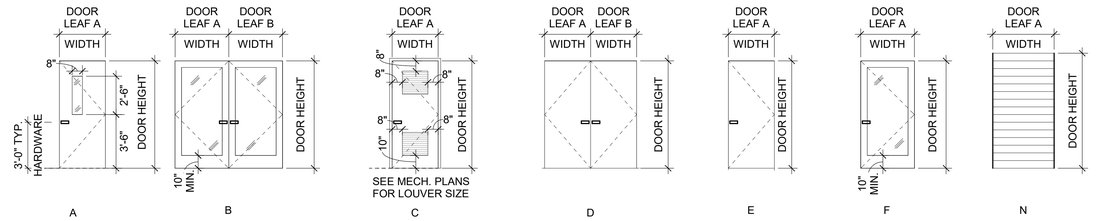
1. ALL WINDOWS AND STOREFRONT SYSTEMS FACING EAST, NORTH AND SOUTH TO HAVE CLEAR LOW E INSULATING GLAZING, U-30, SHGC-23.
2. WINDOW DIMENSIONS SHOWN INDICATE ROUGH OPENINGS. FIELD VERIFY ACTUAL OPENING DIMENSION.
3. REFER TO SPECIFICATIONS FOR LOCATIONS OF LAMINATED AND TEMPERED GLASS.
4. ALL EXTERIOR GLAZING TO BE CERTIFIED BY INDEPENDENT AGENCY FOR SOLAR HEAT GAIN COEFFICIENT AND U-VALUE.
5. MOTORIZED ROLLER SHADE LOCATIONS INDICATED ON REFLECTED CEILING PLAN A3.02





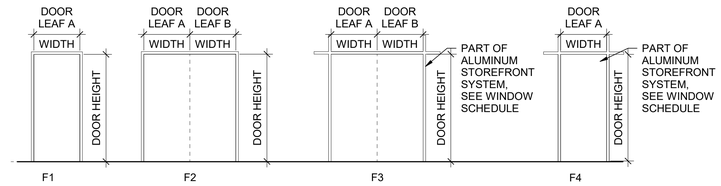
SKYLIGHT

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



DOOR TYPES (ALL TYPES MAY NOT BE USED)

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



DOOR FRAMES (ALL TYPES MAY NOT BE USED)

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

ROOM FINISH SCHEDULE

ROOM NUMBER	NAME	FLOOR		BASE		NORTH WALL			EAST WALL			SOUTH WALL			WEST WALL		
		MAT	FIN	FIN	CLR	MATL	FIN	CLR	MATL	FIN	CLR	MATL	FIN	CLR	MATL	FIN	CLR
7301	SHOP FLOOR	CONC	SLR	RB		GYP/CMU	PT		GYP/VWC CMU	PT		CMU			GYP/VWC CMU	PT	
7302	PRECISION MACHINING	CONC	SLR	RB		GYP	PT		GYP	PT		CMU			CMU		
7303	WOODWORKING	CONC	SLR	RB		GYP	PT		GYP	PT		GYP	PT		CMU		
7304	PROJECT BAY #1	CONC	SLR	RB		CMU			CMU			GYP	PT		GYP/CMU	PT	
7305	METAL FABRICATION	CONC	SLR	RB		GYP	PT		CMU			GYP	PT		GYP	PT	
7307	UTILITY PAD																

DOOR SCHEDULE

DOOR NO	PR	DOOR LEAF A	DOOR LEAF B	DOOR HT	DR THICKNESS	DOOR			FRAME			HARDWARE GROUP	DETAILS				REMARKS / CODED NOTES
						TYPE	MATERIAL	FINISH	TYPE	MATERIAL	FINISH		HEAD	HINGE JAMB	STRIKE JAMB	SILL	
6303A	PR	3'-6"	3'-6"	7'-0"	1 3/4"	B	AL	FF	F-3	AL	FF	HW-3	15/A5.20	16/A5.20	9/A5.20	14/A5.20	
7301A	PR	3'-6"	3'-6"	7'-6"	1 3/4"	B	AL	FF	F-3	AL	FF	HW-3	2/A5.02	4/A5.02	9/A5.20	6/A5.20	
7301B		3'-6"		7'-6"	1 3/4"	F	AL	FF	F-4	AL	FF	HW-1	5/A5.21	1/A5.21	13/A5.20	6/A5.20	
7301C		11'-4"		11'-6"		N	STL	PT		SST			12/A5.20	11/A5.20	13/A5.20	10/A5.20	MOTORIZED
7302	PR	3'-6"	3'-6"	7'-0"	1 3/4"	B	HM	FF	F-2	STL	PT	HW-2	2/A5.20	1/A5.20	1/A5.20	5/A5.20	
7303	PR	3'-6"	3'-6"	7'-0"	1 3/4"	B	HM	FF	F-2	STL	PT	HW-2	2/A5.20	1/A5.20	1/A5.20	5/A5.20	
7304	PR	3'-6"	3'-6"	7'-0"	1 3/4"	B	HM	FF	F-2	STL	PT	HW-2	2/A5.20	3/A5.20	1/A5.20	5/A5.20	
7305A	PR	3'-6"	3'-6"	7'-0"	1 3/4"	B	HM	FF	F-2	STL	PT	HW-2	2/A5.20	1/A5.20	1/A5.20	5/A5.20	
7305B	PR	3'-6"	3'-6"	7'-6"	1 3/4"	B	AL	FF	F-3	AL	FF	HW-3	5/A5.21	1/A5.21	17/A5.20	6/A5.20	

INTERIOR FINISH GENERAL NOTES

1. ALL INTERIOR WALL AND CEILING FINISH MATERIALS FOR ROOMS AND ENCLOSED SPACES IN SPRINKLERED GROUP 'E' OCCUPANCY TO HAVE A MINIMUM CLASS C CLASSIFICATION PER TABLE 803.13

FLOOR FINISH GENERAL NOTES

1. ALL FLOORING MATERIAL TRANSITION AND COLOR CHANGES SHALL BE CENTERED UNDER DOOR, TYP.
2. HATCH PATTERNS ARE ONLY USED TO DESIGNATE MULTIPLE FLOOR MATERIALS AND/ OR COLORS USED WITHIN A ROOM. FOR ROOMS WITH ONLY ONE FLOORING TYPE SEE FINISH SCHEDULE.
3. ALIGN ALL MATERIAL TRANSITIONS AND TILE JOINTS AS SHOWN WITH THE PATTERN AND IN RELATION TO ADJACENT ARCHITECTURAL ELEMENTS.
4. ALL SUB-FLOORS AT THE FIRST FLOOR ARE TO BE CONCRETE, SEE FINISH PLAN FOR MATERIAL FINISH AND COLOR.
5. FLOOR FINISHES AND RUBBER BASE SHALL EXTEND UNDER ALL MOVEABLE CASEWORK.

GENERAL DOOR & RELITE NOTES

1. ALL DOORS TO BE 1 3/4" THICK, UNLESS NOTED OTHERWISE.
2. SEE SPECIFICATIONS FOR ALL DOOR, RELITE, SIDELITE AND TRANSOM GLAZING TYPES.
3. LABEL COLUMN NUMBERS INDICATES THE RATING IN MINUTES, UNLESS NOTED OTHERWISE.
4. GLAZING DIMENSIONS FOR DOOR TYPES ARE TO INSIDE OF FRAME (CLEAR GLAZING AREA). ACTUAL CUTOUT AND TOTAL FRAME WILL BE SLIGHTLY LARGER.
5. RELITE GLAZING AND STOP TO OCCUR ON CORRIDOR SIDE OF FRAME, UNLESS NOTED OTHERWISE.
6. ALL DOOR HANDLES TO BE LEVER TYPE COMPLYING WITH ADA.
7. ALL RELITE GLAZING AND LITES INDOORS TO BE TEMPERED GLASS.

DOOR & RELITE CODED NOTES

1. DOOR OR WINDOW SEALED TO PREVENT PASSAGE OF SMOKE.
2. TOTAL DOOR - VERIFY & FIT DOOR TO EXACT CORRIDOR WIDTH PRIOR TO DOOR/ FRAME FABRICATION.
3. PADDING FULL WIDTH & HEIGHT (EXCEPT AREA OF LITE) OF ROOM ### FACE OF DOOR, SEE FINISH SCHEDULE FOR COORD WITH WALL PADDING.
4. SCHEDULED DOOR WIDTH IS NOMINAL. EXACT DOOR WIDTH TO BE VERIFIED BASED ON ACTUAL MASONRY OPENING.
5. POWER ASSISTED DOOR OPERATOR.
6. PROVIDE LOUVERS IN DOOR.
7. 4" HEAD FRAME.
8. PROVIDE FRAME TYPE F-1 WITH NO RABBET, AT OPENING.
9. SINGLE RABBET FRAME.
10. PRE-HUNG WOOD DOOR & FRAME, NO TRIM.
11. INSULATED ACCESS PANEL.

ABBREVIATIONS

ALUM	ALUMINUM
APC	ACOUSTICAL PANEL CEILING
AWP	ACOUSTICAL WALL PANEL
CLR	COLOR
CONC	CONCRETE
CPT	CARPET
CT	CERAMIC TILE
EM	ENTRY MAT
EP	EPOXY PAINT
EXP	EXPOSED
FF	FACTORY FINISHED
FIN	FINISH
GLZ	GLAZING
GYP	GYPSUM BOARD
LN	LINOLEUM
MATL	MATERIAL
MCSP PANEL	MINERAL COMPOSITE SCULPTURAL
MTL	METAL
PT	PAINT
RAF	RESILIENT ATHLETIC FLOORING
RB	RUBBER BASE
RFT	RESILIENT FLOORING TILE
RSS	RUBBER STAIR STRINGER
SLR	SEALER
SWC	SANITARY WALL COVERING
SV	SHEET VINYL
UNO	UNLESS NOTED OTHERWISE
VCT	VINYL COMPOSITION TILE
VRB	VENTILATING RUBBER BASE
VWC	VINYL WALL COVERING
WP	WALL PADS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT
DAWN BRISCO
No. C-37573
Exp. 5-31-21
STATE OF CALIFORNIA

NAC ARCHITECTURE

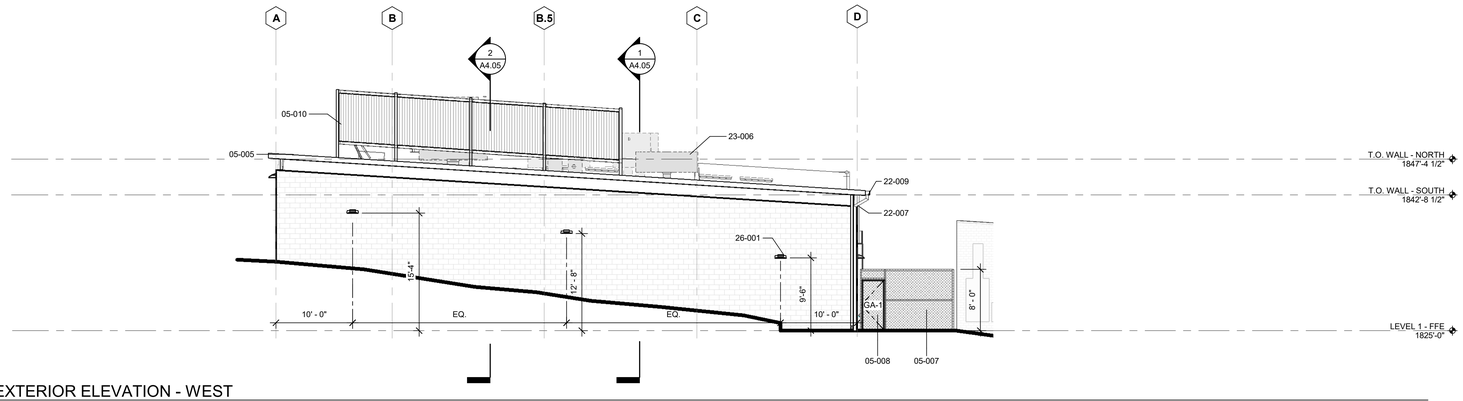
NAC NO. 161-19034
DATE 09-04-2020

100% CONSTRUCTION DOCUMENTS

DOOR & FINISH SCHEDULES

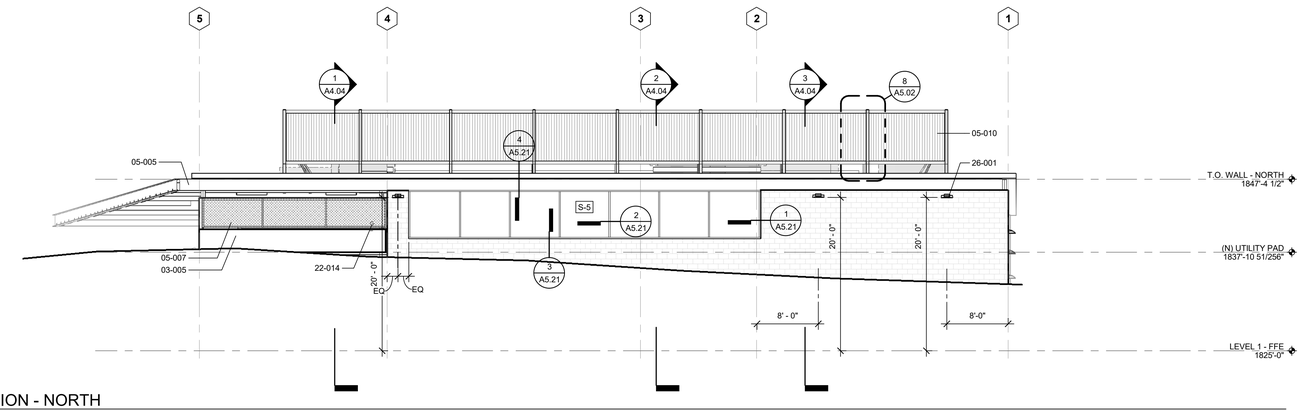
A3.10

© 2019 NAC Inc.



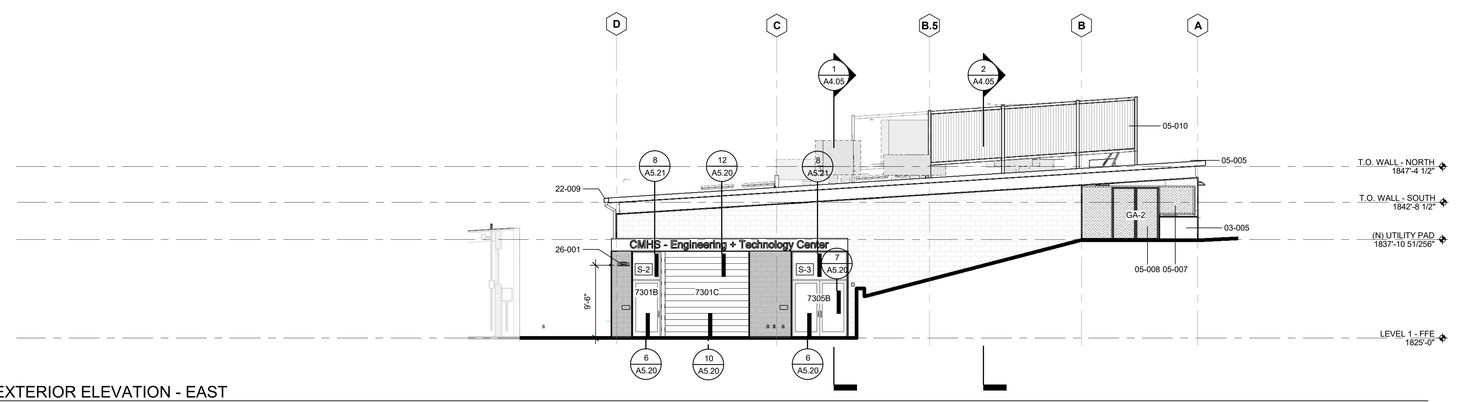
4 EXTERIOR ELEVATION - WEST

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



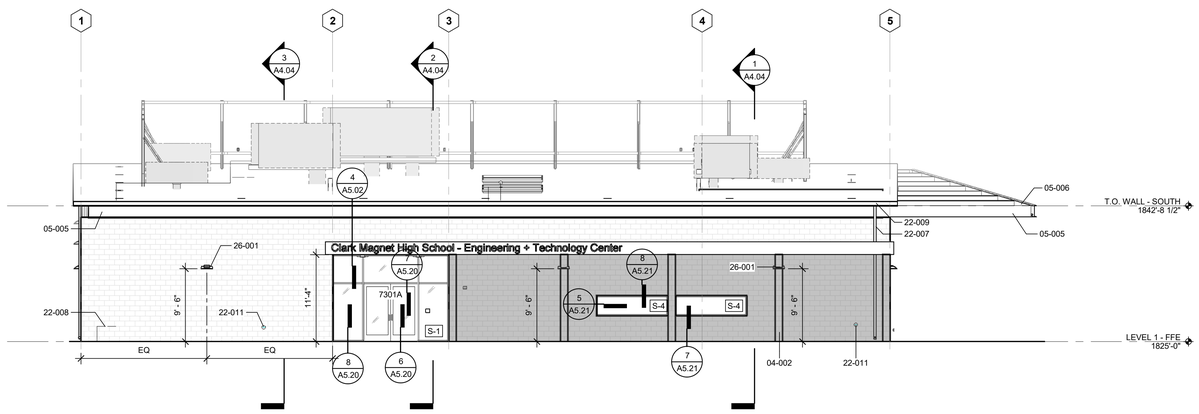
3 EXTERIOR ELEVATION - NORTH

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



2 EXTERIOR ELEVATION - EAST

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



1 EXTERIOR ELEVATION - SOUTH

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

EXTERIOR ELEVATION GENERAL NOTES

1. LOCATION AND SPACING OF WINDOW MULLIONS, MASONRY CONTROL JOINTS AND COURSE PATTERNS, ETC. ARE TO BE AS SHOWN ON EXTERIOR ELEVATIONS. WHERE NOT DIMENSIONED OR DETAILED, WINDOW MULLIONS AND MATERIAL JOINTS ARE TO BE EQUALLY SPACED AND/ OR CENTERED/ ALIGNED W/ ADJACENT ELEMENT (MASONRY COLUMN, EDGE OR CENTER LINE OF WINDOW OR DOOR OPENING, ETC) AS SHOWN.
2. REFER TO DETAILS FOR DIMENSION REFERENCE POINTS.
3. CONTROL JOINTS EXTEND FULL HEIGHT OF MASONRY, TYP. WHERE "CJ" IS INDICATED AT INSIDE CORNERS THE JOINT SHALL PENETRATE THE MASONRY SURFACE ON WHICH THE LABEL OCCURS. SEE DETAILS FOR ADDITIONAL CJ LOCATIONS.
4. ALL WINDOW AND LOUVER DIMENSIONS ARE FOR ROUGH OR MASONRY OPENING, UNLESS NOTED OTHERWISE. SEE PLANS FOR ADDITIONAL DIMENSION INFORMATION.
5. FLOOR SLAB ELEVATION 1825.00'. SEE CIVIL FOR FURTHER INFORMATION.
6. EXTERIOR WALL FINISHES EXTEND FULL HEIGHT TO SOFFITS (NOT SHOWN WHERE EAVES OBSCURE VIEW). SEE BUILDING SECTIONS & DETAILS.

KEYNOTE LEGEND	
Key Value	Keynote Text
03-005	CONCRETE RETAINING WALL
04-002	CMU PILASTER
05-005	STEEL FRAMING, PTD.
05-006	WELDED CARBON STEEL BAR GRATING, PTD.
05-007	CHAIN LINK FENCE
05-008	CHAIN LINK FENCE GATE
05-010	MECHANICAL SCREEN
22-007	DOWNSPOUT
22-008	GAS METER
22-009	GUTTER
22-011	HOSE BIBB, SEE PLUMBING
22-014	FIRE DEPARTMENT CONNECTION
23-006	EXHAUST FAN
26-001	LIGHT FIXTURE

SOUTH ELEVATION OPENINGS CALCULATIONS

(PER CBC TABLE 705.8)
MAXIMUM AREA OF EXTERIOR WALL OPENING ALLOWED -
FSD 3' TO LESS THAN 5': 15% UNPROTECTED, SPRINKLERED

TOTAL SOUTH ELEVATION: 1,868 SF
TOTAL OPEN (UNPROTECTED: 221 SF
TOTAL OPEN PERCENTAGE: ~11.8% (<15%)

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT
DAWN BRISCO
No. C-37573
Exp. 5-31-21
STATE OF CALIFORNIA

NAC ARCHITECTURE

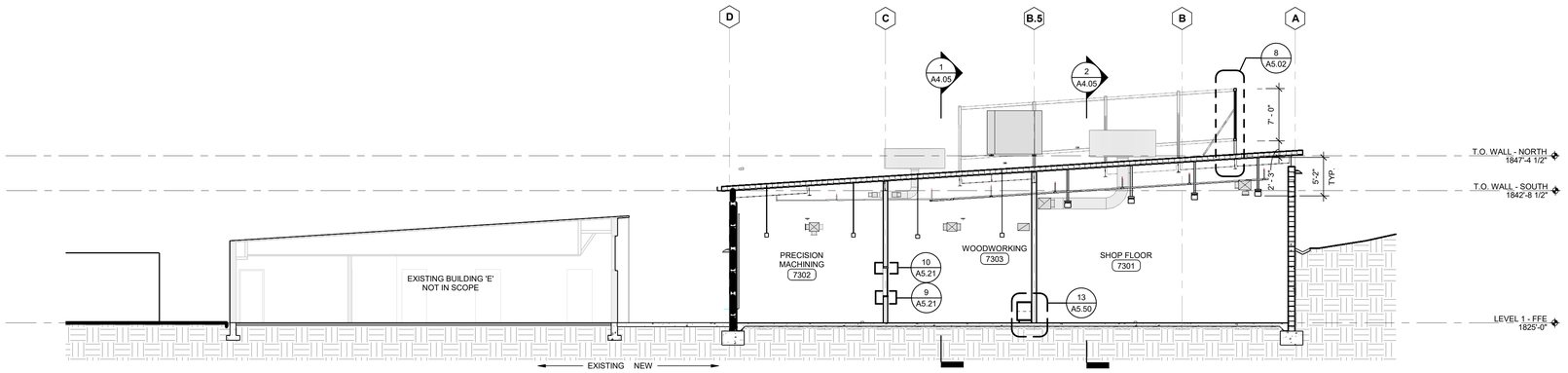
NAC NO. 161-19034
DATE 09-04-2020

100% CONSTRUCTION DOCUMENTS

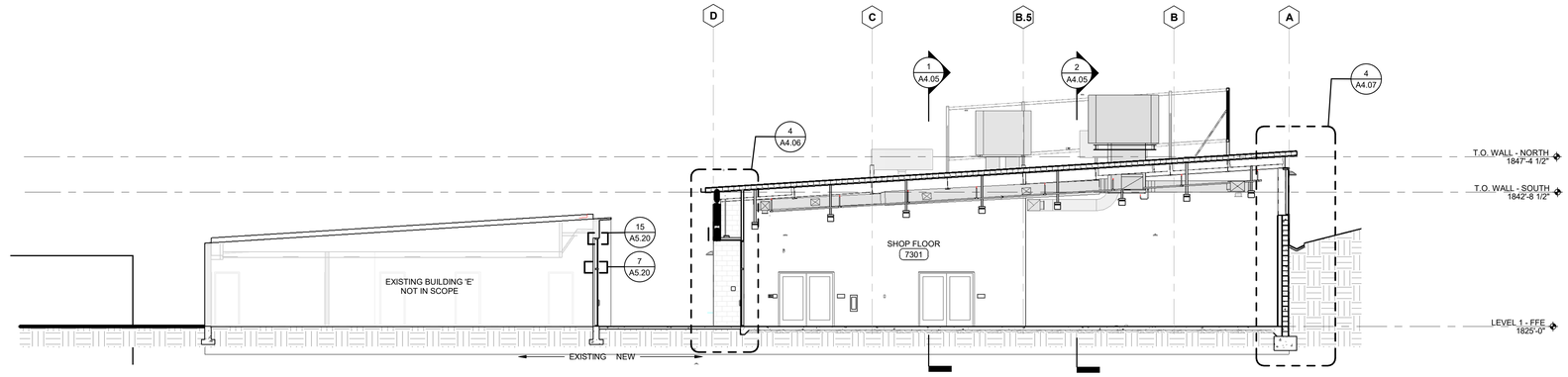
EXTERIOR ELEVATIONS

A4.01

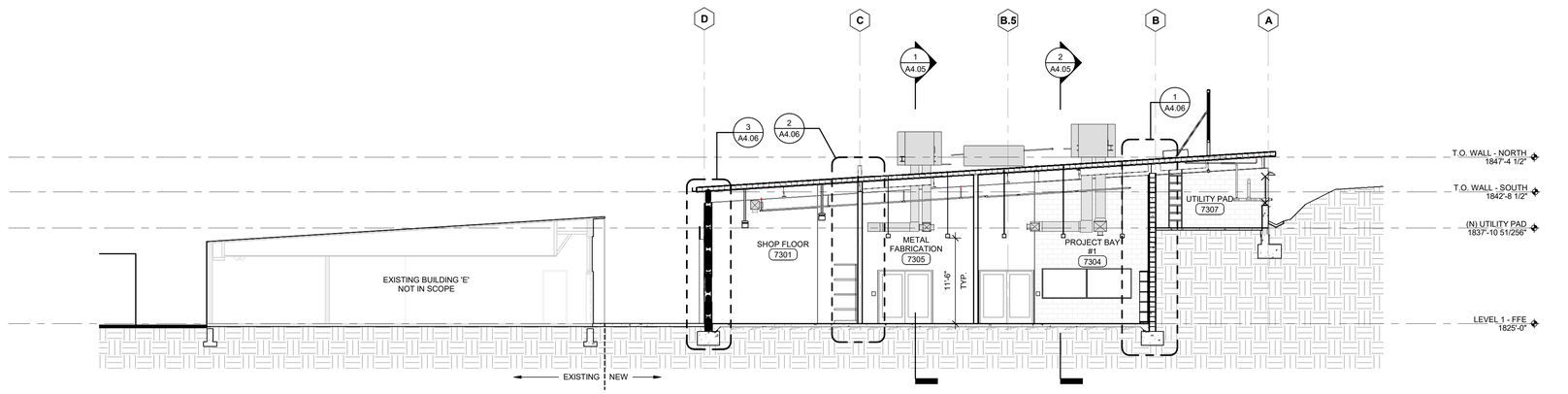
© 2019 NAC, LLC



3 BUILDING SECTION - NS 3
Scale: 1/8" = 1'-0"



2 BUILDING SECTION - NS 2
Scale: 1/8" = 1'-0"



1 BUILDING SECTION - NS 1
Scale: 1/8" = 1'-0"

PLAN LEGEND

1 HR WALLS

9/7/2020 7:57:29 PM D:_Revit\161-19034-Clark-CTE_hdickson_NAC.rvt

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT
DAWN BRISCO
No. C-37573
Exp. 5-31-21
STATE OF CALIFORNIA

NAC ARCHITECTURE

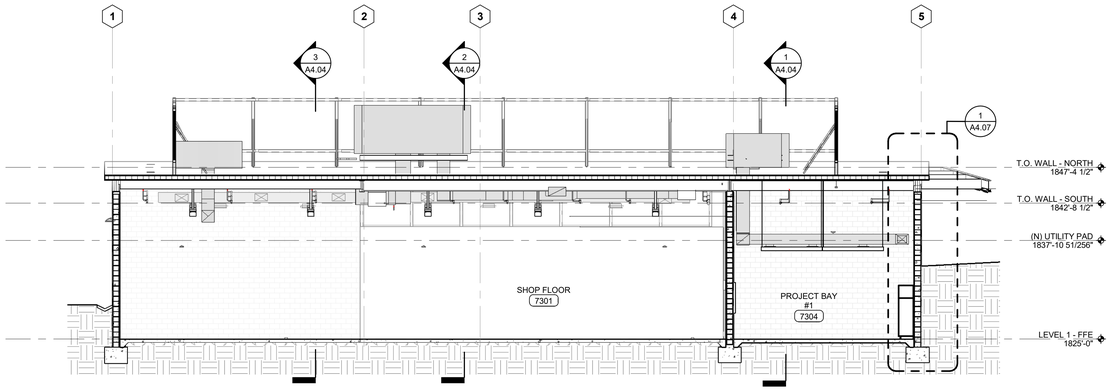
NAC NO. 161-19034
DATE 09-04-2020

100%
CONSTRUCTION
DOCUMENTS

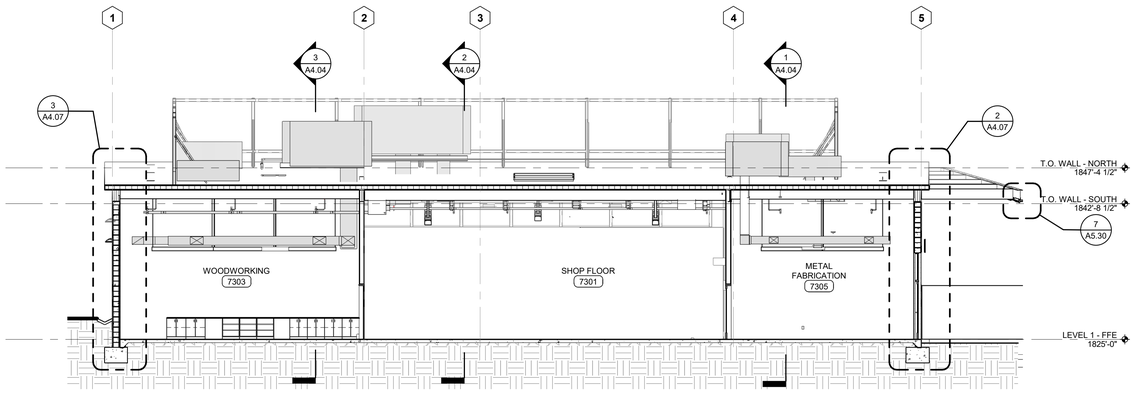
BUILDING SECTIONS

A4.04

© 2019 NAC Inc.



2 BUILDING SECTION - EW 3
Scale: 1/8" = 1'-0"



1 BUILDING SECTION - EW 2
Scale: 1/8" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL
TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT
DAWN BRISCO
No. C-37573
Exp. 5-31-21
STATE OF CALIFORNIA

NAC
ARCHITECTURE

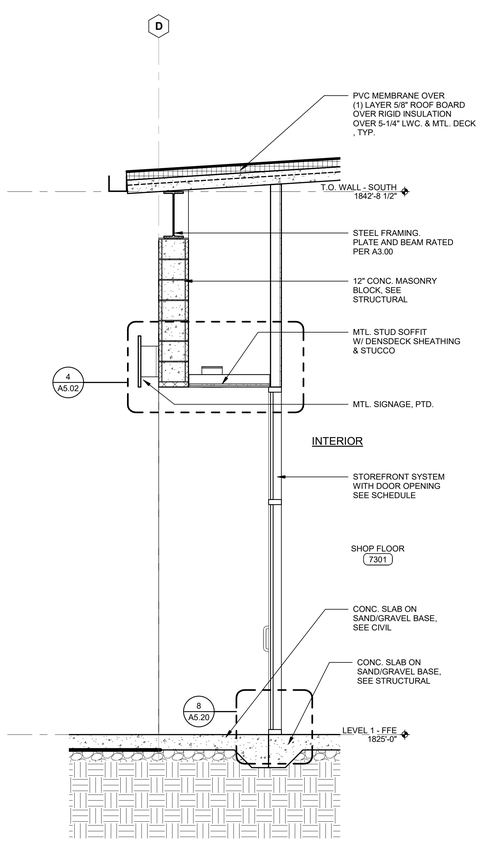
NAC NO. 161-19034
DATE 09-04-2020

100%
CONSTRUCTION
DOCUMENTS

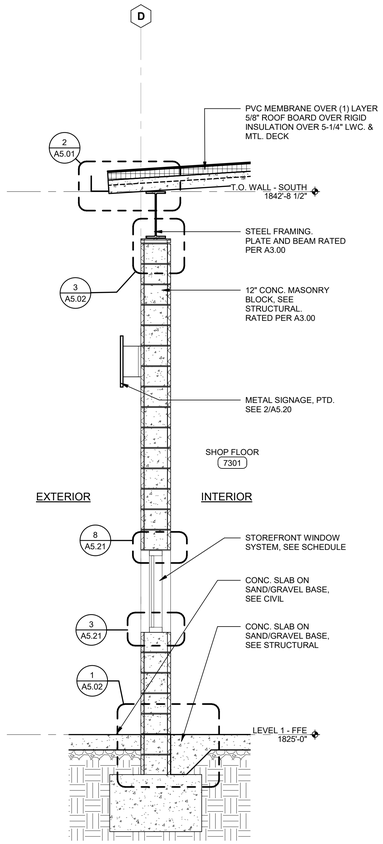
BUILDING SECTIONS

A4.05

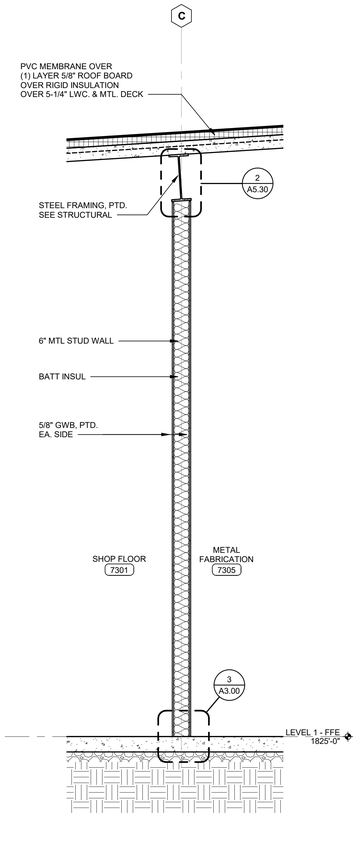
© 2019 NAC, Inc.



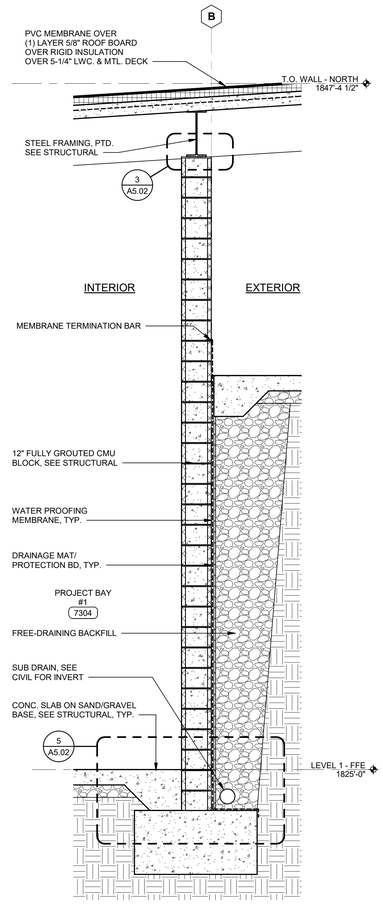
4 WALL SECTION - G.L. D-2
Scale: 1/2" = 1'-0"



3 WALL SECTION - G.L. D-1
Scale: 1/2" = 1'-0"



2 WALL SECTION - G.L. C-1
Scale: 1/2" = 1'-0"



1 WALL SECTION - G.L. B-1
Scale: 1/2" = 1'-0"

9/7/2020 7:57:33 PM D:_Revit\161-19034-Clark-CTE_hdickson_NAC.rvt

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT
DAWN BRISCO
No. C-37573
Exp. 5-31-21
STATE OF CALIFORNIA

NAC ARCHITECTURE

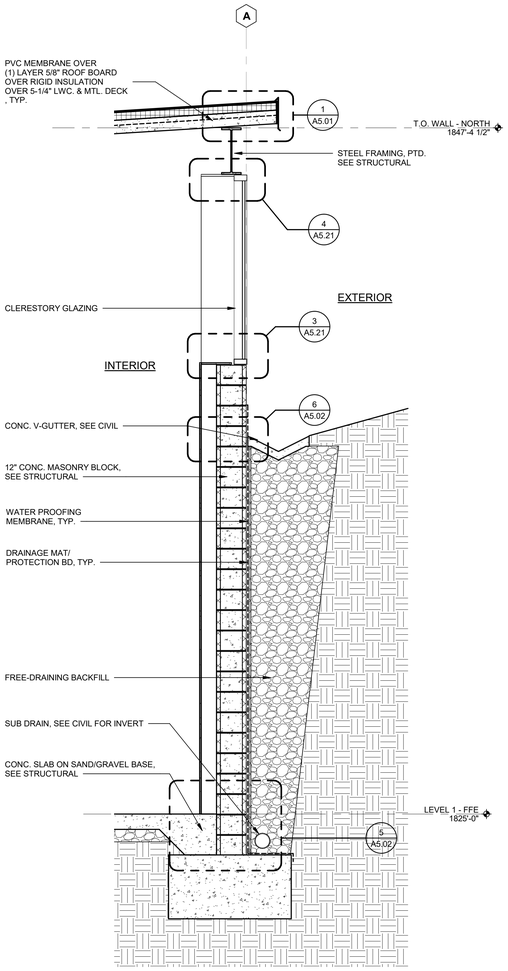
NAC NO. 161-19034
DATE 09-04-2020

100%
CONSTRUCTION
DOCUMENTS

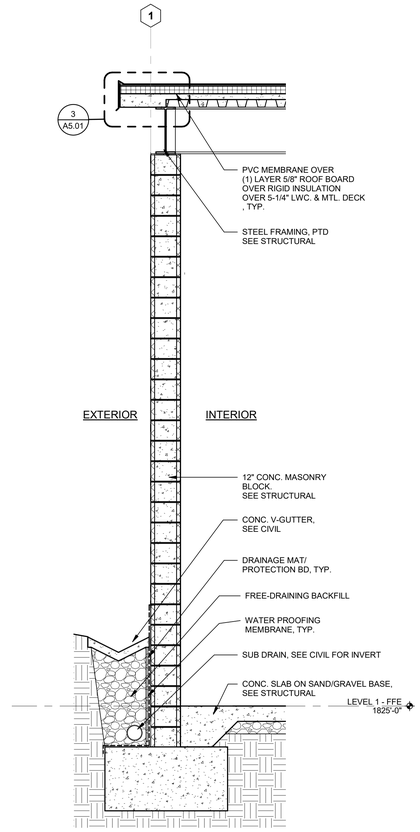
WALL SECTIONS

A4.06

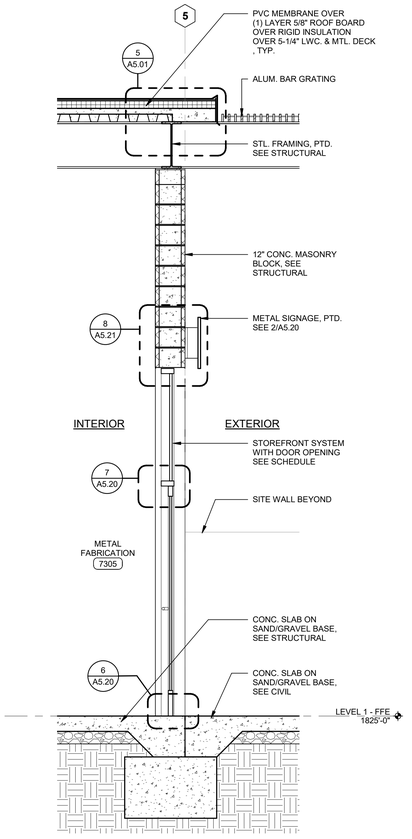
© 2019 NAC, Inc.



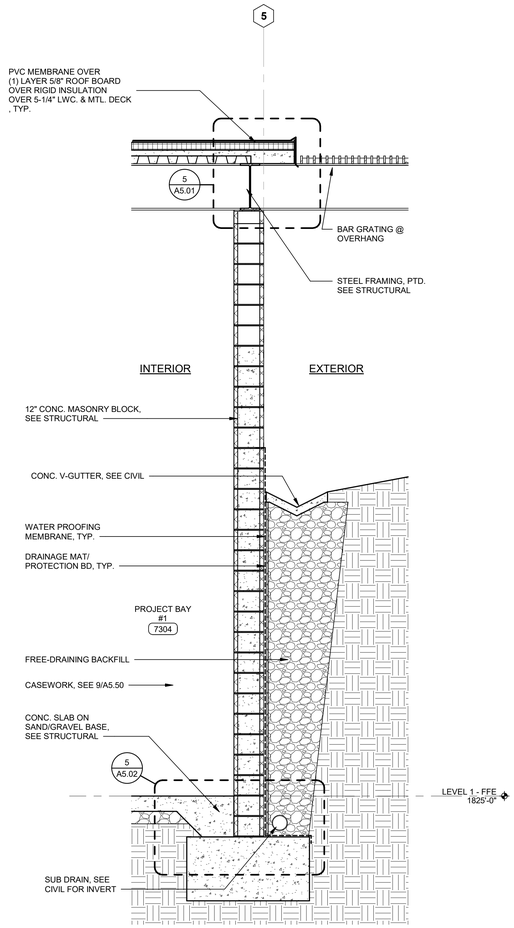
4 WALL SECTION - G.L. A-1
Scale: 1/2" = 1'-0"



3 WALL SECTION - G.L. 1-1
Scale: 1/2" = 1'-0"



2 WALL SECTION - G.L. 5-1
Scale: 1/2" = 1'-0"



1 WALL SECTION - G.L. 5-2
Scale: 1/2" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT

CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)

4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT
DAWN BRISCO
No. C-37573
Exp. 5-31-21
STATE OF CALIFORNIA

NAC ARCHITECTURE

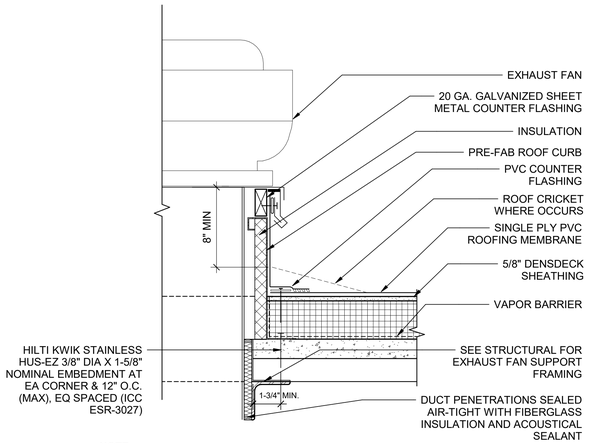
NAC NO. 161-19034
DATE 09-04-2020

100%
CONSTRUCTION
DOCUMENTS

WALL SECTIONS

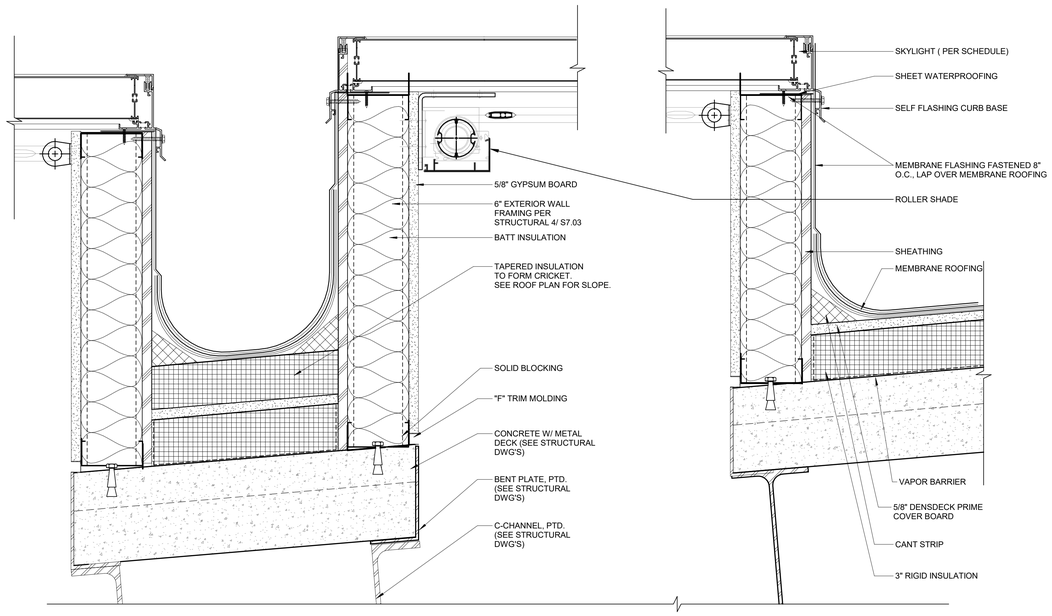
A4.07

© 2019 NAC Inc.

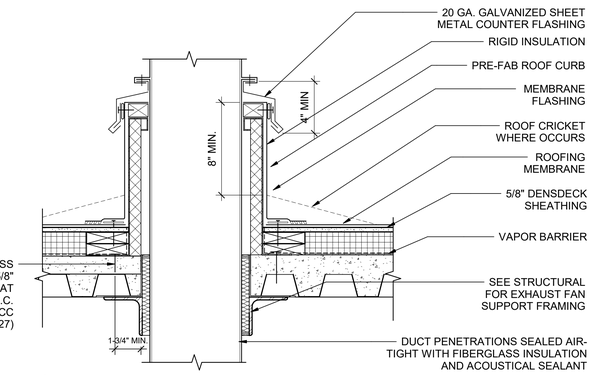


NOTE:
REFRENCE MECHANICAL DRAWINGS FOR TYPICAL PRE-FABRICATED CURB ATTACHMENT TO METAL DECK WITH CONCRETE FILL.

7 EXHAUST FAN CURB
Scale: 1 1/2" = 1'-0"

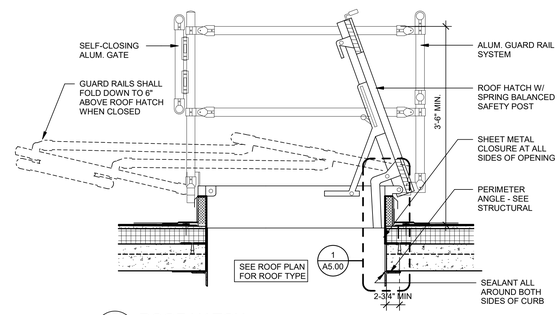


3 TYP. SKYLIGHT OPENING
Scale: 3" = 1'-0"

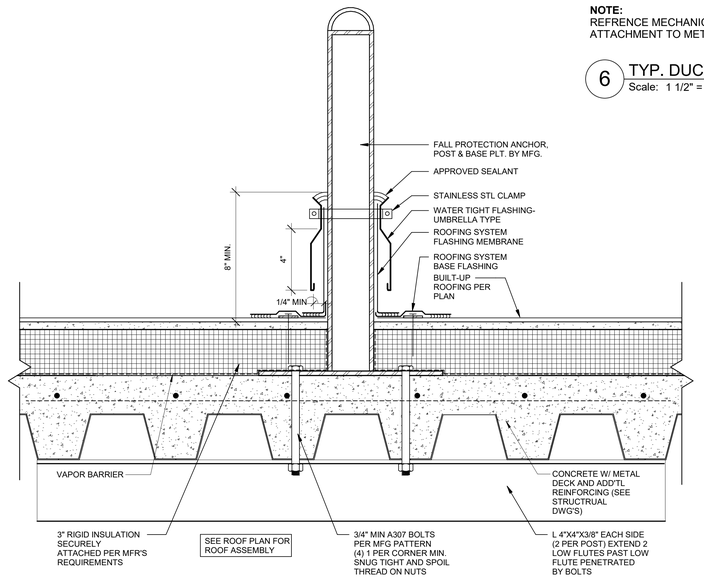


NOTE:
REFRENCE MECHANICAL DWGS FOR TYPICAL PRE-FABRICATED CURB ATTACHMENT TO METAL DECK WITH CONCRETE FILL.

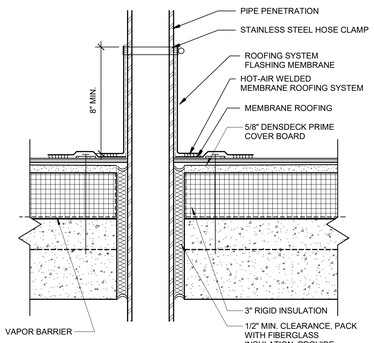
6 TYP. DUCT PENETRATION @ ROOF
Scale: 1 1/2" = 1'-0"



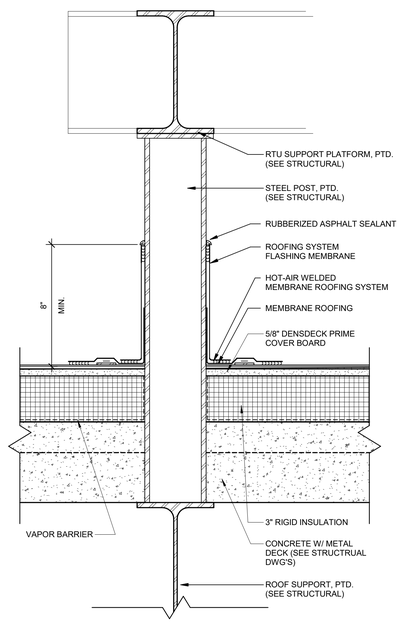
2 ROOF HATCH
Scale: 1" = 1'-0"



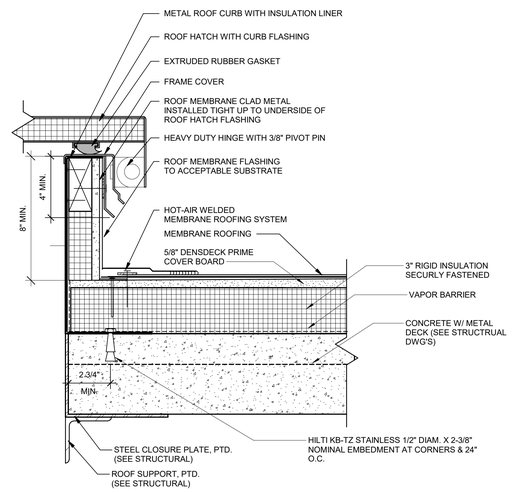
8 TYP. FALL PROTECTION ANCHOR
Scale: 3" = 1'-0"



5 TYP. VENT STACK PENETRATION
Scale: 3" = 1'-0"



4 TYP. RTU PLATFORM FRAMING
Scale: 3" = 1'-0"



1 TYP. ROOF HATCH CURB
Scale: 3" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT DAWN BRISCO Dawn Brisco No. C-37573 Exp. 5-31-21 STATE OF CALIFORNIA

NAC ARCHITECTURE

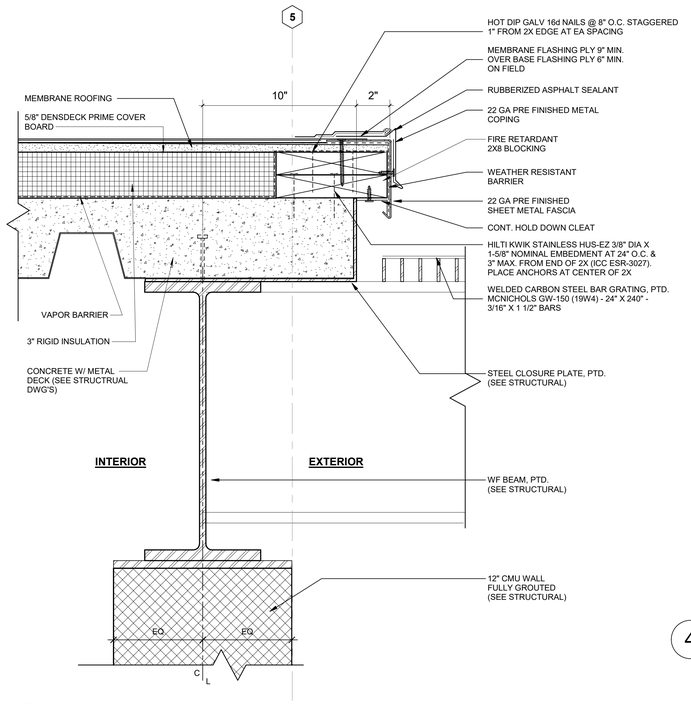
NAC NO. 161-19034
DATE 09-04-2020

100% CONSTRUCTION DOCUMENTS

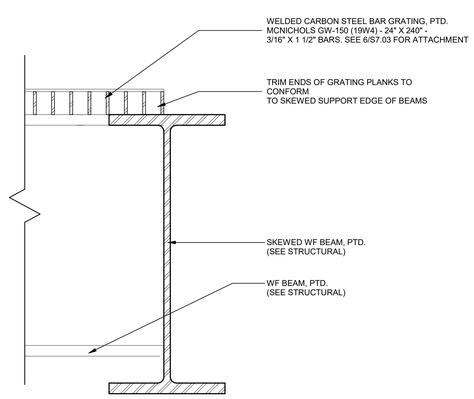
ROOF DETAILS

A5.00

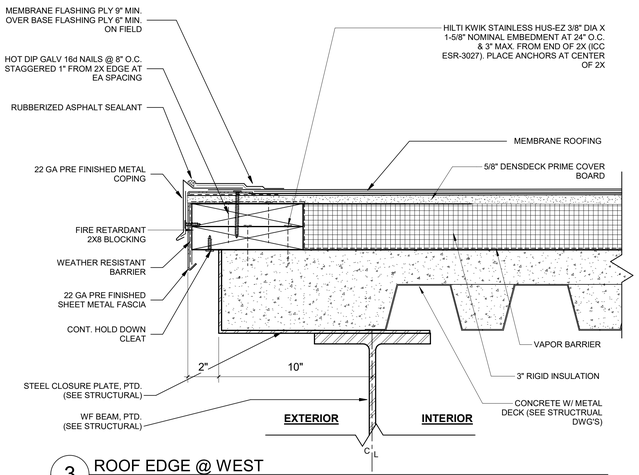
© 2019 NAC | AC



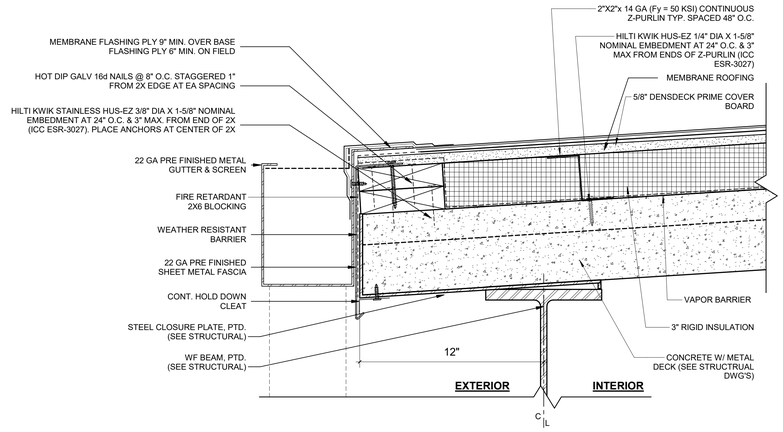
5 ROOF EDGE @ CANOPY
Scale: 3" = 1'-0"



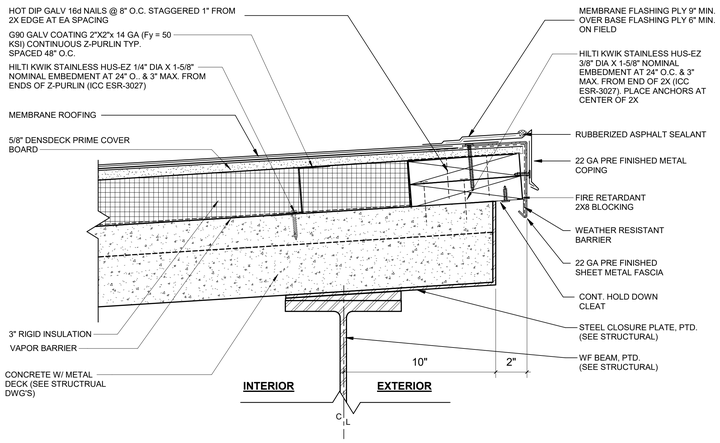
4 DETAIL @ CANOPY EDGE
Scale: 3" = 1'-0"



3 ROOF EDGE @ WEST
Scale: 3" = 1'-0"



2 ROOF EDGE @ SOUTH
Scale: 3" = 1'-0"



1 ROOF EDGE @ NORTH
Scale: 3" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT
DANN BRISCO
No. C-37573
Exp. 5-31-21
STATE OF CALIFORNIA

NAC ARCHITECTURE

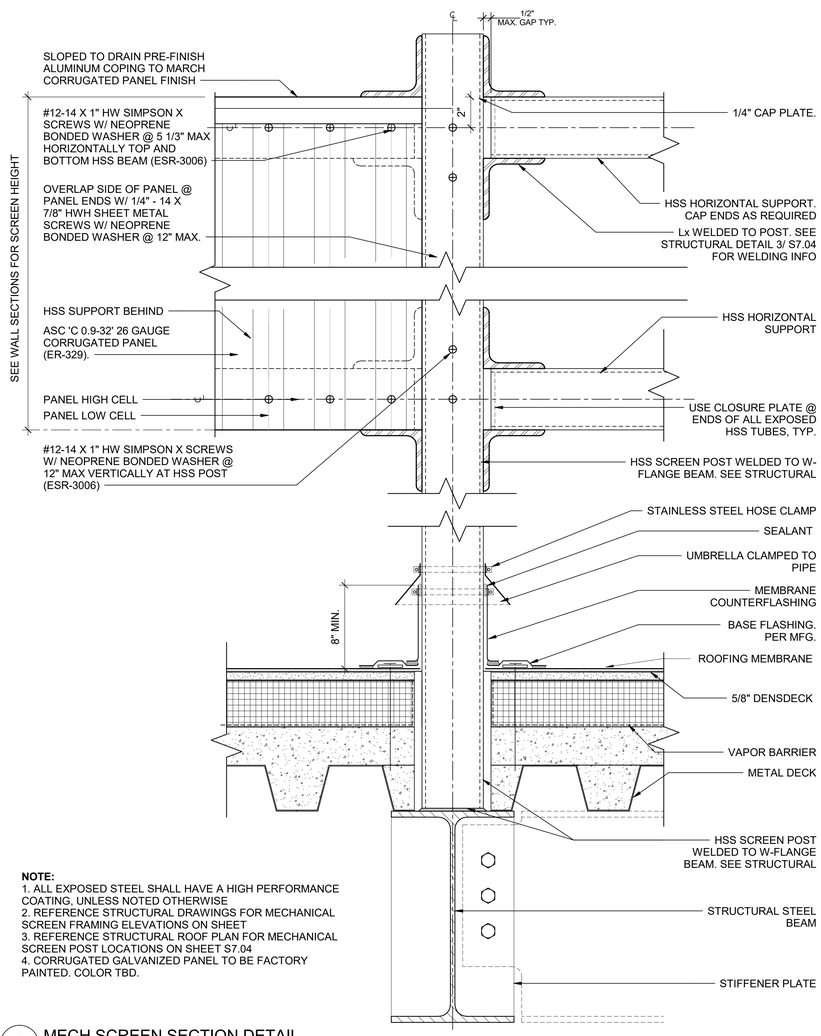
NAC NO. 161-19034
DATE 09-04-2020

100% CONSTRUCTION DOCUMENTS

EXTERIOR DETAILS

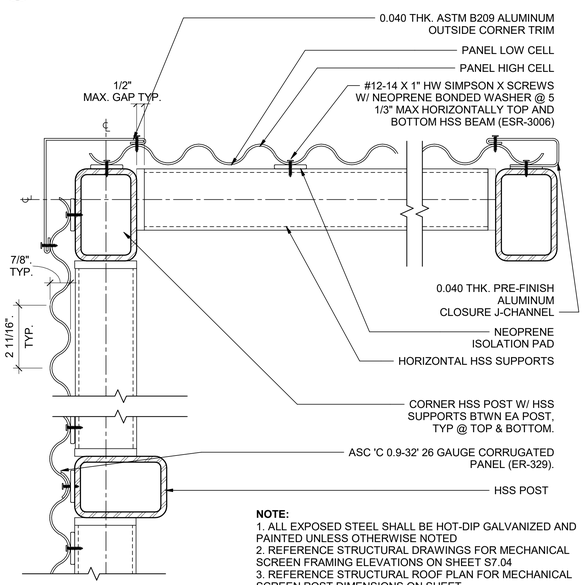
A5.01

© 2019 NAC Inc.



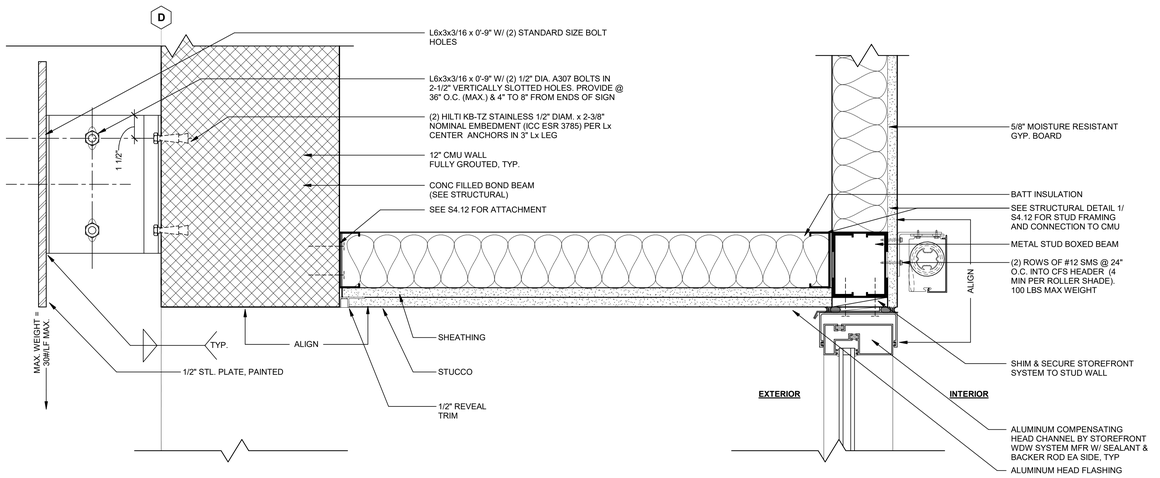
NOTE:
1. ALL EXPOSED STEEL SHALL HAVE A HIGH PERFORMANCE COATING, UNLESS NOTED OTHERWISE
2. REFERENCE STRUCTURAL DRAWINGS FOR MECHANICAL SCREEN FRAMING ELEVATIONS ON SHEET
3. REFERENCE STRUCTURAL ROOF PLAN FOR MECHANICAL SCREEN POST LOCATIONS ON SHEET S7.04
4. CORRUGATED GALVANIZED PANEL TO BE FACTORY PAINTED. COLOR TBD.

8 MECH SCREEN SECTION DETAIL
Scale: 3" = 1'-0"

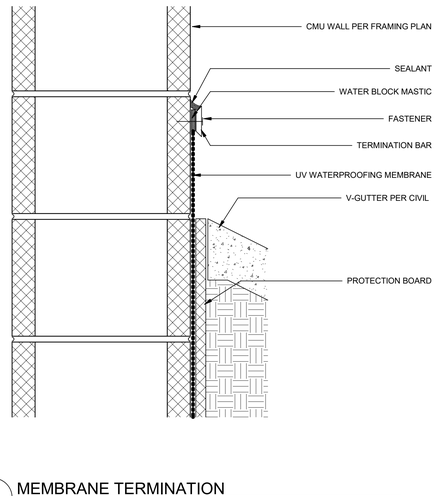


NOTE:
1. ALL EXPOSED STEEL SHALL BE HOT-DIP GALVANIZED AND PAINTED UNLESS OTHERWISE NOTED
2. REFERENCE STRUCTURAL DRAWINGS FOR MECHANICAL SCREEN FRAMING ELEVATIONS ON SHEET S7.04
3. REFERENCE STRUCTURAL ROOF PLAN FOR MECHANICAL SCREEN POST DIMENSIONS ON SHEET
4. CORRUGATED GALVANIZED PANEL TO BE FACTORY PAINTED. COLOR TBD.

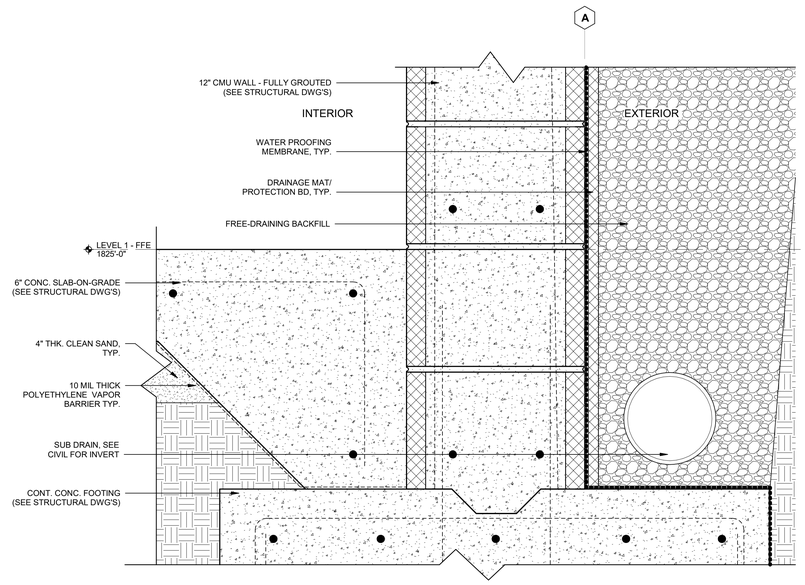
7 MECH SCREEN PLAN DETAIL
Scale: 3" = 1'-0"



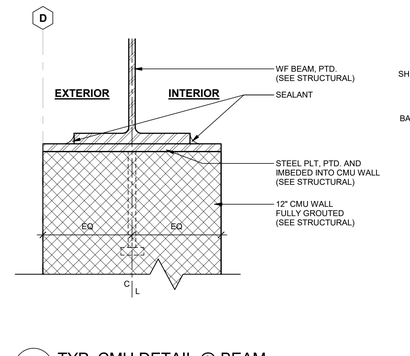
4 ALUM. SF HEAD @ SOFFIT
Scale: 3" = 1'-0"



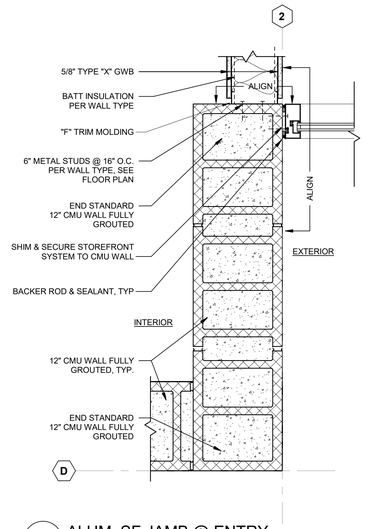
6 MEMBRANE TERMINATION
Scale: 3" = 1'-0"



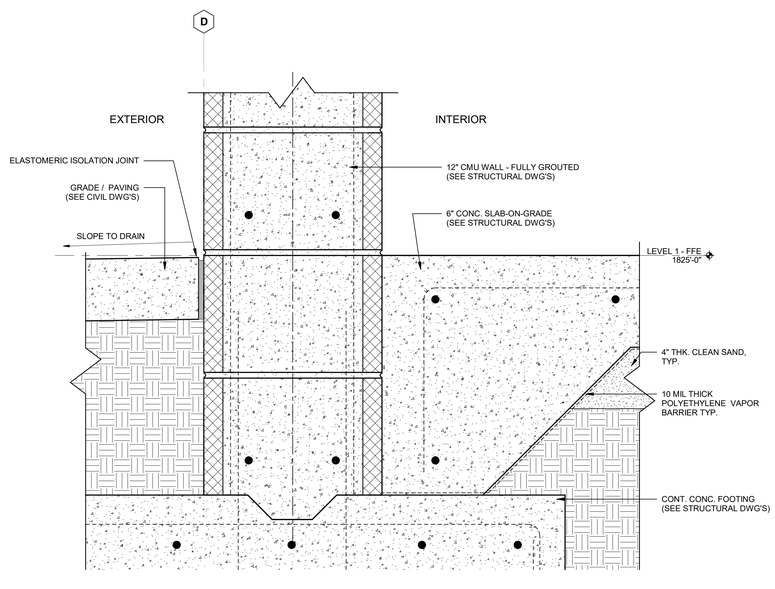
5 SLAB DETAIL @ RETAINING WALL
Scale: 3" = 1'-0"



3 TYP. CMU DETAIL @ BEAM
Scale: 3" = 1'-0"



2 ALUM. SF JAMB @ ENTRY
Scale: 1 1/2" = 1'-0"



1 TYP DETAIL @ SLAB
Scale: 3" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT DAWN BRISCO No. C-37573 Exp. 5-31-21 STATE OF CALIFORNIA

NAC ARCHITECTURE

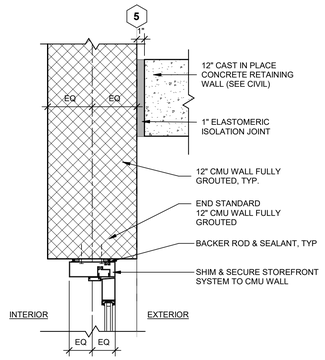
NAC NO. 161-19034
DATE 09-04-2020

100% CONSTRUCTION DOCUMENTS

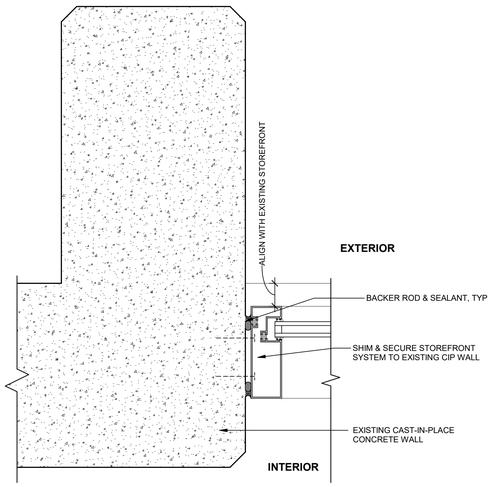
EXTERIOR DETAILS

A5.02

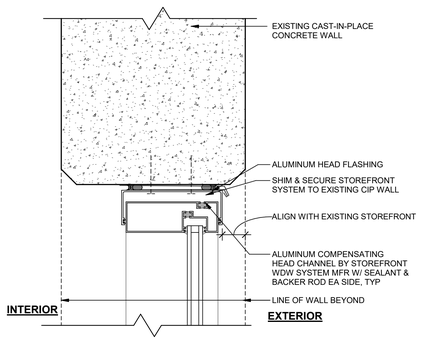
© 2019 NAC Inc.



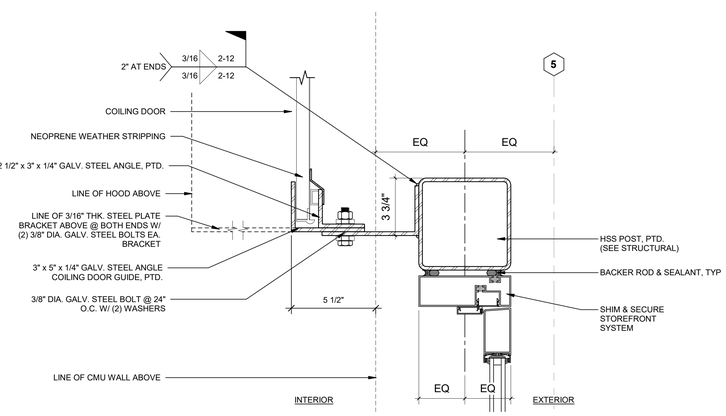
17 ALUM. SF JAMB @ CMU
Scale: 1 1/2" = 1'-0"



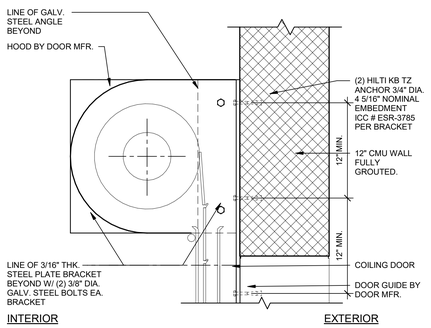
16 ALUM. SF JAMB @ DOOR 6303A
Scale: 3" = 1'-0"



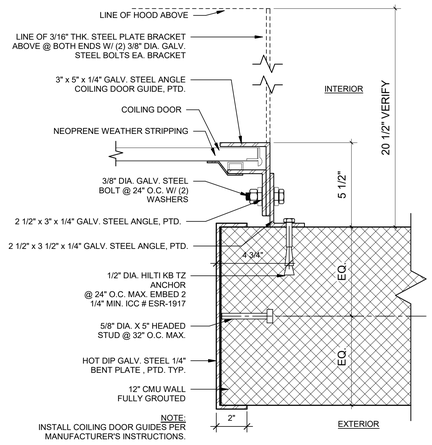
15 ALUM. SF HEAD @ DOOR 6303A
Scale: 3" = 1'-0"



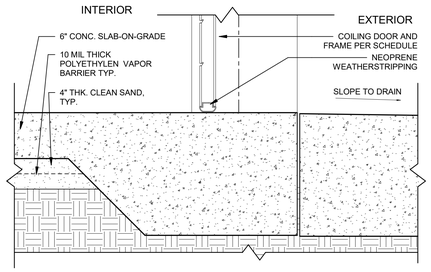
13 COILING DOOR JAMB @ HSS
Scale: 3" = 1'-0"



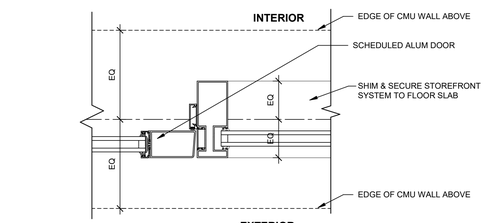
12 COILING DOOR HEAD DETAIL
Scale: 1 1/2" = 1'-0"



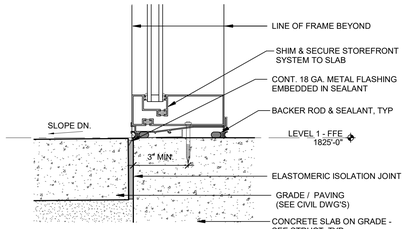
11 COILING DOOR JAMB DETAIL
Scale: 3" = 1'-0"



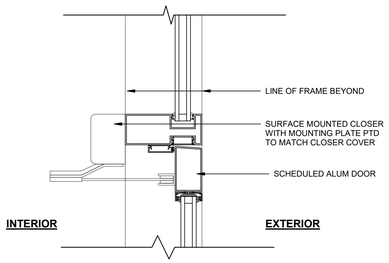
10 COILING DOOR SILL DETAIL
Scale: 1 1/2" = 1'-0"



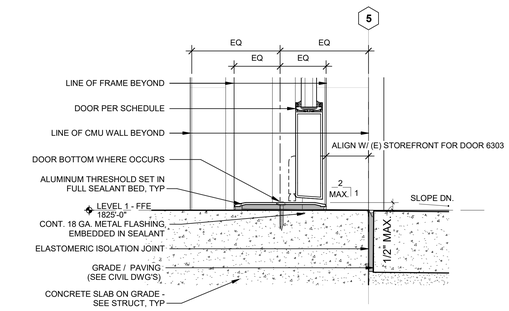
9 ALUM. SF JAMB @ SIDELITE
Scale: 3" = 1'-0"



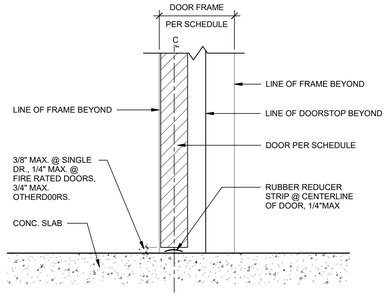
8 ALUM. SF SILL @ SIDELITE
Scale: 3" = 1'-0"



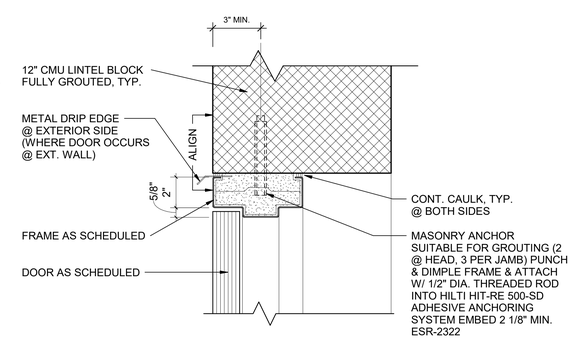
7 ALUM. SF @ TRANSOM
Scale: 3" = 1'-0"



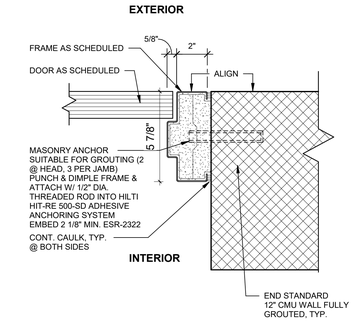
6 ALUM. SF SILL @ DOOR
Scale: 3" = 1'-0"



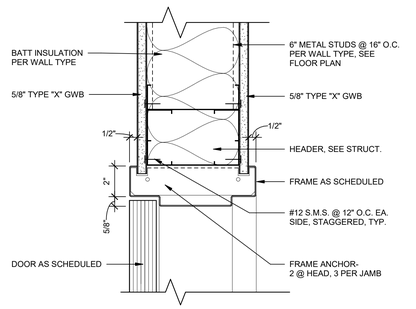
5 DOOR THRESHOLD INTERIOR
Scale: 3" = 1'-0"



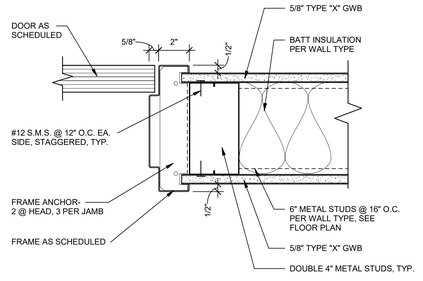
4 DOOR HEAD @ CMU WALL
Scale: 3" = 1'-0"



3 DOOR JAMB @ CMU WALL
Scale: 3" = 1'-0"



2 DOOR HEAD @ INTERIOR WALL
Scale: 3" = 1'-0"



1 DOOR JAMB @ INTERIOR WALL
Scale: 3" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT
DAWN BRISCO
No. C-37573
Exp. 5-31-21
STATE OF CALIFORNIA

NAC ARCHITECTURE

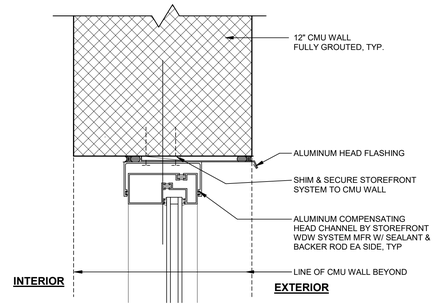
NAC NO. 161-19034
DATE 09-04-2020

100% CONSTRUCTION DOCUMENTS

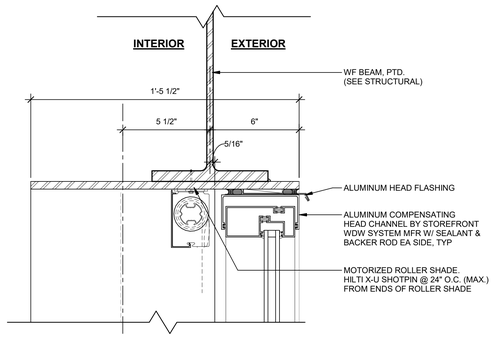
DOOR DETAILS

A5.20

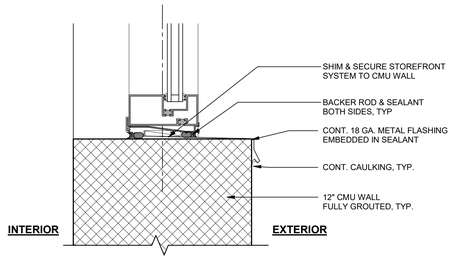
© 2019 NAC, Inc.



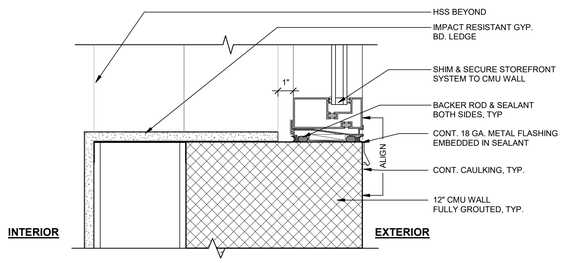
8 ALUM. SF HEAD @ CMU
Scale: 3" = 1'-0"



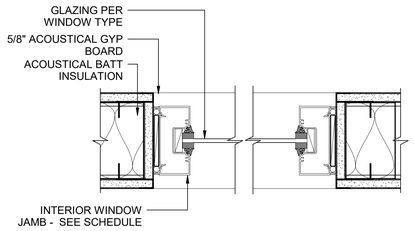
4 ALUM. SF HEAD @ BEAM
Scale: 3" = 1'-0"



7 ALUM. SF SILL @ CMU
Scale: 3" = 1'-0"

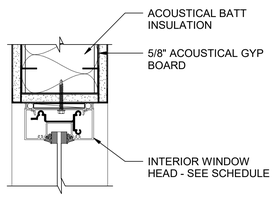


3 ALUM. SF SILL @ CLERESTORY
Scale: 3" = 1'-0"

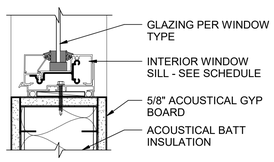


NOTE:
1. INFILL FRAMES WITH INSULATION AT ACOUSTICALLY RATED WALLS

11 TYP. INT. WINDOW JAMB DETAIL
Scale: 3" = 1'-0"

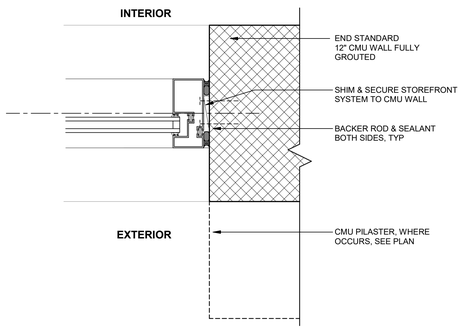


10 TYP. INT. WINDOW HEAD DETAIL
Scale: 3" = 1'-0"

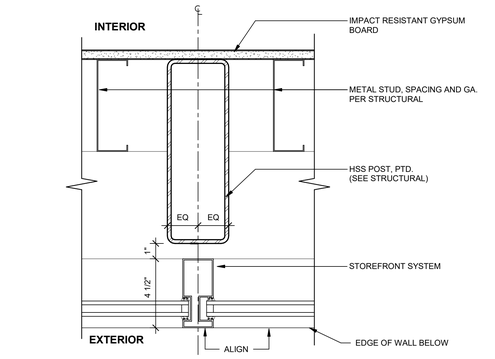


NOTE:
1. INFILL FRAMES WITH INSULATION AT ACOUSTICALLY RATED WALLS

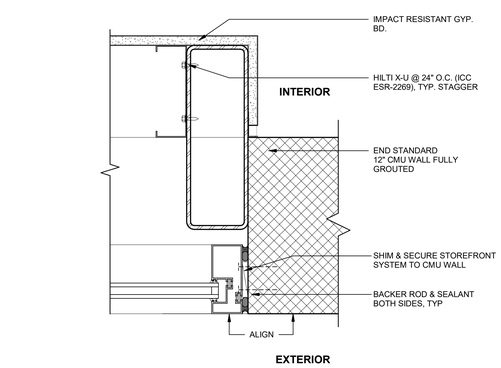
9 TYP. INT. WINDOW SILL DETAIL
Scale: 3" = 1'-0"



5 ALUM. SF JAMB @ CMU
Scale: 3" = 1'-0"



2 ALUM. SF @ HSS
Scale: 3" = 1'-0"



1 ALUM. SF JAMB @ CLERESTORY
Scale: 3" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT
DAWN BRISCO
No. C-37573
Exp. 5-31-21
STATE OF CALIFORNIA

NAC ARCHITECTURE

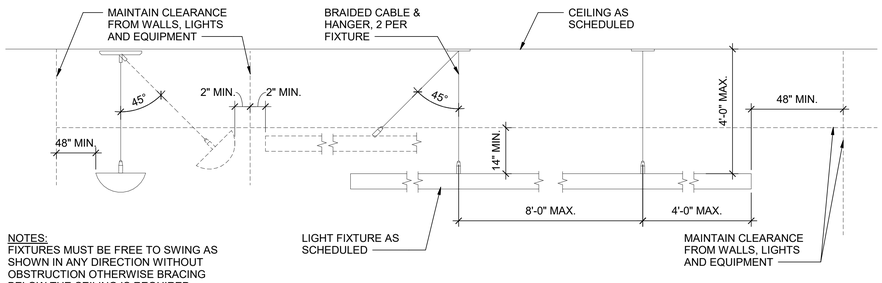
NAC NO. 161-19034
DATE 09-04-2020

100%
CONSTRUCTION
DOCUMENTS

WINDOW DETAILS

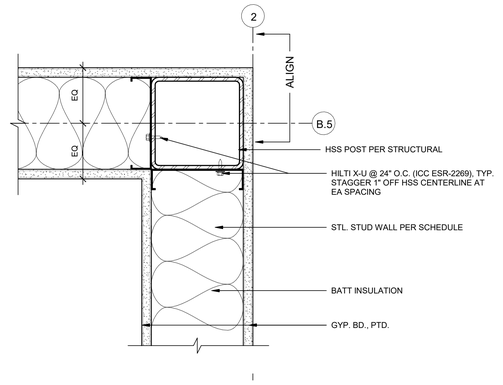
A5.21

© 2019 NAC Inc.

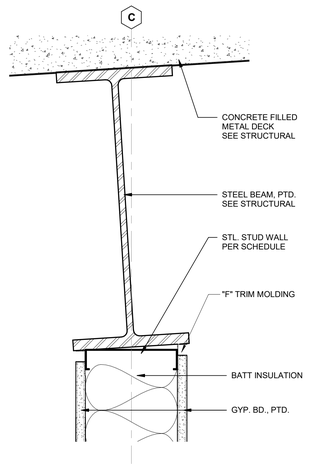


NOTES:
FIXTURES MUST BE FREE TO SWING AS SHOWN IN ANY DIRECTION WITHOUT OBSTRUCTION OTHERWISE BRACING BELOW THE CEILING IS REQUIRED

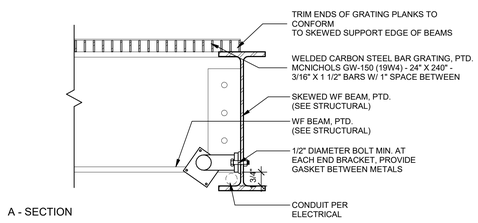
8 PENDANT LIGHT FREE SWING AREA DIAGRAM
Scale: 1 1/2" = 1'-0"



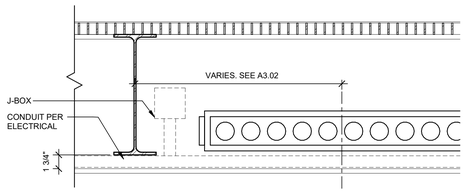
5 HSS/STUD @ CORNER
Scale: 3" = 1'-0"



2 WALL DETAIL @ SKEWED BEAM
Scale: 3" = 1'-0"

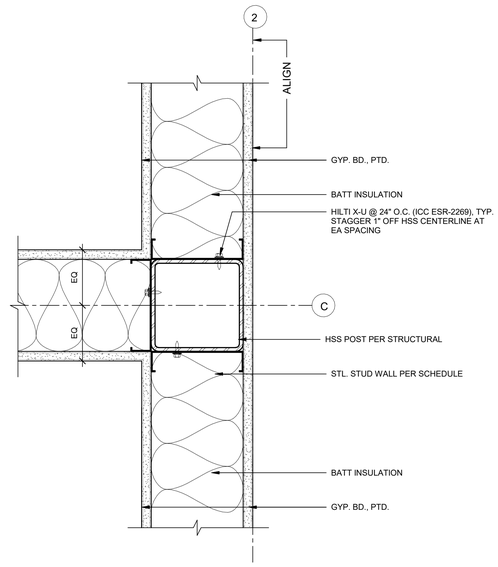


A - SECTION

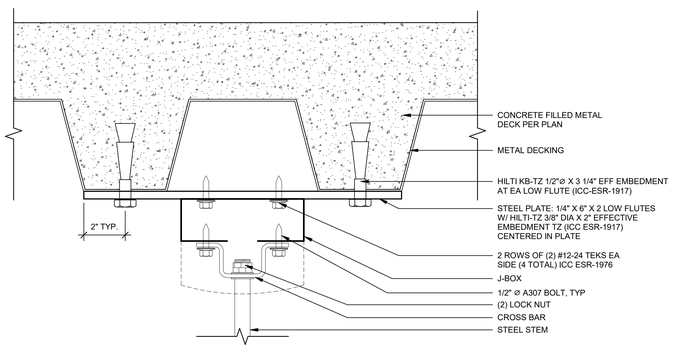


B - SECTION

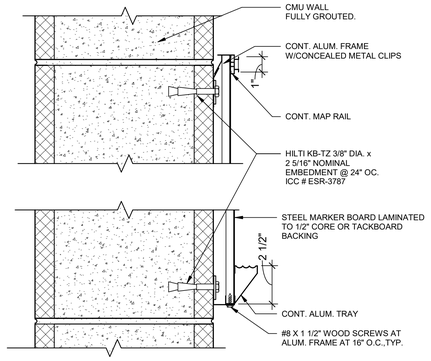
7 DETAIL @ EXTERIOR LIGHT FIXTURE
Scale: 1 1/2" = 1'-0"



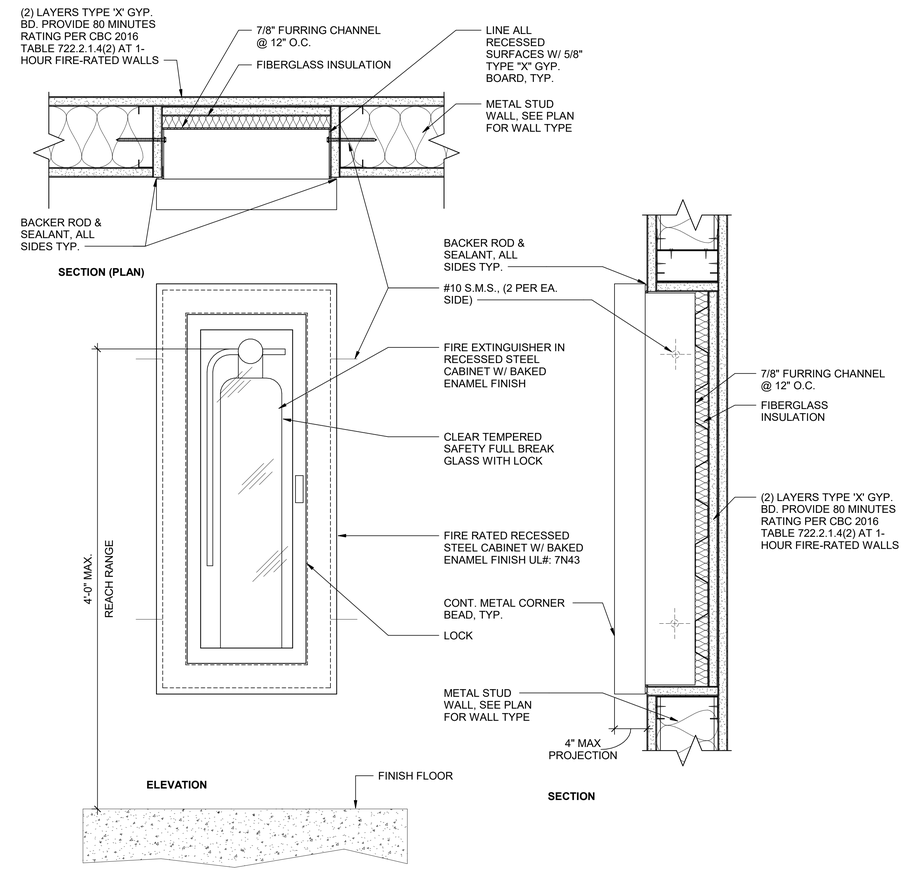
4 HSS/STUD @ TEE
Scale: 3" = 1'-0"



6 PENDANT LIGHT FIXTURE ATTACHMENT
Scale: 6" = 1'-0"



3 MARKERBOARD MOUNTING
Scale: 3" = 1'-0"



1 SEMI RECESSED FIRE-EXTINGUSHER CABINET
Scale: 3" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT DAWN BRISCO No. C-37573 Exp. 5-31-21 STATE OF CALIFORNIA

NAC ARCHITECTURE

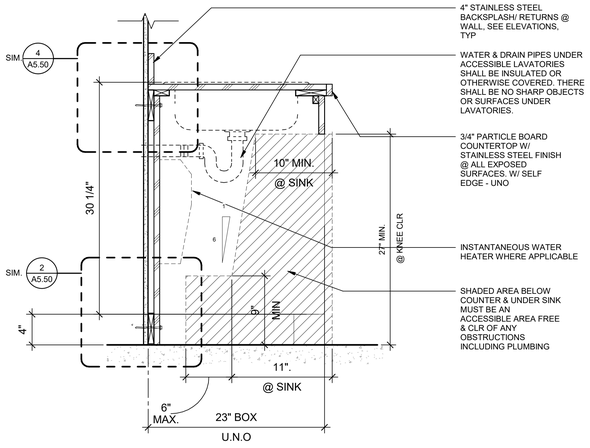
NAC NO. 161-19034
DATE 09-04-2020

100% CONSTRUCTION DOCUMENTS

DETAILS

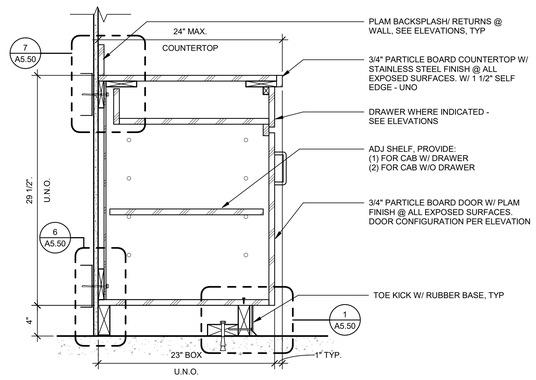
A5.30

© 2019 NAC, Inc.



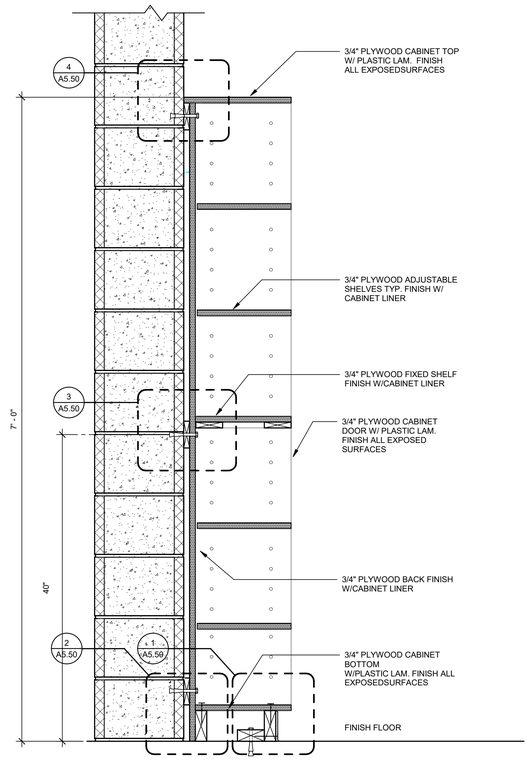
14 CABINET BASE - B

Scale: 1 1/2" = 1'-0"



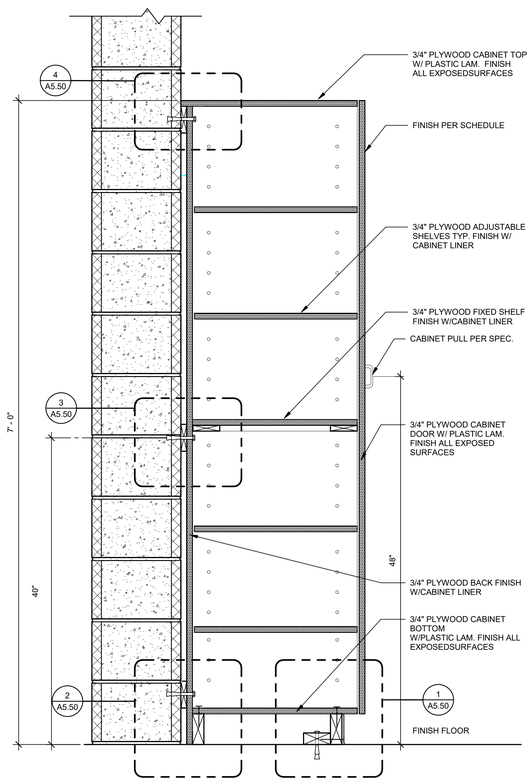
13 CABINET BASE - A

Scale: 1 1/2" = 1'-0"



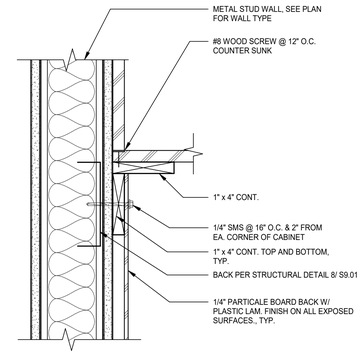
11 FULL HEIGHT OPEN SHELVING

Scale: 1 1/2" = 1'-0"



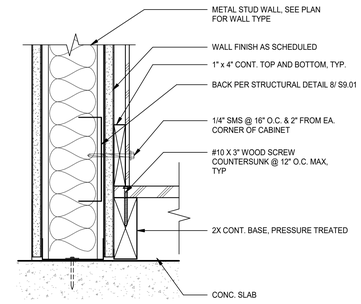
9 FULL HEIGHT STORAGE CABINET

Scale: 1 1/2" = 1'-0"



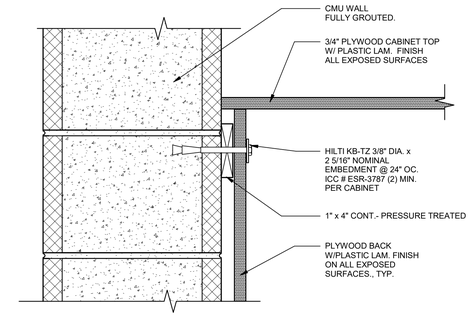
7 CABINET TOP @ STUD WALL

Scale: 3" = 1'-0"



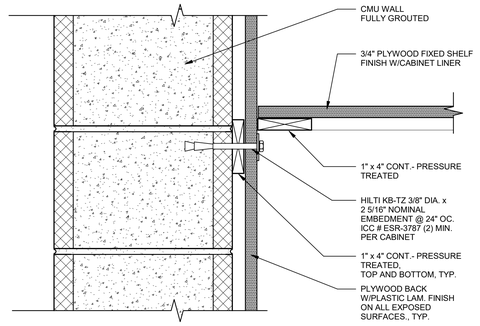
6 CABINET BASE @ STUD WALL

Scale: 3" = 1'-0"



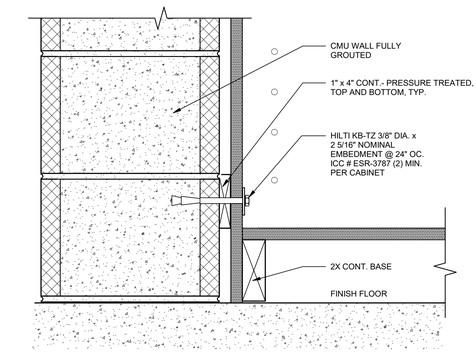
4 CABINET TOP @ CMU WALL

Scale: 3" = 1'-0"



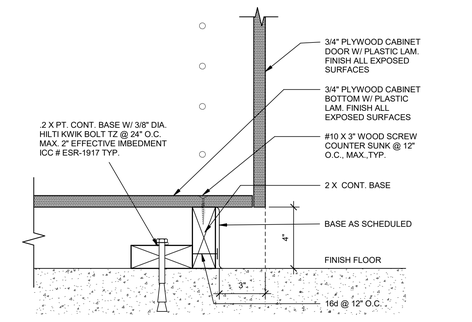
3 CABINET FIXED SHELF @ CMU WALL

Scale: 3" = 1'-0"



2 CABINET BASE @ CMU WALL

Scale: 3" = 1'-0"



1 CABINET BASE ANCHORAGE

Scale: 3" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT
DAWN BRISCO
No. C-37573
Exp. 5-31-21
STATE OF CALIFORNIA

NAC ARCHITECTURE

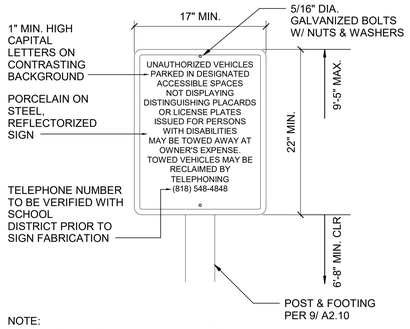
NAC NO. 161-19034
DATE 09-04-2020

100% CONSTRUCTION DOCUMENTS

CASEWORK DETAILS

A5.50

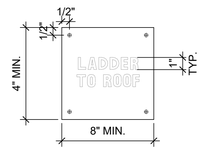
© 2019 NAC, Inc.



NOTE:
POST IN CONSPICUOUS PLACE AT ENTRANCE TO OFF-STREET PARKING LOT. SEE LOCATION ON 1/ G1.01

7 SIGNAGE AT PARKING LOT ENTRANCE

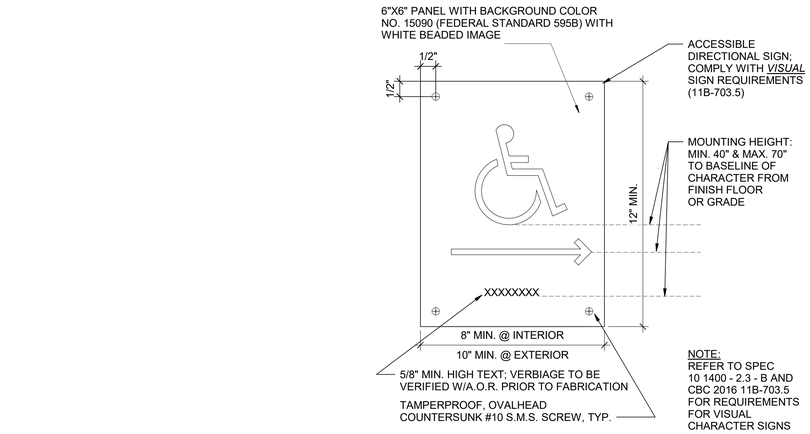
Scale: 1 1/2" = 1'-0"



NOTE:
REFER TO SPEC 10 1400 - 2.3 - B AND CBC 2016 11B-703.5 FOR REQUIREMENTS FOR VISUAL CHARACTER SIGNS

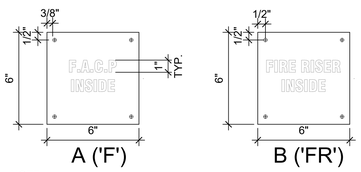
6 ROOF ACCESS SIGN (VISUAL SIGN)

Scale: 3" = 1'-0"



5 ACCESSIBLE DIRECTIONAL SIGNAGE (VISUAL SIGN)

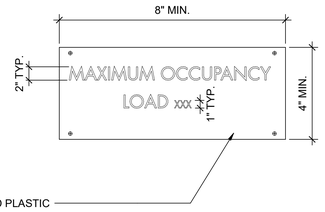
Scale: 6" = 1'-0"



NOTE:
REFER TO SPEC 10 1400 - 2.3 - B AND CBC 2016 11B-703.5 FOR REQUIREMENTS FOR VISUAL CHARACTER SIGNS

4 FIRE SIGNAGE (VISUAL SIGN)

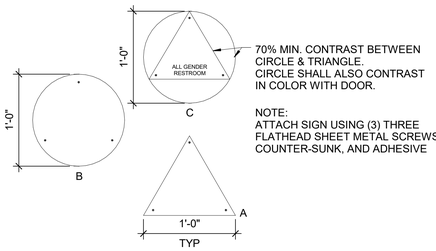
Scale: 3" = 1'-0"



NOTE:
REFER TO SPEC 10 1400 - 2.3 - B AND CBC 2016 11B-703.5 FOR REQUIREMENTS FOR VISUAL CHARACTER SIGNS

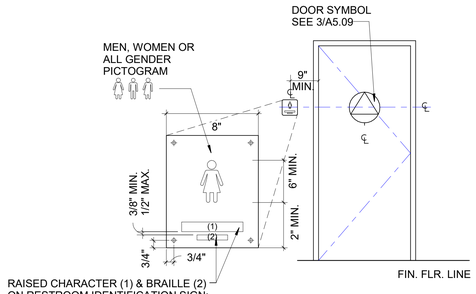
8 MAX. OCCUPANCY LOAD ('O') (VISUAL SIGN)

Scale: 3" = 1'-0"



3 RESTROOM DOOR SYMBOLS (NON-TACTILE)

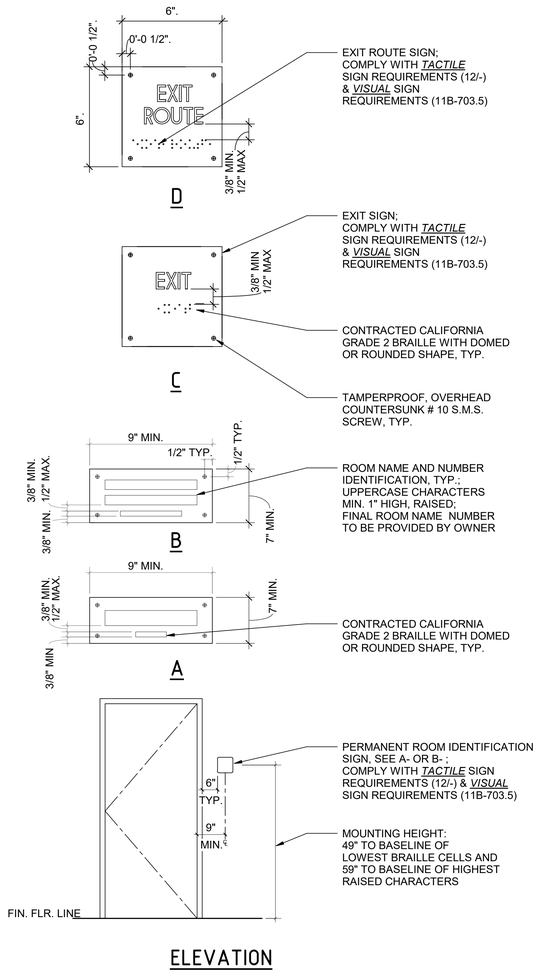
Scale: 1 1/2" = 1'-0"



NOTE:
SEE A7.02 MOUNTING HEIGHTS.

2 RESTROOM SIGNAGE ELEVATION

Scale: 1/2" = 1'-0"



ELEVATION

NOTE:
SEE 12/A9.30 FOR ADDITIONAL TACTILE SIGN REQUIREMENTS.

1 PERMANENT ROOM SIGN ELEVATION

Scale: 1/2" = 1'-0"

11B-703.2 RAISED CHARACTERS

RAISED CHARACTERS SHALL COMPLY WITH SECTION 11B-703.2 AND SHALL BE DUPLICATED IN BRAILLE COMPLYING WITH SECTION 11B-703.3. RAISED CHARACTERS SHALL BE INSTALLED IN ACCORDINACE WITH SECTION 11B-703.4.

11B-703.2.1 DEPTH: RAISED CHARACTERS SHALL BE 1/32 INCH MIN. ABOVE THEIR BACKGROUND.

11B-703.2.2 CASE: CHARACTERS SHALL BE UPPERCASE.

11B-703.2.3 STYLE: CHARACTERS SHALL BE SANS SERIF. CHARACTERS SHALL NOT BE ITALIC, OBLIQUE, SCRIPT, HIGHLY DECORATIVE, OR OF OTHER UNUSAL FORMS.

11B-703.2.4 CHARACTER PROPORTIONS: CHARACTERS SHALL BE SELECTED FROM FONTS WHERE THE WIDTH OF THE UPPERCASE LETTER "O" IS 60% MINIMUM AND 110% MAXIMUM OF THE HEIGHT OF THE UPPERCASE LETTER "I".

11B-703.2.5 CHARACTER HEIGHT: CHARACTER HEIGHT MEASURED VERTICALLY FROM THE BASELINE OF THE CHARACTER SHALL BE 5/8" MINIMUM AND 2" MAXIMUM BASED ON THE HEIGHT OF THE UPPERCASE LETTER "I".

11B-703.2.6 STROKE THICKNESS: STROKE THICKNESS OF THE UPPERCASE LETTER "I" SHALL BE 15% MAXIMUM OF THE HEIGHT OF THE CHARACTER.

11B-703.2.7 CHARACTER SPACING: CHARACTER SPACING SHALL BE MEASURED BETWEEN THE TWO CLOSEST POINTS OF ADJACENT RAISED CHARACTERS WITHIN A MESSAGE, EXCLUDING WORD SPACES. WHERE CHARACTERS HAVE RECTANGULAR CROSS SECTIONS, SPACING BETWEEN INDIVIDUAL RAISED CHARACTERS SHALL BE 1/8" MIN. AND 4 TIMES THE RAISED CHARACTER STROKE WIDTH MAXIMUM. WHERE CHARACTERS HAVE OTHER CROSS SECTIONS, SPACING BETWEEN INDIVIDUAL RAISED CHARACTERS SHALL BE 1/16" MIN. AND 4 TIMES THE RAISED CHARACTER STROKE WIDTH MAXIMUM AT THE BASE OF THE CROSS SECTIONS, AND 1/8" MIN. AND 4 TIMES THE RAISED CHARACTER STROKE WIDTH MAX. AT THE TOP OF THE CROSS SECTIONS. CHARACTERS SHALL BE SEPARATED FROM RAISED BORDERS AND DECORATIVE ELEMENTS 3/8" MINIMUM.

11B-703.2.8 LINE SPACING: SPACING BETWEEN THE BASELINES OF SEPARATE LINES OF RAISED CHARACTERS WITHIN A MESSAGE SHALL BE 135% MIN. AND 170% MAX. OF THE RAISED CHARACTER HEIGHT.

11B-703.2.9 FORMAT: TEXT SHALL BE IN A HORIZONTAL FORMAT.

11B-703.3 BRAILLE

BRAILLE SHALL BE CONTRACTED (GRADE 2) AND SHALL COMPLY WITH SECTIONS 11B-703.3 & 11B-703.4.

11B-703.3.1 DIMENSIONS AND CAPITALIZATION: BRAILLE DOTS SHALL HAVE A DOMED OR ROUNDED SHAPE AND SHALL COMPLY WITH TABLE 11B-703.3.1. THE INDICATION OF AN UPPERCASE LETTER OR LETTERS SHALL ONLY BE USED BEFORE THE FIRST WORD OF SENTENCES, PROPER NOUNS AND NAMES, INDIVIDUAL LETTERS OF THE ALPHABET, INITIALS, AND ACRONYMS.

11B-703.3.2 POSITION: BRAILLE SHALL BE POSITIONED BELOW THE CORRESPONDING TEXT IN A HORIZONTAL FORMAT, FLUSH LEFT OR CENTERED. IF TEXT IS MULTI-LINED, BRAILLE SHALL BE PLACED BELOW THE ENTIRE TEXT. BRAILLE SHALL BE SEPARATED 3/8" MIN. AND 1/2" MAX. FROM ANY OTHER TACTILE CHARACTERS AND 3/8" MIN. FROM RAISED BORDERS AND DECORATIVE ELEMENTS.

EXCEPTION: BRAILLE PROVIDED ON ELEVATOR CAR CONTROLS SHALL BE SEPARATED 3/16" MIN. AND SHALL BE LOCATED EITHER DIRECTLY BELOW THE CORRESPONDING RAISED CHARACTERS OR SYMBOLS

11B-703.4 INSTALLATION HEIGHT AND LOCATION

SIGNS WITH TACTILE CHARACTERS SHALL COMPLY WITH SECTION 11B-703.4.

11B-703.4.1 HEIGHT ABOVE FINISH FLOOR OR GROUND: TACTILE CHARACTERS ON SIGNS SHALL BE LOCATED 48" MIN. ABOVE THE FINISH FLOOR OR GROUND SURFACE MEASURED FROM THE BASELINE OF THE LOWEST BRAILLE CELLS CHARACTER, AND 60" MAX. ABOVE THE FINISH FLOOR OR GROUND SURFACE MEASURED FROM THE BASELINE OF THE HIGHEST LINE OF RAISED CHARACTERS.

EXCEPTION: TACTILE CHARACTERS FOR ELEVATOR CAR CONTROLS SHALL NOT BE REQUIRED TO COMPLY WITH SECTION 11B-703.4.1.

11B-703.4.2 LOCATION: WHERE A TACTILE SIGN IS PROVIDED AT A DOOR, THE SIGN SHALL BE LOCATED ALONGSIDE THE DOOR AT THE LATCH SIDE. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH ONE ACTIVE LEAF, THE SIGN SHALL BE LOCATED ON THE INACTIVE LEAF. WHERE A TACTILE SIGN IS PROVIDED AT DOUBLE DOORS WITH TWO ACTIVE LEAFS, THE SIGN SHALL BE LOCATED TO THE RIGHT OF THE RIGHT HAND DOOR. WHERE THERE IS NO WALL SPACE AT THE LATCH SIDE OF A SINGLE DOOR OR AT THE RIGHT SIDE OF DOUBLE DOORS, SIGNS SHALL BE LOCATED ON THE NEAREST ADJACENT WALL. SIGNS CONTAINING TACTILE CHARACTERS SHALL BE LOCATED SO THAT A CLEAR FLOOR SPACE OF 18" MIN. BY 18" MIN., CENTERED ON THE TACTILE CHARACTERS, IS PROVIDED BEYOND THE ARC OF ANY DOOR SWING BETWEEN THE CLOSED POSITION AND 45 DEGREE OPEN POSITION. WHERE PROVIDED, SIGNS IDENTIFYING PERMANENT ROOMS AND SPACES SHALL BE LOCATED AT THE ENTRANCE TO, AND OUTSIDE OF THE ROOM OR SPACE. WHERE PROVIDED, SIGNS IDENTIFYING EXITS SHALL BE LOCATED AT THE EXIT DOOR WHEN APPROACHED IN THE DIRECTION OF EGRESS TRAVEL.

EXCEPTION: IN ALTERATIONS WHERE SIGN INSTALLATION LOCATIONS IDENTIFIED IN SECTION 11B-703.4.2 ARE OBSTRUCTED OR OTHERWISE UNAVAILABLE FOR SIGN INSTALLATION, SIGNS WITH TACTILE CHARACTERS SHALL BE PERMITTED ON THE PUSH SIDE OF DOORS WITH CLOSERS AND WITHOUT HOLD-OPEN DEVICES.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT DAWN BRISCO No. C-37573 Exp. 5-31-21 STATE OF CALIFORNIA

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09-04-2020

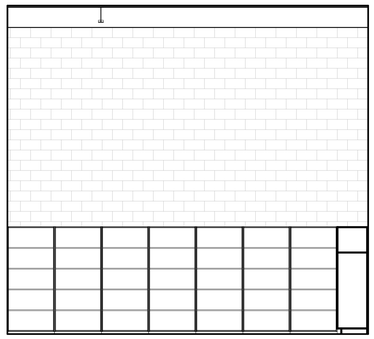
100% CONSTRUCTION DOCUMENTS

SIGNAGE DETAILS

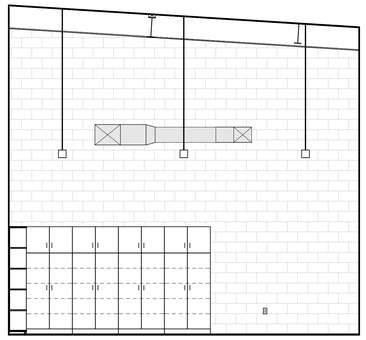
A5.60

©2019 NAC Arch

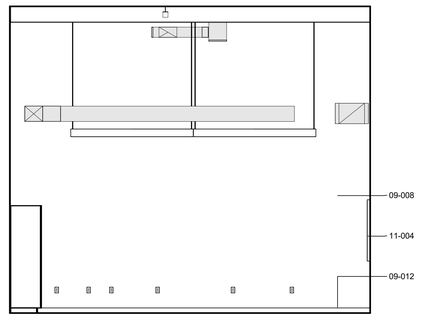
KEYNOTE LEGEND	
Key Value	Keynote Text
05-005	STEEL FRAMING, PTD.
05-011	STRUCTURAL STEEL
08-001	DOOR, FRAME & HARDWARE PER DOOR SCHEDULE
09-008	PAINT
09-009	ROOM IDENTIFICATION SIGNAGE
09-012	WALL BASE
11-004	MARKERBOARD
11-007	BASE CABINET
23-003	MECHANICAL DUCTS
26-001	LIGHT FIXTURE



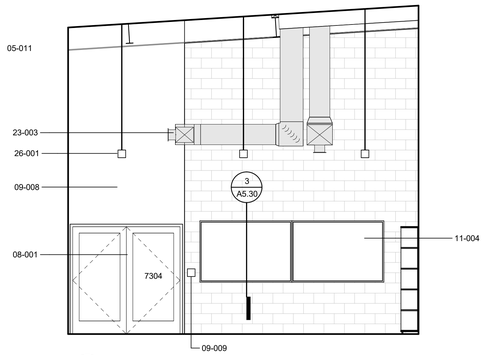
12 PROJECT BAY #1 7304 - NORTH
Scale: 1/4" = 1'-0"



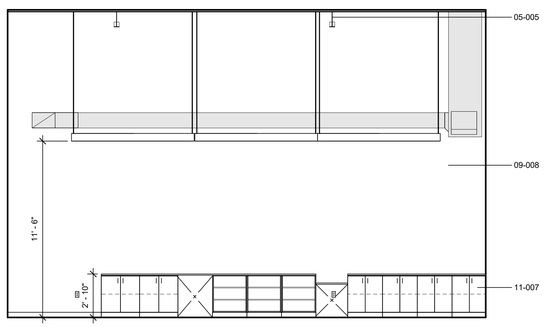
11 PROJECT BAY #1 7304 - EAST
Scale: 1/4" = 1'-0"



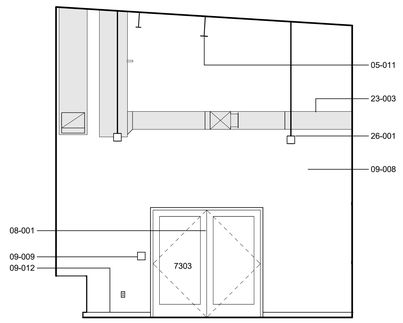
10 PROJECT BAY #1 7304 - SOUTH
Scale: 1/4" = 1'-0"



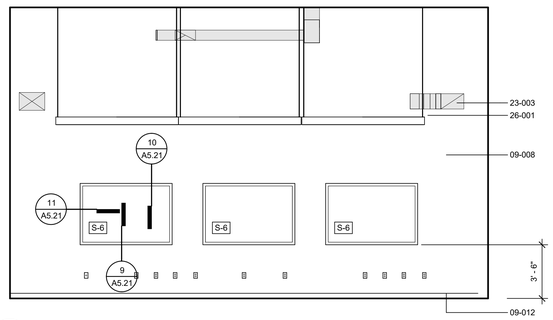
9 PROJECT BAY #1 7304 - WEST
Scale: 1/4" = 1'-0"



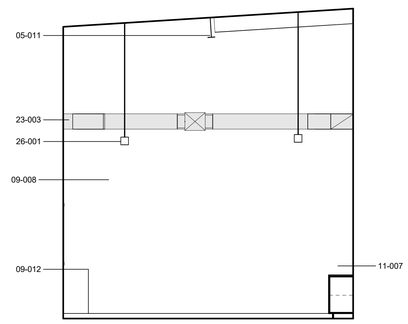
8 WOODWORKING 7303 - NORTH
Scale: 1/4" = 1'-0"



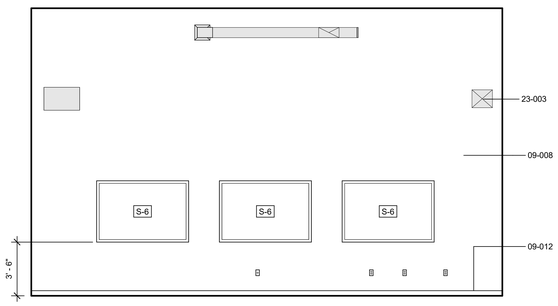
7 WOODWORKING 7303 - EAST
Scale: 1/4" = 1'-0"



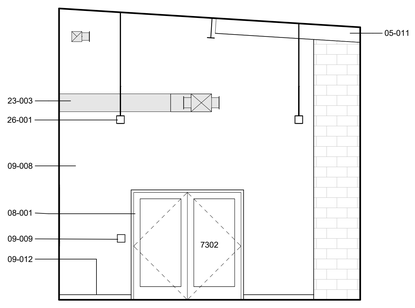
6 WOODWORKING 7303 - SOUTH
Scale: 1/4" = 1'-0"



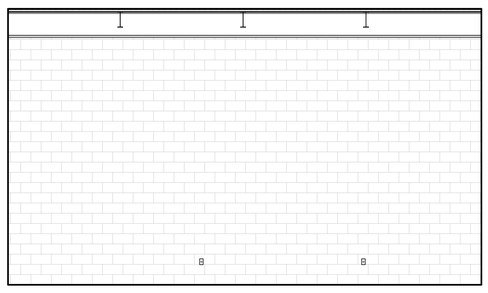
5 WOODWORKING 7303 - WEST
Scale: 1/4" = 1'-0"



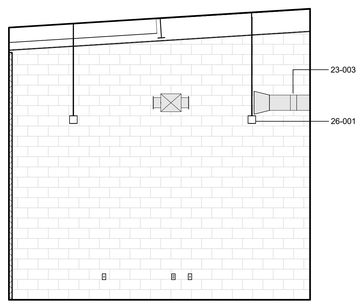
4 PRECISION MACH. 7302 - NORTH
Scale: 1/4" = 1'-0"



3 PRECISION MACH. 7302 - EAST
Scale: 1/4" = 1'-0"



2 PRECISION MACH. 7302 - SOUTH
Scale: 1/4" = 1'-0"



1 PRECISION MACH. 7302 - WEST
Scale: 1/4" = 1'-0"

9/7/2020 7:57:52 PM D:_Revit\161-19034-Clark-CTE_hdickson_NAC.rvt

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT
DAWN BRISCO
No. C-37573
Exp. 5-31-21
STATE OF CALIFORNIA

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09-04-2020

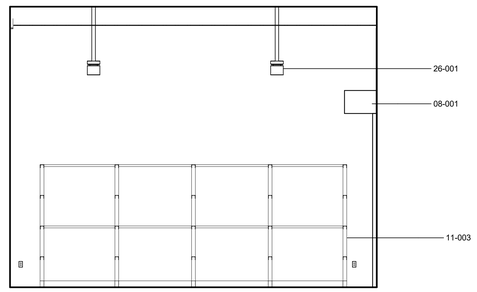
100%
CONSTRUCTION
DOCUMENTS

INTERIOR ELEVATIONS

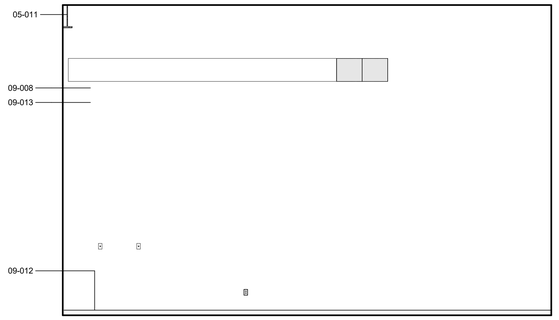
A7.00

© 2019 NAC Inc.

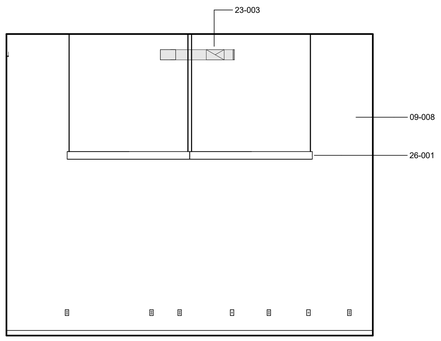
KEYNOTE LEGEND	
Key Value	Keynote Text
05-011	STRUCTURAL STEEL
08-001	DOOR, FRAME & HARDWARE PER DOOR SCHEDULE
09-008	PAINT
09-009	ROOM IDENTIFICATION SIGNAGE
09-012	WALL BASE
09-013	VINYL GRAPHIC, DESIGN TO BE PROVIDED BY ARCHITECT
11-003	CANTILEVER MATERIAL RACK, SEE STRUCTURAL DETAIL 11/ S8.00 FOR ANCHORAGE
23-003	MECHANICAL DUCTS
26-001	LIGHT FIXTURE



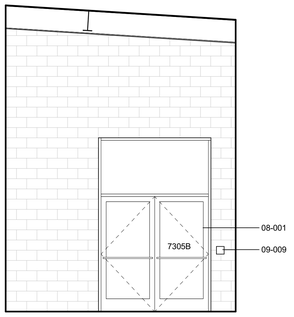
6 SHOP FLOOR 7301 - NORTH (GRIDLINE C)
Scale: 1/4" = 1'-0"



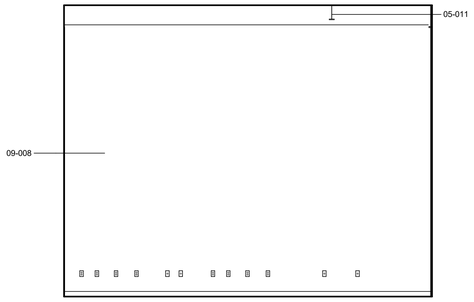
5 SHOP FLOOR 7301 - SOUTH (GRIDLINE B.5)
Scale: 1/4" = 1'-0"



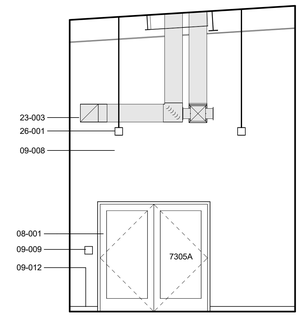
4 METAL FABRICATION 7305 - NORTH
Scale: 1/4" = 1'-0"



3 METAL FABRICATION 7305 - EAST
Scale: 1/4" = 1'-0"



2 METAL FABRICATION 7305 - SOUTH
Scale: 1/4" = 1'-0"



1 METAL FABRICATION 7305 - WEST
Scale: 1/4" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT
DAWN BRISCO
No. C-37573
Exp. 5-31-21
STATE OF CALIFORNIA

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09-04-2020

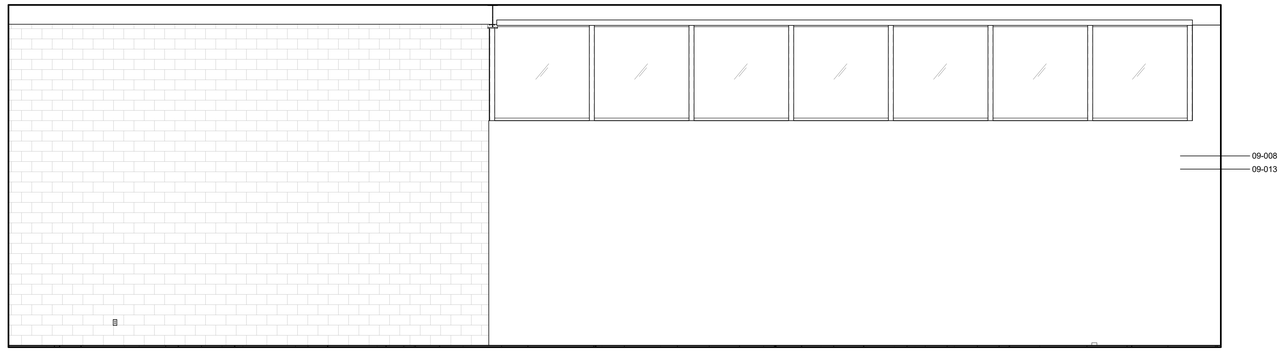
100%
CONSTRUCTION
DOCUMENTS

INTERIOR ELEVATIONS

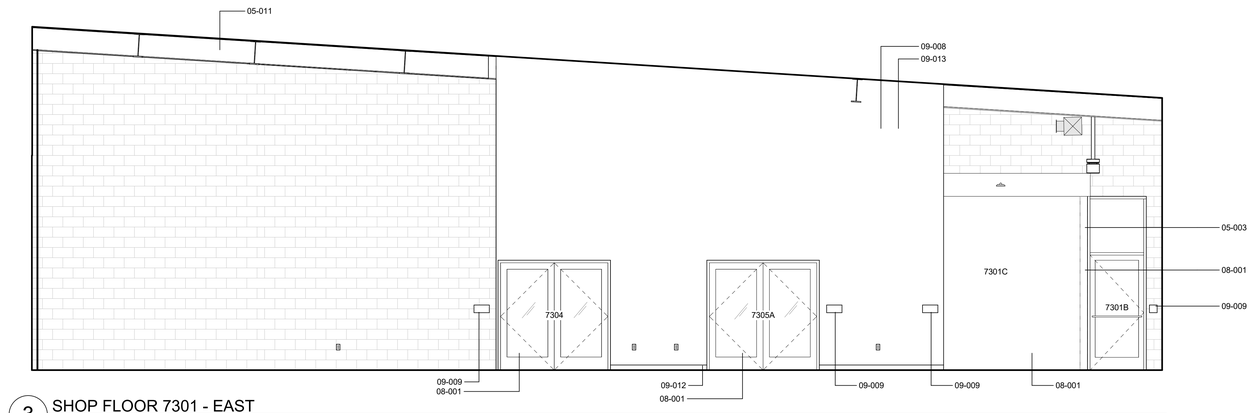
A7.01

© 2019 NAC Arc

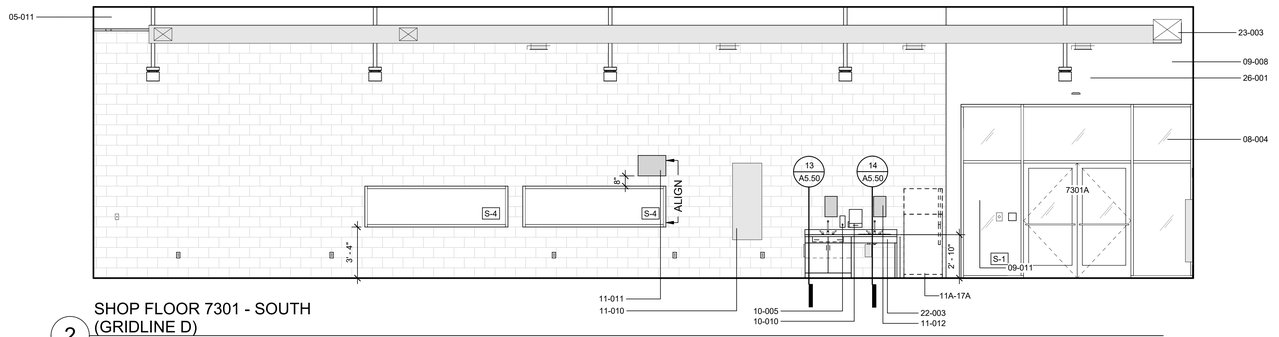
KEYNOTE LEGEND	
Key Value	Keynote Text
05-003	HSS, SEE STRUCTURAL
05-011	STRUCTURAL STEEL
08-001	DOOR, FRAME & HARDWARE PER DOOR SCHEDULE
08-004	ALUMINUM STOREFRONT
09-008	PAINT
09-009	ROOM IDENTIFICATION SIGNAGE
09-010	FIRE ALARM CONTROL PANEL SIGNAGE
09-011	EXIT SIGN
09-012	WALL BASE
09-013	VINYL GRAPHIC, DESIGN TO BE PROVIDED BY ARCHITECT
10-005	SOAP DISPENSER, OFCI
10-009	FIRE EXTINGUISHER WITH CABINET COMPARTMENT
10-010	PAPER TOWEL DISPENSER
11-008	FIRE ALARM CONTROL PANEL
11-009	FIRE ALARM PULL
11-010	PULL BOX FOR SECURITY CABLING
11-011	FIRE ALARM SPEAKER
11-012	DISCONNECT SWITCH
11A-17A	REFRIGERATOR (OFOI)
22-003	ADA SINK
23-003	MECHANICAL DUCTS
23-006	EXHAUST FAN
26-001	LIGHT FIXTURE



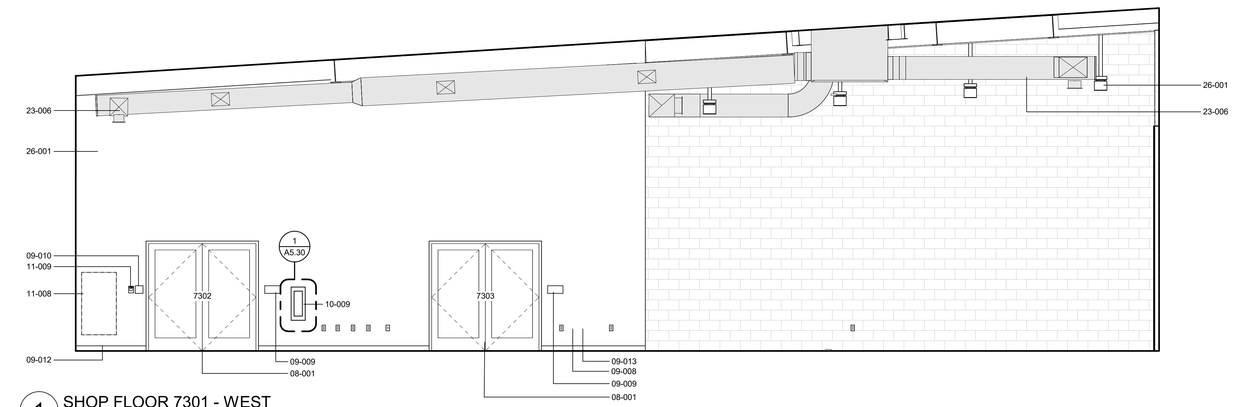
4 SHOP FLOOR 7301 - NORTH (GRIDLINE A)
Scale: 1/4" = 1'-0"



3 SHOP FLOOR 7301 - EAST
Scale: 1/4" = 1'-0"



2 SHOP FLOOR 7301 - SOUTH (GRIDLINE D)
Scale: 1/4" = 1'-0"



1 SHOP FLOOR 7301 - WEST
Scale: 1/4" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY CENTER (BUILDING F)
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED ARCHITECT
DAWN BRISCO
No. C-37573
Exp. 5-31-21
STATE OF CALIFORNIA

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09-04-2020

100% CONSTRUCTION DOCUMENTS

INTERIOR ELEVATIONS

A7.02

© 2019 NAC Inc.

ABBREVIATIONS

AB	ANCHOR BOLT
ACI	AMERICAN CONCRETE INSTITUTE
ADDL	ADDITIONAL
ADJ	ADJACENT
AESS	ARCHITECTURAL EXPOSED STRUCTURAL STEEL
AGGR	AGGREGATE
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
ALT	ALTERNATE
ALUM	ALUMINUM
ANCH	ANCHOR
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
APA	AMERICIAN PLYWOOD ASSOCIATION
APPVD	APPROVED
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL; ARCHITECT
ASTM	AMERICAN SOCIETY FOR TESTING AND MATERIALS
AWPA	AMERICAN WOOD PRESERVERS ASSOCIATION
AWS	AMERICAN WELDING SOCIETY
AITC	AMERICAN INSTITUTE OF TIMBER CONSTRUCTION
ASTM	AMERICAN SOCIETY FOR TESTING MATERIALS
&	AND
@	AT
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BN	BOUNDARY NAIL
BNDRY	BOUNDARY
BOT OR B	BOTTOM
BRC	BRACE
BRG	BEARING
BT	BENT
BTWN	BETWEEN
CANT	CANTILEVER
CAM OR C	CAMBER
CC	CENTER TO CENTER
CRFM	CRUCIFORM
CG	CENTER OF GRAVITY
CIP	CAST-IN-PLACE
CJ	CONSTRUCTION JOINT; CONTROL JOINT
CL	CENTER LINE
CLR	CLEARANCE; CLEAR
CMU	CONCRETE MASONRY UNIT
COL	COLUMN
COMP	COMPRESSION
CONC	CONCRETE
CONN	CONNECTION; CONNECT
CONSTR	CONSTRUCTION
CONT	CONTINUE; CONTINUOUS
CONTR	CONTRACTOR
CJP	COMPLETE JOINT PENETRATION WELD
CTR	CENTER
CTSK	COUNTERSINK; COUNTERSUNK
CU FT	CUBIC FOOT
d	PENNY (NAIL OR BAR DIA)
DBL	DOUBLE
DEPT	DEPARTMENT
DET	DETAIL
DF	DOUGLAS FIR/LARCH
DIA OR ∅	DIAMETER
DIAG	DIAGONAL
DIAPH	DIAPHRAGM
DIM	DIMENSION
DN	DOWN
DO	DITTO (REPEAT)
DWG	DRAWING
DWL	DOWEL
EA	EACH
EF	EACH FACE
EJ	EXPANSION JOINT
EL	ELEVATION
ELEC	ELECTRICAL
ELEV	ELEVATOR
EMBED	EMBEDMENT
EN	EDGE NAIL
ENGR	ENGINEER
EQ	EQUAL OR EQUIVALENT
EQUIP	EQUIPMENT
ES	EACH SIDE
ETC	ET CETERA
EW	EACH WAY
EXIST or (E)	EXISTING
EXT	EXTERIOR
FDN	FOUNDATION
FF	FAR FACE
FF	FINISHED FLOOR
FIN	FINISH
FJ	FLOOR JOIST
FL	FLOOR LINE
FLG	FLANGE
FLR	FLOOR
FN	FIELD NAIL
FOC	FACE OF CONCRETE
FOM	FACE OF MASONARY
FOS	FACE OF STUD
FOW	FACE OF WALL
FP	FULL PENETRATION; FIRE PROOFING
FRMG	FRAMING
FS	FULL SIZE; FAR SIDE
FT	FOOT; FEET
FTG	FOOTING
GA	GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GLB	GLUED LAMINATED BEAM
GR	GRADE
GRND	GROUND
H or HORIZ	HORIZONTAL
HDR	HEADER
HGR	HANGER
HGT	HEIGHT
HOSP	HOSPITAL
HP	HIGH POINT
HS	HIGH STRENGTH
HSH	HORIZONTALLY SLOTTED HOLES
HT	HEIGHT
HR	HARD ROCK
ID	INSIDE DIAMETER
IF	INSIDE FACE
I-JST	I-JOIST
IN	INCH
INCL	INCLUDE
INFO	INFORMATION
INSP	INSPECTION
INT	INTERIOR
JST	JOIST
JT	JOINT
K	KIPS
KSI	KIPS PER SQUARE INCH
LAB	LABORATORY
LB(S) OR #	POUND(S)
LF	LINEAL FOOT
LIN	LINEAL, LINEAR
LLBB	LONG LEGS BACK-TO-BACK
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LP	LOW POINT
LSL	LONG SLOTTED HOLES
LT WT	LIGHTWEIGHT
LVL	LEVEL
MAS	MASONRY
MATL	MATERIAL
MAX	MAXIMUM
MB	MACHINE BOLT
MC	MISCELLANEOUS CHANNEL SHAPE
MECH	MECHANICAL
MFR	MANUFACTURER
MIN	MINIMUM; MINUTE
MISC	MISCELLANEOUS
(N)	NEW
N	NORTH
NF	NEAR FACE
NIC	NOT IN CONTRACT
NORM	NORMAL
NO or #	NUMBER
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
OF	OUTSIDE FACE
OH	OPPOSITE HAND
OPNG	OPENING
OPP	OPPOSITE
ORIG	ORIGINAL
OSB	ORIENTED STRAND BOARD
PARA OR //	PARALLEL
PC	PRECAST; PIECE
PERP	PERPENDICULAR
PI	PLYWOOD INDEX
P.	PLATE
PL	PROPERTY LINE
PLF	POUNDS PER LINEAL FOOT
PLCS	PLACES
PLY	PLYWOOD
PROP	PROPERTY
PT	POST TENSIONED
PW	PLATE WASHER
PJP	PARTIAL JOINT PENETRATION WELD
PREFAB	PREFABRICATED
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
PVMT	PAVEMENT
#	POUND; NUMBER
REF	REFERENCE
REINF	REINFORCE; REINFORCING
REQD	REQUIRED
RF	ROOF
RJ	ROOF JOIST
RW	RETAINING WALL
Ø	ROUND; DIAMETER
SCHED	SCHEDULE
SECT	SECTION
SEP	SEPERATION
SHT	SHEET
SHTG	SHEATHING
SIM	SIMILAR
SLBB	SHORT LEGS BACK-TO-BACK
SOG	SLAB ON GRADE
SN	SHEAR NAIL
SPCG	SPACING
SPECS	SPECIFICATIONS
SPCL	SPECIAL
SQ	SQUARE
SS	SELECT STRUCTURAL
SSL	SHORT SLOTTED HOLES
STAGG	STAGGER
STD	STANDARD
STGR	STAGGER
STIFF	STIFFENERS
STIRR	STIRRUP
STL	STEEL
STRUCT	STRUCTURAL
STRUCT I	STRUCTURAL I
SW	SHEAR WALL
SYM	SYMMETRICAL
	TIE BEAM
T&B	TOP AND BOTTOM
T&G	TONGUE & GROOVE
TO	TOP OF
TOC	TOP OF CURB; TOP OF CONCRETE
TOF	TOP OF FOOTING
TEMP	TEMPERATURE; TEMPORARY
THRU	THROUGH
THK	THICKNESS/THICK
THR	THREADED
TN	TOE NAIL
TOP or T	TOP
TOS	TOP OF STEEL
TOW	TOP OF WALL
TSG	TAPPERED STEEL GIRDER
TYP	TYPICAL
UBC	UNIFORM BUILDING CODE
UNO	UNLESS NOTED OTHERWISE
UT	ULTRA-SONIC TEST
VERT	VERTICAL
VSH	VERTICAL SLOTTED HOLES
W	W SHAPE
W/	WITH
W/O	WITHOUT
WD	WOOD
WP	WORK POINT; WATERPROOF
WT	WEIGHT; STRUCTURAL TEE SHAPE
WWR	WELDED WIRE REINFORCEMENT

STRUCTURAL STEEL SHAPES

W	W SHAPE
C	AMERICAN STD CHANNEL SHAPE
MC	MISC CHANNEL SHAPE
L	ANGLE SHAPE
WT, ST, MT	STRUCT TEE SHAPE
PIPE	STANDARD PIPE SHAPE
PIPE-X	EXTRA STRONG PIPE SHAPE
PIPE-XX	DBL EXTRA STRONG PIPE SHAPE
HSS	STRUCT TUBING SHAPE

DRAWING LIST

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
CALIFORNIA
No. 4399
STRUCTURAL
STATE OF CALIFORNIA

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT

CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT

4147 NEW YORK AVE
GLENDALE, CA 91214

kpff
700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

GENERAL NOTES

S0.00

©2013 NAC Arc.

GENERAL

1. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS PRIOR TO STARTING CONSTRUCTION. THE ARCHITECT SHALL BE NOTIFIED OF ANY DISCREPANCIES OR INCONSISTENCIES.

2. ALL DRAWINGS ARE CONSIDERED TO BE A PART OF THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REVIEW AND COORDINATION OF ALL DRAWINGS AND SPECIFICATIONS PRIOR TO THE START OF CONSTRUCTION. ANY DISCREPANCIES THAT OCCUR SHALL BE BROUGHT TO THE ATTENTION OF THE ARCHITECT PRIOR TO START OF CONSTRUCTION SO THAT A CLARIFICATION CAN BE ISSUED. ANY WORK PERFORMED IN CONFLICT WITH THE CONTRACT DOCUMENTS OR ANY CODE REQUIREMENTS SHALL BE CORRECTED BY THE CONTRACTOR AT THEIR OWN EXPENSE AND AT NO EXPENSE TO THE OWNER OR ARCHITECT.

3. NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE GIVEN, CONSTRUCTION SHALL BE AS SHOWN FOR SIMILAR WORK.

4. ALL WORK SHALL CONFORM TO THE MINIMUM STANDARDS OF THE FOLLOWING:
   2019 CALIFORNIA BUILDING CODE, VOLUME 2A, REFERRED TO HERE AS "THE CODE", AND ANY OTHER REGULATING AGENCIES WHICH HAVE AUTHORITY OVER WHICH ANY PORTION OF THE WORK, INCLUDING THE STATE OF CALIFORNIA DIVISION OF INDUSTRIAL SAFETY, AND THOSE CODES & STANDARDS LISTED IN THESE NOTES AND SPECIFICATIONS.

5. SEE ARCHITECTURAL DRAWINGS FOR THE FOLLOWING:
   a. SIZE AND LOCATION OF ALL DOOR AND WINDOW OPENINGS, EXCEPT AS NOTED
   b. SIZE AND LOCATION OF ALL INTERIOR AND EXTERIOR NON-BEARING PARTITIONS.
   c. SIZE AND LOCATION OF ALL CONCRETE CURBS, EQUIPMENT PADS, PITS, FLOOR DRAINS, SLOPES, DEPRESSED AREAS, CHANGE IN LEVEL, CHAMFERS, GROOVES, INSERTS, ETC.
   d. SIZE AND LOCATION OF ALL FLOOR AND ROOF OPENINGS EXCEPT AS SHOWN.
   e. FLOOR AND ROOF FINISHES.
   f. DIMENSIONS NOT SHOWN ON STRUCTURAL DRAWINGS.

6. SEE MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS FOR THE FOLLOWING:
   a. PIPE RUNS, SLEEVES, HANGERS, TRENCHES, WALL AND SLAB OPENINGS, ETC., EXCEPT AS SHOWN OR NOTED.
   b. ELECTRICAL CONDUIT RUNS, BOXES, OUTLETS IN WALLS AND SLABS.
   c. CONCRETE INSERTS FOR ELECTRICAL, MECHANICAL OR PLUMBING FIXTURES.
   d. SIZE AND LOCATION OF MACHINE OR EQUIPMENT BASES, ANCHOR BOLTS FOR MOTOR MOUNTS.

7. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, ETC. OBSERVATION VISITS TO THE SITE BY THE STRUCTURAL ENGINEER SHALL NOT INCLUDE INSPECTION OF THE ABOVE ITEMS.

8. OPENINGS, POCKETS, ETC., LARGER THAN 6" SHALL NOT BE PLACED IN CONCRETE SLABS, DECKS, WALLS, UNLESS SPECIALLY DETAILED ON THE STRUCTURAL DRAWINGS. NOTIFY THE STRUCTURAL ENGINEER WHEN DRAWINGS BY OTHERS SHOW OPENINGS, POCKETS, ETC., LARGER THAN 6" NOT SHOWN ON THE STRUCTURAL DRAWINGS, BUT WHICH ARE LOCATED IN STRUCTURAL MEMBERS. FOR ANY FURTHER RESTRICTIONS ON OPENINGS IN STRUCTURAL ELEMENTS, SEE APPLICABLE SECTIONS BELOW.

9. PIPES LARGER THAN 1-1/2" DIAMETER SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE EXCEPT WHERE SPECIFICALLY APPROVED.

10. ASTM SPECIFICATIONS ON THE DRAWINGS SHALL BE OF THE LATEST REVISION.

11. CONTRACTOR SHALL INVESTIGATE SITE DURING CLEARING AND EARTHWORK OPERATIONS FOR FILLED EXCAVATIONS OR BURIED STRUCTURES, SUCH AS CESSPOOLS, CISTERNS, FOUNDATIONS, ETC. IF ANY SUCH STRUCTURES ARE FOUND, STRUCTURAL ENGINEER SHALL BE NOTIFIED IMMEDIATELY.

12. CONSTRUCTION MATERIAL SHALL BE SPREAD OUT IF PLACED ON FRAMED ROOF OR FLOOR. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT. PROVIDE ADEQUATE SHORING AND/OR BRACING WHERE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH.

DESIGN

1. FLOOR AND ROOF LIVE LOADS:

   ROOF 20 PSF (REDUCIBLE)
   CLASSROOM AREA 50 PSF (REDUCIBLE)

2. SNOW LOADS:

   SNOW LOADS ARE IN ACCORDANCE WITH SECTION 1608A OF THE CODE.
   GROUND SNOW LOAD, Pg = ZERO

3. WIND LOADS:

   WIND LOADS ARE IN ACCORDANCE WITH SECTION 1609A OF THE CBC AND ASCE 7-16.
   BASIC WIND SPEED, V = 115 MPH (3-SECOND GUST)
   WIND EXPOSURE C
   WIND RISK CATEGORY = III
   BUILDING HEIGHT < 60 FT

MAIN WIND FORCE RESISTING SYSTEM WIND PRESSURES (STRENGTH LEVEL)		REF HEIGHT 15 FT	REF HEIGHT 19.5 FT
WALLS	WINDWARD	16.8	18.2
WALLS	LEEWARD	-12.3	-12.3
WALLS	SIDE	-15.7	-15.7
ROOFS	SLOPE = 3.7 DEG	-49.0	-49.0

COMPONENTS AND CLADDING WIND PRESSURES (STRENGTH LEVEL)			ZONE 4 (+ve)	ZONE 4 (-ve)	ZONE 5 (+ve)	ZONE 5 (-ve)
WALLS	TYP WALLS	A ≤ 10 SQFT	26.7	-29.0	26.7	-35.6
WALLS	TYP WALLS	A > 500 SQFT	20.0	-22.3	20.0	-22.3

		ZONE 1 (+ve)	ZONE 1 (-ve)	ZONE 2 (+ve)	ZONE 2 (-ve)	ZONE 3 (+ve)	ZONE 3 (-ve)
ROOFS	A ≤ 10 SQFT	16.0	-25.9	16.0	-36.1	16.0	-56.3
ROOFS	A > 100 SQFT	16.0	-25.9	16.0	-34.0	16.0	-36.1

POSITIVE VALUES INDICATE POSITIVE PRESSURE (COMPRESSION ON EXPOSED SURFACE).
NEGATIVE VALUES INDICATE NEGATIVE PRESSURE (TENSION/SUCTION ON EXPOSED SURFACE).
A = EFFECTIVE WIND AREA OF COMPONENT OR CLADDING.

NOTES:

1. LOGARITHMIC INTERPOLATION MAY BE USED TO DETERMINE WIND DESIGN PRESSURES FALLING IN BETWEEN TABULATED EFFECTIVE WIND AREAS.
2. DESIGN WIND PRESSURES ARE IN UNITS OF POUNDS PER SQUARE FOOT.
3. TOTAL PRESSURE ON A WINDWARD OR LEEWARD PARAPET IS EQUAL TO THE SUM OF ABSOLUTE VALUES OF (+ve) AND (-ve) PRESSURES.
4. ZONE 4 AND 5 WINDWARD PARAPETS ASSUME A CORRESPONDING ROOF ZONE THAT YIELDS THE LARGEST POSSIBLE WIND PRESSURE.
5. ZONE 2 ROOF PRESSURES REPRESENT THE LARGER PRESSURE OF ZONES 2 AND 2'.
6. ZONE 3 ROOF PRESSURES REPRESENT THE LARGER PRESSURE OF ZONES 3 AND 3'.

4. EARTHQUAKE LOADS ON PRIMARY STRUCTURE:

   EARTHQUAKE LOADS ARE IN ACCORDANCE WITH SECTION 1613A OF THE CBC AND ASCE 7-16.

   SEISMIC LOADING IS PER THE EQUIVALENT LATERAL FORCE PROCEDURE IN ACCORDANCE WITH ASCE 7-16 SECTION 12.8.

   LOCATION: 34.237302 LAT, -118.254383 LON

   S_S = 1.965g
   S_1 = 0.735g
   F_a = 1.2
   F_v = 1.4
   S_{MS} = 2.358g
   S_{M1} = 1.028g
   S_{DS} = 1.572g
   S_{D1} = 0.686g

   CLASSROOM BUILDING
   BEARING SPECIAL REINFORCED MASONRY SHEAR WALLS
   I_e = 1.25
   R = 5.0
   Ω_0 = 2.5
   C_d = 3.5
   rho = 1.0

   RISK CATEGORY III
   SITE CLASS C
   SEISMIC DESIGN CATEGORY D

DESIGN (CONTINUED)

5. EARTHQUAKE LOADS ON NON-STRUCTURAL COMPONENTS:

   EARTHQUAKE LOADS ARE IN ACCORDANCE WITH SECTION 1613A OF THE CODE.

   Ip = 1.0 FOR ALL NONSTRUCTURAL COMPONENTS EARTHQUAKE LOADS ON NONSTRUCTURAL COMPONENTS, SHALL BE DETERMINED IN ACCORDANCE WITH THE FOLLOWING PROCEDURE:

   CALCULATE Fp BASED ON ASCE 7-16 EQUATION 13.3-1

   THE MAXIMUM AND MINIMUM VALUES FOR Fp SHALL BE DETERMINED FROM ASCE 7-16 EQUATIONS 13.3-2 AND 13.3-3, RESPECTIVELY.

   ALL EARTHQUAKE LOADS ON NONSTRUCTURAL COMPONENTS SHALL BE BASED ON THE VALUES OF ap AND Rp FROM ASCE 7-16 TABLES 13.5-1 AND 13.6-1.

   PER THE GEOTECHNICAL INVESTIGATION REPORT THE PROJECT IS LOCATED WITHIN A LIQUEFACTION HAZARD ZONE. IT IS NOT WITHIN A STATE OF CALIFORNIA ALQUIST PRIOLO EARTHQUAKE FAULT ZONE.

FOUNDATION

1. FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL INVESTIGATION REPORT BY GROUP DELTA (REPORT: GDC PROJECT NO. LA-1420, DATED MARCH 16, 2020)

2. FOOTINGS ARE DESIGNED BASED ON THE FOLLOWING INFORMATION:

   ALLOWABLE NET BEARING DEAD+LIVE LOAD = 4000 PSF
   PASSIVE EARTH PRESSURE = 300 PSF/FT (3000 PSF MAX)
   COEFFICIENT OF FRICTION = 0.45

   ALLOWABLE BEARING AND PASSIVE PRESSURE VALUES MAY BE INCREASED BY 1/3 FOR WIND AND SEISMIC LOAD CASES. FRICTIONAL RESISTANCE AND PASSIVE RESISTANCE MAY BE COMBINED PROVIDED THE PASSIVE IS REDUCED BY ONE-THIRD.

   ALL FILL OR ANY LOOSE SOILS SHALL BE REMOVED AND RECOMPACTED. IN ADDITION, DEMOLITION ACTIVITIES THAT CREATE DISTURBANCE OF NEAR SURFACE SOILS, REQUIRE REMOVAL AND RECOMPACTION. REMOVE COBBLES AND BOULDERS MAY BE ENCOUNTERED, IF REMOVAL OF A BOULDER OR COBBLE CAUSES A VOID IN THE SUBGRADE BELOW FOUNDATIONS, THE SUBGRADE SHALL BE OVEREXCAVATED TO PROVIDE A UNIFORM SUBGRADE, I.E. UNIFORM FILL THICKNESS. THE UNIFORM SUBGRADE SHALL EXTEND BELOW FOUNDATIONS TO A DISTANCE EQUAL TO SIZE OF COBBLE AND/OR BOULDER, OR 2 FEET, WHICHEVER IS GREATER. THE UNIFORM SUBGRADE SHALL EXTEND LATERALLY TO A DISTANCE EQUAL TO THE DEPTH OF FILL BELOW FOUNDATION. THE FINAL LIMITS FOR REMOVAL AND RECOMPACTION SHALL BE DETERMINED BY THE PROJECT GEOTECHNICAL ENGINEER DURING GRADING, BASED ON THE ACTUAL CONDITIONS ENCOUNTERED. EXCAVATION SHALL BE FILLED WITH REMOVED SOIL AS COMPACTED ENGINEERED FILL OR WITH COMPACTED IMPORT SOILS PER THE GEOTECHNICAL INVESTIGATION REPORT. IMPORTED SOILS SHALL HAVE AN EXPANSION INDEX OF LESS THAN 20 AND SHALL BE FREE OF ORGANIC MATERIALS, DEBRIS, AND COBBLES LARGER THAN 3". COMPACT FILL TO AT LEAST 95% OF THE MAXIMUM DRY DENSITY OBTAINED PER ASTM D1557.

3. CONTRACTOR TO PROVIDE FOR DE-WATERING OF EXCAVATIONS FROM EITHER SURFACE WATER, GROUND WATER OR SEEPAGE, IF REQUIRED.

4. CONTRACTOR SHALL PROVIDE FOR DESIGN AND INSTALLATION OF ALL CRIBBING, SHEATHING AND SHORING REQUIRED AND SHALL BE SOLELY RESPONSIBLE FOR ALL EXCAVATION PROCEDURES INCLUDING LAGGING, SHORING AND PROTECTION OF ADJACENT PROPERTY, STRUCTURES, STREETS AND UTILITIES IN ACCORDANCE WITH ALL NATIONAL, STATE AND LOCAL SAFETY ORDINANCES.

5. EXCAVATION FOR FOOTINGS SHALL BE APPROVED BY THE INSPECTOR AND SOILS ENGINEER PRIOR TO PLACING THE CONCRETE AND REINFORCING. CONTRACTOR TO NOTIFY THE INSPECTOR WHEN INSPECTION OF EXCAVATION IS READY. INSPECTOR TO SUBMIT LETTER OF COMPLIANCE.

6. ALL EXCAVATIONS SHALL BE PROPERLY BACKFILLED. DO NOT PLACE BACKFILL BEHIND RETAINING WALLS BEFORE CONCRETE OR GROUT HAS ATTAINED FULL DESIGN STRENGTH. CONTRACTORS SHALL BRACE OR PROTECT ALL BUILDING AND PIT WALLS BELOW GRADE FROM LATERAL LOADS UNTIL ATTACHING FLOORS ARE COMPLETELY IN PLACE AND HAVE ATTAINED FULL STRENGTH. CONTRACTOR SHALL PROVIDE FOR DESIGN, PERMITS AND INSTALLATION OF SUCH BRACING.

7. FOUNDATIONS SHALL BE PLACED AND ESTIMATED ACCORDING TO DEPTHS SHOWN ON DRAWINGS. SHOULD SOIL ENCOUNTERED AT THESE DEPTHS NOT BE APPROVED BY THE INSPECTOR OR SOILS ENGINEER, FOUNDATION ELEVATIONS/DIMENSIONS MAY NEED TO BE MODIFIED BY THE ENGINEER.

8. FOOTING BACKFILL AND UTILITY TRENCH BACKFILL WITHIN BUILDING AREA SHALL BE MECHANICALLY COMPACTED IN LAYERS IN ACCORDANCE WITH THE SOILS REPORT AND APPROVED BY THE SOILS ENGINEER. FLOODING WILL NOT BE PERMITTED. ALL FILLS USED TO SUPPORT FOUNDATIONS SHALL BE INSPECTED BY THE SOILS ENGINEER REPRESENTATIVE PER CODE SECTION 1704A.7.

9. ALL ABANDONED FOOTINGS, UTILITIES, ETC. SHALL BE REMOVED UNLESS NOTED OTHERWISE. NEW FOOTINGS MUST EXTEND INTO UNDISTURBED SOILS OR FOUNDED ON STRUCTURALLY CERTIFIED FILL PER THE SOILS REPORT.

10. SLABS ON GRADE SHALL BE SUPPORTED ON UNDISTURBED NATURAL EARTH MATERIALS OR PROPERLY CONTROLLED FILL MATERIALS AS PER THE RECOMMENDATIONS OF THE SOILS REPORT.

WALL DESIGN LATERAL EARTH ACTIVE PRESSURES

WALL TYPES / SLOPE OF BACKFILL	CANTILEVERED RETAINING WALLS: HORIZ BACK FILL	CANTILEVERED RETAINING WALLS: 4:1 SLOPED BACK FILL	BUILDING WALLS: HORIZ BACK FILL	BUILDING WALLS: 4:1 SLOPED BACK FILL
ACTIVE SOILS PRESSURES	30 PCF	34 PCF	30 PCF	34 PCF
SEISMIC EARTH PRESSURES AT WALL > 6' HIGH	40 PCF	40 PCF	40 PCF	40 PCF
TRAFFIC LOAD (APPLIED AT TOP 10' OF WALLS ADJACENT TO TRAFFIC)	100 PSF	100 PSF	100 PSF	100 PSF

CONCRETE

1. ALL CONCRETE CONSTRUCTION SHALL CONFORM WITH CHAPTER 19A OF THE CODE AND WITH THE PROVISIONS OF ACI 318-14.

2. REINFORCED CONCRETE WAS DESIGNED BY THE "ULTIMATE STRENGTH DESIGN METHOD".

3. CONCRETE MIXES SHALL BE DESIGNED BY AN APPROVED TESTING LABORATORY AND REVIEWED BY THE STRUCTURAL ENGINEER. THE COMPRESSIVE STRENGTH AND DURABILITY OF THE CONCRETE SHALL BE PROPORTIONED BASED ACI 318-14 AND CBC CHAPTER 19A.

4. SCHEDULE OF STRUCTURAL CONCRETE 28-DAY STRENGTH AND TYPES (UNO):

LOCATION IN STRUCTURE	MIN STRENGTH (PSI)	MAX DENSITY (PCF)	MAX SLUMP (IN)	MAX WATER/CEMENT RATIO	MAX AGGREGATE SIZE (IN)
ALL CONCRETE FOOTINGS AND GRADE BEAMS	4000	145	4	0.55	1
SLAB ON GRADE, STAIRS ON GRADE, CURBS	4000	145	4	0.48	3/4
FILL ON METAL DECK	3000	110	4	0.50	1/2

5. PORTLAND CEMENT SHALL CONFORM TO ASTM C-150, TYPE II/V.

6. AGGREGATE FOR HARDROCK CONCRETE SHALL CONFORM TO ALL REQUIREMENTS AND TESTS OF ASTM C-33 AND PROJECT SPECIFICATIONS. EXCEPTIONS MAY BE USED ONLY WITH PERMISSION OF THE STRUCTURAL ENGINEER.

7. AGGREGATE FOR LIGHT WEIGHT (110PCF) CONCRETE SHALL BE EXPANDED CONFORMING TO ASTM C330 AND PROJECT SPECIFICATIONS. EXCEPTIONS MAY BE USED ONLY WITH PERMISSION OF THE STRUCTURAL ENGINEER.

8. CONCRETE MIXING OPERATION, ETC. SHALL CONFORM TO ASTM C-94.

9. PLACEMENT OF CONCRETE SHALL CONFORM TO CODE SECTION 1905A AND PROJECT SPECIFICATIONS. CLEAN AND ROUGHEN TO 1/4" AMPLITUDE ALL CONCRETE SURFACES AGAINST WHICH NEW CONCRETE IS TO BE PLACED.

10. ALL REINFORCING BARS, ANCHOR BOLTS AND OTHER CONCRETE INSERTS SHALL BE WELL SECURED IN POSITION PRIOR TO PLACING CONCRETE.

11. PROVIDE SLEEVES FOR PLUMBING AND ELECTRICAL OPENINGS IN CONCRETE BEFORE PLACING. DO NOT CUT ANY REINFORCING WHICH MAY CONFLICT. CORING IN CONCRETE IS NOT PERMITTED. NOTIFY THE STRUCTURAL ENGINEER IN ADVANCE OF CONDITIONS NOT SHOWN ON THE DRAWINGS. SEE THESE DRAWINGS FOR ADDITIONAL RESTRICTIONS ON THE PLACEMENT OF OPENINGS IN SLABS AND WALLS.

12. PIPES LARGER THAN 1-1/2" DIAMETER SHALL NOT BE EMBEDDED IN STRUCTURAL CONCRETE EXCEPT WHERE SPECIFICALLY APPROVED BY STRUCTURAL ENGINEER. PIPES SHALL NOT DISPLACE OR INTERRUPT REINFORCING BARS, SPACE EMBEDDED PIPES AND SLEEVES AT A MINIMUM OF 3 DIAMETERS.

MASONRY

1. CONCRETE BLOCK SHALL BE HOLLOW LOAD-BEARING CONCRETE MASONRY UNITS WITH OPEN ENDS EXCEPT AT JAMBS AND WALL ENDS CONFORMING TO ASTM C-90, GRADE N. MEDIUM WEIGHT UNITS.

2. TYPICAL PORTLAND CEMENT SHALL CONFORM TO ASTM C-150, TYPE II. CEMENT SHALL BE AS SPECIFIED FOR CONCRETE.

3. REINFORCING BARS - SEE NOTES UNDER "REINFORCING STEEL" FOR REQUIREMENTS.

4. MORTAR SHALL BE TYPE S PER ASTM C270 WITH PROPORTIONS OF 4-1/2 PARTS SAND, 1/2 PART HYDRATED LIME, 1 PART PORTLAND CEMENT AND SHALL COMPLY WITH SECTION 2103A.9 OF THE CODE. MORTAR SHALL HAVE A MINIMUM 28 DAY STRENGTH OF 2000 PSI WHERE f'm = 2000 PSI AND 2500 PSI WHERE f'm = 2500 PSI.

5. GROUT SHALL CONSISTS OF 3 PARTS SAND, 2 PARTS PEA GRAVEL, AND 1 PART PORTLAND CEMENT, AND SHALL COMPLY WITH SECTION 2103A.13 OF THE CODE AND ASTM C476. GROUT SHALL HAVE A 28 DAY STRENGTH OF 2500 PSI MINIMUM.

6. PROVIDE A MINIMUM OF 1/2" CLEAR BETWEEN MAIN REINFORCING AND MASONRY UNITS.

7. ALL CELLS SHALL BE GROUTED SOLID.

8. DESIGN f'm = 2000 PSI FOR CMU CONSTRUCTION AS PER TABLE 2105A.2.2.1.2. UNLESS NOTED OTHERWISE ON PLANS.

9. USE RUNNING BOND PATTERN UNLESS NOTED OTHERWISE.

10. LOW LIFT AND HIGH LIFT SHALL BE IN ACCORDANCE WITH THE SPECIFICATIONS AND SECTION 2104A.5 OF THE CODE.

11. COMPRESSIVE STRENGTH OF THE CONCRETE MASONRY UNITS SHALL BE 2800 PSI WHERE f'm = 2000 PSI, AND 3750 PSI WHERE f'm = 2500 PSI, PER TABLE 2105A.2.2.1.2 OF THE CODE.

12. MASONRY CORE TESTING SHALL BE PROVIDED PER SECTION 2105A.3 AT NO COST TO THE OWNER FOR COMPLETED WALLS WITH FAILED MASONRY, MORTAR, OR GROUT TESTS.

13. QUALITY ASSURANCE MEASURES SHALL COMPLY WITH SECTION 2105A OF 2013 CBC AND TABLES 1.19.1, 1.19.2, AND 1.19.3 OF ACI 530-11.

14. DUCTS, PIPES AND CONDUITS SHALL NOT RUN INSIDE THE MASONRY WALLS.

STEEL DECK

1. ROOF AND FLOOR DECKS SHALL BE AS NOTED ON THE DRAWINGS. MINIMUM DECK PROPERTIES ARE AS FOLLOWS USING VERCO DECKING, INC AS BASIS OF DESIGN:

DECK SIZE AND GAUGE	Ix(IN4/FT)	+Sx(IN3/FT)	-Sx(IN3/FT)
W2CD-AC (G60) FORMLOK (18GA / 20GA)	0.847	0.526	0.549
W2 (G60) FORMLOK (18GA)	0.564	0.471	0.481

2. DECK SHOP DRAWINGS SHALL BE SUBMITTED TO ENGINEER PRIOR TO FABRICATION AND SHALL INDICATE WELDED HEADED STUD LAYOUT (WHERE APPLICABLE).

3. THE AMERICAN IRON AND STEEL INSTITUTE "SPECIFICATIONS FOR THE DESIGN OF LIGHT GAUGE STEEL STRUCTURAL MEMBERS" SHALL GOVERN THE DESIGN OF ALL DECK UNITS, STEEL DECK AND ALL OF ITS CLOSURES AND FLASHINGS SHALL CONFORM TO ASTM A653, GRADE B, Fy = 38,000 PSI MINIMUM.

4. ACCEPTABLE STEEL DECK MANUFACTURERS ARE AS FOLLOWS:

   VERCO DECKING, INC. (IAPMO ER-2018)
   ASC STEEL DECK (IAPMO ER-0161)

5. UNITS SHALL BE CONTINUOUS OVER THREE OR MORE SPANS, EXCEPT WHERE THE FRAMING DOES NOT PERMIT. SHORING MAY BE REQUIRED AT NON-CONTINUOUS SPANS. DECK SHOP DRAWINGS SHALL INDICATE WHERE SHORING WILL BE REQUIRED. DECK SHALL BEAR A 2" MINIMUM AT ALL SUPPORTS.

6. ALL WELDING OF STEEL DECK SHALL BE DONE BY CERTIFIED LIGHT GAGE WELDERS IN ACCORDANCE WITH AWS "SPECIFICATIONS FOR WELDING SHEET STEEL IN STRUCTURES", AWS D1.3, LATEST EDITION. WELDER SHALL BE APPROVED BY DSA.

7. UNITS SHALL BE FASTENED TO THE STEEL SUPPORTS AT THE END OF THE UNITS AND AT INTERMEDIATE SUPPORTS AND TO THE STEEL SUPPORTS AT THE SIDE BOUNDARIES BY 3/4" DIAMETER PUDDLE WELDS AT 1'-0" OC MAXIMUM, UNLESS NOTED OTHERWISE

8. THE SIDE LAPS OF ADJACENT UNITS SHALL BE FASTENED BY BUTTON PUNCHING AT 24" OC (MAX), UNLESS NOTED OTHERWISE ON THE PLANS.

9. CONTRACTOR SHALL PROVIDE FLASHING AND CLOSURE PLATES AT ENDS OF ALL UNITS, AROUND COLUMNS, AND AT ALL PERIMETER LOCATIONS REQUIRING CONCRETE.

10. ALLOWABLE LOADS FOR DECK PER VERCO CATALOG (IAPMO ER-2018).

11. ALL METAL DECK TO BE G60 GALVANIZED.

REINFORCING STEEL

1. REINFORCING BARS SHALL CONFORM TO THE REQUIREMENTS OF CHAPTER 19A OF THE CODE, ASTM A615, GRADE 60 UNO. DEFORMATIONS SHALL BE IN ACCORDANCE WITH ASTM A-305.

2. BARS SHALL BE CLEAN OF RUST, GREASE, OR OTHER MATERIALS LIKELY TO IMPAIR BOND. ALL REINFORCING BAR BENDS SHALL BE MADE COLD.

3. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A-185. PROVIDE LAPS AS PER ACI 318-14 SECTION 25.5, 8" MINIMUM. WWF SHALL BE SUPPORTED ON APPROVED CHAIRS.

4. REINFORCING BAR SPLICES SHALL BE MADE AS INDICATED ON THE DRAWINGS. MINIMUM SPLICE LENGTH FOR REINFORCING STEEL BARS IN MASONRY SHALL BE 48 BAR DIAMETERS, 24" MINIMUM. MINIMUM SPLICE LENGTH FOR REINFORCING STEEL BARS IN CONCRETE SHALL BE PER ACI 318-14 CHAPTER 25. LAP ALL HORIZONTAL BARS AT CORNERS AND INTERSECTIONS.

5. ALL BARS SHALL BE MARKED SO THEIR IDENTIFICATION CAN BE MADE WHEN THE FINAL IN-PLACE INSPECTION IS MADE.

6. WHERE WELDING OF REINFORCING IS APPROVED BY THE STRUCTURAL ENGINEER, IT SHALL BE DONE BY AWS CERTIFIED WELDERS USING E90XX OR APPROVED ELECTRODES. WELDING PROCEDURES SHALL CONFORM TO THE REQUIREMENTS OF STRUCTURAL WELDING CODE- REINFORCING STEEL", AWS-D1.4, LATEST REVISION. REINFORCING BARS TO BE WELDED SHALL CONFORM TO THE REQUIREMENTS OF ASTM A-706.

7. BARS IN SLABS SHALL BE SECURELY SUPPORTED ON WELL-CURED CONCRETE BLOCKS OR APPROVED METAL CHAIRS, PRIOR TO PLACING CONCRETE.

8. REINFORCING STEEL SHALL BE DETAILED IN ACCORDANCE WITH THE "ACI MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", LATEST EDITION.

9. COMPLETE AND DETAILED REINFORCING PLACEMENT DRAWINGS SHALL BE PREPARED AND SUBMITTED TO THE ARCHITECT FOR REVIEW BY THE STRUCTURAL ENGINEER PRIOR TO FABRICATION IN ACCORDANCE WITH THE SPECIFICATIONS AND APPLICABLE CODES. THESE DRAWINGS SHALL BE AVAILABLE ON THE JOB SITE PRIOR TO PLACING OF CONCRETE.

10. MILL TEST REPORTS FOR GRADE 60 BARS SHALL BE SUBMITTED PRIOR TO PLACEMENT OF CONCRETE.

11. CONTINUOUS INSPECTION OF CONCRETE SHALL INCLUDE INSPECTION DURING INSTALLATION OF REINFORCING STEEL. INSPECTION SHALL BE SCHEDULED SO THAT PLACEMENT OF REINFORCING STEEL, CONDUIT, SLEEVES, AND EMBEDDED ITEMS MAY BE CORRECTED PRIOR TO PLACEMENT OF OVERLYING GRIDS OR REINFORCING STEEL.

12. ALL GRADE 60 REINFORCING STEEL SHALL BE CLEARLY MARKED TO DIFFERENTIATE THEM FROM GRADE 40 REINFORCING STEEL IF CONCURRENTLY ON SITE.

13. CONCRETE PROTECTION FOR REINFORCEMENT

    THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCEMENT:

	MINIMUM COVER, IN.
A. CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH	3
B, CONCRETE EXPOSED TO EARTH OR WEATHER:	
NO. 6 THROUGH NO. 18 BAR	2
NO 5 BAR, W31 OR D31 WIRE & SMALLER	1 1/2
C. CONCRETE NOT EXPOSED TO WEATHER OR IN CONTACT WITH GROUND: SLABS, WALLS, JOISTS:	
NO. 14 AND NO. 18 BAR	1 1/2
NO. 11 BAR & SMALLER	1
BEAMS, COLUMNS: PRIMARY REINFORCEMENT TIES, STIRRUPS, SPIRALS	1 1/2

STRUCTURAL OBSERVATION

1. STRUCTURAL OBSERVATION SHALL BE PERFORMED BY THE STRUCTURAL ENGINEER OF RECORD IN ACCORDANCE WITH SECTION 1704A.6 OF THE CODE.

2. STRUCTURAL OBSERVATION IS THE VISUAL OBSERVATION OF THE ELEMENTS AND CONNECTIONS OF THE STRUCTURAL SYSTEM AT SIGNIFICANT CONSTRUCTION STAGES AND THE COMPLETED STRUCTURE FOR GENERAL CONFORMANCE TO THE APPROVED PLANS AND SPECIFICATION. STRUCTURAL OBSERVATION DOES NOT WAIVE THE RESPONSIBILITY FOR THE INSPECTIONS REQUIRED OF THE BUILDING INSPECTOR OR THE DEPUTY INSPECTOR.

3. THE STRUCTURAL ENGINEER OF RECORD SHALL PERFORM THE STRUCTURAL OBSERVATION. DSA REQUIRES THAT THE STRUCTURAL ENGINEER RESPONSIBLE FOR THE STRUCTURAL DESIGN PERFORM THIS DUTY UNLESS THE SEOR IS CHANGED VIA DSA FORM 108.

4. THE CONTRACTOR SHALL COORDINATE AND CALL FOR A PRE-CONSTRUCTION MEETING BETWEEN THE ENGINEER OR ARCHITECT RESPONSIBLE FOR THE STRUCTURAL DESIGN, STRUCTURAL OBSERVER, CONTRACTOR, AFFECTED SUBCONTRACTORS AND DEPUTY INSPECTORS. THE PURPOSE OF THE MEETING SHALL BE TO IDENTIFY THE MAJOR STRUCTURAL ELEMENTS AND CONNECTIONS THAT AFFECT THE VERTICAL AND LATERAL LOAD SYSTEMS OF THE STRUCTURE AND TO REVIEW SCHEDULING OF THE REQUIRED OBSERVATIONS. A RECORD OF THE MEETING SHALL BE INCLUDED IN THE FIRST OBSERVATION REPORT SUBMITTED TO THE PROJECT INSPECTOR.

CONSTRUCTION STAGES	ELEMENTS/CONNECTIONS TO BE OBSERVED
FOUNDATION	REINFORCING STEEL, ANCHOR RODS
STEEL ERECTION	STRUCTURAL STEEL FRAMING CONNECTED IN PLACE
CMU WALLS	REINFORCING STEEL
ROOF	METAL DECKING AND REINFORCING STEEL

5. THE STRUCTURAL OBSERVER SHALL PREPARE A REPORT FOR EACH SIGNIFICANT STATE OF CONSTRUCTION OBSERVED. THIS REPORT SHALL BE ON DSA FORM 6A/E. A COPY OF THE OBSERVATION REPORT SHALL BE SENT TO DSA, OWNER, CONTRACTOR, AND PROJECT INSPECTOR.

CONSTRUCTION JOINTS

1. ALL CONSTRUCTION JOINTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH CODE SECTION 1906A.4 AND THE TYPICAL CONSTRUCTION JOINT DETAILS SHOWN ON THE STRUCTURAL DRAWINGS.

2. ALL SURFACES OF CONSTRUCTION JOINTS SHALL BE CLEANED TO REMOVE DUST, CHIPS OR OTHER FOREIGN MATTER PRIOR TO PLACING THE ADJACENT CONCRETE.

3. THE CONTRACTOR SHALL SUBMIT THE PROPOSED LOCATIONS OF CONSTRUCTION JOINTS TO THE STRUCTURAL ENGINEER FOR REVIEW BEFORE STARTING CONSTRUCTION.

CHEMICALLY ADHERED CONCRETE ANCHORS

1. EPOXY ANCHORS SHALL BE THE FOLLOWING AS NOTED ON THE DRAWINGS OR AN SEOR APPROVED EQUAL:

   a. HILTI HIT HY-200 ADHESIVE ANCHORS (ICC ESR-3187)

   INSTALL PER MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS OF THE ICC REPORT.

POST-INSTALLED MECHANICAL CONCRETE ANCHORS

1. MECHANICAL ANCHORS SHALL BE THE FOLLOWING OR AS NOTED ON THE DRAWINGS OR AN SEOR APPROVED EQUAL:
   a. HILTI KWIK BOLT TZ (ICC ESR-1917) - STAINLESS STEEL REQUIRED AT EXTERIOR APPLICATIONS.

2. SCREW ANCHORS SHALL BE THE FOLLOWING OR AS NOTED ON THE DRAWINGS OR AN SEOR APPROVED EQUAL:
   a. HILTI KWIK HUS EZ (ICC ERS-3027) - DRY, INTERIOR USE ONLY.

3. INSTALL ALL ANCHORS PER MANUFACTURER'S RECOMMENDATIONS AND REQUIREMENTS OF THE ICC REPORT.

STRUCTURAL STEEL

1. STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED BY AN APPROVED AND LICENSED FABRICATOR IN ACCORDANCE WITH THE AISC SPECIFICATION FOR DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS (LATEST EDITION), AND WITH CHAPTER 22A OF THE CODE.

2. ALL STRUCTURAL STEEL SHALL CONFORM WITH THE ASTM DESIGNATION AS INDICATED BELOW (UNO):

WF SHAPES, WT SHAPES	A992 OR A572, GRADE 50 (MULTI CERT)
PLATES, CONNECTION PLATES, AND MISC, UNO.	A-36, UNO
PIPE COLUMNS	A-53, GRADE B
TUBE SECTIONS	A-500, GRADE B
BOLTS	A-325 / A-490, AS NOTED ON DWGS
ANCHOR BOLTS IN CONCRETE/MASONRY	F-1554, GRADE 36
ANGLES, CHANNELS	A-36

3. THE STRUCTURAL STEEL FABRICATOR SHALL FURNISH SHOP DRAWINGS TO THE ARCHITECT OF ALL STEEL FOR ARCHITECTS AND STRUCTURAL ENGINEERS TO REVIEW AND APPROVAL BEFORE FABRICATION.

4. BOLT HOLES USED IN STEEL SHALL BE 1/16" LARGER IN DIAMETER THAN NORMAL SIZE OF BOLT USED, EXCEPT AS NOTED.

5. ALL STRUCTURAL STEEL SURFACES THAT ARE ENCASED IN CONCRETE, OR MASONRY, SPRAY ON FIREPROOFING, OR ARE ENCASED BY BUILDING FINISH, SHALL BE LEFT UNPAINTED.

6. ALL WELDING IS TO BE DONE BY CERTIFIED WELDERS USING E70XX ELECTRODES (UNO). ALL WELDS SHALL BE IN CONFORMITY WITH THE PROJECTS SPECIFICATIONS AND FOR THE CODE FOR WELDING IN BUILDING CONSTRUCTION (AWS D1.1 LATEST REVISION) OF THE AMERICAN WELDING SOCIETY. SEE SPECIAL INSPECTIONS SECTION FOR WELDING INSPECTION REQUIREMENTS.

7. WELD LENGTHS CALLED FOR ON PLANS ARE THE NET EFFECTIVE LENGTH REQUIRED. WHERE FILLET WELD SYMBOL IS GIVEN WITHOUT INDICATION OF SIZE, USE MINIMUM SIZE WELDS AS SPECIFIED IN AISC MANUAL OF STEEL CONSTRUCTION 9TH EDITION, SECTION J2.2B.

8. ALL STRUCTURAL STEEL AND MISCELLANEOUS METAL EXPOSED TO THE WEATHER SHALL BE HOT DIP GALVANIZED AFTER FABRICATION, UNLESS NOTED OTHERWISE ON THE CONSTRUCTION DOCUMENTS. REFER TO ARCH DRAWINGS FOR STEEL FINISH. PROTECT FIELD WELDS EXPOSED TO THE WEATHER SHALL RECEIVE PRIME AND PAINT OR BRUSH / COLD GALVANIZING. FOR EXPOSED STRUCTURAL STEEL CALLED OUT TO RECEIVE COATINGS SEE SPECIFICATION 05 1200 SECTION 2.03J, ITEM 4 FOR PREPARATION AND PRIMING.FOR EXPOSED, GALVANIZED MISCELLANEOUS METAL CALLED OUT TO RECEIVE COATINGS, SEE SPECIFICATION 09 9600 SECTION 2.5 FOR PREPARATION AND PRIMING.

9. THE USE OF E70T-4 WELDING WIRE IS NOT PERMITTED.

10. ALL WELD FILLER MATERIAL SPECIFIED AS "NOTCH TOUGH" SHALL HAVE A MINIMUM CHARPY-V NOTCH (CVN) VALUE OF 20 FT-LBS AT A TEMPERATURE OF -20° F.

11. 100% UT TEST FOR ALL COMPLETE PENETRATION GROOVE WELDS.

12. DISCONTINUITIES IN WELD CREATED BY ERRORS OR BY FABRICATION OR ERECTION OPERATIONS, SUCH AS TACK WELDS, ERECTION AIDS, AIR ARC GOUGING AND FLAME CUTTING, SHALL BE REPAIRED AS REQUIRED BY THE ENGINEER OF RECORD.

13. WRITTEN WELDING PROCEDURE SPECIFICATIONS (WPS) PER THE RECOMMENDATIONS OF THE AMERICAN WELDING SOCIETY (AWS) SHALL BE DEVELOPED BY THE FABRICATOR/ERECTOR AND SUBMITTED FOR REVIEW TO THE ENGINEER PRIOR TO ANY WELDING OF THE STRUCTURAL STEEL. THE WELDING PROCEDURES SHALL INCLUDE ALL THE WELDED JOINTS AND CONFIGURATIONS TO BE USED ON THIS PROJECT-ONLY WPS WHICH ARE RELEVANT TO THIS PROJECT SHALL BE SUBMITTED, ALL WELDED JOINTS SHALL BE PRE-QUALIFIED PER AWS OR BE QUALIFIED BY TEST PER AWS. A PROCEDURE QUALIFICATION RECORD (PQR) SHALL BE INCLUDED WITH THE WPS IF THE WELDING PROCEDURE OR JOINT IS QUALIFIED BY TESTING. THE ELECTRODE MANUFACTURER AND PRODUCT/TRADE NAME SHALL BE IDENTIFIED IN THE WPS IN ADDITION TO THE AWS ELECTRODE CLASSIFICATION NAME. A COPY OF THE ELECTRODE MANUFACTURER'S TECHNICAL DATA SHEETS WITH THE RECOMMENDED WELDING PARAMETERS SHALL BE SUBMITTED WITH THE WPS.

POWER DRIVEN FASTENERS / SHOT PINS

1. ALL POWDER DRIVEN FASTENERS SHALL CONSIST OF SIMPSON 0.157Ø PDPA (ICC ESR-2138) LOW VELOCITY POWDER DRIVEN FASTENERS. INSTALLATION OF ANCHORS SHALL BE IN CONFORMANCE WITH THE ICC REPORT AND MANUFACTURER RECOMMENDATIONS.

2. WHEN INSTALLING POWDER DRIVEN FASTENERS IN NON-PRESTRESSED REINFORCED CONCRETE, USE CARE AND CAUTION TO AVOID CUTTING OR DAMAGING THE REINFORCING BARS.

3. THE SPECIAL INSPECTOR MUST BE ON THE JOBSITE CONTINUOUSLY DURING ANCHOR INSTALLATION TO VERIFY ANCHOR TYPE, ANCHOR DIMENSIONS, CONCRETE TYPE, CONCRETE COMPRESSIVE STRENGTH, ANCHOR SPACING, EDGE DISTANCES, SLAB THICKNESS AND ANCHOR EMBEDMENT.

4. POWDER DRIVEN FASTENERS ARE NOT PERMITTED FOR USE ON CONCRETE CURBS.

5. FASTENERS MAY BE USED FOR SHEAR LOADS AND THEY MAY BE USED IN TENSION TO SUPPORT LOADS LESS THAN 100 POUNDS FOR MINOR LOADS LIKE ACOUSTICAL CEILINGS, DUCT WORK, CONDUIT, ETC.

6. THE ALLOWABLE LOADS SHALL BE 100 POUNDS OR 80% OF ICC EVALUATION REPORT APPROVED VALUES, WHICHEVER IS LESS. QUALIFICATION FOR USE OF ALL POWER ACTUATED TOOLS MUST MEET ANSI A10.3 STANDARD AS REQUIRED BY THE MANUFACTURER AND ALL OSHA REQUIREMENTS.

7. TESTING - THE OPERATOR, TOOL AND FASTENER SHALL BE PRE-QUALIFIED BY THE PROJECT INSPECTOR. THE INSPECTOR SHALL OBSERVE THE TESTING OF THE FIRST 10 FASTENER INSTALLATIONS. A TEST "PULL-OUT" LOAD OF NOT LESS THAN TWICE THE DESIGN LOAD 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. IF ANY PIN FAILS TESTING, TEST ALL PINS OF THE SAME CATEGORY NOT PREVIOUSLY TESTED UNTIL TWENTY (20) CONSECUTIVE PASS, THEN RESUME THE INITIAL TESTING FREQUENCY.

WELDED THREADED AND HEADED STUDS

1. WELDED STUDS SHALL BE "TRUE-WELD STUDS", DIVISION OF TRU-FIT SCREW CORPORATION, CLEVELAND, OHIO OR "NELSON STUD" OHIO, OR APPROVED EQUAL.

2. WELDED STUDS SHALL BE AUTOMATICALLY END WELDED IN SHOP OR FIELD WITH EQUIPMENT RECOMMENDED BY MANUFACTURER OF STUDS.

3. WELDED STUD MATERIAL, WELDING AND INSPECTION, SHALL BE IN ACCORDANCE WITH THE AWS "STRUCTURAL WELDING CODE", AWS D1.1, SECTION 7.

STRUCTURAL TESTS AND SPECIAL INSPECTIONS

1. STRUCTURAL TESTS AND SPECIAL INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH CHAPTER 17A OF THE 2019 CBC AND DSA FORM 103.

2. THE SPECIAL INSPECTOR MUST BE APPROVED BY DSA, IN THE CATEGORY OF WORK REQUIRED TO HAVE SPECIAL INSPECTION.

3. THE SPECIAL INSPECTORS AND TESTING FIRM MUST BE HIRED BY THE OWNER OR OWNER'S REPRESENTATIVE.

4. SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS AND FURNISH COPIES TO THE BUILDING OFFICIAL, OWNER, AND STRUCTURAL ENGINEER OF RECORD. REPORTS SHALL INDICATE THAT WORK INSPECTED WAS, OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. SPECIAL INSPECTORS SHALL KEEP RECORDS OF INSPECTIONS AND FURNISH COPIES TO THE DSA FIELD/DISTRICT STRUCTURAL ENGINEER, COMPLETED IN CONFORMANCE WITH THE APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
ALDRIN J. ORUE
No. 4399
STRUCTURAL
STATE OF CALIFORNIA

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

kpff
700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

NAC ARCHITECTURE

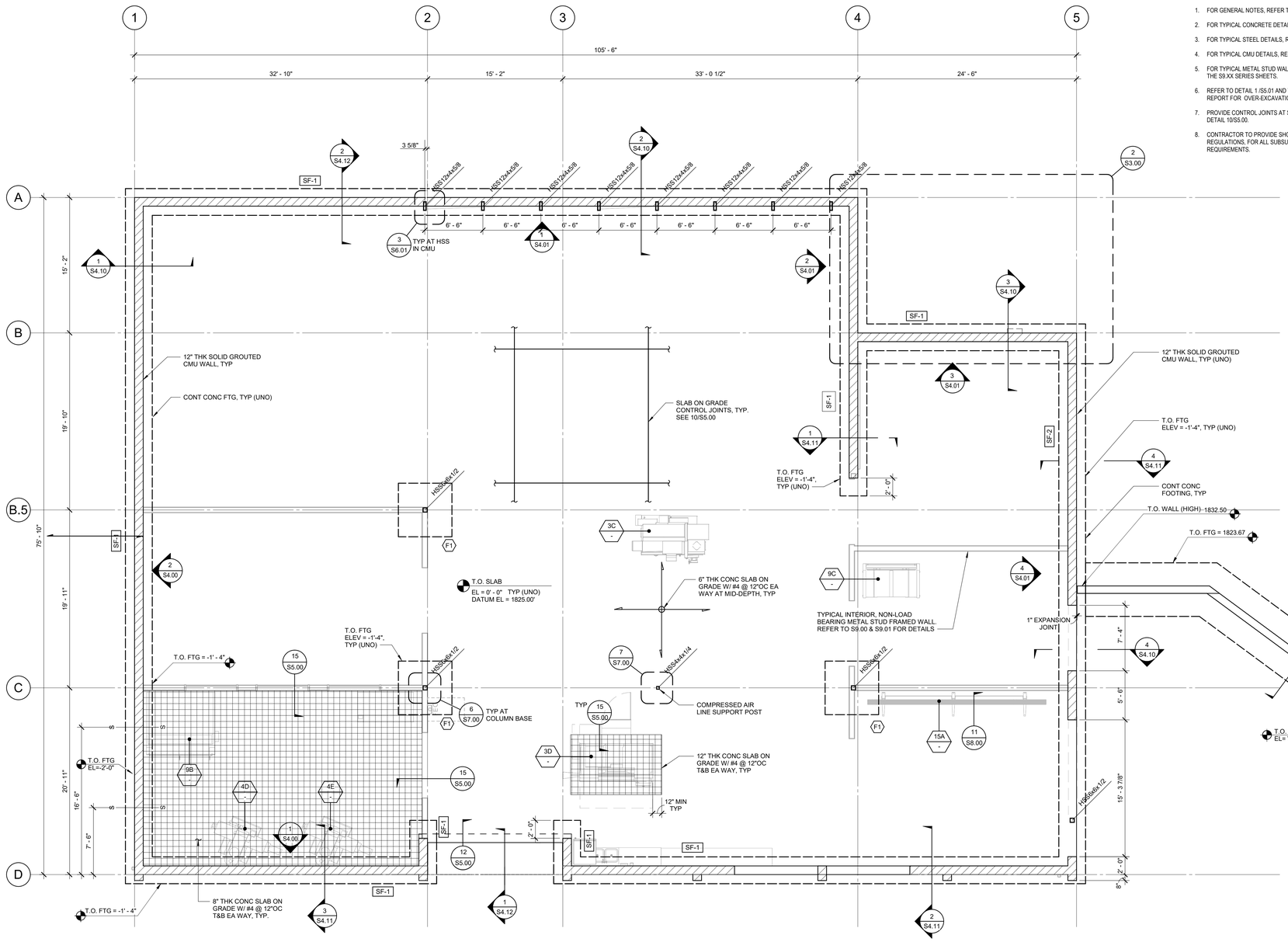
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

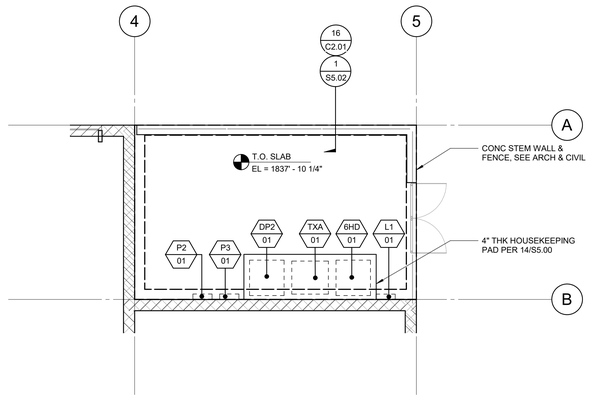
STRUCTURAL GENERAL NOTES

S0.01

© 2019 NAC inc



1 FOUNDATION PLAN
SCALE : 3/16" = 1'-0"



2 UTILITY PAD PLAN
SCALE : 3/16" = 1'-0"

FOUNDATION PLAN NOTES:

1. FOR GENERAL NOTES, REFER TO S0.XX SERIES SHEETS.
2. FOR TYPICAL CONCRETE DETAILS, REFER TO THE S5.XX SERIES SHEETS.
3. FOR TYPICAL STEEL DETAILS, REFER TO THE S7.XX SERIES SHEETS.
4. FOR TYPICAL CMU DETAILS, REFER TO THE S6.XX SERIES SHEETS.
5. FOR TYPICAL METAL STUD WALL FRAMING DETAILS DETAILS, REFER TO THE S9.XX SERIES SHEETS.
6. REFER TO DETAIL 1 /S5.01 AND THE GEOTECHNICAL INVESTIGATION REPORT FOR OVER-EXCAVATION AND RECOMPACTION REQUIREMENTS.
7. PROVIDE CONTROL JOINTS AT SLAB-ON-GRADE CONSTRUCTION PER DETAIL 10/S5.00.
8. CONTRACTOR TO PROVIDE SHORING, IN ACCORDANCE WITH OSHA REGULATIONS, FOR ALL SUBSURFACE EXCAVATIONS MEETING SUCH REQUIREMENTS.

LEGEND:

1. F-# — INDICATES CONCRETE PAD FOOTING PER 2/S5.01.
2. SF-# — INDICATES CONCRETE STRIP FOOTING PER 6/S6.00.
3. XX / X — INDICATES MEP EQUIPMENT. REFERENCE MECHANICAL EQUIPMENT SCHEDULE ON THIS PLAN.
4. INDICATES STEPPED FOOTING, SEE DETAIL 5/S5.00.
5. INDICATES CONCRETE WALL.
   INDICATES SOLID GROUTED CMU WALL.
6. INDICATES STEEL COLUMN.
7. T.O. SLAB EL=XX'-X" — INDICATES TOP OF CONCRETE SLAB ELEVATION RELATIVE TO 0'-0" REFERENCE ELEVATION.
8. T.O. FTG EL=XX'-X" — INDICATES TOP OF CONC FOOTING ELEVATION RELATIVE TO 0'-0" REFERENCE ELEVATION.
9. INDICATES THICKENED CONCRETE SLAB ON GRADE

CONCRETE PAD FOOTING SCHEDULE

MARK	SIZE WxDxH	REINFORCEMENT	REFERENCE DETAIL
F1	6'-0" x 6'-0" x 1'-6"	(7) #6 BOTT EA WAY	2/S5.01

CONCRETE STRIP FOOTING SCHEDULE

MARK	SIZE WxDxCONT	CONT TOP REINF	CONT BOTT REINF	TOP TRANSV REINF	BOTT TRANSV REINF	CLOSED TIES & HAIRPINS
SF1	3'-0" x 2'-0" x CONT	(4) #6	(4) #6	#4 @ 10" OC	#4 @ 10"OC	NONE
SF2	4'-0" x 2'-0" x CONT	(5) #9	(5) #9	NONE	NONE	#5 @ 10"OC

SHOP EQUIPMENT SCHEDULE

MARK	REFERENCE DETAIL	MAX OPERATING WT.
3C -	7/S8.00	7,900 LBS MAX
3D -	7/S8.00	7,800 LBS MAX
4D -	7/S8.00	2,604 LBS MAX
4E -	7/S8.00	2,604 LBS MAX
9B -	7/S8.00	4,000 LBS MAX
9C -	7/S8.00	1,000 LBS MAX
15A -	11/S8.00	7,800 LBS MAX

MECHANICAL EQUIPMENT SCHEDULE

MARK	REFERENCE DETAIL	MAX OPERATING WT.	MAX DIMS: W x D x H
P3 01	8/S8.00	1,037 LBS MAX	36" x 24" x 90"
P2 01	8/S8.00	1,037 LBS MAX	36" x 24" x 90"
DP2 01	7/S8.00	1,000 LBS MAX	48" x 30" x 76"
TXA 01	7/S8.00	1,624 LBS MAX	38" x 34" x 60"
6HD 01	7/S8.00	1,000 LBS MAX	36" x 24" x 90"
L1 01	8/S8.00	1,019 LBS MAX	36" x 24" x 90"
IN 01	7/S8.00	1,099 LBS MAX	48" x 30" x 76"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
WILLIAM J. VOLNY
No. 4399
STRUCTURAL
STATE OF CALIFORNIA

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

kpff
700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

FOUNDATION PLAN

S3.00

©2019 NAC Inc.

FRAMING PLAN NOTES:

1. FOR GENERAL NOTES, REFER TO S0.XX SERIES SHEETS.
2. FOR TYPICAL CONCRETE DETAILS, REFER TO THE S5.XX SERIES SHEETS.
3. FOR TYPICAL STEEL DETAILS, REFER TO THE S7.XX SERIES SHEETS.
4. FOR TYPICAL CMU DETAILS, REFER TO THE S6.XX SERIES SHEETS.
5. FOR TYPICAL METAL STUD WALL FRAMING DETAILS DETAILS, REFER TO THE S9.XX SERIES SHEETS.
6. ALL STEEL BEAMS SHALL HAVE 3/4" DIA x (LENGTH PER DET 2/S7.01) WELDED HEADED STUDS @ 1'-0" OC ON TOP FLANGE WHERE CONCRETE-FILLED STEEL DECK OCCURS, UNLESS NOTED [X] OR [X-Y-Z]
7. FOR TYPICAL STEEL DECK DETAILS, REFER TO SHEETS S7.01 THRU S7.02.

LEGEND:

1. INDICATES CONCRETE WALL.
   INDICATES SOLID GROUTED CMU WALL.
2. INDICATES STEEL COLUMN.
3. XX / X — INDICATES M/E/P EQUIPMENT. REFERENCE MECHANICAL EQUIPMENT SCHEDULE ON THIS PLAN.
4. T.O.SLAB=X'-X" — INDICATES TOP OF SLAB ELEVATION RELATIVE TO 0'-0" REF ELEVATION.
   T.O.STL=X'-X" — INDICATES TOP OF STEEL ELEVATION RELATIVE TO 0'-0" REF ELEVATION.
   T.O.WALL=X'-X" — INDICATES TOP OF WALL ELEVATION RELATIVE TO 0'-0" REF ELEVATION.
5. INDICATES LATERAL BRACE PER S/S7.00.
6. [X] OR [X-Y-Z] — INDICATES NUMBER OF WELDED HEADED STUDS. REFER TO 10/S7.01.
7. D-# — INDICATES STEEL DECK TYPE PER 1/S7.01.
8. INDICATES STEEL BEAM WEB FULL-HEIGHT STIFFENER PLATE ON SIDE OF BEAM INDICATED PER 4/S7.00.
9. INDICATES STEEL BEAM WEB FULL-HEIGHT STIFFENER PLATE ON BOTH SIDES OF BEAM PER 4/S7.00'
10. INDICATES STEEL BEAM DRAG CONNECTION PER 8/S7.01.
11. INDICATES NON-SEISMIC MOMENT CONNECTION PER 2/S7.00.

MECHANICAL EQUIPMENT SCHEDULE

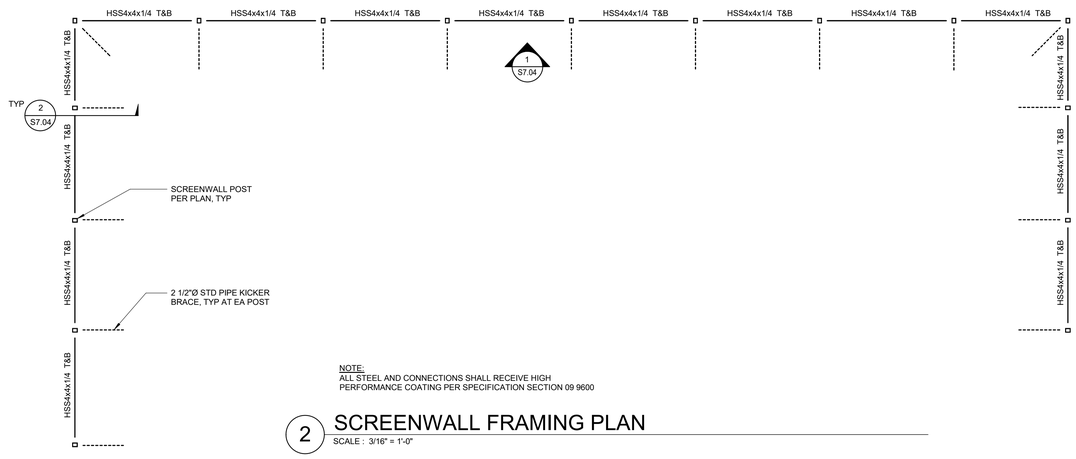
MARK	REFERENCE DETAIL	MAX OPERATING WT.
RTU 1-1	1/S7.03	2,500 LBS MAX
RTU 1-2	1/S7.03	4,000 LBS MAX
RTU 1-3	1/S7.03	1,100 LBS MAX
RTU 1-4	1/S7.03	1,100 LBS MAX

ALL STRUCTURAL STEEL EXPOSED TO VIEW FROM OUTSIDE THE BUILDING SHALL COMPLY WITH ARCHITECTURALLY EXPOSED STRUCTURAL STEEL SPECIFICATION REQUIREMENTS.

ALL STRUCTURAL STEEL AND CONNECTIONS EXPOSED TO WEATHER SHALL RECEIVE HIGH PERFORMANCE COATING PER SPECIFICATION SECTION 09 9600

1 ROOF FRAMING PLAN

SCALE : 3/16" = 1'-0"



NOTE:
ALL STEEL AND CONNECTIONS SHALL RECEIVE HIGH PERFORMANCE COATING PER SPECIFICATION SECTION 09 9600

2 SCREENWALL FRAMING PLAN

SCALE : 3/16" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

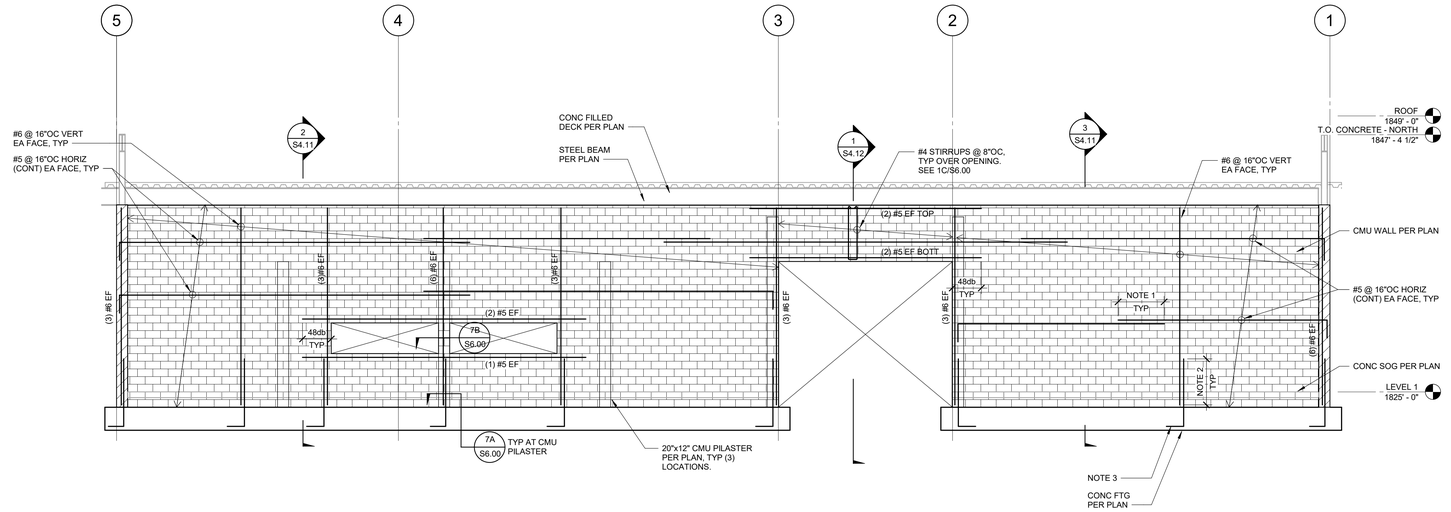
NAC ARCHITECTURE
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

ROOF FRAMING PLAN

S3.04

© 2019 NAC Arc

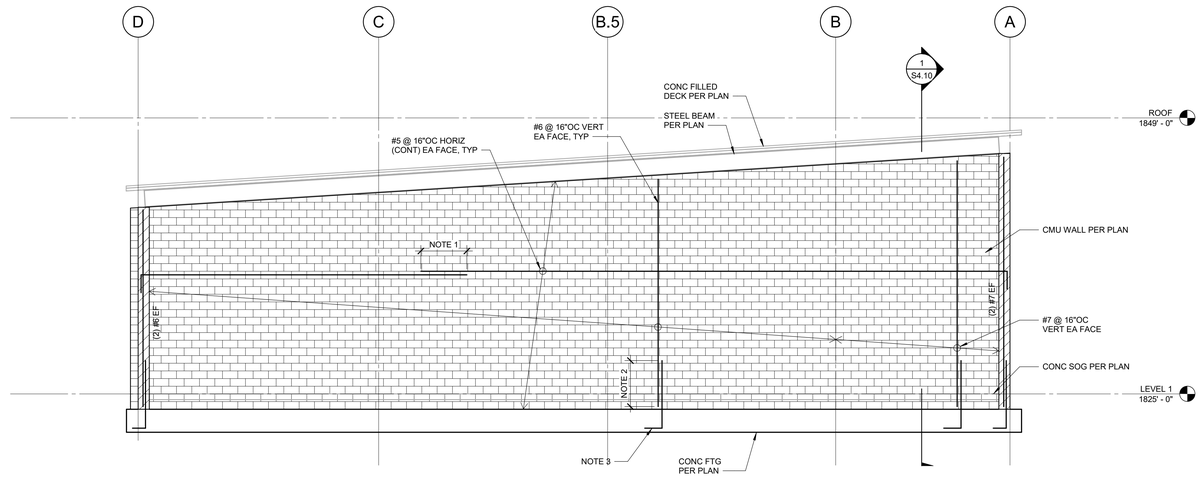


NOTES:

1. LAP SPLICE PER 4/S6.00.
2. LAP SPLICE PER 4/S6.00.
3. VERTICAL DOWELS TO MATCH SIZE AND SPACING OF CMU VERTICAL REINFORCING BARS.

1 CMU WALL ELEVATION ALONG GRID D

SCALE : 3/16" = 1'-0"



NOTES:

1. LAP SPLICE PER 4/S6.00.
2. LAP SPLICE PER 4/S6.00.
3. VERTICAL DOWELS TO MATCH SIZE AND SPACING OF CMU VERTICAL REINFORCING BARS.

2 CMU WALL ELEVATION ALONG GRID 1

SCALE : 3/16" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
ALIREZA M. GHAZI
No. 4399
STRUCTURAL
STATE OF CALIFORNIA

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

kpff
700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

NAC ARCHITECTURE

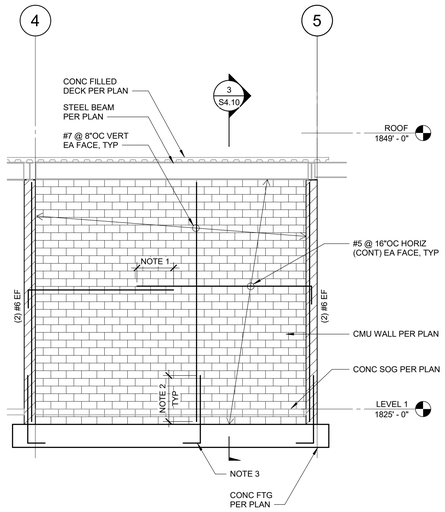
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

CMU WALL ELEVATIONS

S4.00

©2019 NAC Inc.

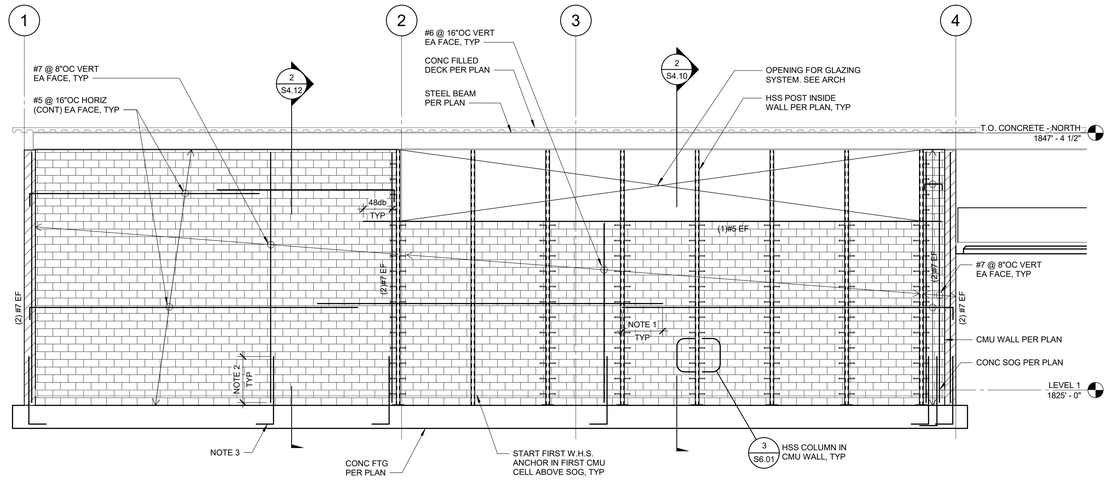


NOTES:

1. LAP SPLICE PER 4/S6.00.
2. LAP SPLICE PER 4/S6.00.
3. VERTICAL DOWELS TO MATCH SIZE AND SPACING OF CMU VERTICAL REINFORCING BARS.

3 CMU WALL ELEVATION ALONG GRID B

SCALE : 3/16" = 1'-0"

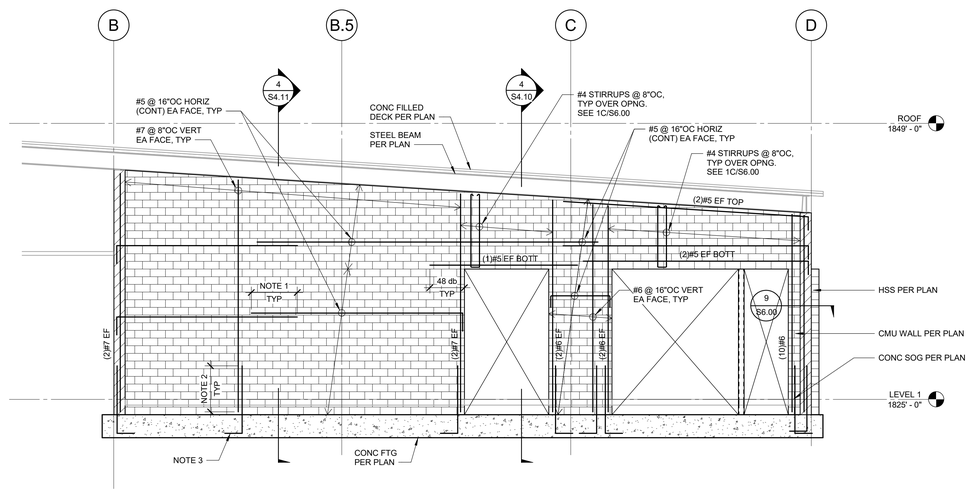


NOTES:

1. LAP SPLICE PER 4/S6.00.
2. LAP SPLICE PER 4/S6.00.
3. VERTICAL DOWELS TO MATCH SIZE AND SPACING OF CMU VERTICAL REINFORCING BARS.

1 CMU WALL ELEVATION ALONG GRID A

SCALE : 3/16" = 1'-0"

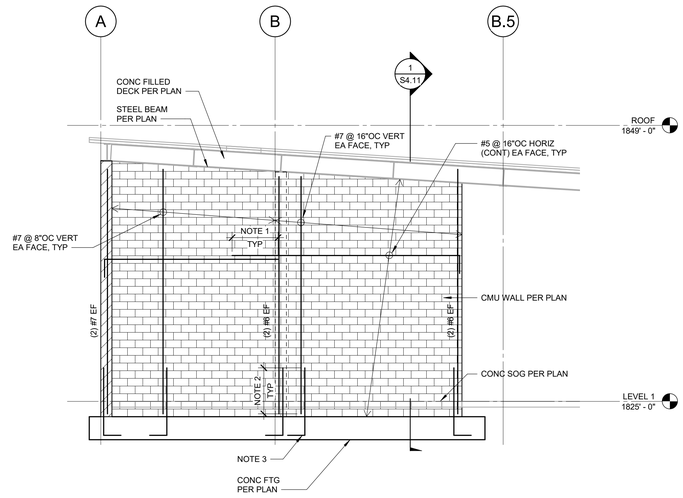


NOTES:

1. LAP SPLICE PER 4/S6.00.
2. LAP SPLICE PER 4/S6.00.
3. VERTICAL DOWELS TO MATCH SIZE AND SPACING OF CMU VERTICAL REINFORCING BARS.

4 CMU WALL ELEVATION ALONG GRID 5

SCALE : 3/16" = 1'-0"



NOTES:

1. LAP SPLICE PER 4/S6.00.
2. LAP SPLICE PER 4/S6.00.
3. VERTICAL DOWELS TO MATCH SIZE AND SPACING OF CMU VERTICAL REINFORCING BARS.

2 CMU WALL ELEVATION ALONG GRID 4

SCALE : 3/16" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
ALIREZA M. GHODSI
No. 4399
STRUCTURAL
STATE OF CALIFORNIA

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT

CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT

4747 NEW YORK AVE
GLENDALE, CA 91214

kpff
700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

NAC ARCHITECTURE

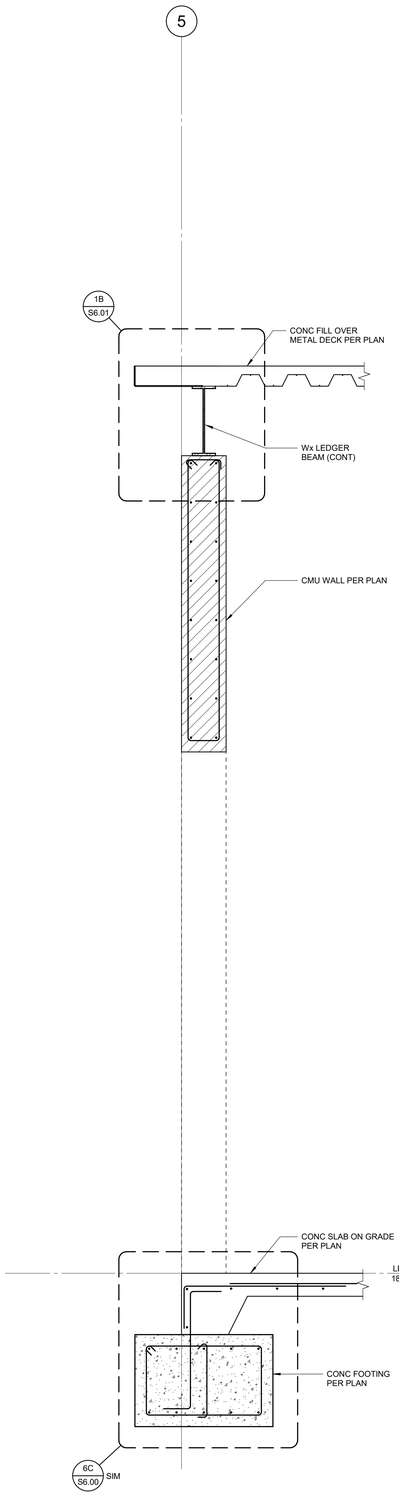
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

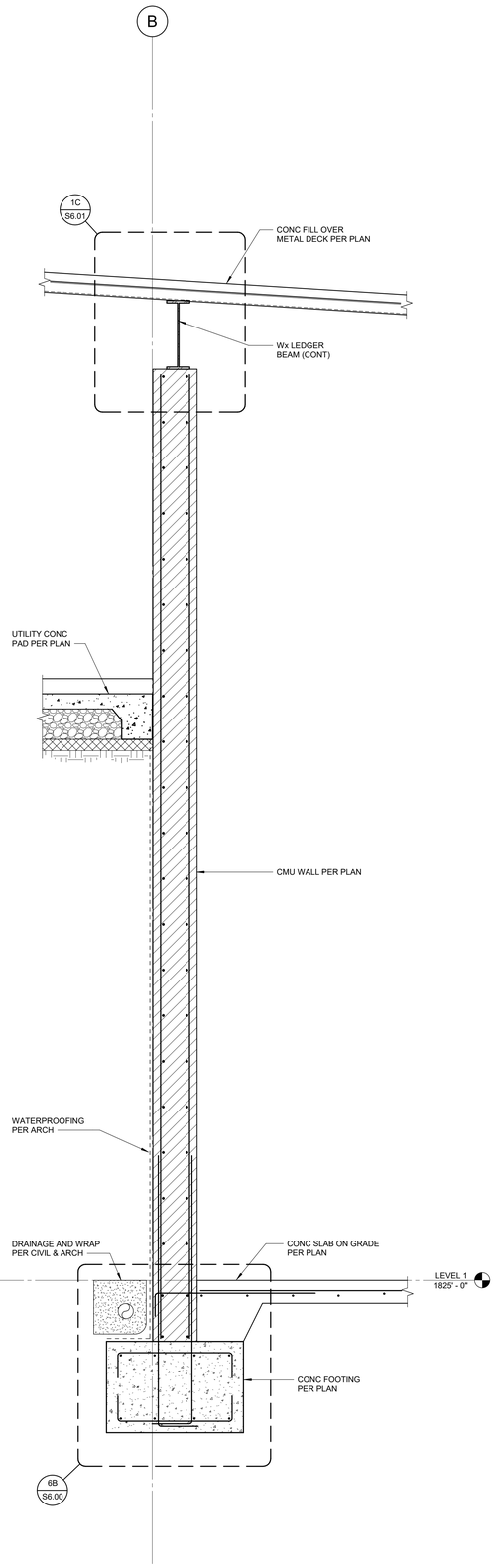
CMU WALL ELEVATIONS

S4.01

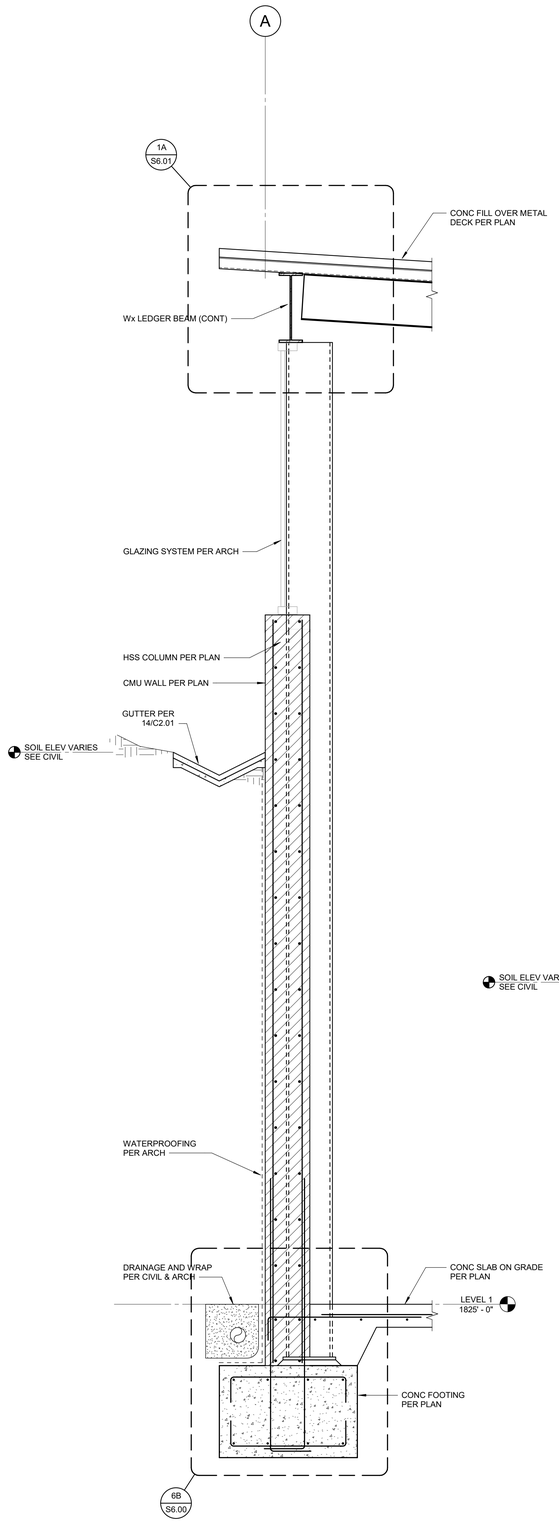
©2019 NAC Inc.



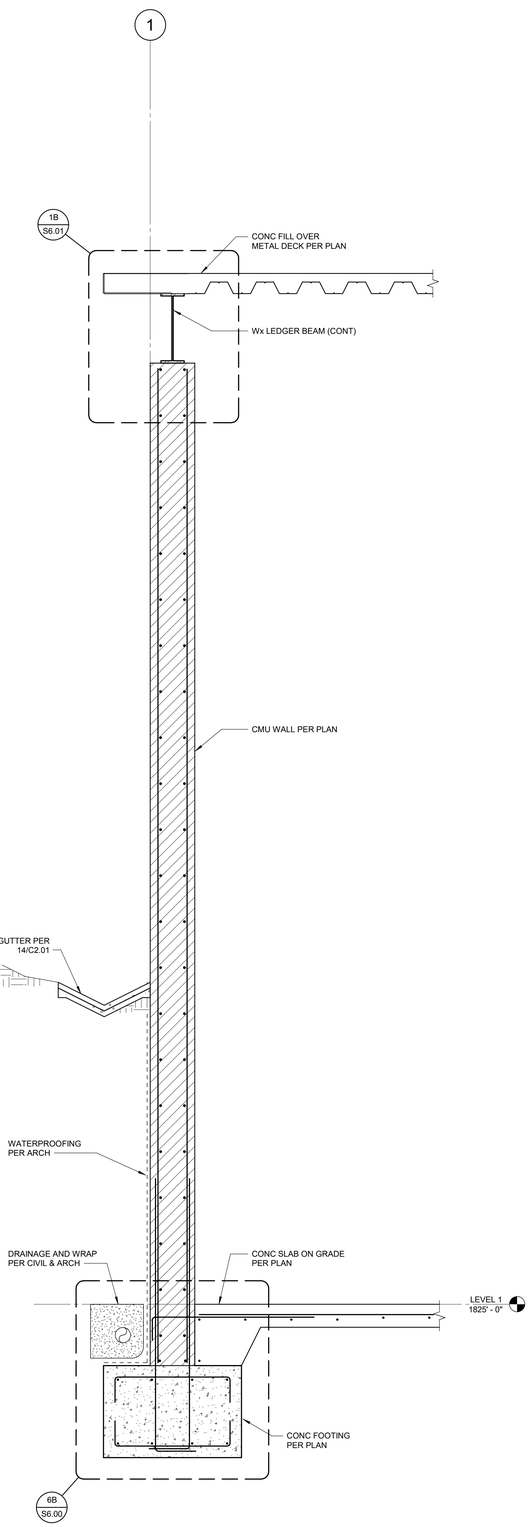
4 SECTION ALONG GRID 5
SCALE : 3/4" = 1'-0"



3 SECTION ALONG GRID B
SCALE : 3/4" = 1'-0"



2 SECTION ALONG GRID A
SCALE : 3/4" = 1'-0"



1 SECTION ALONG GRID 1
SCALE : 3/4" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
ALBERT N. LIN
No. 4399
STRUCTURAL
STATE OF CALIFORNIA

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

kpff
700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

NAC
ARCHITECTURE

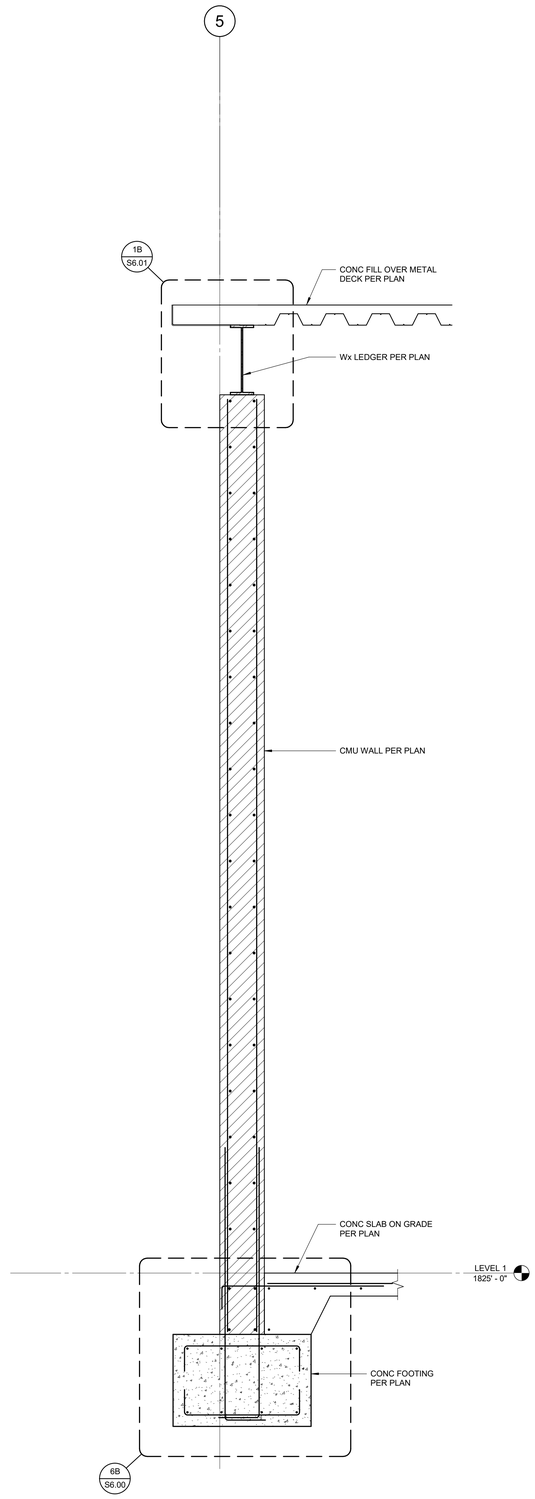
NAC NO. 161-19034
DATE 09/04/2020

100%
CONSTRUCTION
DOCUMENTS

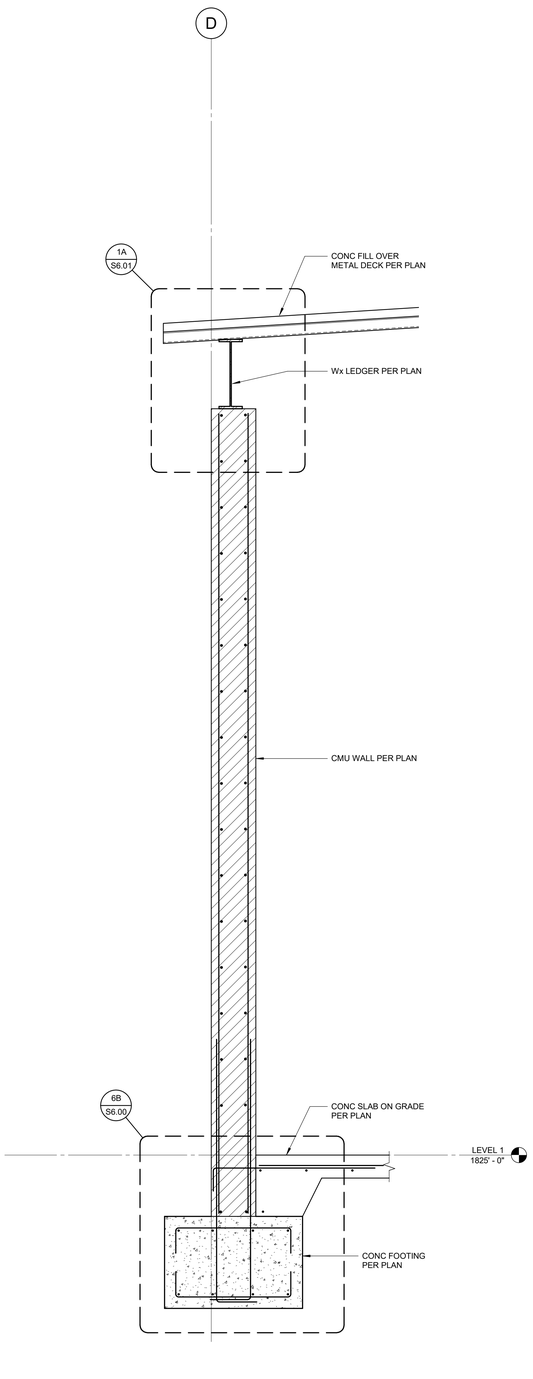
WALL SECTIONS

S4.10

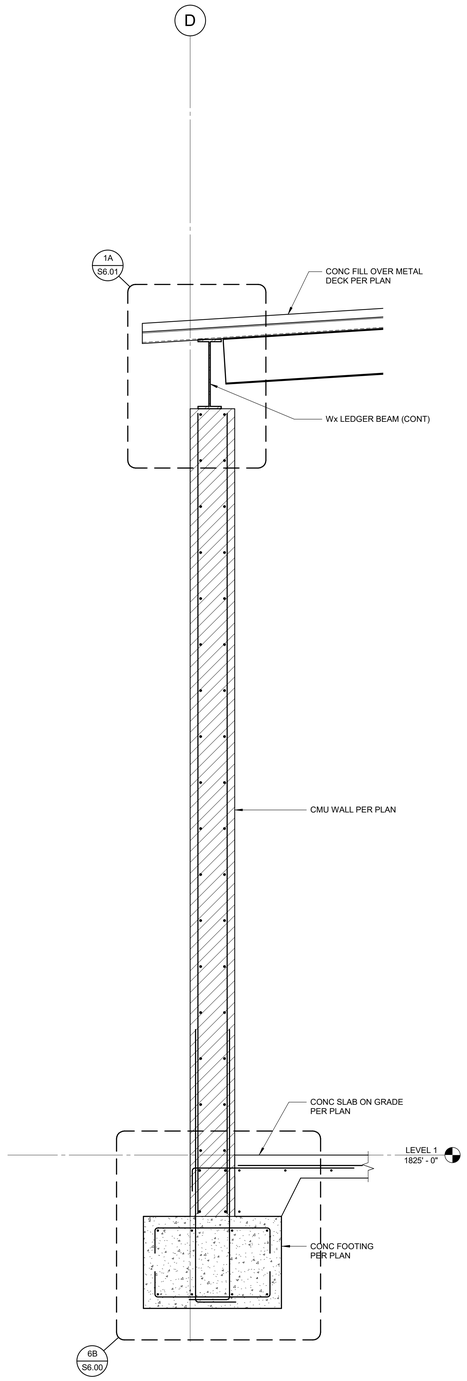
©2019 NAC Inc.



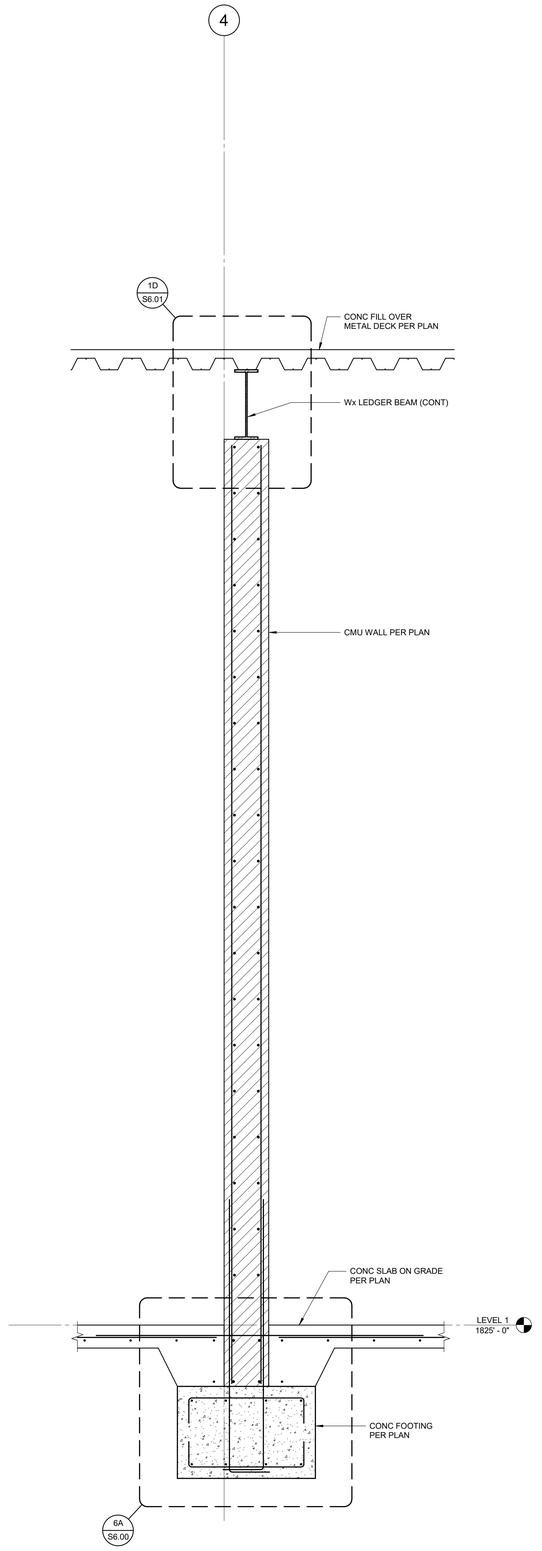
4 SECTION ALONG GRID 5
SCALE : 3/4" = 1'-0"



3 SECTION ALONG GRID D
SCALE : 3/4" = 1'-0"



2 SECTION ALONG GRID D
SCALE : 3/4" = 1'-0"



1 SECTION ALONG GRID 4
SCALE : 3/4" = 1'-0"

9/3/2020 8:05:43 AM C:\Users\agutierrez.KPFFLAST\Documents\1900753 Clark Magnet HS_R20_silvia.gutierrez4XRDL.rvt

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
ALIREZA M. GHODSI
No. 4399
STRUCTURAL
STATE OF CALIFORNIA

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

kpff
700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

NAC ARCHITECTURE

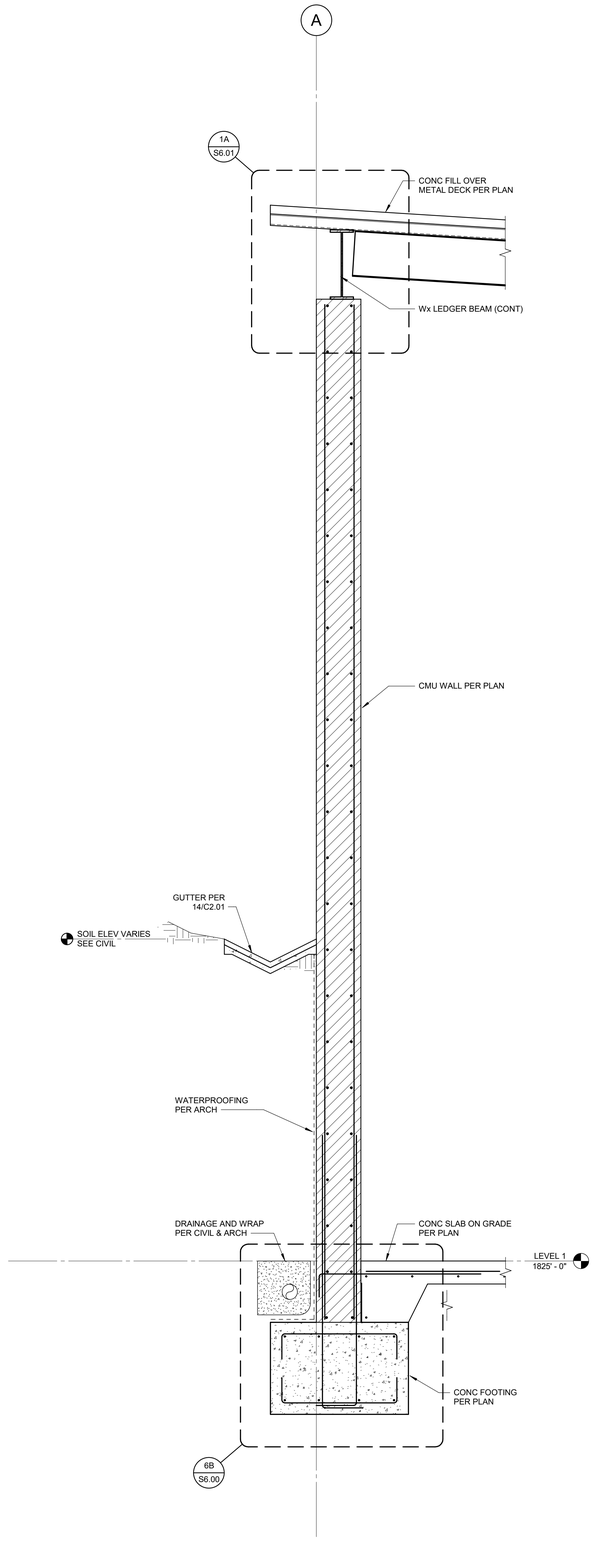
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

WALL SECTIONS

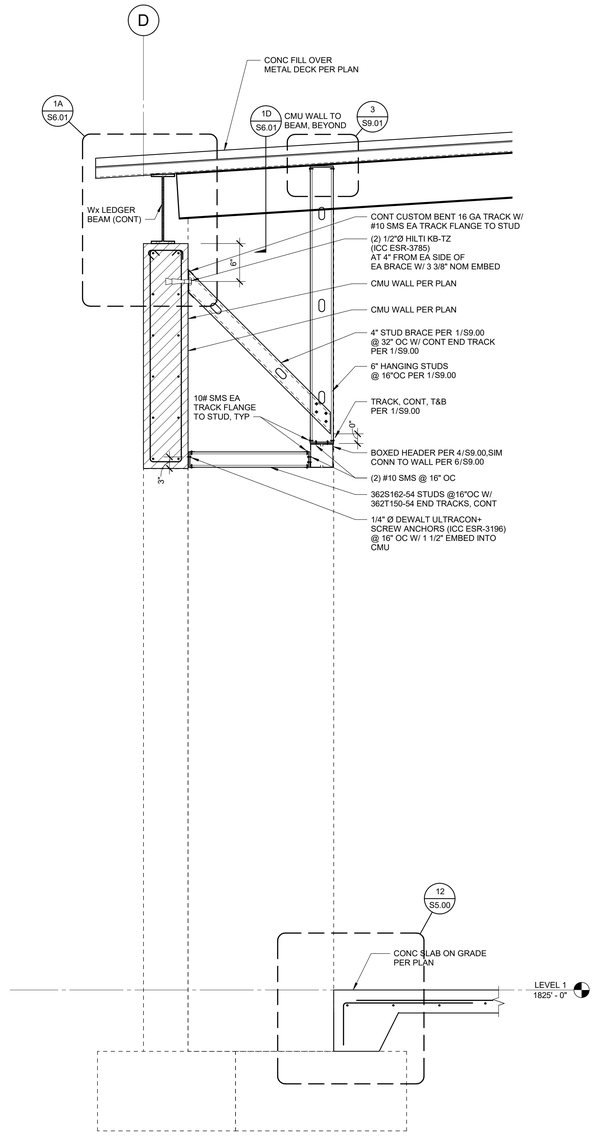
S4.11

©2019 NAC Inc.



2 SECTION ALONG GRID A

SCALE : 3/4" = 1'-0"



1 SECTION ALONG GRID D

SCALE : 3/4" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
ALBERT N. GAUCHER
No. 4399
STRUCTURAL
STATE OF CALIFORNIA

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

kpff
700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

NAC
ARCHITECTURE

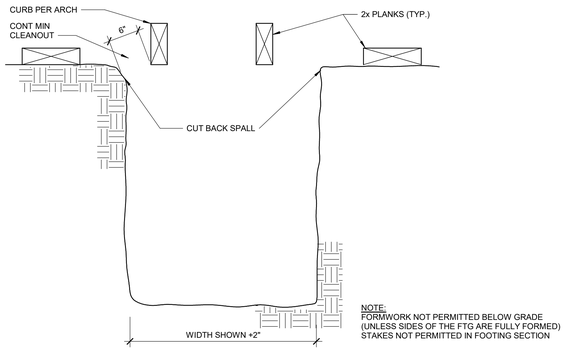
NAC NO. 161-19034
DATE 09/04/2020

100%
CONSTRUCTION
DOCUMENTS

WALL SECTIONS

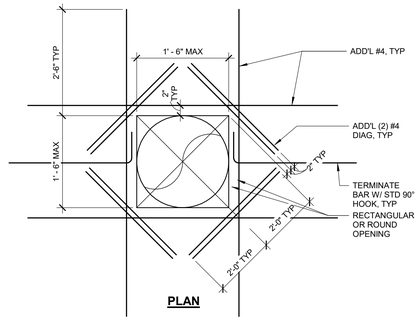
S4.12

©2019 NAC Arc

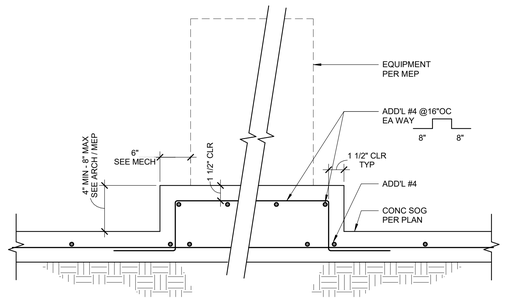


NOTE:
FORMWORK NOT PERMITTED BELOW GRADE (UNLESS SIDES OF THE FTG ARE FULLY FORMED)
STAKES NOT PERMITTED IN FOOTING SECTION

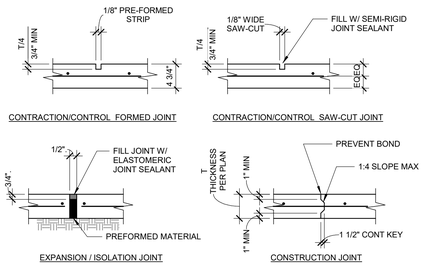
13 MANDATORY MINIMUM FORMWORK
1" = 1'-0"



9 OPENING AT SLAB ON GRADE
1" = 1'-0"



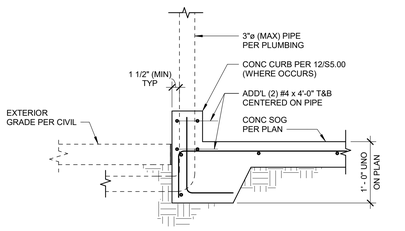
14 EQUIPMENT HOUSE KEEPING PAD ON GRADE
1 1/2" = 1'-0"



NOTES:
1. CONTRACTION/CONTROL JOINTS TO BE LOCATED ALONG COLUMN CENTER LINES AND AT 15'-0"OC EACH WAY MAXIMUM SPACING.
2. IF SAW-CUT CONTROL JOINT TO BE USED, SAW-CUT WITHIN 24 HOURS OF POUR.
3. CONSTRUCTION JOINTS TO BE LOCATED AT 60'-0" OC MAX IN EACH DIRECTION.

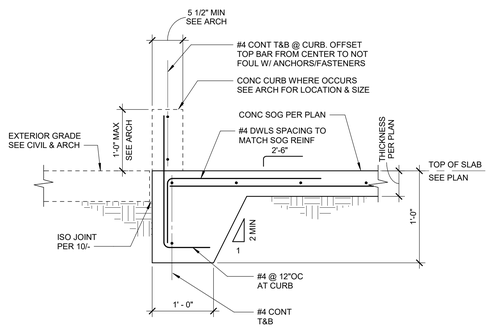
10 SLAB ON GRADE JOINTS
1" = 1'-0"

15 SLAB ON GRADE THICKNESS TRANSITION
1" = 1'-0"

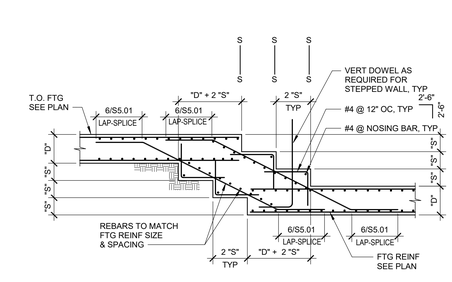


NOTES:
1. PROTECT PIPE AGAINST DAMAGE FROM SETTLEMENT OF FOUNDATION.
2. SPACE PIPES A MINIMUM OF 3 PIPE DIAMETERS ON CENTER OF LARGEST ADJACENT PIPE.

11 PIPE THRU CONCRETE SLAB EDGE
SCALE : 1" = 1'-0"

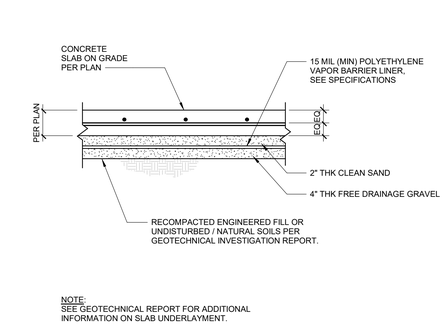


12 EDGE OF SLAB ON GRADE
1" = 1'-0"



NOTES:
1. "S" = 1'-6" MAX
2. "D" = DEPTH OF FTG
3. FOR LAP LENGTHS SEE SCHEDULE

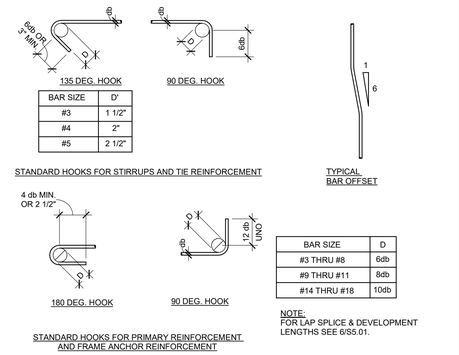
5 STEPPED FOOTING / GRADE BEAM DETAIL
3/4" = 1'-0"



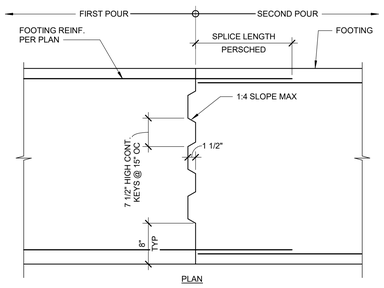
NOTE:
SEE GEOTECHNICAL REPORT FOR ADDITIONAL INFORMATION ON SLAB UNDERLAYMENT.

6 TYPICAL SLAB ON GRADE
1" = 1'-0"

1 PIPE SLEEVE AND TRENCH FOOTING DETAIL
1" = 1'-0"

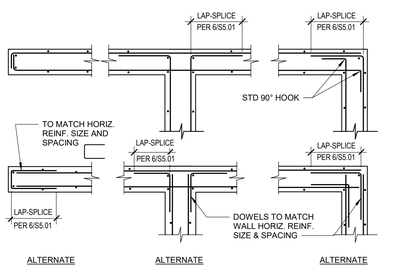


2 CONCRETE REINFORCING BAR BENDING DETAILS
NTS



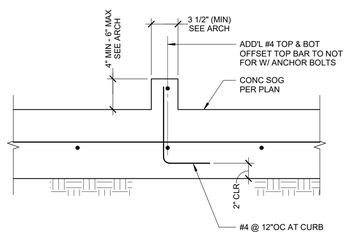
NOTE:
1. WELDED SPLICES REQUIRED FOR #14 AND LARGER BARS. WHERE CONTINUOUS FOOTING IS UNDER A WALL, LOCATE CONSTRUCTION JOINT AT 1/4 OF THE CLEAR OPENING WIDTH ABOVE FROM FACE OF OPENING, OR IN MIDDLE 1/3 OF THE DISTANCE BETWEEN COLUMNS.

3 FOOTING CONSTRUCTION JOINT
1" = 1'-0"

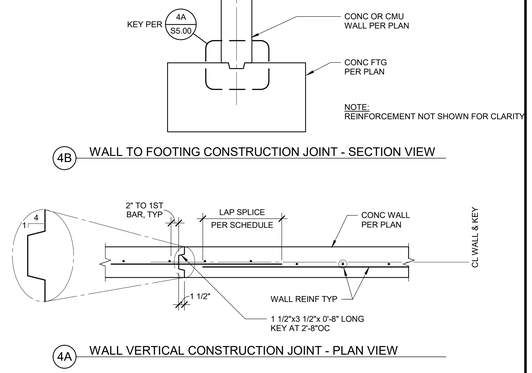


PLAN VIEW

7 CONC WALL & FTG WITH DOUBLE LAYER REINF DETAIL
1" = 1'-0"



8 INTERIOR CONC CURB
1 1/2" = 1'-0"



4 CONCRETE CONSTRUCTION JOINTS
3/4" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
ALLAN J. GAYLORD
No. 4399
STRUCTURAL
STATE OF CALIFORNIA

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

kpff
700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

NAC ARCHITECTURE

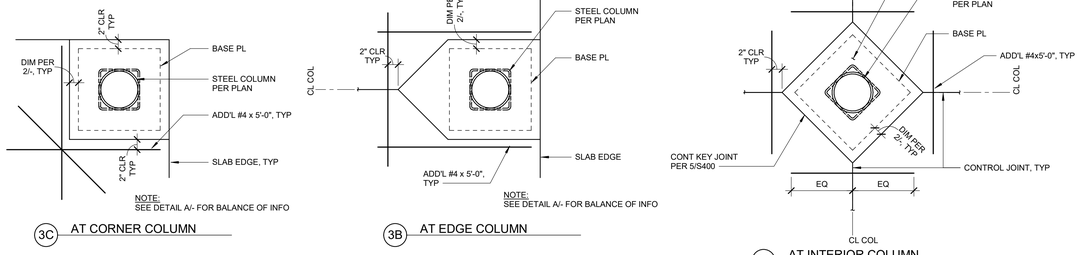
NAC NO. 161-19034
DATE 09/04/2020

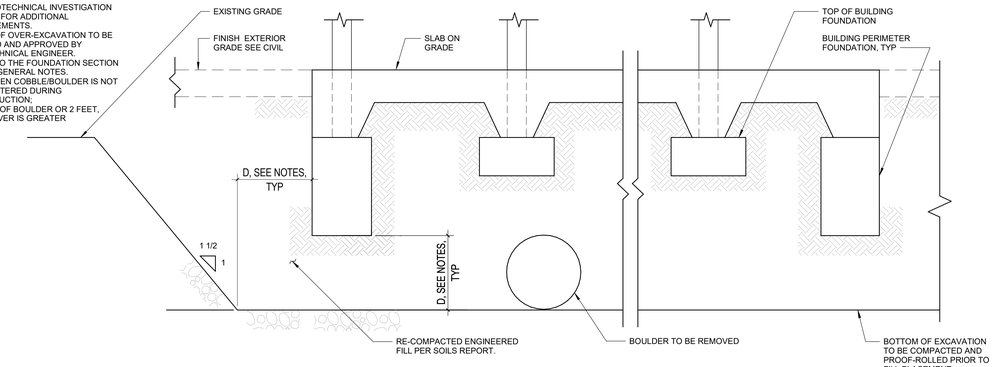
100% CONSTRUCTION DOCUMENTS

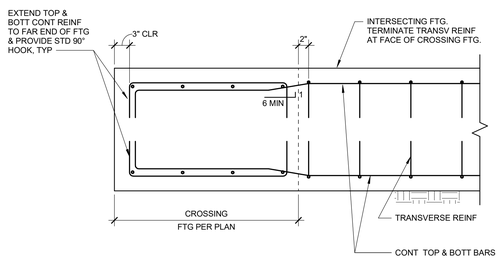
TYPICAL CONCRETE DETAILS

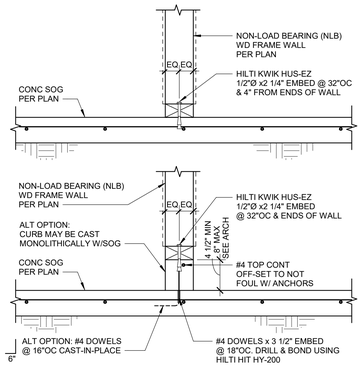
S5.00

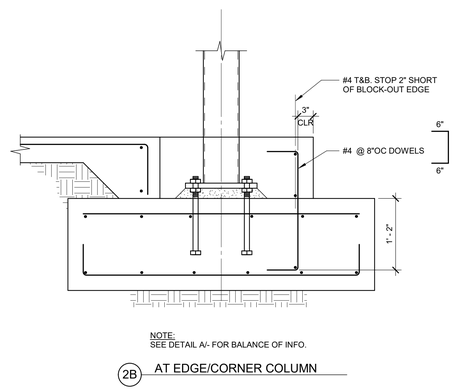
©2019 NAC Arc

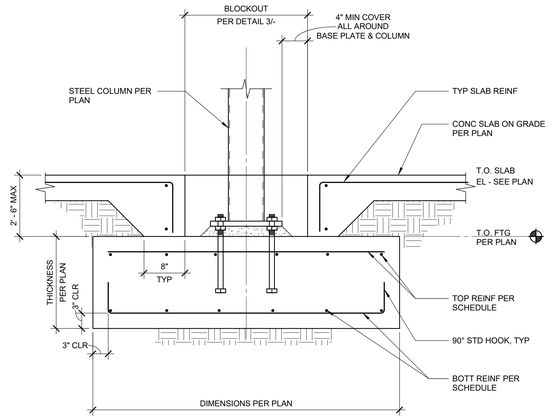


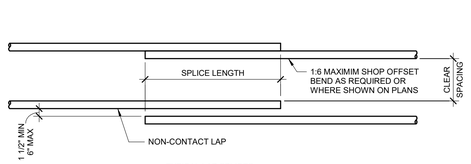


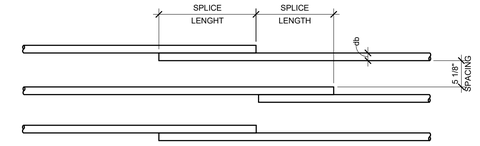


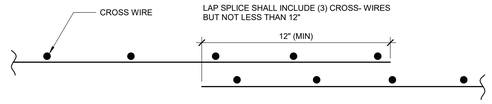












NOTE:
SEE DETAIL A/- FOR BALANCE OF INFO

3C AT CORNER COLUMN

NOTE:
SEE DETAIL A/- FOR BALANCE OF INFO

3B AT EDGE COLUMN

3A AT INTERIOR COLUMN

3 STEEL COLUMN BLOCK-OUT AT SLAB-ON-GRADE

SCALE : 1" = 1'-0"

NOTES:

1. SEE GEOTECHNICAL INVESTIGATION REPORT FOR ADDITIONAL REQUIREMENTS.
2. DEPTH OF OVER-EXCAVATION TO BE VERIFIED AND APPROVED BY GEOTECHNICAL ENGINEER.
3. REFER TO THE FOUNDATION SECTION OF THE GENERAL NOTES.
4. D = 0 WHEN COBBLE/BOULDER IS NOT ENCOUNTERED DURING CONSTRUCTION;
   D = SIZE OF BOULDER OR 2 FEET, WHICHEVER IS GREATER

1 EXCAVATION & RECOMPACTION DIAGRAM FOR SHALLOW FOUNDATIONS

1 1/2" = 1'-0"

5 REINFORCEMENT AT FOOTING INTERSECTION

SCALE : 1" = 1'-0"

4 NON-LOAD BEARING WALL TO CONC SOG

SCALE : 1" = 1'-0"

NOTE:
SEE DETAIL A/- FOR BALANCE OF INFO.

2B AT EDGE/CORNER COLUMN

2A AT INTERIOR COLUMN

2 STEEL COLUMN ON CONCRETE FOOTING

SCALE : 1" = 1'-0"

REINFORCING BAR LAP SPLICE AND DEVELOPMENT LENGTH (GRADE 60)

BAR DESCRIPTION	f"c (psi)	BAR SIZE / LAP CLASS	#11 DEVELOPMENT LENGTH Ld	#11 LAP SPLICE LENGTH Ls	#10 DEVELOPMENT LENGTH Ld	#10 LAP SPLICE LENGTH Ls	#9 DEVELOPMENT LENGTH Ld	#9 LAP SPLICE LENGTH Ls	#8 DEVELOPMENT LENGTH Ld	#8 LAP SPLICE LENGTH Ls	#7 DEVELOPMENT LENGTH Ld	#7 LAP SPLICE LENGTH Ls	#6 DEVELOPMENT LENGTH Ld	#6 LAP SPLICE LENGTH Ls	#5 DEVELOPMENT LENGTH Ld	#5 LAP SPLICE LENGTH Ls	#4 DEVELOPMENT LENGTH Ld	#4 LAP SPLICE LENGTH Ls	#3 DEVELOPMENT LENGTH Ld	#3 LAP SPLICE LENGTH Ls
CLEAR SPACING OF BARS NOT LESS THAN db, CLEAR COVER NOT LESS THAN db, AND STIRRUPS AND TIES THROUGHOUT ld NOT LESS THAN THE CODE MINIMUM OR CLEAR SPACING OF BARS NOT LESS THAN 2db AND CLEAR COVER NOT LESS THAN db	3000 NWC	TOP	8'-5"	10'-11"	7'-7"	9'-11"	6'-9"	8'-9"	6'-0"	7'-10"	5'-3"	6'-9"	3'-7"	4'-8"	3'-0"	3'-11"	2'-5"	3'-2"	2'-5"	3'-1"
		OTHER	6'-6"	8'-5"	5'-10"	7'-7"	5'-2"	6'-9"	4'-7"	6'-0"	4'-0"	5'-3"	2'-10"	3'-8"	2'-4"	3'-0"	1'-11"	2'-5"	1'-11"	2'-6"
	4000 NWC	TOP	7'-3"	9'-6"	6'-7"	8'-7"	5'-10"	7'-6"	5'-2"	6'-9"	4'-6"	5'-10"	3'-1"	4'-1"	2'-7"	3'-5"	2'-1"	2'-9"	1'-7"	2'-1"
		OTHER	5'-7"	7'-3"	5'-1"	6'-8"	4'-6"	5'-10"	4'-0"	5'-2"	3'-6"	4'-7"	2'-5"	3'-1"	2'-0"	2'-7"	1'-7"	2'-1"	1'-2"	1'-7"
	5000 NWC	TOP	6'-6"	8'-6"	5'-11"	7'-8"	5'-3"	6'-9"	4'-8"	6'-0"	4'-1"	5'-4"	2'-10"	3'-8"	2'-4"	3'-0"	1'-11"	2'-6"	1'-5"	1'-10"
		OTHER	5'-0"	6'-6"	4'-6"	5'-11"	4'-0"	5'-3"	3'-7"	4'-8"	3'-2"	6'-6"	2'-2"	2'-10"	1'-10"	2'-4"	1'-6"	1'-11"	1'-1"	1'-5"
	3000 LWC	TOP	11'-2"	14'-7"	10'-1"	13'-2"	9'-0"	11'-8"	8'-0"	10'-5"	7'-0"	9'-1"	4'-10"	6'-3"	4'-0"	5'-2"	3'-2"	4'-2"	2'-5"	3'-1"
		OTHER	8'-7"	11'-2"	7'-10"	10'-2"	6'-11"	8'-12"	6'-1"	7'-11"	5'-5"	7'-0"	3'-8"	4'-10"	3'-1"	4'-0"	2'-6"	3'-3"	1'-11"	2'-6"
OTHER CASES	3000 NWC	TOP	12'-7"	16'-4"	11'-5"	14'-10"	10'-1"	13'-2"	9'-0"	11'-8"	7'-10"	10'-2"	5'-5"	7'-0"	4'-6"	5'-10"	3'-7"	4'-8"	2'-8"	3'-6"
		OTHER	9'-8"	12'-7"	8'-8"	11'-4"	7'-10"	10'-2"	6'-11"	9'-0"	6'-0"	7'-10"	4'-2"	5'-6"	3'-6"	4'-6"	2'-10"	3'-8"	2'-1"	2'-9"
	4000 NWC	TOP	10'-11"	14'-2"	9'-8"	12'-9"	8'-8"	11'-4"	7'-10"	10'-2"	6'-9"	8'-10"	4'-8"	6'-1"	3'-11"	5'-1"	3'-1"	4'-1"	2'-5"	3'-1"
		OTHER	8'-5"	10'-11"	7'-7"	9'-11"	6'-8"	8'-9"	6'-0"	7'-10"	5'-3"	6'-9"	3'-7"	4'-8"	3'-0"	3'-11"	2'-5"	3'-1"	1'-10"	2'-4"
	5000 NWC	TOP	9'-10"	12'-9"	8'-10"	11'-5"	7'-10"	10'-2"	6'-11"	9'-0"	6'-1"	7'-11"	4'-2"	5'-6"	3'-6"	4'-7"	2'-10"	3'-8"	2'-2"	2'-9"
		OTHER	7'-6"	9'-9"	6'-10"	8'-10"	6'-0"	7'-10"	5'-5"	7'-0"	4'-8"	6'-1"	3'-3"	4'-2"	2'-8"	3'-6"	2'-2"	2'-10"	1'-7"	2'-1"
	3000 LWC	TOP	16'-10"	21'-10"	15'-1"	19'-8"	13'-5"	17'-5"	11'-11"	15'-6"	10'-5"	13'-6"	7'-2"	9'-4"	6'-0"	7'-10"	4'-10"	6'-3"	3'-7"	4'-8"
		OTHER	12'-11"	16'-9"	11'-7"	15'-1"	10'-4"	13'-5"	9'-2"	11'-12"	8'-0"	10'-5"	5'-6"	7'-2"	4'-7"	5'-12"	3'-8"	4'-10"	2'-10"	3'-8"

TYPICAL LAP SPLICES

STAGGERED SPLICING

NOTES:

1. BAR SPLICES NOT COVERED BY THIS SCHEDULE ARE SPECIFICALLY DETAILED AND DIMENSIONED ON PLANS.
2. TOP BARS ARE HORIZONTAL REINFORCEMENT WITH MORE THAN 12" OF CONCRETE CAST BELOW BAR.
3. OTHER BARS ARE VERTICAL REINFORCEMENT, AND HORIZONTAL REINFORCEMENT WITH LESS THAN 12" OF CONCRETE CAST BELOW BAR.
4. COVER DESIGNATES CLEAR CONCRETE COVER FROM SPLICED BAR TO FACE OF MEMBER. SPACING DESIGNATES CENTER - TO - CENTER SPACING OF SPLICED BARS.
5. FOR SHEAR WALLS, SPLICE LENGTHS FOR VERTICAL BARS TO FOOTING DOWELS SHALL BE INCREASED BY A FACTOR OF 1.25 TIMES 'Ls' FROM TABLE.
6. Ls INDICATES LAP SPLICE, Ld INDICATES DEVELOPMENT LENGTH.

WELDED WIRE FABRIC

6 DEVELOPMENT LENGTH AND LAP SPLICES OF CONCRETE STEEL REINFORCING BARS

SCALE : NTS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

No. 4399

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

kpff
700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

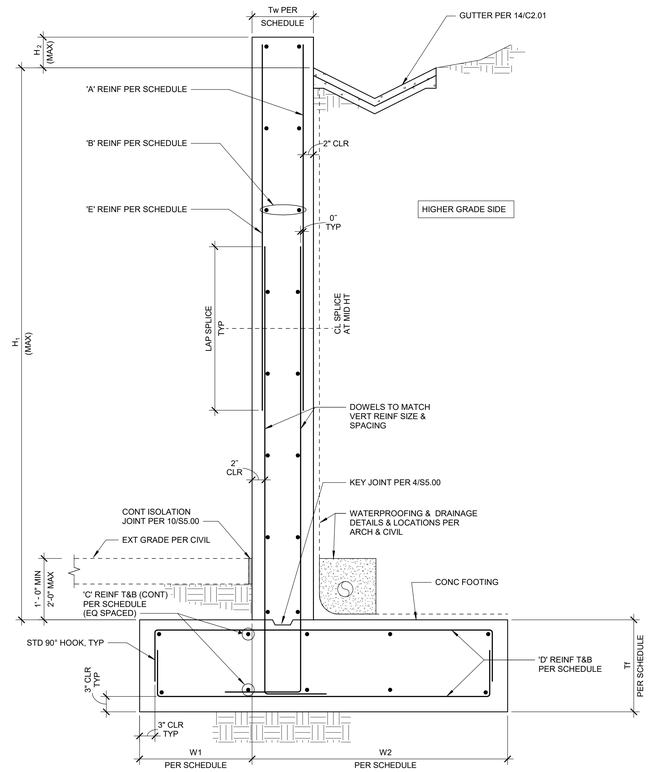
NAC ARCHITECTURE
NAC NO. 161-19034
DATE 09/04/2020

100%
CONSTRUCTION DOCUMENTS

TYPICAL CONCRETE DETAILS

S5.01

© 2019 NAC inc



NOTE: SEE ARCH, CIVIL AND LANDSCAPE PLANS FOR SITE WALL LOCATIONS.

WALL I.D.	H1 (MAX)	H2 (MAX)	Tw	W1	W2	Tf	'A' REINF	'B' REINF	'C' REINF	'D' REINF	'E' REINF	REMARKS
RW1	6'-0"	1'-0"	10"	2'-0"	2'-0"	1'-6"	#5 @ 12"OC	#4 @ 12"OC	(4) #4 CONT	#5 @ 12"OC	#4 @ 12"OC	
RW2	9'-0"	1'-0"	10"	2'-0"	4'-9"	2'-0"	#7 @ 12"OC	#4 @ 12"OC	(6) #5 CONT	#6 @ 12"OC	#4 @ 12"OC	

1 CONCRETE RETAINING WALL SECTIONS & SCHEDULE

SCALE : 1" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
ALBERT N. GAGUIN
No. 4399
STRUCTURAL
STATE OF CALIFORNIA

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

kpff
700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

NAC ARCHITECTURE

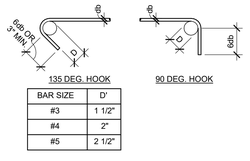
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

TYPICAL CONCRETE DETAILS

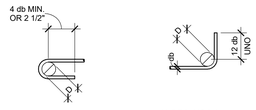
S5.02

© 2019 NAC Arc



BAR SIZE	D'
#3	1 1/2"
#4	2"
#5	2 1/2"

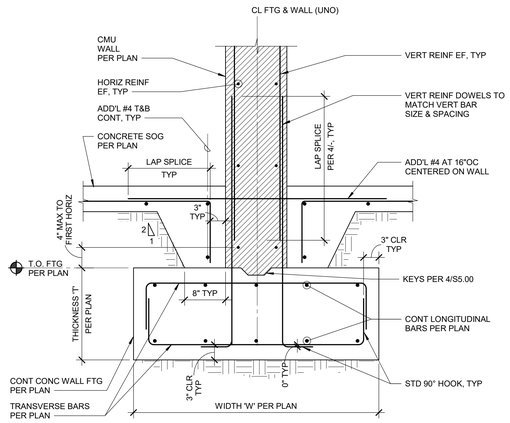
STANDARD HOOKS FOR STIRRUPS AND TIE REINFORCEMENT



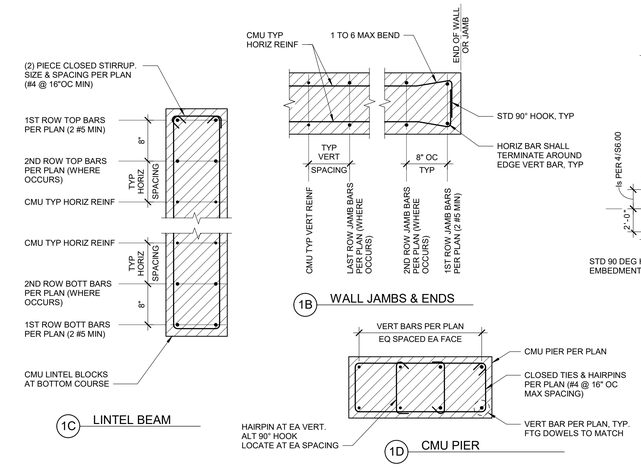
BAR SIZE	D
#3 THRU #8	6db
#9 THRU #11	8db
#14 THRU #18	10db

NOTE:
FOR LAP SPLICE & DEVELOPMENT LENGTHS SEE 4/S6.00.

STANDARD HOOKS FOR PRIMARY REINFORCEMENT AND FRAME ANCHOR REINFORCEMENT



6A 12" THK CMU WALL - INTERIOR



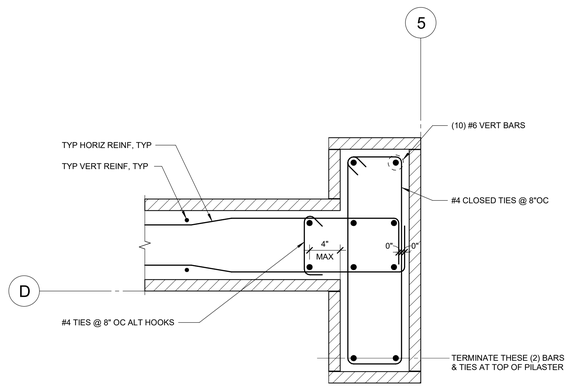
NOTE:
SEE 5/S6.00 FOR REINFORCING AT WALL INTERSECTION

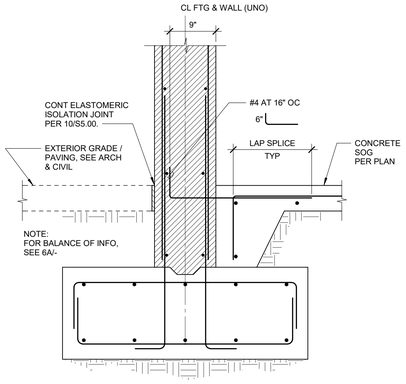
8 CMU REINFORCING BAR BENDING DETAILS

SCALE : NTS

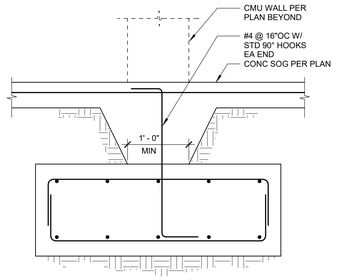
9 CMU T-PIER REINFORCING

SCALE : 1 1/2" = 1'-0"





6B 12" THK CMU WALL - EXTERIOR

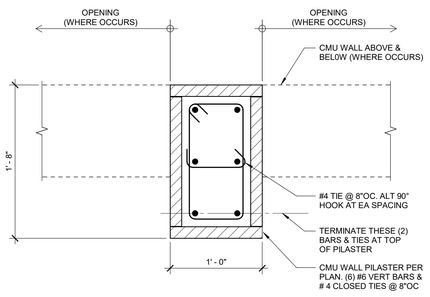


6C AT INTERIOR SLAB ON GRADE

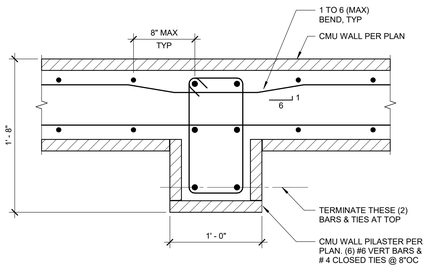
SEE 5/S5.01 FOR REINF AT FOOTING INTERSECTION

6 CMU WALL FOOTING DETAILS

1" = 1'-0"



7B AT OPENING



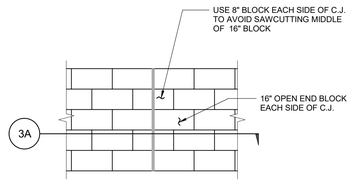
7A AT SOLID WALL

7 CMU PILASTER

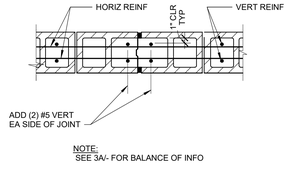
SCALE : 1 1/2" = 1'-0"

1 CMU BEARING WALL DETAILS

1" = 1'-0"

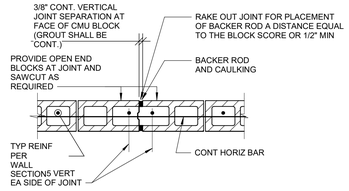


ELEVATION



NOTE:
SEE 3A/- FOR BALANCE OF INFO

3B PLAN - 12" CMU WALL



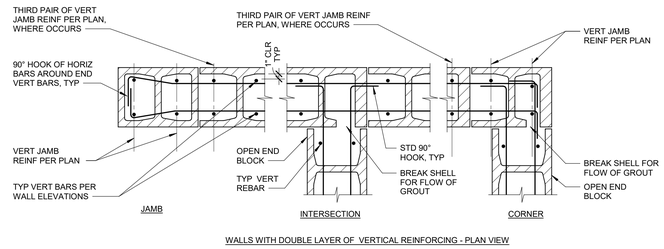
3A PLAN - 8" CMU WALL

NOTES:

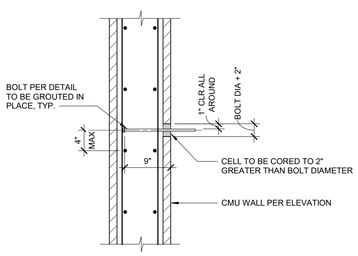
1. PROVIDE JOINTS AT 24'-0" OC MAX UNLESS NOTED OTHERWISE. SEE WALL ELEVATIONS FOR CONTROL JOINT LOCATION.
2. SEE CMU WALL ELEVATIONS FOR CONTROL JOINT LOCATIONS.
3. CONTROL JOINT SHALL BE COORDINATED WITH ARCHTECTURAL BLOCK PATTERN.

2 CMU WALL CONTROL JOINT DETAIL

1" = 1'-0"



WALLS WITH DOUBLE LAYER OF VERTICAL REINFORCING - PLAN VIEW



5 CMU WALL REINFORCING AT WALL INTERSECTION

1" = 1'-0"

3 TYPICAL ANCHOR BOLT IN MASONRY WALL

1" = 1'-0"

BAR SIZE	DEVELOPMENT LENGTH (ld)	LAP SPLICE LENGTH (ls)
#3	2'-0"	3'-0"
#4	2'-0"	3'-0"
#5	2'-6"	3'-9"
#6	3'-0"	4'-6"
#7	3'-6"	5'-3"
#8	4'-0"	N/A
#9	4'-6"	N/A

NOTES:

1. USE SPLICE LENGTH (ls) INDICATED ON TABLE FOR ALL DOWEL LENGTHS NOT SHOWN ON PLANS UNLESS OTHERWISE PERMITTED BY ENGINEER.
2. DEVELOPMENT LENGTHS (ld) AND SPLICE LENGTHS (ls) SHOWN IN THE SCHEDULE CORRESPOND TO GRADE 60 BARS EMBEDDED IN NORMAL WEIGHT CMU (f'm = 2000 PSI).
3. THIS SCHEDULE SHALL BE USED WHERE DEVELOPMENT AND SPLICE LENGTHS ARE NOT SPECIFICALLY DETAILED AND DIMENSIONED ON THE DRAWINGS.
4. "N/A" INDICATES WELDED OR MECHANICAL SPLICE IS REQUIRED IN LIEU OF NON-CONTACT LAP SPLICE. MECHANICAL SPLICE SHALL HAVE ICC #.
5. WHERE BARS OF DIFFERENT SIZE ARE LAP SPLICED, SPLICE LENGTH SHALL BE THE LARGER OF DEVELOP LENGTH OF LARGER BAR, OR SPLICE LENGTH OF SMALLER BAR.

4 CMU REINFORCMENT LAP SPLICE & DEVELOPMENT LENGTH SCHEDULE

NTS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
ALIREZA NAEIMI
No. 4399
STRUCTURAL
STATE OF CALIFORNIA

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL
TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

kpff
700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

NAC ARCHITECTURE

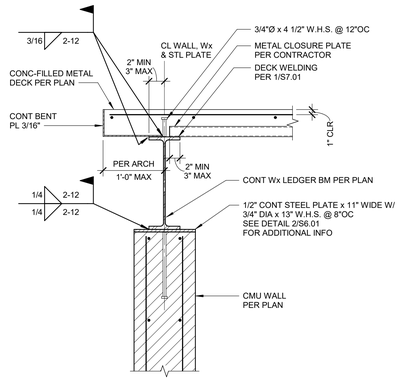
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

TYPICAL MASONRY DETAILS

S6.00

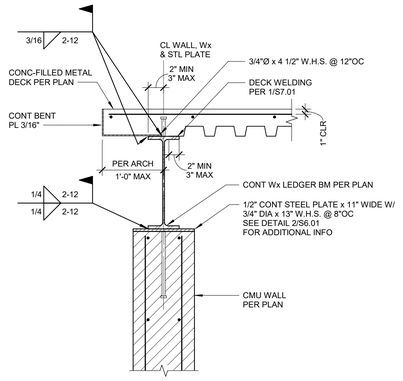
©2019 NAC Arc



NOTE:

AT SLOPED DECK, USE CONT BEVELED PL ON Wx TOP FLANGE PER 3/S7.01 .

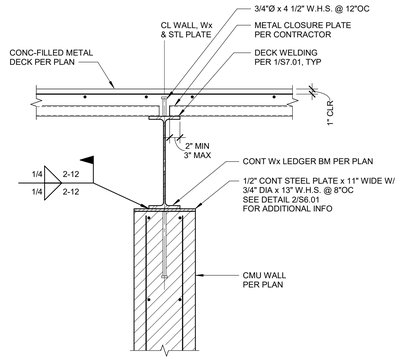
1A EDGE CONDITION - FLUTES PERPENDICULARE TO WALL



NOTE:

AT SLOPED DECK, USE CONT BEVELED PL ON Wx TOP FLANGE PER 3/S7.01 .

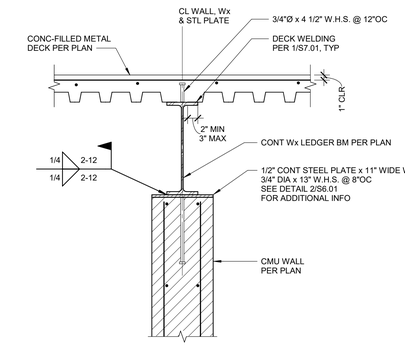
1B EDGE CONDITION - FLUTES PARALLEL TO WALL



NOTE:

AT SLOPED DECK, USE CONT BEVELED PL ON Wx TOP FLANGE PER 3/S7.01 .

1C INTERIOR CONDITION - FLUTES PERPENDICULAR TO WALL



NOTE:

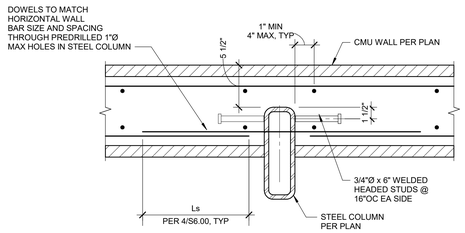
AT SLOPED DECK, USE CONT BEVELED PL ON Wx TOP FLANGE PER 3/S7.01.

1D INTERIOR CONDITION - FLUTES PARALLEL TO WALL

NOTE:
REFER TO ARCH DWGS FOR ROOFING ASSEMBLY.

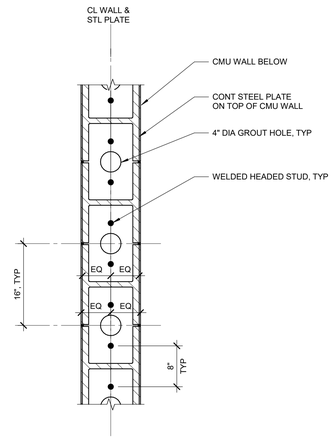
1 CONCRETE-FILLED METAL DECK ROOF TO CMU WALL CONNNECTIONS

SCALE : 1" = 1'-0"



3 HSS COLUMN PARTIALLY EMBEDDED IN CMU WALL

SCALE : 1 1/2" = 1'-0"



PLAN VIEW

NOTES:

1. EDGE OF DECK BENT PLATE AND METAL DECK NOT SHOWN FOR CLARITY.
2. COORDINATE BOTTOM WELDED HEADED STUDS WITH CMU BLOCK CELLS.

2 STEEL PLATE AT TOP OF CMU WALL

SCALE : 1" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
ALLAN J. ONGE
No. 4399
STRUCTURAL
STATE OF CALIFORNIA

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL
TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

kpff
700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

NAC
ARCHITECTURE

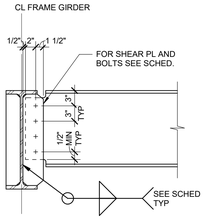
NAC NO. 161-19034
DATE 09/04/2020

100%
CONSTRUCTION
DOCUMENTS

TYPICAL MASONRY
DETAILS

S6.01

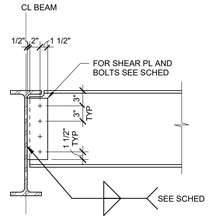
© 2019 NAC Arc



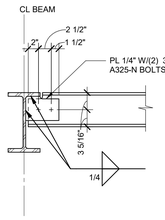
1C BEAM TO GIRDER

NOTE:
PROVIDE FULL HEIGHT STIFFENER PL EA SIDE WHERE INDICATED ON PLANS, SEE DETAIL 4/S7.00

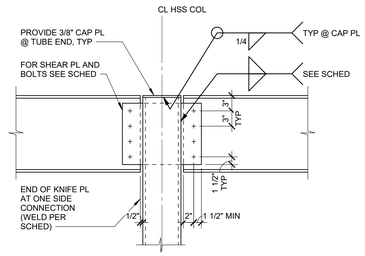
1/4" TO EDGE OF PLATE



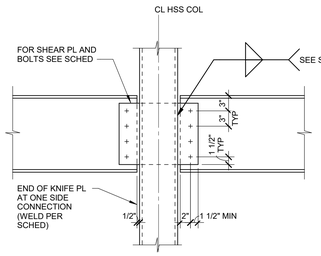
1D BEAM TO BEAM



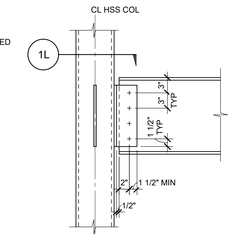
1E W6 OR C6 CONNECTION



1F GIRDER TO HSS COLUMN



1G 2 BEAMS TO SLOTTED HSS COLUMN

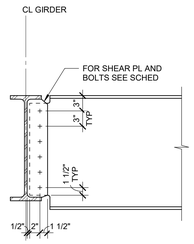


1H 3 BEAMS TO HSS COLUMN

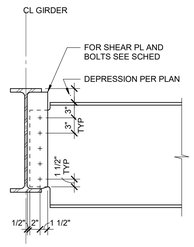
STANDARD BOLTED CONNECTION SCHEDULE				
BEAM SIZE	NO.& SIZE OF BOLTS REQUIRED	PLATE THICKNESS	WELD SIZE	CONN. CAPACITY (SING.SHEAR)
W8 C8	(2) 7/8"Ø	1/4"	1/4"	11.1K
W10 C10	(2) 7/8"Ø	1/4"	1/4"	11.1K
W12 C12	(3) 7/8"Ø	1/4"	1/4"	22.1K
W14	(3) 7/8"Ø	1/4"	1/4"	22.1K
W16	(4) 7/8"Ø	5/16"	1/4"	35.4K
W18	(5) 7/8"Ø	5/16"	1/4"	49.1K
W21	(6) 7/8"Ø	5/16"	1/4"	62.7K
W24	(7) 7/8"Ø	3/8"	5/16"	76.4K
W27	(7) 7/8"Ø	3/8"	5/16"	76.4K
W30	(8) 7/8"Ø*	7/16"	3/8"	83.9K
W33	(9) 7/8"Ø*	7/16"	3/8"	91.2K
W36	(9) 11/8"Ø*	7/16"	3/8"	176K

CONNECTION NOTES:

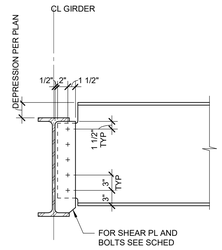
1. ALL BOLTS TO BE ASTM A325-N AND FULLY PRETENSIONED PER AISC STANDARDS.
2. CONNECTION PLATES TO HAVE AISC STANDARD ROUND HOLES UNLESS NOTED OTHERWISE.
3. ALL CONNECTION PLATE MATERIAL TO BE A36.
4. * INDICATES USE HORIZONTAL SHORT SLOTTED HOLES IN THE PLATE AT COLUMN CONNECTION ONLY.
5. # SHOWN ON PLANS INDICATES NUMBER OF BOLTS REQUIRED. IF NOT SHOWN ON PLANS USE NUMBER OF BOLTS SHOWN ON SCHEDULE.
6. SEE 3/- FOR SKEWED BEAM CONNECTION.



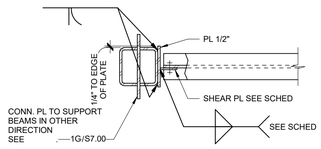
1I DEEP BEAM TO SHALLOW GIRDER



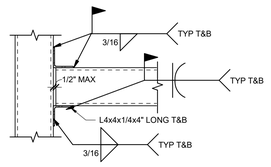
1J DEPRESSED BEAM



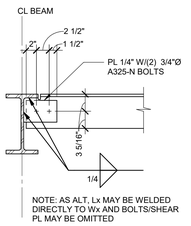
1K BEAM TO DEPRESSED GIRDER



1L PLAN



1M HSS BM TO HSS COL

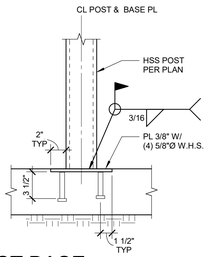


NOTE: AS ALT, Lx MAY BE WELDED DIRECTLY TO Wx AND BOLTS/SHEAR PL MAY BE OMITTED

1N Lx TO Wx

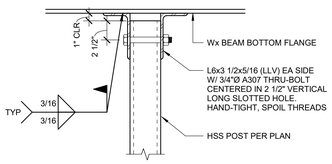
1 STANDARD BOLTED BEAM CONNECTIONS DETAILS

1" = 1'-0"



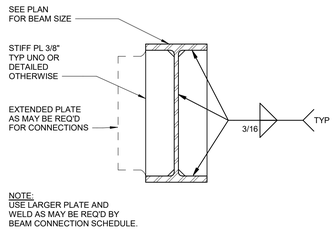
HSS POST BASE TO CONCRETE SOG CONNECTION

7 SCALE : 1 1/2" = 1'-0"



HSS POST TO Wx BOTTOM FLANGE SLIP CONNECTION

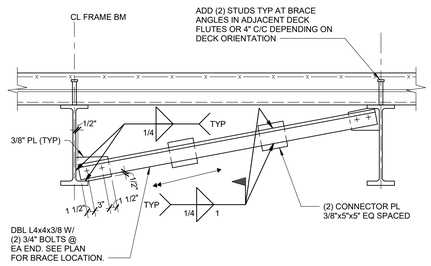
8 SCALE : 1 1/2" = 1'-0"



NOTE:
USE LARGER PLATE AND WELD AS MAY BE REQ'D BY BEAM CONNECTION SCHEDULE.

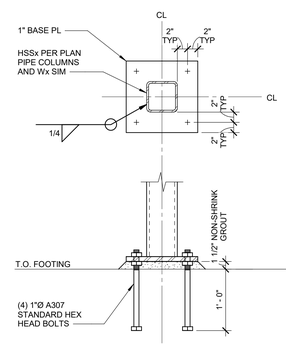
TYPICAL STIFFENER PLATES

4 1" = 1'-0"



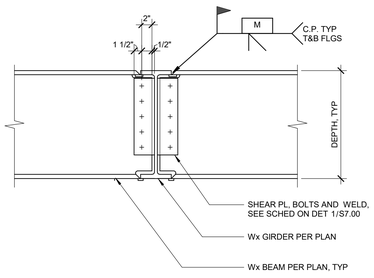
BEAM LATERAL BRACE

5 SCALE : 1" = 1'-0"

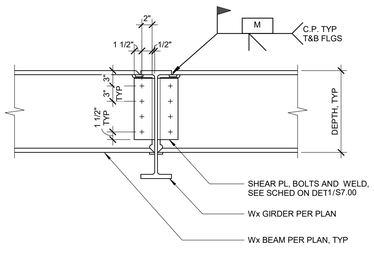


NON-FRAME HSS COLUMN BASE PLATE

6 SCALE : 1" = 1'-0"



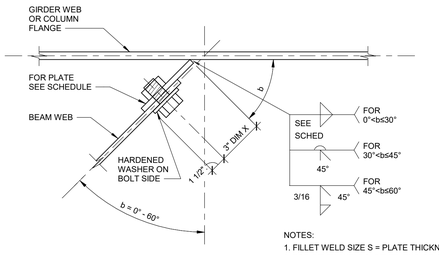
2A AT BEAMS SAME DEPTH AS GIRDER



2B AT BEAM DEPTH SMALLER THAN GIRDER

TYPICAL MOMENT CONNECTION DETAILS

2 1" = 1'-0"



PLAN

NOTES:
1. FILLET WELD SIZE S = PLATE THICKNESS.
2. FOR BEVEL WELDS, BEVEL END OF CONNECTION PLATE TO MAINTAIN b AT 45°.
3. DO NOT INCREASE DIM X WITHOUT ENGINEER'S APPROVAL.
4. * USE HORIZ SHORT SLOTTED HOLES IN PLATE AT COL CONN ONLY.
5. SEE DETAIL1/S7.00 FOR ADDITIONAL NOTES.
6. SEE DETAIL FOR 60 DEGRESS TO 76 DEGRESS.

SKEWED BEAM CONNECTION SCHEDULE					
BEAM SIZE	NO.& SIZE OF BOLTS REQUIRED	PLATE THICKNESS	CONN CAPACITY (SING.SHEAR)	WELD FOR 0°<b<10°	WELD FOR 10°<b<30°
W8	(2) 7/8"Ø	5/16"	11.1K	S S+1/16	S S+1/8
W10	(2) 7/8"Ø	5/16"	11.1K		
W12	(3) 7/8"Ø	5/16"	22.1K		
W14	(3) 7/8"Ø	5/16"	22.1K		
W16	(4) 7/8"Ø	5/16"	35.4K		
W18	(5) 7/8"Ø	5/16"	49.1K		
W21	(5) 7/8"Ø	5/16"	49.1K		
W24	(6) 7/8"Ø	3/8"	62.7K		45°
W27	(7) 7/8"Ø	3/8"	76.4K		
W30	(8) 7/8"Ø	7/16"	83.9K		
W33	(9) 7/8"Ø*	1/2"	91.2K	S S+1/8	
W36	(9) 7/8"Ø*	1/2"	91.2K		

SKEWED BEAM CONNECTION (FOR SKEW ANGLE=0°<B<60°)

3 1" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
ALLAN J. NAC
No. 4399
STRUCTURAL
STATE OF CALIFORNIA

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT

CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT

4747 NEW YORK AVE
GLENDALE, CA 91214

kpff
700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

NAC ARCHITECTURE

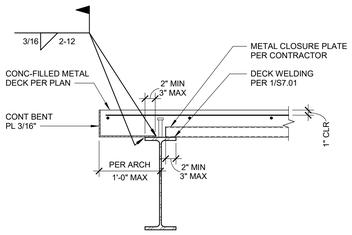
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

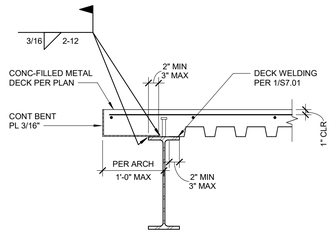
TYPICAL STEEL DETAILS

S7.00

©2019 NAC Inc.



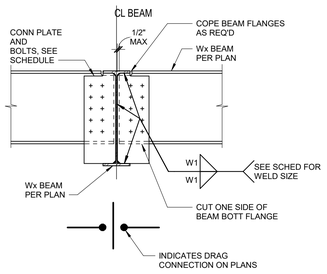
7A DECK FLUTES PERPENDICULARE TO EDGE



7B DECK FLUTES PARALLEL TO EDGE

7 BENT PLATE AT FLOOR / ROOF EDGE & INTERIOR OPENINGS

SCALE : 1" = 1'-0"



8A BEAM TO BEAM

DRAG CONNECTION SCHEDULE			
BEAM SIZE	No. & SIZE OF BOLTS REQUIRED PER LINE	CONN PLATE THICKNESS	WELD SIZE W1
W12, W14	(3) 7/8"Ø	3/8"	1/4"
W16, C15	(4) 7/8"Ø	3/8"	1/4"
W18	(5) 7/8"Ø	1/2"	5/16"
W21	(5) 7/8"Ø	1/2"	5/16"
W24	(6) 7/8"Ø	1/2"	5/16"

NOTES:

1. USE STANDARD HOLE (BOLT DIAMETER + 1/16") AT EACH DRAG STRUT CONNECTION.
2. ALL BOLTS SHALL BE A325 PRETENSIONED AND SHALL MEET THE REQUIREMENT FOR SLIP-CRITICAL FAYING SURFACE IN ACCORDANCE WITH AISC 360-10 SECTION J.8 WITH CLASS A SURFACE.
3. REFER TO 3/S7.00 FOR SHEAR TAB WELD AT SKEW CONDITION. USE LARGER WELD SIZE IF WELD IN THIS SCHEDULE IS LARGER THAN THAT IN 3/S7.00
4. ALL CONNECTION PLATE MATERIAL TO BE ASTM A572 GR 50, UNO.

8 DRAG CONNECTION DETAILS AND SCHEDULE

SCALE : 3/4" = 1'-0"

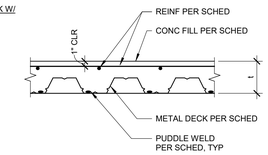
MARK	STEEL DECK TYPE	GAGE	TOTAL THICKNESS (t)	CONCRETE TYPE	REINFORCEMENT	STEEL DECK WELDING/FASTENING PATTERN			MAXIMUM UNSHORED SPAN		
						END SUPPORTS	INTERMEDIATE SUPPORTS	SEAM	SINGLE SPAN	DOUBLE SPAN	TRIPLE SPAN
D-1	W2CD-AC (G60) FORMLOK	18/20	5 1/4"	f'c = 3000 PSI LIGHT WEIGHT (115 PCF MAX)	#4@18"OC, EW	36/4 WELD PATTERN W/ 1/2"Ø EFFECTIVE PUDDLE WELD	36/4 WELD PATTERN W/ 1/2"Ø EFFECTIVE PUDDLE WELD	BUTTON PUNCH @ 24"OC	10'-0"	12'-0"	12'-0"
D-2	W2 (G60) FORMLOK	18	5 1/4"	f'c = 3000 PSI LIGHT WEIGHT (115 PCF MAX)	#4@18"OC, EW	36/4 WELD PATTERN W/ 1/2"Ø EFFECTIVE PUDDLE WELD	36/4 WELD PATTERN W/ 1/2"Ø EFFECTIVE PUDDLE WELD	BUTTON PUNCH @ 24"OC	10'-0"	12'-0"	12'-0"

NOTES:

1. SEE GENERAL NOTES FOR STEEL DECK PROPERTIES.
2. A WELDED HEADED STUD MAY BE SUBSTITUTED FOR A PUDDLE WELD.
3. REFER TO TYPICAL METAL DECK DETAILS ON SHEETS S7.01 AND S7.02.

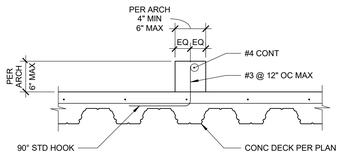
METAL DECK W/
CONC FILL

D1

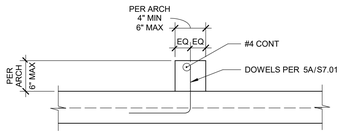


1 STEEL DECK SCHEDULE

SCALE : 1" = 1'-0"



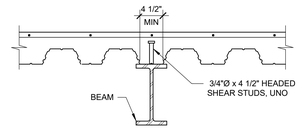
5A CURB PARALLEL TO FLUTE



5B CURB PERPENDICULAR TO FLUTE

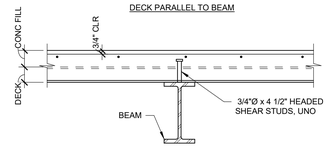
5 CONCRETE CURB ON CONCRETE FILLED METAL DECK

SCALE : 1" = 1'-0"



NOTE: DECK RIB VALLEY TO BE CENTERED OVER BEAM WHERE POSSIBLE OR DECK MUST BE SPLIT FULL LENGTH OF BEAM TO PROVIDE CONCRETE HAUNCH WITH MIN. WIDTH OF 4 1/2".
SEE 6/- FOR MORE INFO.

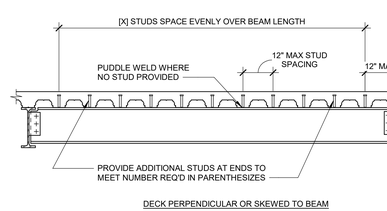
DECK PARALLEL TO BEAM



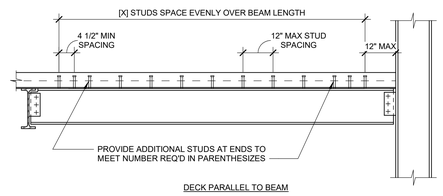
DECK PERPENDICULAR TO BEAM

2 SECTION AT COMPOSITE BEAM

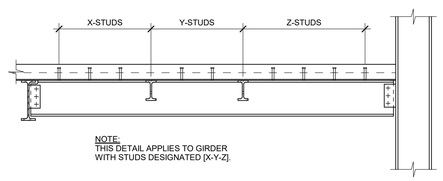
SCALE : 1" = 1'-0"



DECK PERPENDICULAR OR SKEWED TO BEAM



DECK PARALLEL TO BEAM



NOTE:
THIS DETAIL APPLIES TO GIRDER
WITH STUDS DESIGNATED [X-Y-Z].

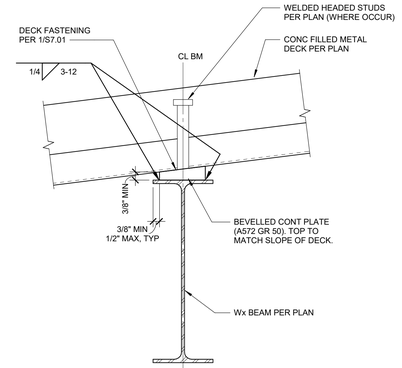
DECK PARALLEL TO GIRDER

NOTES:

1. THE MINIMUM NUMBER OF STUDS REQUIRED IS SHOWN AS [X] ON FRAMING PLANS OR 12"OC MAXIMUM SPACING IF NOT CALLED OUT ON PLANS.
2. IF TWO STUDS ARE REQUIRED IN ONE FLUTE THE TRANSVERSE SPACING SHALL BE 3" MINIMUM.
3. UNLESS NOTED [0] ALL BEAMS AND GIRDERS SHALL HAVE 3/4"Ø WELDED HEADED SHEAR STUDS @ 12"OC (MAX).
4. WELDED HEADED STUDS SHALL HAVE AN EFFECTIVE LENGTH EQUAL TO THE TOTAL CONCRETE FILLED DECK THICKNESS MINUS 3/4".

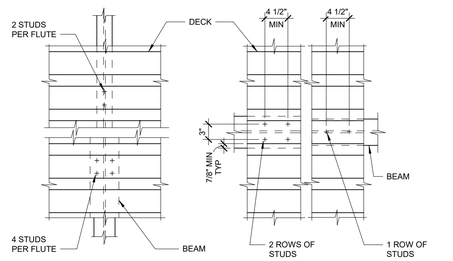
6 COMPOSITE BEAM STUD SPACING

SCALE : 1" = 1'-0"



3 SLOPING DECK SUPPORT

SCALE : 3" = 1'-0"



DECK PERPENDICULAR TO BEAM

DECK PARALLEL TO BEAM

4 WELDED HEADED STUD SPACING ON BEAMS

SCALE : 1" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
ALBERT N. GUTIERREZ
No. 4399
STRUCTURAL
STATE OF CALIFORNIA

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL
TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

kpff
700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

NAC ARCHITECTURE

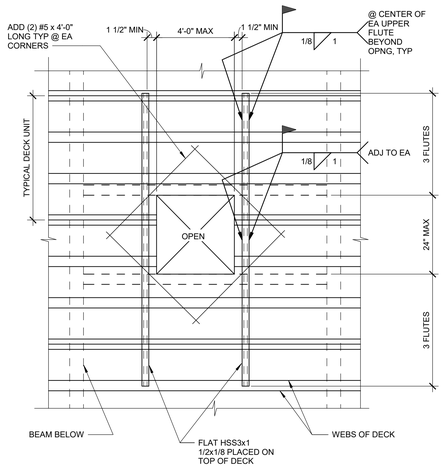
NAC NO. 161-19034
DATE 09/04/2020

100%
CONSTRUCTION
DOCUMENTS

TYPICAL STEEL DETAILS

S7.01

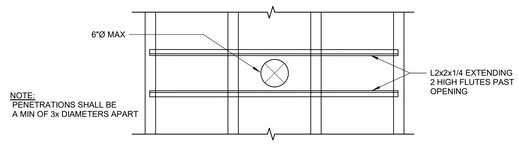
©2019 NAC Arc



NOTES:

1. IF THE OPENING OR GROUP OF OPENINGS OCCURS IN ONE DECKING UNIT, THE OPENING OR OPENING GROUP MAY BE CUT PRIOR TO POURING OF CONCRETE.
2. IF, AS SHOWN IN THE DETAIL ABOVE, THE OPENING OR OPENING GROUP CUTS THROUGH TWO DECKING UNITS, THE DECKING SHALL NOT BE CUT UNTIL CONCRETE HAS BEEN PLACED AND CURED FOR A MIN OF 7 DAYS. AT THE TIME OF POURING, SUITABLE SLEEVES OR BULKHEADS SHALL BE PLACED AROUND THE OPENING.
3. ADD REBAR AT CORNERS OF OPENINGS.
4. WHEN THE MAXIMUM DIMENSION OF AN OPENING OR OPENING GROUP EXCEEDS 24", SEE PLANS FOR OPENING FRAMING.
5. OPENINGS NOT SHOWN ON PLAN SHALL BE SUBMITTED TO SEOR FOR REVIEW AND APPROVAL.

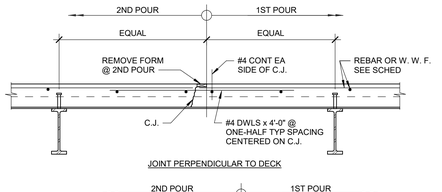
B CONCRETE OVER METAL DECK



A METAL DECK - NO FILL

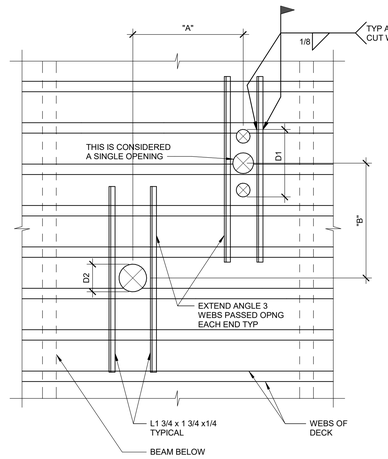
6 CONCRETE OVER METAL DECK BLOCK OUT

1" = 1'-0"



4 CONSTRUCTION JOINT

1" = 1'-0"

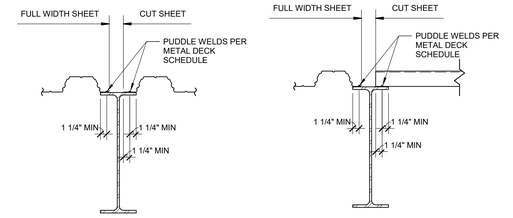


NOTES:

1. HOLES LESS THAN 6" IN DIAMETER AND CUTTING NO MORE THAN 1 WEB NEED NO REINFORCING.
2. DO NOT CUT MORE THAN 2 ADJACENT WEBS.
3. ANGLES SHALL BE PLACED ON TOP OF DECK. ALTERNATELY THEY CAN BE PLACED ON BOTTOM OF DECK.
4. IF DIMENSIONS "A" AND "B" ARE LESS THAN 4D1, 4D2, OR 32" WHICHEVER IS LARGER, THE OPENING GROUP SHALL BE CONSIDERED AS A SINGLE HOLE, AND MUST BE REINFORCED AS REQUIRED FOR THE LARGER OPENING.
5. IF DIMENSION "A" IS GREATER THAN 4D1, 4D2, OR 32" WHICHEVER IS LARGER, THEN THERE IS NO RESTRICTION ON DIMENSION "B".
6. IF DIMENSION "B" IS GREATER THAN 4D1, 4D2, OR 32" WHICHEVER IS LARGER, THEN THERE IS NO RESTRICTION ON DIMENSION "A".
7. WHEN MAXIMUM DIMENSION OF AN OPENING OR OPENING GROUP EXCEEDS 12" USE DET 6/S7.02

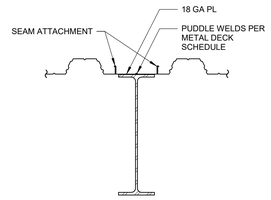
5 CONCRETE OVER METAL DECK SLEEVE

1" = 1'-0"

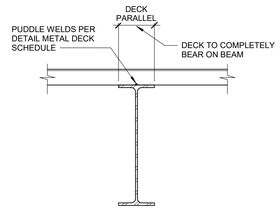


1A DECK PARALLEL

1D DECK PARALLEL AND PERPENDICULAR



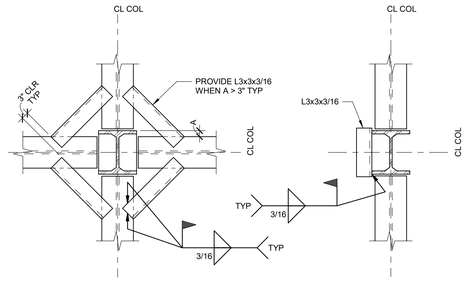
1B DECK PARALLEL



1C DECK PERPENDICULAR

1 METAL DECK ALIGNMENT / BEARING DETAIL

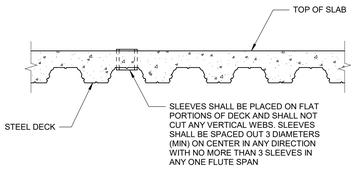
1" = 1'-0"



NOTE:
DECK SUPPLIER SHALL PROVIDE REQUIRED DECK SUPPORTS AND CLOSURES AROUND COLUMN AS REQUIRED.

2 METAL DECK SUPPORT AT COLUMN

1" = 1'-0"



3 METAL DECK SLEEVE

SCALE : 1" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
ALLAN J. NG
No. 4399
STRUCTURAL
STATE OF CALIFORNIA

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

kpff
700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

NAC ARCHITECTURE

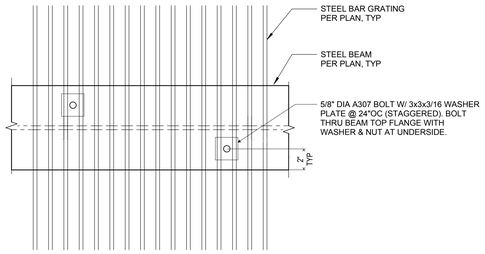
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

TYPICAL STEEL DETAILS

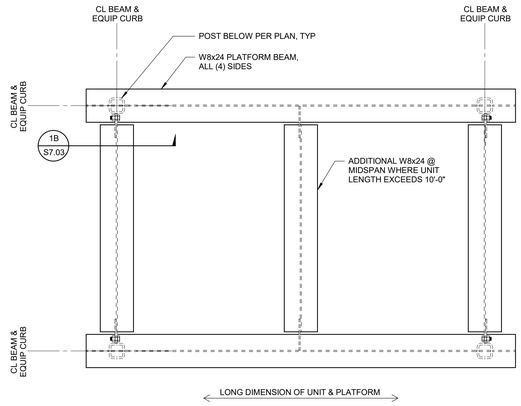
S7.02

©2019 NAC Arc

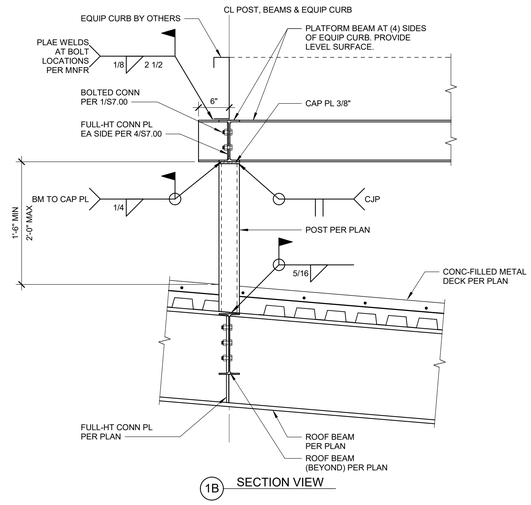


6 STEEL BAR GRATING TO Wx BEAM CONNECTION

SCALE : 3" = 1'-0"



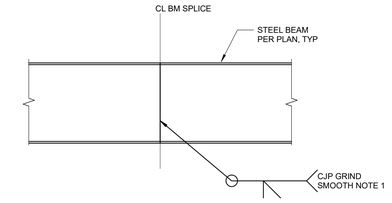
1A PLAN VIEW



1B SECTION VIEW

1 ROOFTOP EQUIPMENT PLATFORM FRAMING

SCALE : 1" = 1'-0"

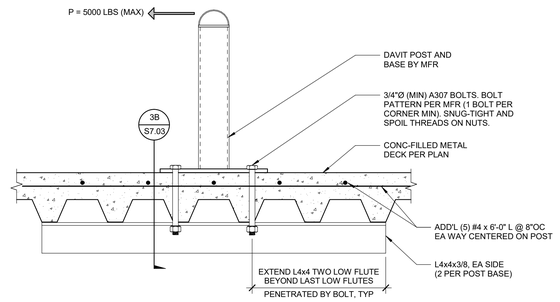


NOTES:

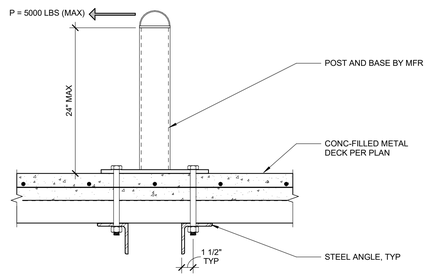
1. FIELD WELD STEEL BEAMS IN THE FIELD PRIOR TO PLACING ON TOP OF CMU WALL (WHERE OCCURS).
2. DO NOT SPLICE BEAMS OVER OPENINGS IN CMU WALLS OR IN CANTILEVER PORTION OF BEAM.

2 STEEL BEAM SPLICE

SCALE : 1" = 1'-0"



3A DETAIL



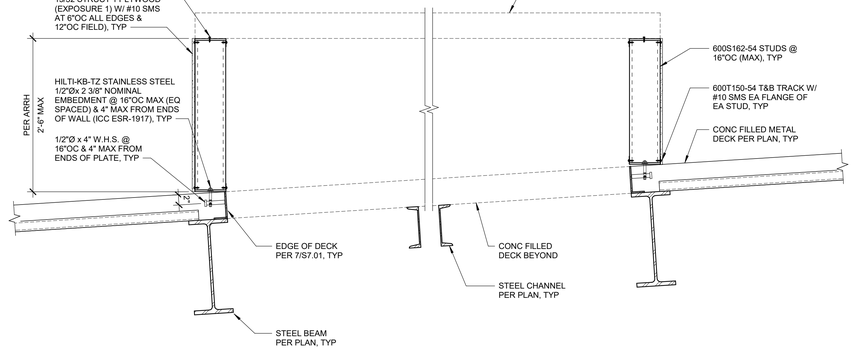
3B DETAIL

NOTE:

1. REFER TO ARCH FOR ROOFING ASSEMBLY OVER ROOF AND FALL ARREST POST & BASE.

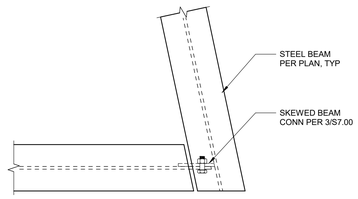
3 FALL ARREST POST ANCHORAGE

SCALE : NTS



4 SKYLIGHT FRAMING

SCALE : 1" = 1'-0"



5 Wx BEAM TO SKEWED Wx BEAM CONNECTION

SCALE : 1 1/2" = 1'-0"

7 HSS COLUMN TO Wx BEAM BOTTOM FLANGE CONN

SCALE : 1" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
SILVIA J. GUTIERREZ
No. 4399
STRUCTURAL
STATE OF CALIFORNIA

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

kpff
700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

NAC ARCHITECTURE

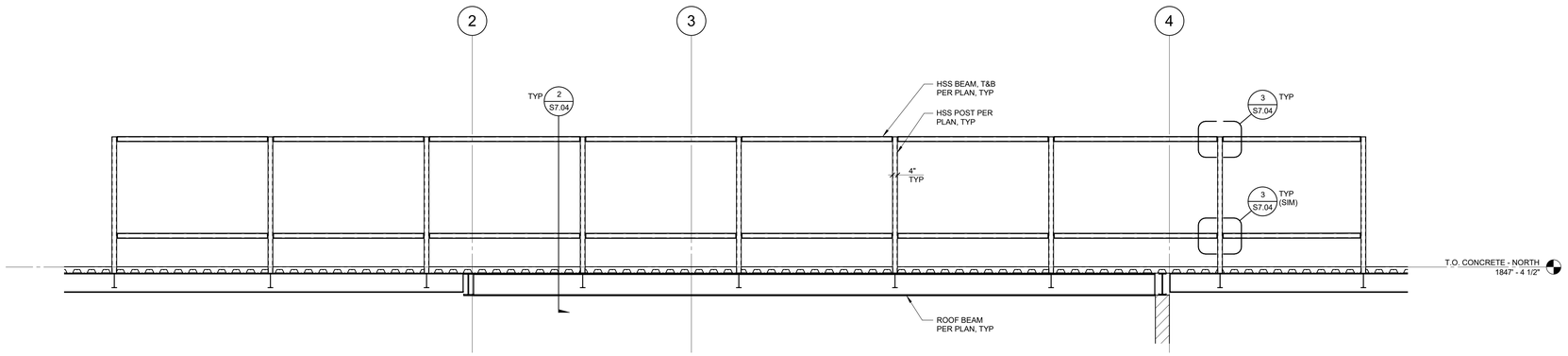
NAC NO. 161-19034
DATE 09/04/2020

100%
CONSTRUCTION
DOCUMENTS

STEEL DETAILS

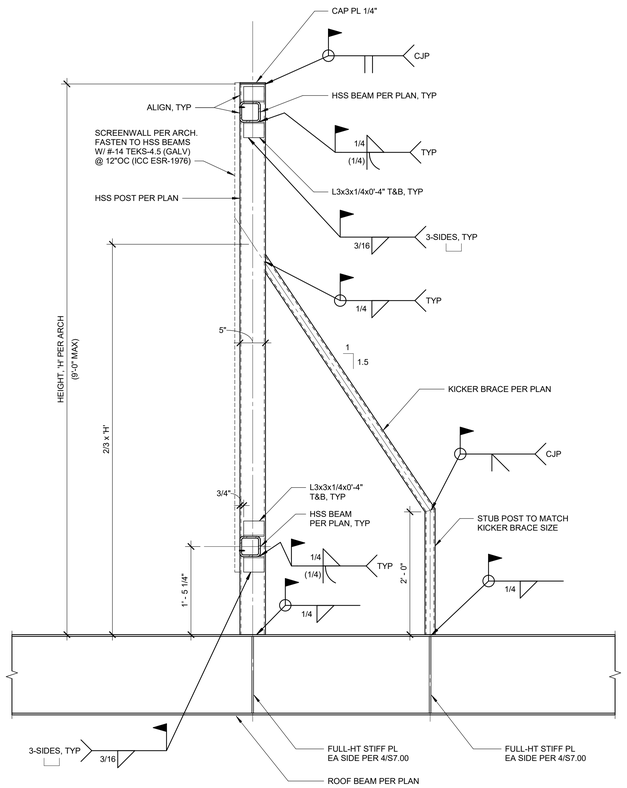
S7.03

©2019 NAC Inc.



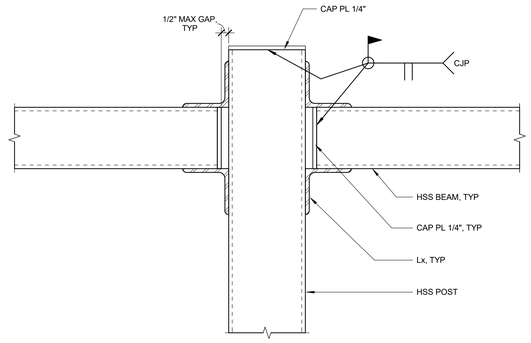
1 SCREENWALL ELEVATION

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



2 SCREENWALL SECTION

SCALE : 1" = 1'-0"



3 HSS BEAMS TO SCREENWALL HSS POST CONNECTION

SCALE : 3" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
ALIREZA GUTIERREZ
No. 4399
STRUCTURAL
STATE OF CALIFORNIA

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT

CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT

4747 NEW YORK AVE
GLENDALE, CA 91214

kpff
700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

NAC ARCHITECTURE

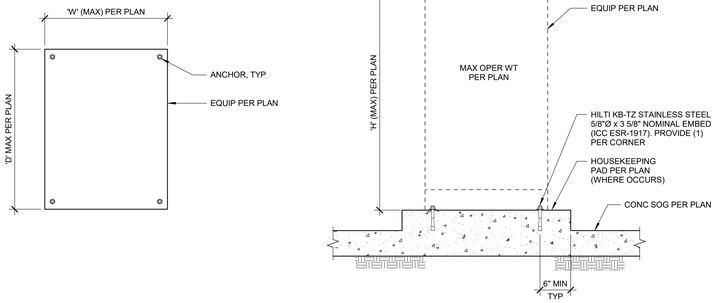
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

SCREENWALL STEEL DETAILS

S7.04

©2019 NAC Inc.

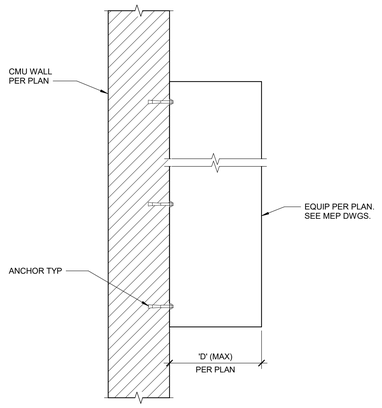


7B PLAN DIAGRAM

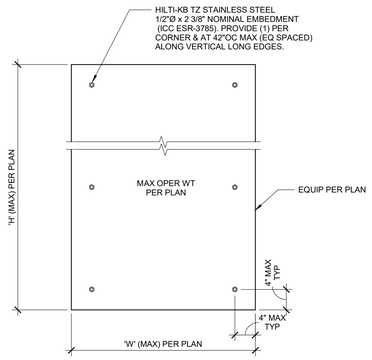
7A ELEVATION VIEW

7 EQUIPMENT ANCHORAGE TO CONCRETE SLAB

SCALE : 1" = 1'-0"



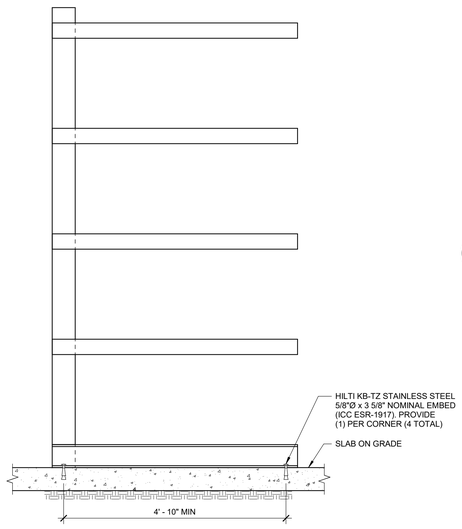
8B PLAN DIAGRAM



8A ELEVATION VIEW

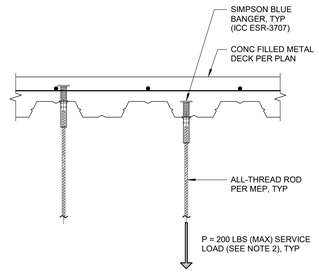
8 EQUIPMENT ANCHORAGE TO CMU WALL

SCALE : 1" = 1'-0"



11 STORAGE RACK ANCHORAGE

SCALE : 3/4" = 1'-0"

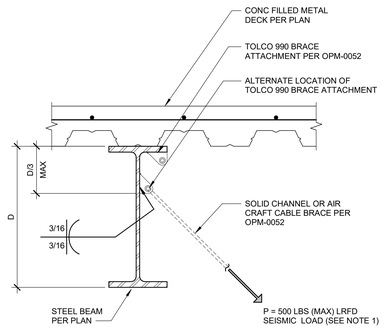


NOTES:

1. DO NOT USE THIS DETAIL FOR SEISMIC BRACING.
2. HANGERS OF ANY KIND SHALL NOT BE SPACED CLOSER THAN 8'-0"OC ALONG A DECK FLUTE, AND NO MORE THAN 2 HANGERS PER FLUTE SPAN ARE ALLOWED.

4 MEP HANGER ROD TO CONCRETE FILLED METAL DECK (BLUE BANGER OPTION)

SCALE : 1 1/2" = 1'-0"

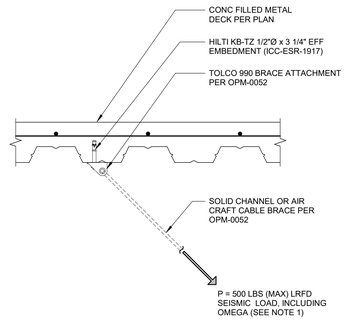


NOTES:

1. BRACES OF ANY KIND SHALL NOT BE SPACED CLOSER THAN 8'-0"OC ALONG A BEAN, AND NO MORE THAN 2 BRACES PER BEAM ARE ALLOWED.

5 MEP BRACETO STEEL BEAM

SCALE : 1 1/2" = 1'-0"

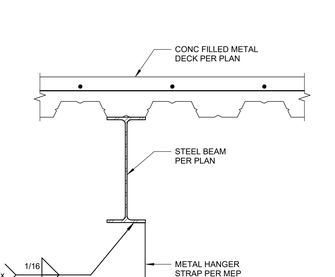


NOTES:

1. BRACES OF ANY KIND SHALL NOT BE SPACED CLOSER THAN 8'-0"OC ALONG A FLUTE, AND NO MORE THAN 2 BRACES PER FLUTE ARE ALLOWED.

6 MEP BRACE TO CONC FLLED METAL DECK

SCALE : 1 1/2" = 1'-0"

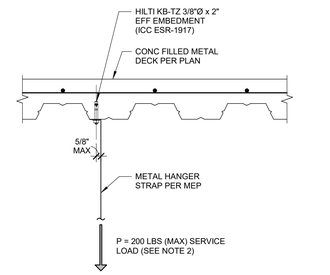


NOTES:

1. DO NOT USE THIS DETAIL FOR SEISMIC BRACING.
2. HANGERS OF ANY KIND SHALL NOT BE SPACED CLOSER THAN 8'-0"OC ALONG A BEAM.

1 MEP HANGER STRAP TO STEEL BEAM

SCALE : 1 1/2" = 1'-0"

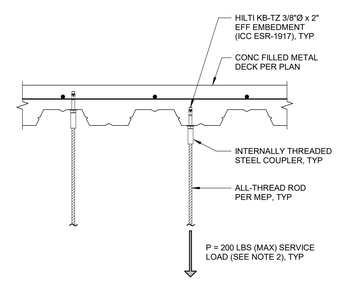


NOTES:

1. DO NOT USE THIS DETAIL FOR SEISMIC BRACING.
2. HANGERS OF ANY KIND SHALL NOT BE SPACED CLOSER THAN 8'-0"OC ALONG A DECK FLUTE, AND NO MORE THAN 2 HANGERS PER FLUTE SPAN ARE ALLOWED.

2 MEP HANGER STRAP TO CONCRETE FILLED METAL DECK

SCALE : 1 1/2" = 1'-0"

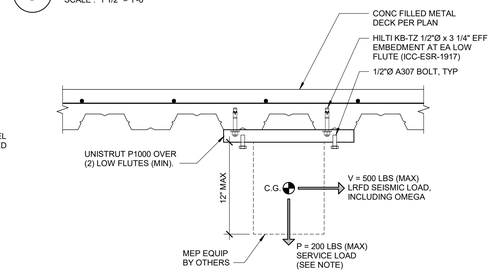


NOTES:

1. DO NOT USE THIS DETAIL FOR SEISMIC BRACING.
2. HANGERS OF ANY KIND SHALL NOT BE SPACED CLOSER THAN 8'-0"OC ALONG A DECK FLUTE, AND NO MORE THAN 2 HANGERS PER FLUTE SPAN ARE ALLOWED.

3 METAL HAGER ROD TO CONCRETE FILLED METAL DECK (ANCHOR-COUPLER OPTION)

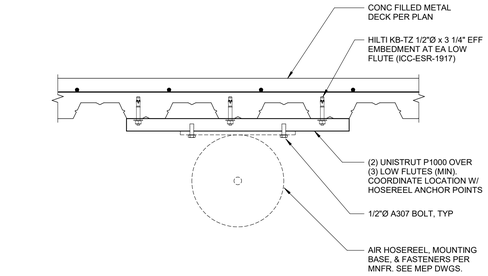
SCALE : 1 1/2" = 1'-0"



NOTE:
DO NOT PLACE MORE THAN TWO UNISTRUTS ON A FLUTE SPAN.

10 MEP EQUIPMENT ANCHORAGE TIGHT TO UNDERSIDE OF DECK

SCALE : 1 1/2" = 1'-0"



9 AIR HOSEREEL ANCHORAGE

SCALE : 1 1/2" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
ALBERT N. GRIGOR
No. 4399
STRUCTURAL
STATE OF CALIFORNIA

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL
TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

kpff
700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

NAC ARCHITECTURE

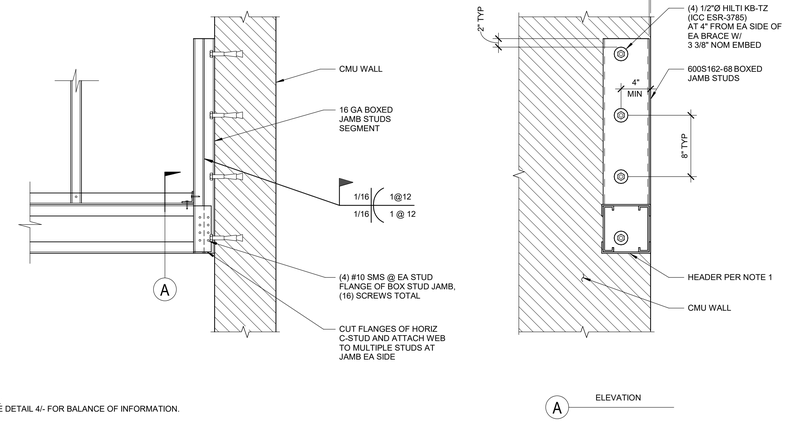
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

MEP SUPPORT, BRACING, & ANCHORAGE

S8.00

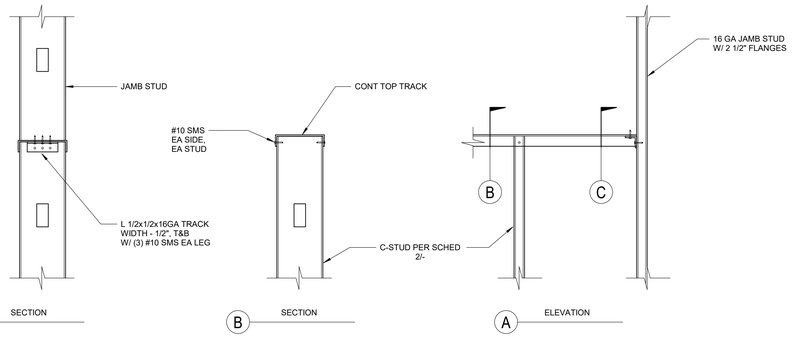
©2019 NAC Arc



NOTE:
1. SEE DETAIL 4/- FOR BALANCE OF INFORMATION.

6 HEADER TO CMU WALL

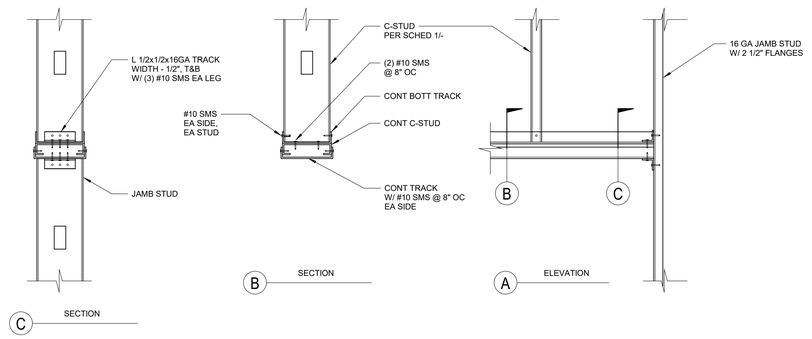
SCALE : N.T.S.



NOTE:
1. SEE DETAIL 1/- FOR METAL STUD PROPERTIES.
2. DO NOT SPLICE SILL TOP TRACK.

3 SILL & JAMB DETAIL FOR 4'-0" MAX OPENING

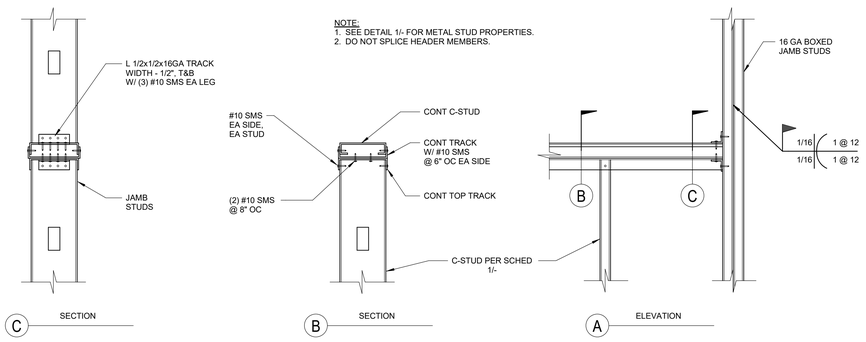
SCALE : N.T.S.



NOTE:
1. SEE DETAIL 1/- FOR METAL STUD PROPERTIES.
2. DO NOT SPLICE HEADER MEMBERS.

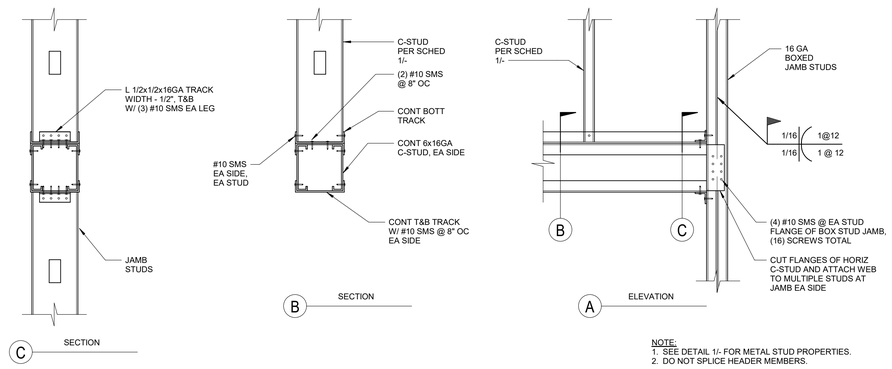
2 HEADER & JAMB DETAIL FOR 4'-0" MAX OPENING

SCALE : N.T.S.



5 SILL & JAMB DETAIL FOR 8'-6" MAX OPENING

SCALE : N.T.S.

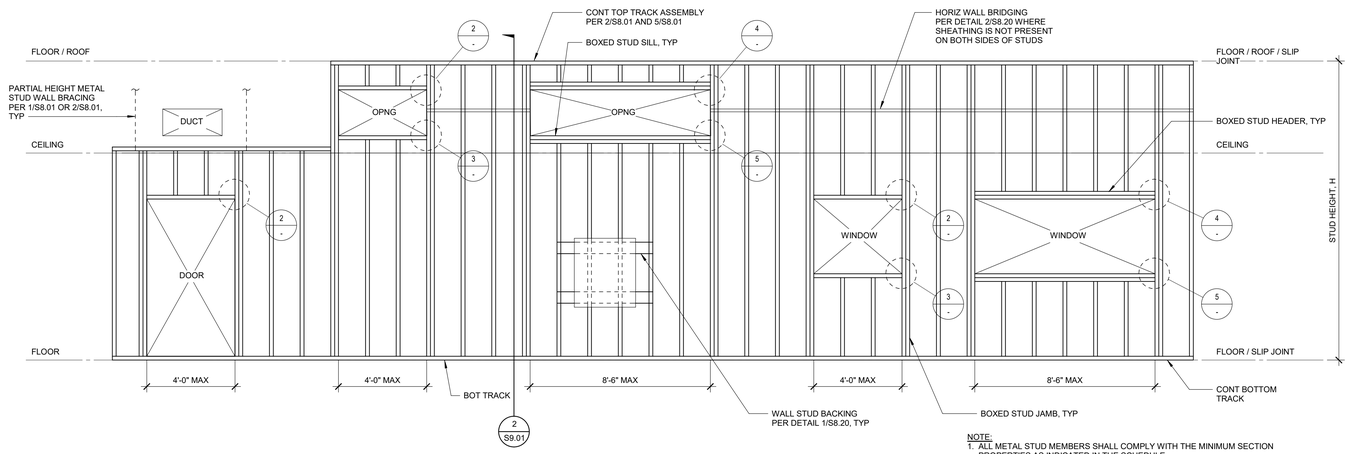


NOTE:
1. SEE DETAIL 1/- FOR METAL STUD PROPERTIES.
2. DO NOT SPLICE HEADER MEMBERS.

4 HEADER & JAMB DETAIL FOR 8'-6" MAX OPENING

SCALE : N.T.S.

TYPICAL WALL STUD PROPERTIES		SSMA DESIGNATION	DEPTH	GAUGE	FLANGE WIDTH	GROSS AREA (in2)	GROSS Ixx (in4)	GROSS Sxx (in3)
MAX STUD SPACING = 16" OC								
TYPICAL INTERIOR NON-LOAD BEARING WALL FRAMING	C - STUD	600S162-43	6"	18 GA	1 5/8"	0.447	2.316	0.772
	HANGING STUD	600S162-43	6"	18 GA	1 5/8"	0.447	2.316	0.772
	TOP & BOTTOM TRACKS	600T150-54	6"	16 GA	1 1/2"	0.509	2.611	0.843
	SLOTTED TOP TRACK	SEE 6/S9.01	NOTE 4	SEE 6/S9.01				



NOTE:
1. ALL METAL STUD MEMBERS SHALL COMPLY WITH THE MINIMUM SECTION PROPERTIES AS INDICATED IN THE SCHEDULE.
2. SEE ACHITECTURAL DRAWINGS FOR DEPTH AND LOCATION OF WALLS.
3. USE 16GA WALL STUD PROPERTIES AT WALL MOUNTED CABINETS, SINKS, TOILETS, SHELVES, GRAB BARS, DRINKING FOUNTAINS, AND HANDRAILS.
4. SLOTTED TRACK TO MATCH WALL STUD DEPTH.

1 METAL STUD WALL FRAMING (FOR TYPICAL INTERIOR WALLS)

SCALE : N.T.S.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
ALIREZA V. GHAFFARI
No. 4399
STRUCTURAL
STATE OF CALIFORNIA

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

kpff
700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

NAC ARCHITECTURE

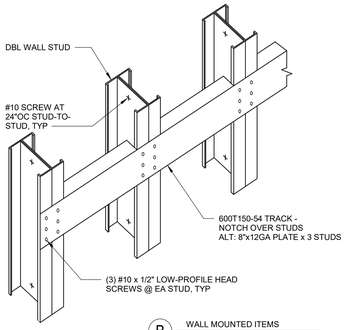
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

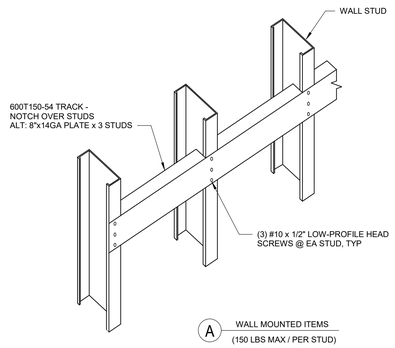
TYPICAL INTERIOR LIGHT GAUGE STEEL FRAMING DETAILS

S9.00

©2019 NAC Arc

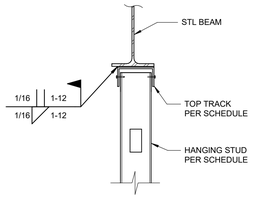


B WALL MOUNTED ITEMS
(150 LBS TO 300 LBS PER STUD)

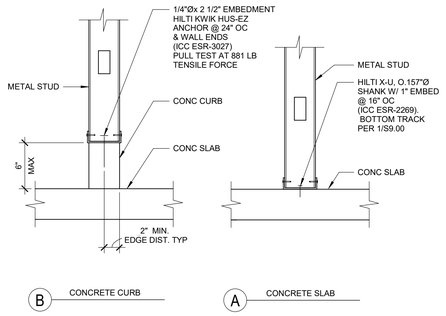


A WALL MOUNTED ITEMS
(150 LBS MAX / PER STUD)

8 METAL STUD BACKING DETAILS
SCALE : 1" = 1'-0"

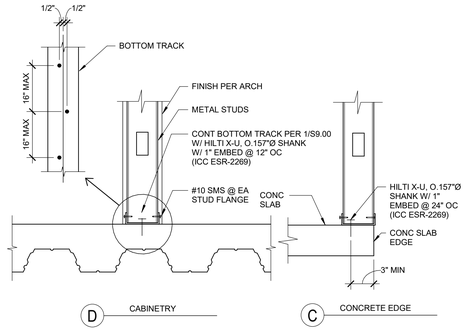


7 HANGING STUD TO STL BEAM
SCALE : 1 1/2" = 1'-0"



B CONCRETE CURB

A CONCRETE SLAB

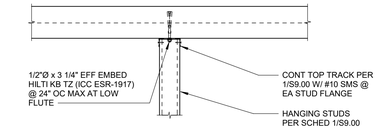


D CABINETRY

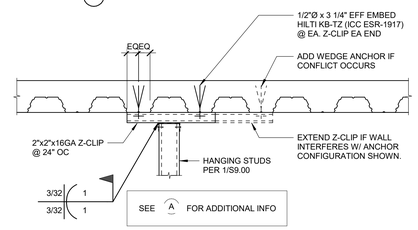
C CONCRETE EDGE

5 INTERIOR WALL BOTTOM TRACK ANCHORAGE
SCALE : 1 1/2" = 1'-0"

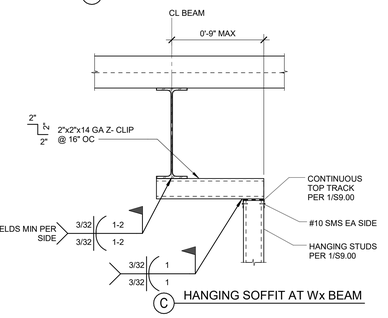
NOTE:
WHERE NO STRUCTURAL CONC FILL EXISTS SUBSTITUTE ANCHOR W/ (4) #10 SMS (100 LBS MAX TENSION LOAD)



A HANGING SOFFIT PERPENDICULAR TO DECK FLUTES

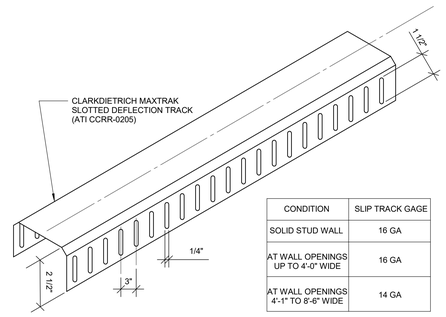


B HANGING SOFFIT PARALLEL TO DECK FLUTES



C HANGING SOFFIT AT Wx BEAM

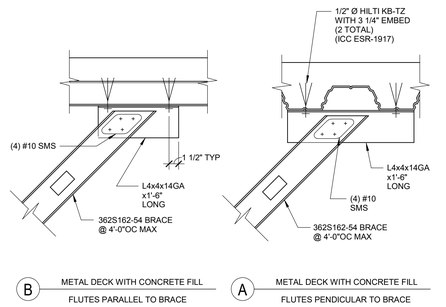
3 SOFFIT / TOP TRACK CONNECTION DETAILS
SCALE : 1" = 1'-0"



CONDITION	SLIP TRACK GAGE
SOLID STUD WALL	16 GA
AT WALL OPENINGS UP TO 4'-0" WIDE	16 GA
AT WALL OPENINGS 4'-1" TO 8'-6" WIDE	14 GA

NOTE:
AT WALL OPENINGS, EXTEND THICKER TRACK 2'-0" BEYOND EACH SIDE OF OPENING.

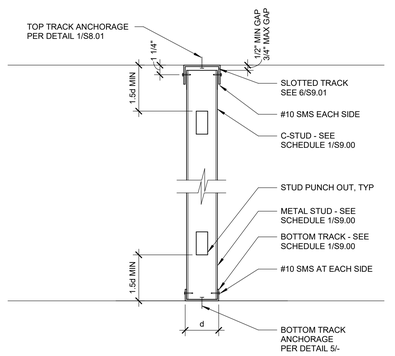
6 SLOTTED TOP TRACK
SCALE : 1" = 1'-0"



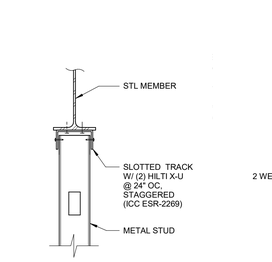
B METAL DECK WITH CONCRETE FILL
FLUTES PARALLEL TO BRACE

A METAL DECK WITH CONCRETE FILL
FLUTES PENDICULAR TO BRACE

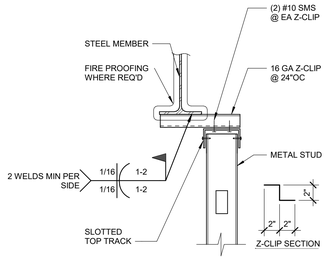
4 BRACE TO CONC-FILLED METAL DECK CONN
SCALE : 1 1/2" = 1'-0"



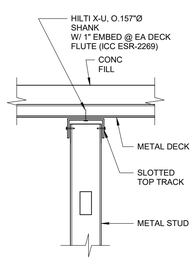
2 FULL HEIGHT WALL TOP & BOTTOM CONNECTION
SCALE : 1 1/2" = 1'-0"



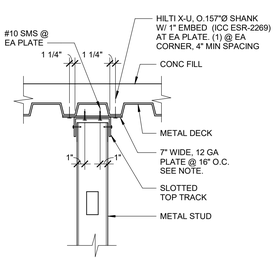
D STEEL BEAM/PLATE



C STEEL MEMBER - OFFSET
WITH FIREPROOFING



B METAL DECK W/ CONC FILL
FLUTES PERPENDICULAR TO WALL



A METAL DECK W/ CONC FILL
FLUTES PARALLEL TO WALL

NOTE:
EXTEND PLATE OVER 3 LOW FLUTES WHERE TOP TRACK IS NOT COMPLETELY UNDER PLATE.

1 INTERIOR WALL TOP DEFLECTION/SLIP TRACK ANCHORAGE
SCALE : 1 1/2" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

REGISTERED PROFESSIONAL ENGINEER
ALLAN J. KNUDSEN
No. 4399
STRUCTURAL
STATE OF CALIFORNIA

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

kpff
700 S. Flower St., Suite 2100
Los Angeles, CA 90017
O: 213.418.0201
www.kpff.com

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

TYPICAL INTERIOR LIGHT GAUGE STEEL FRAMING DETAILS

S9.01

©2019 NAC Arc

GENERAL NEW NOTES:

1. PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
2. PROVIDE SEISMIC RESTRAINTS AS NEEDED FOR THE MECHANICAL SYSTEMS IN THE PROJECT BASED ON THE SEISMIC ANALYSIS REQUIRED BY THE SPECIFICATIONS.
3. EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. FIELD VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING FINAL BIDS. COORDINATE NEW WORK AND DEMOLITION WITH OTHER DISCIPLINES AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
4. COORDINATE THE INSTALLATION OF THE MECHANICAL SYSTEMS WITH OTHER TRADES TO ENSURE A NEAT AND ORDERLY INSTALLATION. INSTALL DUCTWORK AND PIPING AS TIGHT TO STRUCTURE AS POSSIBLE. COORDINATE WITH OTHER TRADES TO AVOID CONFLICTS. COORDINATE INSTALLATION OF DUCTWORK AND PIPING TO AVOID CONFLICTS WITH ELECTRICAL PANELS, LIGHTING FIXTURES, ETC. ANY MODIFICATIONS REQUIRED DUE TO LACK OF COORDINATION WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AT NO EXTRA COST TO THE OWNER.
5. WHERE SHUTDOWN OF EXISTING SYSTEMS IS REQUIRED DURING NEW WORK, COORDINATE SHUTDOWN TIME AND DURATION WITH THE OWNER TO MINIMIZE DOWNTIME. NOTIFY OWNER SEVEN (7) DAYS PRIOR TO INTERRUPTION OF SERVICE.
6. DURING INSTALLATION OF NEW WORK, AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN. REPAIR DAMAGE CAUSED DURING CONSTRUCTION AT NO EXTRA COST TO THE OWNER.
7. PROVIDE TEMPORARY BARRIERS TO CONTAIN DUST AND DEBRIS RESULTING FROM THE PERFORMANCE OF THE WORK TO THE AREA WHERE WORK IS BEING PERFORMED.
8. ALL MECHANICAL EQUIPMENT SHOWN ON THE MECHANICAL PLANS SHALL BE PROVIDED BY DIVISION 23 UNLESS OTHERWISE NOTED.
9. NEW MECHANICAL EQUIPMENT, DUCTWORK ARE SHOWN AT APPROXIMATE LOCATIONS. FIELD MEASURE FINAL DUCTWORK LOCATIONS PRIOR TO FABRICATION AND MAKE ADJUSTMENTS AS REQUIRED TO FIT THE DUCTWORK WITHIN THE AVAILABLE SPACE. VERIFY THAT FINAL EQUIPMENT LOCATIONS MEET MANUFACTURER'S RECOMMENDATIONS REGARDING SERVICE CLEARANCE AND PROPER AIRFLOW CLEARANCE AROUND EQUIPMENT.
10. REFER TO ARCHITECTURAL DRAWINGS FOR RELATED CONSTRUCTION DETAILS AS APPLICABLE TO THE HVAC SYSTEM. VERIFY CHASES AND PENETRATIONS SHOWN ON ARCHITECTURAL DRAWINGS THAT ARE INTENDED FOR DUCTWORK AND PIPING MEET REQUIREMENTS.
11. COORDINATE LOCATION OF ROOF MOUNTED HVAC EQUIPMENT AND ROOF PENETRATIONS WITH THE ARCHITECTURAL AND STRUCTURAL DRAWINGS.
12. INDOOR AIR QUALITY MEASURES: PROTECT INSIDE OF (INSTALLED AND DELIVERED) DUCTWORK AND HVAC UNITS FROM EXPOSURE TO MOIST, DIRT, PAINT AND MOISTURE. REPLACE INSULATION THAT HAS BECOME WET AT ANY TIME DURING CONSTRUCTION, DRYING THE INSULATION IS NOT ACCEPTABLE. SEAL ANY TEARS OR JOINTS OF INTERNAL FIBERGLASS INSULATION. REMOVE DEBRIS FROM CEILING/RETURN AIR PLENUM, INCLUDING DUST. AN INDEPENDENT, PROFESSIONAL DUCT CLEANING COMPANY SHALL VACUUM CLEAN ANY DUCTWORK CONNECTED TO HVAC UNITS THAT WERE OPERATED DURING THE CONSTRUCTION PERIOD AFTER NEW FILTERS ARE INSTALLED AND PRIOR TO TURNING SYSTEM OVER TO THE OWNER. THE INTERNAL SURFACES AND ASSOCIATED COILS OF ANY HVAC UNITS THAT WERE OPERATED SHALL ALSO BE CLEANED.
13. INSTALL DUCTWORK PARALLEL TO BUILDING COLUMN LINES UNLESS OTHERWISE SHOWN OR NOTED.
14. OVERHEAD HANGERS AND SUPPORTS FOR EQUIPMENT, DUCTWORK SHALL BE FASTENED TO BUILDING JOISTS OR BEAMS. DO NOT ATTACH HANGERS AND SUPPORTS TO THE ABOVE FLOOR SLAB OR ROOF EXCEPT WHERE CONCRETE INSERTS IN CONCRETE SLABS ARE ALLOWED BY THE SPECIFICATIONS.
15. COORDINATE LOCATION OF EQUIPMENT SUPPORTS WITH LOCATION OF EQUIPMENT ACCESS PANELS/DOORS TO ENABLE SERVICE OF EQUIPMENT AND/OR FILTER REPLACEMENT.
16. SEAL PENETRATIONS THROUGH THE BUILDING COMPONENTS IN ACCORDANCE WITH THE CONTRACT SPECIFICATIONS. FIREPROOF PENETRATIONS THROUGH FIRE RATED COMPONENTS IN ACCORDANCE WITH U.L. REQUIREMENTS.
17. COORDINATE THE EXACT MOUNTING SIZE AND FRAME TYPE OF DIFFUSERS, REGISTERS AND GRILLES WITH THE SUPPLIER TO MEET THE CEILING, WALL AND DUCT INSTALLATION REQUIREMENTS.
18. ADJUST LOCATION OF CEILING DIFFUSERS, REGISTERS AND GRILLES AS REQUIRED TO ACCOMMODATE FINAL CEILING GRID AND LIGHTING LOCATIONS.
19. PAINT PORTIONS OF DUCTWORK AND INSULATION THAT ARE EXPOSED TO VIEW BY THE INSTALLATION OF DIFFUSERS, REGISTERS, AND GRILLES IN CEILINGS OR WALLS FLAT BLACK. PORTIONS INCLUDE BOTH THE INTERIOR OF UNLINED DUCTWORK AND THE EXTERIOR OF DUCTWORK AND INSULATION.
20. LOCATE AND SET THERMOSTATS AND HUMIDISTATS AT LOCATIONS SHOWN ON PLANS. VERIFY EXACT LOCATIONS WITH ARCHITECT PRIOR TO INSTALLATION. INSTALL DEVICES WITH TOP OF DEVICE AT MAXIMUM 48" AFF TO MEET ADA REQUIREMENTS UNLESS NOTED OTHERWISE ON PLANS. PROVIDE INSULATED BACKING FOR THERMOSTATS MOUNTED ON EXTERIOR BUILDING WALLS. INSTALL WIRING IN CONDUIT PROVIDED BY DIVISION 26. AT A MINIMUM, PROVIDE CONDUIT IN THE WALL FROM THE JUNCTION BOX TO 6" ABOVE THE CEILING.
21. COORDINATE THE LOCATION AND ELEVATION OF WALL-MOUNTED DEVICES WITH PRESENTATION BOARDS, DISPLAY CABINETS, SHELVES OR OTHER COMPONENTS SHOWN ON THE ARCHITECTURAL DRAWINGS THAT ARE TO BE INSTALLED UNDER OTHER DIVISIONS. CONTRACTOR WILL NOT BE REIMBURSED FOR RELOCATION OF WALL-MOUNTED DEVICES CAUSED BY A LACK OF COORDINATION.
22. PROVIDE A MANUAL BALANCING DAMPER IN EACH DUCT TAKEOFF FROM SUPPLY, RETURN, OUTDOOR AND EXHAUST AIR DUCTS.
23. PROVIDE A PREFABRICATED 45 DEGREE, HIGH EFFICIENCY, RECTANGULAR/ROUND BRANCH DUCT TAKEOFF FITTING FOR BRANCH DUCT CONNECTIONS AND TAKE-OFFS TO INDIVIDUAL DIFFUSERS, REGISTERS AND GRILLES. PROVIDE WITH INTEGRAL MANUAL BALANCING DAMPER AND LOCKING QUADRANT WHERE INDICATED ON PLANS.
24. BRANCH DUCTWORK TO AIR OUTLETS SHALL BE SAME SIZE AS OUTLET NECK SIZE UNLESS OTHERWISE NOTED.
25. REFER TO SPECIFICATIONS FOR DUCTWORK INSULATION REQUIREMENTS. DUCT SIZES ON MECHANICAL PLANS INDICATE CLEAR INSIDE AIRFLOW DIMENSIONS, INCREASE SHEET METAL SIZES ACCORDINGLY TO ACCOUNT FOR THICKNESS OF DUCT LINER.
26. PROVIDE A NEW SET OF AIR FILTERS IN UNITS PRIOR TO TESTING, ADJUSTING AND BALANCING AND BEFORE TURNING SYSTEM(S) OVER TO OWNER.

MECHANICAL SYMBOLS

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED. V2.04

STANDARD MOUNTING HEIGHT

THERMOSTATS (USER ADJUSTABLE)(TOP OF DEVICE)	48"
CONTROLS (TOP OF DEVICE)	48"

INSTALL DEVICES AT THE MOUNTING HEIGHTS SHOWN ABOVE UNO IN THE CONSTRUCTION DOCUMENTS. MOUNTING HEIGHTS LISTED ABOVE OR ELSEWHERE IN THE CONSTRUCTION DOCUMENTS ARE AFF OR AFG TO BOTTOM OF DEVICE UNO. ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA AND LOCAL REQUIREMENTS.

ANNOTATION

- 1 — MECHANICAL PLAN NOTE CALLOUT
- CU 1 — MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)
- CONNECTION POINT OF NEW WORK TO EXISTING
- 1 / M1 — DETAIL REFERENCE. UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER
- 1 / M1 — SECTION CUT DESIGNATION

ABBREVIATIONS

A/C	AIR CONDITIONING
ACC	AIR COOLED CHILLER
ACCU	AIR COOLED CONDENSING UNIT
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AHU	AIR HANDLING UNIT
AI	ANALOG INPUT
AO	ANALOG OUTPUT
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
AWG	AMERICAN WIRE GAUGE
B	BOILER
BAS	BUILDING AUTOMATION SYSTEM
BB	BACKBONE
BD	BACKDRAFT DAMPER
BD	BLOWDOWN
BFC	BELOW FINISHED CEILING
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
BFP	BOILER FEED PUMP
BHP	BRAKE HORSEPOWER
BI	BINARY INPUT
BO	BINARY OUTPUT
BOD	BOTTOM OF DUCT
BOS	BOTTOM OF STRUCTURE
BTU	BRITISH THERMAL UNIT
CFM	CUBIC FEET PER MINUTE
CH	CHILLER
CLG	COOLING
CP	CONDENSATE PUMP
CPT	CONTROL POWER TRANSFORMER
CRAC	COMPUTER ROOM AIR CONDITIONING UNIT
CRU	COMPUTER ROOM UNIT
CT	COOLING TOWER
CV	CONTROL VALVE
CWP	CONDENSER WATER PUMP
CU	CONDENSING UNIT
CHWP	CHILLED WATER PUMP
DB	DECIBELS
DBA	DECIBEL AVERAGE
DDC	DIRECT DIGITAL CONTROL
DI	DIGITAL INPUT
DISC	DISCONNECT
DN	DOWN
DS	DUCT SILENCER
DX	DIRECT EXPANSION
(E)	EXISTING
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
ED	EXHAUST DUCT
EDB	ENTERING DRY BULB
EF	EXHAUST FAN
EFF	EFFICIENCY
EMS	ENERGY MANAGEMENT SYSTEM
ESP	EXTERNAL STATIC PRESSURE
ETR	EXISTING TO REMAIN
EWB	ENTERING WET BULB
EWT	ENTERING WATER TEMPERATURE
FCU	FAN COIL UNIT
FFA	FROM FLOOR ABOVE
FFB	FROM FLOOR BELOW
FF	FINISHED FLOOR
FPI	FINS PER INCH
FPM	FEET PER MINUTE
GC	GENERAL CONTRACTOR
GPM	GALLONS PER MINUTE
HOA	HAND-OFF-AUTOMATIC
HP	HORSEPOWER
HTG	HEATING
HWP	HEATING WATER PUMP
IN WC	INCHES OF WATER COLUMN
L	LOUVER
LAT	LEAVING AIR TEMPERATURE
LDB	LEAVING DRY BULB
LP	LOW PRESSURE
LWB	LEAVING WET BULB
LWT	LEAVING WATER TEMPERATURE
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MBH	1000 BTU PER HOUR
MD	MOTORIZED DAMPER
MFR	MANUFACTURER
MIN	MINIMUM
N/A	NOT APPLICABLE
N/C	NORMALLY CLOSED
N/O	NORMALLY OPEN
NOM	NOMINAL
NC	NOISE CRITERIA
NF	NON-FUSED
NIC	NOT IN CONTRACT
OA	OUTSIDE AIR
PICV	PRESSURE INDEP. CONTROL VALVE
PROVIDE	FURNISH AND INSTALL
QTY	QUANTITY
RA	RETURN AIR
RC	ROOM CRITERIA
RD	RETURN DUCT
REA	RELIEF AIR
RF	RETURN FAN
RFR	REFRIGERANT
RH	RELATIVE HUMIDITY
RH	ROOF HOOD
RPM	REVOLUTIONS PER MINUTE
RTU	ROOFTOP UNIT
SA	SUPPLY AIR
SCP	STEAM CONDENSATE PUMP
SD	SMOKE DUCT DETECTOR
SD	SUPPLY DUCT
SF	SUPPLY FAN
SH	SENSIBLE HEAT CAPACITY
SOW	SCOPE OF WORK
SP	STATIC PRESSURE
ST	STEAM TRAP
STM	STEAM
TBD	TO BE DETERMINED
TC/C	TEMPERATURE CONTROLS CONTRACTOR
TCP	TEMPERATURE CONTROL PANEL
TF	TRANSFER FAN
TFA	TO FLOOR ABOVE
TFB	TO FLOOR BELOW
TH	TOTAL HEAT CAPACITY
TSP	TOTAL STATIC PRESSURE
TT	TEMPERATURE
TYP	TYPICAL
U/F	UNDERFLOOR
U/G	UNDERGROUND
U/S	UNDERSLAB
UH	UNIT HEATER
UNO	UNLESS NOTED OTHERWISE
VAV	VARIABLE AIR VOLUME
VEL	VELOCITY
VFD	VARIABLE FREQUENCY DRIVE
VRF	VARIABLE REFRIGERANT FLOW
VRV	VARIABLE REFRIGERANT VOLUME
W/	WITH
W/O	WITHOUT
WB	WET BULB
WC	WATER COLUMN
WPD	WATER PRESSURE DROP
XP	EXPLOSION PROOF

HVAC DUCTWORK AND ACCESSORIES

- LINEAR SLOT DIFFUSER
- INSULATED FLEXIBLE DUCT (MAX. 5'-0" LONG)
- BRANCH DUCT WITH 45° RECTANGLE-ROUND BRANCH FITTING AND MANUAL VOLUME DAMPER
- ELBOW WITH TURNING VANES
- BRANCH DUCT WITH BELL-MOUTH FITTING & MANUAL VOLUME CONTROL DAMPER
- RETURN, EXHAUST, OR OUTSIDE AIR DUCT UP
- RETURN, EXHAUST, OR OUTSIDE AIR DUCT DOWN
- SUPPLY AIR DUCT UP
- SUPPLY AIR DUCT DOWN
- EQUIPMENT WITH FLEXIBLE DUCT CONNECTION
- 10" (NECK SIZE) CSD-1 (TYPE) 300 CFM (CFM OF SUPPLY DIFFUSER OR REGISTER)
- 24x24 (NECK SIZE) CEG-1 (TYPE) 800 CFM (CFM OF EXHAUST GRILLE)
- MANUAL VOLUME DAMPER
- SQUARE TO ROUND TRANSITION
- RD — DUCT MOUNTED SMOKE DETECTOR (SD=SUPPLY/RD=RETURN)
- R — RISER DESIGNATION
- FD — FIRE DAMPER
- FSD — FIRE SMOKE DAMPER
- SD — SMOKE DAMPER
- VD — VOLUME DAMPER
- MD — MOTORIZED DAMPER
- BD — BACKDRAFT DAMPER

ALL DUCT DIMENSIONS SHOWN ON DRAWINGS ARE INSIDE DIMENSIONS. REFER TO DUCTWORK SPECIFICATIONS FOR DUCTWORK INSULATION AND LINER INFORMATION.

HVAC CONTROL DEVICES

- H — HUMIDISTAT
- T — THERMOSTAT
- SP — STATIC PRESSURE SENSOR
- TS — TEMPERATURE SENSOR
- CO — CARBON MONOXIDE SENSOR
- CO2 — CARBON DIOXIDE SENSOR
- DP — DIFFERENTIAL PRESSURE SENSOR
- FS — FLOW SWITCH
- HS — HUMIDITY SENSOR
- PS — PULL STATION

PIPING SYMBOLS

- DIRECTION OF FLOW
- CONTROL VALVE
- THREE-WAY CONTROL VALVE
- SHUTOFF VALVE
- CHECK VALVE
- BALANCING VALVE WITH PRESSURE PORTS
- TRIPLE DUTY VALVE WITH PRESSURE PORTS
- STRAINER
- STRAINER WITH BLOWDOWN VALVE
- RELIEF / SAFETY VALVE
- SOLENOID VALVE
- PRESSURE REDUCING VALVE
- GAS PRESSURE REGULATOR
- THERMOSTATIC MIXING VALVE
- PA — PIPE ANCHOR
- EJ — EXPANSION JOINT
- PIPE GUIDE
- PIPING SUPPORT
- F & T TRAP
- BUCKET TRAP
- THERMOSTATIC TRAP
- BACKFLOW PREVENTER
- PRESSURE GAUGE
- THERMOMETER
- PRESSURE AND TEMPERATURE TEST PLUG
- UNION
- FLANGE CONNECTION
- VACUUM RELIEF VALVE
- AV — AUTOMATIC AIR VENT
- MV — MANUAL AIR VENT
- PRESSURE / VACUUM SWITCH
- CLEANOUT
- CAP
- ELBOW UP
- ELBOW DOWN
- TEE UP
- TEE DOWN
- ELBOW UP WITH SHUT-OFF VALVE (SOV)
- ELBOW DOWN WITH SHUT-OFF VALVE (SOV)
- TEE UP WITH SHUT-OFF VALVE (SOV)
- TEE DOWN WITH SHUT-OFF VALVE (SOV)
- REDUCER
- RECIRCULATION PUMP
- P-TRAP
- GAS COCK
- TOP BEAM CLAMP
- TRAPEZE HANGER
- FLEXIBLE CONNECTION

PIPING LINETYPES

CD	CONDENSATE DRAIN (CD)
ACD	AUXILIARY CONDENSATE DRAIN (ACD)
NPW	NON-POTABLE WATER (NPW)
G	NATURAL GAS (G)
G	NATURAL GAS ON ROOF (G)
MPG	MEDIUM PRESSURE NATURAL GAS (MPG)
MPG	MEDIUM PRESSURE NATURAL GAS ON ROOF (MGP)
FOS	FUEL OIL SUPPLY (FOS)
FOR	FUEL OIL RETURN (FOR)
FOV	FUEL OIL VENT (FOV)
LPG	LIQUEFIED PETROLEUM GAS (LPG)
BFW	BOILER FEED WATER (BFW)
HPS	HIGH PRESSURE STEAM SUPPLY (HPS)
HPC	HIGH PRESSURE STEAM CONDENSATE (HPC)
LPS	LOW PRESSURE STEAM SUPPLY (LPS)
LPC	LOW PRESSURE STEAM CONDENSATE (LPC)
PD	CONDENSATE PUMP DISCHARGE (PD)
HWS	HEATING HOT WATER SUPPLY (HWS)
HWR	HEATING HOT WATER RETURN (HWR)
CHWS	CHILLED WATER SUPPLY (CHWS)
CHWR	CHILLED WATER RETURN (CHR)
HCS	HOT / CHILLED WATER SUPPLY (HCS)
HCR	HOT / CHILLED WATER SUPPLY (HCR)
CWS	CONDENSER WATER SUPPLY (CWS)
CWR	CONDENSER WATER RETURN (CWR)
HPWS	HEAT PUMP WATER SUPPLY (HPWS)
HPWR	HEAT PUMP WATER RETURN (HPWR)
RL	REFRIGERANT LIQUID (RL)
RD	REFRIGERANT DISCHARGE (HOT GAS) (RD)
RS	REFRIGERANT SUCTION (RS)
RDB	REFRIGERANT DISCHARGE BYPASS (RDB)
RV	REFRIGERANT VENT (RV)

LINETYPE LEGEND

THROUGHOUT THE DRAWINGS DIFFERENT LINETYPES ARE USED IN COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF NEW WORK AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, ETC.

EXISTING	NEW
DEMOLISH	FUTURE

SECTION 5.504.1 – POLLUTANT CONTROL

☐ **5.504.3 Covering of duct openings and protection of mechanical equipment during construction.** At the time of rough installation and during storage on the construction site until final startup of the heating, cooling and ventilating equipment, all duct and other related air distribution component openings shall be covered with tape, plastic, sheet metal or other methods acceptable to the enforcing agency to reduce the amount of dust, water and debris which may enter the system.

☐ **5.504.5.3 Filters.** In mechanically ventilated buildings, provide regularly occupied areas of the building with air filtration media for outside and return air prior to occupancy that provides at least a Minimum Efficiency Reporting Value (MERV) of 13. MERV 13 filters shall be installed prior to occupancy and recommendations for maintenance with filters of the same value shall be included in the operation and maintenance manual.

Exception: Existing mechanical equipment.

5.504.5.3.1 Labeling. Installed filters shall be clearly labeled by the manufacturer indicating the MERV rating.

SECTION 5.506 – INDOOR AIR QUALITY

☐ **5.506.1 Outside air delivery.** For mechanically or naturally ventilated spaces in buildings, meet the minimum requirements of Section 120.1 (Requirements for Ventilation) of the *California Energy Code*, or the applicable local code, whichever is more stringent, and Division 1, Chapter 4 of CCR, Title 8.

SECTION 5.508 – OUTDOOR AIR QUALITY

5.508.1 Ozone depletion and greenhouse gas reductions. Installations of HVAC, refrigeration and fire suppression equipment shall comply with Sections 5.508.1.1 and 5.508.1.2.

☐ **5.508.1.1 Chlorofluorocarbons (CFCs).** Install HVAC, refrigeration and fire suppression equipment that do not contain CFCs.

NON-RESIDENTIAL MECHANICAL CALGREEN NOTES:

1. CONTRACTOR SHALL COMPLETE COMMISSIONING OF ALL MECHANICAL SYSTEMS FOR BUILDINGS 10,000 SQUARE FEET OR GREATER AND PER OUTLINED IN THE OWNERS PROJECT REQUIREMENTS AND BASIS OF DESIGN. COMMISSIONING SHALL ALSO INCLUDE ALL THE REQUIREMENTS SET FORTH IN 2019 CALGREEN CODE SECTION 5.410.2.
2. CONTRACTOR SHALL COMPLETE COMMISSIONING OF ALL MECHANICAL SYSTEMS FOR BUILDINGS 10,000 SQUARE FEET OR LESS AND PER OUTLINED IN THE OWNERS PROJECT REQUIREMENTS AND BASIS OF DESIGN. COMMISSIONING SHALL ALSO INCLUDE ALL THE REQUIREMENTS SET FORTH IN 2019 CALGREEN CODE SECTIONS 5.410.4.
3. USE ONLY THE PERMANENT HVAC SYSTEM DURING CONSTRUCTION TO MAINTAIN AREAS OF ADDITION AND ALTERATION WITHIN THE REQUIRED TEMPERATURE RANGE FOR MATERIAL AND EQUIPMENT INSTALLATION. IF THE PERMANENT HVAC SYSTEM WILL BE USED DURING CONSTRUCTION, COMPLY WITH 2019 CALGREEN CODE SECTION 5.504.1 AND 5.504.3.
4. ALL ADHESIVE, SEALANTS AND CAULKING SHALL NOT EXCEED SCAQMD RULE 1168 VOC LIMITS AND COMPLY WITH 2019 CALGREEN SECTION 5.504.4 GUIDELINES. SUBMIT DOCUMENTATION TO ARCHITECT FOR APPROVAL. INCLUDE MANUFACTURER'S PRODUCT SPECIFICATION AND FIELD VERIFICATION REPORTS OF ALL ON-SITE PRODUCT CONTAINERS AND RETAIN DOCUMENTATION AT THE JOB SITE DURING CONSTRUCTION.
5. ALL OUTSIDE AIR AND RETURN AIR FILTERS SHALL BE LABELED, BE MINIMUM MERV 13, BE PROVIDED WITH WRITTEN MAINTENANCE RECOMMENDATIONS, AND BE INCLUDED AS PART OF THE O&M MANUAL AS REQUIRED PER 2019 CALGREEN CODE SECTION 5.504.5.3. IF THE HVAC SYSTEM IS USED DURING CONSTRUCTION, REPLACE ALL FILTERS IMMEDIATELY PRIOR TO OCCUPANCY.
6. A FINAL REPORT FOR THE TESTING AND ADJUSTING OF ALL NEW SYSTEMS SHALL BE COMPLETED AND PROVIDED TO THE FIELD INSPECTOR PRIOR TO FINAL APPROVAL. THIS REPORT SHALL BE SIGNED BY THE INDIVIDUAL RESPONSIBLE FOR TESTING THESE SERVICES.
7. FOR ALL NEW EQUIPMENT, AN OPERATIONS AND SYSTEMS MANUAL SHALL BE PROVIDED TO THE OWNER AND THE FIELD INSPECTOR AT THE TIME OF FINAL INSPECTION.
8. ALL NEW DUCTS AND OTHER NEW RELATED AIR DISTRIBUTION COMPONENTS SHALL BE COVERED WITH TAPE, PLASTIC, OR SHEET METAL UNTIL THE FINAL STARTING OF HEATING, COOLING, OR VENTILATING EQUIPMENT.
9. VENTILATED SPACES IN BUILDINGS SHALL MEET THE MINIMUM REQUIREMENTS OF SECTION 121 OF THE CALIFORNIA ENERGY CODE CHAPTER 4 OF THE CALIFORNIA MECHANICAL CODE.

Sheet List - Mechanical

Sheet Number	Sheet Name
M0.00	MECHANICAL GENERAL NOTES AND LEGEND
M2.01	MECHANICAL FIRST FLOOR PLAN
M2.02	MECHANICAL ROOF PLAN
M4.00	MECHANICAL DETAILS
M4.01	MECHANICAL DETAILS
M5.00	MECHANICAL SCHEDULES
M7.00	MECHANICAL T-24 COMPLIANCE FORMS
M7.01	MECHANICAL T-24 COMPLIANCE FORMS

Grand total: 8

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

LICENSED PROFESSIONAL ENGINEER — AUSTIN LAIR ALLEN — M 36447 — MECHANICAL — STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE
NAC NO. 161-19034
DATE 09/04/2020

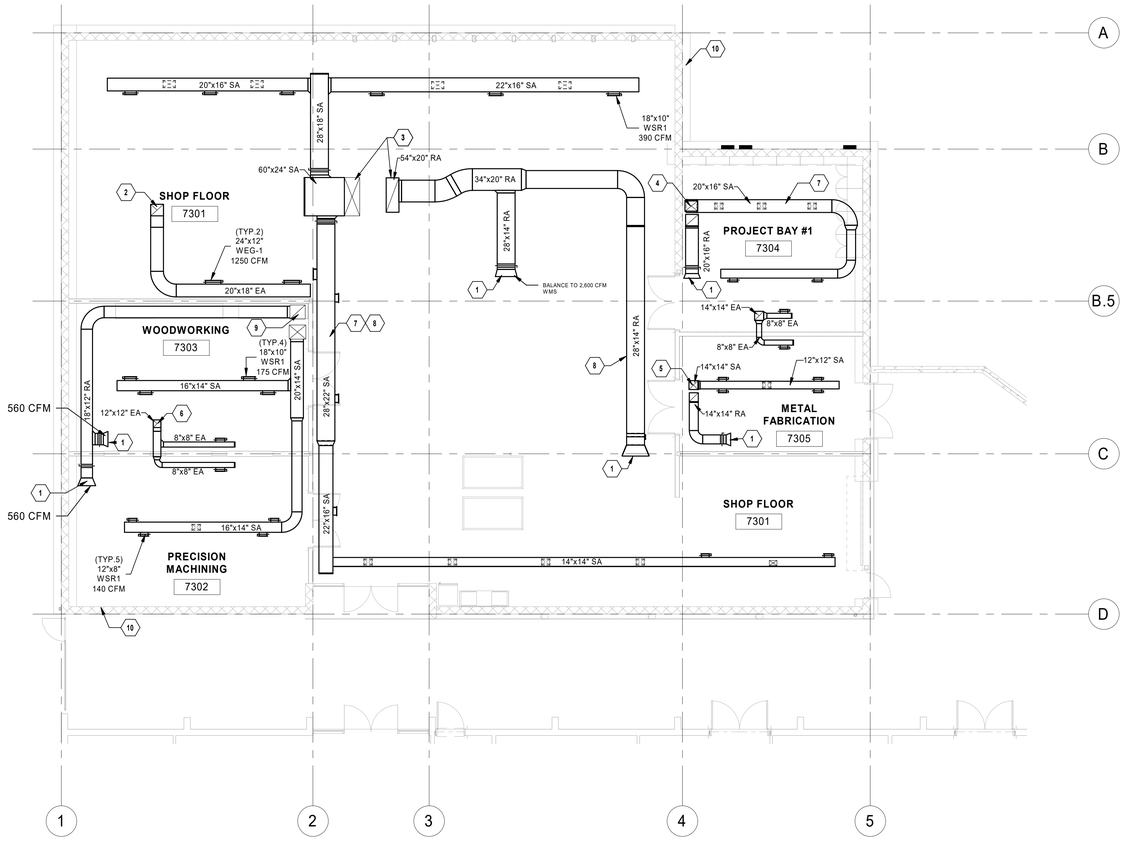
100% CONSTRUCTION DOCUMENTS

MECHANICAL GENERAL NOTES AND LEGEND

M0.00

© 2019 NAC, Inc.

AUSTIN L. ALLEN



1 HVAC LEVEL 1 - FFE PLAN - OVERALL
1/8" = 1'-0"

MECHANICAL PLAN NOTES:

1. PROVIDE WITH BELL MOUTH AND 1/2" WMS. BALANCE TO RETURN AIRFLOW ON PLANS.
2. EXHAUST AIR UP TO EF R-1 ON ROOF.
3. SUPPLY/RETURN AIR FROM RTU 1-2 ON ROOF.
4. SUPPLY/RETURN AIR FROM RTU 1-3 ON ROOF.
5. SUPPLY/RETURN AIR FROM RTU 1-4 ON ROOF.
6. EXHAUST AIR UP TO EF R-2 ON ROOF.
7. REFER TO STRUCTURAL SHEET S8.00 FOR ATTACHMENT TO STRUCTURE.
8. SLOPE DUCTWORK TO MATCH THE SLOPE OF THE ROOF.
9. SUPPLY/RETURN AIR FROM RTU 1-1 ON ROOF.
10. FIRE RATED WALL ASSEMBLY PER ARCHITECT. REFER TO G1.03 AND A3.01.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

LICENSED PROFESSIONAL ENGINEER
AUSTIN LAIR ALLEN
M 36447
MECHANICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

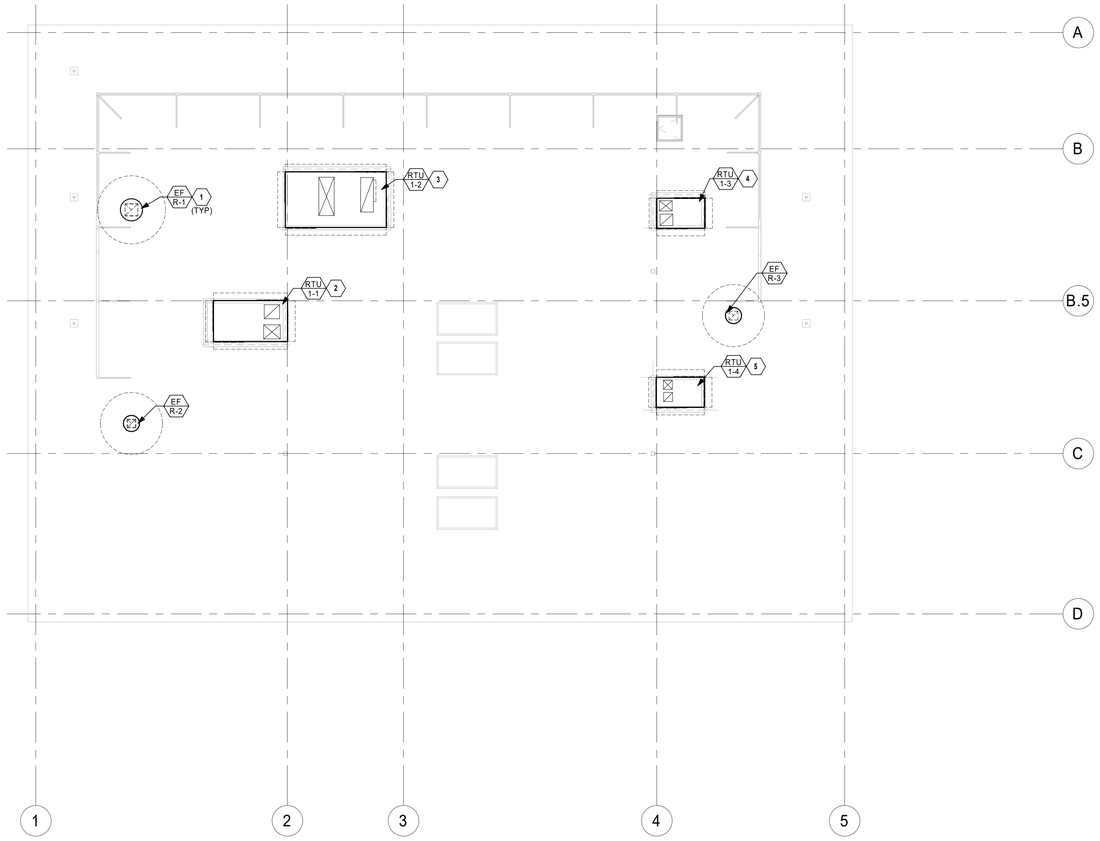
MECHANICAL FIRST FLOOR PLAN

M2.01

© 2019 NAC Arch.

AUSTIN L. ALLEN

9/2/2020 3:09:40 PM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_carlosruiz_20200831085426.rvt



1 HVAC ROOF PLAN - OVERALL
1/8" = 1'-0"

MECHANICAL PLAN NOTES:

1 EXHAUST DUCT DOWN TO LEVEL 1.
2 REFER TO STRUCTURAL DETAIL1/S7.03 FOR RTU 1-1 ANCHORAGE.
3 REFER TO STRUCTURAL DETAIL1/S7.03 FOR RTU 1-2 ANCHORAGE.
4 REFER TO STRUCTURAL DETAIL1/S7.03 FOR RTU 1-3 ANCHORAGE.
5 REFER TO STRUCTURAL DETAIL1/S7.03 FOR RTU 1-4 ANCHORAGE.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

LICENSED PROFESSIONAL ENGINEER
AUSTIN LAIR ALLEN
M 36447
MECHANICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

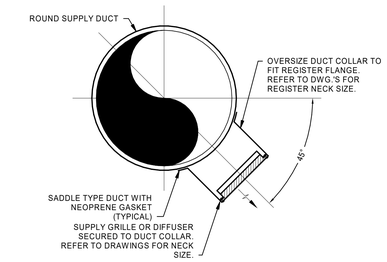
MECHANICAL ROOF PLAN

M2.02

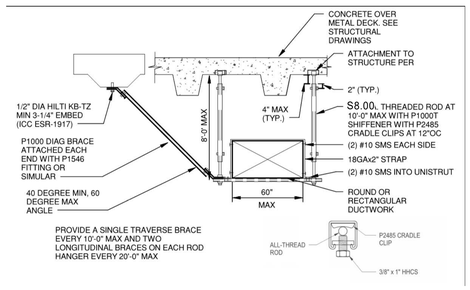
© 2019 NAC Inc.

AUSTIN L. ALLEN

9/2/2020 3:09:45 PM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_carlosruiz_20200831085426.rvt

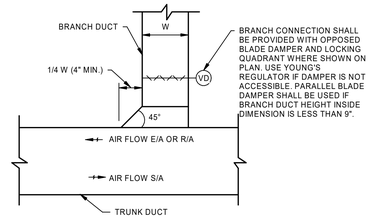


4 REGISTER MOUNTING TO ROUND DUCT DETAIL
NTS



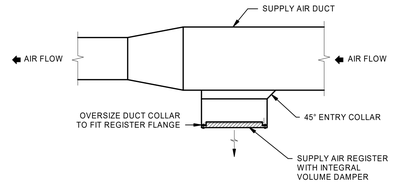
NOTES:
1. REFER TO STRUCTURAL SHEET S8.00 FOR ATTACHMENT TO STRUCTURE..

3 RECTANGULAR DUCT SUPPORT DETAIL
NTS

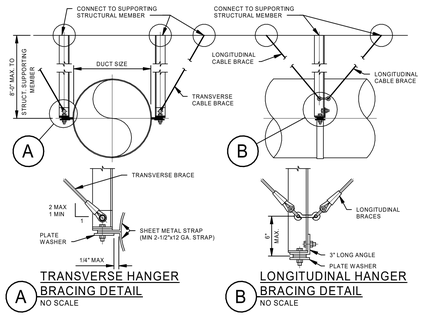


NOTES:
1. THIS CONNECTION SHALL BE TYPICAL FOR ALL RECTANGULAR BRANCH DUCT CONNECTIONS TO RECTANGULAR TRUNK DUCTS, INCLUDING SUPPLY, RETURN, OUTSIDE AIR AND EXHAUST DUCTS.

2 RECTANGULAR BRANCH TAP DETAIL
NTS



1 DUCT MOUNTED REGISTER DETAIL
NTS

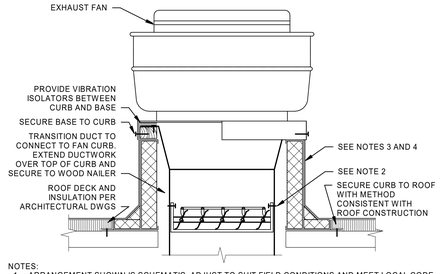


A TRANSVERSE HANGER BRACING DETAIL
NO SCALE

B LONGITUDINAL HANGER BRACING DETAIL
NO SCALE

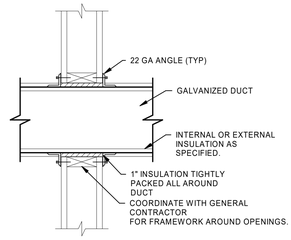
NOTES:
1. REFER TO STRUCTURAL SHEET S8.00 FOR ATTACHMENT TO STRUCTURE..
2. PROVIDE A SINGLE TRAVERSE BRACE EVERY 10'-0" MAX AND TWO LONGITUDINAL BRACES ON EACH HANGER EVERY 20'-0" MAX.

8 DOUBLE HANGER SEISMIC CABLE BRACING FOR ROUND DUCTS UP TO 84"
NTS



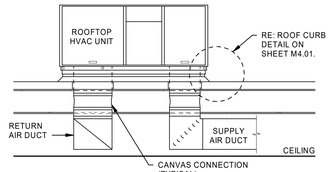
NOTES:
1. ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS AND MEET LOCAL CODE.
2. IF DAMPER IS SPECIFIED IN EQUIPMENT SCHEDULE, INSTALL DAMPER AT BASE OF CURB AND SECURE FROM ABOVE TO ALLOW SERVICE THROUGH TOP OF CURB.
3. PREFABRICATED INSULATED ROOF CURB WITH TREATED WOOD NAILER, CANT, AND STEP AS REQUIRED TO ACCOMMODATE ROOF INSULATION. FRAME AND SECURE CURB TO ROOF WITH METHOD CONSISTENT WITH ROOF CONSTRUCTION. ROOF CURB SHALL BEAR ON ROOF STRUCTURE. REFER TO ARCHITECTURAL DRAWINGS AND CURB MANUFACTURER'S DETAILS FOR MORE INFORMATION.
4. FOR SLOPED ROOFS, PROVIDE CURB WITH DIMENSIONS CAPABLE OF COMPENSATING ROOF SLOPE TO ENSURE FAN IS INSTALLED LEVEL.

7 ROOF MOUNTED UPBLAST FAN DETAIL
NTS



NOTES:
1. DRYWALL, METAL STUDS OR ANY OTHER RIGID MATERIAL MUST NOT TOUCH DUCT.
2. SUPPORT DUCT FROM HANGERS

METAL DUCT NON-FIRE RATED WALL PENETRATION
6 NTS



NOTES:
1. PROVIDE OPENING THROUGH ROOF AND ROOF DECK INSULATION NO LARGER THAN REQUIRED TO ALLOW DUCTS TO PASS THROUGH. REFER TO PLANS FOR DUCT SIZES. TRANSITION AS REQUIRED IN ROOF CURB TO RTU SUPPLY AND RETURN OPENINGS.

5 ROOFTOP UNIT WITH DUCTWORK DETAIL
NTS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED PROFESSIONAL ENGINEER
AUSTIN LAIR ALLEN
M 36447
MECHANICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

MECHANICAL DETAILS

M4.00

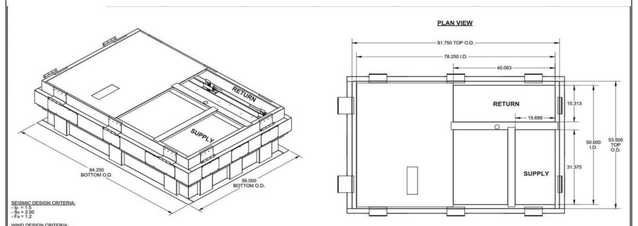
© 2019 NAC Inc.

AUSTIN L. ALLEN

9/2/2020 3:09:48 PM C:\Revit\Projects\205001084 Clark CTE_MEPv20_carlosruiz_20200831085426.rvt

MicroMetl	Date:	Weight: 446lbs (US) 202.3kg (Metric)	Part Number: CRBV-SRT34GA-1112-040
	RTU:		
Submitted to:		Approved by:	Notes:

Vibration Isolation - Structurally Calculated Curb 21 Inches Tall / 11 Inch Curb Base, Full Perimeter, Non Insulated, No Power Exhaust Option . The Adjustable Deflection Spring Housing Meets California CBC, Seismic Requirements



SEISMIC DESIGN CRITERIA:
- Ss = 2.5
- Ss = 2.5
- Fa = 1.0
- Fv = 1.2

WIND DESIGN CRITERIA:
- 20 PSF FULL BUILDING MAX.
- EXPOSURE D
- 110 MPH, 3-SECOND GUST WIND SPEED
- RISK CATEGORY III & IV

CURB ISOLATOR/STIFFENER MINIMUM REQUIREMENTS
(2) STIFFENERS, (2) MICRONOLOS, (2) ISOLATORS PER LONG SIDE
(2) STIFFENERS, (2) MICRONOLOS, (2) ISOLATORS PER SHORT SIDE

THE FOUNDATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MICROMETL CORPORATION. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF MICROMETL CORPORATION IS PROHIBITED.

MicroMetl Corporation

Indianapolis, IN. : (800) 662-4622
Sparks, NV. (800) 684-4662
Longview, TX. (903) 248-4800

DRAWN BY: IR DATE: 08/20/2019

MEETS SEISMIC REQUIREMENTS OF 2019 CBC & 2018 IBC

MEETS REQUIREMENTS FOR 120 MPH, ULTIMATE WIND MAX. 3 SEC. GUST, EXP C

CRBV-SRT24GA-08 SERIES - 08" TALL BASE CURB	18" TALL 422 LBS.
CRBV-SRT34GA-11 SERIES - 11" TALL BASE CURB	21" TALL 488 LBS.
CRBV-SRT42GA-14 SERIES - 14" TALL BASE CURB	24" TALL 554 LBS.
CRBV-SRT34GA-24 SERIES - 24" TALL BASE CURB	34" TALL 845 LBS.
CRBV-SRT34GA-36 SERIES - 36" TALL BASE CURB	46" TALL 842 LBS.

STRUCTURALLY CALCULATED VIBRATION ISOLATION CURB

MAX UNIT WEIGHT 1786 lbs.

TYPICAL PLAN VIEW

ANCHORAGE DETAILS TO ROOF: By Building Others per Loading Calculations. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF MICROMETL CORPORATION IS PROHIBITED.

STEEL ATTACHMENT
USE ASST 1/2" DIA. BOLTS, OR WASHER CENTERED ON CURB FLANGE
4 x 4

WOOD ATTACHMENT
USE ASST 1/2" DIA. LAG SCREWS, OR WASHER, CENTERED ON CURB FLANGE
4 x 4

CURB HEIGHT	QTY OF ANCHORS EA. LONG DIA. SHORT SIDE	EA. CORNER	TOTL
up to 14"	4	2	20
up to 24"	4	2	20
up to 36"	5	1	22

CURB HEIGHT	QTY OF ANCHORS EA. LONG DIA. SHORT SIDE	EA. CORNER	TOTL
up to 14"	6	2	28
up to 24"	6	2	28
up to 36"	7	1	30

SHIELD DETAIL
(2) STIFFENERS TO BE FILLET WELDED ARE REQUIRED TO BE WELDED IN PLACE AT EACH SHEET INDICATED BY THE STEEL ATTACHMENT DETAIL.
EQUALLY SPACED.

THE FOUNDATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MICROMETL CORPORATION. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF MICROMETL CORPORATION IS PROHIBITED.

REGISTERED PROFESSIONAL ENGINEER — RICHARD M. HOLZER — No. 29027 — Exp. 6-30-20 — STRUCTURAL — STATE OF CALIFORNIA — 10/2/19

BUG# 20190065

This Document Is The Property Of MicroMetl Corporation And Is Delivered Upon The Express Condition That The Contents Will Not Be Disclosed Or Used Without MicroMetl's Written Consent. MicroMetl Reserves The Right To Discontinue, Or Change At Any Time, Specifications & Designs Without Any Notice Incurring Obligations.

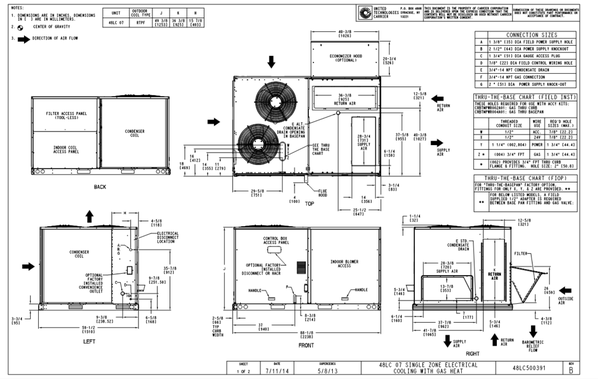
Master Revision 0001B
Page Revision 0001B

1 ROOFTOP UNIT VIBRATION ISOLATION DETAIL - RTU 1-1
NTS

Certified Drawing for 6 Ton GE

Project: Clark CTE - GUSD
Prepared By:

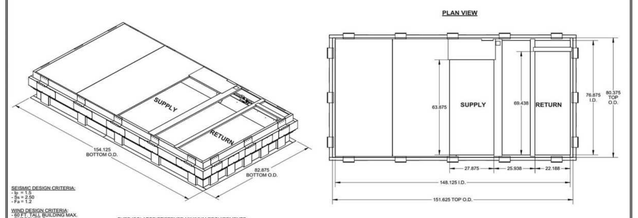
02/13/2020
09:18AM



2 ROOFTOP UNIT DETAIL - RTU 1-1
NTS

MicroMetl	Date:	Weight: 806lbs (US) 365.6kg (Metric)	Part Number: CRBV-MRT09GA-1112-020
	RTU:		
Submitted to:		Approved by:	Notes:

Vibration Isolation - Structurally Calculated Curb 21 Inches Tall / 11 Inch Curb Base, Full Perimeter, Non Insulated, No Power Exhaust Option . The Adjustable Deflection Spring Housing Meets California CBC, Seismic Requirements



SEISMIC DESIGN CRITERIA:
- Ss = 2.5
- Ss = 2.5
- Fa = 1.0
- Fv = 1.2

WIND DESIGN CRITERIA:
- 20 PSF FULL BUILDING MAX.
- EXPOSURE D
- 110 MPH, 3-SECOND GUST WIND SPEED
- RISK CATEGORY III & IV

CURB ISOLATOR/STIFFENER MINIMUM REQUIREMENTS
(2) STIFFENERS, (2) MICRONOLOS, (2) ISOLATORS PER LONG SIDE
(2) STIFFENERS, (2) MICRONOLOS, (2) ISOLATORS PER SHORT SIDE

THE FOUNDATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MICROMETL CORPORATION. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF MICROMETL CORPORATION IS PROHIBITED.

MicroMetl Corporation

Indianapolis, IN. : (800) 662-4622
Sparks, NV. (800) 684-4662
Longview, TX. (903) 248-4800

DRAWN BY: IR DATE: 08/20/2019

MEETS SEISMIC REQUIREMENTS OF 2019 CBC & 2018 IBC

MEETS REQUIREMENTS FOR 120 MPH, ULTIMATE WIND MAX. 3 SEC. GUST, EXP C

CRBV-MRT12GA-08 SERIES - 08" TALL BASE CURB	18" TALL 529 LBS.
CRBV-MRT09GA-11 SERIES - 11" TALL BASE CURB	21" TALL 611 LBS.
CRBV-MRT12GA-14 SERIES - 14" TALL BASE CURB	24" TALL 693 LBS.
CRBV-MRT12GA-24 SERIES - 24" TALL BASE CURB	34" TALL 1057 LBS.
CRBV-MRT12GA-36 SERIES - 36" TALL BASE CURB	46" TALL 1405 LBS.

STRUCTURALLY CALCULATED VIBRATION ISOLATION CURB

MAX UNIT WEIGHT 1099 lbs.

TYPICAL PLAN VIEW

ANCHORAGE DETAILS TO ROOF: By Building Others per Loading Calculations. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF MICROMETL CORPORATION IS PROHIBITED.

STEEL ATTACHMENT
USE ASST 1/2" DIA. BOLTS, OR WASHER CENTERED ON CURB FLANGE
4 x 4

WOOD ATTACHMENT
USE ASST 1/2" DIA. LAG SCREWS, OR WASHER, CENTERED ON CURB FLANGE
4 x 4

CURB HEIGHT	QTY OF ANCHORS EA. LONG DIA. SHORT SIDE	EA. CORNER	TOTL
up to 14"	5	3	26
up to 24"	5	3	26
up to 36"	6	2	28

CURB HEIGHT	QTY OF ANCHORS EA. LONG DIA. SHORT SIDE	EA. CORNER	TOTL
up to 14"	7	3	34
up to 24"	7	3	34
up to 36"	8	2	36

SHIELD DETAIL
(2) STIFFENERS TO BE FILLET WELDED ARE REQUIRED TO BE WELDED IN PLACE AT EACH SHEET INDICATED BY THE STEEL ATTACHMENT DETAIL.
EQUALLY SPACED.

THE FOUNDATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MICROMETL CORPORATION. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF MICROMETL CORPORATION IS PROHIBITED.

REGISTERED PROFESSIONAL ENGINEER — RICHARD M. HOLZER — No. 29027 — Exp. 6-30-20 — STRUCTURAL — STATE OF CALIFORNIA — 10/2/19

BUG# 20190065

This Document Is The Property Of MicroMetl Corporation And Is Delivered Upon The Express Condition That The Contents Will Not Be Disclosed Or Used Without MicroMetl's Written Consent. MicroMetl Reserves The Right To Discontinue, Or Change At Any Time, Specifications & Designs Without Any Notice Incurring Obligations.

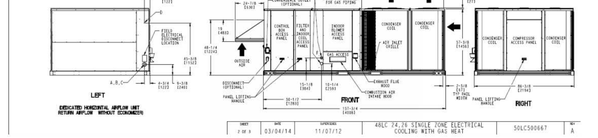
Master Revision 0001B
Page Revision 0001B

3 ROOFTOP UNIT VIBRATION ISOLATION DETAIL - RTU 1-2
NTS

Certified Drawing for 20 Ton GE

Project: Clark CTE - GUSD
Prepared By:

03/19/2020
08:51AM

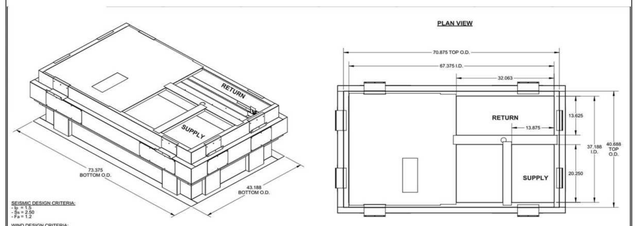


UNIT	DATE	SUPERSEDES	48LC*04-20 SINGLE PACKAGE ELECTRICAL COOLING WITH GAS HEAT	48TC003099	REV
3 OF 3	03/04/14	11/07/12			A

4 ROOFTOP UNIT DETAIL - RTU 1-2
NTS

MicroMetl	Date:	Weight: 347lbs (US) 157.4kg (Metric)	Part Number: CRBV-SRT12GA-1112-010
	RTU:		
Submitted to:		Approved by:	Notes:

Vibration Isolation - Structurally Calculated Curb 21 Inches Tall / 11 Inch Curb Base, Full Perimeter, Non Insulated, No Power Exhaust Option . The Adjustable Deflection Spring Housing Meets California CBC, Seismic Requirements



SEISMIC DESIGN CRITERIA:
- Ss = 2.5
- Ss = 2.5
- Fa = 1.0
- Fv = 1.2

WIND DESIGN CRITERIA:
- 20 PSF FULL BUILDING MAX.
- EXPOSURE D
- 110 MPH, 3-SECOND GUST WIND SPEED
- RISK CATEGORY III & IV

CURB ISOLATOR/STIFFENER MINIMUM REQUIREMENTS
(2) STIFFENERS, (2) MICRONOLOS, (2) ISOLATORS PER LONG SIDE
(2) STIFFENERS, (2) MICRONOLOS, (2) ISOLATORS PER SHORT SIDE

THE FOUNDATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MICROMETL CORPORATION. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF MICROMETL CORPORATION IS PROHIBITED.

MicroMetl Corporation

Indianapolis, IN. : (800) 662-4622
Sparks, NV. (800) 684-4662
Longview, TX. (903) 248-4800

DRAWN BY: IR DATE: 08/20/2019

MEETS SEISMIC REQUIREMENTS OF 2019 CBC & 2018 IBC

MEETS REQUIREMENTS FOR 120 MPH, ULTIMATE WIND MAX. 3 SEC. GUST, EXP C

CRBV-SRT12GA-08 SERIES - 08" TALL BASE CURB	18" TALL 325 LBS.
CRBV-SRT09GA-11 SERIES - 11" TALL BASE CURB	21" TALL 381 LBS.
CRBV-SRT12GA-14 SERIES - 14" TALL BASE CURB	24" TALL 423 LBS.
CRBV-SRT12GA-24 SERIES - 24" TALL BASE CURB	34" TALL 647 LBS.
CRBV-SRT12GA-36 SERIES - 36" TALL BASE CURB	46" TALL 861 LBS.

STRUCTURALLY CALCULATED VIBRATION ISOLATION CURB

MAX UNIT WEIGHT 1786 lbs.

TYPICAL PLAN VIEW

ANCHORAGE DETAILS TO ROOF: By Building Others per Loading Calculations. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF MICROMETL CORPORATION IS PROHIBITED.

STEEL ATTACHMENT
USE ASST 1/2" DIA. BOLTS, OR WASHER CENTERED ON CURB FLANGE
4 x 4

WOOD ATTACHMENT
USE ASST 1/2" DIA. LAG SCREWS, OR WASHER, CENTERED ON CURB FLANGE
4 x 4

CURB HEIGHT	QTY OF ANCHORS EA. LONG DIA. SHORT SIDE	EA. CORNER	TOTL
up to 14"	4	2	20
up to 24"	4	2	20
up to 36"	5	1	22

CURB HEIGHT	QTY OF ANCHORS EA. LONG DIA. SHORT SIDE	EA. CORNER	TOTL
up to 14"	6	2	28
up to 24"	6	2	28
up to 36"	7	1	30

SHIELD DETAIL
(2) STIFFENERS TO BE FILLET WELDED ARE REQUIRED TO BE WELDED IN PLACE AT EACH SHEET INDICATED BY THE STEEL ATTACHMENT DETAIL.
EQUALLY SPACED.

THE FOUNDATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF MICROMETL CORPORATION. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF MICROMETL CORPORATION IS PROHIBITED.

REGISTERED PROFESSIONAL ENGINEER — RICHARD M. HOLZER — No. 29027 — Exp. 6-30-20 — STRUCTURAL — STATE OF CALIFORNIA — 10/2/19

BUG# 20190065

This Document Is The Property Of MicroMetl Corporation And Is Delivered Upon The Express Condition That The Contents Will Not Be Disclosed Or Used Without MicroMetl's Written Consent. MicroMetl Reserves The Right To Discontinue, Or Change At Any Time, Specifications & Designs Without Any Notice Incurring Obligations.

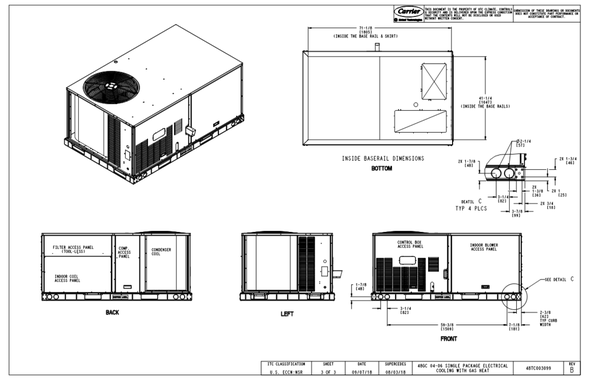
Master Revision 0001B
Page Revision 0001B

5 ROOFTOP UNIT VIBRATION ISOLATION DETAIL - RTU 1-3, RTU 1-4
NTS

Certified Drawing for 3 Ton GE

Project: Clark CTE - GUSD
Prepared By:

02/13/2020
09:18AM



ITC CLASSIFICATION	SHEET	DATE	SUPERSEDES	48LC 04-06 SINGLE PACKAGE ELECTRICAL COOLING WITH GAS HEAT	48TC003099	REV
U.S. ECON MIN	3 OF 3	09/07/18	09/03/18			B

6 ROOFTOP UNIT DETAIL - RTU 1-3, RTU 1-4
NTS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED PROFESSIONAL ENGINEER — AUSTIN LAIR ALLEN — M 36447 — MECHANICAL — STATE OF CALIFORNIA
FOR REGISTRATION ONLY
Sep 2 2020

NAC ARCHITECTURE
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

MECHANICAL DETAILS

M4.01

© 2019 NAC, Inc.

AUSTIN L. ALLEN

9/2/2020 3:09:52 PM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_carlosruiz_20200831085426.rvt

ROOFTOP UNIT SCHEDULE (DX COOLING, NATURAL GAS HEAT)

MARK	MANUFACTURER	MODEL	NOMINAL TONS	SUPPLY FAN					COOLING COIL						HEAT EXCHANGER								MIN O/A CFM	ELECTRICAL					WEIGHT (LBS)	NOTES
				FAN TYPE	CFM	ESP (IN)	BHP	VFD (Y/N)	TH (MBH)	SH (MBH)	EAT (°F DB)	EAT (°F WB)	LAT (°F DB)	LAT (°F WB)	REFR TYPE	MIN EFF (SEER)	MIN EFF (IEER)	MIN NO STAGES	MIN OUT (MBH)	NOM INPUT (MBH)	MIN EFF (%)	EAT (°F DB)	LAT (°F DB)	MIN NO STAGES		V/PH	FLA	MCA	MOCP	DISC TYPE		
RTU 1-1	CARRIER	48LCD007A2A6	6	DIRECT	1,500	0.6	0.89	Y	55.4	54	82.7	63.3	53.4	52.1	R410A	NA	13	2	40	120	80	70	80	1	580	460/3	20	20	25	DIV.26	2500	A-O
RTU 1-2	CARRIER	48LCD024A2A7	20	BELT	6,800	0.75	6.52	Y	242.3	236.9	82.3	63.2	54.2	52.3	R410A	NA	18	3	170	176	81	70	80	1	2500	460/3	65	61	70	DIV.26	4000	A-O
RTU 1-3	CARRIER	48GCLM04A2A6	3	DIRECT	740	0.6	0.43	Y	26.6	25.8	82.4	63.3	53.6	52.1	R410A	16	NA	2	25	60	81	70	85	1	270	460/3	9	10	15	DIV.26	1100	A-M, O
RTU 1-4	CARRIER	48GCLM04A2A6	3	DIRECT	480	0.6	0.36	Y	17.9	16.8	82.4	63.7	53.8	52.1	R410A	16	NA	2	15	60	81	70	80	1	180	460/3	9	10	15	DIV.26	1100	A-M, O

MODEL NUMBERS AND NOMINAL TONS LISTED SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER, MODEL NUMBERS, OR NOMINAL TONS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:

A. REFER TO ROOFTOP UNIT CONTROL MATRIX FOR CONTROL FEATURES, MODULES, AND ACCESSORIES THAT SHALL BE PROVIDED WITH THE EQUIPMENT.
B. EQUIPMENT SIZED FOR 100°F AMBIENT TEMPERATURE.
C. PROVIDE 2 INCH MERV 13, EFFICIENT PLEATED THROWAWAY AIR FILTERS.
D. DISCONNECT SWITCH PROVIDED BY DIVISION 26 CONTRACTOR.
E. STARTERS FOR ALL MOTORS SHALL BE FURNISHED INTEGRAL WITH UNIT.
F. PROVIDE SINGLE POINT POWER CONNECTION.
G. SPECIFIED FAN ESP ACCOUNTS FOR DUCT LOSSES EXTERNAL TO UNIT.
H. SPECIFIED FAN TSP INCLUDES EXTERNAL DUCT AND INTERNAL FILTER, COIL, AND CASING LOSSES. FILTER LOSS IS AT A MAXIMUM OF 400 FPM FACE VELOCITY.
I. PROVIDE MOTOR HORSEPOWER TO OVERCOME INTERNAL UNIT STATIC PRESSURE DROP PLUS SPECIFIED EXTERNAL STATIC PRESSURE DROP. NOMINAL MOTOR HP SHALL BE NO LARGER THAN THE FIRST AVAILABLE NOMINAL MOTOR SIZE GREATER THAN THE REQUIRED BHP.
J. PROVIDE INSULATED ROOF CURB WITH MINIMUM HEIGHT REQUIRED TO MAINTAIN BOTTOM OF EQUIPMENT A MINIMUM OF 21 INCHES ABOVE FINISHED ROOF SURFACE. REFER TO SHEET M4.01 FOR DETAILS. COORDINATE WITH ROOF INSULATION THICKNESS AND ROOF TAPER AT INSTALLED LOCATION. COORDINATE CURB TYPE WITH DRAWINGS.
K. SCHEDULED WEIGHT IS THE MAXIMUM ALLOWABLE OPERATING WEIGHT OF THE EQUIPMENT AND VIBRATION ISOLATION CURB.
L. PROVIDE HEATER TO MEET OR EXCEED SCHEDULED MINIMUM MBH OUTPUT. NOMINAL INPUT IS BASED ON LISTED MANUFACTURER'S STANDARD PRODUCT. COORDINATE EQUIPMENT GAS LOAD WITH PLUMBING CONTRACTOR IF DIFFERENT FROM THAT SCHEDULED. MEET MINIMUM EFFICIENCY SCHEDULED.
M. ABS. MIN. O/A IS THE ABSOLUTE MINIMUM OUTSIDE AIR CFM USING VENTILATION RESET OR DEMAND CONTROL VENTILATION.
N. PROVIDE WITH ECONOMIZER AND ASSOCIATED CONTROLS.
O. PROVIDE WITH ALL ASSOCIATED CONTROLS POINTS, AND CONNECTIONS THAT MEET GUSD REQUIREMENTS TO CONNECT TO DISTRICT WIDE NETWORK.

FAN SCHEDULE

MARK	MANUFACTURER	MOUNTING	MODEL	CFM	ESP (IN)	BHP	NOM HP	FAN RPM	DRIVE (BELT/DIRECT)	VFD (Y/N)	ELECTRICAL V/PH	ELECTRICAL FLA	ELECTRICAL DISC TYPE	ROOF OPENING (IN)	WEIGHT (LBS)	NOTES
EF R-1	GREENHECK	ROOF CURB	CUE-141-VG	2500	0.35	0.6	3/4	1496	DIRECT	N	208/1	5.4	DIV.26	18.5X18.5	100	A-F,H
EF R-2	GREENHECK	ROOF CURB	CUE-090-VG	580	0.35	0.07	1/10	1497	DIRECT	N	208/1	0.84	DIV.26	12.5X12.5	50	A-F,G
EF R-3	GREENHECK	ROOF CURB	CUE-080-VG	450	0.3	0.06	1/10	1725	DIRECT	N	208/1	0.84	DIV.26	12.5X12.5	50	A-F,I

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:

A. PROVIDE PRE-ENGINEERED ROOF EQUIPMENT SUPPORTS WITH MINIMUM HEIGHT REQUIRED TO MAINTAIN BOTTOM OF EQUIPMENT A MINIMUM OF 8 INCHES ABOVE FINISHED ROOF SURFACE. COORDINATE WITH ROOF INSULATION THICKNESS AND ROOF TAPER AT INSTALLED LOCATION.
B. PROVIDE BIRDSCREEN AND GRAVITY BACKDRAFT DAMPER.
C. DIVISION 26 CONTRACTOR SHALL PROVIDE DISCONNECT SWITCH.
D. PROVIDE WITH MANUFACTURER'S FAN SPEED CONTROLLER FOR BALANCING PURPOSES.
E. PROVIDE WITH MANUFACTURER'S ELECTRONICALLY COMMUTATED (EC) MOTOR.
F. PROVIDE WITH AUXILIARY CONTACTS FOR INTERLOCK WITH RTU 1-1
G. PROVIDE WITH AUXILIARY CONTACTS FOR INTERLOCK WITH RTU 1-2
H. PROVIDE WITH AUXILIARY CONTACTS FOR INTERLOCK WITH RTU 1-3
I. PROVIDE WITH ALL ASSOCIATED CONTROLS POINTS, AND CONNECTIONS THAT MEET GUSD REQUIREMENTS TO CONNECT TO DISTRICT WIDE NETWORK.

GRILLE, REGISTER AND DIFFUSER SCHEDULE

MARK	MANUFACTURER	SERVICE	MODEL	CONSTRUCTION TYPE	FACE TYPE	MOUNTING LOCATION	FACE SIZE (IN)	MAX. NC	MAX. PRESS. DROP (IN. W.C.)	NOTES
SD-1	TITUS	SUPPLY	S300FL	STEEL	DOUBLE DEFLECTION	DUCT	SEE PLANS	40	0.1	A-E
EG-1	TITUS	EXHAUST	300FL	STEEL	SINGLE DEFLECTION	DUCT	SEE PLANS	40	0.1	A-E
RG-1	TITUS	RETURN	300FL	STEEL	SINGLE DEFLECTION	DUCT	SEE PLANS	40	0.1	A-E

MODEL NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND MODEL NUMBERS ONLY. REVIEW THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS TO DETERMINE THE EXACT MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.

NOTES:

A. NECK SIZE SHOWN ON DRAWINGS. PROVIDE BRANCH DUCT TO MATCH NECK SIZE UNLESS OTHERWISE SHOWN ON DRAWINGS.
B. FRONT BLADES PARALLEL TO LONG DIMENSION.
C. DUCT MOUNTED GRILLE FINISH SHALL MATCH EXPOSED SHEETMETAL DUCT FINISH. COORDINATE COLOR WITH ARCHITECT.
D. PROVIDE COUNTERSUNK SCREW HOLES, ALL MOUNTING SCREWS SHALL MATCH FINAL GRILLE FINISH.
E. FINAL FINISHES AND FRAMES SHALL BE APPROVED BY ARCHITECT.

ROOFTOP UNIT CONTROL MATRIX

CONTROL FEATURE	UNITS	RTU 1-1 SETPOINT OR Y/N	RTU 1-2 SETPOINT OR Y/N	POINT TYPE INTERFACE WITH DDC (READ/WRITE)	NOTES
BUILDING AUTOMATION SYSTEM (BAS)					
BAS MONITORING AND MANAGEMENT INTERFACE		Y	Y	BACNET	A
SETPOINTS					
COOLING - OCCUPIED SETPOINT	°F	75	75	READ/WRITE	
COOLING - UNOCCUPIED SETPOINT	°F	80	80	READ/WRITE	
COOLING - SUPPLY AIR TEMPERATURE SETPOINT	°F	55	55	READ/WRITE	
DEAD BAND - MINIMUM HEATING AND COOLING TEMPERATURE SETPOINT DIFFERENCE	°F	5	5		
HEATING - OCCUPIED SETPOINT	°F	70	70	READ/WRITE	
HEATING - UNOCCUPIED SETPOINT	°F	60	60	READ/WRITE	
HEATING - SUPPLY AIR TEMPERATURE SETPOINT	°F	90	90	READ/WRITE	
PROGRAMMED CONTROL FEATURES					
HVAC SYSTEM OCCUPIED/UNOCCUPIED MODE - PROGRAMMABLE THERMOSTAT		Y	Y	READ	B
EQUIPMENT ACCESSORIES AND CONTROL MODULES					
OUTSIDE AIR DAMPER - MOTOR OPERATED (2-POSITION)		Y	Y	READ STATUS	E
INTEGRATED ECONOMIZER - DIFFERENTIAL TEMPERATURE ENABLE (OA TEMP < RA TEMP)	°F	N	N	READ	C
ECONOMIZER FAULT DETECTION AND DIAGNOSTICS (FDD) SYSTEM		Y	Y	READ	D
RELIEF - BAROMETRIC DAMPER		Y	Y		
COOLING COIL (DX - STAGED)		Y	Y	READ STATUS	F
HEATING COIL (NATURAL GAS)		Y	Y	READ STATUS	F
SUPPLY FAN CONTROL METHODS					
ON DURING OCCUPIED HOURS		Y	Y		
OPTIMUM START SEQUENCE		Y	Y		H
CONSTANT VOLUME FAN CONTROL		N	N	READ STATUS	
SAFETIES, INTERLOCKS, AND ALARMS					
GAS VALVE SAFETY		Y	Y	READ	D
DIFFERENTIAL PRESSURE SWITCH - FILTER CHANGE ALARM		Y	Y	READ	D
FIRE ALARM CONTROL PANEL - SAFETY SHUTDOWN INTERLOCK		Y	Y	READ	
EXHAUST SYSTEM INTERLOCK		Y	Y	READ	G

DIV. 23 CONTRACTOR SHALL PROVIDE CONTROL PANEL(S), WIRING, THERMOSTAT(S), TEMPERATURE SENSOR(S), HUMIDISTAT(S), AND/OR CO2 SENSOR(S) WHERE SHOWN ON THE DRAWINGS AND AS REQUIRED TO FACILITATE THE SCHEDULED CONTROL MODULES AND SEQUENCES OF OPERATION. EACH UNIT SHALL CONTROL BASED ON ITS OWN INTERNAL SAFETIES, TIME DELAYS, AND SEQUENCES UNLESS NOTED OTHERWISE. COORDINATE WITH OWNER FINAL BUILDING AND EQUIPMENT SCHEDULES DURING STARTUP. REFERENCE DIVISION SPECIFICATIONS FOR INDIVIDUAL DEVICE REQUIREMENTS.

NOTES:

A. PROVIDE UNIT WITH FACTORY MOUNTED DDC CONTROLS AND INTEGRATE INTO THE BAS. BAS SHALL PROVIDE REMOTE SETPOINT ADJUSTMENT, SCHEDULING, AND MONITORING OF THE POINTS LISTED IN THE SCHEDULE FOR EACH UNIT.
B. DIVISION 23 CONTRACTOR SHALL PROVIDE DEVICE.
C. IF SETPOINT VALUE IS LISTED, IT INDICATES ECONOMIZER HIGH-LIMIT SHUTOFF. UNIT SHALL BE IN ECONOMIZER IF CONDITIONS ARE LESS THAN SETPOINT. THE FOLLOWING SENSORS SHALL DETERMINE ECONOMIZER ON POINT.
OUTSIDE AIR TEMPERATURE; DIVISION 23 PROVIDED AS PART OF ECONOMIZER CONTROL MODULE.
RETURN AIR TEMPERATURE; DIVISION 23 PROVIDED AS PART OF ECONOMIZER CONTROL MODULE.
OUTSIDE AIR HUMIDITY; DIVISION 23 PROVIDED AS PART OF ECONOMIZER CONTROL MODULE.
RETURN AIR HUMIDITY; DIVISION 23 PROVIDED AS PART OF ECONOMIZER CONTROL MODULE.
D. DEVICE SHALL BE FACTORY MOUNTED AND PRE-WIRED FOR OPERATION SUBJECT TO THE ONBOARD CONTROLLER.
E. DETERMINE MINIMUM DAMPER POSITION IN FIELD DURING BALANCING TO PROVIDE SCHEDULED OUTDOOR AIRFLOW DURING OCCUPIED HOURS. DAMPER SHALL BE CLOSED DURING UNOCCUPIED HOURS.
F. UNITARY CONTROLLER SHALL MODULATE AND/OR CYCLE SUPPLY FAN SPEED SETTING AND COIL CAPACITY STAGES SUBJECT TO THE INTERNAL SAFETIES AND SEQUENCES TO MAINTAIN SCHEDULED SETPOINTS.
G. INTERLOCK RTU WITH EXHAUST SYSTEM(S) TO SHUT DOWN AND ENERGIZE EXHAUST FAN WHEN RTU IS ON/OFF. RTU 1-1 SHALL BE INTERLOCKED WITH EF R-2 AND RTU 1-2 SHALL BE INTERLOCKED WITH EF R-1 RESPECTIVELY.
H. DURING OPTIMUM START SEQUENCE, THE UNIT SHALL SUPPLY THE LESSER OF THE MINIMUM RATE OF OUTDOOR AIR OR SUPPLY 3 COMPLETE AIR CHANGES DURING THE 1-HOUR PERIOD BEFORE NORMAL OCCUPIED MODE.

ROOFTOP UNIT CONTROL MATRIX

CONTROL FEATURE	UNITS	RTU 1-3 SETPOINT OR Y/N	RTU 1-4 SETPOINT OR Y/N	POINT TYPE INTERFACE WITH DDC (READ/WRITE)	NOTES
BUILDING AUTOMATION SYSTEM (BAS)					
BAS MONITORING AND MANAGEMENT INTERFACE		Y	Y	BACNET	A
SETPOINTS					
COOLING - OCCUPIED SETPOINT	°F	75	75	READ/WRITE	
COOLING - UNOCCUPIED SETPOINT	°F	80	80	READ/WRITE	
COOLING - SUPPLY AIR TEMPERATURE SETPOINT	°F	55	55	READ/WRITE	
DEAD BAND - MINIMUM HEATING AND COOLING TEMPERATURE SETPOINT DIFFERENCE	°F	5	5		
HEATING - OCCUPIED SETPOINT	°F	70	70	READ/WRITE	
HEATING - UNOCCUPIED SETPOINT	°F	60	60	READ/WRITE	
HEATING - SUPPLY AIR TEMPERATURE SETPOINT	°F	90	90	READ/WRITE	
PROGRAMMED CONTROL FEATURES					
HVAC SYSTEM OCCUPIED/UNOCCUPIED MODE - PROGRAMMABLE THERMOSTAT		Y	Y	READ	B
EQUIPMENT ACCESSORIES AND CONTROL MODULES					
OUTSIDE AIR DAMPER - MOTOR OPERATED (2-POSITION)		Y	Y	READ STATUS	D
RELIEF - BAROMETRIC DAMPER		Y	Y		
COOLING COIL (DX - STAGED)		Y	Y	READ STATUS	E
HEATING COIL (NATURAL GAS)		Y	Y	READ STATUS	E
SUPPLY FAN CONTROL METHODS					
ON DURING OCCUPIED HOURS		Y	Y		
OPTIMUM START SEQUENCE		Y	Y		G
CONSTANT VOLUME FAN CONTROL		N	N	READ STATUS	
SAFETIES, INTERLOCKS, AND ALARMS					
GAS VALVE SAFETY		Y	Y	READ	C
DIFFERENTIAL PRESSURE SWITCH - FILTER CHANGE ALARM		Y	Y	READ	C
FIRE ALARM CONTROL PANEL - SAFETY SHUTDOWN INTERLOCK		Y	Y	READ	
EXHAUST SYSTEM INTERLOCK		Y	N	READ	F

DIV. 23 CONTRACTOR SHALL PROVIDE CONTROL PANEL(S), WIRING, THERMOSTAT(S), TEMPERATURE SENSOR(S), HUMIDISTAT(S), AND/OR CO2 SENSOR(S) WHERE SHOWN ON THE DRAWINGS AND AS REQUIRED TO FACILITATE THE SCHEDULED CONTROL MODULES AND SEQUENCES OF OPERATION. EACH UNIT SHALL CONTROL BASED ON ITS OWN INTERNAL SAFETIES, TIME DELAYS, AND SEQUENCES UNLESS NOTED OTHERWISE. COORDINATE WITH OWNER FINAL BUILDING AND EQUIPMENT SCHEDULES DURING STARTUP. REFERENCE DIVISION SPECIFICATIONS FOR INDIVIDUAL DEVICE REQUIREMENTS.

NOTES:

A. PROVIDE UNIT WITH FACTORY MOUNTED DDC CONTROLS AND INTEGRATE INTO THE BAS. BAS SHALL PROVIDE REMOTE SETPOINT ADJUSTMENT, SCHEDULING, AND MONITORING OF THE POINTS LISTED IN THE SCHEDULE FOR EACH UNIT.
B. DIVISION 23 CONTRACTOR SHALL PROVIDE DEVICE.
C. DEVICE SHALL BE FACTORY MOUNTED AND PRE-WIRED FOR OPERATION SUBJECT TO THE ONBOARD CONTROLLER.
D. DETERMINE MINIMUM DAMPER POSITION IN FIELD DURING BALANCING TO PROVIDE SCHEDULED OUTDOOR AIRFLOW DURING OCCUPIED HOURS. DAMPER SHALL BE CLOSED DURING UNOCCUPIED HOURS.
E. UNITARY CONTROLLER SHALL MODULATE AND/OR CYCLE SUPPLY FAN SPEED SETTING AND COIL CAPACITY STAGES SUBJECT TO THE INTERNAL SAFETIES AND SEQUENCES TO MAINTAIN SCHEDULED SETPOINTS.
F. INTERLOCK RTU WITH EXHAUST SYSTEM(S) TO SHUT DOWN AND ENERGIZE EXHAUST FAN WHEN RTU IS ON/OFF. RTU 1-3 SHALL BE INTERLOCKED WITH EF R-3 RESPECTIVELY.
G. DURING OPTIMUM START SEQUENCE, THE UNIT SHALL SUPPLY THE LESSER OF THE MINIMUM RATE OF OUTDOOR AIR OR SUPPLY 3 COMPLETE AIR CHANGES DURING THE 1-HOUR PERIOD BEFORE NORMAL OCCUPIED MODE.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL
TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

LICENSED PROFESSIONAL ENGINEER
AUSTIN LAIR ALLEN
M 36447
MECHANICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

MECHANICAL SCHEDULES

M5.00

© 2019 NAC Inc.

AUSTIN L. ALLEN

9/2/2020 3:13:33 PM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_carlosruiz_20200831085426.rvt

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 1 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

A. GENERAL INFORMATION

1.	Project Location (city)	GLENDALE	**8.**	Standards Version	Compliance2019
2.	CA Zip Code	91214	**9.**	Compliance Software (version)	EnergyPro 8.1
3.	Climate Zone	9	**10.**	Weather File	BURBANK-GLENDALE_722880_CZ2010.epw
4.	Total Conditioned Floor Area in Scope	7,025 ft²	**11.**	Building Orientation (deg)	(N) 0 deg
5.	Total Unconditioned Floor Area	0 ft²	**12.**	Permitted Scope of Work	NewComplete
6.	Total # of Stories (Habitable Above Grade)	1	13	Building Type(s)	Nonresidential
7.	Total # of dwelling units	0	14	Gas Type	NaturalGas

B. PROJECT SUMMARY

Table Instructions: Table B shows which building components are included in the performance calculation. If indicated as not included, the project must show compliance prescriptively if within permit application.

Building Components Complying via Performance					Building Components Complying Prescriptively	
Envelope	☒ Performance	Covered Process: Commercial Kitchens	☐ Performance		*The following building components are ONLY eligible for prescriptive compliance and should be documented on the NRCC form listed if within the scope of the permit application (i.e. compliance will not be shown on the NRCC-PRF-E).*	
	☐ Not Included		☒ Not Included			
Mechanical	☒ Performance	Covered Process: Computer Rooms	☐ Performance		Indoor Lighting (Unconditioned)§140.6	*NRCC-LTI -E is required*
	☐ Not Included		☒ Not Included		Outdoor Lighting §140.7	*NRCC-LTO-E is required*
Domestic Hot Water	☒ Performance	Covered Process: Laboratory Exhaust	☐ Performance		Sign Lighting §140.8	*NRCC -LTS-E is required*
	☐ Not Included		☐ Not Included		Mandatory Measures	
Lighting (Indoor Conditioned)	☒ Performance				*Electrical power systems, commissioning and solar ready requirements are mandatory and should be documented on the NRCC form listed if applicable (i.e. compliance will not be shown on the NRCC-PRF-E.)*	
	☐ Not Included				Electrical Power Distribution §110.11	*NRCC-ELC-E is required*
Solar Thermal Water Heating	☐ Performance				Commissioning §120.8	*NRCC-CXR-E is required*
	☒ Not Included				Solar Ready §110.10	*NRCC-SRA-E is required*

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 2 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

C1. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft ²-yr)

COMPLIES

Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Space Heating	2.75	4.44	-1.69
Space Cooling	132.32	140.98	-8.66
Indoor Fans	117.99	115.80	2.19
Heat Rejection	--	--	--
Pumps & Misc.	--	--	--
Domestic Hot Water	5.42	7.61	-2.19
Indoor Lighting	116.86	60.13	56.73
ENERGY STANDARDS COMPLIANCE TOTAL	**375.34**	**328.96**	**46.38 (12.4%)**

[1] *Notes: The number in parenthesis following the Compliance Margin in column 4. represents the Percent Better than Standard.*

C2. RESULTS FOR 'ABOVE CODE' QUALIFICATIONS[1]

☐ This project is pursuing CalGreen Tier 1 ☐ This project is pursuing CalGreen Tier 2

Miscellaneous Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Receptacle	84.94	84.94	--
Process	337.45	337.45	--
Other Ltg	--	--	--
Process Motors	--	--	--
COMPLIANCE TOTAL PLUS MISCELLANEOUS COMPONENTS	**797.73**	**751.35**	**46.4 (5.8%)**

[1] *Notes: This table is used to document compliance with programs OTHER THAN Title 24 Part 6, if applicable.*

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 3 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

D. EXCEPTIONAL CONDITIONS

The aged solar reflectance and aged thermal emittance must be listed in the Cool Roof Rating Council database of certified products. For projects where initial reflectance is used, the initial reflectance must be listed, and the aged reflectance is calculated by the software program and used in the compliance model.

The general lighting exceptional method is employed for one or more spaces. Verify that the lighting allowances match the lighting installed on the plans and serve the areas within each space as identified in the compliance model.

This project uses the Simplified Geometry Performance Modeling Approach which is not capable of modeling daylighting controls and assumes the prescriptive Secondary Daylit Control requirements are met. PRESCRIPTIVE COMPLIANCE documentation (form NRCC-LTI-02-E) for the requirements of section 140.6(d) Automatic Daylighting Controls in Secondary Daylit Zones is required.

E. HERS VERIFICATION

This Section Does Not Apply

F. ADDITIONAL REMARKS

This Section Does Not Apply

G. ENVELOPE GENERAL INFORMATION

1	2	3	4
Opaque Surfaces & Orientation	**Total Gross Surface Area (ft²)**	**Total Fenestration Area (ft²)**	**Window to Wall Ratio (%)**
North-Facing[1]	1,517 ft²	248 ft²	16.4%
East-Facing[2]	1,358 ft²	0 ft²	00.0%
South-Facing[3]	1,695 ft²	98 ft²	05.8%
West-Facing[4]	1,348 ft²	0 ft²	00.0%
Total	**5,918 ft²**	**346 ft²**	**05.9%**
Roof	7,116 ft²	116 ft²	01.6%

Notes:
[1] *North-Facing is oriented to within 45 degrees of true north, including 45°00'00" east of north (NE), but excluding 45°00'00" west of north (NW).*
[2] *East-Facing is oriented to within 45 degrees of true east, including 45°00'00" south of east (SE), but excluding 45°00'00" north of east (NE).*
[3] *South-Facing is oriented to within 45 degrees of true south, including 45°00'00" west of south (SW), but excluding 45°00'00" east of south (SE).*
[4] *West-Facing is oriented to within 45 degrees of true west, including 45°00'00" north of due west (NW), but excluding 45°00'00" south of west (SW).*

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 4 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

H. FENESTRATION ASSEMBLY SUMMARY §110.6

1. Fenestration Assembly Name / Tag or I.D.	2. Fenestration Type / Product Type / Frame Type	3. Certification Method[1]	4. Assembly Method	5. Area ft²	6. Overall U-factor	7. Overall SHGC	8. Overall VT	9. Status[2]
Residential Cooling	VerticalFenestration FixedWindow N/A	NFRC Rated	Manufactured	346	0.36	0.25	0.50	N
PPG Solexia	Skylight FixedWindow MetalFraming	Default Performance	Manufactured	116	1.98	0.83	1.00	N

[1] *Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Center of Glass (COG) values are for the glass only, determined by the manufacturer, and are shown for ease of verification. Site-built fenestration values are calculated per Nonresidential Appendix NA6 and are used in the analysis.*
[2] *Status: N - New, A – Altered, E – Existing*

I. ENVELOPE DETAILS §120.7 & §140.3

I1. OPAQUE SURFACE ASSEMBLY SUMMARY

1 Surface Name	2 Surface Type	3 Description of Assembly Layers	4 Area (ft²)	5 Framing Type	6 Cavity R-Value	7 Continuous R-Value	8 U-Factor / F-Factor / C-Factor	9 Status[1]
12 CMU Wall11	ExteriorWall	Concrete - Solid Grout - 125 lb/ft3 - 12 in.	5369	NA	0	NA	U-Factor: 0.490	N
Clark Roof13	Roof	Concrete - 100 lb/ft3 - 6 in. Gypsum Board - 5/8 in. Cellular polyisocyanurate (unfaced) - 2 in. R12 Metal Deck - 1/16 in.	7116	NA	0	12	U-Factor: 0.071	N
Slab On Grade15	UndergroundFloor	Slab Type = UnheatedSlabOnGrade Insulation Orientation = None Insulation R-Value = RD	7025	NA	0	NA	F-Factor: 0.730	N
Steel Beam Exterior17	ExteriorWall	Metal building wall, single layer batt, R-0 Metal Insulated Panels - 3 in.	549	NA	0	NA	U-Factor: 0.053	N
12 CMU Wall111	UndergroundWall	Concrete - Solid Grout - 125 lb/ft3 - 12 in.	405	NA	0	NA	C-Factor: 0.840	N

[1] *Status: N - New, A – Altered, E – Existing*

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 5 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

I2. OVERHANG DETAILS

This Section Does Not Apply

I3. OPAQUE DOOR SUMMARY

1	2	3
Assembly Name	**Overall U-factor**	**Status[1]**
INSULATED DOOR42	0.500	N

J. CRRC ROOFING PRODUCT SUMMARY §140.3

1 Assembly Name	2 Roof Pitch	3 Aged Solar Reflectance	4 Thermal Emittance	5 SRI
Clark Roof13	Low-Slope	0.30	0.75	Not Provided

K. HVAC SYSTEM SUMMARY §110.1 & §110.2

K1. Dry System Equipment (furnaces, air handling units, heat pumps, VRF, etc.)

Dry System Equipment [1] (Fan & Economizer info included below in Table N)

1 Equipment Name	2 Equipment Type	3 Qty	4 Heating: Total Heating Output (kBtu/h)	5 Heating: Supp Heat Source (Y/N)	6 Heating: Supp Heat Output (kBtuh)	7 Heating: Efficiency	8 Cooling: Total Cooling Output (kBtu/h)	9 Cooling: Efficiency	10 Status[2]
RTU 1-1	SZVAVAC (Packaged3Phase)	1	41	No	0	AFUE-82.0	71	EER-13.0	N
RTU 1-2	SZVAVAC (Packaged3Phase)	1	142	No	0	AFUE-81.0	248	EER-12.0	N
RTU 1-3	SZVAVAC (Packaged3Phase)	1	49	No	0	AFUE-81.0	34	SEER-16.00 / EER-12.40	N
RTU 1-4	SZVAVAC (Packaged3Phase)	1	49	No	0	AFUE-81.0	34	SEER-16.00 / EER-12.40	N

[2] *Status: N - New, A – Altered, E – Existing*

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 6 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

K2. ECONOMIZER & FAN SYSTEMS SUMMARY §140.4[1]

1	2	3	4	5	6	7	8	9	10	11	12	13
			Supply Fan				Return Fan					
Name or Item Tag	System Type packaged, DOAS, etc.	Design OA CFM	CFM	BHP	Watts	Control	CFM	BHP	Watts	Control	Economizer Type (if present)	Status[2]
RTU 1-1	SZVAVAC	182	1500	0.670	584.3	VariableSpeedDrive	NA	NA	NA	NA	FixedDryBulb	N
RTU 1-2	SZVAVAC	741	8900	6.520	5301.3	VariableSpeedDrive	NA	NA	NA	NA	FixedDryBulb	N
RTU 1-3	SZVAVAC	77	740	0.430	375.0	VariableSpeedDrive	NA	NA	NA	NA	FixedDryBulb	N
RTU 1-4	SZVAVAC	54	740	0.430	375.0	VariableSpeedDrive	NA	NA	NA	NA	FixedDryBulb	N

[2] *Status: N - New, A – Altered, E – Existing*

K3. EXHAUST FAN SUMMARY

1 System ID	2 Zone Name	3 Qty	4 CFM	5 Motor BHP	6 Motor Watts	7 Total Static Pressure (in H20)
ZONE 13	1-ZONE 1	1	580	0.100	87.2	0.71
ZONE 224	2-ZONE 2	1	2,500	0.750	654.0	1.24
ZONE 355	3-ZONE 3	1	270	0.100	87.2	1.53
ZONE 463	4-ZONE 4	1	180	0.100	87.2	2.29

K4. Wet System Equipment (boilers, chillers, cooling towers, etc.)

1 Name or Item Tag	2 Equipment Type	3 Qty	4 Vol (gal)	5 Rated Capacity (kBtu/h)	6 Efficiency	7 Standby Loss	8 Pumps: Qty	9 Pumps: GPM	10 Pumps: HP	11 Pumps: VSD (Y/N)	12 Status[1]

[1] *Status: N - New, A – Altered, E – Existing*

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 7 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

K5. SYSTEM FEATURES §120.2

1 System Name	2 Optimum Start	3 Window Interlocks per §140.4(n)	4 Evaporative Cooling	5 Heat Recovery	6 Other Controls
RTU 1-1	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	1 Zones With CO2Sensor Vent. Control, No DDC Fixed DrybulbEconomizer No Supply Air Temp. Control
RTU 1-2	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	1 Zones With CO2Sensor Vent. Control, No DDC Fixed DrybulbEconomizer No Supply Air Temp. Control
RTU 1-3	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	1 Zones With CO2Sensor Vent. Control, No DDC Fixed DrybulbEconomizer No Supply Air Temp. Control
RTU 1-4	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	1 Zones With CO2Sensor Vent. Control, No DDC Fixed DrybulbEconomizer No Supply Air Temp. Control
Undefined Plant1 - SHW	NA	NA	NA	NA	Fixed Temperature Control, No DDC

Notes: This table includes controls related to the performance path only. For projects using the prescriptive path, mandatory and prescriptive controls requirements are documented on the NRCC-MCH-E.

K6. MECHANICAL VENTILATION AND REHEAT §120.1

1 Zone Name	2 Mechanical Ventilation: Ventilation Function	3 # hotel rooms	4 # of people	5 # of bedrooms	6 Supply OA CFM	7 Exhaust CFM	8 Conditioned Area (sf)	9 DCV or Occupant Sensor Controls, or Both
1-ZONE 1	Misc - All others	0	6.05	0	182	580	1210	NA
2-ZONE 2	Misc - All others	0	24.69	0	741	2500	4938	NA
3-ZONE 3	Misc - All others	0	2.58	0	77	270	516	NA
4-ZONE 4	Misc - All others	0	1.80	0	54	180	361	NA

K7. DISTRIBUTION SUMMARY §120.4/140.4(l)

This Section Does Not Apply

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 8 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

Multifamily or Hotel/Motel Occupancy? (if "Yes", see DOMESTIC/SERVICE HOT WATER SYSTEM SUMMARY)	No
Does the Project include Zonal Systems?	No

K8. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY § 140.4

1 System ID	2 Zone Name	3 System Type	4 Rated Capacity (kBtuh): Heating	5 Rated Capacity (kBtuh): Cooling	6 Airflow (cfm): Design	7 Airflow (cfm): Min.	8 Min. Ratio	9 Fan: BHP	10 Fan: Watts	11 Fan: Cycles	12 ECM Motor
1-ZONE 1-Trm	1-ZONE 1	VAVNoReheatBox	NA	NA	1500	0	0.00	NA	NA	NA	☐
2-ZONE 2-Trm	2-ZONE 2	VAVNoReheatBox	NA	NA	8900	0	0.00	NA	NA	NA	☐
3-ZONE 3-Trm	3-ZONE 3	VAVNoReheatBox	NA	NA	740	0	0.00	NA	NA	NA	☐
4-ZONE 4-Trm	4-ZONE 4	VAVNoReheatBox	NA	NA	740	0	0.00	NA	NA	NA	☐

K9. EVAPORATIVE COOLER SUMMARY

This Section Does Not Apply

L. DOMESTIC/SERVICE HOT WATER SYSTEM SUMMARY

L1. DHW EQUIPMENT SUMMARY

1 DHW Name	2 Heater Element Type	3 Tank Type	4 Qty	5 Tank Vol (gal)	6 Rated Input (kBtu/h)	7 Efficiency	8 Tank Insulation R-value (Int/Ext)	9 Standby Loss Fraction	10 Heat Pump Type	11 Tank Location or Ambient Condition
Instantaneous Electric2	Electricity	Instantaneous	1	1.00	1.0 (kW)	UEF: 0.99	NA	SBLF: NA	NA	NA

L2. MULTI-FAMILY CENTRAL DHW SYSTEM DETAILS

This Section Does Not Apply

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 9 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

L3. SOLAR HOT WATER HEATING SUMMARY

This Section Does Not Apply

M. COVERED PROCESS SUMMARY §140.9

This Section Does Not Apply

N. INDOOR LIGHTING SUMMARY §140.6

N1. INDOOR CONDITIONED LIGHTING GENERAL INFO § 140.6[1]

1 Occupancy Type [1]	2 Conditioned Floor Area [2] (ft²)	3 Installed Lighting Power (Watts)	4 Lighting Control Credits (Watts)	5 Additional (Custom) Allowance: Area Category Footnotes (Watts)	5 Additional (Custom) Allowance: Tailored Method (Watts)	Confirmed: Pass	Confirmed: Fail
General/Commercial & Industrial Work Area (Precision)	2,087	1,584	0	1478	0	☐	☐
General/Commercial & Industrial Work Area (High Bay)	4,938	3,586	0	3586	0	☐	☐
Building Totals:	**7,025**	**5,170**	**0**	**5064**	**0**		

[1] *See Table 140.6-C*
[2] *See NRCC-LTI-01-E for unconditioned spaces*
[3] *Lighting information for existing spaces modeled is not included in the table*

N2. INDOOR CONDITIONED LIGHTING SCHEDULE § 130.0[1]

Name or Item Tag	Complete Luminaire Description (i.e., 3-lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	Installed Watts (Conditioned): Watts per luminaire	How Wattage is Determined: CEC Default from NA8	How Wattage is Determined: According to §130.0(c)	Total Number Luminaires	Installed Watts	Confirmed: Pass	Confirmed: Fail
Luminaire Schedule (includes all permanent installed lighting in conditioned space, and portable lighting over 0.3 w/ft² in offices)								
A	HIGH BAY PENDANT DOWNLIGHT	97	No	Yes	34	3,298	☐	☐

AUSTIN L. ALLEN

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

LICENSED PROFESSIONAL ENGINEER
AUSTIN LAIR ALLEN
M 36447
MECHANICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

MECHANICAL T-24 COMPLIANCE FORMS

M7.00

© 2019 NAC Inc.

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 10 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

N2. INDOOR CONDITIONED LIGHTING SCHEDULE § 130.0[1]

Luminaire Schedule (includes all permanent installed lighting in conditioned space, and portable lighting over 0.3 w/ft² in offices)		**Installed Watts (Conditioned)**					**Confirmed**	
Name or Item Tag	**Complete Luminaire Description (i.e., 3-lamp fluorescent troffer, F32T8, one dimmable electronic ballast)**	**Watts per luminaire**	**How Wattage is Determined**		**Total Number Luminaires**	**Installed Watts**	**Pass**	**Fail**
			CEC Default from NA8	**According to §130.0(c)**				
B	6" LINEAR PENDANT	36	No	Yes	44	1,584	☐	☐
C1	LINEAR PENDANT	72	No	Yes	4	288	☐	☐

[1] *If lighting power densities were used in the compliance model Building Departments will need to check prescriptive forms for Luminaire Schedule details.*

N3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS § 140.6

Lighting Control Credits Schedule (includes all lighting controls installed in conditioned space for compliance credit per §140.6(a)2 and Table 140.6-A)				**Control Credit Calculation**			**√ If Acceptance Test Required**	**Confirmed**	
Location in Building	Occupancy Type (must meet requirements of Table 140.6-A)	Type/Description of Lighting Control (i.e., partial on occupancy sensor, manual dimming, etc.)	# of Units	Watts of Controlled Lighting	Power Adjustment Factor	Control Credit Watts		**Pass**	**Fail**
S-1-ZONE 1	General/Commercial & Industrial Work Area (Precision)	- none specified -- none specified -- none specified -- none specified -- none specified -	0		0.000.000.000.000.00	0		☐	☐
S-1-ZONE 1	General/Commercial & Industrial Work Area (Precision)	- none specified -- none specified -- none specified -- none specified -- none specified -	0		0.000.000.000.000.00	0		☐	☐
S-2-ZONE 2	General/Commercial & Industrial Work Area (High Bay)	- none specified -- none specified -- none specified -- none specified -- none specified -	0		0.000.000.000.000.00	0		☐	☐
S-2-ZONE 2	General/Commercial & Industrial Work Area (High Bay)	- none specified -- none specified -- none specified -- none specified -- none specified -	0		0.000.000.000.000.00	0		☐	☐
S-2-ZONE 2	General/Commercial & Industrial Work Area (High Bay)	- none specified -- none specified -- none specified -- none specified -- none specified -	0		0.000.000.000.000.00	0		☐	☐
S-2-ZONE 2	General/Commercial & Industrial Work Area (High Bay)	- none specified -- none specified -- none specified -- none specified -- none specified -	0		0.000.000.000.000.00	0		☐	☐

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 11 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

N3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS § 140.6

Lighting Control Credits Schedule (includes all lighting controls installed in conditioned space for compliance credit per §140.6(a)2 and Table 140.6-A)				**Control Credit Calculation**			**√ If Acceptance Test Required**	**Confirmed**	
Location in Building	Occupancy Type (must meet requirements of Table 140.6-A)	Type/Description of Lighting Control (i.e., partial on occupancy sensor, manual dimming, etc.)	# of Units	Watts of Controlled Lighting	Power Adjustment Factor	Control Credit Watts		**Pass**	**Fail**
S-3-ZONE 3	General/Commercial & Industrial Work Area (Precision)	- none specified -- none specified -- none specified -- none specified -- none specified -	0		0.000.000.000.000.00	0		☐	☐
S-4-ZONE 4	General/Commercial & Industrial Work Area (Precision)	- none specified -- none specified -- none specified -- none specified -- none specified -	0		0.000.000.000.000.00	0		☐	☐

N4: INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROLS § 130.1

This Section Does Not Apply

§130.1(a) = Manual area controls; §130.0(b) = Multi Level; §130.1(c) = Auto Shut-Off; §130.1(d) = Mandatory Daylight; §130.1(e) = Demand Responsive

N5. TAILORED METHOD CONDITIONED LIGHTING POWER ALLOWANCE SUMMARY AND CHECKLIST § 140.6

General lighting power (see Table D)	0
General lighting power from special function areas (see Table E)	NA
Additional "use it or lose it" (See Table G)	0
Total watts	0

N6. GENERAL LIGHTING POWER § 140.6-D

This Section Does Not Apply

N7. GENERAL LIGHTING FROM SPECIAL FUNCTION AREAS § 140.6(c) 3H

Room Number	Primary Function Area	Illuminance Value (LUX)	Room Cavity Ratio (Table G)	Allowed LPD	Floor Area (ft²)	**Allowed Watts**	**Confirmed**	
							Pass	**Fail**
NA	NA	NA	NA	NA	NA	NA	☐	☐

Note: Tailored Method for Special Function Areas is not currently implemented

---

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 12 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

N8. ROOM CAVITY RATIO

Rectangular Spaces

Room Number	Task/Activity Description	Room Length (ft)	Room Width (ft)	Room Cavity Height (ft)	**RCR**	**Confirmed**	
						Pass	**Fail**
NA	NA	NA	NA	NA	NA	☐	☐

Non-Rectangular Spaces

This Section Does Not Apply

Note: All applicable spaces are listed under the Non-Rectangular Spaces table

N9. ADDITIONAL "USE IT OR LOSE IT"

1.	**2.**	**3.**	**4.**	**Allowed Watts**	**Confirmed**	
Wall Display	**Combined Floor Display and Task Lighting**	**Combined Ornamental and Special Effects Lighting**	**Very Valuable Merchandise**		**Pass**	**Fail**
0	0	0	0	**0**	☐	☐

N10. Wall Display

This Section Does Not Apply

N11. Floor Display and Task Lighting

This Section Does Not Apply

N12. Combined Ornamental and Special Effects Lighting

This Section Does Not Apply

N13. Very Valuable Merchandise

This Section Does Not Apply

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 13 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

N14. INDOOR & OUTDOOR LIGHTING ACCEPTANCE TESTS & FORMS § 130.4

Declaration of Required Acceptance Certificates (NRCA) –Acceptance Certificates that must be verified in the field. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

Test Description		**Indoor**			**Outdoor**	**Confirmed**	
		NRCA-LTI-02-A	**NRCA-LTI-03-A**	**NRCA-LTI-04-A**	**NRCA-LTO-02-A**	**Pass**	**Fail**
Equipment Requiring Testing or Verification	# of units	Occ Sensors / Auto Time Switch	Auto Daylight	Demand Responsive	Outdoor Controls		
Occupant Sensors	3	☒	☐	☐	☐	☐	☐
Automatic Time Switch	0	☒	☐	☐	☐	☐	☐
Automatic Daylighting	2	☐	☒	☐	☐	☐	☐
Demand Responsive	0	☐	☐	☐	☐	☐	☐
Outdoor Controls	3	☐	☐	☐	☒	☐	☐

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 14 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Installation must be submitted for the features to be recognized for compliance. These documents bust be retained and provided to the building inspector during construction and can be found online at: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Building Component	**YES**	**NO**	**Form/Title**	**Field Inspector**	
				Pass	**Fail**
Envelope	☒	☐	NRCI-ENV-01-E - Must be submitted for all buildings	☐	☐
Mechanical	☒	☐	NRCI-MCH-01-E - Must be submitted for all buildings	☐	☐
Plumbing	☒	☐	NRCI-PLB-01-E - Must be submitted for all buildings	☐	☐
	☐	☒	NRCI-PLB-02-E - Must be submitted for high-rise residential and hotel/ motel central hot water distribution systems to be recognized for compliance	☐	☐
	☐	☒	NRCI-PLB-03-E - Must be submitted for high-rise residential and hotel/motel single dwelling unit hot water system distribution systems to be recognized for compliance	☐	☐
	☐	☒	NRCI-PLB-21-E - Must be HERS verified for central systems in high-rise residential hotel/ motel application	☐	☐
	☐	☒	NRCI-PLB-22-E - Must be HERS verified for single dwelling unit systems in high-rise residential, hotel/motel application	☐	☐
	☐	☒	NRCI-STH-01-E - Must be submitted for solar hot water heating systems	☐	☐
Indoor Lighting	☒	☐	NRCI-LTI-01-E - Must be submitted for all buildings	☐	☐
	☒	☐	NRCI-LTI-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS) to be recognized for compliance	☐	☐
	☐	☒	NRCI-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room, or a theater to be recognized for compliance	☐	☐
	☐	☒	NRCI-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance	☐	☐
	☐	☒	NRCI-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance	☐	☐
Covered Process	☐	☒	NRCI-PRC-01-E - Must be submitted for all Covered Processes	☐	☐

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 15 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit:https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Building Component	**YES**	**NO**	**Form/Title**	**Field Inspector**	
				Pass	**Fail**
Envelope	☒	☐	NRCA-ENV-02-F - NRFC label verification for fenestration	☐	☐
	☐	☐	NRCA-ENV-03-F - Daylighting Design PAFs	☐	☐
Indoor Lighting	☒	☐	NRCA-LTI-02-A - Occupancy Sensors and Automatic Time Switch Controls	☐	☐
	☒	☐	NRCA-LTI-03-A - Automatic Daylight Controls	☐	☐
	☐	☒	NRCA-LTI-04-A - Demand Responsive Lighting Controls	☐	☐
	☐	☒	NRCA-LTI-05-A - Institutional Tuning Power Adjustment Factor (PAF)	☐	☐
Covered Process	☐	☒	NRCA-PRC-02-F - Kitchen Exhaust	☐	☐
	☐	☒	NRCA-PRC-03-F - Garage Exhaust	☐	☐
	☐	☒	NRCA-PRC-12-F – Elevator Lighting and Ventilation Controls	☐	☐
	☐	☒	NRCA-PRC-13-F –Escalator and Moving Walkways Speed Control	☐	☐
	☐	☒	NRCA-PRC-14-F – Lab Exhaust Ventilation System	☐	☐
	☐	☒	NRCA-PRC-15-F - Fume Hood Automatic Sash Closures System	☐	☐

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 16 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit:https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Building Component	**YES**	**NO**	**Form/Title**	**Field Inspector**	
				Pass	**Fail**
Mechanical	☒	☐	NRCA-MCH-02-A Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap	☐	☐
	☐	☒	NRCA-MCH-03-A Constant Volume Single Zone HVAC	☐	☐
	☐	☒	NRCA-MCH-04(a)-H Air Distribution Duct Leakage - HERS Verification required	☐	☐
	☐	☐	NRCA-MCH-04(b)-A Air Distribution Duct Leakage - ATT only	☐	☐
	☒	☐	NRCA-MCH-05-A Air Economizer Controls	☐	☐
	☒	☐	NRCA-MCH-06-A Demand Control Ventilation Systems Acceptance must be submitted for all systems required to employ demand controlled ventilation (refer to §120.1(c)3) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints	☐	☐
	☐	☒	NRCA-MCH-07-A Supply Fan Variable Flow Controls	☐	☐
	☐	☒	NRCA-MCH-08-A Valve Leakage Test	☐	☐
	☐	☒	NRCA-MCH-09-A Supply Water Temperature Reset Controls	☐	☐
	☐	☒	NRCA-MCH-10-A Hydronic System Variable Flow Controls	☐	☐
	☐	☒	NRCA-MCH-11-A Automatic Demand Shed Controls	☐	☐
	☒	☐	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	☐	☐
	☐	☒	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance	☐	☐
	☐	☒	NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance	☐	☐
	☐	☒	NRCA-MCH-15-A Thermal Energy Storage (TES) System Acceptance	☐	☐
	☐	☒	NRCA-MCH-16-A Supply Air Temperature Reset Controls	☐	☐
	☐	☒	NRCA-MCH-17-A Condenser Water Temperature Reset Controls	☐	☐
	☐	☒	NRCA-MCH-18 Energy Management Control Systems	☐	☐
	☐	☒	NRCA-MCH-19 Occupancy Sensor Controls	☐	☐

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 17 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

Q. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Verification must be submitted for the features to be recognized for compliance. These documents bust be retained and provided to the building inspector during construction and can be found online at: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCV/

Building Component	**YES**	**NO**	**Form/Title**	**Field Inspector**	
				Pass	**Fail**
Mechanical	☐	☒	NRCV-MCH-04-H Duct Leakage Test	☐	☐
	☐	☒	NRCV-MCH-24-H Enclosure Air Leakage	☐	☐
	☐	☒	NRCV-MCH-27 Indoor Air Quality & Mechanical Ventilation	☐	☐
	☐	☒	NRCV-MCH-32-H Local Mechanical Exhaust	☐	☐
Plumbing	☐	☒	NRCV-PLB-21-H - HERS verified central systems in high-rise residential, hotel/motel application	☐	☐
	☐	☒	NRCV-PLB-22-H - HERS verified single dwelling unit systems in high-rise residential, hotel/motel application	☐	☐

R. UNMET LOAD HOURS

This Section Does Not Apply

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 18 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Carlos Ruiz	Signature: Carlos Ruiz
Company: Henderson Engineers Inc	
Address: 510 W 6th St. Suite 800	Signature Date: 2020-08-31
City/State/Zip: Los Angeles CA 90014	CEA/ HERS Certification Identification (if applicable):
Phone: 213-254-4753	

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Envelope Designer Name:	Signature: Daun Brisco	
Company: NAC Architecture		
Address: 837 N. Spring St.	Date Signed:	
City/State/Zip: Los Angeles CA 90012		
Phone: 323.475.8075	Title:	License #:
Responsible Lighting Designer Name: Simran Ubhi	Signature:	
Company: Henderson Engineers Inc		
Address: 510 W Sixth St. Suite #800	Date Signed: Sep 2 2020	
City/State/Zip: Los Angeles CA 90014		
Phone: 213.254.4750	Title:	License #: 19855
Responsible Mechanical Designer Name: Austin Allen	Signature:	
Company: Henderson Engineers, Inc.		
Address: 510 W 6th Street, Suite 800	Date Signed: Sep 2 2020	
City/State/Zip: Los Angeles CA 90014		
Phone: 213-254-4757	Title:	License #: M36447

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON
ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 **FAX** 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

AUSTIN LAIR ALLEN
M 36447
Sep 2 2020

NAC
ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100%
CONSTRUCTION
DOCUMENTS

MECHANICAL T-24
COMPLIANCE FORMS

© 2019 NAC inc

M7.01

AUSTIN L. ALLEN

9/2/2020 3:10:04 PM   C:\Revit\Projects\2050001084 Clark CTE_MEPv20_carlosruiz_20200831085426.rvt

NON-RESIDENTIAL PLUMBING CALGREEN NOTES:

1. ALL PLUMBING FIXTURES SHALL BE HIGH EFFICIENCY TYPE FIXTURES AND NOT EXCEED THE FOLLOWING FLOW RATES AS SET FORTH IN 2019 CALGREEN CODE SECTION 5.302.3.:

   A. WATER CLOSETS = 1.28 GPF
   B. WALL MOUNTED URINALS = 0.125 GPF
   C. LAVATORY FAUCETS = 0.35 GPM
   D. METERING FAUCETS = 0.2 GPM PER CYCLE

2. ALL PLUMBING FIXTURES SHALL BE INSTALLED IN ACCORDANCE WITH THE CALIFORNIA PLUMBING CODE AND MEET THE STANDARDS AS SET FORTH IN TABLE 1701.1 OF THE 2019 CALIFORNIA PLUMBING CODE.

3. ALL LANDSCAPE IRRIGATION SHALL COMPLY WITH 2019 CALGREEN CODE SECTION 5.304.

GENERAL NOTES:

1. PROVIDE A CONSTRUCTION RECORD SET OF "AS-BUILT" DOCUMENTS TO THE ARCHITEST REFLECTING ANY VARIANCES OF INSTALLED PIPING LOCATIONS OR EQUIPMENT CONTRARY TO THE CONSTRUCTION DOCUMENTS, REFER TO SPECIFICATIONS.
2. DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF THE WORK. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY THE ARCHITECT OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
3. DRAWINGS ARE DIAGRAMMATIC ONLY AND REPRESENT THE GENERAL SCOPE OF THE WORK. PRIOR TO SUBMITTING BID, VISIT THE JOB SITE TO OBSERVE THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND PLANS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
4. PROVIDE TO THE ARCHITECT A COPY OF INSPECTION REPORTS AND APPROVAL CERTIFICATES FROM LOCAL AND STATE INSPECTIONS, REFER TO SPECIFICATIONS.
5. INSTALLATION SHALL COMPLY WITH LEGALLY CONSTITUTED CODES AND THE REQUIREMENTS OF AUTHORITIES HAVING JURISDICTION AND ALSO MEET ALL REQUIREMENTS OF THE LANDLORD. OBTAIN A COPY OF THE LANDLORD'S REQUIREMENTS AND REVIEW PRIOR TO SUBMITTING BID.
6. PLANS AND SPECIFICATIONS GOVERN WHERE THEY EXCEED CODE REQUIREMENTS.
7. VERIFY LOCATION AND DEPTH OF UTILITIES AT POINTS OF CONNECTION BEFORE START OF PIPING INSTALLATION.
8. REFER TO ARCHITECTURAL PLANS FOR EXACT LOCATION AND MOUNTING HEIGHTS OF PLUMBING FIXTURES.
9. DO NOT SCALE FLOOR PLANS FOR EXACT HORIZONTAL LOCATION OF PIPE ROUTING.
10. INSTALL CONCEALED PIPING TIGHT TO THE STRUCTURE AND AS HIGH AS POSSIBLE.
11. VALVES SHALL BE LINE SIZE UNLESS OTHERWISE NOTED.
12. INSTALL EXPOSED PIPING, WHERE NECESSARY, IN FINISHED AREAS TIGHT TO THE STRUCTURE, WALL OR CEILING AND AS HIGH AS POSSIBLE. INSTALL PIPING PARALLEL AND / OR PERPENDICULAR TO WALLS.
13. INSTALL VALVES AND APPURTENANCES A MAXIMUM OF 24" ABOVE CEILING IN ACCESSIBLE LOCATION WITHIN 24" OF ACCESS DOORS OR ACCESSIBLE CEILING TILES. PROVIDE PIPE AND FITTINGS TO INSTALL VALVES AND APPURTENANCES AT REQUIRED HEIGHT AND WITHIN 24" OF ACCESS DOORS OR ACCESSIBLE CEILING TILES.
14. INSTALL NO PLASTIC PIPE OF ANY KIND ABOVE SLAB INSIDE OR UNDER THE BUILDING. INSTALL NO PLASTIC PIPE IN THE CEILING RETURN AIR PLENUM.
15. COORDINATE ALL WORK WITH OTHER TRADES AND CONTRACTORS.
16. COORDINATE PIPING INSTALLATION WITH STRUCTURAL GRADE BEAMS, FOOTINGS, COLUMN PIERS, ETC. SLEEVE PIPING THROUGH GRADE BEAMS, FOOTING, ETC. WHERE REQUIRED AND AS NOTED ON PLANS. COORDINATE SLEEVE INSTALLATIONS WITH THE ARCHITECT, STRUCTURAL ENGINEER, STRUCTURAL CONTRACTOR AND GENERAL CONTRACTOR BEFORE CONCRETE IS INSTALLED.
17. CLEAN FAUCET AERATORS AND PIPE STRAINERS PRIOR TO TURNING BUILDING OVER TO THE OWNER.
18. PROVIDE TRAP PRIMERS WHERE REQUIRED BY LOCAL AUTHORITIES.
19. COORDINATE PIPE ROUTING AWAY FROM ELECTRICAL PANELS. DO NOT INSTALL PIPING OVER ELECTRICAL PANELS.
20. PAINT ALL EXPOSED GAS AND WATER PIPING USING RUST INHIBITOR PAINT. PAINT AND COLOR SHALL BE COORDINATED WITH THE ARCHITECT AND / OR OWNER.
21. COORDINATE ALL ROOF PENETRATIONS WITH OTHER TRADES. MAINTAIN 10' MINIMUM CLEARANCE FROM ALL AIR INTAKES. MAINTAIN 2' CLEARANCE FROM ALL OTHER EQUIPMENT.
22. PROVIDE "HEAVY-DUTY" NO-HUB COUPLINGS ON STORM PIPING, INCLUDING CONNECTIONS TO ROOF DRAINS AND SANITARY PIPING 3" AND LARGER. SEE DIVISION 22 SPECIFICATIONS FOR MORE INFORMATION.
23. PROVIDE "HEAVY-DUTY" NO-HUB COUPLINGS ON SANITARY PIPING 3" AND LARGER. SEE DIVISION 22 SPECIFICATION SECTION "SANITARY DRAINAGE AND VENT AND PIPING SPECIALTIES" FOR MORE INFORMATION.
24. PROVIDE "HEAVY-DUTY" NO-HUB COUPLINGS ON STORM PIPING, INCLUDING CONNECTIONS TO ROOF DRAINS. SEE DIVISION 22 SPECIFICATION SECTION "STORM DRAINAGE PIPING AND SPECIALTIES" FOR MORE INFORMATION.
25. WATER HAMMER ARRESTORS SHALL BE SIZE "A" UNLESS NOTED OTHERWISE.
26. PROVIDE VERTICAL LIFT SPRING LOADED CHECK VALVES IN HOT AND COLD WATER SUPPLIES FOR MOP SINK FAUCETS DOWNSTREAM OF SHUTOFF VALVES.
27. PROVIDE WALL PIPES AT PIPING PENETRATIONS OF ELEVATED WATERPROOF FLOOR SLABS, REFER TO SPECIFICATIONS.
28. VERIFY EXISTING EQUIPMENT, INCLUDING ACCESSORIES, IS NOT DAMAGED AND IS IN GOOD WORKING ORDER. REPORT ANY DEFICIENCIES TO THE ARCHITECT.

PLUMBING SYMBOLS

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED. V2.01

STANDARD MOUNTING HEIGHTS

REFER TO THE ARCHITECTURAL DRAWINGS FOR PLUMBING FIXTURE MOUNTING HEIGHTS. UNO, INSTALL PLUMBING FIXTURES WITH THE MOUNTING HEIGHTS AS LISTED BELOW WITH FINAL APPROVAL BY THE ARCHITECT.

LAVATORY OR SINK	
STANDARD HEIGHT	31" FLOOR TO RIM
ADA ACCESSIBLE	34" FLOOR TO RIM
CHILD HEIGHT	24" FLOOR TO RIM
URINAL	
STANDARD HEIGHT	24" FLOOR TO RIM
ADA ACCESSIBLE	17" FLOOR TO RIM
CHILD HEIGHT	14" FLOOR TO RIM
WATER CLOSET	
STANDARD HEIGHT	15" FLOOR TO RIM
ADA ACCESSIBLE	17" TO 19" FLOOR TO TOP OF SEAT
CHILD HEIGHT	10" FLOOR TO RIM
WATER COOLER OR DRINKING FOUNTAIN	
STANDARD HEIGHT	41" FLOOR TO SPOUT
ADA ACCESSIBLE	36" FLOOR TO SPOUT
CHILD HEIGHT	30" FLOOR TO SPOUT
SHOWER VALVES	
STANDARD HEIGHT - MEN	48" FLOOR TO CENTERLINE
STANDARD HEIGHT - WOMEN	42" FLOOR TO CENTERLINE
ADA ACCESSIBLE	38" MIN TO 48" MAX FLOOR TO CENTERLINE
SHOWER HEADS	
MEN	6'-6" FLOOR TO CENTERLINE
WOMEN	6'-0" FLOOR TO CENTERLINE
TUB VALVES	
STANDARD HEIGHT	32" FLOOR TO CENTERLINE
ADA ACCESSIBLE	CENTER BETWEEN GRAB BAR AND TUB RIM
CLINIC SERVICE SINKS	30" FLOOR TO RIM
SURGEON'S SCRUB-UP SINKS	35" FLOOR TO FRONT RIM
ICE MAKER OUTLET BOXES	24" FLOOR TO CENTER OF BOX
WASHING MACHINE OUTLET BOXES	42" FLOOR TO RIM
JANITOR'S SINK FAUCET FITTING	42" FLOOR TO CENTERLINE
HOSE BIBBS	36" AFF TO CENTERLINE
NON-FREEZE WALL HYDRANTS	18" AFG TO CENTERLINE

USE THE DEFAULT MOUNTING HEIGHTS SHOWN ABOVE UNLESS NOTED OTHERWISE IN THE SPECIFICATIONS OR ELSEWHERE. MOUNTING HEIGHTS LISTED ARE ABOVE FINISHED FLOOR (AFF) OR ABOVE FINISHED GRADE (AFG). ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA AND LOCAL REQUIREMENTS.

ANNOTATION

- (1) PLUMBING PLAN NOTE CALLOUT
- (1) PLUMBING EQUIPMENT DESIGNATION. (CONTRACTOR FURNISHED AND INSTALLED). REFER TO PLUMBING FIXTURE OR EQUIPMENT SCHEDULES
- [1] EQUIPMENT DESIGNATION (OWNER FURNISHED, CONTRACTOR INSTALLED)
- CU 1 MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)
- CONNECTION POINT OF NEW WORK TO EXISTING
- 1 / P1 DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER
- 1 / P1 SECTION CUT DESIGNATION

ABBREVIATIONS

ADA	AMERICANS WITH DISABILITIES ACT
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AP	ACCESS PANEL
BAS	BUILDING AUTOMATION SYSTEM
BFF	BELOW FINISHED FLOOR
BFG	BELOW FINISHED GRADE
BOP	BOTTOM OF PIPE
BOS	BOTTOM OF STRUCTURE
BTU	BRITISH THERMAL UNIT
CP	CONDENSATE PUMP
CPVC	CHLORINATED POLYVINYL CHLORIDE
CU	COPPER
DI	DUCTILE IRON
DN	DOWN
DFU	DRAINAGE FIXTURE UNIT
DS	DOWNSPOUT
(E)	EXISTING
EMS	ENERGY MANAGEMENT SYSTEM
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
FD	FLOOR DRAIN
FFA	FROM FLOOR ABOVE
FFB	FROM FLOOR BELOW
FF	FINISHED FLOOR
FL	FLOW LINE
FLA	FULL LOAD AMPS
FLR	FLOOR
GPM	GALLONS PER MINUTE
HD	HEAD, HUB DRAIN
HZ	HERTZ
IE	INVERT ELEVATION
IN WC	INCHES OF WATER COLUMN
JB	JUNCTION BOX
J-BOX	JUNCTION BOX
KW	KILOWATT
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MBH	1000 BTU PER HOUR
MH	MANHOLE
MIN	MINIMUM
N/C	NORMALLY CLOSED
N/O	NORMALLY OPEN
NIC	NOT IN CONTRACT
ORD	OVERFLOW ROOF DRAIN
PDI	PLUMBING DRAINAGE INSTITUTE
PH/Ø	PHASE
PRV	PRESSURE REDUCING VALVE
PVC	POLYVINYL CHLORIDE
RCP	REINFORCED CONCRETE PIPE
RD	ROOF DRAIN
RPM	REVOLUTIONS PER MINUTE
RTU	ROOFTOP UNIT
SF	SQUARE FEET
SP	SUMP
SS	STAINLESS STEEL SANITARY SEWER, SOIL STACK
TDH	TOTAL DYNAMIC HEAD
TFA	TO FLOOR ABOVE
TFB	TO FLOOR BELOW
TYP	TYPICAL
UL	UNDERWRITERS LABORATORIES, INC.
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SUPPLY
VCP	VITRIFIED CLAY PIPE
VFD	VARIABLE FREQUENCY DRIVE
VS	VENT STACK
VTR	VENT THROUGH ROOF
W/	WITH
W/O	WITHOUT
WC	WATER COLUMN
WS	WASTE STACK
WSFU	WATER SUPPLY FIXTURE UNIT
WVS	WASTE VENT STACK

PIPING SYMBOLS

- OXYGEN OUTLET
- NITROUS OXIDE OUTLET
- MEDICAL AIR OUTLET
- NITROGEN OUTLET
- MEDICAL VACUUM INLET
- FLOOR SINK (FS), SIZE & TYPE
- FLOOR DRAIN (FD), SIZE & TYPE
- ROOF DRAIN (RD), SIZE & TYPE
- BALL VALVE
- CONTROL VALVE
- SHUTOFF VALVE
- CHECK VALVE
- BALANCING VALVE WITH PRESSURE PORTS
- WATER METER
- STRAINER
- STRAINER WITH BLOWOFF
- RELIEF/SAFETY VALVE
- SOLENOID VALVE
- PRESSURE REDUCING VALVE
- GAS PRESSURE REGULATOR
- THERMOSTATIC MIXING VALVE
- PA PIPE ANCHOR
- EJ EXPANSION JOINT
- BACKFLOW PREVENTER
- PRESSURE GAUGE
- THERMOMETER
- UNION
- FLANGE CONNECTION
- HOSE BIBB (HB)
- NON-FREEZING WALL HYDRANT (NW)
- MANUAL / AUTOMATIC AIR VENT OR VACUUM RELIEF VALVE
- PRESSURE / VACUUM SWITCH
- CLEANOUT
- CAP
- WALL CLEANOUT (WCO)
- FLOOR CLEANOUT (FCO)
- EXTERIOR CLEANOUT (ECO)
- ELBOW UP
- ELBOW DOWN
- TEE UP
- TEE DOWN
- ELBOW UP WITH SHUT-OFF VALVE (SOV)
- ELBOW DOWN WITH SHUT-OFF VALVE (SOV)
- TEE UP WITH SHUT-OFF VALVE (SOV)
- TEE DOWN WITH SHUT OFF VALVE (SOV)
- "A" WATER HAMMER ARRESTER (WHA) WITH PDI SIZES, (A, B, C, D, & E)
- RECIRCULATION PUMP
- P-TRAP
- GAS COCK
- TRAP PRIMER
- TRAP PRIMER WITH DISTRIBUTION UNIT

PIPING LINETYPES

CW	DOMESTIC COLD WATER (CW)
SCW	SOFTENED COLD WATER (SCW)
HW	DOMESTIC HOT WATER (HW)
HWR	DOMESTIC HOT WATER RECIRC. (HWR)
140°	DOMESTIC HOT WATER (140°)
T	TRAP PRIMER LINE (T)
S	SOIL PIPING - ABOVE FLOOR (S)
-S-	SOIL PIPING - BELOW FLOOR (S)
W	WASTE PIPING - ABOVE FLOOR (W)
-W-	WASTE PIPING - BELOW FLOOR (W)
GW	GREASE WASTER - ABOVE FLOOR (GW)
GW	GREASE WASTE - BELOW FLOOR (GW)
CGWV	COMBINATION GREASE WASTE AND VENT (CGWV)
CWV	COMBINATION WASTE AND VENT (CWV)
ST	STORM DRAIN - ABOVE FLOOR (ST)
ST	STORM DRAIN - BELOW FLOOR (ST)
OST	OVERFLOW STORM DRAIN - ABOVE FLOOR (OST)
VBG	VENT BELOW GRADE (VBG)
VBF	VENT BELOW FLOOR (VBF)
ID	INDIRECT DRAIN (ID)
CDH	CONDENSATE DRAIN - HIGH EFFICIENCY RTU (CDH)
CD	CONDENSATE DRAIN (CD)
ACD	AUXILIARY CONDENSATE DRAIN (ACD)
SPD	SUMP OR SEWAGE PUMP DISCHARGE (SPD)
G	NATURAL GAS (G)
-G-	NATURAL GAS ON ROOF (G)
MPG	MEDIUM PRESSURE NATURAL GAS (MPG)
MPG	MEDIUM PRESSURE NATURAL GAS ON ROOF (MPG)
NPW	NON-POTABLE WATER (NPW)
LPG	LIQUEFIED PETROLEUM GAS (LPG)
WS	WATER SERVICE (WS)
FP	FIRE PROTECTION (FP)
PD	CONDENSATE PUMP DISCHARGE (PD)
V	VENT PIPING (V)
AW	ACID WASTE - ABOVE FLOOR (AW)
AW	ACID WASTE - BELOW FLOOR (AW)
AV	ACID VENT (AV)
GWS	GRAY WATER (GWS)
CA	COMPRESSED AIR (CA)
MA	MEDICAL AIR (MA)
MV	MEDICAL VACUUM (VE)
HE	HELIUM (HE)
IA	INSTRUMENT AIR (IA)
IV	INSTRUMENT VACUUM (IV)
N2	NITROGEN (N2)
N2O	NITROUS OXIDE (N20)
O2	OXYGEN (O2)
EV	EVAC/WAGD (EV)
CO2	CARBON DIOXIDE (CO2)
AI	MEDICAL AIR INTAKE (AI)
VE	MEDICAL VACUUM EXHAUST (VE)
DA	DENTAL AIR (DA)
DV	DENTAL VACUUM (DV)
FW1	FILTERED WATER (FW1)
FW2	FILTERED WATER W/ SCALE INHIBITOR (FW2)
DA	REVERSE OSMOSIS (RO)
ROR	REVERSE OSMOSIS REMINERALIZATION (ROR)

LINETYPE LEGEND

THROUGHOUT THE DRAWINGS DIFFERENT LINETYPES ARE USED IN COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF NEW WORK AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, ETC.

EXISTING	NEW
DEMOLISH	FUTURE

Sheet List - Plumbing

Sheet Number	Sheet Name	Sheet Order
P0.00	PLUMBING GENERAL NOTES AND LEGEND	
P1.00	PLUMBING OVERALL SITE PLAN	
P2.01	PLUMBING OVERALL FIRST FLOOR DOMESTIC WATER PLAN	
P3.01	PLUMBING OVERALL FIRST FLOOR WASTE & VENT PLAN	
P3.03	PLUMBING OVERALL ROOF PLAN	
P4.00	PLUMBING DETAILS	
P5.00	PLUMBING SCHEDULES AND CALCULATIONS	
P6.00	PLUMBING RISER DIAGRAMS	

Grand total: 8

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED PROFESSIONAL ENGINEER
AUSTIN LAIR ALLEN
M 36447
MECHANICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

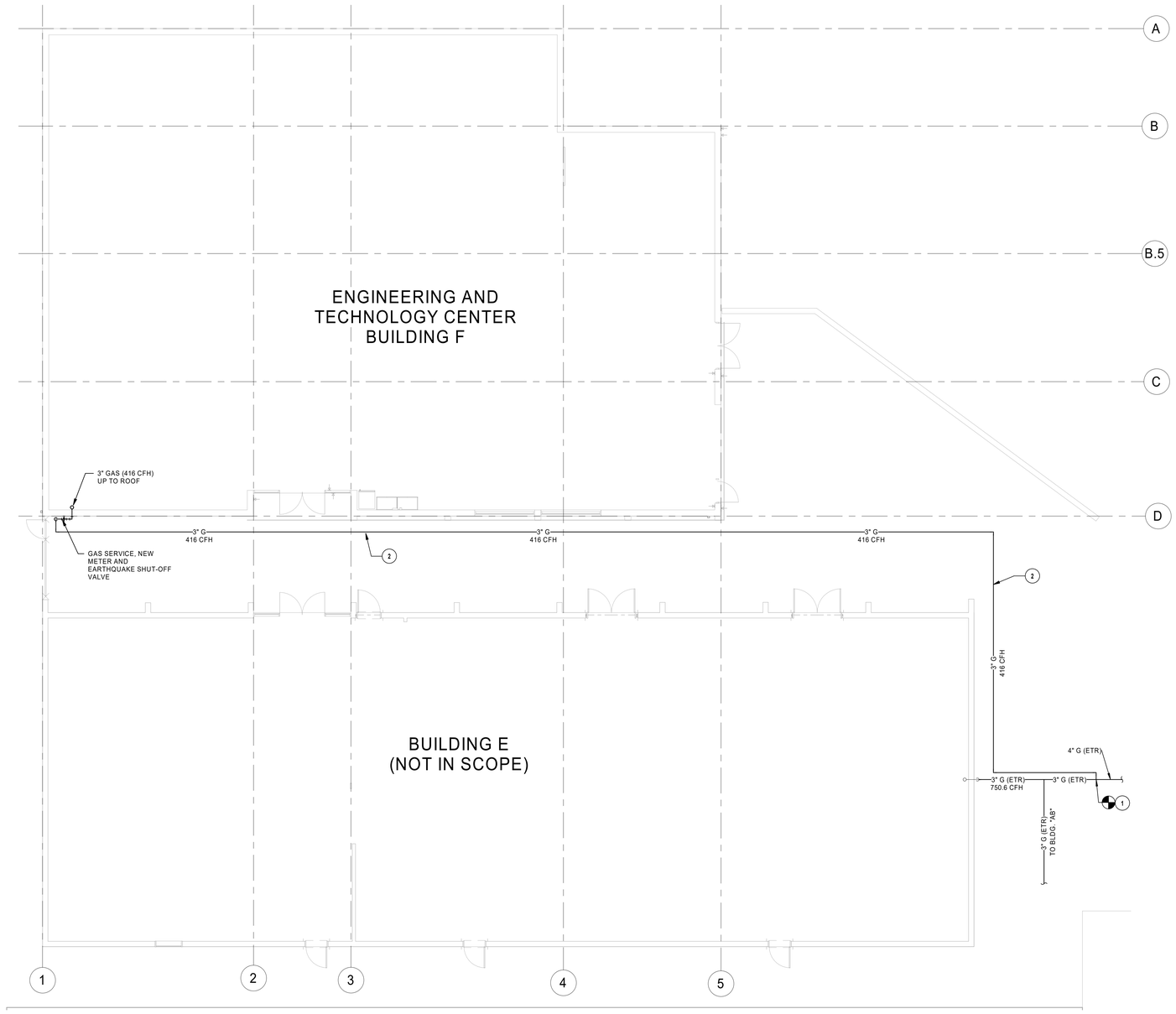
PLUMBING GENERAL NOTES AND LEGEND

P0.00

© 2019 NAC|AC

AUSTIN L. ALLEN

9/2/2020 1:34:58 PM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_moisesmandujano_20200902083526.rvt



PLUMBING PLAN NOTES:

1 CONNECT NEW 3"G TO EXISTING 4"G PIPING. CONTRACTOR TO FIELD VERIFY EXACT LOCATION OF EXISTING 4"G PIPING.

2 GAS PIPING TO BE INSTALLED BELOW GRADE.

1 PLUMBING SITE PLAN
1/8" = 1'-0"

AUSTIN L. ALLEN

9/2/2020 1:35:03 PM C:\Revit\Projects\205001084 Clark CTE_MEPv20_moisesmandujano_20200902083526.rvt

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

LICENSED PROFESSIONAL ENGINEER
AUSTIN LAIR ALLEN
M 36447
MECHANICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

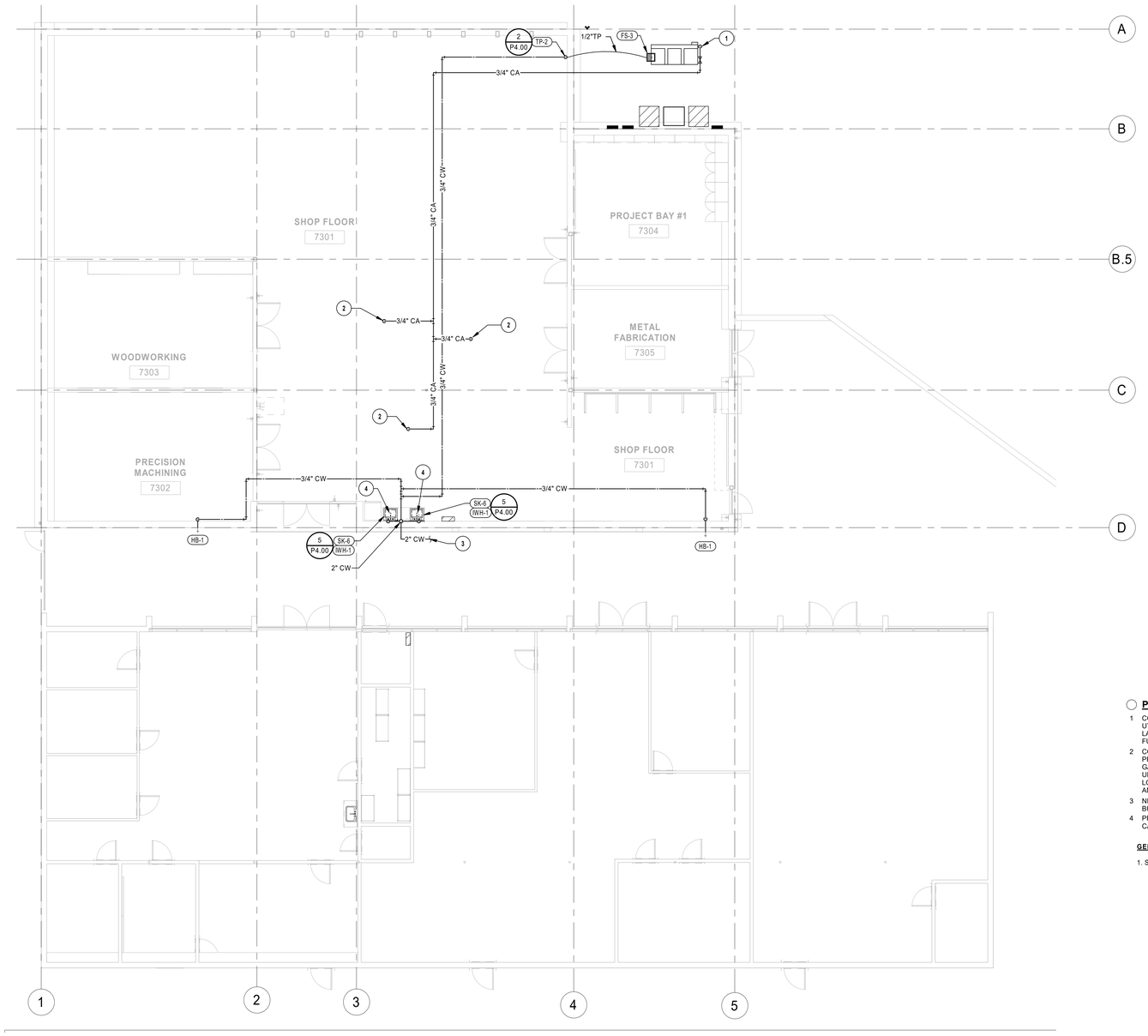
NAC NO. 161-19034
DATE 09/04/2020

100%
CONSTRUCTION
DOCUMENTS

PLUMBING OVERALL SITE PLAN

P1.00

© 2019 NAC Inc.



1 PLUMBING WATER PLAN LEVEL 1
1/8" = 1'-0"

PLUMBING PLAN NOTES:

1 COMPRESSED AIR PIPING TO COMPRESSOR AND DRYER ON UTILITY PAD EXACT LOCATION TO BE COORDINATED WITH LAB INSTRUCTOR. COMPRESSOR AND DRYER TO BE FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR.

2 COMPRESSED AIR PIPING DOWN TO SHOP EQUIPMENT. PROVIDE WITH ISOLATION SHUT-OFF VALVES, PRESSURE GAUGES AND REGULATORS. PIPING TO BE SUPPORTED ON UNISTRUT RACK. SEE ARCHITECTURAL FOR EXACT LOCATION. COORDINATE WITH SHOP TEACHER FOR EXACT AND FINAL LOCATION OF ALL RELATED APPURTENANCES.

3 NEW DOMESTIC WATER SUPPLY TO 5 FEET OUTSIDE OF BUILDING, SEE CIVIL DRAWINGS FOR CONTINUATION.

4 PROVIDE ISOLATION SHUT-OFF VALVE UNDERNEATH CABINET.

GENERAL NOTES

1. SEE PLUMBING RISERS ON P6.00 FOR ALL PIPE SIZES.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED PROFESSIONAL ENGINEER
AUSTIN LAIR ALLEN
M 36447
MECHANICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

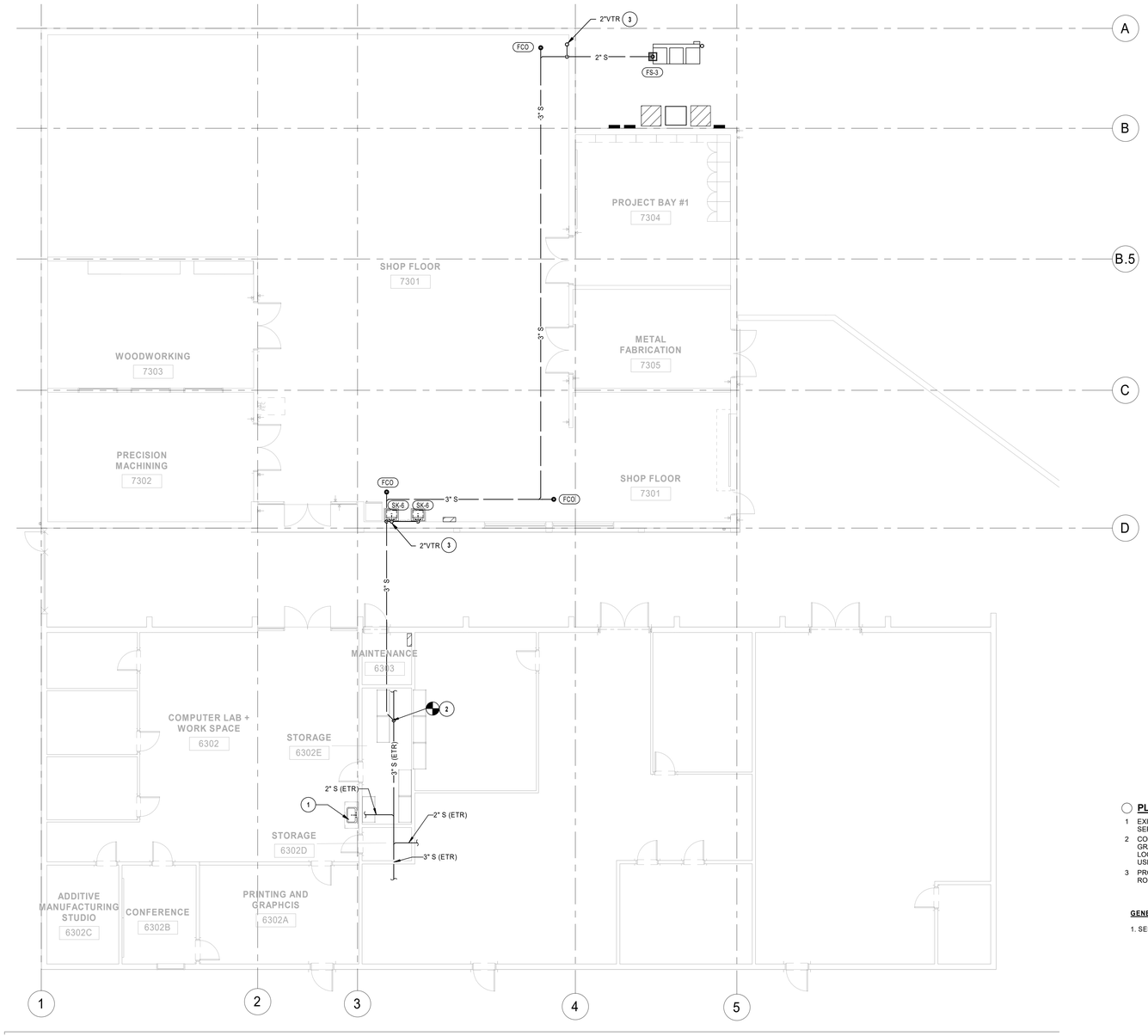
PLUMBING OVERALL FIRST FLOOR DOMESTIC WATER PLAN

P2.01

© 2019 NAC Arc

AUSTIN L. ALLEN

9/2/2020 1:35:08 PM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_moisesmandujano_20200902083526.rvt



1 PLUMBING WASTE & VENT LEVEL 1
1/8" = 1'-0"

PLUMBING PLAN NOTES:

1 EXISTING SINK, WATER HEATER AND FAUCET TO REMAIN IN SERVICE. PROTECT DURING CONSTRUCTION.
2 CONNECT NEW 3"S PIPING TO EXISTING 3"S PIPING BELOW GRADE. CONTRACTOR SHALL FILED VERIFY EXACT LOCATION, SIZE, INVERT AND CONDITION OF PIPE VIA THE USE OF A UNDERGROUND UTILITY COMPANY.
3 PROVIDE 2"V PIPING WITH PIPE SUPPORTS ON WALL AND ROUTE UP TO ROOF.

GENERAL NOTES

1. SEE PLUMBING RISERS ON P6.00 FOR ALL PIPE SIZES.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED PROFESSIONAL ENGINEER
AUSTIN LAIR ALLEN
M 36447
MECHANICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100%
CONSTRUCTION
DOCUMENTS

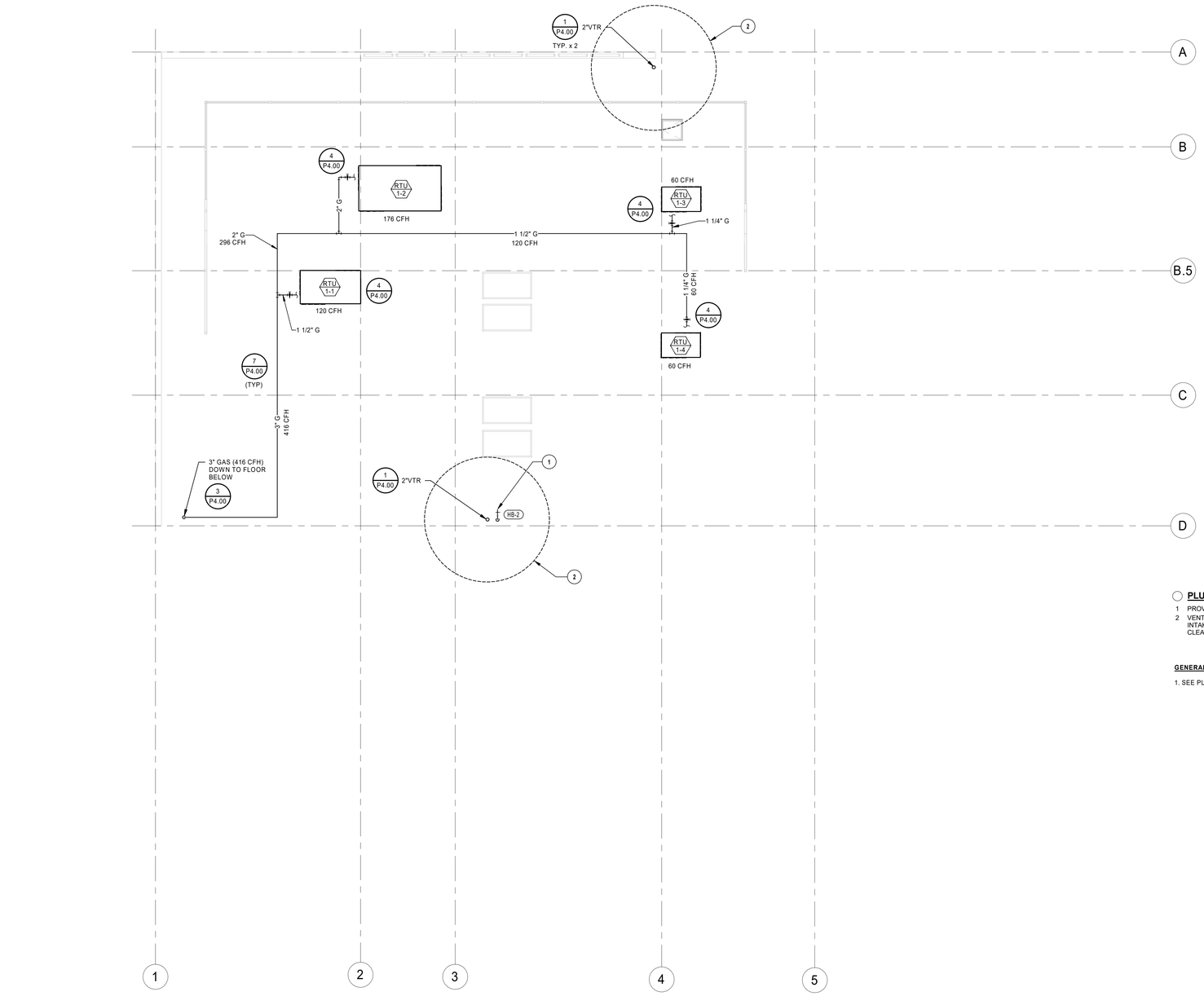
PLUMBING OVERALL FIRST FLOOR WASTE & VENT PLAN

P3.01

© 2019 NAC Inc.

AUSTIN L. ALLEN

9/2/2020 1:35:12 PM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_moisesmandujano_20200902083526.rvt



1 PLUMBING ROOF PLAN - OVERALL
1/8" = 1'-0"

PLUMBING PLAN NOTES:

1 PROVIDE 3/4" COLD WATER TO HOSE BIBB'S ON ROOF.
2 VENT TO BE 10 FEET AWAY FROM ALL MECHANICAL AIR INTAKES, PROVIDE OFF-SET AS NEEDED IF NOT WITHIN CLEARANCE REQUIREMENTS.

GENERAL NOTES

1. SEE PLUMBING RISERS ON P6.00 FOR ALL PIPE SIZES.

AUSTIN L. ALLEN

9/2/2020 1:35:16 PM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_moisesmandujano_20200902083526.rvt

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

REGISTERED PROFESSIONAL ENGINEER
AUSTIN LAIK ALLEN
M 36447
MECHANICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

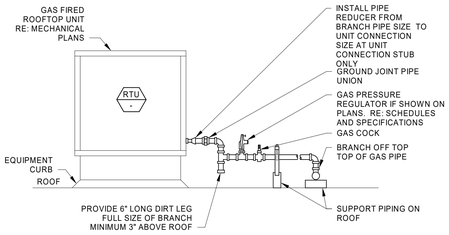
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

PLUMBING OVERALL ROOF PLAN

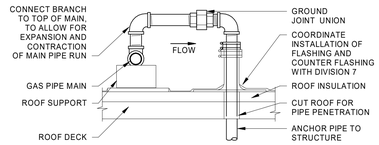
P3.03

© 2019 NAC, INC.



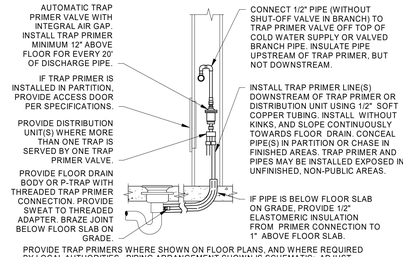
PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. VERIFY CONNECTION LOCATIONS BEFORE INSTALLING PIPE RUNS. REFER TO SPECIFICATIONS FOR MORE INFORMATION. PROVIDE BRANCH SIZE GAS COCK AND GAS PRESSUERE REGULATOR. REFER TO FLOOR PLANS FOR PIPING SIZE. INSTALL GAS PRESSURE REGULATOR WITH RELIEF VALVE OUTLET FACING DOWN.

4 ROOF TOP UNIT CONNECTIONS
NTS



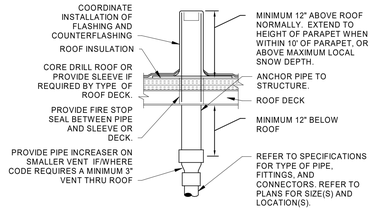
REFER TO PLANS FOR PIPE SIZE(S) AND PENETRATION LOCATION(S). REFER TO SPECIFICATIONS FOR MORE INFORMATION. LOCATE PENETRATION MINIMUM 18" FROM ADJACENT WALLS, VENTS THRU ROOF, EQUIPMENT CURBS, PARAPETS, ROOF DRAINS, EXPANSION JOINTS, AND OTHER ROOF FEATURES.

3 GAS PIPE ROOF PENETRATION
NTS



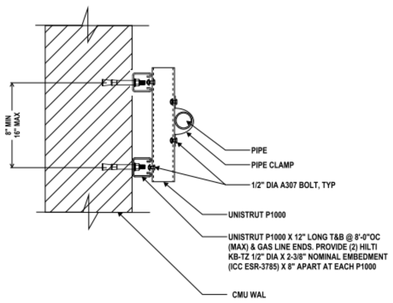
PROVIDE TRAP PRIMERS WHERE SHOWN ON FLOOR PLANS, AND WHERE REQUIRED BY LOCAL AUTHORITIES. PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. REFER TO SPECIFICATIONS AND PLUMBING FIXTURE SCHEDULE FOR MORE INFORMATION. INSTALL TRAP PRIMER VALVE AND DISTRIBUTION UNIT PER MANUFACTURER'S RECOMMENDATIONS.

2 TRAP PRIMER IN/ON WALL
NTS

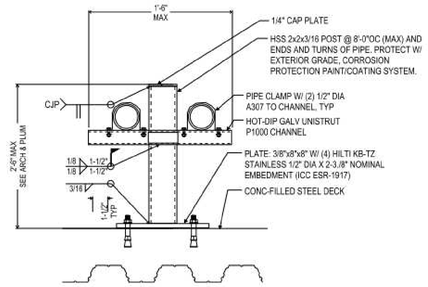


LOCATE VTR MINIMUM THREE FEET FROM PROPERTY LINE, TEN FEET HORIZONTAL OR THREE FEET VERTICAL ABOVE ANY BUILDING OPENING OR FRESH AIR INTAKE, TWENTY FIVE FEET FROM ANY OPENING OR FRESH AIR INTAKE IN MEDICAL FACILITIES AND ONE FOOT FROM ANY VERTICAL SURFACE. REFER TO LOCAL CODES FOR OTHER VENT TERMINATION REQUIREMENTS. LOCATE VTR MINIMUM 18" FROM ADJACENT WALL, PARAPET, EXPANSION JOINT, ROOF DRAIN, EQUIPMENT CURB, OR OTHER ROOF FEATURE. OFFSET IN CEILING SPACE WHERE REQUIRED TO MEET THESE CONDITIONS. INSULATE LAST SIX FEET OF VENT PIPE INSIDE BUILDING PER SPECIFICATIONS.

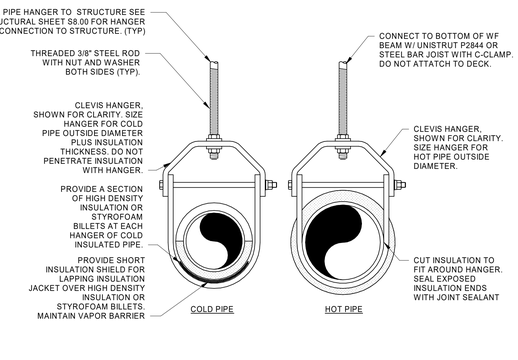
1 VENT THRU ROOF
NTS



8 WALL LATERAL PIPE BRACE DETAIL
NTS

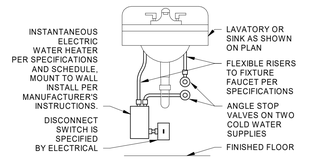


7 ROOF PIPE SUPPORT DETAIL
NTS



REFER TO SPECIFICATIONS FOR INSULATION TYPES, INSULATION THICKNESSES, HANGER TYPES, HANGER ROD CONNECTIONS TO STRUCTURE AND HANGER SPACING.

6 PIPE HANGER DETAIL
NTS



REFER TO SPECIFICATIONS, SCHEDULES, AND NOTES FOR MORE INFORMATION. PIPING ARRANGEMENT SHOWN IS SCHEMATIC. ADJUST TO SUIT FIELD CONDITIONS. VERIFY CONNECTION SIZES AND LOCATIONS PER MANUFACTURER'S REQUIREMENTS, AND INSTALL PER MANUFACTURER'S INSTRUCTIONS. REFER TO FLOOR PLANS FOR PIPE SIZES. INSTALL WATER HEATER CLEAR OF ADA REQUIRED SPACE FOR ADA COMPLIANT LAVATORY OR SINK. PROVIDE T&P RELIEF VALVE ON WATER HEATER OUTLET ONLY IF REQUIRED BY LOCAL AUTHORITIES, AND DISCHARGE WERE DIRECTED BY AUTHORITIES.

5 INSTANTANEOUS WATER HEATER
NTS

AUSTIN L. ALLEN

9/2/2020 1:35:21 PM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_moisesmandujano_20200902083526.rvt

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

LICENSED PROFESSIONAL ENGINEER
AUSTIN LAIR ALLEN
M 36447
MECHANICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

PLUMBING DETAILS

P4.00

© 2019 NAC-AC

INSTANTANEOUS ELECTRIC WATER HEATER SCHEDULE

MARK	MANUFACTURER/ MODEL#	AREA SERVED	ELECTRICAL DATA				TEMPERATURE RISE (°F) @ 1GPM	RECOVERY (GPM)	FLOW SWITCH FLOW RATE	NOTES
			VOLTS	PHASE	KW	AMPS				
IWH-1	EEMAX # MT010240T	SHOP SINK	208	1	9.5	40.0	65	0.5 GPM	0.3 GPM	A, B, C, D

NOTES:

A. UNIT IS 240V WITH SCHEDULED INPUT AND CAPACITY REDUCED 25% TO OPERATE @ 208V

B. UNIT IS FACTORY PROVIDED WITH INTEGRAL ASSE 1070 THERMOSTATIC MIXING VALVE

C. THERMOSTATIC CONTROLLED FACTORY SET AT 105F. ANY ADJUSTMENTS TO TEMP VOID WARRANTY AND MAY CAUSE LOSS OF UPC 413.1 COMPLIANCE.

D. COMPLIANT UNDER CSA - C22.2 No. 64 / No. 88

2019 UPC Fixture Loading

FIXTURE TYPE	QTY	D.F.U. (EA)	TOTAL D.F.U.	HOT S.F.U. (EA)	COLD S.F.U. (EA)	COMBINED S.F.U. (EA)	TOTAL S.F.U. (HOT)	TOTAL S.F.U. (COLD)	TOTAL SERVICE S.F.U.
SHOP SINK	2	2.0	4.0	2.00	2.00	2.00	4	4	4.0
FLOOR SINK	1	2.0	2.0	0.00	0.00	0.00	0	0	0.0
WALL HYDRANT	2	0.0	0.0	0.00	2.50	2.50	0	5	5.0
TOTAL UNITS:	5		6.0				4.0	9.0	9.0

PLUMBING FIXTURE CONNECTION SCHEDULE

FIXTURE	COLD WATER	HOT WATER	WASTE	VENT
FLOOR DRAIN/SINK	--	--	2"	2"
SHOP SINK	1/2"	1/2"	2"	1-1/2"

NOTES:

PIPE SIZES SHOWN ARE MINIMUM. AND ARE FOR INDIVIUAL SERVICE PIPE SIZES

* PROVIDE 1-1/4" CW TO FLUSH VALVE, REDUCE TO 1" PRIOR TO CONNECTING TO FLUSH VALVE INLET AT INSIDE OF WALL

PLUMBING PIPE MATERIAL SCHEDULE

PIPING SYSTEM	ABBREVIATION	PIPING MATERIAL
SANITARY DRAINAGE & VENT (ABOVE GRADE)	S, W OR V	HUBLESS CAST IRON
SANITARY DRAINAGE & VENT (BELOW GRADE)	S, W OR V	SERVICE WEIGHT CAST IRON
POTABLE WATER (ABOVE GRADE)	CW, HW OR HWR	TYPE L HARD DRAWN COPPER
POTABLE WATER - 2" & SMALLER (BELOW GRADE)	CW, HW OR HWR	TYPE K SOFT ANNEALED COPPER
NATURAL GAS (ABOVE GRADE & ON ROOF)	G	SCHEDULE 40 BLACK STEEL
NATURAL GAS (BELOW GRADE)	G	APPROVED 'PE' PIPE FOR GAS
CONDENSATE DRAIN - 1" & SMALLER	CD	TYPE M HARD DRAWN COPPER (PVC DWV OPTIONAL)
COMPRESSED AIR	CA	TYPE L HARD DRAWN COPPER OR SCHEDULE 40 GALVANIZED STEEL
REFER TO SPECIFICATIONS FOR FITTINGS, INSTALLATION REQUIREMENTS AND FURTHER INFORMATION		

TOTAL CONNECTED NATURAL GAS LOAD

MECHANICAL EQUIPMENT

EQUIPMENT DESIGNATION	LOCATION	CFH (EACH)
RTU 1-1	ROOF	120
RTU 1-2	ROOF	176
RTU 1-3	ROOF	60
RTU 1-4	ROOF	60
	TOTAL =	416
	TOTAL CONNECTED LOAD =	416

NATURAL GAS SYSTEM OPERATING PRESSURE:	**7" WC**
NATURAL GAS SYSTEM SIZED WITH TOTAL DEVELOPED LENGTH FROM GAS METER TO MOST REMOTE PIECE OF EQUIPMENT:	1,000 FEET
SYSTEM DESIGN PRESSURE DROP:	**0.5" WC**

Plumbing Fixture Schedule

PLUMBING PLAN MARK	Description
FCO	FLOOR CLEANOUT: JAY R. SMITH, CAST IRON BODY, FLASHING FLANGE WITH CLAMPING COLLAR, ABS PLUG, AND ADJUSTABLE, ROUND, SECURED, NICKEL BRONZE, TOP. # 4031L (-F-C), SCORIATED TOP FOR EXPOSED, FLUSH WITH FINISHED FLOOR, APPLICATION(S), # 4031L (-F-C-Y), STAINLESS STEEL MARKER FOR INSTALLATION IN CARPETED FLOOR AREA(S), # 4151 (-F-C), 1/8" RECESS FOR INSTALLATION IN TILED FLOOR AREA(S), # 4191 (-F-C), 1/2" RECESS FOR INSTALLATION IN TERRAZZO AND SIMILAR POURED FLOOR AREA(S). REFER TO SPECIFICATIONS FOR INSTALLATION.
FS-3	FLOOR SINK: JAY R. SMITH # 3101L (-12), 6" DEEP CAST IRON BODY WITH ACID RESISTING ENAMELED INTERIOR, WITH TRAP PRIMER PORT, ANCHOR FLANGE WITH SEEPAGE HOLES, CLAMP COLLAR, ALUMINUM SEDIMENT BUCKET, AND 8-1/2" SQUARE NICKEL BRONZE RIM AND HALF GRATE. USE PUSH-ON JOINT OF OUTLET SIZE AS SHOWN ON PLANS.
HB-1	HOSE BIB: ACORN MODEL #8151-SSLF, HOSE BOX WITH WALL FLANGE AND DOOR WITH VACUUM BREAKER, STAINLESS STEEL LEAD FREEE. BOX SHALL BE 18 GAGE, TYPE 304 STAINLESS STEEL, VALVE SHALL BE CARTRIDGE-OPERATED TYPE WITH VANDEL-RESISTANT LOCKSHEILD, REMOVABLE LOOSE KEY WHEEL HANDEL AND SCREWDRIVER OPERATED STOP.
HB-2	HOSE BIBB: PRIER PRODUCTS # C-258NCP.75, POLISHED NICKEL PLATED BRASS 3/4" MALE INLET, 3/4" THREADED HOSE CONNECTION, LOOSE KEY HANDLE, AND ASSE 1011 INTEGRAL VACUUM BREAKER.
SK-6	SINK: ELKAY MODEL (ADA) DAYTON #D12521, STAINLESS STEEL, 25" x 21-1/4" x 6-9/16", SINGLE BOWL DROP IN SINK, 22 GAUGE, 300 SERIES STAINLESS STEEL, WITH SINGLE HOLE DRILLING CONFIGURATION, IAPMO LISTED, ASME A112.19.3CSA B45.4, PROVIDE WITH ALL MOUNTING HARDWARE. FAUCET – CHICAGO MODEL (ADA) #50-GN2FC317XKABCP, SINGLE HOLE, DECK MOUNTED MANUAL SINK FAUCET, RIGID/SWING GOOSNECK SPOUT, 1.5 GPM LAMINAR FLOW, ECAST WITH TOTAL LEAD CONTENT EQUAL OR LESS THAN 0.25% BY WEIGHTED AVERAGE, CAL GREEN COMPLIANT, ASME A112.18.1/CSA B125.1, NSF/ANSI 372 LOW LEAD CONTENT,NSF/ANSI 61, SECTION 9 TRIM- McGUIRE # LF2165CC LEAD FREE BRASS WHEEL HANDLE ANGLE STOP VALVES WITH RISERS AND ESCUTCHEONS, McGUIRE # 151M CUP STRAINER WITH 1-1/2" 17 GAUGE TAILPIECE, McGUIRE # B8912CF 1-1/2" 17 GAUGE CAST CHROME PLATED BRASS ADJUSTABLE P-TRAP WITH BRASS CLEANOUT AND ESCUTCHEON, PLUMBEREX "PRO-EXTREME" # X-4222 INSULATION KIT FOR WATER AND WASTE PIPES.
TP-2	TRAP PRIMER: PRECISION PLUMBING PRODUCTS # PR-500 "PRIME RITE", CORROSION RESISTANT BRASS BODY, "O" RING SEALS, 1/2" INLET AND OUTLET, AND INTEGRAL VACUUM BREAKER. INSTALL THE VALVE AT A MINIMUM OF 12" ABOVE FINISHED FLOOR. PROVIDE WITH DISTRIBUTION # DU-2 FOR TWO, # DU-3 FOR THREE, OR # DU-4 FOR FOUR DRAIN CONNECTIONS.

LOW PRESSURE GAS PIPE SIZING CHART

PIPE SIZE	LOAD (CFH)
1/2"	14
3/4"	30
1"	56
1-1/4"	115
1-1/2"	173
2"	333
2-1/2"	530
3"	937

OPERATING PRESSURE OF 7"WC WITH A PRESSURE DROP OF 0.5"WC
TOTAL DEVELOPED LENGTH = 1,000 FEET
TOTAL CONNECTED LOAD = 416 CFH
BASED ON NFPA 54 EQUATION 4-1

STATE OF CALIFORNIA
Domestic Water Heating System
NRCC-PLB-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-PLB-E

This document is used to demonstrate compliance for nonresidential occupancies with requirements in §110.1, §110.3, §120.3, and §140.5, and with requirements in §141.0 for additions and alterations, for domestic water heating scopes using the prescriptive path. For high-rise residential and hotel/motel occupancies, compliance is demonstrated with requirements in §110.1, §110.3, §120.3, §150.0 and §150.1(c)8, and with requirements in §150.2 for additions and alterations.

Project Name: CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT	Report Page: Page 1 of 5
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214	Date Prepared: 2020-04-24

A. GENERAL INFORMATION

01	Project Location (city)	Glendale	02	Climate Zone	6
03	Occupancy Types Within Project (select all that apply):				

☑ Nonresidential ☐ High-Rise Residential ☐ Hotel/ Motel
☐ State Building ☐ Healthcare Facility ☐ Other (Write In):

B. PROJECT SCOPE

Table Instructions: Include any domestic water heating systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive paths outlined in §140.5, §150.1(c)8, and §141.0(a), or §141.0(b)2N for additions or alterations. Solar water heating systems should be documented on the NRCC-SRA compliance document. Combined hydronic water heating systems should be documented on the NRCC-MCH compliance document.

01	02	03		
My project consists of (check all that apply):	System Type[1,2]	System Components		
☑ New System (DHW system being installed for the first time in newly constructed building)	Individual System (serving nonresidential spaces)[1]	☑ Equipment	☑ Distribution	☑ Controls
☐ System Alteration (equipment, distribution or controls)		☐ Equipment	☐ Distribution	☐ Controls

[1] FOOTNOTE: Point of use water heaters, or other non-central systems used to serve nonresidential spaces, are considered individual systems.
[2] Dwelling units refers to hotel/ motel guest rooms and units in a high-rise residential occupancy.

C. COMPLIANCE RESULTS

Table Instructions: Table C will indicate if the project data input into the compliance document is compliant with water heating requirements. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D., or the table indicated as not compliant for guidance.

01	02	03	04
Domestic Hot Water Equipment	Distribution Systems	Controls	**Compliance Results**
(See Table F)	(See Table G)	(See Table H)	
Yes	Yes	Yes	**COMPLIES**

STATE OF CALIFORNIA
Domestic Water Heating System
NRCC-PLB-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-PLB-E

Project Name: CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT	Report Page: Page 2 of 5
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214	Date Prepared: 2020-04-24

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

No exceptional conditions apply to this project.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. DOMESTIC HOT WATER EQUIPMENT

Table Instructions: Complete the following table to demonstrate compliance with mandatory equipment requirements in §110.1 and §110.3. For high-rise residential and hotel/ motel occupancies, compliance with prescriptive requirements in §150.1(c)8 must also be demonstrated and with §150.2 for addition and alteration scopes.

Equipment Schedule: Individual Systems

01	02	03	04	05	06
Name or Item Tag	Equipment Type	Volume (gal)	Max GPM/ First Hour Rating (FHR)	Rated Uniform Energy Factor (UEF)	Minimum Required Uniform Energy Factor (UEF)[1]
IWH-1	Electric Instantaneous (≤ 12kW)	≤2	0 ≤ GPM <1.7	0.91	0.91

[1] FOOTNOTE: Compliant equipment may be found in the Modernized Appliance Efficiency Database System (MAEDBS) on the Energy Commission website: https://cacertappliances.energy.ca.gov/Pages/Search/AdvancedSearch.aspx

Water Heating Equipment All Occupancies

	Yes	No	Not Applicable	Requirement
18	○	○	◉	Unfired storage tank insulation shall have Internal + External ≥ R-16 OR External ≥ R-12. Label required per §110.3(c)3
19	○	○	◉	New state buildings 60% of energy for service water heating from site solar energy or recovered energy per §110.3(c)5
20	◉	○	○	Isolation valves for instantaneous water heater with input rating > 6.8 kBTUH or 2 kW has been specified per §110.3(c)3ii

G. DOMESTIC HOT WATER DISTRIBUTION SYSTEM

Table Instructions: Complete the following table to demonstrate compliance for nonresidential occupancies with distribution requirements in §120.3 and §140.5. For high-rise residential and hotel/motel occupancies, compliance is demonstrated with requirements in §110.3(c), §120.3, §150.0, §150.1.

Table Continued

STATE OF CALIFORNIA
Domestic Water Heating System
NRCC-PLB-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-PLB-E

Project Name: CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT	Report Page: Page 3 of 5
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214	Date Prepared: 2020-04-24

Table Continued

Mandatory Pipe Insulation All Occupancies

12	☑	For systems serving nonresidential spaces, pipe insulation for the following applications is specified to comply with Table 120.3-A (see below) per §120.3: - Recirculating system piping, including supply and return piping of the water heater - The first 8 ft of hot and cold outlet piping for a nonrecirculating storage system - Pipes that are externally heated
13	☑	Insulation shall be protected from damage, including that due to sunlight, moisture, equipment maintenance, and wind. Insulation exposed to weather shall be installed with a cover suitable for outdoor service per §120.3(b) and §150.0(l)3

TABLE 120.3-A PIPE INSULATION THICKNESS

Fluid Temperature Range (°F)	Conductivity Range (Btu-in per hour per ft² per °F)	Insulation Mean Rating Temp (°F)	Nominal Pipe Diameter (in)		
			<1	1 to < 1.5	1.5 to < 4
			Minimum Insulation Required		
105-140	0.22-0.28	100	**1.0 in or R-7.7**	**1.5 in or R-12.5**	**1.5 in or R-11**

H. DOMESTIC HOT WATER SYSTEM CONTROLS

Table Instructions: Complete the following table to demonstrate compliance with controls requirements in §110.3 for all occupancies. For high-rise residential and hotel/motel occupancies, compliance is demonstrated with requirements in §150.1(c)8.

	Yes	No	Not Applicable	Requirement
01	◉	○	○	Construction documents require manufacturer certification that service water-heating systems are equipped with automatic temperature controls capable of adjusting temperature settings per §110.3(a)
02	○	○	◉	Systems with capacity > 167,000 BTUH equipped with outlet temperature controls per §110.3(c)1 unless covered by California Plumbing Code Section 613.0.
03	○	○	◉	Controls for circulating pumps or electrical heat trace systems are capable of automatically turning off the system per §110.3(c)2 unless system serves healthcare facility.
04	○	○	◉	For recirculation systems serving multiple dwelling units, design includes automatic pump controls per §150.1(c)8iii, or §150.2 for additions or alterations
05	○	○	◉	For recirculation systems serving individual dwelling units, design includes manual on/off controls as specified in Reference Appendix RA 4.4.9 per §150.1(c)8.
06	○	○	◉	For replacement single heat pump water heaters serving individual dwelling units in climate zones 1-15, design includes communication interface that meets demand responsive control requirements of §110.12(a) per §150.2(b)1Hiii.

STATE OF CALIFORNIA
Domestic Water Heating System
NRCC-PLB-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-PLB-E

Project Name: CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT	Report Page: Page 4 of 5
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214	Date Prepared: 2020-04-24

I. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

YES	NO	Form/Title	Field Inspector Pass	Field Inspector Fail
◉	○	NRCI-PLB-01-E - Must be submitted for all buildings	☐	☐
○	◉	NRCI-PLB-02-E - Must be submitted for high-rise residential and hotel/ motel central hot water distribution systems to be recognized for compliance.	☐	☐
○	◉	NRCI-PLB-03-E - Must be submitted for high-rise residential and hotel/ motel single dwelling unit hot water distribution systems to be recognized for compliance.	☐	☐

J. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no Certificates of Acceptance applicable to service water heating requirements.

K. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be completed by a HERS Rater and provided to the building inspector during construction. The final documents must be created by a HERS Providers registry, but drafts can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCV/

YES	NO	Form/Title	Field Inspector Pass	Field Inspector Fail
○	◉	NRCV-PLB-21-H High-rise Residential Central Hot Water Distribution HERS Verification	☐	☐
○	◉	NRCV-PLB-22-H High-rise Residential Individual Dwelling Unit Hot Water Distribution HERS Verification	☐	☐

STATE OF CALIFORNIA
Domestic Water Heating System
NRCC-PLB-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-PLB-E

Project Name: CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT	Report Page: Page 5 of 5
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214	Date Prepared: 2020-04-24

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete

Documentation Author Name:	Moises Mandujano	Documentation Author Signature:	
Company:	Henderson Engineers	Signature Date:	2020-04-24
Address:	510 W 6th St	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	Los Angeles, CA, 90014	Phone:	213-254-4708

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. **The information provided on this Certificate of Compliance is true and correct.**
2. **I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)**
3. **The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.**
4. **The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.**
5. **I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.**

Responsible Designer Name:	Austin Allen	Responsible Designer Signature:	
Company :	Henderson Engineers	Date Signed:	2020-04-24
Address:	510 W 6th St	License:	M36447
City/State/Zip:	Los Angeles, CA, 90014	Phone:	213-254-4708

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED PROFESSIONAL ENGINEER
AUSTIN LAIN ALLEN
M 36447
MECHANICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

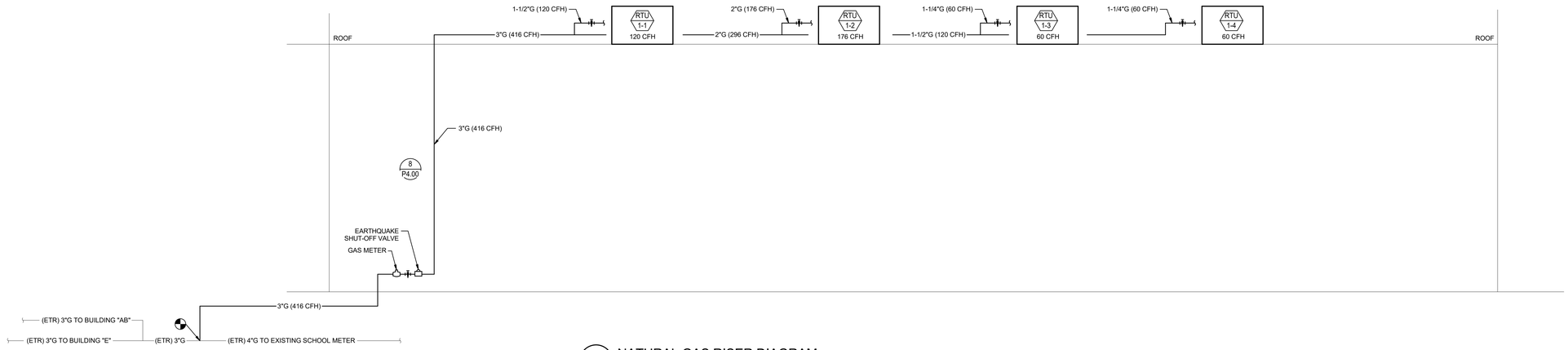
PLUMBING SCHEDULES AND CALCULATIONS

P5.00

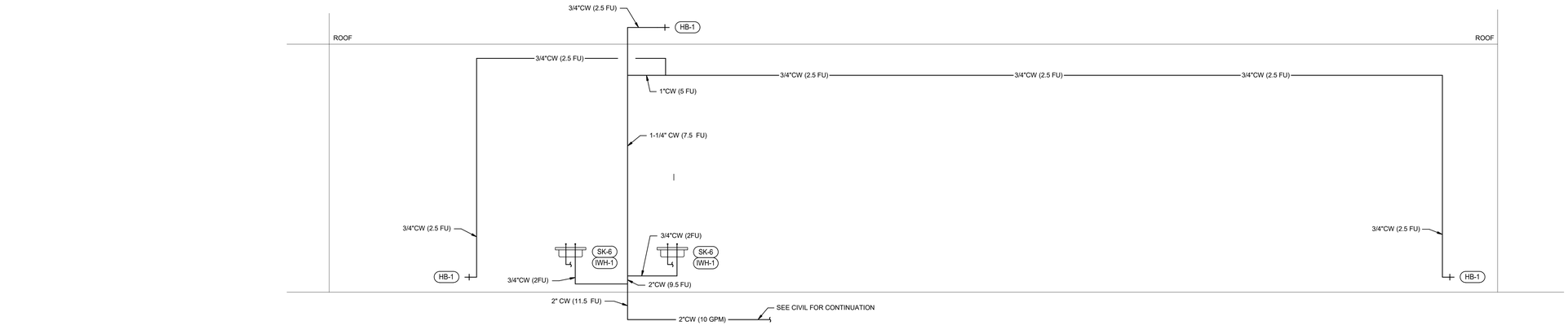
© 2019 NAC Arc

AUSTIN L. ALLEN

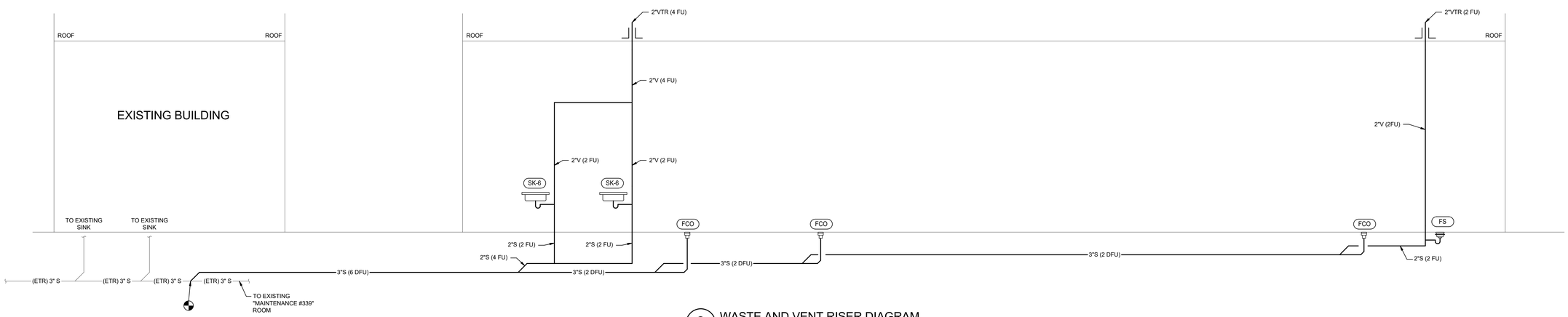
9/2/2020 1:35:30 PM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_moisesmandujano_20200902083526.rvt



1 NATURAL GAS RISER DIAGRAM
NONE



2 DOMESTIC WATER RISER DIAGRAM
NONE



3 WASTE AND VENT RISER DIAGRAM
NONE

AUSTIN L. ALLEN

9/2/2020 1:35:54 PM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_moisesmandujano_20200902083526.rvt

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

LICENSED PROFESSIONAL ENGINEER
AUSTIN LAIR ALLEN
M 36447
MECHANICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

PLUMBING RISER DIAGRAMS

P6.00

© 2019 NAC, INC.

ELECTRICAL SYMBOLS

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED.

V3.00

STANDARD MOUNTING HEIGHTS

AUDIBLE APPLIANCES (CENTERLINE)	84"
ALARMS	48"
ANNUNCIATOR PANELS (DISPLAY)	60"
CONTROLS (TOP OF DEVICE)	48"
EXIT SIGNS (WALL MOUNTED)	80"
FIRE ALARM ANNUNCIATOR PANEL (DISPLAY)	60"
FIRE ALARM BELL (EXTERIOR) (CENTERLINE)	120"
FIRE ALARM CONTROL PANEL/UNIT (DISPLAY)	60"
INTERCOM (AFEA ONLY)	36"
INTERCOMS (TOP OF DEVICE)	48"
PULL STATIONS (TOP OF DEVICE)	48"
PHOTOCELLS	144"
RECEPTACLES	16"
RECEPTACLES (EXTERIOR)	24"
RECEPTACLES (GARAGES)	24"
RECEPTACLES (POOLS)	27"
RECEPTACLES (ABOVE COUNTER) +6" ABOVE BACKSPLASH/COUNTER, 40" MAX	
RECEPTACLES IN EQUIPMENT ROOMS	44"
REMOTE INDICATING LIGHT (EQUIPMENT ROOMS)	48"
REMOTE INDICATING LIGHT (FINISHED AREAS)	CEILING
SAFETY SWITCHES (TOP OF DEVICE)	48"
STARTERS (TOP OF DEVICE)	48"
SWITCHES (TOP OF DEVICE)	44"
TELEPHONE, DATA OUTLETS	SAME AS ADJACENT DEVICE, UNO
TELEPHONE TERMINAL BOARD (BOTTOM)	6"
TELEVISION OUTLETS	REFER TO ARCH DRAWINGS
VISIBLE APPLIANCES (CENTERLINE)	84"

INSTALL OUTLET BOXES AT THE MOUNTING HEIGHTS SHOWN ABOVE UNO IN THE CONSTRUCTION DOCUMENTS. MOUNTING HEIGHTS LISTED ABOVE, OR ELSEWHERE IN THE CONSTRUCTION DOCUMENTS, ARE AFF OR AFG TO BOTTOM OF OUTLET BOX, UNO. ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA AND LOCAL REQUIREMENTS.

ABBREVIATIONS

AF	AMPERE FUSE SIZE	MCC	MOTOR CONTROL CENTER
AFC	ABOVE FINISHED CEILING	MFR	MANUFACTURER
AFF	ABOVE FINISHED FLOOR	MIN	MINIMUM
AFG	ABOVE FINISHED GRADE	MLO	MAIN LUGS ONLY
AHJ	AUTHORITY HAVING JURISDICTION	MLV	MAGNETIC LOW-VOLTAGE
AHU	AIR HANDLING UNIT	MOCP	MAXIMUM OVERCURRENT PROTECTION
AIC	AMPERE INTERRUPTING CAPACITY	MTD	MOUNTED
AS	AMPERE SWITCH SIZE	N/A	NOT APPLICABLE
AT	AMPERE TRIP SETTING	NF	NON-FUSED
ATS	AUTOMATIC TRANSFER SWITCH	NL	NIGHT LIGHT (24HR ON)
AV	AUDIO VISUAL	NRTL	NATIONALLY RECOGNIZED TESTING LABORATORY (CSA, ETL, NSF, UL)
BAS	BUILDING AUTOMATION SYSTEM	NTS	NOT TO SCALE
BKR	BREAKER	OS	OCCUPANCY SENSOR
C	CONDUIT	P	POLE
CAT	CATEGORY	PART	PARTIAL CIRCUIT
CATV	CABLE TELEVISION SYSTEM	PH/Ø	PHASE
CCTV	CLOSED CIRCUIT TELEVISION	PNL	PANEL
CD	CANDELA	PNLBD	PANELBOARD
CKT	CIRCUIT	PROVIDE	FURNISH AND INSTALL
CODE	APPLICABLE CODE ADOPTED BY JURISDICTION	PT	POTENTIAL TRANSFORMER
CT	CURRENT TRANSFORMER	QTY	QUANTITY
CTR	CENTER	R/REL	RELOCATE
CVD	CUMULATIVE VOLTAGE DROP	RCPT	RECEPTACLE
D/DEMO	DEMOLITION	RLA	RUNNING LOAD AMPS
DPDT	DOUBLE-POLE, DOUBLE-THROW	RTU	ROOFTOP UNIT
DPST	DOUBLE-POLE, SINGLE-THROW	SCCR	SHORT-CIRCUIT CURRENT RATING
E/ETR/EX	EXISTING TO REMAIN	SD	SMOKE DUCT DETECTOR
EC	ELECTRICAL CONTRACTOR	SF	SQUARE FEET
EF	EXHAUST FAN	SPDT	SINGLE-POLE, DOUBLE-THROW
EM	EMERGENCY	SPST	SINGLE-POLE, SINGLE-THROW
EMS	ENERGY MANAGEMENT SYSTEM	SSBJ	SUPPLY-SIDE BONDING JUMPER
ELV	ELECTRONIC LOW-VOLTAGE	ST	SHUNT TRIP
EWC	ELECTRIC WATER COOLER	SWBD	SWITCHBOARD
FAAP	FIRE ALARM ANNUNCIATOR PANEL	SWGR	SWITCHGEAR
FACP	FIRE ALARM CONTROL PANEL	TBB	TELECOMMUNICATIONS BONDING BACKBONE
FCA	FAULT CURRENT AMPS AVAILABLE	TBD	TO BE DETERMINED
FCU	FAN COIL UNIT	TGB	TELECOMMUNICATIONS GROUND BUS BAR
FF	FINISHED FLOOR	TL	TWISTLOCK
FLA	FULL LOAD AMPS	TMGB	TELECOMMUNICATIONS MAIN GROUND BUS BAR
FLR	FLOOR	TX/XFMR	TRANSFORMER
GC	GENERAL CONTRACTOR	TYP	TYPICAL
GEC	GROUNDING ELECTRODE CONDUCTOR	U/F	UNDERFLOOR
GES	GROUNDING ELECTRODE SYSTEM	U/G	UNDERGROUND
GFR	GROUND FAULT RELAY	U/S	UNDERSLAB
G	GROUND	UH	UNIT HEATER
IG	ISOLATED GROUND	UNO	UNLESS NOTED OTHERWISE
ISC	SHORT CIRCUIT CURRENT	UPS	UNINTERRUPTIBLE POWER SUPPLY
JB/J-BOX	JUNCTION BOX	VD	VOLTAGE DROP
LF	LINEAR FEET	VFD	VARIABLE FREQUENCY DRIVE
LRA	LOCKED ROTOR AMPS	VS	VACANCY SENSOR
LTG/LTS	LIGHTING/LIGHTS	W	WIRE
MAU	MAKE-UP AIR UNIT	W/	WITH
MAX	MAXIMUM	WP	WEATHER PROOF
MCA	MINIMUM CIRCUIT AMPACITY	WR	WEATHER RESISTANT
MCB	MAIN CIRCUIT BREAKER	WT	WATERTIGHT
		XP	EXPLOSION PROOF

LINETYPE LEGEND

THROUGHOUT THE DRAWINGS DIFFERENT LINETYPES ARE USED IN COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF NEW WORK AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, ETC.

EXISTING ——— NEW ———

DEMOLISH — — — FUTURE - - - - -

ANNOTATION

- 1 — MECHANICAL OR FIRE PROTECTION PLAN NOTE CALLOUT
- 1 — PLUMBING PLAN NOTE CALLOUT
- 1 — ELECTRICAL OR FIRE ALARM PLAN NOTE CALLOUT
- 1 — TECHNOLOGY PLAN CALLOUT
- 1 — PLUMBING EQUIPMENT DESIGNATION. (CONTRACTOR FURNISHED AND INSTALLED). REFER TO PLUMBING FIXTURE OR EQUIPMENT SCHEDULES
- 1 — EQUIPMENT DESIGNATION (OWNER FURNISHED, CONTRACTOR INSTALLED)
- CU 1 — MECHANICAL EQUIPMENT DESIGNATION (CONTRACTOR FURNISHED AND INSTALLED UNLESS NOTED OTHERWISE)
- CONNECTION POINT OF NEW WORK TO EXISTING
- 1 E1 — DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER
- 1 E1 — SECTION CUT DESIGNATION

CIRCUITING & WIRING

- 7 5 3 / OR [R#] P1 / P1-3,5,7 — HOMERUN TO PANELBOARD. INFORMATION AT ARROWS ARE CIRCUIT NUMBERS AND PANELBOARD FOR TERMINATION. REFER TO PANELBOARD SCHEDULES FOR BRANCH CIRCUIT CONDUCTOR SIZES.
  - INDICATES RELAY NUMBER
- CIRCUIT CONTINUATION OR PARTIAL CIRCUIT
- CONDUIT CONCEALED
- EM — CONDUIT CONCEALED (EMERGENCY)
- CONDUIT IN/UNDER FLOOR/GROUND CONSTRUCTION
- EXPOSED CONDUIT
- EM — EXPOSED CONDUIT (EMERGENCY)
- FLEXIBLE CONDUIT
- LOW VOLTAGE CABLE (NOT ROUTED IN CONDUIT)
- CONDUIT TURNING DOWN
- CONDUIT TURNING UP
- CONNECTION POINT OR EQUIPMENT TERMINATION
- EQUIPMENT TERMINATION

CONDUCTOR TICK MARK LEGEND

WHERE TICK MARKS ARE SHOWN, THE FOLLOWING SHALL GOVERN:

- SWITCHED HOT (PHASE) CONDUCTORS (SHOWN TRAILING NEUTRAL)
- NEUTRAL (GROUNDED) CONDUCTOR
- UNSWITCHED HOT (PHASE) CONDUCTORS (SHOWN LEADING NEUTRAL)
- NOTE: HASH MARKS INDICATE QUANTITY OF CONDUCTORS
- EQUIPMENT GROUNDING CONDUCTOR IN CONDUIT (GREEN INSULATION OR BARE)
- ISOLATED GROUNDING CONDUCTOR IN CONDUIT (GREEN INSULATION WITH YELLOW TRACER)

BRANCH CIRCUIT CONDUCTOR TABLE

WHERE TICK MARKS ARE NOT SHOWN, THE FOLLOWING SHALL GOVERN:

# OF POLES	HOT (PHASE)*	NEUTRAL (GROUNDED)**	GROUNDING***
1P	(1)	(1) UNO	(1)
2P	(2)	(1) UNO	(1)
3P	(3)	(1) UNO	(1)

* PROVIDE ADDITIONAL CONDUCTORS THROUGH ENTIRE CIRCUIT (SWITCHED, UNSWITCHED/EM, ETC.) AS INDICATED THROUGHOUT CONSTRUCTION DOCUMENTS AND AS REQUIRED FOR A COMPLETE AND WORKING SYSTEM.

** REFER TO SPECIFICATIONS FOR LIMITATIONS ON SHARING NEUTRAL (GROUNDED) CONDUCTORS. DO NOT CIRCUIT AS A MULTI-WIRE BRANCH CIRCUIT, UNO.

*** PROVIDE ADDITIONAL ISOLATED GROUNDING CONDUCTORS WHERE INDICATED.

REFER TO SPECIFICATIONS, PLANS, NOTES, WIRING AND CONTROL DIAGRAMS FOR ADDITIONAL CIRCUITING REQUIREMENTS.

SIGNALING

- B — SIGNALING BELL
- B — SIGNALING BUZZER
- T — LV TRANSFORMER

LIGHTING

- A a — LIGHT FIXTURE
  - a = LOWER CASE LETTER IS SWITCH IDENTIFIER
  - A = UPPER CASE LETTER INDICATES LIGHT FIXTURE TYPE
  - = WALL MOUNT
  - = ARROW INDICATED AIMING DIRECTION
- LIGHT FIXTURE CIRCUITED AS A NIGHT LIGHT (NL)
- EMERGENCY LIGHT FIXTURE WITH EMERGENCY LIGHTING BATTERY PACK OR CONNECTED TO EMERGENCY SOURCE
- NIGHT LIGHT/EMERGENCY LIGHT FIXTURE WITH EMERGENCY BATTERY PACK OR CONNECTED TO EMERGENCY SOURCE
- LIGHT FIXTURE WITH DUAL BALLASTS CIRCUITED SEPARATELY (SHADING IMPLIES EMERGENCY LIGHT FIXTURE)
- [#] — LIGHTING TRACK (# INDICATES RELAY NUMBER)
- MIRROR LIGHTS
- EXTERIOR PARKING LOT LIGHT FIXTURE
- EXTERIOR PEDESTRIAN POST TOP LIGHT FIXTURE
- EXTERIOR LIT BOLLARD LIGHT
- EXIT SIGN - CEILING / WALL MOUNTED, ARROWS AS INDICATED, FACE HATCHED
- EMERGENCY LIGHTING UNIT EQUIPMENT WITH BATTERY PACK - CEILING/WALL MOUNTED
- AFEA (AREA FOR EVACUATION ASSISTANCE) SIGN - CEILING/WALL MOUNTED, ARROWS AS INDICATED

REFER TO LIGHT FIXTURE SCHEDULE FOR MORE INFORMATION

POWER EQUIPMENT & DEVICES

- ELECTRICAL PANELBOARD (SURFACE OR FLUSH MOUNT)
- ELECTRICAL CABINET (SURFACE OR FLUSH MOUNT), TYPE AS NOTED
- PLYWOOD TERMINAL BOARD FOR TELEPHONE SYSTEM, UNO. SIZE AS NOTED
- SWITCHBOARD OR MOTOR CONTROL CENTER ON HOUSEKEEPING PAD
- ELECTRICAL DISTRIBUTION PANELBOARD
- TRANSFORMER
- 200/3/150/3R — DISCONNECT SWITCH - "200/3/150/3R" DENOTES AMPERES/POLE/FUSE/NEMA ENCLOSURE RATING, NF= NON-FUSED, CB= CIRCUIT BREAKER (200/3/CB), NO VALUE (200/3/150) FOR NEMA ENCLOSURE MEANS STANDARD NEMA 1 RATING
- 30/3/15/1/3R — COMBINATION DISCONNECT (SAFETY) SWITCH AND MOTOR STARTER "30/3/15/1/3R" DENOTES AMPERES/POLE/FUSE/NEMA STARTER SIZE/NEMA ENCLOSURE RATING. NF= NON-FUSED, CB= CIRCUIT BREAKER (30/3/CB/1), NO VALUE (200/3/150/1) FOR NEMA ENCLOSURE MEANS STANDARD NEMA 1 ENCLOSURE RATING
- 2 — MAGNETIC MOTOR STARTER, NEMA SIZE AS NOTED. 3-POLE, UNO
- VFD — VARIABLE FREQUENCY DRIVE
- INDICATING LIGHT
- EMERGENCY POWER OFF BUTTON
- STOP-START PUSH BUTTON CONTROL STATION
- HAND-OFF-AUTO PUSH BUTTON CONTROL STATION
- MUSHROOM-TYPE PUSH BUTTON
- OVERHEAD PADDLE FAN

BOXES, LIGHTING CONTROL & WIRING DEVICES

- $# — SWITCH LETTER DESIGNATIONS AS FOLLOWS:
  - BLANK = SINGLE
  - 2 = TWO POLE
  - 3 = THREE-WAY
  - 4 = FOUR-WAY
  - D = DIMMER
  - F = FAN SPEED CONTROL
  - FH = FRACTIONAL HORSEPOWER MANUAL CONTROLLER
  - IH = INTEGRAL HORSEPOWER MANUAL CONTROLLER
  - K = KEYED
  - LV# = LOW VOLTAGE / DIGITAL
  - M = MANUAL MOTOR STARTER DISCONNECT
  - OS# = OCCUPANCY SENSOR
  - P = SPST PILOT LIGHT
  - WP = WEATHER PROOF
  - \# = REFER TO LIGHTING CONTROL DEVICE SCHEDULE
- ALC — AUTOMATIC LOAD CONTROL RELAY
- BTS — BRANCH CIRCUIT TRANSFER SWITCH
- CEILING / WALL MOUNTED OCCUPANCY SENSOR (# INDICATES TYPE PER SCHEDULE)
  - CORNER 90 DEGREE SENSING
  - ONE-DIRECTION SENSING, CEILING/WALL MOUNT
  - CEILING MOUNT, TWO DIRECTION SENSING
  - CEILING MOUNT, FOUR DIRECTION SENSING
- C# — CONTACTOR (SIZE, COIL VOLTAGE AND NUMBER OF POLES AS INDICATED)
- CL## — TRACK-MOUNTED CURRENT LIMITER (## INDICATES AMPERAGE)
- D# — DAYLIGHT SENSOR (# INDICATES TYPE PER SCHEDULE)
- LC — LIGHTING CONTROLS PROCESSOR AND/OR EQUIPMENT
- P# — POWER PACK (# INDICATES TYPE PER SCHEDULE)
- PS# — PHOTOELECTRIC SWITCH
- R## — ROOM CONTROLLER (# INDICATES TYPE PER SCHEDULE)
- TS# — TIME SWITCH
- SIMPLEX RECEPTACLE - NEMA 5-20R, UNO
- DUPLEX RECEPTACLE - NEMA 5-20R, UNO
- DOUBLE DUPLEX RECEPTACLE - NEMA 5-20R, UNO
- SPECIAL RECEPTACLE - NEMA TYPE AS NOTED
- TWIST-LOCK TYPE RECEPTACLE
- G — BLANK FACE GFCI FEED THROUGH DEVICE
- OR GFCI — GFCI TYPE RECEPTACLE*
- OR IG — ISOLATED GROUND TYPE RECEPTACLE*
- OR EM — EMERGENCY RECEPTACLE*
- RECEPTACLE INSTALLED ABOVE COUNTER OR BACKSPLASH*
- RECEPTACLE INSTALLED IN CEILING*
- RECEPTACLE INSTALLED IN FLOOR*
- RECEPTACLE INSTALLED VIA DROP CORD*
- \# — RECEPTACLE LETTER DESIGNATIONS AS FOLLOWS:
  - C = AUTOMATICALLY CONTROLLED
  - CH = CLOCK HANGER TYPE
  - G=RCPT PROTECTED BY GFCI CIRCUIT BREAKER OR UPSTREAM GFCI DEVICE
  - H = HORIZONTALLY MOUNTED
  - S = MANUALLY CONTROLLED
  - SP / TVSS = SURGE PROTECTION
  - TR = TAMPER RESISTANT
  - TV = TELEVISION
  - USB = USB/DUPLEX
  - WP = WEATHER PROOF COVER
  - WR = WEATHER RESISTANT
- MULTI-OUTLET ASSEMBLY
- TELEPHONE OUTLET
- DATA OUTLET
- MULTI-SERVICE OUTLET; TELEPHONE AND DATA
  - ABOVE COUNTER, TYP
  - WALL, TYP
  - FLOOR, TYP
- A — MULTI-SERVICE POWER POLE WITH TELEPHONE, DATA AND POWER OUTLETS A = TYPE, REFER TO PLANS, SCHEDULES AND SPECIFICATIONS
- A — MULTI-SERVICE FLOOR BOX WITH TELEPHONE, DATA AND POWER OUTLETS A = TYPE, REFER TO PLANS, SCHEDULES AND SPECIFICATIONS
- A — POKE THROUGH, A = TYPE, REFER TO PLANS, SCHEDULES AND SPECIFICATIONS
- T — THERMOSTAT
- J — CEILING/FLOOR MOUNT JUNCTION/OUTLET BOX
- J — WALL MOUNT JUNCTION/OUTLET BOX

* SYMBOL DEMONSTRATED WITH DUPLEX RECEPTACLE, WHEN USED IN COMBINATION WITH OTHER DEVICES MEANING IS SIMILAR FOR THOSE DEVICE TYPES.

REFER TO LIGHTING CONTROL DEVICE SCHEDULE FOR MORE INFORMATION.

ELECTRICAL ONE-LINE & RISER DIAGRAM

- ###A 3P — SWITCH (RATING AS INDICATED)
- ###A 3P — DRAWOUT CIRCUIT BREAKER (RATINGS AS INDICATED)
- ###AS 3P ###AF FRS — FUSED SWITCH (RATING, POLES AND FUSE TYPE AS INDICATED)
- ###AS 3P ###AF FRS NEMA # — COMBINATION FUSED SWITCH/STARTER AND STARTER SIZE
- ###AS 3P FRS NEMA # — CIRCUIT BREAKER (RATINGS AS INDICATED)
- ###A 3P NEMA # — COMBINATION CIRCUIT BREAKER/STARTER AND STARTER SIZE
- PANELBOARD, SINGLE OR MULTI-SECTION (REFER TO SCHEDULES)
- ISOLATED POWER PANELBOARD W/ INTEGRAL TRANSFORMER (REFER TO SCHEDULES)
- TX## — TRANSFORMER (TYPE AND RATINGS AS INDICATED)
- TX## — SHIELDED TRANSFORMER (TYPE AND RATINGS AS INDICATED)
- ATS# / ###A / ATS# (W/BYPASS) — AUTOMATIC TRANSFER SWITCH (RATINGS AS INDICATED)
- ATS# (W/BYPASS) / ###A — AUTOMATIC TRANSFER SWITCH WITH BYPASS (RATINGS AS INDICATED)
- ##KW GENERATOR 480Y/277V, 3Ø, 4W / ###A, 3P / M/G — GENERATOR (RATINGS AS INDICATED)
  - NON-SEPARATELY DERIVED SOURCE OR SEPARATELY DERIVED SOURCE
- MDP SWITCHBOARD ELEC ROOM / ### AMPS 480Y/277V 3Ø 4W — SWITCHGEAR, SWITCHBOARD AND/OR DISTRIBUTION PANELBOARD (TYPE, RATING, DEVICES AND ACCESSORIES AS INDICATED)
- DIGITAL VM AM — COMBINATION DIGITAL VOLT METER/AMMETER
- \### — CIRCUIT IDENTIFICATION (REFER TO CIRCUIT SCHEDULE)
- GFR — GROUND FAULT RELAY
- PFR — PHASE FAILURE RELAY
- KK# — KIRK-KEY INTERLOCK (# INDICATES KEY PAIR)
- ST — SHUNT TRIP
- AM — AMMETER (RANGE AS SPECIFIED OR REQUIRED)
- VM — VOLTMETER (RANGE AS SPECIFIED OR REQUIRED)
- UTILITY METER M — UTILITY METER (AS REQUIRED BY UTILITY)
- AS — AMMETER SWITCH
- VS — VOLTMETER SWITCH
- WH D 15 — WATT-HOUR METER, "D" DENOTES DEMAND REGISTER, "15" DENOTES MINUTES OF DEMAND INTERVAL
- CURRENT TRANSFORMER RATING AS SPECIFIED OR REQUIRED
- POTENTIAL TRANSFORMER RATING AS SPECIFIED OR REQUIRED
- SPD — SURGE-PROTECTIVE DEVICE
- GROUND CONNECTION
- GROUND CONNECTION WITH TEST WELL
- GROUND ROD
- LIGHTNING ARRESTER
- CAPACITOR
- = ≠ — CONTACT (OPEN OR CLOSED)
- HEATER
- HP — MOTOR
- \## — BLOCK LOAD KW OR KVA
- ×F# ×FP# — FAULT POINT REFERENCED IN SHORT CIRCUIT CURRENT AND VOLTAGE DROP SPREADSHEET

ELECTRICAL NOTES

DEMOLITION NOTES

1. REFERENCE ARCHITECTURAL DRAWINGS FOR FULL EXTENT OF DEMOLITION WORK AND PHASING. NOTIFY ARCHITECT, ENGINEER, AND OWNER, AS APPLICABLE, OF ANY CONFLICTS OR DISCREPANCIES BETWEEN DRAWINGS AND JOB SITE CONDITIONS PRIOR TO SUBMITTING BID.
2. COORDINATE DEMOLITION AND REMOVAL OF EXISTING ELECTRICAL EQUIPMENT AND LIGHTING SYSTEMS WITH ARCHITECTURAL DRAWINGS AND OWNER TO ALLOW NECESSARY SYSTEMS TO REMAIN OPERATIONAL DURING CONSTRUCTION. (NOTE: NOT ALL EXISTING/DEMOLISHED EQUIPMENT, LIGHT FIXTURES, DEVICES OR RACEWAYS WILL BE SHOWN ON THE DRAWINGS). COORDINATE ELECTRICAL REQUIREMENTS FOR REMODELED/RENOVATED SPACES WITH THE OWNER.
3. AVOID DAMAGING FACILITIES, INCLUDING EQUIPMENT, LIGHT FIXTURES AND DEVICES THAT ARE EXISTING TO REMAIN, NEW OR REUSED. REPAIR ALL DAMAGE CAUSED DURING WORK AT NO EXTRA COST TO THE OWNER.
4. DISPOSE ALL ELECTRICAL EQUIPMENT, LIGHT FIXTURES, AND DEVICES SHOWN TO BE REMOVED, UNLESS NOTED OTHERWISE. COORDINATE WITH THE OWNER THE TIMES TO BE SALVAGED, AND THE LOCATION FOR STORAGE. AVOID DAMAGING SALVAGED ITEMS DURING DEMOLITION WORK AND DURING TRANSPORT TO OWNER'S DESIGNATED STORAGE LOCATION.
5. WHERE ALTERATION OF ELECTRICAL EQUIPMENT, LIGHT FIXTURES, RACEWAYS OR WIRING DEVICES AFFECTS EXISTING SURFACES/FINISHES: REPAIR/PAINT AFFECTED SURFACE TO MATCH EXISTING ADJACENT SURFACE IN ACCORDANCE WITH OWNER REQUIREMENTS. MAINTAIN FIRE RATING OF ALL FLOORS/WALLS/CEILINGS THAT ARE RATED.
6. WHERE DEMOLITION WORK INTERRUPTS ELECTRICAL CONTINUITY OF CIRCUITS THAT ARE TO REMAIN IN USE, PROVIDE NECESSARY DEVICES AND RELATED CIRCUITRY TO MAINTAIN ELECTRICAL CONTINUITY IN ACCORDANCE WITH OWNER REQUIREMENTS. RECIRCUIT REUSED ELECTRICAL EQUIPMENT, LIGHT FIXTURES AND WIRING DEVICES PREVIOUSLY POWERED FROM DEMOLISHED EQUIPMENT TO NEW OR TEMPORARY EQUIPMENT AS NEEDED.
7. COORDINATE DISCONNECTION OF POWER TO EQUIPMENT BEING DEMOLISHED/REMOVED/RELOCATED WITH OTHER TRADES PRIOR TO START OF WORK. ALL ELECTRICAL EQUIPMENT, LIGHT FIXTURES, RACEWAYS, WIRING DEVICES AND RELATED CIRCUITRY NOT BEING REUSED SHALL BE REMOVED IN ALL ACCESSIBLE AREAS AND IN FLOORS/WALLS/CEILINGS THAT ARE TO BE REMOVED, UNLESS NOTED OTHERWISE. AS ALLOWED BY OWNER, UNUSED ELECTRICAL EQUIPMENT, RACEWAYS AND RELATED CIRCUITRY THAT ARE INACCESSIBLE MAY BE ABANDONED IN PLACE AND SHALL BE PERMANENTLY DISCONNECTED FROM ALL POWER SOURCES, INSULATED FROM CONTACT WITH OTHER LIVE ELECTRICAL WIRING/DEVICES, AND IDENTIFIED AT THE TERMINATION AS NO LONGER BEING IN SERVICE.

LIGHTING GENERAL NOTES

1. THE EMERGENCY LIGHTING SYSTEM HAS BEEN DESIGNED TO PROVIDE AN INITIAL FLOOR ILLUMINANCE LEVEL OF 1 FC AVERAGE, 0.1 FC MINIMUM AND NO MORE THAN A 40:1 MAX/MIN RATIO ALONG THE EMERGENCY EGRESS PATHS. WHERE APPLICABLE, ADJUST AIMING OF EMERGENCY LIGHTS AS REQUIRED TO PROVIDE PROPER ILLUMINATION AT FLOOR AVOIDING OBSTACLES AND SHADOWS AFTER STORE SET-UP IS COMPLETE.
2. WALL MOUNTED EXITS SIGNS SHALL BE MOUNTED 12" ABOVE DOOR FRAME AND CENTERED ABOVE DOOR OPENING, UNLESS NOTED OTHERWISE. CEILING/PENDANT MOUNTED EXIT SIGNS SHALL BE SUSPENDED TO 12'-0" AFF IN CUSTOMER AREAS OPEN TO STRUCTURE, AT BOTTOM OF BAR JOISTS IN BACKROOM AREAS AND ON FINISHED CEILING WHERE APPLICABLE, OR AS NOTED ON ARCHITECTURAL RCP. EXIT SIGNS SHALL BE READILY VISIBLE FROM DIRECTION OF EGRESS TRAVEL. COORDINATE FINAL EXIT SIGN LOCATIONS WITH AHJ AND OWNER.
3. SUSPEND BACK OF HOUSE, RECEIVING AND STOCKROOM AREA LIGHT FIXTURES AS HIGH AS PRACTICABLE IN ORDER TO AVOID DAMAGE DURING STOCKING, UNLESS NOTED OTHERWISE. SUSPEND JUST BELOW REFRIGERATION PIPING, DUCTWORK AND SIMILAR OBSTRUCTIONS WHERE NECESSARY TO AVOID SHADOWS. COORDINATE REQUIREMENTS WITH OWNER AND OTHER DISCIPLINES PRIOR TO INSTALLATION.
4. PROVIDE LABEL AT EACH MANUAL LIGHT SWITCH INDICATING THE LIGHT FIXTURE(S) THAT THE SWITCH CONTROLS AND THE RESPECTIVE "PNLBD-CKT#" DESIGNATION. A SINGLE LIGHT SWITCH FOR A SMALL ROOM DOES NOT NEED TO INDICATE THE SPACE CONTROLLED SINCE IT IS INTUITIVELY OBVIOUS. COORDINATE LABEL REQUIREMENTS WITH THE OWNER PRIOR TO INSTALLATION. REFER TO THE SPECIFICATIONS FOR MORE INFORMATION.
5. ALL REMOTELY LOCATED LIGHT FIXTURE POWER SUPPLIES SHALL BE LOCATED IN AN ACCESSIBLE LOCATION WITH PROPER VENTILATION IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS. CONCEAL DEVICES AND RELATED WIRING FROM CUSTOMER/PUBLIC VIEW. PROVIDE ENCOSURE IF REQUIRED. COORDINATE LOCATION AND ENCLOSURE TYPE WITH ARCHITECT AND OWNER PRIOR TO INSTALLATION.
6. PER 2017 NEC 700.2 AND 700.24, ALL DIRECTLY CONTROLLED LUMINAIRES USED FOR EMERGENCY ILLUMINATION AND ALL APPLICABLE CONTROLS SHALL HAVE UL 924 LISTING OR EQUIVALENT NRTL LISTING. IF EMERGENCY LUMINAIRE OR CONTROL MANUFACTURER DOES NOT HAVE APPROPRIATE LISTING THE EMERGENCY LUMINAIRE SHALL NOT BE CONNECTED TO 0-10V DIMMING SYSTEM.

ELECTRICAL GENERAL NOTES

1. PROJECT IS DESIGNED IN COMPLIANCE WITH THE FOLLOWING CODES. THIS IS NOT AN EXHAUSTIVE LIST. PROJECT SHALL COMPLY WITH ALL APPLICABLE CODES, STANDARDS AND LOCAL REQUIREMENTS. REFER TO SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
   A. ELECTRICAL CODE: 2019 CALIFORNIA ELECTRICAL CODE (CEC)
   B. BUILDING CODE: 2019 CALIFORNIA BUILDING CODE (CBC)
   C. ENERGY CODE: 2019 ENERGY EFFICIENCY STANDARD - TITLE 24 PART 6
2. CONTRACTOR'S BID SHALL INCLUDE PROVISIONS TO PROVIDE ALL SERVICES RELATED TO THE CODE REQUIRED BUILDING SYSTEMS COMMISSIONING, FUNCTIONAL PERFORMANCE AND ACCEPTANCE TESTING, RELATED DOCUMENTATION, REPORTS, AND OWNER TRAINING. THIS INCLUDES RETAINING THE SERVICES OF A 3RD PARTY ENGINEER AND CERTIFIED LIGHTING CONTROLS ACCEPTANCE TEST TECHNICIAN (CLCATT) AS REQUIRED. REFER TO THE LATEST ADOPTED EDITION OF THE CALIFORNIA TITLE 24 PART 6 AND PART 11 FOR MORE INFORMATION.
3. ALL APPLICABLE LIGHT FIXTURES, EXIT SIGNS AND LIGHTING CONTROL DEVICES AS INSTALLED SHALL COMPLY WITH THE LATEST ADOPTED EDITION OF CALIFORNIA TITLE 24 PART 6 SECTION 110.0, AND ANY OTHER STATE AND LOCAL REQUIREMENTS.
4. OUTDOOR LIGHTING SYSTEMS SHALL COMPLY WITH THE LATEST ADOPTED EDITION OF THE CALIFORNIA GREEN BUILDING STANDARDS CODE, TITLE 24 PART 11, (CALGREEN), SECTION 5.106.8 LIGHT POLLUTION REDUCTION AND OTHER APPLICABLE CODE REQUIREMENTS.
5. PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS. AS APPLICABLE, REVIEW THE LANDLORD CRITERIA, GENERAL NOTES, OTHER TRADE DRAWINGS AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT AND ENGINEER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO SUBMITTING BID.
6. ALL WORK SHALL CONFORM TO ALL LOCAL CODES AND ORDINANCES AS WELL AS APPLICABLE INDUSTRY STANDARDS. ALL EQUIPMENT SHALL BEAR LABELS FOR THE USE INTENDED BY AN AHJ ACCEPTED NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL), SUCH AS UL OR ETL. THE FINAL ELECTRICAL INSTALLATION OF THE FACILITY OCCUPIED BY OWNER SHALL BE FREE FROM ELECTRICAL DEFECTS TO THE SATISFACTION OF THE AHJ, OWNER, ARCHITECT AND ENGINEER.
7. COORDINATE FINAL LOCATION AND INSTALLATION REQUIREMENTS OF ALL LIGHT FIXTURES, ELECTRICAL EQUIPMENT AND ELECTRICAL DEVICES WITH ARCHITECTURAL DRAWINGS, EXISTING CONDITIONS AND OTHER TRADES PRIOR TO ROUGH-IN. PROVIDE ALL NECESSARY DEVICES, CORDS, PLUGS, DISCONNECTS AND FINAL CONNECTIONS TO ELECTRICAL EQUIPMENT FOR PROPER OPERATION IN ACCORDANCE WITH CODE, OWNER AND MANUFACTURER REQUIREMENTS.
8. ELECTRICAL DRAWINGS ARE DIAGRAMMATIC/SCHEMATIC IN NATURE AND REPRESENT THE GENERAL SCOPE OF WORK. IT IS NOT WITHIN THE SCOPE OF THE ELECTRICAL DRAWINGS TO SHOW ALL NECESSARY RACEWAY ROUTING, BENDS, OFFSETS, PULL BOXES AND OBSTRUCTIONS. CONTRACTOR SHALL COORDINATE THE FINAL LOCATION OF EQUIPMENT AND WIRING DEVICES WITH OTHER TRADES PRIOR TO INSTALLATION AND INSTALL ALL WORK TO CONFORM TO THE OWNER REQUIREMENTS.
9. ALL CONDUCTOR AND CONDUIT LENGTHS SHOWN IN THESE DESIGN DOCUMENTS ARE INTENDED SOLELY FOR USE IN THE DESIGN CALCULATIONS BY THE DESIGN PROFESSIONAL, UNLESS NOTED OTHERWISE. LENGTHS SHOWN SHALL NOT BE USED TO ASSIST IN THE BIDDING TAKEOFF PROCESS. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR THE MATERIAL QUANTITIES REQUIRED TO BID AND CONSTRUCT THE COMPLETE PROJECT.
10. PROVIDE PROPER FIRE PROOFING AND SEALANT FOR PENETRATIONS THROUGH FIRE RATED ASSEMBLIES. THE FIRE STOPPING METHOD, MATERIAL AND ITS APPLICATION SHALL BE NRTL LISTED, CODE COMPLIANT AND APPROVED BY AHJ.
11. WHEN CONCRETE TRENCHING/CORING IS REQUIRED, THE METHODS, DEPTHS, AND LOCATIONS SHALL BE PRE-APPROVED BY LANDLORD, ARCHITECT, AND STRUCTURAL ENGINEER PRIOR TO THE START OF WORK. X-RAY SLAB AS NECESSARY TO AVOID DAMAGING ANY UNDER-SLAB UTILITIES OR STRUCTURE. SLAB REPLACEMENT SHALL BE INSTALLED WITH DOWELLING AND REINFORCED CONCRETE AS DIRECTED BY THE STRUCTURAL ENGINEER. WHERE SLAB ON GRADE IS SAW-CUT AND REMOVED FOR TRENCHING THE CONTRACTOR SHALL INSTALL MOISTURE BARRIER PER LANDLORD'S REQUIREMENTS. PROVIDE 3/4" MINIMUM CONDUITS ROUTED THROUGH SLAB AND STUBBED UP INTO DEVICES. FOR SLAB ON DECK, THE FLOOR SHALL BE SLEEVED AND EQUIPPED WITH THE APPROPRIATE LISTED ASSEMBLY. PROVIDE 3/4" MINIMUM CONDUITS ROUTED BELOW SLAB, TIGHT TO STRUCTURE, AND STUBBED UP INTO DEVICES.
12. ALL APPLICABLE SWITCHES, RECEPTACLES, OUTLETS, AND CONTROLS SHALL BE PLACED AT HEIGHTS THAT ARE IN ACCORDANCE WITH ADA ACCESSIBILITY GUIDELINES.
13. COORDINATE FLOOR MOUNTED BOX, RECEPTACLE, AND COVER PLATE TYPES WITH ARCHITECT AND OWNER PRIOR TO ORDER.
14. WIRING DEVICES ADJACENT TO EACH OTHER SHALL BE INSTALLED UNDER A SINGLE COVER PLATE, UNO.
15. WIRING DEVICES SHOWN BACK-TO-BACK ON A COMMON WALL SHALL BE OFFSET A MINIMUM OF 12" HORIZONTALLY TO REDUCE SOUND TRANSMISSION BETWEEN ROOMS, UNO.
16. ALL WP OUTLET BOX HOODS SHALL BE "EXTRA-DUTY" AND "WHILE-IN-USE COVER" TYPE. OUTLET BOX HOODS SHALL BE LOW PROFILE WHEREVER PRACTICABLE, UNLESS NOTED OTHERWISE. THE USE OF LARGE BUBBLE COVERS SHALL BE AVOIDED ON THE EXTERIOR OF THE BUILDING OR BEHIND EQUIPMENT IN ORDER TO PREVENT DAMAGE TO THE COVER AND TO ALLOW THE EQUIPMENT TO BE LOCATED CLOSE TO THE WALL.
17. ALL 120V RECEPTACLES 50A OR LESS, AND 208V RECEPTACLES 100A OR LESS, SHALL BE GFCI PROTECTED IN LOCATIONS REQUIRED BY CODE; THIS INCLUDES BATHROOMS, KITCHENS/FOOD PREP AREAS, EXTERIOR LOCATIONS AND RECEPTACLES WITHIN 6 FEET OF A SINK. GFCI RECEPTACLES SHALL BE READILY ACCESSIBLE AND SHALL NOT BE LOCATED BEHIND STATIONARY EQUIPMENT. GFCI PROTECTION MAY BE VIA A GFCI CIRCUIT BREAKER OR GFCI RECEPTACLE, UNLESS NOTED OTHERWISE. WHERE NECESSARY, GFCI PROTECTION MAY BE ACHIEVED VIA A BLANK FACE GFCI DEVICE LOCATED IN A READILY ACCESSIBLE LOCATION NEAR RECEPTACLE BEING PROTECTED. FOR DOWNSTREAM WIRING DEVICES LOCATED ON THE SAME BRANCH CIRCUIT, THE GFCI PROTECTION MAY BE PROVIDED FOR BY A SINGLE UPSTREAM DEVICE IF ALL PROTECTED DEVICES ARE LABELED PER CODE.
18. FLEXIBLE CONDUIT IS ONLY PERMITTED WHERE SPECIFICALLY ALLOWED IN THE CONSTRUCTION DOCUMENTS, WHERE CONCEALED FROM VIEW OR EXPOSED FINAL CONNECTIONS TO LIGHT FIXTURES AND EQUIPMENT IN LENGTHS OF 6'-0" OR LESS.
19. ALL EMPTY CONDUIT/RACEWAY SHALL BE INSTALLED WITH PULL STRINGS. TERMINATE CONDUIT STUB-UP WITH A NYLON BUSHING.
20. EXPOSED CONDUIT/RACEWAY SHALL BE PAINTED TO MATCH ADJACENT SURFACE, UNLESS NOTED OTHERWISE. COORDINATE REQUIREMENTS WITH ARCHITECT AND OWNER PRIOR TO INSTALLATION.
21. CONDUITS/RACEWAYS SHALL BE CONCEALED FROM VIEW WHEREVER PRACTICABLE, UNLESS NOTED OTHERWISE. ROUTE CONDUITS SERVING ROOFTOP EQUIPMENT CONCEALED INSIDE EQUIPMENT CURB AND MINIMIZE ROOF PENETRATIONS AND EXTERIOR CONDUIT RUNS WHERE PRACTICABLE. SUPPORT RACEWAY FROM STRUCTURE, NOT ROOF DECK. MAINTAIN 2" MIN SPACING FROM BOTTOM OF ROOF DECK TO PREVENT ROOFING SCREWS FROM PENETRATING RACEWAY. DO NOT ROUTE CONDUITS ACROSS SKYLIGHTS, ACCESS PANELS, HATCHED TILES, HVAC DIFFUSERS, OR EQUIPMENT WORKING CLEARANCE SPACE. ROUTE ALL EXPOSED NON-FLEXIBLE CONDUITS TIGHT TO STRUCTURE, PARALLEL TO BUILDING LINES AND IN STRUT OR CABLE/PIPE TRAY WHERE PRACTICABLE. INSTALL CONDUITS PLUMB/ LEVEL WHERE EXPOSED TO VIEW. COORDINATE RACEWAY ROUTING AND INSTALLATION WITH OTHER TRADES PRIOR TO ROUGH-IN.
22. WHERE PRACTICABLE, ALL UNDER-FLOOR/UNDER-GROUND CONDUITS/RACEWAY SHALL BE INSTALLED A MINIMUM OF 24" BELOW BOTTOM OF SLAB/PAVING/GRADE, UNLESS NOTED OTHERWISE. NOTE: THE DESIGN INTENT FOR INSTALLING ELECTRICAL CIRCUITRY AT THIS DEPTH IS TO PROTECT THE ELECTRICAL CIRCUITRY FROM DAMAGE DUE TO FUTURE WORK.
23. PROVIDE LABEL AT EACH RECEPTACLE COVER PLATE WITH THE RESPECTIVE "PNLBD-CKT#" DESIGNATION. COORDINATE LABEL REQUIREMENTS WITH THE OWNER PRIOR TO INSTALLATION. REFER TO THE SPECIFICATIONS FOR MORE INFORMATION.
24. MULTIWIRE BRANCH CIRCUITS ARE NOT ALLOWED, UNLESS NOTED OTHERWISE.
25. PROVIDE INSULATED EQUIPMENT GROUNDING CONDUCTOR FOR ALL CIRCUITS, UNLESS NOTED OTHERWISE.

SCOPE OF WORK

NEW CONSTRUCTION OF 1-STORY ROBOTICS CLASSROOM BUILDING IN AN EXISTING CAMPUS. INSTALLATION OF NEW 600A, 480Y/277V, 3-PHASE, 4-WIRE DISTRIBUTION AND OTHER ASSOCIATED ELECTRICAL DISTRIBUTION EQUIPMENT, FED DOWNSTREAM OF EXISTING 4000A, 480Y/277V, 3-PHASE, 4-WIRE SWITCHBOARD. SCOPE OF WORK INCLUDES NEW LIGHTING AND LIGHTING CONTROLS IN COMPLIANCE WITH 2019 TITLE 24 ENERGY EFFICIENCY STANDARDS.

Sheet List - Electrical

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT

CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT

4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER
SIMRAN UBHI
No. 19855
ELECTRICAL
STATE OF CALIFORNIA

Sep 4 2020

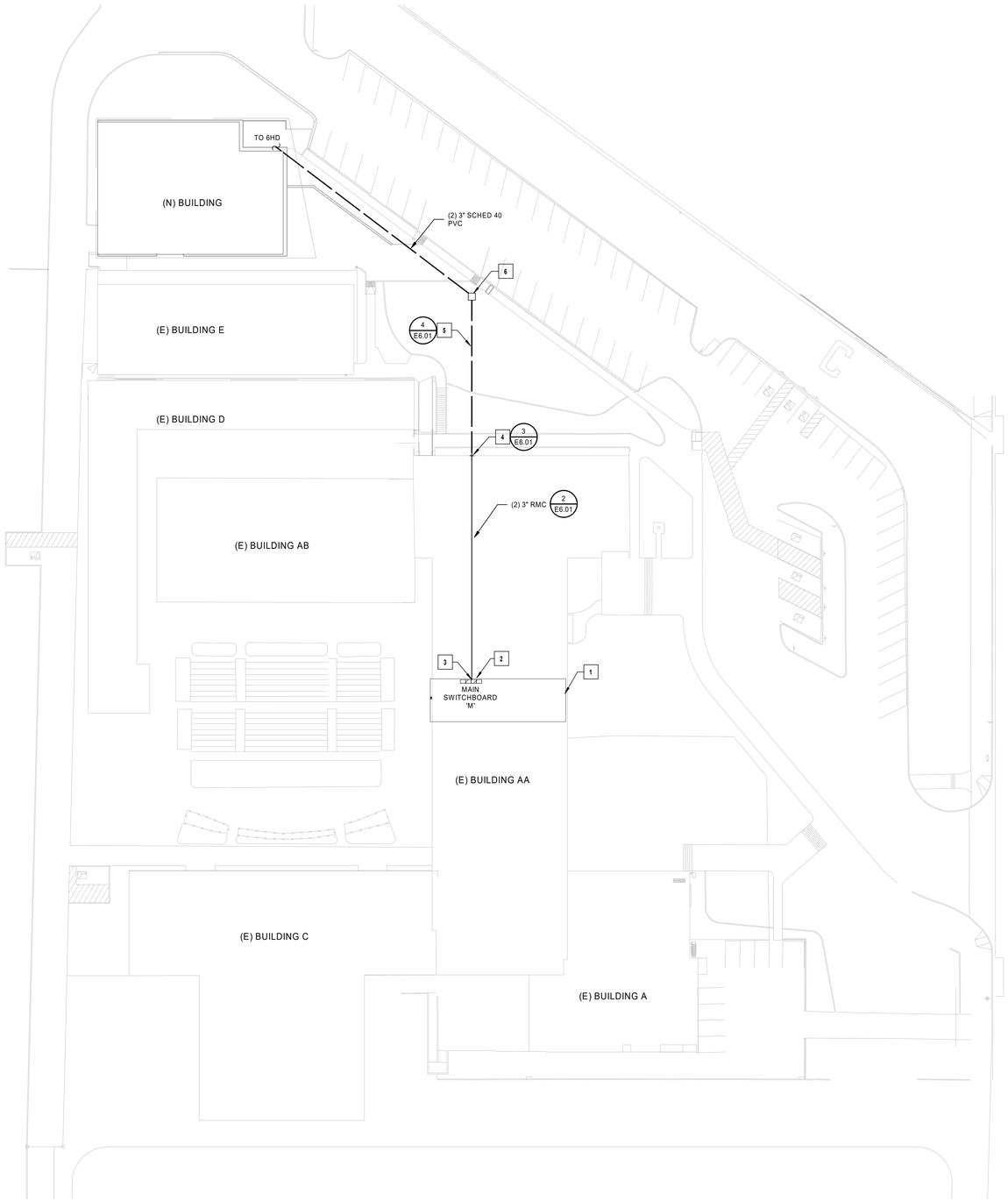
NAC ARCHITECTURE
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

ELECTRICAL GENERAL NOTES AND LEGEND

E0.00

© 2019 NAC inc



1 ELECTRICAL SITE PLAN
1" = 30'-0"

GENERAL ELECTRICAL NOTES

1. PROPOSED CONDUIT ROUTING SHOWN FOR REFERENCE ONLY. EXACT ROUTE SHALL BE VERIFIED ON FIELD PRIOR TO START OF WORK.

ELECTRICAL PLAN NOTES:

1 APPROXIMATE LOCATION OF MAIN ELECTRICAL ROOM ON LEVEL 1 (GROUND LEVEL).
2 EXISTING MAIN SWITCHBOARD 'M'.
3 CONDUIT SHALL RUN UP AND ACROSS ROOF OF EXISTING BUILDING. MOUNT ON CONDUIT ROOF SUPPORTS WITH CONDUIT A MINIMUM OF 1" OFF ROOF. FIELD VERIFY EXISTING CONDITIONS AND COORDINATE EXACT ROUTE IN FIELD AND WITH FACILITY ENGINEERS PRIOR TO START OF WORK.
4 CONDUIT SHALL STUB DOWN TO RUN UNDERGROUND. FIELD VERIFY EXACT LOCATION.
5 COORDINATE EXACT TRENCHING ROUTE IN FIELD AND WITH FACILITY ENGINEERS PRIOR TO START OF WORK.
6 24"X 24" FLUSH IN GRADE BOX WITH TRAFFIC RATED COVER. COORDINATE EXACT LOCATION IN FIELD PRIOR TO START OF WORK.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

1 DSA Comments 09/02/2020

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER
SIMRAN UBHI
No. 19855
ELECTRICAL
STATE OF CALIFORNIA

Sep 4 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

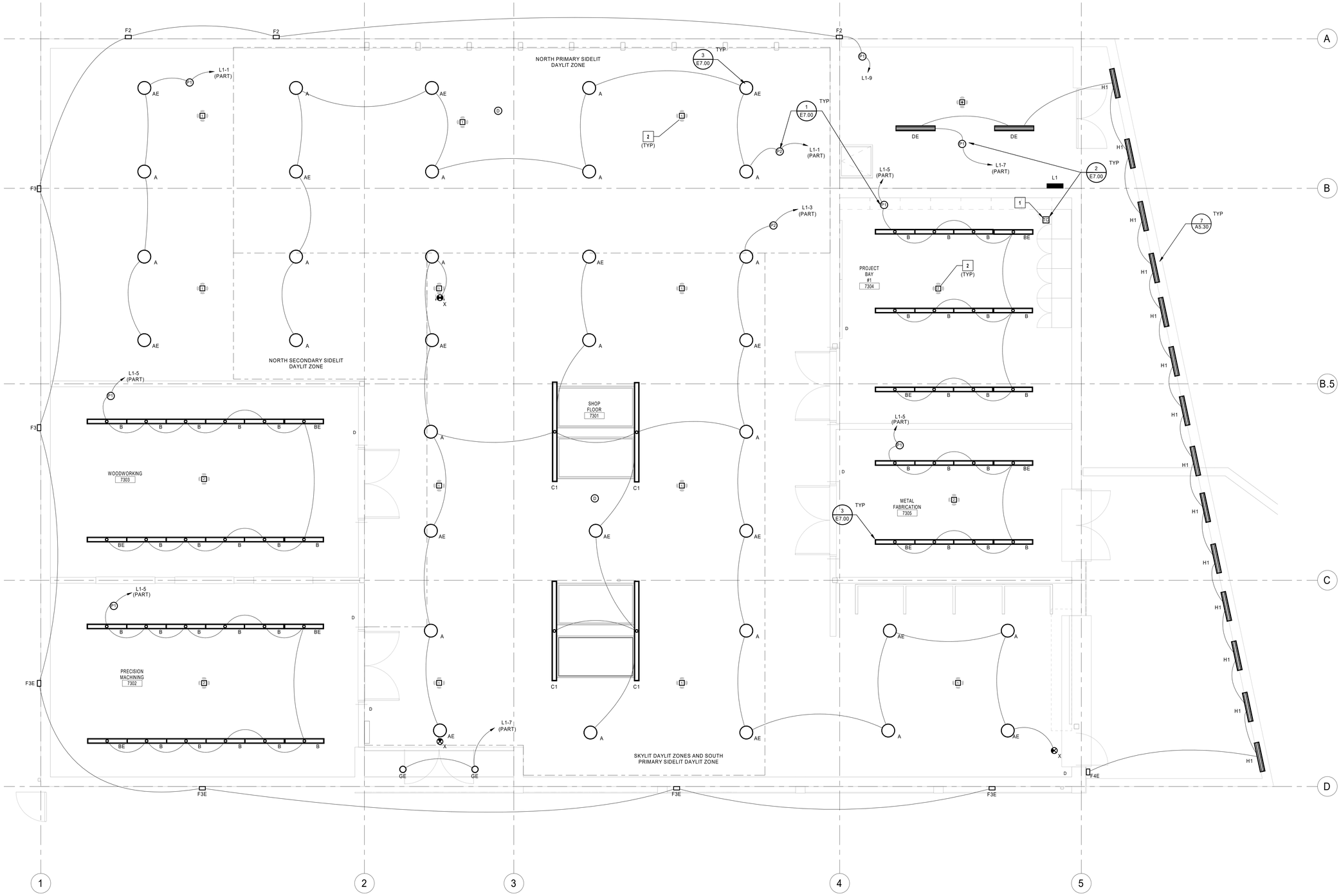
100% CONSTRUCTION DOCUMENTS

ELECTRICAL SITE PLAN

E1.00

© 2019 NAC, INC.

SIMRAN S. UBHI



1 FIRST FLOOR LIGHTING PLAN
1/4" = 1'-0"

GENERAL LIGHTING NOTES

1. **CONTRACTOR SHALL PROVIDE COMPLETE SHOP DRAWING FOR INTERIOR POWER SYSTEM DISTRIBUTION FOR ARCHITECT REVIEW PRIOR TO INSTALL. SHOP DRAWINGS SHALL INCLUDE CONDUIT SYSTEM DISTRIBUTION INDICATING COUNTS, SIZING, AND ROUTING. JUNCTION BOX LOCATIONS SHALL ALSO BE PROVIDED.**
2. THE LOCATION AND SELECTION OF THE LIGHT FIXTURES WERE MADE BY OTHERS AND ARE OUTSIDE OF THE SCOPE OF WORK OF HENDERSON ENGINEERS, UNLESS NOTED OTHERWISE. HENDERSON ENGINEER'S SCOPE OF SERVICES IS LIMITED TO PROVIDING LIGHTING POWER CIRCUIT AND CONTROL DESIGN AND ENERGY CODE COMPLIANCE CALCULATIONS. THE USE OF SEAL AND SIGNATURE ON THIS SHEET APPLIES TO HENDERSON ENGINEER'S SCOPE OF SERVICES ONLY.

ELECTRICAL PLAN NOTES:

1 ZONE CONTROLLER FOR ASTRONOMICAL TIME CLOCK CONTROL FOR EXTERIOR LIGHTING FIXTURES. MOUNT DEVICE TIGHT TO DECK ABOVE, NOT IN LINE OF SIGHT TO GENERAL PUBLIC.

2 OCCUPANCY SENSORS SHALL BE PENDANT MOUNT SUCH THAT HEIGHT MATCHES THE ADJACENT PENDANT LIGHTING FIXTURES. REFER TO ARCHITECTURAL FOR EXACT MOUNTING HEIGHT OF LIGHTING FIXTURES.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

1 DSA Comments 09/02/2020

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL CTE TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

REGISTERED PROFESSIONAL ENGINEER
SIMRAN UBHI
No. 19855
ELECTRICAL
STATE OF CALIFORNIA

Sep 4 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

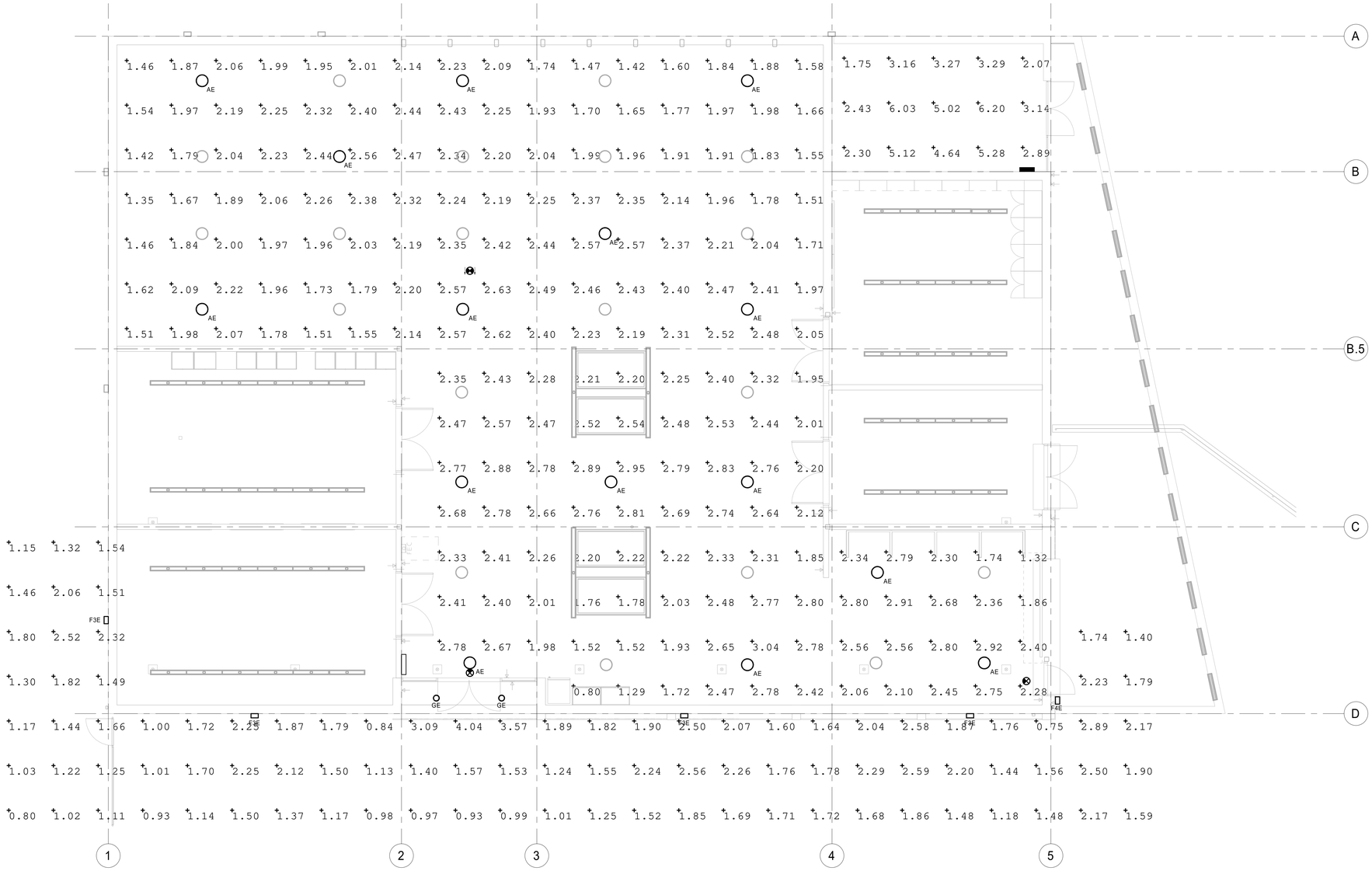
100% CONSTRUCTION DOCUMENTS

FIRST FLOOR LIGHTING PLAN

E3.11

© 2019 NAC, INC

SIMRAN S. UBHI



Luminaire Schedule				
Symbol	Qty	Label	LLF	Description
	15	AE	0.086	TGS: CHB-SE 97W 4000K
	2	DE	0.183	COLUMBIA: LXEP4-40VL-DFA-EDU
	4	F3E	0.478	AAL: CY2-25-4K7-1-3-R
	1	F4E	0.521	AAL: CY2-25-4K7-1-4-R
	2	GE	0.300	PRESCOLITE: LTR-6RD-H-SL10L-DM1_LTR-6RD-T-SL35K8WDS

Calculation Summary							
Label	CalcType	Units	Avg	Max	Min	Avg/Min	Max/Min
EQUIPMENT YARD	Illuminance	Fc	3.77	6.20	1.75	2.15	3.54
OUTDOOR	Illuminance	Fc	1.70	4.04	0.75	2.27	5.39
SHOP AREA AND ARENA	Illuminance	Fc	2.20	3.04	0.80	2.75	3.80

1 EMERGENCY PHOTOMETRIC CALCULATIONS
3/16" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

REGISTERED PROFESSIONAL ENGINEER
SIMRAN UBHI
No. 19855
ELECTRICAL
STATE OF CALIFORNIA

Sep 4 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

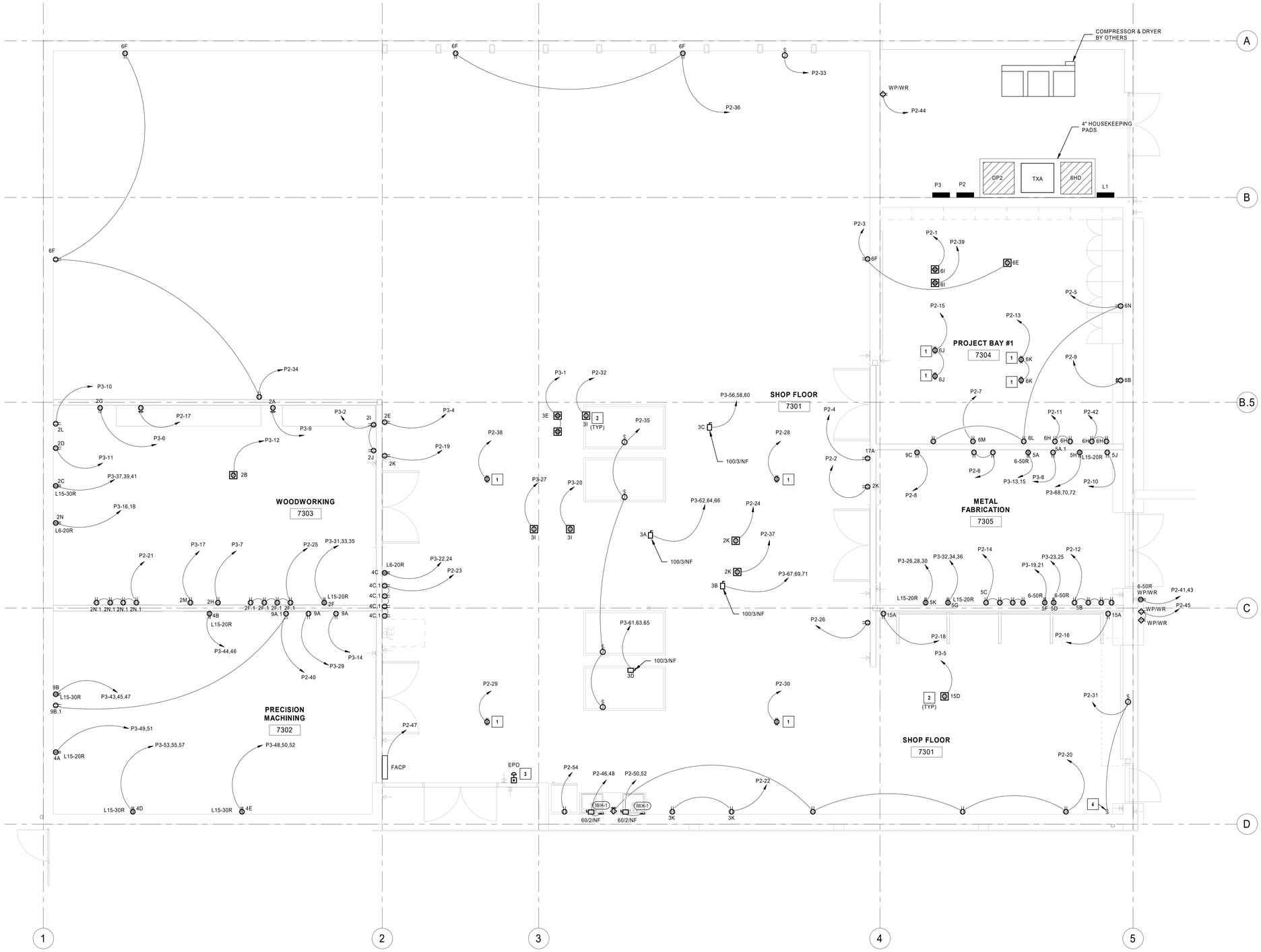
100% CONSTRUCTION DOCUMENTS

EMERGENCY LIGHTING PHOTOMETRICS

E3.12

© 2019 NAC Inc.

SIMRAN S. UBHI



1 FIRST FLOOR POWER PLAN
1/4" = 1'-0"

GENERAL POWER NOTES

1. **CONTRACTOR SHALL PROVIDE COMPLETE SHOP DRAWING FOR INTERIOR POWER SYSTEM DISTRIBUTION FOR ARCHITECT REVIEW PRIOR TO INSTALL. SHOP DRAWINGS SHALL INCLUDE CONDUIT SYSTEM DISTRIBUTION INDICATING COUNTS, SIZING, AND ROUTING. JUNCTION BOX LOCATIONS SHALL ALSO BE PROVIDED.**
2. UNLESS OTHERWIRE NOTED, ALL RECEPTACLES SHALL BE PROVIDED WITH WHILE IN USE WEATHERPROOF COVER.

ELECTRICAL PLAN NOTES:

1 PROVIDE CORD AND ASSOCIATED RECEPTACLE AT LOCATIONS SHOWN; WOODHEAD 997 SERIES. REFER TO DETAIL 1 ON SHEET E6.01 FOR MOUNTING DETAIL.
2 LEGRAND FLOOR BOX WITH 20A DUPLEX OUTLET; LEGRAND RFB4-CI-1. INSTALLATION SHALL BE COMPLETE WITH OUTLET, DEVICE PLATES AND COVER. FINISH AS SELECTED BY ARCHITECT.
3 EMERGENCY POWER OFF FOR EQUIPMENT CONNECTED TO PANEL P3.
4 SWITCH FOR CONTROL OF MOTORIZED ROLL-UP DOOR. COORDINATE FINAL LOCATION WITH ARCHITECT AND/OR DISTRICT PRIOR TO ROUGH-IN.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

1 DSA Comments 09/02/2020

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER SIMRAN UBHI No. 19855 ELECTRICAL STATE OF CALIFORNIA

Sep 4 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

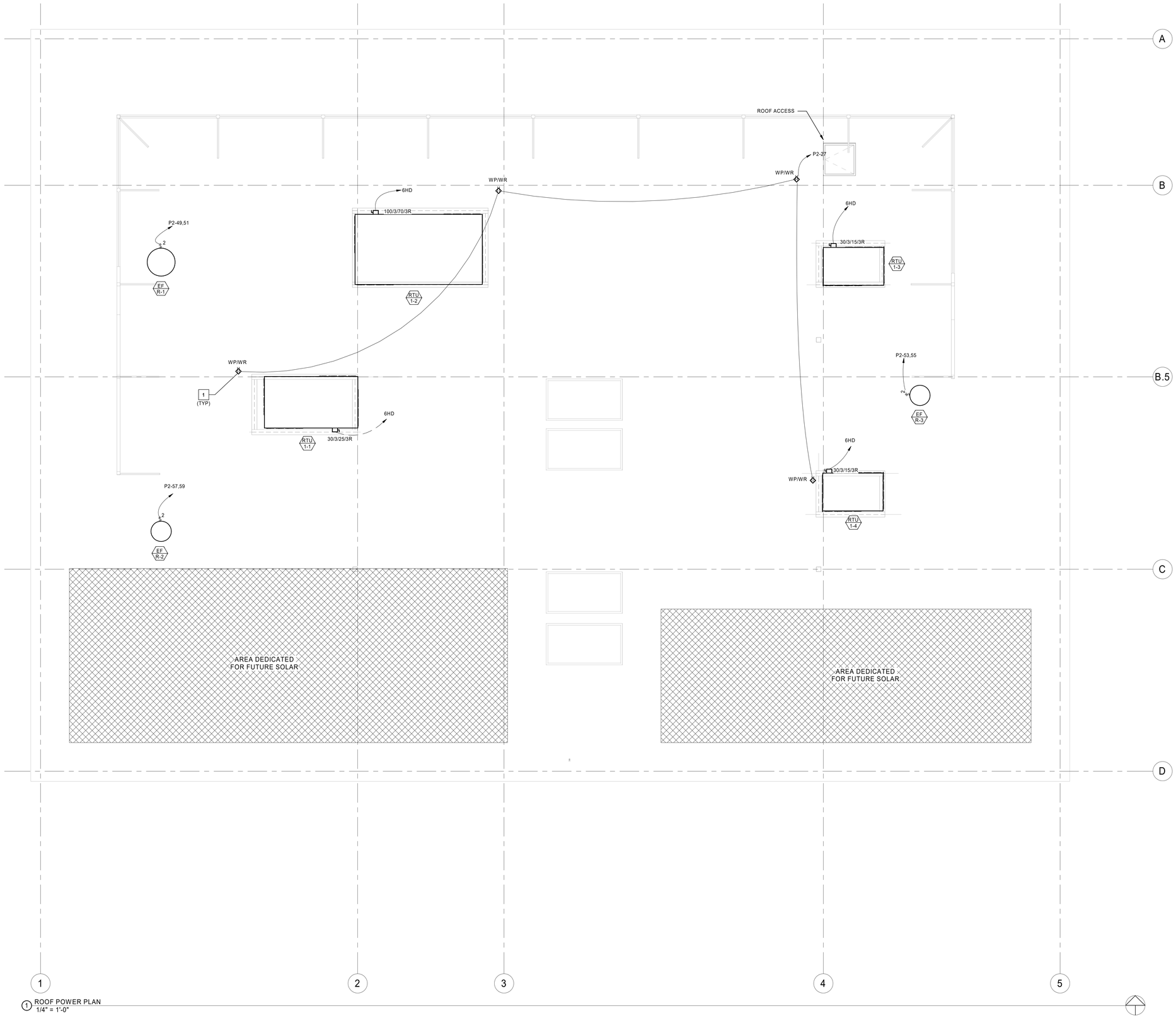
100% CONSTRUCTION DOCUMENTS

FIRST FLOOR POWER PLAN

E4.11

© 2019 NAC, Inc.

SIMRAN S. UBHI



1 ROOF POWER PLAN
1/4" = 1'-0"

GENERAL POWER NOTES

1. NO MORE THAN 3FT OF FEEDERS AND BRANCH CIRCUITS SERVING EQUIPMENT OR DEVICES ON ROOF SHALL BE RUN EXPOSED ON ROOF. RUN FEEDERS AND BRANCH CIRCUITS BELOW ROOF.

ELECTRICAL PLAN NOTES:

1 MOUNT RECEPTACLE WITH DISCONNECT ON UNISTRUT.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER
SIMRAN UBHI
No. 19855
ELECTRICAL
STATE OF CALIFORNIA

Sep 4 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

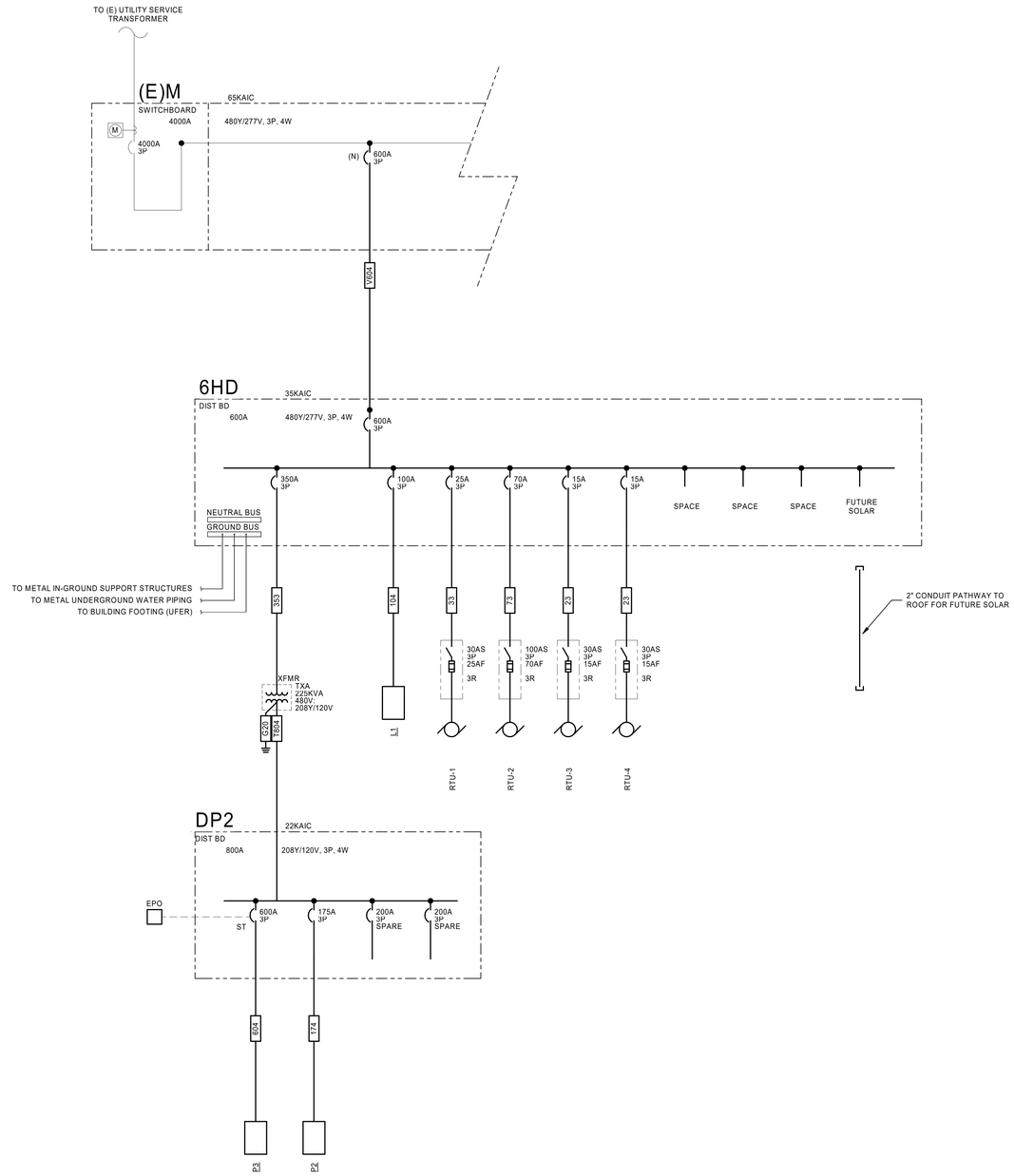
100% CONSTRUCTION DOCUMENTS

ROOF POWER PLAN

E4.12

© 2019 NAC Inc.

SIMRAN S. UBHI



1 ONE-LINE DIAGRAM
NTS

GENERAL ONE-LINE DIAGRAM NOTES

1. THE INFORMATION SHOWN IN THE SHORT-CIRCUIT AND VOLTAGE DROP CALCULATION SCHEDULE(S) ARE SHOWN FOR CALCULATION PURPOSES ONLY. CONTRACTOR SHALL NOT USE THE CONDUIT TYPES, CONDUCTOR TYPES, SIZES, QUANTITIES OR LENGTHS FOR TAKEOFFS OR BIDDING PURPOSES. CONTRACTOR SHALL NOTIFY ENGINEER OF ANY CONFLICTS BETWEEN THIS SCHEDULE AND OTHER PORTIONS OF THE CONSTRUCTION DOCUMENTS. CONTRACTOR SHALL NOTIFY ENGINEER OF AS-BUILT CONDITIONS THAT CONSTITUTE A CHANGE FROM WHAT IS SHOWN BELOW; THIS INCLUDES CONDUCTOR LENGTHS DIFFERING BY MORE THAN 10%.
2. REFER TO THE SHORT-CIRCUIT AND VOLTAGE DROP CALCULATIONS TABLE. AVAILABLE FAULT CURRENT INFORMATION IS LISTED UNDER THE "FAULT CURRENT" COLUMN. VOLTAGE DROP VALUES ARE LISTED UNDER THE "CUMULATIVE VOLTAGE DROP" COLUMN. THE AIC/SCCR RATING OF THE EQUIPMENT SHALL NOT BE LESS THAN THE AVAILABLE 3-PHASE SYMMETRICAL FAULT CURRENT. ALL SERIES RATED EQUIPMENT SHALL BE PROPERLY LISTED AND LABELED PER CODE.
3. FEEDER NUMBER DESIGNATIONS PRECEDED BY "V" INDICATE THAT THE CONDUCTORS ARE UP-SIZED DUE TO VOLT-DROP CONSIDERATIONS. PROVIDE LUG ADAPTERS AS NEEDED IN ORDER TO PROPERLY LAND CONDUCTORS AT TERMINATION(S).
4. BRANCH CIRCUIT SIZES ARE BASED ON COPPER (CU) THHN/THWN-2 INSULATION, UNLESS NOTED OTHERWISE. CONDUIT SIZES SHOWN ARE APPROPRIATE FOR SCHEDULE 40 PVC, EMT, GRS, IMC AND RMC; ADJUST SIZE AS NEEDED FOR OTHER RACEWAY TYPES. ALL CONDUCTOR SIZES ARE BASED ON 60 DEG C RATED TERMINATIONS, UNLESS NOTED OTHERWISE. FOR ANY OTHER CONDITIONS MODIFY SIZES PER CODE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.
5. INSTALL FEEDERS OVERHEAD AS HIGH AS PRACTICABLE AND ORTHOGONALLY ALONG BUILDING STRUCTURE, UNLESS NOTED OTHERWISE. COORDINATE FINAL ROUTING WITH OTHER TRADES.
6. THE MAXIMUM AVAILABLE 3-PHASE SYMMETRICAL FAULT CURRENT VALUE AT THE UTILITY TRANSFORMER SECONDARY/POINT OF SERVICE COULD NOT BE DETERMINED AT THE TIME OF THIS SUBMITTAL. THE ESTIMATED WORST CASE VALUE OF 65,000A IS BASED ON AIC RATING OF EXISTING MAIN SERVICE SWITCHBOARD MSB. CONTRACTOR SHALL VERIFY ACTUAL AVAILABLE FAULT CURRENT VALUE WITH UTILITY. NOTIFY ENGINEER IF ACTUAL VALUE EXCEEDS ESTIMATED CALCULATED VALUE.
7. ALL NEW PANELBOARDS SHALL BE CAPABLE OF HAVING INTERNAL CT'S ADDED TO INDIVIDUAL OR GROUPS OF CIRCUITS IN THE FUTURE TO MEASURE LOAD TYPES AS DEFINED IN THE LATEST ADOPTED EDITION OF CALIFORNIA TITLE 24 PART 6 SECTION 130.5. LOAD CENTER CONSTRUCTION IS NOT ACCEPTABLE, UNLESS NOTED OTHERWISE.

FEEDER SCHEDULE:

SIZES ARE BASED ON COPPER (CU) THHN/THWN-2 INSULATION, UNO. ALL CONDUCTOR SIZES ARE BASED ON 75 DEG C RATED TERMINATIONS, UNO. CONDUIT SIZES SHOWN ARE APPROPRIATE FOR SCHEDULE 40 PVC, EMT, GRS, IMC AND RMC; ADJUST SIZE AS NEEDED FOR OTHER RACEWAY TYPES. FOR ANY OTHER CONDITIONS MODIFY SIZES PER CODE. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

FEEDER TAG	FEEDER DESCRIPTION
23	(3)#12, (1)#12 G, 1/2" C
33	(3)#10, (1)#10 G, 1/2" C
73	(3)#4, (1)#8 G, 1" C
104	(4)#3, (1)#8 G, 1-1/4" C
174	(4)#2/0, (1)#6 G, 2" C
353	(3)-500 kcmil, (1)#3 G, 3" C
604	(2) 3" C, EACH W/ (4)-350 kcmil, (1)#1 G
G20	#2/0 COPPER GROUND, 3/4" C
T804	(3) 3" C, EACH W/ (4)-300 kcmil, (1)#2 SSBJ
V604	(2) 3" C, EACH W/ (4)-400 kcmil, (1)#1 G

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

1 DSA Comments 09/02/2020

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

REGISTERED PROFESSIONAL ENGINEER
SIMRAN UBHI
No. 19855
ELECTRICAL
STATE OF CALIFORNIA

Sep 4 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

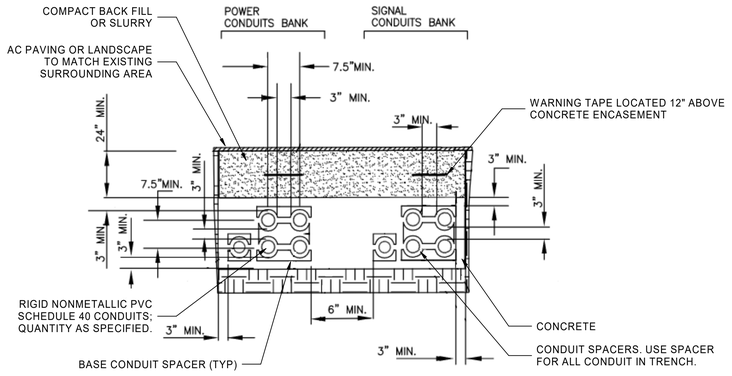
100% CONSTRUCTION DOCUMENTS

ELECTRICAL ONE-LINE DIAGRAM

E6.00

© 2019 NAC Inc.

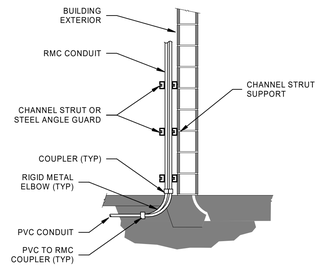
SIMRAN S. UBHI



GENERAL NOTES

1. THIS DETAIL IS TO BE USED AS A GUIDE ONLY. THE DETERMINATION OF THE NUMBER AND SIZE OF CONDUITS, INCLUDING INNERDUCTS MUST BE MADE FOR EACH APPLICATION. IN ALL CASES, THERE MUST BE SPARE CAPACITY FOR FUTURE EXPANSION

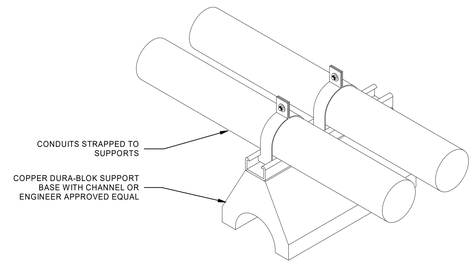
4 CONDUIT DUCTBANK DETAIL
12" = 1'-0"



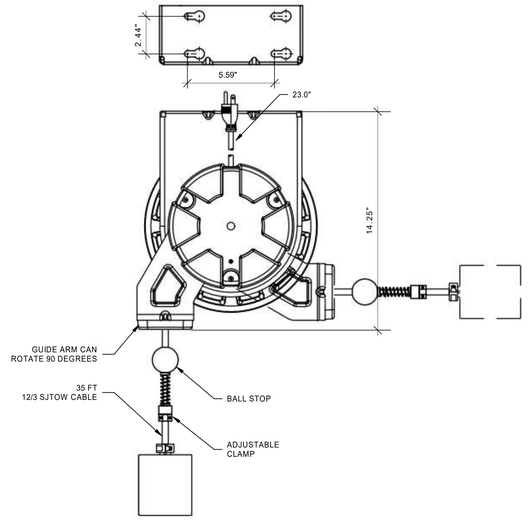
NOTES

1. CONDUITS TURNED UP EXPOSED SHALL HAVE AN RMC ELBOW THROUGH THE SLAB. PROTECT THE ENTIRE ELBOW WITH RNC COATING OR MASTIC UP THROUGH THE TOP OF THE SLAB.
2. APPLIES TO ALL STUB-UP LOCATIONS UNLESS NOTED OTHERWISE ON PLANS.

3 TYPICAL CONDUIT MOUNTING TO BUILDING EXTERIOR DETAIL
NTS



2 ROOF CONDUIT SUPPORT DETAIL
NTS



1 SUSPENDED DROP CORD
NTS

MAIN SWITCHBOARD 'MS' LOAD SUMMARY	
*MAXIMUM DEMAND LOAD (BASED ON 12 MONTH UTILITY BILLING OF CLARK MAGNET HIGH SCHOOL FROM 01/2019 TO 12/2019)	418.6 KVA
PLUS 25% LCL	104.7 KVA
EXISTING DEMAND LOAD	523.3 KVA
NEW LOAD (6HD)	271.1 KVA
TOTAL LOAD (@ 480V, 3-PHASE)	794.4 KVA 956.0 A

*KVA CALCULATED WITH PF = 0.86

LOAD SUMMARY: 6HD			
PANEL DESCRIPTION:	480Y/277 V		
LOAD TYPE	CONNECTED LOAD	DEMAND FACTOR	NEC DEMAND
EXISTING LOAD (E)	0 VA	100%	0 VA
COOLING (C)	70469 VA	100%	70469 VA
HEATING (H)	0 VA	0%	0 VA
LIGHTING (L)	6998 VA	125%	8748 VA
RECEPTACLES (R)	53406 VA	59%	31703 VA
MOTORS (M)	8177 VA	100%	8177 VA
SUPPLEMENTAL HEAT (U)	0 VA	100%	0 VA
MISC EQUIP (Z)	124302 VA	100%	124302 VA
REFRIGERATION (F)	0 VA	100%	0 VA
SIGN/DISPLAY (D)	0 VA	125%	0 VA
KITCHEN (K)	0 VA	100%	0 VA
LARGEST MOTOR	22447 VA	125%	28059 VA
SHOW WINDOW (W)	0 VA	125%	0 VA
TRACK LIGHTING	0 VA	100%	0 VA
TOTAL LOAD	285799	VA	271457
TOTAL AMPACITY	344	AMPS	327
PANEL AMPACITY		AMPS	600
SPARE CAPACITY		AMPS	273

LOAD SUMMARY: DP2			
PANEL DESCRIPTION:	208Y/120 V		
LOAD TYPE	CONNECTED LOAD	DEMAND FACTOR	NEC DEMAND
EXISTING LOAD (E)	0 VA	100%	0 VA
COOLING (C)	0 VA	0%	0 VA
HEATING (H)	0 VA	100%	0 VA
LIGHTING (L)	0 VA	125%	0 VA
RECEPTACLES (R)	53406 VA	59%	31703 VA
MOTORS (M)	1040 VA	100%	1040 VA
SUPPLEMENTAL HEAT (U)	0 VA	100%	0 VA
MISC EQUIP (Z)	124302 VA	100%	124302 VA
REFRIGERATION (F)	0 VA	100%	0 VA
SIGN/DISPLAY (D)	0 VA	125%	0 VA
KITCHEN (K)	0 VA	100%	0 VA
LARGEST MOTOR	1584 VA	125%	1980 VA
SHOW WINDOW (W)	0 VA	125%	0 VA
TRACK LIGHTING	0 VA	100%	0 VA
TOTAL LOAD	180332	VA	159025
TOTAL AMPACITY	501	AMPS	441
PANEL AMPACITY		AMPS	800
SPARE CAPACITY		AMPS	359

VOLTAGE DROP CALCULATOR - BRANCH CIRCUITS

PROJECT:	CLARK MAGNET HIGH SCHOOL
LOCATION:	4747 NEW YORK AVE, GLENDALE, CA 91214
CLIENT:	NAC ARCHITECTURE
JOB NUMBER:	2050001084
DATE:	4/23/2020
CALCULATED BY:	SUNGHAN CHO

Circuit #	Identification	Circuit Breaker Size (Amps)	Conduit Type P or S	Conductor Material CU or AL	No. of Sets	Wire Size Ph/N	Voltage	Phase (1 or 3)	Circuit Length (Feet)	Power Factor (PF)	Circuit Load (Amps)	Circuit Ampacity (Amps)	Theta (radians)	Voltage Drop (Volts)	Voltage Drop (%)	Equipment Ground Size
P2-40	GENERAL RECEPTACLE	20	S	CU	1	12	120	1	135	0.90	3	20	0.4510	1.48	1.24%	12
P3-55,57,61	MILLING MACHINE	20	S	CU	1	12	208	3	147	0.90	12.7	20	0.4510	5.92	2.84%	12

Short-Circuit and Voltage Drop Calculations

Distances are for calculation purposes only and shall not be used for contractor takeoffs nor bidding - Contractor shall notify Engineer of any field condition that results in a change of 10% or greater circuit distance

The following calculations are based on the "Point-by-Point" method where:

ISC (2) = ISC(1) x M(1) M= 1/(1+f)

ISC (1) = short circuit current at fault point 1

ISC (2) = short circuit current at fault point 2

Feeder: f (3Ø) = 1.732 x L x Isc / C x E

Feeder: f (1Ø)= 2 x L x Isc / C x E

XFMR: f (3Ø) = IP(sca)x Vp x 1.73 x %Z / 100,000 x KVA

XFMR: f (1Ø)= IP(sca)x Vp x %Z / 100,000 x KVA

IS(sca)= Vp x M x IP(sca) / Vs

IP = Primary short circuit current
Vp = Primary voltage
IS= Secondary short circuit current
Vs= Secondary voltage
L = Length of circuit
C = "C" Factor from Bussman table where "C" = 1 / impedance per linear foot
E = Line to line volts

Feeder Types =
NM - Non Magnetic Conduit, M - Magnetic Conduit, FB - Feeder Busway, PB - Plug-in Busway, TX - Transformer

VOLTAGE DROP (3Ø):
%VD= ((R x cos(arccos(pf)) + X x sin (arccos(pf))) x L/# x I x 1.73) / E

VOLTAGE DROP (1Ø):
%VD= ((R x cos(arccos(pf)) + X x sin(arccos(pf)) x 2 x L/# x I) / E

%VD CUM= Cumulative Voltage Drop from Fault Point 1 to Fault Point #
R= resistance in ohms per LF
X= reactances in ohms per LF

Fault Point (F#)	Bus/Feeder Description	Source (Fault Point)	Phase	Source Isc (amps)	Feeder: Conduit Type/ TX	Feeder: Material	Feeder: Quantity of Parallel Sets and Bus/ Phase & Neutral Size			Conductor 'C' Value	Busway 'C' Value	L-L Voltage (E)	Circuit Length (L)	Load Power Factor (pf)	Circuit Load (Amperage)	Conductor: Resistance (R)	Conductor: Reactance (X)	Conductor: Arccos (pf) (Radians)	Transformer: Type	Degree Rise	kVA	New Xfmr Z	Existing Xfmr Z	Secondary Voltage	Tap Setting	f	M	Fault Current (amps)	Voltage Drop (%VD)	Cumulative Voltage Drop (%VD)	Fault Point (F#)
1	Utility Service Point			65,000	at the tenant metering switchboard																									Source Isc + 6X Motor Contribution =	72200			1
	Motor Contribution			1,200	The connected full load motor amps (includes compressors) on the system																											
3	DIST BD 6HD	1	3	72200	M	CU	2	Set(s) of	400	kcmil	20566	--	480	450	0.9	480	0.000035	0.000049	0.451027								2.850	0.26	18752	-2.06%	-2.06%	3
5	XFMR TXA (PRIMARY)	3	3	18752	M	CU	1	Set(s) of	500	kcmil	22185	--	480	10	0.7	280	0.000029	0.000048	0.795399								0.031	0.97	18197	-0.06%	-2.12%	5
6	XFMR TXA (SECONDARY)	5	3	18197	TX								480							DOE	150	225	4.29		208		2.884	0.26	10811		-2.12%	6
8	DIST BD DP2	6	3	10811	M	CU	3	Set(s) of	300	kcmil	18177	--	208	10	0.7	640	0.000045	0.000051	0.795399								0.017	0.98	10635	-0.12%	-2.24%	8
10	PANEL L1	3	3	18752	M	CU	1	Set(s) of	3	AWG	4774	--	480	10	0.95	80	0.000250	0.000059	0.317560								0.142	0.88	16424	-0.07%	-2.13%	10
11	PANEL P2	8	3	10635	M	CU	1	Set(s) of	2/0	AWG	10755	--	208	10	0.7	140	0.000100	0.000054	0.795399								0.082	0.92	9826	-0.13%	-2.36%	11
12	PANEL P3	8	3	10635	M	CU	2	Set(s) of	350	kcmil	19704	--	208	15	0.7	480	0.000039	0.000050	0.795399								0.034	0.97	10288	-0.19%	-2.42%	12
14	RTU-1	3	3	18752	M	CU	1	Set(s) of	10	AWG	981	--	480	125	0.8	20	0.001200	0.000063	0.643501								8.622	0.10	1949	-0.90%	-2.96%	14
15	RTU-2	3	3	18752	M	CU	1	Set(s) of	4	AWG	3806	--	480	80	0.8	56	0.000310	0.000060	0.643501								1.422	0.41	7741	-0.46%	-2.52%	15
16	RTU-3	3	3	18752	M	CU	1	Set(s) of	12	AWG	617	--	480	35	0.8	12	0.002000	0.000068	0.643501								3.838	0.21	3876	-0.25%	-2.31%	16
17	RTU-4	3	3	18752	M	CU	1	Set(s) of	12	AWG	617	--	480	65	0.8	12	0.002000	0.000068	0.643501								7.128	0.12	2307	-0.46%	-2.52%	17
19	COMPRESSOR	3	3	18752	M	CU	1	Set(s) of	8	AWG	1557	--	480	25	0.8	40	0.000780	0.000065	0.643501								1.086	0.48	8987	-0.24%	-2.30%	19

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

1 DSA Comments 09/02/2020

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

REGISTERED PROFESSIONAL ENGINEER SIMRAN UBHI No. 19855 ELECTRICAL STATE OF CALIFORNIA

Sep 4 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

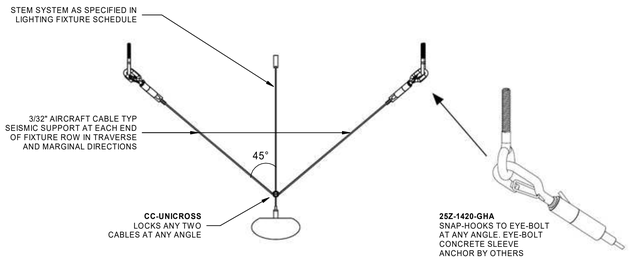
ELECTRICAL DETAILS, DIAGRAMS, AND CALCULATIONS

E6.01

© 2019 NAC|AC

SIMRAN S. UBHI

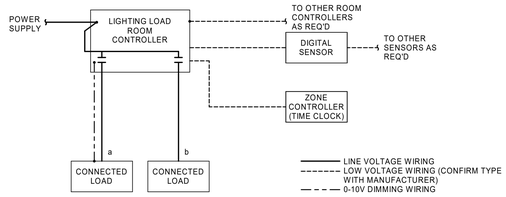
9/4/2020 12:16:26 PM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_sunghan.cho_20200904091910.rvt



NOTES:

1. REFER TO STRUCTURAL SHEET S8.00 FOR DETAILS ON STRAP/HANGER AND BRACE CONNECTIONS TO STRUCTURE.

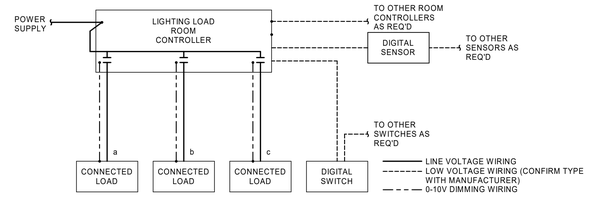
3 LIGHTING FIXTURE SEISMIC BRACING DETAIL
NTS



NOTES:

1. REFER TO LIGHTING CONTROL DEVICE SCHEDULE FOR DEVICE AND EQUIPMENT SPECIFICATIONS.
2. QUANTITY OF RELAYS SHOWN IS GENERIC. REFER TO PLANS, LIGHTING CONTROL DEVICE SCHEDULE, AND SHOP DRAWINGS FOR FINAL QUANTITY PER ROOM CONTROLLER.
3. DETAIL IS DIAGRAMMATIC AND IS BASED ON LEGRAND. THIS REPRESENTS THE GENERAL SCOPE OF WORK AND LOCATION OF DEVICES IN RELATION TO EACH OTHER ALONG THE POWER CIRCUIT. DIAGRAMS MAY BE DIFFERENT FOR ALLOWED EQUIVALENT MANUFACTURERS. ELECTRICAL CONTRACTOR SHALL COORDINATE FULL SYSTEM REQUIREMENTS WITH SELECTED MANUFACTURER. PROVIDE ALL PARTS AND PIECES REQUIRED FOR A FULLY FUNCTIONAL SYSTEM. REFER TO FINAL APPROVED MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WIRING DIAGRAMS FOR INSTALLATION.
4. CIRCUITING SHOWN ON THE PLAN CORRESPONDS TO THE LIGHTING CONTROL INTENT. IF CIRCUITING IS CHANGED IN THE FIELD, ENSURE THAT SYSTEM PROGRAMMING WITH REVISED CIRCUITING MEETS THE ORIGINAL LIGHTING CONTROL INTENT. UPDATE LIGHTING CONTROL PANEL SCHEDULES IN RECORD DRAWINGS.
5. PROVIDE SYSTEM COMMISSIONING AS REQUIRED PER ENERGY CODE.

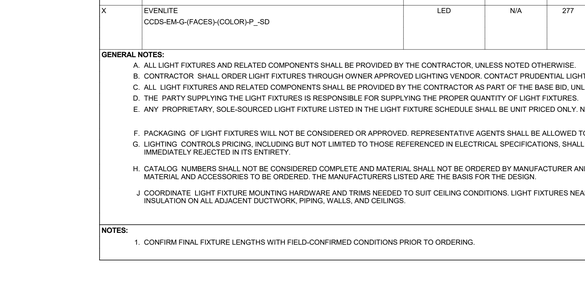
2 EXTERIOR LIGHTING ZONE CONTROLLER DETAIL - ON/OFF OR ON/OFF/0-10V DIMMING CONTROL
12" = 1'-0"



NOTES:

1. REFER TO LIGHTING CONTROL DEVICE SCHEDULE FOR DEVICE AND EQUIPMENT SPECIFICATIONS.
2. QUANTITY OF RELAYS SHOWN IS GENERIC. REFER TO PLANS, LIGHTING CONTROL DEVICE SCHEDULE, AND SHOP DRAWINGS FOR FINAL QUANTITY PER ROOM CONTROLLER.
3. DETAIL IS DIAGRAMMATIC AND IS BASED ON LEGRAND. THIS REPRESENTS THE GENERAL SCOPE OF WORK AND LOCATION OF DEVICES IN RELATION TO EACH OTHER ALONG THE POWER CIRCUIT. DIAGRAMS MAY BE DIFFERENT FOR ALLOWED EQUIVALENT MANUFACTURERS. ELECTRICAL CONTRACTOR SHALL COORDINATE FULL SYSTEM REQUIREMENTS WITH SELECTED MANUFACTURER. PROVIDE ALL PARTS AND PIECES REQUIRED FOR A FULLY FUNCTIONAL SYSTEM. REFER TO FINAL APPROVED MANUFACTURER'S INSTALLATION INSTRUCTIONS AND WIRING DIAGRAMS FOR INSTALLATION.
4. CIRCUITING SHOWN ON THE PLAN CORRESPONDS TO THE LIGHTING CONTROL INTENT. IF CIRCUITING IS CHANGED IN THE FIELD, ENSURE THAT SYSTEM PROGRAMMING WITH REVISED CIRCUITING MEETS THE ORIGINAL LIGHTING CONTROL INTENT. UPDATE LIGHTING CONTROL PANEL SCHEDULES IN RECORD DRAWINGS.
5. PROVIDE SYSTEM COMMISSIONING AS REQUIRED PER ENERGY CODE.

1 ROOM CONTROLLER DETAIL - ON/OFF OR ON/OFF/0-10V DIMMING CONTROL
NTS



NOTES:

1. REFER TO STRUCTURAL SHEET S8.00 FOR DETAILS ON STRAP/HANGER AND BRACE CONNECTIONS TO STRUCTURE.
2. HORIZONTAL (90 DEGREES) BRACING TO BE UTILIZED WHERE 45 DEGREE BRACING IS NOT SUITABLE.

4 LIGHTING FIXTURE SEISMIC BRACING DETAIL
NTS

LIGHTING CONTROL SEQUENCE OF OPERATIONS

A. HOURS OF OPERATION

GENERAL NOTE: CONFIRM ALL TIMECLOCK SCHEDULES AND SENSOR TIME DELAYS WITH GLENDALE UNIFIED SCHOOL DISTRICT PRIOR TO FINAL PROGRAMMING.

B. GENERAL REQUIREMENTS

1. EMERGENCY LIGHTING: EMERGENCY EGRESS LIGHTING IS POWERED FROM EMERGENCY BATTERY BALLASTS AND DRIVERS INTEGRAL TO FIXTURES DESIGNATED AS EMERGENCY. UPON LOSS OF POWER, ALL LIGHTING FIXTURES DESIGNATED AS EMERGENCY SHALL TURN ON AT FULL OUTPUT FOR MINIMUM 90 MINUTES.

C. SHOP AREA/ARENA

1. TIMECLOCK: N/A
2. MANUAL CONTROL: MANUAL CONTROL VIA LOCAL DIMMER SWITCHES
3. OCCUPANCY: AUTOMATIC SHUT-OFF CONTROLS VIA CEILING MOUNTED OCCUPANCY SENSORS
4. DAYLIGHT HARVESTING: AUTOMATICALLY REDUCE LIGHTING POWER IN DAYLIGHT ZONES BY MINIMUM 65% WHEN DAYLIGHT ILLUMINANCE IS GREATER THAN 150% OF DESIGN ILLUMINANCE.

D. FABRICATION/WOODWORKING/PRECISION ROOM

1. TIMECLOCK: N/A
2. MANUAL CONTROL: MANUAL CONTROL VIA LOCAL DIMMER SWITCHES
3. OCCUPANCY: AUTOMATIC SHUT-OFF CONTROLS VIA CEILING MOUNTED OCCUPANCY SENSORS

E. EXTERIOR LIGHTING

1. TIMECLOCK & DAYLIGHT HARVESTING: ROOM CONTROLLERS CONTROLLING EXTERIOR LIGHTING FIXTURES CONNECTED TO ZONE CONTROLLER FOR ASTRONOMICAL TIMECLOCK SIGNALS.

LIGHT FIXTURE SCHEDULE

TYPE	MANUFACTURER / MODEL #	LAMPING / LIGHT SOURCE	DIMMING TYPE	VOLTAGE	INPUT WATTS	INPUT VA	DESCRIPTION	NOTES
A	TGS CHB-SE-97W-40K-U-D-B-HM	LED 83 CRI, 4000K 12800 LUMENS	0-10V	120/277	97	107.8	PENDANT MOUNT CIRCULAR HIGH BAY FIXTURE PROVIDE SWIVEL STEM AND ALL ACCESSORIES FOR MOUNTING. VERIFY FINAL LENGTHS PRIOR TO ORDER.	
AE	CHB-SE-97W-40K-U-D-B-HM-EM						SAME AS TYPE 'A' BUT WITH (8W) BATTERY PACK WITH MINIMUM 90-MINUTE RUN TIME	
B	LITECONTROL 6L-P-D-(ROW)-(R)-BAT-(COLOR)-40K-D105-D05-1C-UNV-FA3	LED 4000K 1050 LUMENS/FT	0-10V	UNV	9 W/LF	10.0 VA/LF	6" LED PENDANT LINEAR, FLUSH LENS	1
BE	6L-P-D-(ROW)- (R)-BAT-(COLOR)-40K-D105-D05-1C-UNV-FA3-EF						SAME AS TYPE 'B' BUT WITH (10W) BATTERY PACK WITH MINIMUM 90-MINUTE RUN TIME	
C1	SELUX L13-1B30-40-MI-F-10-BL-UNV-DIM-SIDE ENTRY POWER	LED 90 CRI, 4000K 508 LUMENS/LF	0-10V	UNV	7.2 W/LF	8.0 VA/LF	LED DIRECT LINEAR SURFACE MOUNT LIGHTING	1
DE	COLUMBIA LXEP4-40VL-DFA-ED-U-ELL14	LED 4000K 6750 LUMENS	0-10V	UNV	68	75.6	LINEAR SURFACE MOUNT GASKETED LED FIXTURE PROVIDED WITH BATTERY PACK WITH MINIMUM 90-MINUTE RUN TIME	
F2	ARCHITECTURAL AREA LIGHTING CY2-25-4K7-1-2-UNV-R-SCP	LED 70 CRI, 4000K 2500 LUMENS	0-10V	UNV	25	27.8	WALL MOUNT PEDESTRIAN SCALE LIGHTING WITH PROGRAMMABLE OCCUPANCY SENSOR TYPE II DISTRIBUTION	
F3	ARCHITECTURAL AREA LIGHTING CY2-25-4K7-1-3-UNV-R-SCP	LED 70 CRI, 4000K 2500 LUMENS	0-10V	UNV	25	27.8	WALL MOUNT PEDESTRIAN SCALE LIGHTING WITH PROGRAMMABLE OCCUPANCY SENSOR TYPE III DISTRIBUTION	
F3E	CY2-25-4K7-1-3-UNV-R-SCP-EM						SAME AS TYPE 'F3' BUT WITH BATTERY PACK WITH MINIMUM 90-MINUTE RUN TIME	
F4E	ARCHITECTURAL AREA LIGHTING CY2-25-4K7-1-4-UNV-R-SCP-EM	LED 70 CRI, 4000K 2500 LUMENS	0-10V	UNV	25	27.8	WALL MOUNT PEDESTRIAN SCALE LIGHTING WITH PROGRAMMABLE OCCUPANCY SENSOR TYPE IV DISTRIBUTION PROVIDED WITH BATTERY PACK WITH MINIMUM 90-MINUTE RUN TIME	
GE	PRESCOLITE LTR-6RD-H-SL10L-DM1-EM LTR-6RD-T-SL-40K-8-WD-SS	LED 80 CRI, 4000K 1000 LUMENS	0-10V	UNV	12	13.3	6" ROUND DOWNLIGHT PROVIDED WITH BATTERY PACK WITH MINIMUM 90-MINUTE RUN TIME	
H1	DESIGN PLAN LINE-B 21-403004P-40K-30	LED 4000K 2873 LUMENS	0-10V	UNV	31.5	35.0	LED LINEAR PROFILE SURFACE-MOUNTED UPLIGHT	
X	EVENLITE CCDS-EM-G-(FACES)-(COLOR)-P_-SD	LED	N/A	277	2.5	2.8	DIE CAST ALUMINUM EXIT SIGN BATTERY BACKUP WITH MINIMUM 90 MINUTE BATTERY RUN TIME UPON LOSS OF NORMAL POWER	

GENERAL NOTES:

A. ALL LIGHT FIXTURES AND RELATED COMPONENTS SHALL BE PROVIDED BY THE CONTRACTOR, UNLESS NOTED OTHERWISE.
B. CONTRACTOR SHALL ORDER LIGHT FIXTURES THROUGH OWNER APPROVED LIGHTING VENDOR. CONTACT PRUDENTIAL LIGHTING PRODUCTS (PLP) FOR PRICING AND SHIPPING INFORMATION.
C. ALL LIGHT FIXTURES AND RELATED COMPONENTS SHALL BE PROVIDED BY THE CONTRACTOR AS PART OF THE BASE BID, UNLESS NOTED OTHERWISE.
D. THE PARTY SUPPLYING THE LIGHT FIXTURES IS RESPONSIBLE FOR SUPPLYING THE PROPER QUANTITY OF LIGHT FIXTURES.
E. ANY PROPRIETARY, SOLE-SOURCED LIGHT FIXTURE LISTED IN THE LIGHT FIXTURE SCHEDULE SHALL BE UNIT PRICED ONLY. NO PACKAGING OR LOT PRICING OF THESE LIGHT FIXTURES SHALL BE ALLOWED. UNIT PRICES SHALL BE CLEARLY IDENTIFIED ON THE BID FORM.
F. PACKAGING OF LIGHT FIXTURES WILL NOT BE CONSIDERED OR APPROVED. REPRESENTATIVE AGENTS SHALL BE ALLOWED TO OFFER MINI-LOT PRICING (MLP) FOR LIGHT FIXTURES AS ALLOWED IN ELECTRICAL SPECIFICATIONS.
G. LIGHTING CONTROLS PRICING, INCLUDING BUT NOT LIMITED TO THOSE REFERENCED IN ELECTRICAL SPECIFICATIONS, SHALL BE COMPLETELY SEPARATE OF ANY LIGHT FIXTURE PRICING. ANY LIGHTING CONTROLS PRICING THAT IS SUBMITTED WITH LIGHT FIXTURE PRICING (UNIT OR MINI-LOT) WILL BE IMMEDIATELY REJECTED IN ITS ENTIRETY.
H. CATALOG NUMBERS SHALL NOT BE CONSIDERED COMPLETE AND MATERIAL SHALL NOT BE ORDERED BY MANUFACTURER AND CATALOG NUMBERS ONLY. FIRST READ THE COMPLETE DESCRIPTION, NOTES AND SPECIFICATIONS IN CONJUNCTION WITH THE CATALOG NUMBER TO DETERMINE THE MATERIAL AND ACCESSORIES TO BE ORDERED. THE MANUFACTURERS LISTED ARE THE BASIS FOR THE DESIGN.
J. COORDINATE LIGHT FIXTURE MOUNTING HARDWARE AND TRIMS NEEDED TO SUIT CEILING CONDITIONS. LIGHT FIXTURES NEAR OR IN CONTACT WITH INSULATION SHALL COMPLY WITH CODE. MAINTAIN 3" MINIMUM WORKING CLEARANCE BETWEEN NON-IC RATED LIGHT FIXTURE HOUSINGS AND INSULATION ON ALL ADJACENT DUCTWORK, PIPING, WALLS, AND CEILINGS.

NOTES:

1. CONFIRM FINAL FIXTURE LENGTHS WITH FIELD-CONFIRMED CONDITIONS PRIOR TO ORDERING.

LIGHTING CONTROL DEVICE SCHEDULE

NETWORK LIGHTING CONTROL SYSTEMS

NETWORK OCCUPANCY SENSORS

SYMBOL TAG	MANUFACTURER MODEL/SERIES	ALTERNATE MANUFACTURER	DEVICE DESCRIPTION	COVERAGE (W X D)	VOLTAGE	NOTES
((2))	LEGRAND LMPC-100-5	ACUITY, CRESTRON ETC, HUBBELL	PENDANT MOUNT PASSIVE INFRARED OCCUPANCY SENSOR. 360 DEGREE COVERAGE. DIGITAL. (2) RJ45 PORTS. IR TRANSCEIVER FOR WIRELESS SETUP. EXTENDED LENS	MAJOR 31' Ø MINOR 15' Ø	24	
	LEGRAND LMDC-100	ACUITY, CRESTRON ETC, HUBBELL	PENDANT MOUNT DUAL TECHNOLOGY OCCUPANCY SENSOR. 360 DEGREE COVERAGE. DIGITAL. (2) RJ45 PORTS. IR TRANSCEIVER FOR WIRELESS SETUP.	PIR MAJOR 32' Ø PIR MINOR 15' Ø ULT MAJOR 25' x 25'	24	

NETWORK DAYLIGHT SENSORS

SYMBOL TAG	MANUFACTURER MODEL/SERIES	ALTERNATE MANUFACTURER	DEVICE DESCRIPTION	VOLTAGE	NOTES
	LEGRAND LMLS-400	ACUITY, CRESTRON ETC, HUBBELL	CLOSED LOOP DAYLIGHT SENSOR FOR (1) ZONE. ON/OFF SWITCHING, BI-LEVEL, TRI-LEVEL, OR CONTINUOUS DIMMING. CEILING MOUNTED. 0-6,500 FC. DIGITAL. (1) RJ45 PORT. IR TRANSCEIVER FOR WIRELESS SETUP.	24	

NETWORK ROOM CONTROLLERS (POWER PACK)

SYMBOL TAG	MANUFACTURER MODEL/SERIES	ALTERNATE MANUFACTURER	DEVICE DESCRIPTION	VOLTAGE	NOTES
P2	LEGRAND LMRC-211	ACUITY, CRESTRON ETC, HUBBELL	DIGITAL ROOM CONTROLLER FOR ON/OFF/0-10V DIMMING CONTROL OF LIGHTING LOADS. (1) 20A LOAD INPUT, (1) RELAY OUTPUT. 100mA SINK PER RELAY. MANUAL-, PARTIAL-, AND AUTO-ON MODES.	120/ 277	
	LEGRAND LMRC-212	ACUITY, CRESTRON ETC, HUBBELL	DIGITAL ROOM CONTROLLER FOR ON/OFF/0-10V DIMMING CONTROL OF LIGHTING LOADS. (1) 20A LOAD INPUT, (2) RELAY OUTPUTS. 100mA SINK PER RELAY. MANUAL-, PARTIAL-, AND AUTO-ON MODES.	120/ 277	

NETWORK LIGHTING SWITCHES

SYMBOL TAG	MANUFACTURER MODEL/SERIES	ALTERNATE MANUFACTURER	DEVICE DESCRIPTION	VOLTAGE	NOTES
	LEGRAND LMDM-101	ACUITY, CRESTRON ETC, HUBBELL	DIGITAL SWITCH FOR MANUAL ON/OFF/DIMMING CONTROL. INTEGRAL LED ILLUMINATES WHEN LOAD IS ON. (2) RJ45 PORTS. IR TRANSCEIVER FOR WIRELESS SETUP.	24	

AUXILIARY NETWORK LIGHTING EQUIPMENT

SYMBOL TAG	MANUFACTURER MODEL/SERIES	ALTERNATE MANUFACTURER	DEVICE DESCRIPTION	VOLTAGE	NOTES
NONE TC	LEGRAND LMCT-100	ACUITY, CRESTRON ETC, HUBBELL	WIRELESS CONFIGURATION TOOL WITH USB. 2-WAY IR COMMUNICATION FOR DATA UPLOAD, DOWNLOAD, CONFIRMATION, AND STORAGE. OLED SCREEN. PROVIDE ONE TOOL PER SYSTEM AND LEAVE WITH OWNER. (3) AAA BATTERIES INCLUDED.	BATTERY	
	LEGRAND LMCZ-301	ACUITY, CRESTRON ETC, HUBBELL	ZONE CONTROLLER. ASTRONOMIC TIMECLOCK. 99 LIGHTING GROUPS. BACNET MS/TP COMPATIBLE. (2) RJ45 PORTS. SURFACE MOUNTED. PLENUM RATED. PROVIDE DLM 24V POWER BOOSTERS AS REQUIRED PER SYSTEM DESIGN.	120/ 277	

GENERAL NOTES:

A. OCCUPANCY SENSOR LAYOUT DESIGNED FROM BASIS-OF-DESIGN COVERAGE PATTERNS. IF SUBMITTING ALTERNATE PER 'EQUIVALENT MANUFACTURER' COLUMN, ADJUST SENSOR QUANTITIES AND LOCATIONS PER MANUFACTURER-SPECIFIC SPACING CRITERIA.
B. PROVIDE SHOP DRAWINGS FOR ENGINEER AND ARCHITECT REVIEW THAT INCLUDE PRODUCT CUTSHEETS AND PROJECT-SPECIFIC LAYOUTS. LAYOUTS MUST INCLUDE SENSOR LOCATIONS, HEIGHTS, ORIENTATION, AND COVERAGE AREAS. SHOW COORDINATION WITH ALL OTHER CEILING DEVICES INCLUDING BUT NOT LIMITED TO HVAC SUPPLY AND RETURN GRILLES, SPRINKLERS, LIGHT FIXTURES, AND OTHER OWNER-PROVIDED CEILING MOUNTED DEVICES SUCH AS SPEAKERS, SECURITY CAMERAS, PROJECTORS, ETC. (SENSORS MAY BE ADVERSELY AFFECTED IF LOCATED TOO CLOSE TO OTHER CEILING MOUNTED DEVICES). ALSO PROVIDE SCHEMATICS AND SCHEDULES WHEN APPLICABLE.
C. LIGHTING CONTROLS PRICING SHALL BE COMPLETELY SEPARATE OF ANY LIGHT FIXTURE PRICING.
D. VERIFY COLOR(S) FOR ALL WALL AND CEILING MOUNTED DEVICES WITH THE ARCHITECT.
E. ALL WALL SWITCH AND CEILING SENSORS SHALL HAVE AN ADJUSTABLE TIME DELAY RANGE OF 0-30 MIN, UNO. CONFIRM SENSOR SETTINGS WITH SEQUENCE OF OPERATIONS AND OWNER PRIOR TO SYSTEM COMMISSIONING.
F. PROVIDE COPIES OF OPERATION AND MAINTENANCE INSTRUCTIONS FOR ALL DEVICES TO OWNER.
G. PROVIDE A NEUTRAL CONDUCTOR TO ALL LINE-VOLTAGE WALL SWITCH LOCATIONS PER NEC REQUIREMENTS.
H. DO NOT SHARE NEUTRAL CONDUCTOR ON LOAD SIDE OF DIMMERS.
J. CALIFORNIA PROJECTS ONLY: ALL LIGHTING CONTROL DEVICES SHALL MEET CALIFORNIA ENERGY COMMISSION TITLE 24 REQUIREMENTS.

VERSION: 4

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

1 DSA Comments 09/02/2020

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL
TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER
SIMRAN UBHI
No. 19855
ELECTRICAL
STATE OF CALIFORNIA

Sep 4 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

LIGHTING SCHEDULES AND DIAGRAMS

E7.00

© 2019 NAC Inc.

SIMRAN S. UBHI

PANELBOARD: P3 (NEW)

BUS AMPS: 600A
MAIN SIZE/TYPE: MLO
VOLTS/PHASE: 208Y/120 V 3P/4W
SUPPLIED BY: DP2

FAULT CURRENT: SEE FCA (E6.01)
AIC RATED: FULLY RATED
AIC RATING: FCA +10% MINIMUM
SERVES: NEW BUILDING
MOUNTING: SURFACE
LOCATION: EXTERIOR YARD

EQUIPMENT GROUND BUS
NEMA 3R

LINE-SIDE LUGS: MECHANICAL

CKT NO.	DESCRIPTION	LOAD TYPE	NOTES	WIRE SIZE	BKR AMP	P	PHASE A	PHASE B	PHASE C	P	BKR AMP	WIRE SIZE	NOTES	LOAD TYPE	DESCRIPTION	CKT NO.
1	POCKET NC 3E	Z		12	20	1	200 936			1	20	12		Z	SPINDLE/BENCH SANDERS 2I/2J	2
3	SPINDLE SANDER	R		12	20	1		420 960		1	20	12		Z	DRILL PRESS 2E	4
5	BANDSAW 15D	Z		12	20	1			746 1440	1	20	12		Z	SANDING MACHINE 2G	6
7	DRUM SANDER 2H	Z		12	20	1	1530 180			1	20	12		R	PLASMA EXHAUST	8
9	MITRE SAW 2A	Z		12	20	1		1600 1920		1	20	12		Z	GRIZZLY DUST COLLECTER 2L	10
11	BANDSAW 2D	Z		12	20	1			1650 1680	1	20	12		Z	BANDSAW 2B	12
13	PLASMACAM 5A	Z		6	50	2	3120 600			1	20	12		Z	FABLIGHT 4500 2 9A	14
15								3120 0		2	20	12			SHOPBOT ROUTER 2N	16
17	DUST COLLECTOR 2M	Z		12	20	1			1760 0							18
19	MIG WELDER 5F	Z		6	50	2	4950 600			1	20	12		R	BENCHTOP ROUTER 2 3I	20
21								4950 2760		2	20	12		Z	SLANTPRO LATHE 4C	22
23	TIG WELDER 5D	Z		6	50	2			2450 2760							24
25							2450 0									26
27	BENCHTOP ROUTER 3 3I	Z		12	20	1		600 0		3	20	12			BELT GRINDER 5K	28
29	FABLIGHT HEPA VAC 2 9A	Z		12	20	1			600 0							30
31							587 667									32
33	TECHNO-ISEL CNC ROUTER 2F	Z		12	20	3		587 667		3	20	12		Z	PEDESTAL GRINDER 5G	34
35									587 667							36
37							828 0			1	20				SPARE	38
39	ROCKWELL BANDSAW 2C	R		12	30	3		828 0		1	20				SPARE	40
41									828 0	1	20				SPARE	42
43							1524 2286			2	20	12		R	LATHE 2 4B	44
45	BAILEIGH PRESS BRAKE 9B	R		12	30	3		1524 2286								46
47									1524 1524							48
49	LATHE 4A	R		12	20	2	2286 1524			3	30	12		R	MILLING MACHINE 4E	50
51								2286 1524								52
53									1524 0	1	20				SPARE	54
55	MILLING MACHINE 2 4D	R		12	30	3	1524 4667									56
57								1524 4667		3	70	4		Z	HAAS LATHE 3C	58
59	SPARE				20	1			0 4667							60
61							4667 4667									62
63	HAAS MILL 3D	Z		4	70	3		4667 4667		3	70	4		Z	HAAS MINI MILL 3A	64
65									4667 4667							66
67							4667 575									68
69	HAAS SUPER MINI MILL 3B	Z		4	70	3		4667 575		3	20	12		R	POWERMATIC DRILL PRESS 5H	70
71									4667 575							72
73	SPARE				20	1	0 0			1					EQUIPPED SPACE	74
75	SPARE				20	1		0 0		1					EQUIPPED SPACE	76
77	SPARE				20	1			0 0	1					EQUIPPED SPACE	78
79	EQUIPPED SPACE					1	0 0			1					EQUIPPED SPACE	80
81	EQUIPPED SPACE					1		0 0		1					EQUIPPED SPACE	82
83	EQUIPPED SPACE					1			0 0	1					EQUIPPED SPACE	84
			TOTAL LOAD (VA):				45033 VA	46797 VA	38981 VA							
			TOTAL AMPS:				383 A	398 A	325 A							

LOAD TYPE	CONNECTED LOAD	DEMAND FACTOR	NEC DEMAND
EXISTING LOAD (E)	0 VA	100%	0 VA
COOLING (C)	0 VA	0%	0 VA
HEATING (H)	0 VA	100%	0 VA
LIGHTING (L)	0 VA	125%	0 VA
RECEPTACLES (R)	28270 VA	68%	19135 VA
MOTORS (M)	0 VA	100%	0 VA
SUPPLEMENTAL HEAT (U)	0 VA	100%	0 VA
MISC EQUIP (Z)	102542 VA	100%	102542 VA
REFRIGERATION (F)	0 VA	100%	0 VA
SIGN/DISPLAY (D)	0 VA	125%	0 VA
KITCHEN (K)	0 VA	125%	0 VA
LARGEST MOTOR	0 VA	125%	0 VA
SHOW WINDOW (W)	0 VA	125%	0 VA
TRACK LIGHTING	0 VA	100%	0 VA

PANELBOARD NOTES

PANELBOARD TOTALS	
TOTAL CONNECTED LOAD	130812 VA
TOTAL NEC LOAD	121677 VA
TOTAL CONNECTED CURRENT	363 A
TOTAL NEC DEMAND CURRENT	338 A

PANELBOARD LEGEND

ABBREVIATIONS	V1.00
AF	ARC FAULT CIRCUIT INTERRUPTER.
C#	CIRCUIT VIA LIGHTING CONTACTOR #.
CL	CIRCUIT VIA CURRENT LIMITING DEVICE.
D	DISCONNECT CIRCUITRY FOR REMOVED LOAD, UPDATE CIRCUIT DIRECTORY TO SPARE AND TURN OFF.
EM	EMERGENCY LIGHTING HANDLE-ON CLAMP.
EX	EXISTING.
F	FUTURE LOAD; NOTE AS SPARE AND TURN OFF.
FA	RED/HANDLE-ON CLAMP.
GF	GROUND-FAULT CIRCUIT INTERRUPTER TYPE CIRCUIT BREAKER (5 mA).
GFEP	GROUND FAULT EQUIPMENT PROTECTION BREAKER (30 mA).
HT	PROVIDE HANDLE-TIE FOR MULTI-WIRE BRANCH CIRCUIT PER CODE.
IG	ISOLATED GROUND CIRCUIT.
L#	LIGHTING CONTROL SCHEME NUMBER.
LCK	HANDLE PADLOCKABLE-OFF DEVICE.
LO	HANDLE-ON CLAMP.
N	PROVIDE NEW CIRCUIT BREAKER.
OL	REFER TO ELECTRICAL ONE-LINE/RISER DIAGRAM.
PS	POWER-SWITCHING CIRCUIT BREAKER.
PSE	EMERGENCY POWER-SWITCHING CIRCUIT BREAKER.
R	REUSE EXISTING CIRCUIT BREAKER FOR NEW/REVISED LOAD.
RP	CIRCUIT VIA RELAY PANEL.
ST	SHUNT TRIP CIRCUIT BREAKER.
V	VERIFY EXISTING LOAD AND UPDATE DIRECTORY, IF UNUSED, NOTE AS SPARE AND TURN OFF.
VD	BRANCH CIRCUITRY HAS BEEN UPSIZED TO REDUCE VOLTAGE DROP. ADJUST GROUND WIRE SIZE PER CODE. PROVIDE LUG ADAPTORS IF REQUIRED.
Z	CORRECT/REPAIR EXISTING HAZARD TO MAKE CODE COMPLIANT INSTALLATION.

NOT ALL ABBREVIATIONS ARE USED.

PANELBOARD: L1 (NEW)

BUS AMPS: 100A
MAIN SIZE/TYPE: MLO
VOLTS/PHASE: 480Y/277 V 3P/4W
SUPPLIED BY: 6HD

FAULT CURRENT: SEE FCA (E6.01)
AIC RATED: FULLY RATED
AIC RATING: FCA +10% MINIMUM
SERVES: NEW BUILDING
MOUNTING: SURFACE
LOCATION: EXTERIOR YARD

EQUIPMENT GROUND BUS
NEMA 3R

LINE-SIDE LUGS: MECHANICAL

CKT NO.	DESCRIPTION	LOAD TYPE	NOTES	WIRE SIZE	BKR AMP	P	PHASE A	PHASE B	PHASE C	P	BKR AMP	WIRE SIZE	NOTES	LOAD TYPE	DESCRIPTION	CKT NO.
1	LTG - ROBOTICS ARENA	L	EM	12	20	1	1637 0			1	20				SPARE	2
3	LTG - SHOP AREA	L	EM	12	20	1		2735 0		1	20				SPARE	4
5	LTG - PRECISION/FABRICATION ROOMS	L		12	20	1			1511 0	1	20				SPARE	6
7	EXT LTG - CANOPY	L	EM	12	20	1	865 0			1	20				SPARE	8
9	EXT LTG - WALL MOUNT AREA LIGHTS	L	EM	12	20	1		250 0		1	20				SPARE	10
11	SPARE				20	1			0 0	1	20				SPARE	12
13	SPARE				20	1	0 0			1	20				SPARE	14
15	SPARE				20	1		0 0		1	20				SPARE	16
17	SPARE				20	1			0 0	1	20				SPARE	18
19	SPARE				20	1	0 0			1	20				SPARE	20
21	EQUIPPED SPACE					1		0 0		1					EQUIPPED SPACE	22
23	EQUIPPED SPACE					1			0 0	1					EQUIPPED SPACE	24
25	EQUIPPED SPACE					1	0 0			1					EQUIPPED SPACE	26
27	EQUIPPED SPACE					1		0 0		1					EQUIPPED SPACE	28
29	EQUIPPED SPACE					1			0 0	1					EQUIPPED SPACE	30
31	EQUIPPED SPACE					1	0 0			1					EQUIPPED SPACE	32
33	EQUIPPED SPACE					1		0 0		1					EQUIPPED SPACE	34
35	EQUIPPED SPACE					1			0 0	1					EQUIPPED SPACE	36
37	EQUIPPED SPACE					1	0 0			1					EQUIPPED SPACE	38
39	EQUIPPED SPACE					1		0 0		1					EQUIPPED SPACE	40
41	EQUIPPED SPACE					1			0 0	1					EQUIPPED SPACE	42
			TOTAL LOAD (VA):				2502 VA	2985 VA	1511 VA							
			TOTAL AMPS:				10 A	11 A	5 A							

LOAD TYPE	CONNECTED LOAD	DEMAND FACTOR	NEC DEMAND
EXISTING LOAD (E)	0 VA	100%	0 VA
COOLING (C)	0 VA	0%	0 VA
HEATING (H)	0 VA	100%	0 VA
LIGHTING (L)	6998 VA	125%	8748 VA
RECEPTACLES (R)	0 VA	0%	0 VA
MOTORS (M)	0 VA	100%	0 VA
SUPPLEMENTAL HEAT (U)	0 VA	100%	0 VA
MISC EQUIP (Z)	0 VA	100%	0 VA
REFRIGERATION (F)	0 VA	100%	0 VA
SIGN/DISPLAY (D)	0 VA	125%	0 VA
KITCHEN (K)	0 VA	100%	0 VA
LARGEST MOTOR	0 VA	125%	0 VA
SHOW WINDOW (W)	0 VA	125%	0 VA
TRACK LIGHTING	0 VA	100%	0 VA

PANELBOARD NOTES

EM - EMERG LTG HANDLE-ON CLAMP

PANELBOARD TOTALS	
TOTAL CONNECTED LOAD	6998 VA
TOTAL NEC LOAD	8748 VA
TOTAL CONNECTED CURRENT	8 A
TOTAL NEC DEMAND CURRENT	11 A

PANELBOARD: P2 (NEW)

BUS AMPS: 225A
MAIN SIZE/TYPE: MLO
VOLTS/PHASE: 208Y/120 V 3P/4W
SUPPLIED BY: DP2

FAULT CURRENT: SEE FCA (E6.01)
AIC RATED: FULLY RATED
AIC RATING: FCA +10% MINIMUM
SERVES: NEW BUILDING
MOUNTING: SURFACE
LOCATION: EXTERIOR YARD

EQUIPMENT GROUND BUS
NEMA 3R

LINE-SIDE LUGS: MECHANICAL

CKT NO.	DESCRIPTION	LOAD TYPE	NOTES	WIRE SIZE	BKR AMP	P	PHASE A	PHASE B	PHASE C	P	BKR AMP	WIRE SIZE	NOTES	LOAD TYPE	DESCRIPTION	CKT NO.
1	COMPUTER WORKSTATIONS	R		12	20	1	180 1500			1	20	12		R	SHOP VAC 3	2
3	DISPLAY WALL/WORKSTATION	R		12	20	1		180 800		1	20	12	GF	R	REFRIGERATOR	4
5	PALLET SCALE/LIFT CART	R		12	20	1			360 360	1	20	12		R	5A DED COMPUTER	6
7	CHARGING CART	R		12	20	1	180 180			1	20	12		R	PEXTO SHEAR 9C	8
9	TV	R		12	20	1		180 816		1	20	12		R	TUMBLER	10
11	RECEPTACLES TOOLCHEST 1	R		12	20	1			360 720	1	20	12		R	WELDING TABLE	12
13	CEILING RECEPTACLES 1	R		12	20	1	360 180			1	20	12		R	WELDING TABLE 2	14
15	CEILING RECEPTACLES 2	R		12	20	1		360 180		1	20	12		R	PORTABLE SAW 1	16
17	SHOP VAC 4	R		12	20	1			1500 180	1	20	12		R	PORTABLE SAW 2	18
19	SHOP VAC 2K	R		12	20	1	1500 720			1	20	12		R	GP SHOP FLOOR	20
21	GP RECEPTACLES AT ROUTER	R		12	20	1		720 180		1	20	12	GF	R	SHOP FLOOR WORKBENCH	22
23	GP AT LATHE	R		12	20	1			720 600	1	20	12		R	SHOP VAC 2 2K	24
25	CONTROL COMPUTER	R		12	20	1	720 180			1	20	12		R	RECEPTACLES TOOLCHEST 2	26
27	PWR - ROOF RCPT	R		12	20	1		720 180		1	20	12		R	SHOP FLOOR CLG 2	28
29	SHOP FLOOR CLG 3	R		12	20	1			180 180	1	20	12		R	SHOP FLOOR CLG 4	30
31	ROLLUP DOOR	Z		12	20	1	600 600			1	20	12		R	BENCHTOP ROUTER 1	32
33	ARENA ROLLER SHADE	Z		12	20	1		600 540		1	20	12		R	PLAYING FIELD 2	34
35	SKYLIGHT ROLLER SHADE	Z		12	20	1			1200 360	1	20	12		R	PLAYING FIELD 1	36
37	SHOP VAC 1 2K	R		12	20	1	600 180			1	20	12		R	SHOP FLOOR CLG 1	38
39	RECEPTACLES PROJECT BAY #1-2 7304-2	R		12	20	1		180 360		1	20	12		R	RECEPTACLES PRECISION MACHINING	40
41	OUTDOOR WORK 208V RECEPTACLE	R	GF	6	50	2			3120 360	1	20	12		R	RECEPTACLES PROJECT BAY #1-2 7304-2	42
43							3120 180			1	20	12		R	EQUIPMENT YARD RECEPTACLE	44
45	OUTDOOR WORK RECEPTACLE	R		12	20	1		360 4750		2	40	10		Z	PWR - IWH-1 - SINK 1	46
47	FACP	Z	FA		20	1			360 4750							48
49	PWR - EF R-1	M		12	15	2	792 4750			2	40	10		Z	PWR - IWH-1 - SINK 2	50
51								792 4750								52
53	PWR - EF R-2	M		12	15	2			260 1200	1	20	12	GF	R	FRIDGE	54
55							260 0			1	20				SPARE	56
57	PWR EF R-3	M		12	15	2		260 0		1	20				SPARE	58
59									260 0	1	20				SPARE	60
			TOTAL LOAD (VA):				16782 VA	16908 VA	17030 VA							
			TOTAL AMPS:				140 A	141 A	142 A							

LOAD TYPE	CONNECTED LOAD	DEMAND FACTOR	NEC DEMAND
EXISTING LOAD (E)	0 VA	100%	0 VA
COOLING (C)	0 VA	0%	0 VA
HEATING (H)	0 VA	100%	0 VA
LIGHTING (L)	0 VA	125%	0 VA
RECEPTACLES (R)	26336 VA	69%	18168 VA
MOTORS (M)	1040 VA	100%	1040 VA
SUPPLEMENTAL HEAT (U)	0 VA	100%	0 VA
MISC EQUIP (Z)	21760 VA	100%	21760 VA
REFRIGERATION (F)	0 VA	100%	0 VA
SIGN/DISPLAY (D)	0 VA	125%	0 VA
KITCHEN (K)	0 VA	100%	0 VA
LARGEST MOTOR	1584 VA	125%	1980 VA
SHOW WINDOW (W)	0 VA	125%	0 VA
TRACK LIGHTING	0 VA	100%	0 VA

PANELBOARD NOTES

FA - RED/HANDLE-ON CLAMP GF - GFCI TYPE CIRCUIT BREAKER

PANELBOARD TOTALS	
TOTAL CONNECTED LOAD	50720 VA
TOTAL NEC LOAD	42948 VA
TOTAL CONNECTED CURRENT	141 A
TOTAL NEC DEMAND CURRENT	119 A

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

1 DSA Comments 020 09/02/2

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER
SIMRAN UBHI
No. 19855
ELECTRICAL
STATE OF CALIFORNIA

Sep 4 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

PANEL SCHEDULES

E7.01

© 2019 NAC, INC.

SIMRAN S. UBHI

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E (Created 01/20) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-ELC-E

Project Name: CLARK MAGNET HIGH SCHOOL	Report Page: Page 4 of 4
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214	Date Prepared: 04/24/2020

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name:	SUNGHAN CHO	Documentation Author Signature:	
Company:	HENDERSON ENGINEERS, INC.	Signature Date:	09/04/2020
Address:	510 WEST 6TH STREET, SUITE 800	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	LOS ANGELES, CA 90014	Phone:	(213) 254-4750

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	SIMON UBHI	Responsible Designer Signature:	
Company:	HENDERSON ENGINEERS, INC.	Date Signed:	Sep 4 2020
Address:	510 WEST 6TH STREET, SUITE 800	License:	E19855
City/State/Zip:	LOS ANGELES, CA 90014	Phone:	(213) 254-4750

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E (Created 01/20) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-ELC-E

Project Name: CLARK MAGNET HIGH SCHOOL	Report Page: Page 3 of 4
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214	Date Prepared: 04/24/2020

J. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www2.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

YES	NO	Form/Title	Field Inspector Pass	Field Inspector Fail
◉	○	NRCI-ELC-01-E - Must be submitted for all buildings.	☐	☐

K. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no Certificates of Acceptance applicable to electrical power distribution requirements.

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E (Created 01/20) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-ELC-E

Project Name: CLARK MAGNET HIGH SCHOOL	Report Page: Page 2 of 4
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214	Date Prepared: 04/24/2020

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

No exceptional conditions apply to this project.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. SERVICE ELECTRICAL METERING

This Section Does Not Apply

G. SEPARATION OF ELECTRICAL CIRCUITS FOR ENERGY MONITORING

This Section Does Not Apply

H. VOLTAGE DROP

Table Instructions: Please complete this table for entirely new or complete replacement electrical power distribution systems, or alterations that add, modify or replace both feeders and branch circuits to demonstrate compliance with §130.5(c). For alterations, only the altered circuits must demonstrate compliance per §141.0(b)2H.

01	02		03	04	05	
Electrical Service Designation/ Description	Combined Voltage Drop on Installed Feeder/Branch Circuit Conductors Compliance Method		Location of Voltage Drop Calculations[1]	Sheet Number for Voltage Drop Calculations in Construction Documents	Field Inspector Pass	Field Inspector Fail
MSB	☑ Voltage drop < 5%	☐ Permitted by CA Elec Code (Exception to §130.5(c))*	In construction documents	E6.01	☐	☐

**NOTES if "Permitted by CA Elec Code"* is selected under Compliance Method above, please indicate where the exception applies in the space provided below.*

[1] FOOTNOTES: Voltage drop calculations may be attached to the permit application outside the construction documents if allowed by the Authority Having Jurisdiction. Select "attached" if applicable. If calculations will be the responsibility of the installing contractor, select "Contractor Responsible".

I. CIRCUIT CONTROLS FOR 120-VOLT RECEPTACLES AND CONTROLLED RECEPTACLES

This Section Does Not Apply

STATE OF CALIFORNIA
Electrical Power Distribution
NRCC-ELC-E (Created 01/20) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-ELC-E

This document is used to demonstrate compliance with mandatory requirements in §130.5 for electrical systems in newly constructed nonresidential, high-rise residential and hotel/motel occupancies. Additions and alterations to electrical service systems in these occupancies will also use this document to demonstrate compliance per §141.0(a) or §141.0(b)2F for alterations.

Project Name: CLARK MAGNET HIGH SCHOOL	Report Page: Page 1 of 4
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214	Date Prepared: 04/24/2020

A. GENERAL INFORMATION

01 Project Location (city): GLENDALE — 02 Occupancy Types Within Project:

☐ Office ☐ Retail ☐ Warehouse ☐ Hotel/ Motel ☑ School ☐ Support Areas
☐ Parking Garage ☐ High-Rise Residential ☐ Relocatable ☐ Healthcare Facilities ☐ Other (Write In):

B. PROJECT SCOPE

Table Instructions: Include any electrical service systems that are within the scope of the permit application.

01	02	03	04	05	06
Electrical Service Designation/ Description	Scope of Work[1]	Rating (kVA)	Utility Provided Metering System Exception to §130.5(a)*	System subject to CA Elec Code Article 517 Exception to §130.5(a)&(b)	Demand Response Controls
MSB	Add/Alt to feeders and branch circuits only		☐	☐	Where required, demand response controls must be specified which are capable of receiving and automatically responding to at least one standards based messaging protocol which enables demand response after receiving a demand response signal. Sections §120.2, §130.1 and §130.5 and compliance documents NRCC-MCH, NRCC-LTI and NRCC-LTS will indicate when demand response controls are required.

[1] FOOTNOTES: Adding only new feeders and branch circuits triggers Voltage Drop 130.5(c), no other requirements from 130.5 are required.
** Applicable if the utility company is providing a metering system that indicates instantaneous kW demand and kWh for a utility-defined period.*

C. COMPLIANCE RESULTS

Table Instructions: If this table says "DOES NOT COMPLY" refer to Table D. for guidance and review the Table that indicates "No".

01		02		03		04	05
Service Electrical Metering §130.5(a)	AND	Separation for Monitoring §130.5(b)	AND	Voltage Drop §130.5(c)	AND	Controlled Receptacles §130.5(d)	**Compliance Results**
(See Table F)		(See Table G)		(See Table H)		(See Table I)	
	AND		AND	Yes	AND		**COMPLIES**

REVISIONS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

IDENTIFICATION STAMP
DIVISION OF STATE ARCHITECT OFFICE OF REGULATION SERVICES
FILE NO. ###
APPL NO. ###

AC____FLS____SS____,
DATE_____.

NOT FOR CONSTRUCTION

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER SIMRAN UBHI No. 19855 ELECTRICAL STATE OF CALIFORNIA

Sep 4 2020

NAC ARCHITECTURE
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

TITLE 24 FORMS - POWER

E8.01

© 2015 NAC Inc

SIMRAN S. UBHI

9/4/2020 12:16:43 PM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_sunghan.cho_20200904091910.rvt

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 01/20) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-LTI-E
Project Name: CLARK MAGNET HIGH SCHOOL — Report Page: Page 4 of 7
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214 — Date Prepared: 04/24/2020

J. ADDITIONAL LIGHTING ALLOWANCE: AREA CATEGORY METHOD QUALIFYING LIGHTING SYSTEM

Table Instructions: Please complete the table for all areas indicated in Table I as using an additional allowance per the Area Category Method in Table 140.6-C.

SHOP FLOOR AND ARENA	General Commercial and Industrial Work - High Bay	Detailed Task	0.2	5,006	1,001.2	A	97	34	3,298
						C1	72	4	288
Total Design Watts:	Calculated Allowance (Watts):	Total Additional Allowance for this area:							
3,586	1,001.2	1,001.2							
FABRICATION/MACHINE ROOMS	General Commercial and Industrial Work - Precision	Precision Work	0.7	872	610.4	B	32	44	1,408
Total Design Watts:	Calculated Allowance (Watts):	Total Additional Allowance for this area:							
1,408	610.4	610.4							

K. ADDITIONAL LIGHTING ALLOWANCE: TAILORED WALL DISPLAY
This Section Does Not Apply

L. ADDITIONAL LIGHTING ALLOWANCE: TAILORED FLOOR AND TASK LIGHTING
This Section Does Not Apply

M. ADDITIONAL LIGHTING ALLOWANCE: TAILORED ORNAMENTAL/SPECIAL EFFECTS
This Section Does Not Apply

N. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE
This Section Does Not Apply

O. ADDITIONAL LIGHTING ALLOWANCE: TAILORED VERY VALUABLE MERCHANDISE
This Section Does Not Apply

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 01/20) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-LTI-E
Project Name: CLARK MAGNET HIGH SCHOOL — Report Page: Page 3 of 7
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214 — Date Prepared: 04/24/2020

*Table Instructions: Please include lighting controls for conditioned and unconditioned spaces in this table. When an option having a * is selected, the notes section of this table must be completed. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank.*

Building Level Controls

01	02	03	
Mandatory Demand Response §110.12(c)	Shut-Off Controls §130.1(c)	Field Inspector	
		Pass	Fail
Not Required ≤ 10,000 SF	See Area/Space Level Controls	☐	☐

Area Level Controls

04	05	06	07	08	09	10	11	12	
Area Description	Complete Building or Area Category Primary Function Area	Area Controls §130.1(a)	Multi-Level Controls §130.1(b)	Shut-Off Controls §130.1(c)	Primary/Skylit Daylighting §130.1(d)	Secondary Daylighting §140.6(d)	Interlocked Systems §140.6(a)1	Field Inspector	
								Pass	Fail
SHOP FLOOR AND ARENA	General Commercial and Industrial Work - High Bay	Manual ON/OFF	Dimmer	Occ. Sensor	Included	Included	☐	☐	☐
FABRICATION/MACHINE ROOMS	General Commercial and Industrial Work - Precision	Manual ON/OFF	Dimmer	Occ. Sensor	NA	NA	☐	☐	☐

*NOTES: Controls with a * require a note in the space below explaining how compliance is achieved.
EX: Conference 1: Primary/Skylight Daylighting: Exempt because less than 120 watts of general lighting;
EXCEPTION 1 to §130.1(d)2

13
Plan Sheet Showing Daylit Zones:
E3.11

I. LIGHTING POWER ALLOWANCE: COMPLETE BUILDING OR AREA CATEGORY METHODS

Table Instructions: Complete the table for each area complying using the Complete Building or Area Category Methods per §140.6(b). Indicate if additional lighting power allowances per §140.6(c) or adjustments per §140.6(a) are being used.

Conditioned Spaces

01	02	03	04	05	06	
Area Description	Complete Building or Area Category Primary Function Area	Allowed Density (W/ft²)	Area (ft²)	Allowed Wattage (Watts)	Additional Allowances / Adjustment	
					Area Category	PAF
SHOP FLOOR AND ARENA	General Commercial and Industrial Work - High Bay	0.65	5,006	3,253.9	☑	☐
FABRICATION/MACHINE ROOMS	General Commercial and Industrial Work - Precision	0.85	872	741.2	☑	☐
		TOTAL	**5,878**	**3,995.1**	See Tables J or P for detail	

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 01/20) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-LTI-E
Project Name: CLARK MAGNET HIGH SCHOOL — Report Page: Page 2 of 7
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214 — Date Prepared: 04/24/2020

Controls Compliance (See Table H for Details)	COMPLIES
Rated Power Reduction Compliance (See Table Q for Details)	Not Applicable

D. EXCEPTIONAL CONDITIONS
This table is auto-filled with unedittable comments because of selections made or data entered in tables throughout the form.
No exceptional conditions apply to this project.

E. ADDITIONAL REMARKS
This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. INDOOR LIGHTING FIXTURE SCHEDULE
Table Instructions: Include all permanent designed lighting and all portable lighting in offices.
Designed Wattage: Conditioned Spaces

01	02	03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description	Modular (Track) Fixture	Small Aperture & Color Change*	Watts per luminaire*	How Wattage is determined	Total number luminaires	Exempt per §140.6(a)2A	Design Watts	Field Inspector	
									Pass	Fail
A/AE	PENDANT HIGH BAY DOWNLIGHT	☐	☐	97	Mfr. Spec²	34	☐	3,298	☐	☐
B/BE	6" LINEAR PENDANT	☐	☐	36	Mfr. Spec²	44	☐	1,584	☐	☐
C1	LINEAR PENDANT	☐	☐	72	Mfr. Spec²	4	☐	288	☐	☐
					Total Designed Watts CONDITIONED SPACES:			**5,170**		

*FOOTNOTE: Design Watts for small aperture and color changing luminaires which qualify per §140.6(a)4B is adjusted to be 75% of their rated wattage. Table F automatically makes this adjustment, the permit applicant should enter full rated wattage in column 05.
² Authority Having Jurisdiction may ask for Luminaire cut sheets to confirm wattage used for compliance per §130.0(c) Wattage used must be the maximum rated for the luminaire, not the lamp.*

G. MODULAR LIGHTING SYSTEMS
This Section Does Not Apply

H. INDOOR LIGHTING CONTROLS (Not Including PAFs)

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 01/20) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-LTI-E
This document is used to demonstrate compliance with requirements in §110.9, §110.12(c), §130.0, §130.1, §140.6, and §141.0(b)2 for indoor lighting scopes using the prescriptive path.
Project Name: CLARK MAGNET HIGH SCHOOL — Report Page: Page 1 of 7
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214 — Date Prepared: 04/24/2020

A. GENERAL INFORMATION

01	Project Location (city)	GLENDALE	04	Total Conditioned Floor Area (ft²)	5,878
02	Climate Zone	9	05	Total Unconditioned Floor Area (ft²)	0
03	Occupancy Types Within Project (select all that apply):		06	# of Stories (Habitable Above Grade)	1

☐ Office ☐ Retail ☐ Warehouse ☐ Hotel/Motel ☑ School ☐ Support Areas
☐ Parking Garage ☐ High-Rise Residential ☐ Relocatable ☐ Healthcare ☐ Other (write in):

B. PROJECT SCOPE
Table Instructions: Include any lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.6 or §141.0(b)2 for alterations. WARNING: Changing the Calculation Method in this table will result in the deletion of data previously input. If you need to change the calculation method, please open a new form or use "Save As".

Scope of Work		Conditioned Spaces		Unconditioned Spaces	
01		02	03	04	05
My Project Consists of (check all that apply):		Calculation Method	Area (ft²)	Calculation Method	Area (ft²)
☑	New Lighting System	Area Category	5,878		
☐	Altered Lighting System				
	Total Area of Work (ft²):	**5,878**			

C. COMPLIANCE RESULTS
Table Instructions: If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Lighting in conditioned and unconditioned spaces must not be combined for compliance per §140.6(h)1.	Allowed Lighting Power per §140.6(b) (Watts)					Adjusted Lighting Power per §140.6(a) (Watts)				Compliance Results
	01	02	03	04	05	06	07	08	09	
	Complete Building §140.6(c)1	Area Category §140.6(c)2	Area Category Additional §140.6(c)2iii (+)	Tailored §140.6(c)3 (+)	**Total Allowed** (Watts)	Total Designed (Watts)	Adjustments PAF Control Credits §140.6(a)2 (-)	**Total Adjusted** (Watts) *Includes Adjustments		**05 Must be ≥ 08** §140.6
	(See Table I)	(See Table I)	(See Table J)	(See Table K)		(See Table F)	(See Table P)			**COMPLIES**
Conditioned:		3,995.1	1,611.6		= **5,606.7**	5,170	-	**5,170**		
Unconditioned:										

Table Continued

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 01/20) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-LTI-E
Project Name: CLARK MAGNET HIGH SCHOOL — Report Page: Page 7 of 7
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214 — Date Prepared: 04/24/2020

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT
I certify that this Certificate of Compliance documentation is accurate and complete

Documentation Author Name:	SUNGHAN CHO	Documentation Author Signature:	Sunghan Cho
Company:	HENDERSON ENGINEERS, INC.	Signature Date:	09/04/2020
Address:	510 WEST 6TH STREET, SUITE 800	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	LOS ANGELES, CA 90014	Phone:	(213) 254-4750

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	SIMON UBHI	Responsible Designer Signature:	
Company :	HENDERSON ENGINEERS, INC.	Date Signed:	Sep 4 2020
Address:	510 WEST 6TH STREET, SUITE 800	License:	
City/State/Zip:	LOS ANGELES, CA 90014	Phone:	(213) 254-4750

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 01/20) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-LTI-E
Project Name: CLARK MAGNET HIGH SCHOOL — Report Page: Page 6 of 7
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214 — Date Prepared: 04/24/2020

J. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE
Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and any with "-A" in the form name must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attar/providers.html

YES	NO	Form/Title	Field Inspector	
			Pass	Fail
◉	○	NRCA-LTI-02-A - Must be submitted for occupancy sensors and automatic time switch controls.	☐	☐
◉	○	NRCA-LTI-03-A - Must be submitted for automatic daylight controls.	☐	☐
○	◉	NRCA-LTI-04-A - Must be submitted for demand responsive lighting controls.	☐	☐
○	◉	NRCA-LTI-05-A - Must be submitted for institutional tuning power adjustment factor (PAF).	☐	☐
○	◉	NRCA-ENV-03-F - Must be submitted for daylighting design power adjustment factors (PAF).	☐	☐

STATE OF CALIFORNIA
Indoor Lighting
NRCC-LTI-E (Created 01/20) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-LTI-E
Project Name: CLARK MAGNET HIGH SCHOOL — Report Page: Page 5 of 7
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214 — Date Prepared: 04/24/2020

P. POWER ADJUSTMENT: LIGHTING CONTROL CREDIT (POWER ADJUSTMENT FACTOR (PAF))
This Section Does Not Apply

Q. RATED POWER REDUCTION COMPLIANCE FOR ALTERATIONS
This Section Does Not Apply

R. 80% LIGHTING POWER FOR ALTERATIONS - CONTROLS EXCEPTIONS
This Section Does Not Apply

S. DAYLIGHT DESIGN POWER ADJUSTMENT FACTOR (PAF)
This Section Does Not Apply

T. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION
Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://ww2.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

YES	NO	Form/Title	Field Inspector	
			Pass	Fail
◉	○	NRCI-LTI-01-E - Must be submitted for all buildings	☐	☐
○	◉	NRCI-LTI-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS), to be recognized for compliance.	☐	☐
○	◉	NRCI-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room, or a theater to be recognized for compliance.	☐	☐
○	◉	NRCI-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance.	☐	☐
○	◉	NRCI-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance.	☐	☐

REVISIONS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

IDENTIFICATION STAMP
DIVISION OF STATE ARCHITECT OFFICE OF REGULATION SERVICES
FILE NO. ###
APPL NO. ###

AC___FLS___SS___.
DATE_____.

NOT FOR CONSTRUCTION

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER SIMRAN UBHI No. 19855 ELECTRICAL STATE OF CALIFORNIA
Sep 4 2020

NAC ARCHITECTURE
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

TITLE 24 FORMS - INDOOR LIGHTING

E8.02

© 2015 NAC Inc

SIMRAN S. UBHI

9/4/2020 12:16:46 PM C:\Revit\Projects\205001084 Clark CTE_MEPv20_sunghan.cho_20200904091910.rvt

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTO-E
Project Name: CLARK MAGNET HIGH SCHOOL Report Page: Page 4 of 7
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214 Date Prepared: 04/24/2020

01	02	03	04	05	
Area Description	Shut-Off §130.2(c)1	Auto-Schedule §130.2(c)2	Motion Sensor §130.2(c)3	Field Inspector	
				Pass	Fail

*NOTES: Controls with a * require a note in the space below explaining how compliance is achieved.
EX: Not permitted by health & safety to be turned off; EXCEPTION 1 to §130.2(c)

ALL OTHER EXTERIOR LIGHTING FIXTURES WATTAGE LESS THAN 40W

I. LIGHTING POWER ALLOWANCE (per §140.7)

Table Instructions: Please complete this table for areas using the allowance calculations per §140.7. General Hardscape Allowance is per Table 140.7-A while "Use it or lost it" Allowances are per Table 140.7-B. Indicate which allowances are being used to expand sections for user input. Luminaires that qualify for one of the "Use it or lose it" allowances shall not qualify for another "Use it or lose it" allowance.

General Hardscape Allowance	01 "Use it or lose it" Allowances (select all that apply)				
☑	☑ Per Application	☐ Sales Frontage	☐ Ornamental	☐ Per Specific Area	
	Table I (below)	Table J	Table K	Table L	Table M

Calculated General Hardscape Lighting Power Allowance per Table 140.7-A (¢2 & 3)

02	03	04	05	06	07	08	09	10
Area Description	Surface Type	Area Wattage Allowance (AWA)		Area Allowance (Watts)	Linear Wattage Allowance (LWA)			Total General AWA + LWA (Watts)
		Illuminated Area (ft²)	Allowed Density (W/ft²)		Perimeter Length (lf)	Allowed Density (W/lf)	Linear Allowance (Watts)	
GENERAL HARDSCAPE	Concrete	14,924	0.03	447.72	748	0.4	299.2	746.92
							Initial Wattage Allowance for Entire Site (Watts):	**350**
							Total General Hardscape Allowance (Watts):	**1,096.92**

J. LIGHTING ALLOWANCE: PER APPLICATION

Table Instructions: Please complete this table for areas using the wattage allowance per application from Table 140.7-B.

01	02	03	04	05	06	07	08	09	10
Area Description	Application per Table 140.7-B[1]	CALCULATED ALLOWANCE (Watts)			DESIGN WATTS				Additional Allowance (Watts)
		# of Locations	Allowance per Location[2] (Watts)	Extra Allowance (Watts)	Luminaire Name or Item Tag	Watts per Luminaire[3]	# of Luminaires[3]	Design Watts	

Table Continued

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTO-E
Project Name: CLARK MAGNET HIGH SCHOOL Report Page: Page 3 of 7
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214 Date Prepared: 04/24/2020

01	02	03	04	05	06	07	08	09	10		
Name or Item Tag	Complete Luminaire Description	Watts per luminaire[1,2]	How Wattage is determined	Total number luminaires[2]	Luminaire Status[3]	Excluded per §140.7(a)	Design Watts	Cutoff Req. ≥ 6,200 initial lumen output §130.2(b)*	Field Inspector		
									Pass	Fail	

* NOTES: Selections with a * require a note in the space below explaining how compliance is achieved.
EX: Luminaire is lighting a statue; EXCEPTION 2 to §130.2(b).

DE	EMERGENCY LIGHTING FOR EQUIPMENT YARD

[1] FOOTNOTES: Authority Having Jurisdiction may ask for luminaire cut sheets to confirm wattage used for compliance per §130.0(b).
[2] For linear luminaires, wattage should be indicated as W/ft instead of Watts/luminaire. Total linear feet for the luminaire should be indicated in column 05 instead of number of luminaires.
[3] Select "New" for new luminaires in a new outdoor lighting project or for added luminaires in an alteration. Select "Altered" for replacement luminaires in an alteration. Select "Existing to Remain" for existing luminaires within the project scope that are not being altered and are remaining. Select "Existing Reinstalled" for existing luminaires which are being removed and reinstalled as part of the project scope
** Compliance with mandatory cutoff requirements is required for luminaires with initial lumen output ≥ 6,200 unless exempted by §130.2(b).*

G. CUTOFF REQUIREMENTS (BUG)

This Section Does Not Apply

H. OUTDOOR LIGHTING CONTROLS

Table Instructions: Complete this table demonstrating compliance with controls requirements for all new or altered luminaires installed as part of the permit application. For alteration projects, luminaires which are existing to remain (ie untouched) and luminaires which are removed and reinstalled (wiring only) do not need to be included in this table even if they are within the spaces covered by the permit application.
*When an option having a * is selected, the notes section of this table must be completed. The lighting controls section of the Compliance Summary Table on the first page will show "DOES NOT COMPLY" if the notes are left blank. For each requirement in columns 02 through 04, do not leave the field blank, instead select NA or Exempt* from the dropdown list to indicate not applicable or an exemption.*

Mandatory Controls

01	02	03	04	05	
Area Description	Shut-Off §130.2(c)1	Auto-Schedule §130.2(c)2	Motion Sensor §130.2(c)3	Field Inspector	
				Pass	Fail
EQUIPMENT YARD LIGHTING	Astronomical Timer	Yes	Yes	☐	☐
WALL MOUNT AREA LIGHTING	Astronomical Timer	Yes	NA: Wall ≤ 24ft	☐	☐
ALL OTHER EXTERIOR LIGHTING	Astronomical Timer	Yes	Exempt *	☐	☐

Table Continued

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTO-E
Project Name: CLARK MAGNET HIGH SCHOOL Report Page: Page 2 of 7
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214 Date Prepared: 04/24/2020

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

Table F. indicates a dropdown selection with a * requiring a note describing the compliance approach, but no notes have been entered.
Table F. Outdoor Lighting Fixture Schedule Permit Applicant Notes:
DE: null
DE: EMERGENCY LIGHTING FOR EQUIPMENT YARD
Table H. Outdoor Lighting Controls Permit Applicant Notes:
ALL OTHER EXTERIOR LIGHTING: FIXTURES WATTAGE LESS THAN 40W

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. OUTDOOR LIGHTING FIXTURE SCHEDULE

Table Instructions: For new or altered lighting systems demonstrating compliance with §140.7 (ie Table I has expanded for input), include all luminaires being installed and any existing luminaires remaining or being moved within the spaces covered by the permit application in the Table below. For altered lighting systems using the Existing Power method per §141.0(b)2L (ie Table N has expanded for input), include only new luminaires being installed and replacement luminaires being installed as part of the project scope (ie, do not include existing luminaires remaining or existing luminaires being moved).

Designed Wattage:

01	02		03	04	05	06	07	08	09	10	
Name or Item Tag	Complete Luminaire Description		Watts per luminaire[1,2]	How Wattage is determined	Total number luminaires[2]	Luminaire Status[3]	Excluded per §140.7(a)1	Design Watts	Cutoff Req. ≥ 6,200 initial lumen output §130.2(b)*	Field Inspector	
										Pass	Fail
DE	SURFACE LED	☐ Linear	68	Mfr. Spec[4]	2	New	☐	136	Exempt*	☐	☐
F2	WALL MOUNT AREA	☐ Linear	25	Mfr. Spec[4]	3	New	☐	75	NA: <6,200 lumens	☐	☐
F3/F3E	WALL MOUNT AREA	☐ Linear	25	Mfr. Spec[4]	6	New	☐	150	NA: <6,200 lumens	☐	☐
F4E	6" ROUND DOWNLT	☐ Linear	25	Mfr. Spec[4]	1	New	☐	25	NA: <6,200 lumens	☐	☐
GE	6" ROUND DOWNLT	☐ Linear	12	Mfr. Spec[4]	2	New	☐	24	NA: <6,200 lumens	☐	☐
H1	LINEAR COVE UPLIGHT	☐ Linear	31.5	Mfr. Spec[4]	14	New	☐	441	NA: <6,200 lumens	☐	☐
		☐ Linear					☐	0		☐	☐
							Total Designed Watts:	**851**			

Table Continued

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTO-E
Project Name: CLARK MAGNET HIGH SCHOOL Report Page: Page 1 of 7
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214 Date Prepared: 04/24/2020

This document is used to demonstrate compliance with requirements in §110.9, §130.0, §130.2, §140.7, and §141.0(b)2L for outdoor lighting scopes using the prescriptive path.

A. GENERAL INFORMATION

01	Project Location (city)	GLENDALE	04 Total Illuminated Hardscape Area (ft²)	14,924
02	Climate Zone	9		

03 Outdoor Lighting Zone per Title 24, Part 1 §10-114 or as designated by Authority Having Jurisdiction (AHJ):

☐ LZ-0: Very Low - Undeveloped Parkland	☐ LZ-2: Moderate - Rural Areas	☐ LZ-4: High - Must be reviewed by CA Energy Commission for Approval	
☐ LZ-1: Low - Developed Parkland	☑ LZ-3: Moderately High - Urban Areas		

B. PROJECT SCOPE

Table Instructions: Include any outdoor lighting systems that are within the scope of the permit application and are demonstrating compliance using the prescriptive path outlined in §140.7 or §141.0(b)2L for alterations.

My project consists of:

01	02
☑ New Lighting System	Must Comply with Allowances from §140.7.
☐ Altered Lighting System	Is your alteration increasing the connected lighting load (Watts)? ○ Yes ○ No

03	04	05
% of Existing Luminaires Being Altered*	Sum Total of Luminaires Being Added or Altered	Calculation Method

FOOTNOTES: % of Existing Luminaires Being Altered = (Sum Total of Luminaires Being Added or Altered / Existing Luminaires within the Scope of the Permit Application) x 100 (ie, do not include existing luminaires remaining or existing luminaires being moved).

C. COMPLIANCE RESULTS

Table Instructions: If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Calculation of Total Allowed Lighting Power (Watts) §140.7 or §141.0(b)2L												Compliance Results		
01 General Hardscape Allowance §140.7(d)1 (See Table I)	+	02 Per Application §140.7(d)2 (See Table J)	+	03 Sales Frontage §140.7(d)2 (See Table K)	+	04 Ornamental §140.7(d)2 (See Table L)	+	05 Per Specific Area §140.7(d)2 (See Table M)	OR	06 Existing Power §141.0(b)2L (See Table N)	=	07 Total Allowed (Watts) (See Table F)	≥	08 Total Actual (Watts) (See Table F)	09 07 Must be ≥ 08
1,096.92	+	38	+		+		+		OR		=	1,134.92	≥	851	**COMPLIES**
												Cutoff Compliance (See Table G for Details):			**Not Applicable**
												Controls Compliance (See Table H for Details):			**COMPLIES with Exceptional Conditions**

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTO-E
Project Name: CLARK MAGNET HIGH SCHOOL Report Page: Page 7 of 7
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214 Date Prepared: 04/24/2020

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete

Documentation Author Name:	SUNGHAN CHO	Documentation Author Signature:	Sunghan Cho
Company:	HENDERSON ENGINEERS, INC.	Signature Date:	09/04/2020
Address:	510 WEST 6TH STREET, SUITE 800	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	LOS ANGELES, CA 90014	Phone:	(213) 254-4750

RESPONSIBLE PERSON'S DECLARATION STATEMENT
I certify the following under penalty of perjury, under the laws of the State of California:
1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	SIMON UBHI	Responsible Designer Signature:	
Company :	HENDERSON ENGINEERS, INC.	Date Signed:	Sep 4 2020
Address:	510 WEST 6TH STREET, SUITE 800	License:	E19855
City/State/Zip:	LOS ANGELES, CA 90014	Phone:	(213) 254-4750

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTO-E
Project Name: CLARK MAGNET HIGH SCHOOL Report Page: Page 6 of 7
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214 Date Prepared: 04/24/2020

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRIC/

YES	NO	Form/Title	Field Inspector	
			Pass	Fail
◉	○	NRCI-LTO-01-E - Must be submitted for all buildings.	☐	☐
◉	○	NRCI-LTO-02-E - Must be submitted for a lighting control system; or for an Energy Management Control System (EMCS), to be recognized for compliance.	☐	☐

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit: http://www.energy.ca.gov/title24/attcp/providers.html

YES	NO	Form/Title	Field Inspector	
			Pass	Fail
◉	○	NRCA-LTO-02-A - Must be submitted for all outdoor lighting controls except for alterations where controls area added to ≤ 20 luminaires.	☐	☐

STATE OF CALIFORNIA
Outdoor Lighting
NRCC-LTO-E (Created 11/19) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE NRCC-LTO-E
Project Name: CLARK MAGNET HIGH SCHOOL Report Page: Page 5 of 7
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214 Date Prepared: 04/24/2020

01	02	03	04	05	06	07	08	09	10
Area Description	Application per Table 140.7-B[1]	CALCULATED ALLOWANCE (Watts)			DESIGN WATTS				Additional Allowance (Watts)
		# of Locations	Allowance per Location[2] (Watts)	Extra Allowance (Watts)	Luminaire Name or Item Tag	Watts per Luminaire[3]	# of Luminaires[3]	Design Watts	
BUILDING ENTRANCE/EXIT	Bldg Entrance/ Exit	2	19	38	F4E	25	1	25	
					GE	12	2	24	
							Total Design Watts for this Area:	49	38
							Total Allowance (Watts) All Areas:	**38**	

[1] FOOTNOTES: Primary entrance applications are only available for senior care facilities, healthcare facilities, police stations, hospitals, fire stations, and emergency vehicle facilities.
[2] The Allowance per Location for ATMs is 100W for the first ATM and 35W for each additional per Table 140.7-B.
[3] For luminaires indicated in Table F as linear, wattage in column 07 is W/lf instead of Watts/luminaire. Total linear feet for the luminaire should be indicated in column 08 instead of number of luminaires.

K. LIGHTING ALLOWANCE: SALES FRONTAGE

This Section Does Not Apply

L. LIGHTING ALLOWANCE: ORNAMENTAL

This Section Does Not Apply

M. LIGHTING ALLOWANCE: PER SPECIFIC AREA

This Section Does Not Apply

N. EXISTING CONDITIONS POWER ALLOWANCE (alterations only)

This Section Does Not Apply

REVISIONS
1 DSA Comments 09/02/2
2 10

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

IDENTIFICATION STAMP
DIVISION OF STATE ARCHITECT OFFICE OF REGULATION SERVICES
FILE NO. ###
APPL NO. ###

AC___FLS___SS___.
DATE_____.

NOT FOR CONSTRUCTION

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

REGISTERED PROFESSIONAL ENGINEER SIMRAN S. UBHI No. 19855 Electrical STATE OF CALIFORNIA

Sep 4 2020

NAC ARCHITECTURE
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

TITLE 24 FORMS - OUTDOOR LIGHTING

E8.03

© 2015 NAC Inc

SIMRAN S. UBHI

9/4/2020 12:16:49 PM C:\Revit Projects\205001084 Clark CTE_MEPv20_sunghan.cho_20200904091910.rvt

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E (Created 12/17) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-SRA-E
Project Name: CLARK MAGNET HIGH SCHOOL	Report Page:	Page 3 of 5
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214	Date Prepared:	04/24/2020

Designated Solar Zone Subareas

09	10	11	12	13	14	15	16	17	18	19
Subarea Name or Tag	Building Plan Reference	Roof or Overhang Slope (Low ≤ 2:12 pitch) (Steep > 2:12 pitch)	Is Steep-Sloped Roof or Overhang between 110 and 270 degrees?	Subarea Complies with Title 24, Part 9	Solar Zone Subarea Free of Obstructions per §110.10(b)3A	Subarea is Required Distance from Potential Obstructions per §110.10(b)3B	Is the Smallest Dimension 5 feet or greater?	Min. Area Required per Subarea (ft²)	Designated Area (ft²)	Subarea Complies?
FUTURE SOLAR	E4.12	Low-Sloped		Yes	Yes	Yes	Yes	80	1,348	COMPLIES
							Total Designated Solar Zone Area (ft²):		**1,348**	

Interconnection Pathways

Location in construction documents showing the location for inverters and metering equipment and a pathway for the routing of conduit/ plumbing to the electrical service/ water heating system per §110.10(c).

FOOTNOTE: This field is used to document how the percentage of annual solar access was determined per §170.1(b)1B. Solar access is the ratio of solar insolation including shade to the solar insolation without shade. Shading from obstructions located on the roof or any other part of the building shall not be included in the determination of annual solar access.

G. PERMANENTLY INSTALLED SOLAR PHOTOVOLTAIC (PV) SYSTEM

This Section Does Not Apply

H. PERMANENTLY INSTALLED SOLAR HOT WATER SYSTEM

This Section Does Not Apply

I. SMART THERMOSTATS AND ALTERNATIVE EFFICIENCY MEASURE

This Section Does Not Apply

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E (Created 12/17) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-SRA-E
Project Name: CLARK MAGNET HIGH SCHOOL	Report Page:	Page 2 of 5
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214	Date Prepared:	04/24/2020

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with uneditable comments because of selections made or data entered in tables throughout the form.

No exceptional conditions apply to this project.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. ALLOCATED SOLAR ZONE

Table Instructions: Complete this table if the project is designating a solar zone to comply with §110.10(b)1B. For new construction consider total roof area; for additions consider newly added roof area.

Required Minimum Solar Zone

01	02	03	04	05	06			07	08
					Potential Solar Zone Areas: Roof Areas with ≥ 70% Solar Access				
Minimum Solar Zone Area Calculation Method	Total New or Added Roof Area (ft²)	Total New or Added Roof Area Covered with Skylights (ft²)	Minimum Solar Zone Based on Total or Added Roof Area (0.15 x (Roof Sky(ft)) (ft²)	Method/Tool(s) Used to Determine Annual Solar Access for Potential Zones¹	Low-Sloped Area (≤ 2:12 pitch) (ft²)	Steep-Sloped Area (> 2:12 pitch) Oriented 110° - 270° (ft²)	Total Potential Solar Zone Area (ft²)	Minimum Solar Zone Based on Potential Zone (0.5 x (Total Potential Zone)) (ft²)	Required Minimum Solar Zone Area (ft²)
Total New or Added Roof Area	8,370	140	1,234.5						1,234.5

Designated Solar Zone Subareas

09	10	11	12	13	14	15	16	17	18	19
Subarea Name or Tag	Building Plan Reference	Roof or Overhang Slope (Low ≤ 2:12 pitch) (Steep > 2:12 pitch)	Is Steep-Sloped Roof or Overhang between 110 and 270 degrees?	Subarea Complies with Title 24, Part 9	Solar Zone Subarea Free of Obstructions per §110.10(b)3A	Subarea is Required Distance from Potential Obstructions per §110.10(b)3B	Is the Smallest Dimension 5 feet or greater?	Min. Area Required per Subarea (ft²)	Designated Area (ft²)	Subarea Complies?

Table Continued

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E (Created 12/17) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-SRA-E
Project Name: CLARK MAGNET HIGH SCHOOL	Report Page:	Page 1 of 5
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214	Date Prepared:	04/24/2020

This document is used to demonstrate compliance with mandatory requirements in §110.10 for newly constructed buildings which are either high-rise multifamily ten stories or fewer, hotel/motel ten stories or fewer or all other nonresidential buildings three stories or fewer. It is also used to demonstrate compliance for additions to these building types which add more than 2,000 ft² of roof area. Alterations or additions of less than 2,000 ft² of roof area are not required to comply with §110.10.

A. GENERAL INFORMATION

01	Project Location (city)	GLENDALE	04 Building Type	Other nonresidential bldg 3 stories or fewer
02	Climate Zone	9	05 Construction Type	New Construction
03	☐ Roof is designed for vehicle traffic, parking or for heliport			

B. PROJECT SCOPE

Table Instructions: Select the compliance path the project is using to comply per §170.2(b)1B.

My project consists of (check one): 01

☑ Allocated Solar Zone	The project has allocated a solar zone on the roof plan per requirements in §110.10(b), as documented in Table F.
☐ Installed Solar Photovoltaic System	The project includes a permanently installed solar electric system having a nameplate DC power rating, measured under Standard Test Conditions, of no less than one watt per square foot of roof area, as documented in Table G.
☐ Installed Solar Water Heating System	The project includes a permanently installed domestic solar water-heating system complying with §150.1(c)8iii and Reference Residential Appendix RA4, as documented in Table H.
☐ Smart Thermostat and Alternative Energy Efficiency Measure	The project is a high-rise multifamily occupancy where all thermostats in each dwelling unit comply with Reference Joint Appendix JA5 and are capable of receiving and responding to demand response signals AND at least one additional energy efficiency measure listed in Exception 4 to §110.10(b)1B is installed, as documented in Table I.

C. COMPLIANCE RESULTS

Table Instructions: If any cell on this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D. for guidance.

Allocated Solar Zone				Installed PV System				Installed SWH System				Smart Tstat and Alternative EE Measure		Compliance Results
01		02		03		04		05		06		07	08	09
Required Minimum Area (ft²)	≤	Designated Area (ft²)	OR	Required Minimum DC Power Rating (Watts)	≤	Designed DC Power Rating (Watts)	OR	Required Minimum Solar Savings Fraction	≤	Designed/ Rated Solar Savings Fraction	OR	JA5 Compliant Thermostat Specified?	Alternative Energy Efficiency Measure	
(See Table F)				(See Table G)				(See Table H)				(See Table I)		
1,234.5	≤	1,348	OR		≤		OR		≤		OR			**COMPLIES**
within the construction documents shows the location for inverters and metering equipment and a pathway for the routing of conduit/ plumbing to the electrical service/ water heating system.														**DOES NOT COMPLY**

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E (Created 12/17) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-SRA-E
Project Name: CLARK MAGNET HIGH SCHOOL	Report Page:	Page 5 of 5
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214	Date Prepared:	04/24/2020

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

Documentation Author Name:	SUNGHAN CHO	Documentation Author Signature:	Sunghan Cho
Company:	HENDERSON ENGINEERS, INC.	Signature Date:	09/04/2020
Address:	510 WEST 6TH STREET, SUITE 800	CEA/ HERS Certification Identification (if applicable):	
City/State/Zip:	LOS ANGELES, CA 90014	Phone:	(213) 254-4750

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. **The information provided on this Certificate of Compliance is true and correct.**
2. **I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)**
3. **The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.**
4. **The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.**
5. **I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.**

Responsible Designer Name:	SIMON UBHI	Responsible Designer Signature:	
Company :	HENDERSON ENGINEERS, INC.	Date Signed:	Sep 4 2020
Address:	510 WEST 6TH STREET, SUITE 800	License:	E19855
City/State/Zip:	LOS ANGELES, CA 90014	Phone:	(213) 254-4750

STATE OF CALIFORNIA
Solar Ready Areas
NRCC-SRA-E (Created 12/17) CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE		NRCC-SRA-E
Project Name: CLARK MAGNET HIGH SCHOOL	Report Page:	Page 4 of 5
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214	Date Prepared:	04/24/2020

J. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections have been made based on information provided in previous tables of this document. If any selection needs to be changed, please explain why in Table E. Additional Remarks. These documents must be provided to the building inspector during construction and can be found online at https://www.energy.ca.gov/2015publications/CEC-400-2015-028/appendices/forms/NRC

YES	NO	Form/Title	Field Inspector	
			Pass	Fail
○	◉	NRCI-SPV-01-E - Must be submitted for all newly installed Photovoltaic Systems (PV) being used to comply with §110.10(b)1B for high-rise multifamily, Hotel/Motel buildings less than 10 stories and nonresidential buildings less than 4 stories.	☐	☐
○	◉	NRCI-STH-01-E - Must be submitted for all newly installed Solar Water Heating systems being used to comply with §110.10(b)1B for high-rise multifamily, Hotel/Motel buildings less than 10 stories and nonresidential buildings less than 4 stories.	☐	☐

K. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

There are no Certificates of Acceptance applicable to solar ready requirements.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

REGISTERED PROFESSIONAL ENGINEER
SIMRAN UBHI
No. 19855
ELECTRICAL
STATE OF CALIFORNIA

Sep 4 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

TITLE 24 FORMS - SOLAR

E8.04

© 2019 NAC Inc.

SIMRAN S. UBHI

9/4/2020 12:16:53 PM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_sunghan.cho_20200904091910.rvt

STATE OF CALIFORNIA
Nonresidential Building Commissioning
NRCC-CXR-E (Created 7/18) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-CXR-E
Project Name: CLARK MAGNET HIGH SCHOOL — Report Page: Page 3 of 5
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214 — Date Prepared: 04/24/2020

Table Continued

	The design reviewer(s) must be licensed professional engineers or licensed architects, or licensed contractors representing services performed by or under the direct supervision of a licensed engineer or architect, as specified in the provisions of Division 3 of the Business and Professions Code.	Do the Design Reviewer(s) meet these qualifications?	
		YES	NO
03	In addition, for buildings with < 10,000 ft², the design reviewer(s) may be the engineer or architect of record. The design reviewer(s) may also be a qualified in-house engineer or architect with no other project involvement or a third party engineer, architect or contractor.	○	○
04	The design reviewer(s) for this project will be:		

Preliminary Construction Schedule			
		Start Date	**Completion Date**
05	Schematic Design	2019-12-26	2019-12-13
06	Design Development	2019-12-16	2020-01-30
07	Construction Documents	2020-01-31	2020-04-29
08	Construction	2021-01-01	2022-01-01
09	Building Turnover	2022-01-01	
Project Goals Related to Energy Efficiency			
10	Operational Costs	*Describe the broad goals relative to operational costs.*	
11	Desired Building Lifespan	*Describe the desired building lifespan.*	
12	Equipment Lifecycle	*Describe the broad goals relative to the lifecycle of building systems equipment.*	
13	Project Energy Efficiency Goals	*Describe the project energy efficiency goals, such as Energy Use Intensity (EUI) in kBtu/ft².*	
14	Envelope Goals	*Describe any efficiency goals related to the building's roof, walls, windows or floors.*	
15	HVAC System Goals	*Describe heating and cooling requirements and any special considerations. Describe the anticipated occupancy schedule and if users will have the ability to override the HVAC setpoints during unoccupied periods. Describe desired occupant control capabilities. Describe any other special considerations that should be reviewed during the commissioning design review.*	
16	Indoor Lighting System Goals	*Describe any efficiency goals related to the building's indoor lighting systems.*	
17	Outdoor Lighting System Goals	*Describe any efficiency goals related to the building's outdoor lighting systems.*	
18	Water Heating System Goals	*Describe any efficiency goals related to the building's water heating system.*	
19	Equipment and System Specifications	*Describe the desired equipment type, quality and reliability requirements, preferred manufacturers, and energy efficiency targets.*	
20	Operations and Maintenance	*Describe the desired level of training and orientation for building occupants to understand and use building systems, and the level of training and orientation of operations and maintenance staff to understand and maintain the building systems.*	

STATE OF CALIFORNIA
Nonresidential Building Commissioning
NRCC-CXR-E (Created 7/18) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-CXR-E
Project Name: CLARK MAGNET HIGH SCHOOL — Report Page: Page 2 of 5
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214 — Date Prepared: 04/24/2020

C. COMPLIANCE RESULTS

Table Instructions: Table C will indicate if the project data input into the compliance document is compliant with commissioning requirements per §120.8. This table is not editable by the user. If this table says "DOES NOT COMPLY" or "COMPLIES with Exceptional Conditions" refer to Table D, for guidance.

01	02	03	04	05	06	07	08	09
Design Review Kickoff	Owner's Project Requirements	Basis of Design	Design Review	Commissioning Plan	Functional Performance Testing	Documentation and Training	Commissioning Report	Compliance Results
Table F	Table G	Table H	Table I	Table J	Table K	Table L	Table M	
No	No							**DOES NOT COMPLY**

10 Design Reviewer(s) for the project include:

D. EXCEPTIONAL CONDITIONS

This table is auto-filled with unedittable comments because of selections made or data entered in tables throughout the form.

No exceptional conditions apply to this project.

E. ADDITIONAL REMARKS

This table includes remarks made by the permit applicant to the Authority Having Jurisdiction.

F. DESIGN REVIEW KICKOFF MEETING

Table Instructions: Complete this table to indicate that the design reviewer meets the qualification requirements per Title 24, Part 1 Section 10-103(a)1 and to demonstrate compliance with design review kickoff requirements per §120.8(d)2. This meeting should occur during the Schematic Design phase of the project.

Design Review Kickoff Meeting Details

01 Date of Design Review Kickoff Meeting
02 Meeting Attendees: (one person may play multiple roles)

☐ Owner/ Facility Manager: ☐ Design Reviewer(s):
☐ Project Manager: ☐ Design Architect/ Engineer(s):
☐ Contractor: ☐ Certified Acceptance Test Tech(s):
☐ Commissioning Provider: ☐ Energy/ T24 Part 6 Consultant:

Design Reviewer Qualifications per Title 24, Part 1 Section 10-103(a)1
Table Continued

STATE OF CALIFORNIA
Nonresidential Building Commissioning
NRCC-CXR-E (Created 7/18) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-CXR-E
Project Name: CLARK MAGNET HIGH SCHOOL — Report Page: Page 1 of 5
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214 — Date Prepared: 04/24/2020

This document is used to demonstrate compliance with mandatory commissioning requirements in §120.8 for nonresidential buildings and hotel/motel or high-rise residential buildings with nonresidential spaces. This document does not demonstrate compliance with commissioning requirements within Title 24, Part 11, which need to be documented separately if they apply.

A. GENERAL INFORMATION

01	Project Location (city)	GLENDALE	04	Building Size (ft²)	5,878
02	Occupancy Type	Nonresidential	05	Nonresidential Conditioned Floor Area (ft²)	< 10,000 ft²
03	Project Type	Newly constructed	06	HVAC System Type	Unitary or packaged equipment each serving one zone

B. PROJECT SCOPE

Table Instructions: Based on project information provided in Table A, Table B indicates which commissioning related requirements apply per §120.8. Table B is not editable by the user.

	Commissioning Requirements per §120.8	
01	Table F: Design Review Kickoff	§120.8(d)1 and §120.8(d)2. The design review kickoff meeting establishes who will play the role of the design reviewer, the project schedule and identify owner's requirements. This meeting should be conducted during schematic design.
02	Table G: Owner's Project Requirements (OPR)	§120.8(b) This requirement does not apply.
03	Table H: Basis of Design (BOD)	§120.8(c) This requirement does not apply.
04	Table I: Design Review	§120.8(d) and §120.8(e) The design reviewer(s) reviews the construction documents for clarity, completeness, and adherence to the owner's goals. Commissioning measures must be included in the construction documents to facilate the design review and commissioning process. For projects with ≥ 10,000 ft² of nonresidential conditioned floor area, or with complex mechanical systems, the design review is for adherence with the Owner's Project Requirements (OPR) and Basis of Design (BOD). This should be conducted during design.
05	Table J: Commissioning Plan	§120.8(f) This requirement does not apply.
06	Table K: Functional Performance Testing	§120.8(g) This requirement does not apply.
07	Table L: Documentation and Training	§120.8(h) This requirement does not apply.
08	Table M: Commissioning Report	§120.8(i) This requirement does not apply.

STATE OF CALIFORNIA
Nonresidential Building Commissioning
NRCC-CXR-E (Created 7/18) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-CXR-E
Project Name: CLARK MAGNET HIGH SCHOOL — Report Page: Page 5 of 5
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214 — Date Prepared: 04/24/2020

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

Documentation Author Name:	Documentation Author Signature:
Company:	Signature Date:
Address:	CEA/ HERS Certification Identification (if applicable):
City/State/Zip:	Phone:

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Designer Name:	Responsible Designer Signature:
Company :	Date Signed: Sep 4 2020
Address:	License:
City/State/Zip:	Phone:

STATE OF CALIFORNIA
Nonresidential Building Commissioning
NRCC-CXR-E (Created 7/18) — CALIFORNIA ENERGY COMMISSION

CERTIFICATE OF COMPLIANCE — NRCC-CXR-E
Project Name: CLARK MAGNET HIGH SCHOOL — Report Page: Page 4 of 5
Project Address: 4747 NEW YORK AVE, GLENDALE, CA 91214 — Date Prepared: 04/24/2020

G. OWNER'S PROJECT REQUIREMENTS (OPR)

This Section Does Not Apply

H. BASIS OF DESIGN (BOD)

This Section Does Not Apply

I. CONSTRUCTION DOCUMENT DESIGN REVIEW CHECKLIST

Table Instructions: The design reviewer(s) may fill out the table below or attach a design review document that lists the items checked by the design reviewer(s) during the construction document review. For buildings with ≥ 10,000 ft² conditioned floor area, the design review will ensure the construction documents meet the Owner's Project Requirements (Table G.) and the Basis of Design Documents (Table H.). For buildings with < 10,000 ft² conditioned floor area, the design review will ensure the construction documents meet the goals documented in Table F. during the Design Review Kickoff.

		YES	NO
01	Attaching Completed Design Review Documentation?	○	○

J. COMMISSIONING PLAN

This Section Does Not Apply

K. FUNCTIONAL PERFORMANCE TESTING

This Section Does Not Apply

L. DOCUMENTATION AND TRAINING

This Section Does Not Apply

M. COMMISSIONING REPORT

This Section Does Not Apply

N. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

There are no Certificates of Installation applicable to commissioning requirements.

O. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Although there are no "CAP" Certificates of Acceptance required to document commissioning requirements, Certificates of Acceptance may be used to supplement functional performance testing required by §120.8(a).

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

REGISTERED PROFESSIONAL ENGINEER
SIMRAN UBHI
No. 19855
ELECTRICAL
STATE OF CALIFORNIA

Sep 4 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

TITLE 24 FORMS - COMMISSIONING

E8.05

© 2019 NAC Inc.

SIMRAN S. UBHI

9/4/2020 12:16:56 PM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_sunghan.cho_20200904091910.rvt

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 3 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

D. EXCEPTIONAL CONDITIONS

The aged solar reflectance and aged thermal emittance must be listed in the Cool Roof Rating Council database of certified products. For projects where initial reflectance is used, the initial reflectance must be listed, and the aged reflectance is calculated by the software program and used in the compliance model.

The general lighting exceptional method is employed for one or more spaces. Verify that the lighting allowances match the lighting installed on the plans and serve the areas within each space as identified in the compliance model.

This project uses the Simplified Geometry Performance Modeling Approach which is not capable of modeling daylighting controls and assumes the prescriptive Secondary Daylit Control requirements are met. PRESCRIPTIVE COMPLIANCE documentation (form NRCC-LTI-02-E) for the requirements of section 140.6(d) Automatic Daylighting Controls in Secondary Daylit Zones is required.

E. HERS VERIFICATION

This Section Does Not Apply

F. ADDITIONAL REMARKS

This Section Does Not Apply

G. ENVELOPE GENERAL INFORMATION

1	2	3	4
Opaque Surfaces & Orientation	**Total Gross Surface Area (ft²)**	**Total Fenestration Area (ft²)**	**Window to Wall Ratio (%)**
North-Facing[1]	1,517 ft²	248 ft²	16.4%
East-Facing[2]	1,358 ft²	0 ft²	00.0%
South-Facing[3]	1,695 ft²	98 ft²	05.8%
West-Facing[4]	1,348 ft²	0 ft²	00.0%
Total	**5,918 ft²**	**346 ft²**	**05.9%**
Roof	7,116 ft²	116 ft²	01.6%

Notes:
[1] North-Facing is oriented to within 45 degrees of true north, including 45°00'00" east of north (NE), but excluding 45°00'00" west of north (NW).
[2] East-Facing is oriented to within 45 degrees of true east, including 45°00'00" south of east (SE), but excluding 45°00'00" north of east (NE).
[3] South-Facing is oriented to within 45 degrees of true south, including 45°00'00" west of south (SW), but excluding 45°00'00" east of south (SE).
[4] West-Facing is oriented to within 45 degrees of true west, including 45°00'00" north of due west (NW), but excluding 45°00'00" south of west (SW).

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 2 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

C1. COMPLIANCE RESULTS FOR PERFORMANCE COMPONENTS (Annual TDV Energy Use, kBtu/ft ²-yr)

COMPLIES

Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[1]
Space Heating	2.75	4.44	-1.69
Space Cooling	132.32	140.98	-8.66
Indoor Fans	117.99	115.80	2.19
Heat Rejection	--	--	--
Pumps & Misc.	--	--	--
Domestic Hot Water	5.42	7.61	-2.19
Indoor Lighting	116.86	60.13	56.73
ENERGY STANDARDS COMPLIANCE TOTAL	**375.34**	**328.96**	**46.38 (12.4%)**

[1] Notes: The number in parenthesis following the Compliance Margin in column 4. represents the Percent Better than Standard.

C2. RESULTS FOR 'ABOVE CODE' QUALIFICATIONS[1]

☐ This project is pursuing CalGreen Tier 1 ☐ This project is pursuing CalGreen Tier 2

Miscellaneous Energy Component	Standard Design (TDV)	Proposed Design (TDV)	Compliance Margin (TDV)[2]
Receptacle	84.94	84.94	--
Process	337.45	337.45	--
Other Ltg	--	--	--
Process Motors	--	--	--
COMPLIANCE TOTAL PLUS MISCELLANEOUS COMPONENTS	**797.73**	**751.35**	**46.4 (5.8%)**

[1] Notes: This table is used to document compliance with programs OTHER THAN Title 24 Part 6, if applicable.

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 1 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

A. GENERAL INFORMATION

1.	Project Location (city)	GLENDALE	**8.**	Standards Version	Compliance2019
2.	CA Zip Code	91214	**9.**	Compliance Software (version)	EnergyPro 8.1
3.	Climate Zone	9	**10.**	Weather File	BURBANK-GLENDALE_722880_CZ2010.epw
4.	Total Conditioned Floor Area in Scope	7,025 ft²	**11.**	Building Orientation (deg)	(N) 0 deg
5.	Total Unconditioned Floor Area	0 ft²	**12.**	Permitted Scope of Work	NewComplete
6.	Total # of Stories (Habitable Above Grade)	1	13	Building Type(s)	Nonresidential
7.	Total # of dwelling units	0	14	Gas Type	NaturalGas

B. PROJECT SUMMARY

Table Instructions: Table B shows which building components are included in the performance calculation. If indicated as not included, the project must show compliance prescriptively if within permit application.

Building Components Complying via Performance					Building Components Complying Prescriptively	
Envelope	☒ Performance	Covered Process: Commercial Kitchens	☐ Performance		*The following building components are ONLY eligible for prescriptive compliance and should be documented on the NRCC form listed if within the scope of the permit application (i.e. compliance will not be shown on the NRCC-PRF-E).*	
	☐ Not Included		☒ Not Included			
Mechanical	☒ Performance	Covered Process: Computer Rooms	☐ Performance		Indoor Lighting (Unconditioned)§140.6	*NRCC-LTI-E is required*
	☐ Not Included		☒ Not Included		Outdoor Lighting §140.7	*NRCC-LTO-E is required*
Domestic Hot Water	☒ Performance	Covered Process: Laboratory Exhaust	☐ Performance		Sign Lighting §140.8	*NRCC-LTS-E is required*
	☐ Not Included		☒ Not Included		Mandatory Measures	
Lighting (Indoor Conditioned)	☒ Performance				*Electrical power systems, commissioning and solar ready requirements are mandatory and should be documented on the NRCC form listed if applicable (i.e. compliance will not be shown on the NRCC-PRF-E.)*	
	☐ Not Included				Electrical Power Distribution §110.11	*NRCC-ELC-E is required*
Solar Thermal Water Heating	☐ Performance				Commissioning §120.8	*NRCC-CXR-E is required*
	☒ Not Included				Solar Ready §110.10	*NRCC-SRA-E is required*

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 6 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

K2. ECONOMIZER & FAN SYSTEMS SUMMARY §140.4[1]

1	2	3	4	5	6	7	8	9	10	11	12	13
	System Type	Design OA	Supply Fan				Return Fan				Economizer Type (if present)	Status[2]
Name or Item Tag	packaged, DOAS, etc.	CFM	CFM	BHP	Watts	Control	CFM	BHP	Watts	Control		
RTU 1-1	SZVAVAC	182	1500	0.670	584.3	VariableSpeedDrive	NA	NA	NA	NA	FixedDryBulb	N
RTU 1-2	SZVAVAC	741	8900	6.520	5301.3	VariableSpeedDrive	NA	NA	NA	NA	FixedDryBulb	N
RTU 1-3	SZVAVAC	77	740	0.430	375.0	VariableSpeedDrive	NA	NA	NA	NA	FixedDryBulb	N
RTU 1-4	SZVAVAC	54	740	0.430	375.0	VariableSpeedDrive	NA	NA	NA	NA	FixedDryBulb	N

[2] Status: N - New, A – Altered, E – Existing

K3. EXHAUST FAN SUMMARY

1	2	3	4	5	6	7
System ID	**Zone Name**	**Qty**	**CFM**	**Motor BHP**	**Motor Watts**	**Total Static Pressure (in H20)**
ZONE 13	1-ZONE 1	1	580	0.100	87.2	0.71
ZONE 224	2-ZONE 2	1	2,500	0.750	654.0	1.24
ZONE 355	3-ZONE 3	1	270	0.100	87.2	1.53
ZONE 463	4-ZONE 4	1	180	0.100	87.2	2.29

K4. Wet System Equipment (boilers, chillers, cooling towers, etc.)

1	2	3	4	5	6	7	8	9	10	11	12
							Pumps				Status[1]
Name or Item Tag	Equipment Type	Qty	Vol (gal)	Rated Capacity (kBtu/h)	Efficiency	Standby Loss	Qty	GPM	HP	VSD (Y/N)	

[1] Status: N - New, A – Altered, E – Existing

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 5 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

I2. OVERHANG DETAILS

This Section Does Not Apply

I3. OPAQUE DOOR SUMMARY

1	2	3
Assembly Name	**Overall U-factor**	**Status[1]**
INSULATED DOOR42	0.500	N

J. CRRC ROOFING PRODUCT SUMMARY §140.3

1	2	3	4	5
Assembly Name	**Roof Pitch**	**Aged Solar Reflectance**	**Thermal Emittance**	**SRI**
Clark Roof13	Low-Slope	0.30	0.75	Not Provided

K. HVAC SYSTEM SUMMARY §110.1 & §110.2

K1. Dry System Equipment (furnaces, air handling units, heat pumps, VRF, etc.)

Dry System Equipment [1] (Fan & Economizer info included below in Table N)

1	2	3	4	5	6	7	8	9	10
			Heating				Cooling		Status[2]
Equipment Name	Equipment Type	Qty	Total Heating Output (kBtu/h)	Supp Heat Source (Y/N)	Supp Heat Output (kBtuh)	Efficiency	Total Cooling Output (kBtu/h)	Efficiency	
RTU 1-1	SZVAVAC (Packaged3Phase)	1	41	No	0	AFUE-82.0	71	EER-13.0	N
RTU 1-2	SZVAVAC (Packaged3Phase)	1	142	No	0	AFUE-81.0	248	EER-12.0	N
RTU 1-3	SZVAVAC (Packaged3Phase)	1	49	No	0	AFUE-81.0	34	SEER-16.00 / EER-12.40	N
RTU 1-4	SZVAVAC (Packaged3Phase)	1	49	No	0	AFUE-81.0	34	SEER-16.00 / EER-12.40	N

[2] Status: N - New, A – Altered, E – Existing

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 4 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

H. FENESTRATION ASSEMBLY SUMMARY §110.6

1.	2.	3.	4.	5.	6.	7.	8.	9.
Fenestration Assembly Name / Tag or I.D.	**Fenestration Type / Product Type / Frame Type**	**Certification Method[1]**	**Assembly Method**	**Area ft²**	**Overall U-factor**	**Overall SHGC**	**Overall VT**	**Status[2]**
Residential Cooling	VerticalFenestration FixedWindow N/A	NFRC Rated	Manufactured	346	0.36	0.25	0.50	N
PPG Solexia	Skylight FixedWindow MetalFraming	Default Performance	Manufactured	116	1.98	0.83	1.00	N

[1] Newly installed fenestration shall have a certified NFRC Label Certificate or use the CEC default tables found in Table 110.6-A and Table 110.6-B. Center of Glass (COG) values are for the glass only, determined by the manufacturer, and are shown for ease of verification. Site-built fenestration values are calculated per Nonresidential Appendix NA6 and are used in the analysis.
[2] Status: N - New, A – Altered, E – Existing

I. ENVELOPE DETAILS §120.7 & §140.3

I1. OPAQUE SURFACE ASSEMBLY SUMMARY

1	2	3	4	5	6	7	8	9
Surface Name	**Surface Type**	**Description of Assembly Layers**	**Area (ft²)**	**Framing Type**	**Cavity R-Value**	**Continuous R-Value**	**U-Factor / F-Factor / C-Factor**	**Status[1]**
12 CMU Wall11	ExteriorWall	Concrete - Solid Grout - 125 lb/ft3 - 12 in.	5369	NA	0	NA	U-Factor: 0.490	N
Clark Roof13	Roof	Concrete - 100 lb/ft3 - 6 in. Gypsum Board - 5/8 in. Cellular polyisocyanurate (unfaced) - 2 in. R12 Metal Deck - 1/16 in.	7116	NA	0	12	U-Factor: 0.071	N
Slab On Grade15	UndergroundFloor	Slab Type = UnheatedSlabOnGrade Insulation Orientation = None Insulation R-Value = R0	7025	NA	0	NA	F-Factor: 0.730	N
Steel Beam Exterior17	ExteriorWall	Metal building wall, single layer batt, R-0 Metal Insulated Panels - 3 in.	549	NA	0	NA	U-Factor: 0.053	N
12 CMU Wall111	UndergroundWall	Concrete - Solid Grout - 125 lb/ft3 - 12 in.	405	NA	0	NA	C-Factor: 0.840	N

[1] Status: N - New, A – Altered, E – Existing

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 9 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

L3. SOLAR HOT WATER HEATING SUMMARY

This Section Does Not Apply

M. COVERED PROCESS SUMMARY §140.9

This Section Does Not Apply

N. INDOOR LIGHTING SUMMARY §140.6

N1. INDOOR CONDITIONED LIGHTING GENERAL INFO § 140.6[1]

1	2	3	4	5		Confirmed	
				Additional (Custom) Allowance		Pass	Fail
Occupancy Type [3]	Conditioned Floor Area [2] (ft²)	Installed Lighting Power (Watts)	Lighting Control Credits (Watts)	Area Category Footnotes (Watts)	Tailored Method (Watts)	☐	☐
General/Commercial & Industrial Work Area (Precision)	2,087	1,584	0	1478	0	☐	☐
General/Commercial & Industrial Work Area (High Bay)	4,938	3,586	0	3586	0	☐	☐
Building Totals:	**7,025**	**5,170**	**0**	**5064**	**0**		

[1] See Table 140.6-C
[2] See NRCC-LTI-01-E for uncconditioned spaces
[3] Lighting information for existing spaces modeled is not included in the table

N2. INDOOR CONDITIONED LIGHTING SCHEDULE § 130.0[1]

Luminaire Schedule (includes all permanent installed lighting in conditioned space, and portable lighting over 0.3 w/ft² in offices)							Confirmed	
		Installed Watts (Conditioned)						
Name or Item Tag	Complete Luminaire Description (i.e., 3-lamp fluorescent troffer, F32T8, one dimmable electronic ballast)	Watts per luminaire	How Wattage is Determined: CEC Default from NA8	How Wattage is Determined: According to §130.0(c)	Total Number Luminaires	Installed Watts	Pass	Fail
A	HIGH BAY PENDANT DOWNLIGHT	97	No	Yes	34	3,298	☐	☐

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 8 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

Multifamily or Hotel/Motel Occupancy? (if "Yes", see DOMESTIC/SERVICE HOT WATER SYSTEM SUMMARY)	No
Does the Project include Zonal Systems?	No

K8. ZONAL SYSTEM AND TERMINAL UNIT SUMMARY § 140.4

1	2	3	4	5	6	7		8	9	10	11	12
			Rated Capacity (kBtuh)			Airflow (cfm)			Fan			
System ID	Zone Name	System Type	Heating	Cooling	Design	Min.	Min. Ratio	BHP	Watts	Cycles	ECM Motor
1-ZONE 1-Trm	1-ZONE 1	VAVNoReheatBox	NA	NA	1500	0	0.00	NA	NA	NA	☐
2-ZONE 2-Trm	2-ZONE 2	VAVNoReheatBox	NA	NA	8900	0	0.00	NA	NA	NA	☐
3-ZONE 3-Trm	3-ZONE 3	VAVNoReheatBox	NA	NA	740	0	0.00	NA	NA	NA	☐
4-ZONE 4-Trm	4-ZONE 4	VAVNoReheatBox	NA	NA	740	0	0.00	NA	NA	NA	☐

K9. EVAPORATIVE COOLER SUMMARY

This Section Does Not Apply

L. DOMESTIC/SERVICE HOT WATER SYSTEM SUMMARY

L1. DHW EQUIPMENT SUMMARY

1	2	3	4	5	6	7	8	9	10	11
DHW Name	Heater Element Type	Tank Type	Qty	Tank Vol (gal)	Rated Input (kBtu/h)	Efficiency	Tank Insulation R-value (Int/Ext)	Standby Loss Fraction	Heat Pump Type	Tank Location or Ambient Condition
Instantaneous Electric2	Electricity	Instantaneous	1	1.00	1.0 (kW)	UEF: 0.99	NA	SBLF: NA	NA	NA

L2. MULTI-FAMILY CENTRAL DHW SYSTEM DETAILS

This Section Does Not Apply

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 7 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

K5. SYSTEM FEATURES §120.2

1	2	3	4	5	6
System Name	**Optimum Start**	**Window Interlocks per §140.4(n)**	**Evaporative Cooling**	**Heat Recovery**	**Other Controls**
RTU 1-1	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	1 Zones With CO2Sensor Vent. Control, No DDC Fixed Drybulb Economizer No Supply Air Temp. Control
RTU 1-2	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	1 Zones With CO2Sensor Vent. Control, No DDC Fixed Drybulb Economizer No Supply Air Temp. Control
RTU 1-3	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	1 Zones With CO2Sensor Vent. Control, No DDC Fixed Drybulb Economizer No Supply Air Temp. Control
RTU 1-4	No Optimum Start	NA	No Evaporative Cooler	No Heat Recovery	1 Zones With CO2Sensor Vent. Control, No DDC Fixed Drybulb Economizer No Supply Air Temp. Control
Undefined Plant1 - SHW	NA	NA	NA	NA	Fixed Temperature Control, No DDC

Notes: This table includes controls related to the performance path only. For projects using the prescriptive path, mandatory and prescriptive controls requirements are documented on the NRCC-MCH-E.

K6. MECHANICAL VENTILATION AND REHEAT §120.1

1	2	3	4	5	6	7	8	9
		Mechanical Ventilation						
Zone Name	Ventilation Function	# hotel rooms	# of people	# of bedrooms	Supply OA CFM	Exhaust CFM	Conditioned Area (sf)	DCV or Occupant Sensor Controls, or Both
1-ZONE 1	Misc - All others	0	6.05	0	182	580	1210	NA
2-ZONE 2	Misc - All others	0	24.69	0	741	2500	4938	NA
3-ZONE 3	Misc - All others	0	2.58	0	77	270	516	NA
4-ZONE 4	Misc - All others	0	1.80	0	54	180	361	NA

K7. DISTRIBUTION SUMMARY §120.4/140.4(l)

This Section Does Not Apply

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

REGISTERED PROFESSIONAL ENGINEER SIMRAN S. UBHI No. 19855 ELECTRICAL STATE OF CALIFORNIA

Sep 4 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

TITLE 24 FORMS - PERFORMANCE COMPLIANCE

E8.06

© 2019 NAC Inc.

SIMRAN S. UBHI

9/4/2020 12:17:00 PM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_sunghan.cho_20200904091910.rvt

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 10 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

N2. INDOOR CONDITIONED LIGHTING SCHEDULE § 130.0[1]

Luminaire Schedule (includes all permanent installed lighting in conditioned space, and portable lighting over 0.3 w/ft² in offices)		**Installed Watts (Conditioned)**					**Confirmed**	
Name or Item Tag	**Complete Luminaire Description (i.e., 3-lamp fluorescent troffer, F32T8, one dimmable electronic ballast)**	**Watts per luminaire**	**How Wattage is Determined: CEC Default from NA8**	**How Wattage is Determined: According to §130.0(c)**	**Total Number Luminaires**	**Installed Watts**	**Pass**	**Fail**
B	6" LINEAR PENDANT	36	No	Yes	44	1,584	☐	☐
C1	LINEAR PENDANT	72	No	Yes	4	288	☐	☐

[1] If lighting power densities were used in the compliance model Building Departments will need to check prescriptive forms for Luminaire Schedule details.

N3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS § 140.6

Lighting Control Credits Schedule (includes all lighting controls installed in conditioned space for compliance credit per §140.6(a)2 and Table 140.6-A)

Location in Building	Occupancy Type (must meet requirements of Table 140.6-A)	Type/Description of Lighting Control (i.e., partial on occupancy sensor, manual dimming, etc.)	# of Units	Control Credit Calculation: Watts of Controlled Lighting	Control Credit Calculation: Power Adjustment Factor	Control Credit Calculation: Control Credit Watts	**√ If Acceptance Test Required**	**Confirmed: Pass**	**Confirmed: Fail**
S-1-ZONE 1	General/Commercial & Industrial Work Area (Precision)	- none specified -- none specified -- none specified -- none specified -- none specified -	0		0.000.000.000.000.00	0		☐	☐
S-1-ZONE 1	General/Commercial & Industrial Work Area (Precision)	- none specified -- none specified -- none specified -- none specified -- none specified -	0		0.000.000.000.000.00	0		☐	☐
S-2-ZONE 2	General/Commercial & Industrial Work Area (High Bay)	- none specified -- none specified -- none specified -- none specified -- none specified -	0		0.000.000.000.000.00	0		☐	☐
S-2-ZONE 2	General/Commercial & Industrial Work Area (High Bay)	- none specified -- none specified -- none specified -- none specified -- none specified -	0		0.000.000.000.000.00	0		☐	☐
S-2-ZONE 2	General/Commercial & Industrial Work Area (High Bay)	- none specified -- none specified -- none specified -- none specified -- none specified -	0		0.000.000.000.000.00	0		☐	☐
S-2-ZONE 2	General/Commercial & Industrial Work Area (High Bay)	- none specified -- none specified -- none specified -- none specified -- none specified -	0		0.000.000.000.000.00	0		☐	☐

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 11 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

N3. INDOOR CONDITIONED LIGHTING CONTROL CREDITS § 140.6

Lighting Control Credits Schedule (includes all lighting controls installed in conditioned space for compliance credit per §140.6(a)2 and Table 140.6-A)

Location in Building	Occupancy Type (must meet requirements of Table 140.6-A)	Type/Description of Lighting Control (i.e., partial on occupancy sensor, manual dimming, etc.)	# of Units	Control Credit Calculation: Watts of Controlled Lighting	Control Credit Calculation: Power Adjustment Factor	Control Credit Calculation: Control Credit Watts	**√ If Acceptance Test Required**	**Confirmed: Pass**	**Confirmed: Fail**
S-3-ZONE 3	General/Commercial & Industrial Work Area (Precision)	- none specified -- none specified -- none specified -- none specified -- none specified -	0		0.000.000.000.000.00	0		☐	☐
S-4-ZONE 4	General/Commercial & Industrial Work Area (Precision)	- none specified -- none specified -- none specified -- none specified -- none specified -	0		0.000.000.000.000.00	0		☐	☐

N4: INDOOR CONDITIONED LIGHTING MANDATORY LIGHTING CONTROLS § 130.1

This Section Does Not Apply

§130.1(a) = Manual area controls; §130.0(b) = Multi Level; §130.1(c) = Auto Shut-Off; §130.1(d) = Mandatory Daylight; §130.1(e) = Demand Responsive

N5. TAILORED METHOD CONDITIONED LIGHTING POWER ALLOWANCE SUMMARY AND CHECKLIST § 140.6

General lighting power (see Table D)	0
General lighting power from special function areas (see Table E)	NA
Additional "use it or lose it" (See Table G)	0
Total watts	0

N6. GENERAL LIGHTING POWER § 140.6-D

This Section Does Not Apply

N7. GENERAL LIGHTING FROM SPECIAL FUNCTION AREAS § 140.6(c) 3H

Room Number	Primary Function Area	Illuminance Value (LUX)	Room Cavity Ratio (Table G)	Allowed LPD	Floor Area (ft²)	**Allowed Watts**	**Confirmed: Pass**	**Confirmed: Fail**
NA	NA	NA	NA	NA	NA	NA	☐	☐

Note: Tailored Method for Special Function Areas is not currently implemented

---

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 12 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

N8. ROOM CAVITY RATIO

Rectangular Spaces

Room Number	Task/Activity Description	Room Length (ft)	Room Width (ft)	Room Cavity Height (ft)	**RCR**	**Confirmed: Pass**	**Confirmed: Fail**
NA	NA	NA	NA	NA	NA	☐	☐

Non-Rectangular Spaces

This Section Does Not Apply

Note: All applicable spaces are listed under the Non-Rectangular Spaces table

N9. ADDITIONAL "USE IT OR LOSE IT"

1.	**2.**	**3.**	**4.**		**Confirmed**	
Wall Display	**Combined Floor Display and Task Lighting**	**Combined Ornamental and Special Effects Lighting**	**Very Valuable Merchandise**	**Allowed Watts**	**Pass**	**Fail**
0	0	0	0	**0**	☐	☐

N10. Wall Display

This Section Does Not Apply

N11. Floor Display and Task Lighting

This Section Does Not Apply

N12. Combined Ornamental and Special Effects Lighting

This Section Does Not Apply

N13. Very Valuable Merchandise

This Section Does Not Apply

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 13 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

N14. INDOOR & OUTDOOR LIGHTING ACCEPTANCE TESTS & FORMS § 130.4

Declaration of Required Acceptance Certificates (NRCA) –Acceptance Certificates that must be verified in the field. (Retain copies and verify forms are completed and signed to post in field for Field Inspector to verify).

Test Description		**Indoor**			**Outdoor**	**Confirmed**	
		NRCA-LTI-02-A	**NRCA-LTI-03-A**	**NRCA-LTI-04-A**	**NRCA-LTO-02-A**		
Equipment Requiring Testing or Verification	# of units	Occ Sensors / Auto Time Switch	Auto Daylight	Demand Responsive	Outdoor Controls	**Pass**	**Fail**
Occupant Sensors	3	☒	☐	☐	☐	☐	☐
Automatic Time Switch	0	☒	☐	☐	☐	☐	☐
Automatic Daylighting	2	☐	☒	☐	☐	☐	☐
Demand Responsive	0	☐	☐	☐	☐	☐	☐
Outdoor Controls	3	☐	☐	☐	☒	☐	☐

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 14 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

O. DECLARATION OF REQUIRED CERTIFICATES OF INSTALLATION

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Installation must be submitted for the features to be recognized for compliance. These documents bust be retained and provided to the building inspector during construction and can be found online at: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCI/

Building Component	**YES**	**NO**	**Form/Title**	**Field Inspector: Pass**	**Field Inspector: Fail**
Envelope	☒	☐	NRCI-ENV-01-E - Must be submitted for all buildings	☐	☐
Mechanical	☒	☐	NRCI-MCH-01-E - Must be submitted for all buildings	☐	☐
Plumbing	☒	☐	NRCI-PLB-01-E - Must be submitted for all buildings	☐	☐
	☐	☒	NRCI-PLB-02-E - Must be submitted for high-rise residential and hotel/ motel central hot water distribution systems to be recognized for compliance	☐	☐
	☐	☒	NRCI-PLB-03-E - Must be submitted for high-rise residential and hotel/motel single dwelling unit hot water system distribution systems to be recognized for compliance	☐	☐
	☐	☒	NRCI-PLB-21-E - Must be HERS verified for central systems in high-rise residential hotel/ motel application	☐	☐
	☐	☒	NRCI-PLB-22-E - Must be HERS verified for single dwelling unit systems in high-rise residential, hotel/motel application	☐	☐
	☐	☒	NRCI-STH-01-E - Must be submitted for solar hot water heating systems	☐	☐
Indoor Lighting	☒	☐	NRCI-LTI-01-E - Must be submitted for all buildings	☐	☐
	☒	☐	NRCI-LTI-02-E - Must be submitted for a lighting control system, or for an Energy Management Control System (EMCS) to be recognized for compliance	☐	☐
	☐	☒	NRCI-LTI-04-E - Must be submitted for two interlocked systems serving an auditorium, a convention center, a conference room, a multipurpose room, or a theater to be recognized for compliance	☐	☐
	☐	☒	NRCI-LTI-05-E - Must be submitted for a Power Adjustment Factor (PAF) to be recognized for compliance	☐	☐
	☐	☒	NRCI-LTI-06-E - Must be submitted for additional wattage installed in a video conferencing studio to be recognized for compliance	☐	☐
Covered Process	☐	☒	NRCI-PRC-01-E - Must be submitted for all Covered Processes	☐	☐

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 15 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit:https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Building Component	**YES**	**NO**	**Form/Title**	**Field Inspector: Pass**	**Field Inspector: Fail**
Envelope	☒	☐	NRCA-ENV-02-F - NRFC label verification for fenestration	☐	☐
	☐	☐	NRCA-ENV-03-F - Daylighting Design PAFs	☐	☐
Indoor Lighting	☒	☐	NRCA-LTI-02-A - Occupancy Sensors and Automatic Time Switch Controls	☐	☐
	☒	☐	NRCA-LTI-03-A - Automatic Daylight Controls	☐	☐
	☐	☒	NRCA-LTI-04-A - Demand Responsive Lighting Controls	☐	☐
	☐	☒	NRCA-LTI-05-A - Institutional Tuning Power Adjustment Factor (PAF)	☐	☐
Covered Process	☐	☒	NRCA-PRC-02-F - Kitchen Exhaust	☐	☐
	☐	☒	NRCA-PRC-03-F - Garage Exhaust	☐	☐
	☐	☒	NRCA-PRC-12-F – Elevator Lighting and Ventilation Controls	☐	☐
	☐	☒	NRCA-PRC-13-F –Escalator and Moving Walkways Speed Control	☐	☐
	☐	☒	NRCA-PRC-14-F – Lab Exhaust Ventilation System	☐	☐
	☐	☒	NRCA-PRC-15-F - Fume Hood Automatic Sash Closures System	☐	☐

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 16 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

P. DECLARATION OF REQUIRED CERTIFICATES OF ACCEPTANCE

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Acceptance must be submitted for the features to be recognized for compliance. These documents must be provided to the building inspector during construction and must be completed through an Acceptance Test Technician Certification Provider (ATTCP). For more information visit:https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCA/

Building Component	**YES**	**NO**	**Form/Title**	**Field Inspector: Pass**	**Field Inspector: Fail**
Mechanical	☒	☐	NRCA-MCH-02-A Outdoor Air must be submitted for all newly installed HVAC units. Note: MCH02-A can be performed in conjunction with MCH-07-A Supply Fan VFD Acceptance (if applicable) since testing activities overlap	☐	☐
	☐	☒	NRCA-MCH-03-A Constant Volume Single Zone HVAC	☐	☐
	☐	☒	NRCA-MCH-04(a)-H Air Distribution Duct Leakage - HERS Verification required	☐	☐
	☐	☐	NRCA-MCH-04(b)-A Air Distribution Duct Leakage - ATT only	☐	☐
	☒	☐	NRCA-MCH-05-A Air Economizer Controls	☐	☐
	☒	☐	NRCA-MCH-06-A Demand Control Ventilation Systems Acceptance must be submitted for all systems required to employ demand controlled ventilation (refer to §120.1(c)3) can vary outside ventilation flow rates based on maintaining interior carbon dioxide (CO2) concentration setpoints	☐	☐
	☐	☒	NRCA-MCH-07-A Supply Fan Variable Flow Controls	☐	☐
	☐	☒	NRCA-MCH-08-A Valve Leakage Test	☐	☐
	☐	☒	NRCA-MCH-09-A Supply Water Temperature Reset Controls	☐	☐
	☐	☒	NRCA-MCH-10-A Hydronic System Variable Flow Controls	☐	☐
	☐	☒	NRCA-MCH-11-A Automatic Demand Shed Controls	☐	☐
	☒	☐	NRCA-MCH-12-A FDD for Packaged Direct Expansion Units	☐	☐
	☐	☒	NRCA-MCH-13-A Automatic FDD for Air Handling Units and Zone Terminal Units Acceptance	☐	☐
	☐	☒	NRCA-MCH-14-A Distributed Energy Storage DX AC Systems Acceptance	☐	☐
	☐	☒	NRCA-MCH-15-A Thermal Energy Storage (TES) System Acceptance	☐	☐
	☐	☒	NRCA-MCH-16-A Supply Air Temperature Reset Controls	☐	☐
	☐	☒	NRCA-MCH-17-A Condenser Water Temperature Reset Controls	☐	☐
	☐	☒	NRCA-MCH-18 Energy Management Control Systems	☐	☐
	☐	☒	NRCA-MCH-19 Occupancy Sensor Controls	☐	☐

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 17 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

Q. DECLARATION OF REQUIRED CERTIFICATES OF VERIFICATION

Table Instructions: Selections shall be made by Documentation Author to indicate which Certificates of Verification must be submitted for the features to be recognized for compliance. These documents bust be retained and provided to the building inspector during construction and can be found online at: https://www.energy.ca.gov/title24/2019standards/2019_compliance_documents/Nonresidential_Documents/NRCV/

Building Component	**YES**	**NO**	**Form/Title**	**Field Inspector: Pass**	**Field Inspector: Fail**
Mechanical	☐	☒	NRCV-MCH-04-H Duct Leakage Test	☐	☐
	☐	☒	NRCV-MCH-24-H Enclosure Air Leakage	☐	☐
	☐	☒	NRCV-MCH-27 Indoor Air Quality & Mechanical Ventilation	☐	☐
	☐	☒	NRCV-MCH-32-H Local Mechanical Exhaust	☐	☐
Plumbing	☐	☒	NRCV-PLB-21-H - HERS verified central systems in high-rise residential, hotel/motel application	☐	☐
	☐	☒	NRCV-PLB-22-H - HERS verified single dwelling unit systems in high-rise residential, hotel/motel application	☐	☐

R. UNMET LOAD HOURS

This Section Does Not Apply

Project Name:	ROBOTICS BUILDING	NRCC-PRF-01-E	Page 18 of 18
Project Address:	4747 NEW YORK AVE GLENDALE 91214	Calculation Date/Time:	18:59, Mon, Aug 31, 2020
Input File Name:	EP - Clark CTE.cibd19x		

DOCUMENTATION AUTHOR'S DECLARATION STATEMENT

I certify that this Certificate of Compliance documentation is accurate and complete.

Documentation Author Name: Carlos Ruiz	Signature:
Company: Henderson Engineers Inc	
Address: 510 W 6th St. Suite 800	Signature Date: 2020-08-31
City/State/Zip: Los Angeles CA 90014	CEA/ HERS Certification Identification (if applicable):
Phone: 213-254-4753	

RESPONSIBLE PERSON'S DECLARATION STATEMENT

I certify the following under penalty of perjury, under the laws of the State of California:

1. The information provided on this Certificate of Compliance is true and correct.
2. I am eligible under Division 3 of the Business and Professions Code to accept responsibility for the building design or system design identified on this Certificate of Compliance (responsible designer)
3. The energy features and performance specifications, materials, components, and manufactured devices for the building design or system design identified on this Certificate of Compliance conform to the requirements of Title 24, Part 1 and Part 6 of the California Code of Regulations.
4. The building design features or system design features identified on this Certificate of Compliance are consistent with the information provided on other applicable compliance documents, worksheets, calculations, plans and specifications submitted to the enforcement agency for approval with this building permit application.
5. I will ensure that a completed signed copy of this Certificate of Compliance shall be made available with the building permit(s) issued for the building, and made available to the enforcement agency for all applicable inspections. I understand that a completed signed copy of this Certificate of Compliance is required to be included with the documentation the builder provides to the building owner at occupancy.

Responsible Envelope Designer Name:	Signature: Daun Brisco	
Company: NAC Architecture		
Address: 837 N. Spring St.	Date Signed:	
City/State/Zip: Los Angeles CA 90012		
Phone: 323.475.8075	Title:	License #:
Responsible Lighting Designer Name: Simran Ubhi	Signature:	
Company: Henderson Engineers Inc		
Address: 510 W Sixth St. Suite #800	Date Signed:	
City/State/Zip: Los Angeles CA 90014		
Phone: 213.254.4750	Title:	License #: 19855
Responsible Mechanical Designer Name: Austin Allen	Signature:	
Company: Henderson Engineers, Inc.		
Address: 510 W 6th Street, Suite 800	Date Signed: Sep 4 2020	
City/State/Zip: Los Angeles CA 90014		
Phone: 213-254-4757	Title:	License #: M36447

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 **FAX** 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

No. 19855
SIMRAN UBHI
ELECTRICAL

Sep 4 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

TITLE 24 FORMS - PERFORMANCE COMPLIANCE

E8.07

© 2019 NAC inc

SIMRAN S. UBHI

9/4/2020 12:17:04 PM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_sunghan.cho_20200904091910.rvt

Sheet List - Technology

Sheet Number	Sheet Name	Sheet Order
TN0.00	TECHNOLOGY GENERAL NOTES AND LEGEND	
TN1.00	TECHNOLOGY FIRST FLOOR PLAN	
TN4.00	TECHNOLOGY DETAILS	

Grand total: 3

TELECOMMUNICATIONS SYMBOLS

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED.

V2.00

STANDARD MOUNTING HEIGHTS

TELECOM BACKBOARD (BOTTOM OF BACKBOARD)	4"
LADDER RACK IN TELECOM ROOMS (BOTTOM OF DEVICE)	90"
CABLE TRAY / CONDUIT AFC (BOTTOM OF PATHWAY)	3"(MIN)
LIGHT FIXTURE IN TELECOM ROOMS (BOTTOM OF DEVICE)	108"(MIN)
TELEPHONE WALL OUTLET (CENTERLINE)	48"
DATA WALL OUTLET	SAME AS ADJACENT DEVICE, UNO
TELEVISION OUTLET	REFER TO ARCH DRAWINGS
TMGB/TGB (CENTERLINE)	84"
WALL CLOCK (CENTERLINE)	84"
INTERCOM (CENTERLINE)	48"

USE THE DEFAULT MOUNTING HEIGHTS SHOWN ABOVE UNO IN THE CONSTRUCTION DOCUMENTS. MOUNTING HEIGHTS LISTED ARE ABOVE FINISHED FLOOR (AFF) OR ABOVE FINISHED GRADE (AFG) TO BOTTOM OF OUTLET BOX. ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA AND LOCAL REQUIREMENTS.

ABBREVIATIONS

A	AMPERES
ADA	AMERICANS WITH DISABILITIES ACT
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AP	ACCESS POINT
AV	AUDIO-VIDEO
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUTOMATION SYSTEM
BD	BUILDING DISTRIBUTOR
BDF	BUILDING DISTRIBUTION FRAME
BFC	BELOW FINISHED CEILING
C	CONDUIT
CAT	CATEGORY
CATV	COMMUNITY ANTENNA TELEVISION
CCTV	CLOSED CIRCUIT TELEVISION
CD	CAMPUS DISTRIBUTOR
CMP	COMMUNICATIONS PLENUM JACKET
CMR	COMMUNICATIONS RISER JACKET
DAS	DISTRIBUTED ANTENNA SYSTEM
dB	DECIBELS
DEMO	DEMOLITION
(E)	EXISTING
EC	ELECTRICAL CONTRACTOR
ECIA	ELECTRONIC COMPONENTS INDUSTRY ASSOCIATION
EMI	ELECTROMAGNETIC INTERFERENCE
EMS	ENERGY MANAGEMENT SYSTEM
EMT	ELECTRICAL METALLIC TUBING
ER	EQUIPMENT ROOM
ETR	EXISTING TO REMAIN
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FD	FLOOR DISTRIBUTOR
FMC	FLEXIBLE METAL CONDUIT
FS	FIRE STOP SYSTEM
FLR	FLOOR
F/UTP	SCREEN TWISTED PAIR (SHIELDED)
GC	GENERAL CONTRACTOR
GE	GROUNDING EQUALIZER
GYP	GYPSUM BOARD
HC	HORIZONTAL CROSS-CONNECT
HCM	HORIZONTAL CABLE MANAGER
HH	HAND HOLE
Hz	HERTZ
IMC	INTERMEDIATE METAL CONDUIT
IP	INTERNET PROTOCOL
ISP	INTERNET SERVICE PROVIDER
ISP	INSIDE PLANT CABLE
JB	JUNCTION BOX
J-BOX	JUNCTION BOX
LAN	LOCAL AREA NETWORK
LCC	LIMITED COMBUSTIBLE CABLE
LEC	LOCAL EXCHANGE CARRIER
LED	LIGHT-EMITTING DIODE
LF	LINEAR FEET
MAN	METROPOLITAN AREA NETWORK
MATV	MASTER ANTENNA TELEVISION
MC	MAIN CROSS-CONNECT
MDF	MAIN DISTRIBUTION FRAME
MFR	MANUFACTURER
MH	MAINTENANCE HOLE
MM	MULTIMODE
MPOE	MAIN POINT OF ENTRANCE
MPOP	MAIN POINT OF PRESENCE
MTD	MOUNTED
N/A	NOT APPLICABLE
NEC	NATIONAL ELECTRICAL CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCATION
NIC	NOT IN CONTRACT
nm	NANOMETER
NRTL	NATIONALLY RECOGNIZED TESTING LAB
OC	ON CENTER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OSP	OUTSIDE PLANT
PBX	PRIVATE BRANCH EXCHANGE
POE	POWER OVER ETHERNET
PON	PASSIVE OPTICAL NETWORK
POTS	PLAIN OLD TELEPHONE SERVICE
PSTN	PUBLIC SWITCHED TELEPHONE NETWORK
QTY	QUANTITY
RCDD	REGISTERED COMMUNICATIONS DISTRIBUTION DESIGNER
RMC	RIGID METAL CONDUIT
RU	RACK UNIT
SCS	STRUCTURED CABLING SYSTEM
SF	SQUARE FEET
SM	SINGLEMODE
SPECS	SPECIFICATIONS
TBB	TELECOMMUNICATIONS BONDING BACKBONE
TBD	TO BE DETERMINED
TIA	TELECOMMUNICATIONS INDUSTRY ASSOCIATION
TGB	TELECOMMUNICATIONS GROUND BUS BAR
TMGB	TELECOMMUNICATIONS MAIN GROUND BUS BAR
TR	TELECOMMUNICATIONS ROOM
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UL	UNDERWRITER LABORATORIES, INC.
UPS	UNINTERRUPTIBLE POWER SUPPLY
U/UTP	UNSHIELDED TWISTED PAIR
V	VOLT(S)
VCM	VERTICAL CABLE MANAGER
W	WIRE
WAN	WIDE AREA NETWORK
WAO	WORK AREA OUTLET
WAP	WIRELESS ACCESS POINT
WP	WEATHER PROOF
WR	WEATHER RESISTANT
WT	WATERTIGHT
XP	EXPLOSION-PROOF

ANNOTATION

- 1 — TECHNOLOGY PLAN CALLOUT
- 1 — EQUIPMENT DESIGATION (OWNER FURNISHED, CONTRACTOR INSTALLED)
- CONNECTION POINT OF NEW WORK TO EXISTING
- 1 / T1 — DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER. LOWER NUMBER INDICATES SHEET NUMBER
- 1 / T1 — SECTION CUT DESIGNATION

LINETYPE LEGEND

THROUGHOUT THE DRAWINGS DIFFERENT LINE-TYPES ARE USED IN COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF THE NEW WORK AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, ETC.

EXISTING	———	NEW	———
DEMOLISH	— — — — —	FUTURE	- - - - - - - -

PATHWAYS

- W"xH" — WIRE MESH CABLE TRAY (W"=WIDTH, "H"=HEIGHT)
- VERTICAL CABLE TRAY
- (#) D" — UNDERGROUND CONDUIT ("#"=QUANTITY, "D"=CONDUIT DIAMETER)
- (#) D" — CONDUIT ("#"=QUANTITY, "D"=CONDUIT DIAMETER)
- CABLE SUPPORTS OR J-HOOKS
- (#) D" — CONDUIT SLEEVE ("#"=QUANTITY, "D"=CONDUIT DIAMETER)
- FS — UL FIRESTOP SYSTEM ASSEMBLY
- PB L"XW"XH" — PULL BOX ("L"=LENGTH, "W"=WIDTH, "H"=HEIGHT)
- SC — SPLICE

RISER DIAGRAMS

- FIBER OPTIC CROSS CONNECT
- COPPER UTP CROSS CONNECT
- 110-TYPE PROTECTOR BLOCK
- PATCH PANEL — PATCH PANEL
- TGB — TELECOM GROUND BAR (TGB)
- TMGB — TELECOM MAIN GROUND BAR (TMGB)
- TELECOMMUNICATIONS BACKBONE CABLING (REFER TO RISER DIAGRAM FOR MORE INFORMATION)

TELECOMMUNICATIONS ROOM

- LADDER RACK
- TMGB — TELECOM MAIN GROUND BAR (TMGB) - WALL ELEVATION VIEW
- TGB — TELECOM GROUND BAR (TGB) - WALL ELEVATION VIEW
- TMGB/TGB - PLAN VIEW
- TELECOM BACKBOARD
- TWO-POST EQUIPMENT RACK
- FOUR-POST EQUIPMENT RACK
- EQUIPMENT CABINET (REFER TO PLAN NOTES ON ENLARGED PLANS FOR MORE INFORMATION)

TELECOMMUNICATIONS END-POINT DEVICES

DEVICE SCHEDULE

	DESCRIPTION	CABLE(S)	DETAIL
S	PAGING SPEAKER, SURFACE WALL MOUNT	1	3/TN4.00
S RT	PAGING SPEAKER, RECESSED CEILING TILE MOUNT	1	3/TN4.00

TELECOMMUNICATIONS OUTLETS

SYMBOL	DESCRIPTION	CABLE(S)	DETAIL
1D	DATA WALL OUTLET	1	2/TN4.00
2D	DATA WALL OUTLET	2	2/TN4.00
4D	DATA WALL OUTLET	4	2/TN4.00
1D	MULTI-SERVICE FLOOR BOX WITH DATA AND POWER OUTLETS, REFER TO DIV26 SPECS FOR FLOOR BOX TYPE	1	-
2D	MULTI-SERVICE FLOOR BOX WITH DATA AND POWER OUTLETS, REFER TO DIV26 SPECS FOR FLOOR BOX TYPE	2	-
4D	MULTI-SERVICE FLOOR BOX WITH DATA AND POWER OUTLETS, REFER TO DIV26 SPECS FOR FLOOR BOX TYPE	4	-
1D	DATA CEILING OUTLET	1	1/TN4.00
W,1V	TELEPHONE, ANALOG WALL OUTLET	1	4/TN4.00

TELECOMMUNICATIONS RESPONSIBILITY MATRIX

Description	Furnish: Construction Team	Furnish: Owner	Install: Construction Team	Install: Owner	Comments
General Communications					
Grounding and Bonding	x		x		
Hangers and Supports	x		x		
Conduits and Backboxes	x		x		
Underground pathways for utility entrance and floor boxes	x		x		
Firestops, Conduit Sleeves, and Sleeve Seals	x		x		
Vibration and Seismic Controls	x		x		
Structured Cabling					
Telecom Room Cabinets, Racks, Frames, and Enclosures	x		x		
Telecom Room Buildout (ex. backboard and ladder rack)	x		x		
Copper Horizontal Cable and Connectivity	x		x		
Data Communications					
Core Switch / Edge Switch		x		x	
Wireless Access Points		x		x	
Software		x		x	
Distributed & Monitoring Communications					
K12 Classroom Analog/IP Paging	x		x		

GENERAL NEW WORK NOTES

1. READ THE SPECIFICATIONS AND REVIEW DRAWINGS OF ALL DIVISIONS OF WORK. COORDINATE THIS WORK WITH ALL OTHER DIVISIONS OF WORK AND ALL SUBCONTRACTORS.
2. ALL WORK SHALL CONFORM TO THE APPLICABLE SPECIFICATIONS (DIVISION 26, DIVISION 27, DIVISION 28, ETC.) AND THE CUSTOMER PRE-ESTABLISHED STRUCTURED CABLING STANDARDS; SHOULD DIFFERENCES EXIST IN THE SPECIFICATIONS RELATING TO TECHNOLOGY AND THE CLIENT'S PRE-ESTABLISHED STANDARDS THE CONTRACTOR SHALL CONTACT THE LOW VOLTAGE ENGINEER FOR CLARIFICATION THROUGH THE RFI PROCESS.
3. FULLY COORDINATE ALL CABLE TRAY, FIRE STOP CONDUITS / SLEEVES, AND CONDUIT ROUTING WITH STRUCTURAL ELEMENTS. COORDINATE CABLE TRAY AND CONDUIT INSTALLATIONS WITH ARCHITECT, STRUCTURAL ENGINEER, STRUCTURAL CONTRACTOR, AND GENERAL CONTRACTOR PRIOR TO INSTALLATION. SEE DETAIL 6/TN4.00 AND DIVISION 27 SPECIFICATIONS FOR ADDITIONAL INFORMATION. ROUTING IN CONCRETE SLAB OR UNDER SLAB (WHERE CONDUIT WOULD BE ON GRADE) REQUIRES THE USE OF WET LOCATION RATED CABLES.
4. ALL TELECOMMUNICATIONS CONTINUOUS PATHWAYS SHALL BE BONDED TO THE TELECOMMUNICATIONS BONDING BACKBONE; FOR CONDUITS, INSULATION BUSHINGS SHALL BE USED AT THE END OF THE CONDUIT THE FARTHEST AWAY FROM THE SERVING TR; A BONDING BUSHING SHALL BE USED AT THE END CLOSEST TO THE SERVING TR. CONTRACTOR TO REFER TO THE ANSI-STD-J 607 STANDARD FOR ADDITIONAL INFORMATION AS TO THE INSTALLATION OF THE TELECOMMUNICATIONS BONDING BACKBONE.
5. ALL FIRE RATED WALL / FLOOR ASSEMBLIES PENETRATED FOR TELECOMMUNICATIONS CABLING PATHWAYS SHALL BE FIRE STOPPED WITH THE APPROVED FIRE STOP SYSTEMS (F/S). ALL FIRESTOP SYSTEMS SHALL BE INSTALLED AS DIRECTED BY THE MANUFACTURER AND AS SPECIFIED IN DIVISION 07 07 84.00 - "FIRESTOPPING". FIRE STOP ASSEMBLY LOCATIONS ARE TO BE COORDINATED WITH CABLE TRAY PATHWAY TO TELECOMMUNICATIONS ROOM.
6. BACK BOXES AND CONDUIT LOCATIONS IN PRECAST CONCRETE WALLS SHALL BE COORDINATED WITH ARCHITECT, STRUCTURAL ENGINEER, AND GC PRIOR TO ORDERING THE PRECAST WALLS.
7. ROUTING OF CABLES SHALL BE CONCEALED. CABLES SHALL BE ROUTED IN CONDUIT IN EXPOSED AREAS. MINIMIZE AMOUNT OF EXPOSED CONDUIT BY EMBEDDING CONDUIT IN SLAB WHEN POSSIBLE. EMBEDDED CONDUITS AND PENETRATIONS OF STRUCTURE SHALL FOLLOW DETAILS IN STRUCTURAL DRAWINGS. WHEN CONDUITS CAN ONLY BE INSTALLED EXPOSED, NOTIFY ARCHITECT PRIOR TO START OF INSTALLATION OF CONDUITS. CABLES SHALL BE ROUTED IN CONDUIT WHEN ABOVE HARD CEILINGS. CONDUITS FOR ELEVATOR PHONES AND FIRE ALARM CONTROL PANEL SHALL BE CONTINUOUS (HOMERUN) FROM THE TELECOMMUNICATIONS ROOM TO THE APPLICABLE BOX / CABINET. CONTRACTOR SHALL SIZE AND PROVIDE CONDUITS TO MEET TIA-569.
8. TELECOMMUNICATIONS ROOMS SHALL BE DEDICATED FOR INFORMATION TECHNOLOGY USE (I.E. NO SHARED SPACE WITH A JANITOR, FIRE ALARM SYSTEM, ETC.) NO SERVICES SHALL PASS THROUGH THE SPACE UNLESS DEDICATED TO THE SPACE (NO PLUMBING, MECHANICAL, ELECTRICAL, FIRE, ETC.)
9. SEE DETAILS 5,7/TN4.00 AND DIVISION 27 SPECIFICATIONS FOR LABELING REQUIREMENTS.

GENERAL DEMOLITION NOTES

1. PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE FACILITY, INCLUDING PATHWAY LOCATIONS AND ELEVATIONS. REVIEW THE GENERAL NOTES AND ALL OTHER TRADE DRAWINGS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS, INCLUDING ALL DEMOLITION AND NEW WORK DOCUMENTS. NOTIFY ARCHITECT, ENGINEER OR OWNER, AS SPECIFIED, OF ANY CONFLICTS OR DISCREPANCIES.
2. EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. FIELD VERIFY CONDITIONS PRIOR TO SUBMITTING FINAL BIDS. COORDINATE NEW WORK AND DEMOLITION WITH OTHER DISCIPLINES AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
3. AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN FOR NEW INSTALLATION. REPAIR DAMAGE CAUSED DURING WORK AT NO EXTRA COST TO OWNER.
4. REMOVE ALL PATHWAYS, CABLING AND ASSOCIATED DEVICES FOR ALL ITEMS INTENDED TO BE REMOVED. ABANDONING UNUSED PORTIONS WILL NOT BE ACCEPTABLE.
5. REMOVE EXISTING ITEMS AS REQUIRED TO ACCOMMODATE THE GENERAL DEMOLITION SCOPE. ANY SYSTEMS PASSING THROUGH THE SPACE INTENDED TO REMAIN IN SERVICE SHALL BE PROTECTED, OR RELOCATED AS REQUIRED TO MAINTAIN SERVICE AND ACCOMMODATE THE GENERAL DEMOLITION AND NEW SCOPE OF WORK.
6. REFER TO ARCHITECTURAL PLANS FOR SCOPE OF AREAS THAT ARE TO BE DEMOLISHED UNDER THIS PHASE OF CONSTRUCTION. NOTE THAT IN SOME CASES, MEPFT DEMOLITION WORK EXTENDS BEYOND SCOPE OF AREA IDENTIFIED DUE TO EXISTING SYSTEM DESIGN. NOTIFY ARCHITECT AND ENGINEER OF ANY CONFLICTS OR DISCREPANCIES PRIOR TO STARTING WORK.
7. COORDINATE THE INTERMEDIATE STORAGE, REMOVAL AND FINAL DISPOSITION OF TELECOMMUNICATIONS SCS COMPONENTS (PATHWAYS, CABLE, TERMINATION COMPONENTS, ETC) AND THE REQUIRED PROTECTION OF EXISTING SPECIAL SYSTEMS EQUIPMENT WITH OWNER PRIOR TO IMPLEMENTATION THAT ARE TO BE REMOVED AS A RESULT OF THE DEMOLITION / RENOVATION WORK.
8. EXISTING TELECOMMUNICATIONS CABLES AND COMPONENTS THAT PASS THROUGH THE CONSTRUCTION ZONE SHALL BE PROTECTED AND REMAIN IN PLACE SO AS TO MAINTAIN SERVICE WHILE ALSO ACCOMMODATING THE GENERAL DEMOLITION AND NEW SCOPE OF WORK. CONTRACTOR SHALL COORDINATE ALL SUCH EFFORTS WITH THE CLIENT PRIOR TO IMPLEMENTATION. DAMAGE TO EXISTING AND TO REMAIN IN PLACE TELECOMMUNICATIONS CABLES AND COMPONENTS CAUSED BY THE CONTRACTOR SHALL BE REPAIRED IN A TIMELY MANNER AND TO THE WRITTEN SATISFACTION OF THE CLIENT AND AT NO ADDITIONAL COST TO THE CLIENT. CONTRACTOR SHALL PROVIDE CABLE SUPPORTS FOR ANY EXISTING CABLES THAT ARE NOT PROPERLY SUPPORTED.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

NOT FOR CONSTRUCTION

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER
SIMRAN UBHI
No. 19855
ELECTRICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

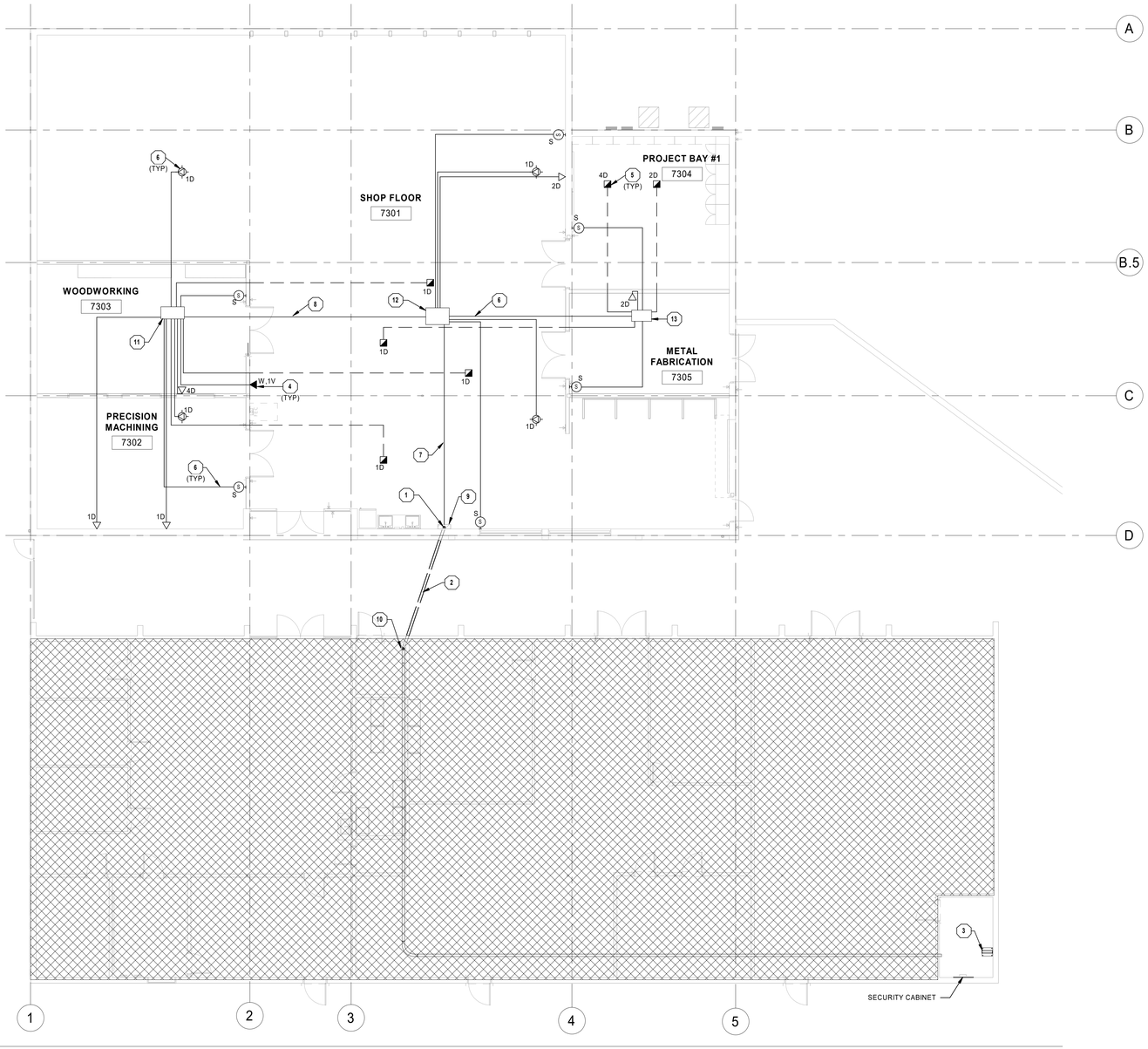
TECHNOLOGY GENERAL NOTES AND LEGEND

TN0.00

© 2019 NAC, Inc.

SIMRAN S. UBHI

9/2/2020 10:19:14 AM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_rebeccarothermich_henderson_20200902091843.rvt



1 TECHNOLOGY LEVEL 1 OVERALL
1/8" = 1'-0"

GENERAL TECHNOLOGY NOTES

1. **CONTRACTOR SHALL PROVIDE COMPLETE SHOP DRAWING FOR INTERIOR TELECOMMUNICATIONS CABLING DISTRIBUTION FOR ARCHITECT REVIEW PRIOR TO INSTALL. SHOP DRAWINGS SHALL INCLUDE CONDUIT SYSTEM DISTRIBUTION INDICATING CABLE QUANTITIES, CONDUIT QUANTITIES, SIZING, AND ROUTING. JUNCTION BOX LOCATIONS AND SIZING SHALL ALSO BE PROVIDED.**

TECHNOLOGY PLAN NOTES:

1 4" CONDUIT FROM EXISTING IDF LOCATION IN EXISTING BUILDING.
2 4" CONDUIT TO ADDITION. ROUTE ABOVE CEILING TO PULLBOX IN MAINTENANCE ROOM AS SHOWN. TURN CONDUIT DOWN AND TRENCH UNDER PAVEMENT TO SERVE DATA OUTLETS IN ADDITION. COORDINATE ROUTING WITH ALL OTHER TRADES.
3 EXISTING 2-POST RACK TO REMAIN. CONTRACTOR SHALL PROVIDE PATCH PANELS AS REQUIRED PER DIVISION 27 SPECIFICATIONS TO SUPPORT DATA OUTLETS IN ADDITION.
4 ROUTE 1" CONDUIT UP WALL, AND CONTINUE ROUTE TO PULLBOX AS SHOWN.
5 ROUTE 1" CONDUIT TO WALL, ROUTE UP WALL, AND CONTINUE ROUTE TO PULLBOX AS SHOWN. TYPICAL OF ALL FLOOR BOXES.
6 ROUTE 1" CONDUIT AS SHOWN.
7 ROUTE 2-1/2" CONDUIT UP WALL, AND CONTINUE TO PULLBOX AS SHOWN.
8 ROUTE 2" CONDUIT AS SHOWN.
9 PROVIDE 60"X23"X8" PULLBOX ON WALL AS SHOWN. COORDINATE HEIGHT WITH EQUIPMENT AND ARCHITECT. PROVIDE (1) HILTI KB-TZ 3/8" DIA X 2-5/16" NOMINAL EMBEDMENT PER CORNER (4 TOTAL). 4" MIN EDGE DISTANCE (ICC ESR-3785).
10 PROVIDE 60"X23"X8" PULLBOX ON WALL IN MAINTENANCE ROOM. COORDINATE LOCATION WITH OTHER EQUIPMENT IN ROOM. PROVIDE (1) HILTI KB-TZ 3/8" DIA X 2-5/16" NOMINAL EMBEDMENT PER CORNER (4 TOTAL). 4" MIN EDGE DISTANCE (ICC ESR-3785).
11 PROVIDE 42"X22"X6" PULLBOX MOUNTED TO CEILING AS SHOWN. COORDINATE EXACT LOCATION WITH OTHER TRADES AND ARCHITECT. PROVIDE (1) HILTI KB-TZ 3/8" DIA X 2" EFFECTIVE EMBEDMENT PER CORNER (4 TOTAL). ICC ESR-1917.
12 PROVIDE 42"X28"X5" PULLBOX MOUNTED TO CEILING AS SHOWN. COORDINATE EXACT LOCATION WITH OTHER TRADES AND ARCHITECT. PROVIDE (1) HILTI KB-TZ 3/8" DIA X 2" EFFECTIVE EMBEDMENT PER CORNER (4 TOTAL). ICC ESR-1917.
13 PROVIDE 36"X20"X4" PULLBOX MOUNTED TO CEILING AS SHOWN. COORDINATE EXACT LOCATION WITH OTHER TRADES AND ARCHITECT. PROVIDE (1) HILTI KB-TZ 3/8" DIA X 2" EFFECTIVE EMBEDMENT PER CORNER (4 TOTAL). ICC ESR-1917.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

NOT FOR CONSTRUCTION

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER
SIMRAN UBHI
No. 19855
ELECTRICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

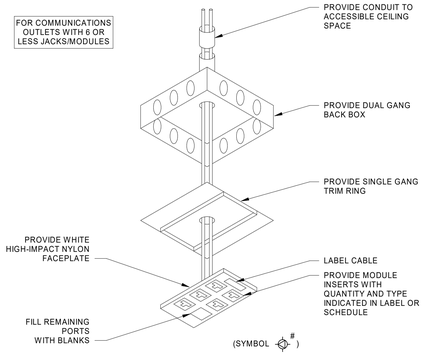
TECHNOLOGY FIRST FLOOR PLAN

TN1.00

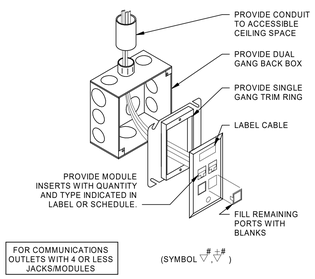
© 2019 NAC Inc.

SIMRAN S. UBHI

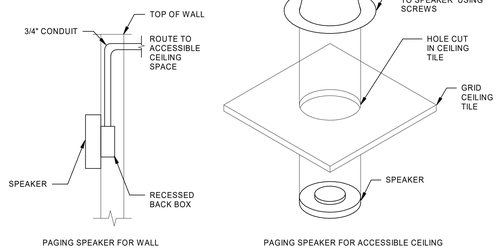
9/2/2020 10:19:19 AM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_rebeccarothermich_henderson_20200902091843.rvt



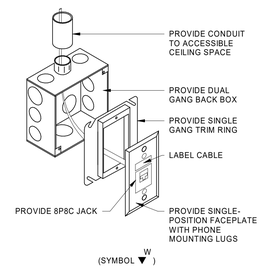
1 CEILING COMM OUTLETS 3D
NTS



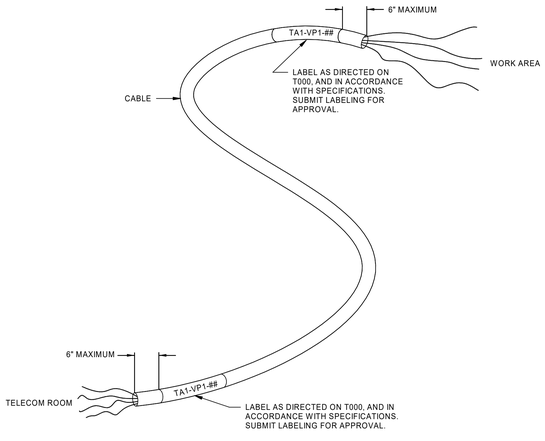
2 SINGLE GANG COMM OUTLET (3D)
NTS



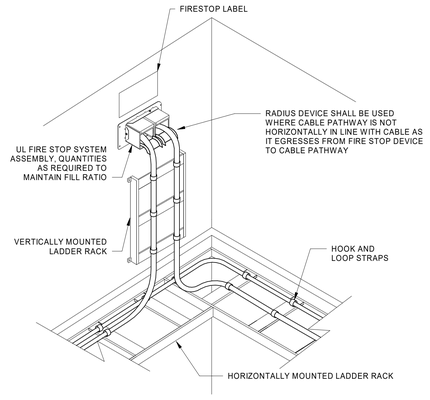
3 SPEAKER INSTALLATION
NTS



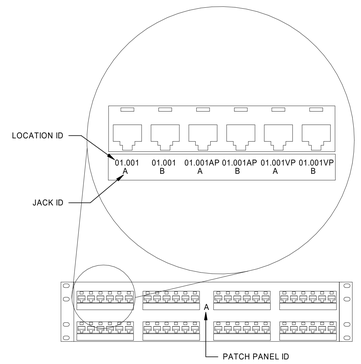
4 WALL PHONE OUTLET (3D)
NTS



5 LABELING OF HORIZONTAL CABLE
NTS



6 FIRE STOP SYSTEM
NTS



7 TYPICAL PATCH PANEL LABELING DETAIL
NTS

SMIRAN S. UBHI

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

NOT FOR CONSTRUCTION

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL CTE TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER
SMIRAN UBHI
No. 19855
ELECTRICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

TECHNOLOGY DETAILS

TN4.00

© 2019 NAC Inc.

TOLBrace™ Seismic Bracing Calculations

Project Address: Clark Magnet High School Engineering
4747 New York Ave
Glendale, CA 91214
Job # 2050001084

Contractor: Henderson Engineers
Address: 8345 Lenexa Dr. #300
Lenexa, KS
Phone: 913-742-5000
Licence:

Calculations based on 2016 NFPA Pamphlet #13

Brace Information

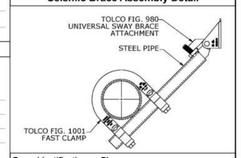
Maximum Brace Length	10' 6" (3.2 m)
Diameter of Brace	1" Sch.40
Type of Brace	Sch. 10
Angle of Brace	45° Min.
Least Rad. of Gyration	0.42" (11 mm)
L/R Value	300
Max Horizontal Load	582 lbs (264 kg)

TOLCO™ Brace Components

TOLCO™ Component	Listed Load	Adjusted Load
Fig. 1001 Clamp	2015 lbs (914 kg)	1425 lbs (646 kg)
Fig.980 Universal Swivel	2015 lbs (914 kg)	1425 lbs (646 kg)
See Fastener Information		

*Calculation Based on CONCENTRIC Loading
*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.

Seismic Brace Assembly Detail



Brace Identification on Plans 3" LATERAL BRACE
Brace Type Lateral [X] Longitudinal [ ] 4-Way [ ]

Fastener Information

Orientation to Connecting Surface	NFPA Type E
Fastener	
Type	Bolt
Diameter	1/2in. (12 mm)
Length	N/A
Maximum Load	2050 lbs (930 kg)
Prying Factor	N/A

Sprinkler System Load Calculation (Fpw = CpWp)

Cp = 0.916

Diameter	Type	Length	Total Length	Weight Per Unit Length	Total Weight
3" (80 mm)	Sch. 10	10 ft (3 m)	10 ft (3 m)	7.94 lb/ft (11.82 kg/m)	79 lbs (36 kg)
1.5" (40 mm)	Sch. 40	42 ft (12.8 m)	42 ft (12.8 m)	3.61 lb/ft (5.37 kg/m)	152 lbs (69 kg)
1.25" (32 mm)	Sch. 40	15 ft (4.6 m)	15 ft (4.6 m)	2.93 lb/ft (4.36 kg/m)	44 lbs (20 kg)
1" (25 mm)	Sch. 40	29 ft (8.8 m)	29 ft (8.8 m)	2.05 lb/ft (3.06 kg/m)	59 lbs (27 kg)

Subtotal Weight	334 lbs (152 kg)
Wp (incl. 15%)	384 lbs (174 kg)
Total (Fpw)	352 lbs (160 kg)
Maximum Fpw per 9.3.5.5.2 (if applicable)	969 lb (438 kg)

Main Size	Type/Sch.	Spacing (ft)
3"	Sch. 10	10

(TOLBrace™ Version 8) Use of TOLBrace™ is subject to terms and conditions per the end user license agreement

TOLBrace™ Seismic Bracing Calculations

Project Address: Clark Magnet High School Engineering
4747 New York Ave
Glendale, CA 91214
Job # 2050001084

Contractor: Henderson Engineers
Address: 8345 Lenexa Dr. #300
Lenexa, KS
Phone: 913-742-5000
Licence:

Calculations based on 2016 NFPA Pamphlet #13

Brace Information

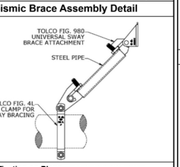
Maximum Brace Length	10' 6" (3.2 m)
Diameter of Brace	1" Sch.40
Type of Brace	Sch. 10
Angle of Brace	45° Min.
Least Rad. of Gyration	0.42" (11 mm)
L/R Value	300
Max Horizontal Load	582 lbs (264 kg)

TOLCO™ Brace Components

TOLCO™ Component	Listed Load	Adjusted Load
Fig. 4L Clamp	2015 lbs (914 kg)	1425 lbs (646 kg)
Fig.980 Universal Swivel	2015 lbs (914 kg)	1425 lbs (646 kg)
See Fastener Information		

*Calculation Based on CONCENTRIC Loading
*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.

Seismic Brace Assembly Detail



Brace Identification on Plans 3" LONGITUDINAL BRACE
Brace Type Lateral [ ] Longitudinal [X] 4-Way [ ]

Fastener Information

Orientation to Connecting Surface	NFPA Type E
Fastener	
Type	Bolt
Diameter	3/8in. (10 mm)
Length	N/A
Maximum Load	1200 lbs (544 kg)
Prying Factor	N/A

Sprinkler System Load Calculation (Fpw = CpWp)

Cp = 0.916

Diameter	Type	Length	Total Length	Weight Per Unit Length	Total Weight
3" (80 mm)	Sch. 10	50 ft (15.2 m)	50 ft (15.2 m)	7.94 lb/ft (11.82 kg/m)	397 lbs (180 kg)

Subtotal Weight	397 lbs (180 kg)
Wp (incl. 15%)	457 lbs (207 kg)
Total (Fpw)	418 lbs (190 kg)
Maximum Fpw per 9.3.5.5.2 (if applicable)	N/A

Main Size	Type/Sch.	Spacing (ft)
3"	Sch. 10	50

(TOLBrace™ Version 8) Use of TOLBrace™ is subject to terms and conditions per the end user license agreement

TOLBrace™ Seismic Bracing Calculations

Project Address: Clark Magnet High School Engineering
4747 New York Ave
Glendale, CA 91214
Job # 2050001084

Contractor: Henderson Engineers
Address: 8345 Lenexa Dr. #300
Lenexa, KS
Phone: 913-742-5000
Licence:

Calculations based on 2016 NFPA Pamphlet #13

Brace Information

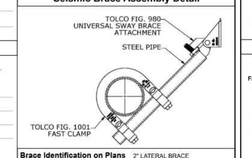
Maximum Brace Length	10' 6" (3.2 m)
Diameter of Brace	1" Sch.40
Type of Brace	Sch. 10
Angle of Brace	45° Min.
Least Rad. of Gyration	0.42" (11 mm)
L/R Value	300
Max Horizontal Load	582 lbs (264 kg)

TOLCO™ Brace Components

TOLCO™ Component	Listed Load	Adjusted Load
Fig. 1001 Clamp	2015 lbs (914 kg)	1425 lbs (646 kg)
Fig.980 Universal Swivel	2015 lbs (914 kg)	1425 lbs (646 kg)
See Fastener Information		

*Calculation Based on CONCENTRIC Loading
*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.

Seismic Brace Assembly Detail



Brace Identification on Plans 2" LATERAL BRACE
Brace Type Lateral [X] Longitudinal [ ] 4-Way [ ]

Fastener Information

Orientation to Connecting Surface	NFPA Type E
Fastener	
Type	Bolt
Diameter	3/8in. (10 mm)
Length	N/A
Maximum Load	1200 lbs (544 kg)
Prying Factor	N/A

Sprinkler System Load Calculation (Fpw = CpWp)

Cp = 0.916

Diameter	Type	Length	Total Length	Weight Per Unit Length	Total Weight
2" (50 mm)	Sch. 10	30 ft (9.1 m)	30 ft (9.1 m)	4.22 lb/ft (6.28 kg/m)	127 lbs (58 kg)
1" (25 mm)	Sch. 40	32 ft (9.8 m)	32 ft (9.8 m)	2.05 lb/ft (3.05 kg/m)	66 lbs (30 kg)

Subtotal Weight	193 lbs (88 kg)
Wp (incl. 15%)	222 lbs (101 kg)
Total (Fpw)	203 lbs (92 kg)
Maximum Fpw per 9.3.5.5.2 (if applicable)	256 lb (116 kg)

Main Size	Type/Sch.	Spacing (ft)
2"	Sch. 10	30

(TOLBrace™ Version 8) Use of TOLBrace™ is subject to terms and conditions per the end user license agreement

TOLBrace™ Seismic Bracing Calculations

Project Address: Clark Magnet High School Engineering
4747 New York Ave
Glendale, CA 91214
Job # 2050001084

Contractor: Henderson Engineers
Address: 8345 Lenexa Dr. #300
Lenexa, KS
Phone: 913-742-5000
Licence:

Calculations based on 2016 NFPA Pamphlet #13

Brace Information

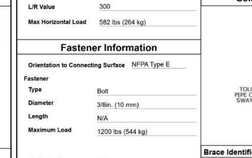
Maximum Brace Length	10' 6" (3.2 m)
Diameter of Brace	1" Sch.40
Type of Brace	Sch. 10
Angle of Brace	45° Min.
Least Rad. of Gyration	0.42" (11 mm)
L/R Value	300
Max Horizontal Load	582 lbs (264 kg)

TOLCO™ Brace Components

TOLCO™ Component	Listed Load	Adjusted Load
Fig. 1001 Clamp	2015 lbs (914 kg)	1425 lbs (646 kg)
Fig.980 Universal Swivel	2015 lbs (914 kg)	1425 lbs (646 kg)
See Fastener Information		

*Calculation Based on CONCENTRIC Loading
*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.

Seismic Brace Assembly Detail



Brace Identification on Plans 2" LONGITUDINAL BRACE
Brace Type Lateral [ ] Longitudinal [X] 4-Way [ ]

Fastener Information

Orientation to Connecting Surface	NFPA Type E
Fastener	
Type	Bolt
Diameter	3/8in. (10 mm)
Length	N/A
Maximum Load	1200 lbs (544 kg)
Prying Factor	N/A

Sprinkler System Load Calculation (Fpw = CpWp)

Cp = 0.916

Diameter	Type	Length	Total Length	Weight Per Unit Length	Total Weight
2" (50 mm)	Sch. 10	80 ft (24.4 m)	80 ft (24.4 m)	4.22 lb/ft (6.28 kg/m)	338 lbs (153 kg)

Subtotal Weight	338 lbs (153 kg)
Wp (incl. 15%)	389 lbs (176 kg)
Total (Fpw)	358 lbs (162 kg)
Maximum Fpw per 9.3.5.5.2 (if applicable)	N/A

Main Size	Type/Sch.	Spacing (ft)
2"	Sch. 10	80

(TOLBrace™ Version 8) Use of TOLBrace™ is subject to terms and conditions per the end user license agreement

TOLBrace™ Seismic Bracing Calculations

Project Address: Clark Magnet High School Engineering
4747 New York Ave
Glendale, CA 91214
Job # 2050001084

Contractor: Henderson Engineers
Address: 8345 Lenexa Dr. #300
Lenexa, KS
Phone: 913-742-5000
Licence:

Calculations based on 2016 NFPA Pamphlet #13

Brace Information

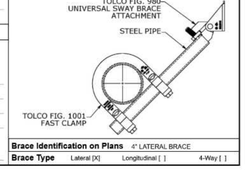
Maximum Brace Length	10' 6" (3.2 m)
Diameter of Brace	1" Sch.40
Type of Brace	Sch. 10
Angle of Brace	45° Min.
Least Rad. of Gyration	0.42" (11 mm)
L/R Value	300
Max Horizontal Load	582 lbs (264 kg)

TOLCO™ Brace Components

TOLCO™ Component	Listed Load	Adjusted Load
Fig. 1001 Clamp	2015 lbs (914 kg)	1425 lbs (646 kg)
Fig.980 Universal Swivel	2015 lbs (914 kg)	1425 lbs (646 kg)
See Fastener Information		

*Calculation Based on CONCENTRIC Loading
*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.

Seismic Brace Assembly Detail



Brace Identification on Plans 4" LATERAL BRACE
Brace Type Lateral [X] Longitudinal [ ] 4-Way [ ]

Fastener Information

Orientation to Connecting Surface	NFPA Type E
Fastener	
Type	Bolt
Diameter	3/8in. (10 mm)
Length	N/A
Maximum Load	1200 lbs (544 kg)
Prying Factor	N/A

Sprinkler System Load Calculation (Fpw = CpWp)

Cp = 0.916

Diameter	Type	Length	Total Length	Weight Per Unit Length	Total Weight
4" (100 mm)	Sch. 10	30 ft (9.1 m)	30 ft (9.1 m)	11.78 lb/ft (17.53 kg/m)	353 lbs (160 kg)
1" (25 mm)	Sch. 10	30 ft (9.1 m)	30 ft (9.1 m)	1.81 lb/ft (2.69 kg/m)	54 lbs (24 kg)

Subtotal Weight	407 lbs (185 kg)
Wp (incl. 15%)	468 lbs (212 kg)
Total (Fpw)	429 lbs (194 kg)
Maximum Fpw per 9.3.5.5.2 (if applicable)	1071 lb (485 kg)

Main Size	Type/Sch.	Spacing (ft)
4"	Sch. 10	30

(TOLBrace™ Version 8) Use of TOLBrace™ is subject to terms and conditions per the end user license agreement

TOLBrace™ Seismic Bracing Calculations

Project Address: Clark Magnet High School Engineering
4747 New York Ave
Glendale, CA 91214
Job # 2050001084

Contractor: Henderson Engineers
Address: 8345 Lenexa Dr. #300
Lenexa, KS
Phone: 913-742-5000
Licence:

Calculations based on 2016 NFPA Pamphlet #13

Brace Information

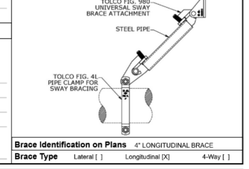
Maximum Brace Length	10' 6" (3.2 m)
Diameter of Brace	1" Sch.40
Type of Brace	Sch. 10
Angle of Brace	45° Min.
Least Rad. of Gyration	0.42" (11 mm)
L/R Value	300
Max Horizontal Load	582 lbs (264 kg)

TOLCO™ Brace Components

TOLCO™ Component	Listed Load	Adjusted Load
Fig. 4L Clamp	2015 lbs (914 kg)	1425 lbs (646 kg)
Fig.980 Universal Swivel	2015 lbs (914 kg)	1425 lbs (646 kg)
See Fastener Information		

*Calculation Based on CONCENTRIC Loading
*Please Note: These calculations are for TOLCO™ components only. Use of any other components voids these calculations and the listing of the assembly.

Seismic Brace Assembly Detail



Brace Identification on Plans 4" LONGITUDINAL BRACE
Brace Type Lateral [ ] Longitudinal [X] 4-Way [ ]

Fastener Information

Orientation to Connecting Surface	NFPA Type E
Fastener	
Type	Bolt
Diameter	3/8in. (10 mm)
Length	N/A
Maximum Load	1200 lbs (544 kg)
Prying Factor	N/A

Sprinkler System Load Calculation (Fpw = CpWp)

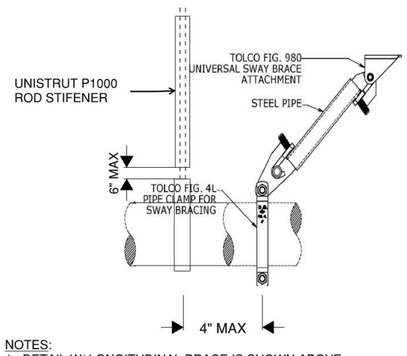
Cp = 0.916

Diameter	Type	Length	Total Length	Weight Per Unit Length	Total Weight
4" (100 mm)	Sch. 10	35 ft (10.7 m)	35 ft (10.7 m)	11.78 lb/ft (17.53 kg/m)	412 lbs (187 kg)

Subtotal Weight	412 lbs (187 kg)
Wp (incl. 15%)	474 lbs (215 kg)
Total (Fpw)	434 lbs (197 kg)
Maximum Fpw per 9.3.5.5.2 (if applicable)	N/A

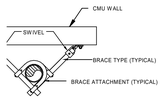
Main Size	Type/Sch.	Spacing (ft)
4"	Sch. 10	35

(TOLBrace™ Version 8) Use of TOLBrace™ is subject to terms and conditions per the end user license agreement

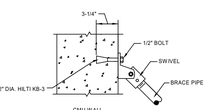


NOTES:
1. DETAIL W/ LONGITUDINAL BRACE IS SHOWN ABOVE. DETAIL AT TRANSVERSE BRACE IS SIMILAR.
2. PROVIDE ROD STIFFENER TO HANGER CLOSE TO BRACES.
3. PROVIDE BRACING WHERE INDICATED ON PLAN W/ ⟷

7 BRACING DETAIL
NTS



FOUR WAY BRACE

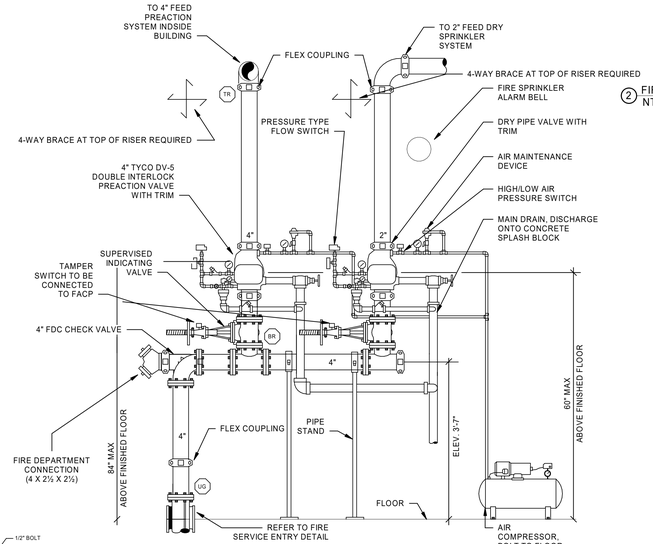


CMU WALL
1/2" EXPANSION SHIELD / QUICK BOLT (45°F MIN)
1782 LBS *(1744 LBS MAX)
FASTENER ONLY ALLOWED ON FOUR WAY BRACE WHERE LOAD IS DISTRIBUTED ACROSS TWO CMU ATTACHMENTS

SEISMIC CALCULATIONS BASED ON SCHEDULE 10 MAINS

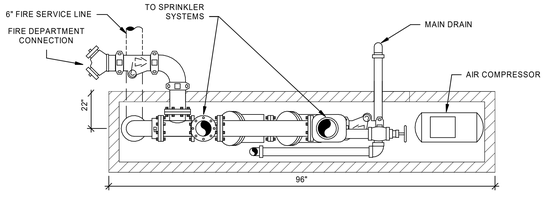
CONTRACTOR MUST USE ATTACHMENTS & SWIVELS WITH A LOAD RATING OF AT LEAST 2015 LBS FOR SCHEDULE 10 PIPE. WEAKEST LOADS REDUCED PER NFPA-13 FOR 60 DEG. MIN ANGLE (2015 LBS / 1.155) = 1744 LBS MAX LOAD.

5 4-WAY SEISMIC RESTRAINT
NTS



ARRANGEMENT SHOWN IS SCHEMATIC. MODIFY TO SUIT CONDITIONS AND MEET APPLICABLE CODE REQUIREMENTS. COORDINATE INSTALLATION OF ALARM DEVICES WITH OTHER TRADES.

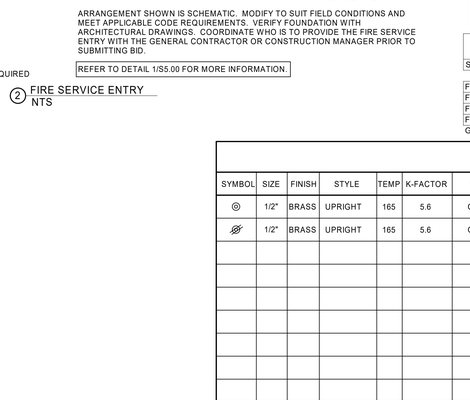
ELEVATION VIEW



CROSS HATCHED AREA IS THE MAXIMUM ALLOWABLE AREA TO BE USED FOR SPRINKLER SYSTEM RISERS AND BACKFLOW PREVENTER. INSTALLATION MUST ALLOW FOR ALL REQUIRED MAINTENANCE ACCESS WITHIN CROSS HATCHED AREA.

PLAN VIEW

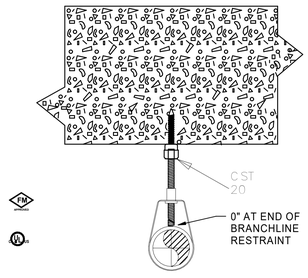
1 FIRE PROTECTION RISER - DRY PIPE
NTS



ARRANGEMENT SHOWN IS SCHEMATIC. MODIFY TO SUIT FIELD CONDITIONS AND MEET APPLICABLE CODE REQUIREMENTS. VERIFY FOUNDATION WITH ARCHITECTURAL DRAWINGS. COORDINATE WHO IS TO PROVIDE THE FIRE SERVICE ENTRY WITH THE GENERAL CONTRACTOR OR CONSTRUCTION MANAGER PRIOR TO SUBMITTING BID.

REFER TO DETAIL 1/S5.00 FOR MORE INFORMATION.

2 FIRE SERVICE ENTRY
NTS



SEE DETAIL 4/S8.00 FOR HANGER TO DECK CONNECTION

3 CONCRETE HANGER DETAIL
NTS

FIRE SPRINKLER GENERAL NOTES:

1. PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
2. SYSTEM DESIGN, INSTALLATION AND MATERIALS SHALL BE IN ACCORDANCE WITH APPLICABLE NFPA STANDARDS. SYSTEM SHALL ALSO MEET ALL APPLICABLE BUILDING CODES, FIRE CODES AND THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION AND INSURANCE CARRIER. VERIFY REQUIREMENTS PRIOR TO BID SUBMITTAL.
3. THE CONTRACTOR SHALL FOLLOW THE ENGINEER OF RECORD'S SYSTEM DESIGN AND LAYOUT OF ALL COMPONENTS EXCEPT WHERE MODIFICATION TO THE DESIGN IS NECESSARY. MODIFICATIONS SHALL BE REFLECTED IN THE CONTRACTOR'S SHOP DRAWINGS AND CALCULATIONS.
4. DEVIATIONS FROM ENGINEER'S DESIGN WILL NOT BE CONSIDERED UNLESS A FORMALLY SUBMITTED RFI IS RECEIVED AND APPROVED.
5. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND LABOR REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM AS INDICATED IN THE DRAWINGS AND SPECIFICATIONS.
6. PROVIDE ADDITIONAL MATERIALS AND LABOR REQUIRED DUE TO LACK OF COORDINATION OR TO MEET AUTHORITY HAVING JURISDICTION AND INSURANCE CARRIER REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER.
7. FORWARD COMPLETED CERTIFICATE OF COMPLETION AND CONTRACTOR MATERIAL TEST CERTIFICATES TO THE OWNER.
8. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

WATER SUPPLY INFORMATION:

OBTAINED FROM: CRESCENTA VALLEY WATER DISTRICT

LOCATION: 4747 NEW YORK AVE

DATE: 02/28/20

STATIC PRESSURE: 102 PSI

RESIDUAL PRESSURE: 55 PSI

WATER FLOW: 1341 GPM

SPRINKLER SYMBOL LEGEND

SYMBOL	SIZE	FINISH	STYLE	TEMP	K-FACTOR	SIN	DESCRIPTION	SYMBOL	DESCRIPTION
◎	1/2"	BRASS	UPRIGHT	165	5.6	GL5616		VIN	HYDRAULIC REFERENCE NODE POINT
⊘	1/2"	BRASS	UPRIGHT	165	5.6	GL5616	UNDER MECH UNIT		CAP
									RISER NIPPLE/DROP NIPPLE
									SPRINKLER RISER
									INSPECTOR'S TEST/AUXILIARY DRAIN
									HANGER
									TRAPEZE HANGER
									FIRE DEPARTMENT CONNECTION
									NEW SPRINKLER PIPE
									UPRIGHT SPRINKLER UNDER MECH UNIT

NOTES:
1. PROVIDE SPRINKLERS WITH OPERATING TEMPERATURES IN ACCORDANCE WITH NFPA 13 FOR MAXIMUM ANTICIPATED TEMPERATURES.
2. NOT ALL SYMBOLS ARE UTILIZED ON DRAWINGS.

FIRE SPRINKLER SYMBOLS

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED. V2.01

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	NIC	NOT IN CONTRACT
AFG	ABOVE FINISHED GRADE	OC	ON CENTER
CD	CANDELA	PIV	POST INDICATOR VALVE
DI	DUCTILE IRON	PROVIDE	FURNISH AND INSTALL
ESFR	EARLY SUPPRESSION FAST RESPONSE	PRV	PRESSURE REDUCING VALVE
ETR	EXISTING TO REMAIN	RD	RETURN DUCT
FHC	FIRE HOSE CABINET	REV	REVISION
FP	FIRE PROTECTION	SD	SUPPLY DUCT
GC	CONTRACTOR	SF	SQUARE FEET
GPM	GALLONS PER MINUTE	TYP	TYPICAL
JB/J-BOX	JUNCTION BOX	UNO	UNLESS NOTES OTHERWISE
MAX	MAXIMUM	V	VOLT(S)
MIN	MINIMUM	W	WATTS
N/A	NOT APPLICABLE	WP	WEATHERPROOF

ANNOTATION

- 1 — FIRE SPRINKLER PLAN NOTE CALLOUT
- CONNECTION POINT OF NEW WORK TO EXISTING
- 1 / F1 — DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER
- 1 / F1 — SECTION CUT DESIGNATION

FIRE SPRINKLER PIPING

- FP — FIRE PROTECTION (FP)
- SHUTOFF VALVE
- CHECK VALVE
- BACKFLOW PREVENTER
- CAP
- ELBOW UP
- ELBOW DOWN
- TEE UP
- TEE DOWN
- FIRE DEPARTMENT CONNECTION
- FIRE PUMP TEST HEADER
- INSPECTOR'S TEST CONNECTION / AUXILIARY DRAIN
- SPRINKLER RISER
- CONCRETE PIPE HANGER
- END OF LINE BRANCHLINE RESTRAINT

LINETYPE LEGEND

THROUGHOUT THE DRAWINGS DIFFERENT LINETYPES ARE USED IN COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF NEW WORK AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, ETC.

EXISTING	NEW
DEMOLISH	FUTURE

Sheet List - Fire Sprinkler

Sheet Number	Sheet Name	Sheet Order
FS0.00	FIRE SPRINKLER GENERAL NOTES, LEGEND AND DETAILS	
FS1.00	FIRE SPRINKLER OVERALL SITE PLAN	
FS2.01	FIRE SPRINKLER FIRST FLOOR PLAN	
FS3.01	FIRE SPRINKLER FIRST FLOOR REFLECTED CEILING PLAN	

Grand total: 4

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
8345 LENEXA DRIVE, SUITE 300
LENEXA, KS 66214
TEL 913.742.5000 FAX 913.742.5001
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

PROFESSIONAL ENGINEER
TRACI LYNN BANGOR
No. FP1527
Exp.
FIRE PROTECTION
STATE OF CALIFORNIA

Sep 9 2020

NAC ARCHITECTURE
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

FIRE SPRINKLER GENERAL NOTES, LEGEND AND DETAILS

FS0.00

© 2019 NAC-AC

TRACI L. BANGOR

9/9/2020 10:22:53 AM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_matthewmylan_20200909083417.rvt

CRESCENTA VALLEY WATER DISTRICT
FIRE FLOW TEST FORM

REQUEST

Applicant's Name & Address: Glendale USD — Applicant's Telephone
223 N. Jackson St. (818) 254-6526
Glendale CA 91206 ( )

☑ Property Owner or ☐ Owner's Representative

Address of Building Requiring Fire Flow Test: 4747 New York Ave
La Crescenta CA, 91214

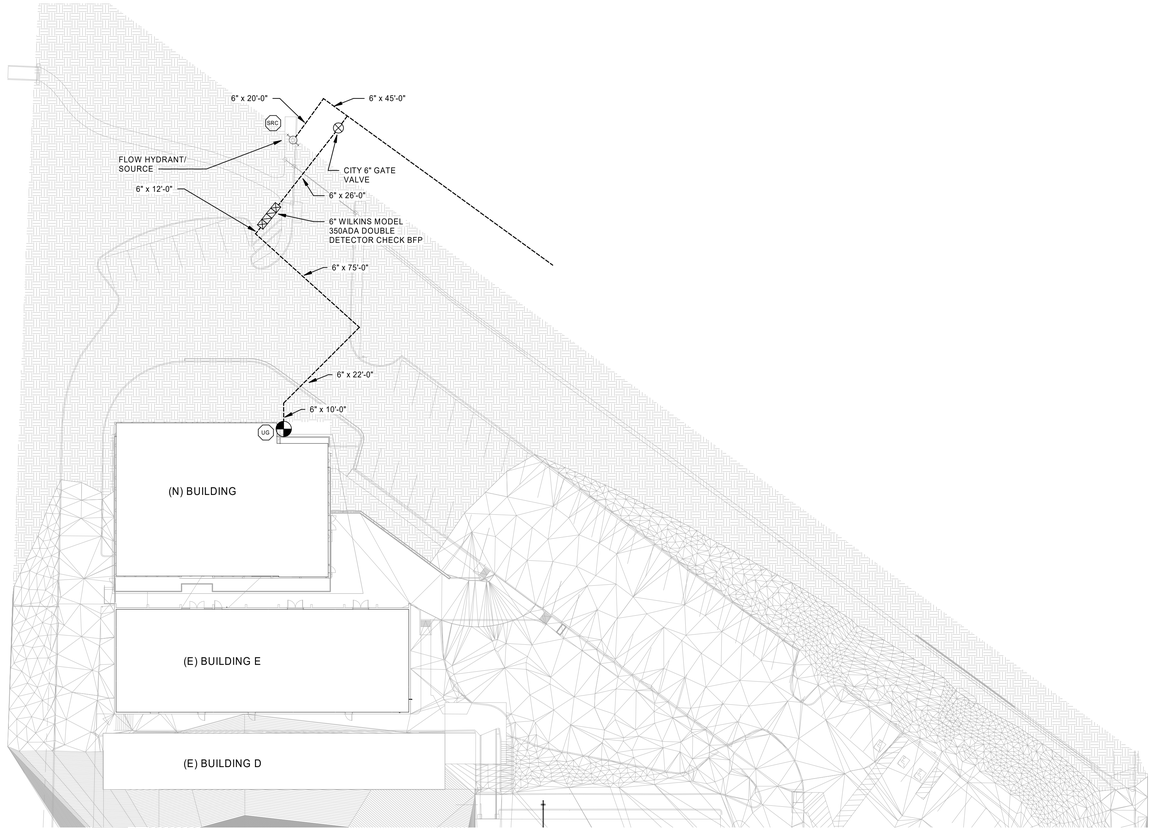
Zoning: School — Type of Construction: CMU

Occupancy or Use: School — Fire Flow Requirements____ gpm @ ____ hr. duration as required by L.A. County/Glendale Fire Department
↑ NEED DATA For Design

Signature of Applicant: [signature] Date: 1-30-20

District Approval of Flow Test: [signature] Date: 2/28/2020 — CK#2560 ☐ Fee Paid

RESULTS: To Be Completed By Tester:	RESULTS: To Be Completed By District:
Flow Hydrant Distance from Structure: 20'	Flow Hydrant No.: Page 6 F.H.#3
Flow Hydrant Static Pressure: 87 P.S.I.	Flow Hydrant Street: Cloudsdale
Flow Hydrant Pitot Gauge Read (psi): 35	Flow Hydrant Cross Street: El Caminito
Flow Hydrant Orifice Size (in.): 2.5"	Flow Hydrant Dist. to Cross Street: 120'
Flow Rate (gpm): 993.	Flow Hydrant Size: 6"x4"x2.5"
Flow Rate @ 20 psi Residual: 1,341	Flow Hydrant Main Size: 8"
Residual Hydrant Static Pressure (psi): 102	Residual Hydrant No.: Page 7 F.H.#28
Residual Hydrant Residual Pressure (psi): 55	CVWD Witness: PETER HICKE
Tester's Name: David Rawlings	Flow Test Date: 2-28-20
Tester's Company: Crescenta Valley Water	Comments: FLOWED FOR 4 MIN.
Tester's Phone: (818) 248-3925	



1 FIRE SPRINKLER SITE PLAN
NTS

FOR REFERENCE ONLY, SEE CIVIL ENGINEERING PLANS FOR FINAL LOCATIONS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
8345 LENEXA DRIVE, SUITE 300
LENEXA, KS 66214
TEL 913.742.5000 FAX 913.742.5001
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED PROFESSIONAL ENGINEER
AUSTIN LAIR ALLEN
M 36447
MECHANICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

FIRE SPRINKLER OVERALL SITE PLAN

FS1.00

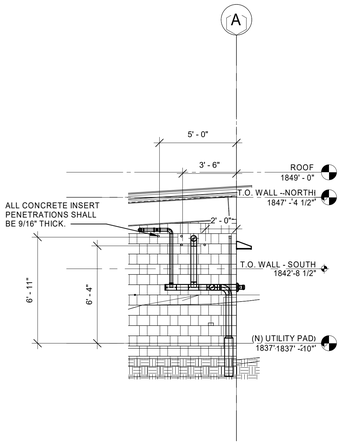
© 2019 NAC, INC.

TRACI L. BANGOR

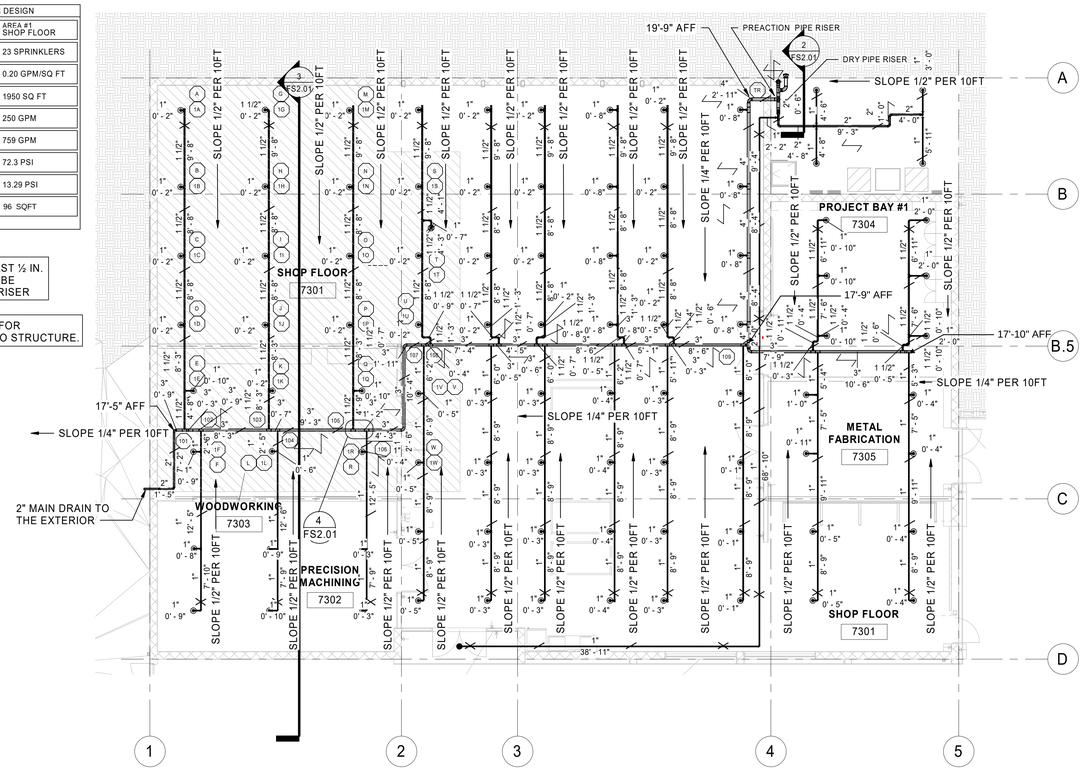
HYDRAULIC DESIGN	
SYSTEM # 1	AREA #1 SHOP FLOOR
SPRINKLERS CALCULATED	23 SPRINKLERS
SPRINKLER DENSITY REQ'D	0.20 GPM/SQ FT
AREA OF DISCHARGE	1950 SQ FT
HOSE ALLOWANCE	250 GPM
SYSTEM FLOW DEMAND	759 GPM
SYSTEM PRESSURE DEMAND	72.3 PSI
SYSTEM SAFETY FACTOR	13.29 PSI
MAX SQFT SPRINKLER SPACING	96 SQFT

ALL BRANCHLINES SHALL BE PITCHED AT LEAST ½ IN. PER 10FT BACK TO MAINS, AND MAINS SHALL BE PITCHED AT LEAST ¼ IN. PER 10 FT BACK TO RISER

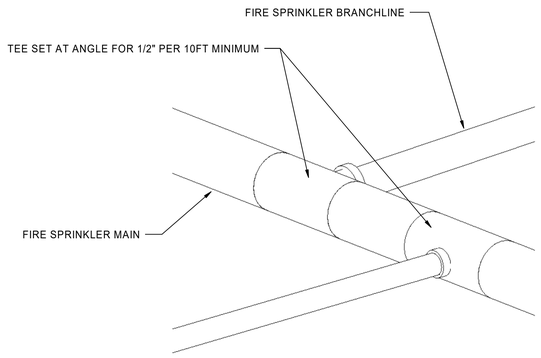
PLEASE REFERENCE DETAIL ON SHEET S8.00 FOR STRAP/HANGER/ AND BRACE CONNECTIONS TO STRUCTURE.



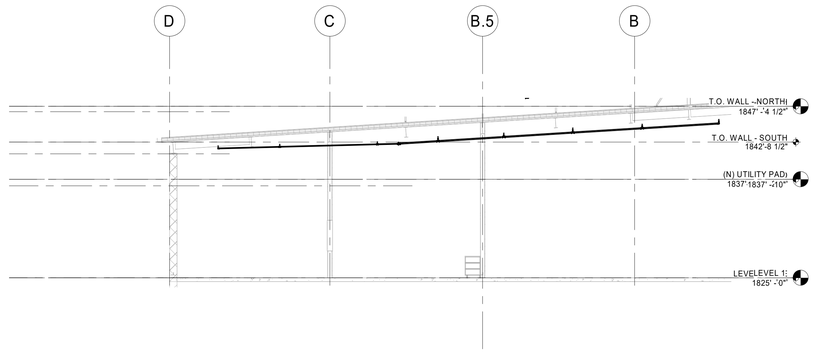
2 4-WAY BRACE ATTACHMENT LOCATIONS
1/4" = 1'-0"
SCALE: 1/4"=1'-0"



1 FIRE SPRINKLER LEVEL 1 PLAN
1/8" = 1'-0"
SCALE: 1/8"=1'-0"



4 FITTING DETAIL
NTS



3 BUILDING SECTION
1/8" = 1'-0"
SCALE: 1/8"=1'-0"

TRACI L. BANGOR

9/9/2020 10:23:02 AM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_matthewmylan_20200909083417.rvt

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
8345 LENEXA DRIVE, SUITE 300
LENEXA, KS 66214
TEL 913.742.5000 FAX 913.742.5001
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL
TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

REGISTERED PROFESSIONAL ENGINEER
TRACI LYNN BANGOR
No. FP1527
Exp.
FIRE PROTECTION
STATE OF CALIFORNIA

Sep 9 2020

NAC ARCHITECTURE

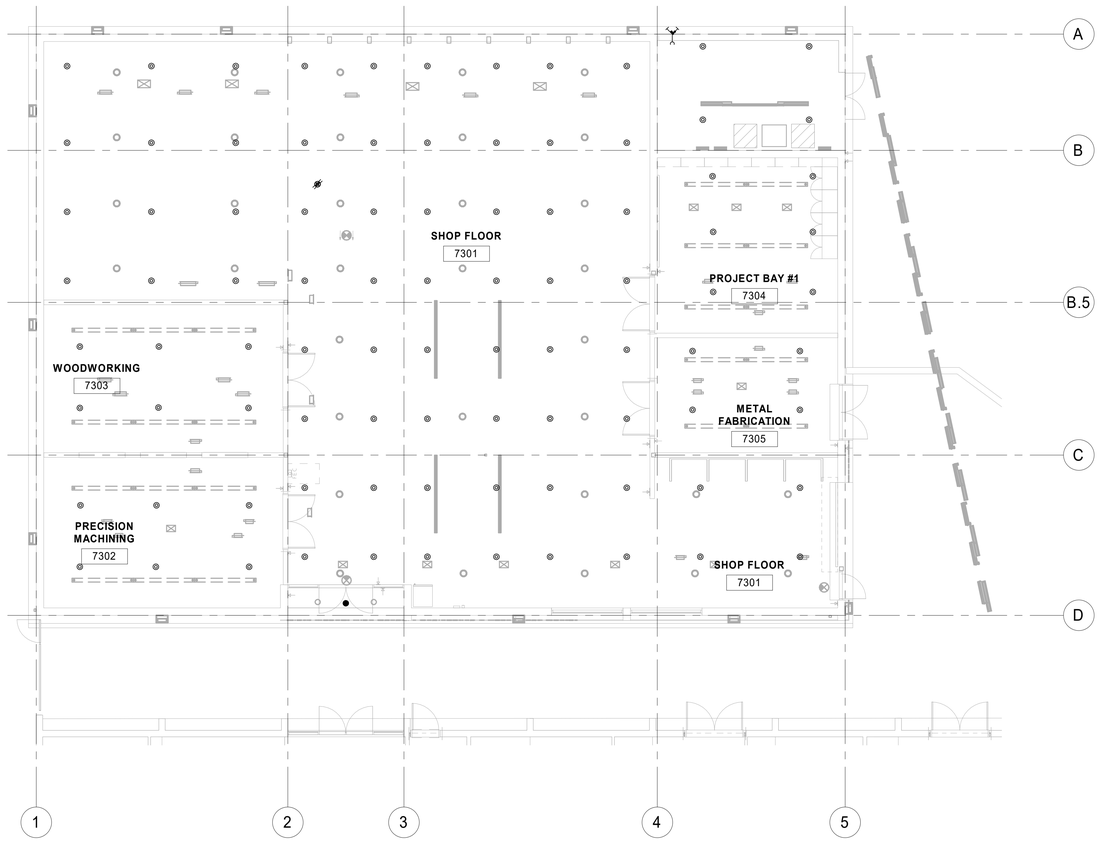
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

FIRE SPRINKLER FIRST FLOOR PLAN

FS2.01

© 2019 NAC, INC



1 FIRE SPRINKLER LEVEL 1 - RCP
1/8" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
8345 LENEXA DRIVE, SUITE 300
LENEXA, KS 66214
TEL 913.742.5000 FAX 913.742.5001
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

LICENSED PROFESSIONAL ENGINEER
AUSTIN LAIR ALLEN
M 36447
MECHANICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100%
CONSTRUCTION
DOCUMENTS

FIRE SPRINKLER FIRST
FLOOR REFLECTED CEILING
PLAN

FS3.01

© 2019 NAC Arc

TRACI L. BANGOR

9/2/2020 9:11:16 AM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_matthew.mylan_20200902090134.rvt

FIRE ALARM REQUIREMENTS:

1. APPLICABLE STANDARD NFPA 72, AS ADOPTED AND AMENDED IN CBC CHAPTER 35.
2. INSTALLATION OF THE SYSTEMS SHALL NOT BE STARTED UNTIL DETAILED DESIGN DOCUMENTS AND SPECIFICATION, INCLUDING STATE FIRE MARSHAL LISTING NUMBERS FOR EACH COMPONENT OF THE SYSTEM, HAS BEEN APPROVED BY DSA.
3. UPON COMPLETION OF SYSTEM INSTALLATION, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF A DSA PROJECT INSPECTOR.
4. A STAMPED SET OF APPROVED FIRE ALARM DESIGN DOCUMENTS SHALL BE ON THE JOB SITE AND USED FOR INSTALLATION.
5. ANY DISCREPANCIES BETWEEN THE DRAWINGS AND THE CODE OR RECOGNIZED STANDARDS SHALL BE BROUGHT TO THE ATTENTION OF DSA AND THE ARCHITECT/ENGINEER OF THE PROJECT.
6. DSA, ARCHITECT/ENGINEER AND OWNER SHALL BE NOTIFIED A MINIMUM OF 48 HOURS PRIOR TO THE FINAL INSPECTION AND/OR TESTING.
7. ALL PENETRATIONS THROUGH RATED ASSEMBLIES REQUIRING OPENING PROTECTION SHALL BE PROVIDED WITH A PENETRATION FIRE STOP SYSTEM AS IDENTIFIED IN CBC CHAPTER 7, UL OR OTHER APPROVED LAB TESTING CRITERIA. APPROVED TYPES OF MATERIALS SHALL BE IDENTIFIED WITHIN THE PROJECT SPECIFICATIONS WITHIN THE FIRE ALARM SECTION.
8. WALL MOUNTED VISIBLE NOTIFICATION DEVICES SHALL HAVE THEIR BOTTOMS MOUNTED AT 80" MINIMUM AND 96" MAXIMUM FROM FINISHED FLOOR.
9. WALL MOUNTED AUDIBLE NOTIFICATION DEVICES SHALL HAVE THEIR TOPS MOUNTED AT 90" MINIMUM AND 100" MAXIMUM FROM FINISHED FLOOR AND NO CLOSER THAN 6" TO A HORIZONTAL STRUCTURE.
10. AUDIBLE DEVICES SHALL PROVIDE A SOUND PRESSURE LEVEL OF 15 DECIBELS (dBA) ABOVE THE AVERAGE AMBIENT SOUND LEVEL OR 5 dBA ABOVE THE MAXIMUM SOUND LEVEL HAVING A DURATION OF ATLEAST 60 SECONDS, WHICHEVER IS GREATER, IN EVERY OCCUPIABLE SPACE WITHIN THE BUILDING.
11. AUDIBLE DEVICES SHALL BE SYNCHRONIZED TEMPORAL CODE 3 PATTERN.
12. THE CONTRACTOR SHALL ADJUST/INSTALL ALL DEVICES TO MAXIMIZE PERFORMANCE AND TO MINIMIZE FALSE ALARMS.
13. VISIBLE DEVICES SHOULD NOT EXCEED TWO FLASHES PER SECOND AND SHOULD NOT BE SLOWER THAN ONE FLASH EVERY SECOND. THE DEVICESHALL HAVE A PULSING LIGHT SOURCE NOT LESS THAN 15 CANDELLA. VISIBLE DEVICES WITHIN 55' FROM EACH OTHER SHALL BE SYNCHRONIZED.
14. UNDERGROUND AND EXTERIOR CONDUITS TO HAVE WATERTIGHT FITTINGS AND WIRE TO BE APPROVED FOR WET LOCATIONS.
15. ALL FIRE ALARM WIRING SHALL BE FPL OR FPLP (FIRE POWER LIMITED ORFIRE POWER LIMITED PLENUM) AS REQUIRED FOR APPLICATION. WIRING IN CONDUIT ABOVE GROUND MAY BE TYPE THHN OR THWN.
16. PER CEC STANDARDS, ALL WIRING IS TO BE PULLED THROUGH EACH JUNCTION BOX AND CONNECTED DIRECTLY TO EACH FIRE DEVICE. DO NOT SPLICE THE WIRE. ALL BOXES TO BE SIZED PER CEC.
17. SMOKE DETECTORS SHALL NOT BE ANY CLOSER THAN 1' FROM FIRE SPRINKLERS OR 3' FROM ANY SUPPLY DIFFUSER. IN AREA OFCONSTRUCTION OR POSSIBLE DAMAGE/CONTAMINATION ON NEWLY INSTALLED FIRE ALARM, DEVICES SHALL BE COVERED UNTIL THAT AREAIS READY TO BE TURNED OVER TO THE OWNER.
18. ALL FIRE ALARM CIRCUITS SHALL BE IN CONDUIT, SURFACE RACEWAY OROPEN RUN ABOVE CEILINGS, UNDER FLOORS AND IN WALLS IN A NEAT AND PROTECTED MANOR AS INDICATED ON DESIGN DOCUMENTS. EXPOSED CIRCUITS ARE ONLY PERMITTED WHEN NOTED AS EXPOSED ON DESIGN DOCUMENTS.
19. FIRE ALARM PANEL, REMOTES, AND COMPONENTS SHALL BE SECURED TO MOUNTING SURFACES PER MANUFACTURERS SPECIFICATIONS. NO SINGLE DEVICE SHALL EXCEED 20 LBS. WITHOUT SPECIAL MOUNTING DETAILS.
20. A DEDICATED BRANCH CIRCUIT SHALL BE PROVIDED FOR FIRE ALARM EQUIPMENT. THIS CIRCUIT SHALL BE ENERGIZED FROM THE COMMON USE AREA PANEL AND SHALL HAVE NO OTHER OUTLETS. THE BREAKER SHALL HAVE A RED LOCKING DEVICE TO BLOCK THE HANDLE IN THE "ON" POSITION. THE CIRCUIT BREAKER SHALL BE LABELED "FIRE ALARM CIRCUIT CONTROL." CIRCUIT ID TO BE LABELED AT FIRE PANEL/EXTENDERS.
21. THE INSTALLING CONTRACTOR SHALL PROVIDE A COMPLETED "SYSTEM RECORD OF COMPLETION" PER NFPA 72, FIGURE 17.8.2.
22. FIRE ALARM CONTROL PANELS AND REMOTE ANNUNCIATORS SHALL BE INSTALLED WITH THEIR BOTTOMS MOUNTED AT 48" ABOVE THE FINISHED FLOOR.
23. MICROPHONES ASSOCIATED WITH EMERGENCY VOICE ALARM COMMUNICATION SYSTEMS (EVAC) SHALL BE ACCESSIBLE FOR USE, INSTALLED IN COMPLIANCE WITH CBC SECTIONS 11B-305 AND 11B-308.
24. THE INSTALLING CONTRACTOR SHALL PROVIDE SYSTEM PROGRAMMING FOR SUPERVISORY MONITORING PER CBC SECTION 901.6.2.
25. SUPERVISORY MONITORING SHALL BE TESTED AND VERIFIED ASSENDING CORRECT SIGNALS IN CONJUNCTION WITH FINAL ACCEPTANCE TEST.
26. OWNER SHALL BE RESPONSIBLE FOR ESTABLISHING A FIRE SYSTEM MONITORING CONTRACT OR PROVISIONS.

FIRE ALARM GENERAL DEMOLITION NOTES:

1. COORDINATE ALL DEMOLITION WITH WHAT IS SHOWN ON ARCHITECTURAL PLANS. NOTIFY ARCHITECT OF ANY DISCREPANCIES.
2. COORDINATE NEW WORK AND DEMOLITION WITH OTHER DISCIPLINES AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
3. PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW GENERAL NOTES, SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS THAT MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER OR OWNER, AS DEFINED IN BID DOCUMENTS, OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID. ADDITIONAL COMPENSATION WILL NOT BE PAID FOR LACK OF SUCH DETERMINATION, FAMILIARIZATION, AND/OR ALLOWANCE.
4. EXISTING CONDITIONS WERE TAKEN FROM ORIGINAL DRAWINGS AND SITE VISITS AND MAY NOT REFLECT EXACT "AS-BUILT" CONDITIONS. FIELD VERIFY EXISTING CONDITIONS PRIOR TO SUBMITTING FINAL BIDS. COORDINATE NEW WORK AND DEMOLITION WITH OTHER DISCIPLINES AND EXISTING CONDITIONS PRIOR TO CONSTRUCTION.
5. OWNER RETAINS RIGHTS OF SALVAGE FOR EQUIPMENT AND FIXTURES TO BE REMOVED. COORDINATE WITH THE OWNER THE EQUIPMENT AND FIXTURES TO BE SALVAGED AND THE LOCATION FOR STORAGE. AVOID DAMAGE TO EQUIPMENT DURING DEMOLITION WORK AND DURING TRANSPORT TO OWNER'S DESIGNATED STORAGE LOCATION. PROPERLY DISPOSE OF MATERIALS THAT ARE REMOVED AND ARE NOT REQUESTED TO BE SALVAGED BY THE OWNER.
6. REMOVE ITEMS SHOWN HEAVY LINED AND/OR CROSSHATCHED AND/OR NOTED TO BE REMOVED.
7. EQUIPMENT TO BE REMOVED SHALL BE KEPT FOR REINSTALLATION DURING THE CONSTRUCTION PHASE WHEN POSSIBLE AND/OR INDICATED ON THE DRAWINGS. AVOID DAMAGING EXISTING SURFACES AND EQUIPMENT TO REMAIN FOR NEW INSTALLATION. REPAIR ANY DAMAGE CAUSED DURING WORK AT NO EXTRA COST TO THE OWNER.
8. SEAL PENETRATIONS THROUGH FLOORS, WALLS, CEILINGS AND ROOFS WHERE COMPONENTS ARE REMOVED AND WHERE THE EXISTING PENETRATION IS NOT USED FOR THE NEW INSTALLATION. REPAIR DAMAGED SURFACES TO MATCH ADJACENT AREAS OR AS INDICATED ON THE ARCHITECTURAL DRAWINGS.
9. PERFORM ALL WORK ACCORDING TO THE PHASING SCHEDULE FOR THIS PROJECT. PROVIDE ALL TEMPORARY DESIGN AND/OR CONFIGURATIONS THAT MEET APPLICABLE CODE REQUIREMENTS AS NECESSARY TO CONFORM TO THE REQUIRED CONSTRUCTION PHASING OF THE PROJECT.
10. ONLY THE PORTIONS OF THE BUILDING AFFECTED BY THE SCOPE OF THE PROJECT HAVE BEEN SHOWN. INFORMATION SHOWN AS EXISTING TO REMAIN IS NOT BEING MODIFIED AS A PART OF THIS PROJECT.
11. ALL WORK SHALL BE PERFORMED SO AS TO NOT INTERRUPT SERVICE. THE CONTRACTOR SHALL PROPERLY NOTIFY THE BUILDING OWNER, LANDLORD, THE LEASER AND ADJACENT TENANTS AS APPLICABLE A MINIMUM OF 48 HOURS IN ADVANCE BEFORE PROCEEDING WITH THIS WORK.
12. REMOVE ALL UNUSED AND DEMOLISHED EQUIPMENT AND ASSOCIATED MATERIALS FROM SITE. ABANDONING UNUSED PORTIONS WILL NOT BE ACCEPTABLE.
13. SYSTEM(S) NOT ASSOCIATED WITH THE DEMOLITION SHALL BE LEFT IN SERVICE AS APPLICABLE.
14. INSPECT EXISTING EQUIPMENT TO REMAIN TO VERIFY THAT EQUIPMENT IS OPERATING PROPERLY. NOTIFY OWNER OF DAMAGED AND/OR MALFUNCTIONING COMPONENTS.
15. ALL SYSTEMS TO BE LEFT IN SERVICE PRIOR TO THE END OF EACH WORKDAY.

FIRE ALARM GENERAL NOTES:

1. PRIOR TO SUBMITTING BID, VISIT THE JOB SITE AND BECOME FULLY ACQUAINTED WITH THE EXISTING CONDITIONS OF THE PROJECT. REVIEW THE GENERAL NOTES, SPECIFICATIONS AND OTHER DRAWINGS FOR ADDITIONAL REQUIREMENTS WHICH MAY NOT BE SPECIFICALLY CALLED OUT IN THIS PORTION OF THE CONSTRUCTION DOCUMENTS. NOTIFY ARCHITECT, ENGINEER AND/OR OWNER OF CONFLICTS OR DISCREPANCIES PRIOR TO SUBMISSION OF BID.
2. SYSTEM DESIGN, INSTALLATION AND MATERIALS SHALL BE IN ACCORDANCE WITH APPLICABLE NFPA STANDARDS. SYSTEM SHALL ALSO MEET ALL APPLICABLE BUILDING CODES, FIRE CODES AND THE REQUIREMENTS OF THE AUTHORITY HAVING JURISDICTION AND INSURANCE CARRIER. VERIFY REQUIREMENTS PRIOR TO BID SUBMITTAL.
3. INFORMATION ON CONTRACT DOCUMENTS IS GENERAL INFORMATION AND FOR BID PURPOSES ONLY. CONTRACTOR SHALL BE FULLY RESPONSIBLE FOR THE FINAL SYSTEM DESIGN AND LAYOUT OF ALL COMPONENTS, COORDINATION WITH ALL OTHER TRADES, AND SYSTEM CALCULATIONS REQUIRED FOR APPROVAL BY THE AUTHORITY HAVING JURISDICTION, ENGINEER, AND OWNER'S INSURER.
4. THE CONTRACTOR SHALL FOLLOW THE ENGINEER OF RECORD'S SYSTEM DESIGN AND LAYOUT OF ALL COMPONENTS EXCEPT WHERE MODIFICATION TO THE DESIGN IS NECESSARY. MODIFICATIONS SHALL BE REFLECTED IN THE CONTRACTOR'S SHOP DRAWINGS AND CALCULATIONS.
5. DEVIATIONS FROM ENGINEER'S DESIGN WILL NOT BE CONSIDERED UNLESS A FORMALLY SUBMITTED RFI IS RECEIVED AND APPROVED.
6. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT AND LABOR REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM AS INDICATED IN THE DRAWINGS AND SPECIFICATIONS.
7. WHERE EXISTING SYSTEMS ARE PRESENT, CONTRACTOR SHALL MODIFY, RELOCATE AND/OR PROVIDE ADDITIONAL EQUIPMENT AS REQUIRED FOR SCOPE OF WORK AS REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. COORDINATE WITH WALLS, CEILINGS, LIGHTS, DIFFUSERS, STRUCTURE, OBSTRUCTIONS, ETC. IN AREAS AFFECTED BY SCOPE OF WORK. NEW EQUIPMENT SHALL BE COMPATIBLE WITH EXISTING SYSTEMS. CONTRACTOR SHALL REMOVE ALL ABANDONED EQUIPMENT, COORDINATE SYSTEM MODIFICATIONS TO MINIMIZE SYSTEM IMPAIRMENT, AND PROVIDE FIRE WATCH AND/OR INTERIM FIRE PROTECTION MEASURES WHERE REQUIRED BY THE AUTHORITY HAVING JURISDICTION, INSURANCE CARRIER OR OWNER.
8. PROVIDE ADDITIONAL MATERIALS AND LABOR REQUIRED DUE TO LACK OF COORDINATION OR TO MEET AUTHORITY HAVING JURISDICTION AND INSURANCE CARRIER REQUIREMENTS AT NO ADDITIONAL COST TO THE OWNER.
9. FORWARD COMPLETED CERTIFICATE OF COMPLETION AND CONTRACTOR MATERIAL TEST CERTIFICATES TO THE OWNER.
10. REFER TO SPECIFICATIONS FOR ADDITIONAL INFORMATION.

FIRE ALARM SYMBOLS

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED. V2.01

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR	NIC	NOT IN CONTRACT
AFG	ABOVE FINISHED GRADE	OC	ON CENTER
CD	CANDELA	PIV	POST INDICATOR VALVE
DI	DUCTILE IRON	PROVIDE	FURNISH AND INSTALL
ESFR	EARLY SUPPRESSION FAST RESPONSE	PRV	PRESSURE REDUCING VALVE
ETR	EXISTING TO REMAIN	RD	RETURN DUCT
FHC	FIRE HOSE CABINET	REV	REVISION
FP	FIRE PROTECTION	SD	SUPPLY DUCT
GC	CONTRACTOR	SF	SQUARE FEET
GPM	GALLONS PER MINUTE	TYP	TYPICAL
JB/J-BOX	JUNCTION BOX	UNO	UNLESS NOTES OTHERWISE
MAX	MAXIMUM	V	VOLT(S)
MIN	MINIMUM	W	WATTS
N/A	NOT APPLICABLE	WP	WEATHERPROOF

ANNOTATION

- 1 — FIRE ALARM PLAN NOTE CALLOUT
- CONNECTION POINT OF NEW WORK TO EXISTING
- 1 / F1 — DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER LOWER NUMBER INDICATES SHEET NUMBER
- 1 / F1 — SECTION CUT DESIGNATION

STANDARD MOUNTING HEIGHTS

FIRE ALARM	
AUDIBLE APPLIANCES (CENTERLINE)	90"
FIRE ALARM ANNUNCIATOR PANEL (DISPLAY)	60"
FIRE ALARM BELL (EXTERIOR)	120"
FIRE ALARM CONTROL PANEL/UNIT (DISPLAY)	60"
PULL STATIONS (HANDLE)	48"
VISIBLE APPLIANCES (CENTERLINE)	84"

USE THE DEFAULT MOUNTING HEIGHTS SHOWN ABOVE UNLESS NOTED OTHERWISE IN THE SPECIFICATIONS OR ELSEWHERE. MOUNTING HEIGHTS LISTED ARE ABOVE FINISHED FLOOR (AFF) OR ABOVE FINISHED GRADE (AFG). ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA AND LOCAL REQUIREMENTS.

LINETYPE LEGEND

THROUGHOUT THE DRAWINGS DIFFERENT LINETYPES ARE USED IN COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF NEW WORK AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, ETC.

EXISTING	NEW
DEMOLISH	FUTURE

FIRE ALARM

- FACP — FIRE ALARM CONTROL PANEL/UNIT
- FACP — RECESSED FIRE ALARM CONTROL PANEL/UNIT
- FAAP — FIRE ALARM ANNUNCIATOR PANEL
- FAAP — RECESSED FIRE ALARM ANNUNCIATOR PANEL
- AMP — AMPLIFIER PANEL
- RPS — REMOTE POWER SUPPLY
- RT — REMOTE TEST STATION WITH INDICATING LIGHT
- RL — REMOTE INDICATING LIGHT
- PS — PRESSURE SWITCH LOW/HIGH
- FS — WATERFLOW ALARM SWITCH
- VT — CONTROL VALVE TAMPER SWITCH
- DH — MAGNETIC DOOR HOLD OPEN DEVICE
- CM — CONTROL MODULE
- MM — MONITOR MODULE
- K — FIRE DEPARTMENT KEY BOX
- PULL STATION
- F — FIREFIGHTER'S PHONE JACK
- HEAT DETECTOR (E INDICATES ELEVATOR RECALL)
- SMOKE DETECTOR (E INDICATES ELEVATOR RECALL)
- SINGLE STATION SMOKE DETECTOR
- PROJECTED BEAM SMOKE DETECTOR
- 1 / RTD — DUCT MOUNTED SMOKE DETECTOR (SD=SUPPLY/RD=RETURN)
- CO — CARBON MONOXIDE DETECTOR
- AREA OF REFUGE 2-WAY COMMUNICATION SYSTEM
- #W — WALL MOUNTED AUDIBLE NOTIFICATION APPLIANCE #W INDICATES WATTAGE (VOICE EVACUATION SYSTEMS ONLY)
- ## — WALL MOUNTED VISIBLE NOTIFICATION APPLIANCE ## INDICATES CANDELA
- #W / ## — WALL MOUNTED AUDIBLE/VISIBLE NOTIFICATION APPLIANCE ## INDICATES CANDELA #W INDICATES WATTAGE (VOICE EVACUATION SYSTEMS ONLY)
- #W — CEILING MOUNTED AUDIBLE NOTIFICATION APPLIANCE #W INDICATES WATTAGE (VOICE EVACUATION SYSTEMS ONLY)
- ## — CEILING MOUNTED VISIBLE NOTIFICATION APPLIANCE ## INDICATES CANDELA
- #W / ## — CEILING MOUNTED AUDIBLE/VISIBLE NOTIFICATION APPLIANCE ## INDICATES CANDELA #W INDICATES WATTAGE (VOICE EVACUATION SYSTEMS ONLY)
- END OF LINE RESISTOR
- ABORT SWITCH
- BELL

Sheet List - Fire Alarm

Sheet Number	Sheet Name	Sheet Order
FA0.00	FIRE ALARM GENERAL NOTES, LEGEND AND DETAILS	
FA1.00	FIRE ALARM OVERALL SITE PLAN	
FA2.01	FIRE ALARM FIRST FLOOR PLAN	
FA2.03	FIRE ALARM ROOF PLAN	
FA5.00	FIRE ALARM CALCULATIONS	

Grand total: 5

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
8345 LENEXA DRIVE, SUITE 300
LENEXA, KS 66214
TEL 913.742.5000 FAX 913.742.5001
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL
TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER SIMRAN GIDH No. 19855 ELECTRICAL STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

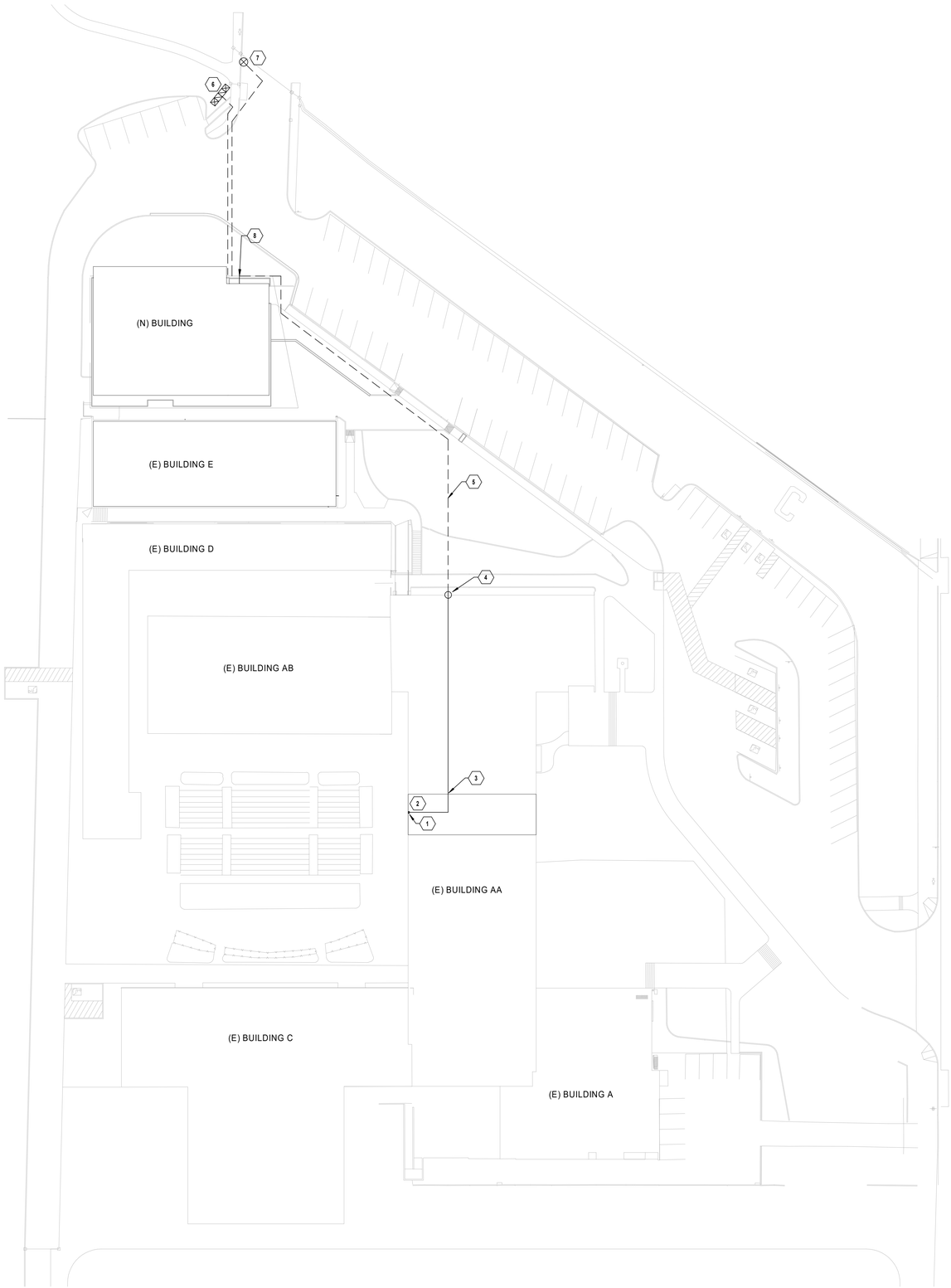
100% CONSTRUCTION DOCUMENTS

FIRE ALARM GENERAL NOTES, LEGEND AND DETAILS

FA0.00

© 2019 NAC Arch

TRACI L. BANGOR



1 FIRE ALARM SITE PLAN
1" = 30'-0"

0 15' 30' 45'
SCALE: 1"=30'-0"

FIRE ALARM PLAN NOTES:

1. EXISTING FIRE ALARM CONTROL PANEL NETWORKED TO NEW FIRE ALARM CONTROL PANEL.
2. APPROXIMATE LOCATION OF MAIN ELECTRICAL ROOM IN ELECTRICAL CLOSET RM 1225.
3. CONDUIT SHALL RUN UP AND ACROSS ROOF OF EXISTING BUILDING. FIELD VERIFY EXISTING CONDITIONS AND COORDINATE EXACT ROUTE IN FIELD AND WITH FACILITY ENGINEERS PRIOR TO START OF WORK.
4. CONDUIT SHALL STUB DOWN TO RUN UNDERGROUND. FIELD VERIFY EXACT LOCATION.
5. COORDINATE EXACT TRENCHING ROUTE IN FIELD AND WITH FACILITY ENGINEERS PRIOR TO START OF WORK.
6. DCDA TAMPER SWITCHES SHALL BE MONITORED BY THE FACP.
7. PIV TAMPER SWITCHES SHALL BE MONITORED BY THE FACP.
8. PROVIDE PULL BOX FOR FIRE ALARM WIRING USE.

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
8345 LENEXA DRIVE, SUITE 300
LENEXA, KS 66214
TEL 913.742.5000 FAX 913.742.5001
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER
CHIRAN GHAT
No. 19855
ELECTRICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

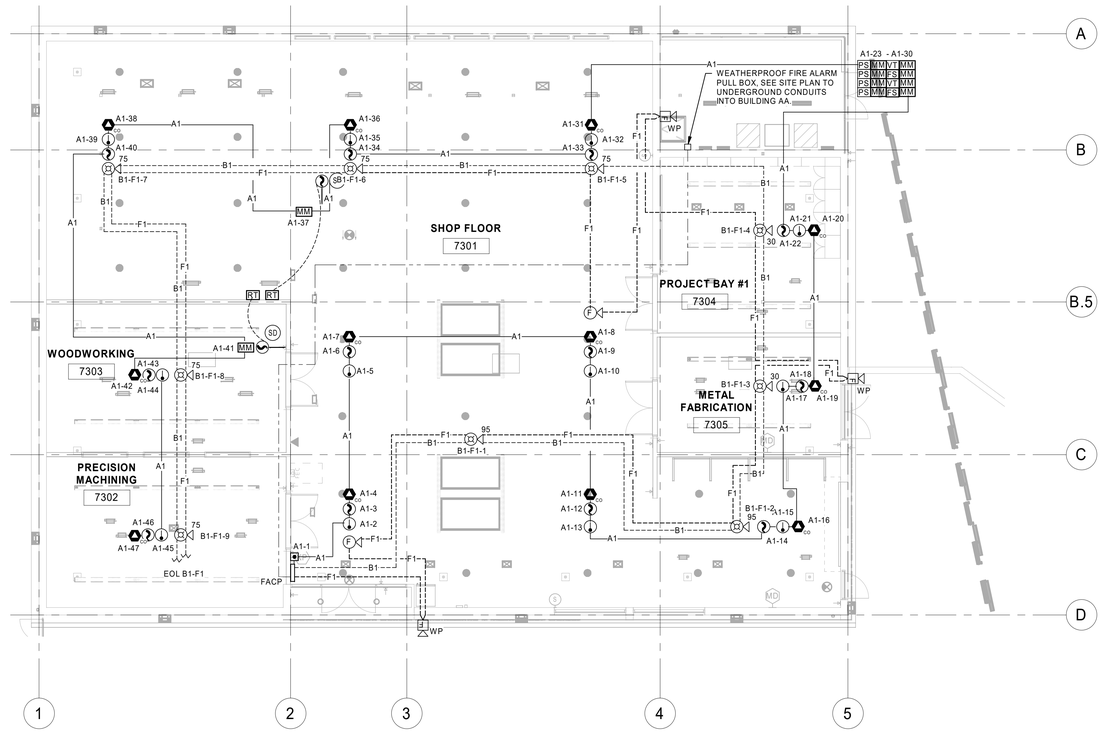
100% CONSTRUCTION DOCUMENTS

FIRE ALARM OVERALL SITE PLAN

FA1.00

© 2019 NAC, INC

TRACI L. BANGOR



1 FIRE ALARM FIRST FLOOR PLAN
1/8" = 1'-0"

0 4' 8' 12'
SCALE: 1/8"=1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
8345 LENEXA DRIVE, SUITE 300
LENEXA, KS 66214
TEL 913.742.5000 FAX 913.742.5001
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

REGISTERED PROFESSIONAL ENGINEER
TAMRAN IDRIS
No. 19855
ELECTRICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

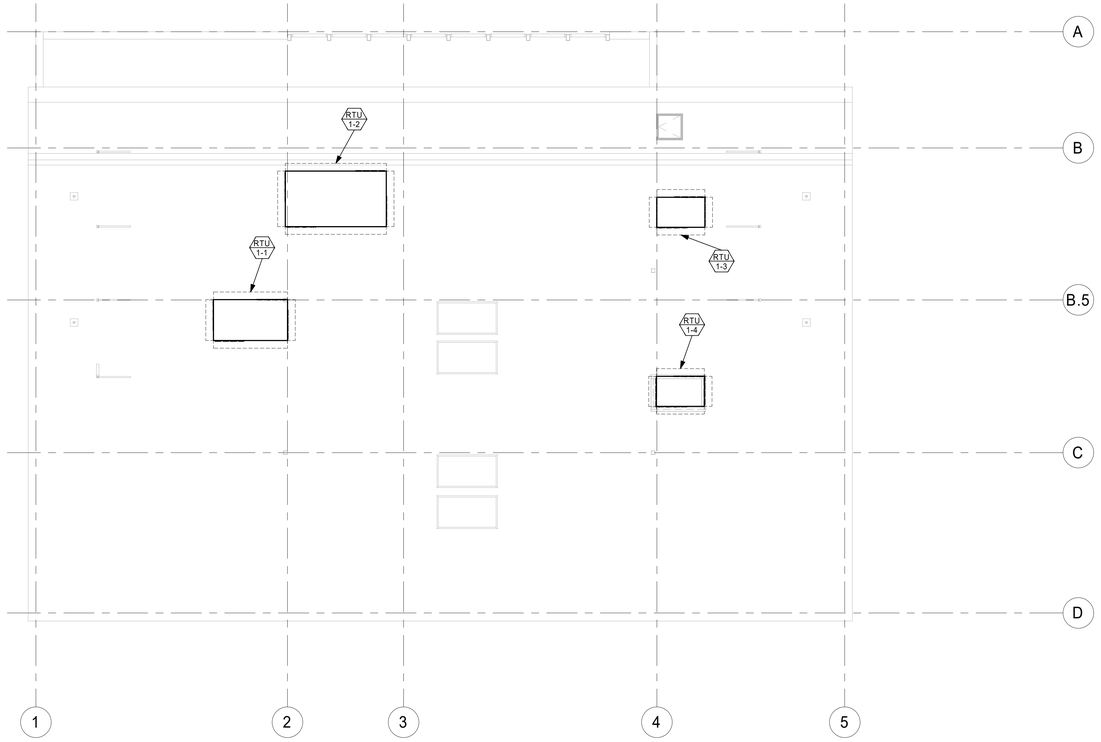
FIRE ALARM FIRST FLOOR PLAN

FA2.01

© 2019 NAC, Inc.

TRACI L. BANGOR

9/2/2020 9:09:29 AM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_matthew.mylan_20200902090134.rvt



1 FIRE ALARM ROOF PLAN
1/8" = 1'-0"

0 4' 8' 12'
SCALE: 1/8"=1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
8345 LENEXA DRIVE, SUITE 300
LENEXA, KS 66214
TEL 913.742.5000 FAX 913.742.5001
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER
LIMRAN IQBAL
No. 19855
ELECTRICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100%
CONSTRUCTION
DOCUMENTS

FIRE ALARM ROOF PLAN

FA2.03

© 2019 NAC, Inc.

TRACI L. BANGOR

9/2/2020 9:09:35 AM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_matthew.mylan_20200902090134.rvt

NAC VOLTAGE DROP CALCULATIONS

Project Name:	Clark CTE			Date:	4/13/2020
Project Number:	2050001084		Panel:	Notifier NFS2-640	
Nominal system voltage:	20.4		Min. device voltage:	16	

			Device	Current Draw (A)	Qty.	Subtotal Current Draw (A)
Circuit Number:	B1					
Area Covered:	Shop Floor					
Wire Type:	#14 solid (thhn)					
Wire Resistance:	3.07	ohms/1000'	SPSCW 30CD	0.094	2	0.188
Circuit Length:	170	feet	SPSCW 75CD	0.158	5	0.790
Device Mfg:	System Sensor		SPSCW 95CD	0.181	2	0.362
Circuit Output (Amps):	3					0.000
Circuit Results:						0.000
Voltage Drop:	1.40	volts				0.000
End of line Voltage:	19.00	PASS		Totals:	9	1.340
Voltage Drop %:	6.86%		535	feet		
Total circuit resistance:	1.044	ohms	Circuit Length:			
Resistance Max:	3.28	ohms				

FIRE ALARM LEGEND

V2.01

FIRE ALARM SYMBOLS		MANUFACURER	MODEL #	CSFM LISTING #
FACP	RECESSED FIRE ALARM CONTROL PANEL/UNIT	NOTIFIER BY HONEYWELL	NFS2-640	7165-0028:0243
RT	REMOTE TEST STATION WITH INDICATING LIGHT	SYSTEM SENSOR	RST151KEY	3240-1653:0209
	PULL STATION	NOTIFIER BY HONEYWELL	NBG-12LX	7150-0028:0199
	HEAT DETECTOR	NOTIFIER BY HONEYWELL	FST-951	7270-0028:0502
	SMOKE DETECTOR	NOTIFIER BY HONEYWELL	FSP-951	7272-0028:0503
RD	DUCT MOUNTED SMOKE DETECTOR (SD=SUPPLY/RD=RETURN)	SYSTEM SENSOR	DNR	3240-1653:0209
	CEILING MOUNTED AUDIBLE NOTIFICATION APPLIANCE #W INDICATES WATTAGE (VOICE EVACUATION SYSTEMS ONLY)	SYSTEM SENSOR	SPCW	7125-1653:0186
#W ##	CEILING MOUNTED AUDIBLE/VISIBLE NOTIFICATION APPLIANCE ## INDICATES CANDELA #W INDICATES WATTAGE (VOICE EVACUATION SYSTEMS ONLY)	SYSTEM SENSOR	SPSCW	7125-1653:0186
CO	CARBON MONOXIDE DETECTOR	NOTIFIER BY HONEYWELL	FCO-851	7275-0028:0264
	WALL MOUNTED AUDIBLE NOTIFICATION APPLIANCE #W INDICATES WATTAGE (VOICE EVACUATION SYSTEMS ONLY)	SYSTEM SENSOR	SPWK	7320-1653:201

CIRCUIT SCHEDULE / WIRING LEGEND

CIRCUIT DESIGNATION	CIRCUIT ORIGINATION	CIRCUIT DESCRIPTION	CIRCUIT CLASS
A	FACP	ONE #16/2 AWG FPLP CABLE - BELDEN 6220FK OR EQUIVALENT FOR SIGNALING LINE CIRCUIT	CLASS B
B	FACP	ONE #14/2 AWG FPLP CABLE - BELDEN 6120UJ OR EQUIVALENT FOR NOTIFICATION APPLIANCE CIRCUIT	CLASS B
C	FACP	ONE #14/2 AWG FPLP CABLE - BELDEN 6120UJ OR EQUIVALENT FOR INITIATING DEVICE CIRCUIT	CLASS B
D	FACP	ONE #16/2 AWG FPLP CABLE - BELDEN 6220FK OR EQUIVALENT FOR FIRE ALARM ANNUNCIATOR PANEL	CLASS B
E	FACP	ONE #14/2 AWG FPLP CABLE - BELDEN 6120UJ OR EQUIVALENT FOR 24VDC POWER CIRCUIT	CLASS B
F	AMPLIFIER	ONE #16/2 AWG FPLP CABLE - BELDEN 6220FK OR EQUIVALENT FOR SPEAKER CIRCUIT	CLASS B

N1:C1-07 — NOTIFICATION CIRCUIT/INITIATING CIRCUIT CIRCUIT NUMBER; DEVICE NUMBER ON CIRCUIT

FACP ADDITIONAL BATTERY REQUIREMENT CALCULATIONS

Project:	Clark CTE	Prj. No:	2050001084
Panel:	Notifier NFS2-640		
Location:	Shop Floor		

		Standby (Amps)		Alarm (Amps)	
Quantity	Device	Current	Total Current	Current	Total Current
1	PULL STATION	0.0003	0.0003	0.0004	0.0004
12	SMOKE DETECTOR FSP-951	0.0005	0.0054	0.0005	0.0054
12	HEAT DETECTOR FST-951	0.0005	0.0054	0.0005	0.0054
10	MONITOR MODULE EST SIGA-CT1	0.0003	0.0025	0.0004	0.0040
1	NOTIFICATION APPLIANCE CIRCUIT B1	0.0000	0.0000	1.3400	1.3400
1	FIRE ALARM CONTROL PANEL	0.2800	0.2500	0.3200	0.3200
12	CO DETECTOR FCO-851	0.0003	0.0036	0.0007	0.0086
			0.0000		0.0000
			0.0000		0.0000
			0.0000		0.0000
			0.0000		0.0000
			0.0000		0.0000
			0.0000		0.0000
			0.0000		0.0000
			0.0000		0.0000
	Totals:		0.2672		1.6838

Standby	
Total System Standby Current (Amps)	0.267
x Required Standby Time (hr)	24
Required Standby Capacity (Amp-hr):	6.412

Alarm	
Total System Alarm Current (Amps)	1.684
x Required Alarm Time (hr)	0.25
Required Alarm Capacity (Amp-hr):	0.421
(1) Expressed in decimals of an hour.	

Total Required Capacity (Amp-hr) =	6.833
Optional Safety Factor	20%
Required Battery Capacity (Amp-hr)	**8.2**

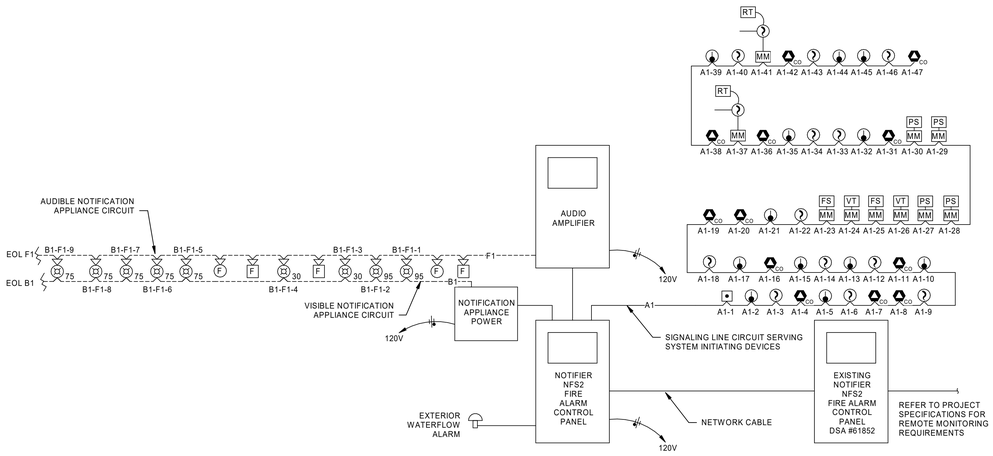
SYSTEM INPUTS	ALARM	SUPERVISORY	TROUBLE
SIGNALING LINE OR NOTIFICATION APPLIANCE CIRCUIT - OPEN			●
SIGNALING LINE OR NOTIFICATION APPLIANCE CIRCUIT - SHORT			●
SIGNALING LINE OR NOTIFICATION APPLIANCE CIRCUIT - GROUND			●
FIRE ALARM CONTROL PANEL LOSS OF POWER			●
MANUAL PULL STATION	●		
SMOKE DETECTOR - SPOT TYPE	●		
SMOKE DETECTOR - DUCT MOUNTED		●	
WATERFLOW ALARM SWITCH	●		
VALVE TAMPER SWITCH		●	
FIRE DEPARTMENT KEY BOX VALVE TAMPER SWITCH (KNOX BOX)		●	
HEAT DETECTOR - SPOT TYPE	●		
DOUBLE INTERLOCK PREACTION SPRINKLER - FIRST INTERLOCK	●		
DOUBLE INTERLOCK PREACTION SPRINKLER - SECOND INTERLOCK	●		
DOUBLE INTERLOCK PREACTION SPRINKLER - MANUAL EMERGENCY STATION AT VALVE	●		
DOUBLE INTERLOCK PREACTION SPRINKLER - SUPERVISORY AIR SWITCH		●	
CARBON MONOXIDE (CO) DETECTOR - CO DETECTED	●		
CARBON MONOXIDE (CO) DETECTOR - TROUBLE/FAULT			●

PRIORITY	SYSTEM OUTPUTS
	REPORT TO FIRE ALARM CONTROL PANEL
	SIGNAL SUPERVISING STATION
	ACTIVATE GENERAL FIRE ALARM AUDIBLE/VISIBLE NOTIFICATION APPLIANCES
	ACTIVATE FGC NOTIFICATION APPLIANCE
	SHUTDOWN ALL FAN POWERED MECHANICAL AIR HANDLING EQUIPMENT FOR AFFECTED HVAC SYSTEM
	SHUTDOWN ALL FAN POWERED MECHANICAL AIR HANDLING EQUIPMENT
	ACTIVATE SYSTEM PRE-DISCHARGE NOTIFICATION APPLIANCES
	ACTIVATE SYSTEM DISCHARGE NOTIFICATION APPLIANCES UPON SYSTEM DISCHARGE
	OPEN PREACTION SYSTEM VALVE
	ACTIVATE LOCAL NOTIFICATION OF CARBON MONOXIDE DETECTION

CONTRACTOR TO PROVIDE ALL NECESSARY EQUIPMENT AND CONNECTIONS REQUIRED TO ACCOMPLISH THE FUNCTIONS INDICATED, AT MINIMUM.

SEQUENCE OF OPERATIONS INDICATED IS SCHEMATIC. MODIFY TO SUIT CONDITIONS AND MEET APPLICABLE CODE REQUIREMENTS.

2 FIRE ALARM SEQUENCE OF OPERATIONS
NTS



RISER DIAGRAM IS SCHEMATIC IN NATURE. NOT ALL DEVICES ARE SHOWN. REFER TO PLANS FOR EQUIPMENT QUANTITIES AND LOCATIONS.

DUCT DETECTORS MAY HAVE INTEGRAL RELAYS FOR AIR HANDLING UNIT SHUT-DOWN AND FIRE/SMOKE DAMPER CONTROL. WIRING FOR THIS FUNCTION HAS NOT BEEN SHOWN. COORDINATE WITH MECHANICAL SYSTEM INSTALLER.

REFER TO PLANS AND SPECIFICATIONS FOR ADDITIONAL INFORMATION.

1 FIRE ALARM RISER DIAGRAM - ADDRESSABLE SYSTEM (VOICE)
NTS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
8345 LENEXA DRIVE, SUITE 300
LENEXA, KS 66214
TEL 913.742.5000 FAX 913.742.5001
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER
DUNCAN GIBBY
No. 19855
ELECTRICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

FIRE ALARM CALCULATIONS

FA5.00

© 2019 NAC Inc.

TRACI L. BANGOR

SECURITY SYMBOLS

THIS IS A MASTER LEGEND AND NOT ALL SYMBOLS OR ABBREVIATIONS ARE USED.

STANDARD MOUNTING HEIGHTS

INTERCOM (OPERABLE PART)	48"
CARD READER (CENTER OR TOP WHERE OPERABLE PARTS EXIST)	48"
EMERGENCY LOCK RELEASE	48"
EMERGENCY PHONE (OPERABLE PARTS)	48"

DEFAULT MOUNTING HEIGHTS SHOWN ABOVE WHERE NO CALL-OUT IS PROVIDED. MOUNTING HEIGHTS LISTED ARE ABOVE FINISHED FLOOR (AFF) OR ABOVE FINISHED GRADE (AFG). ALL DEVICES SHALL BE INSTALLED IN COMPLIANCE WITH CURRENT ADA AND LOCAL REQUIREMENTS.

ABBREVIATIONS

A	AMPERS
ACP	ACCESS CONTROL PANEL
ADA	AMERICANS WITH DISABILITIES ACT
AFC	ABOVE FINISHED CEILING
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AV	AUDIO-VIDEO
AWG	AMERICAN WIRE GAUGE
BAS	BUILDING AUTOMATION SYSTEM
BD	BUILDING DISTRIBUTOR
BDF	BUILDING DISTRIBUTION FRAME
BFC	BELOW FINISHED CEILING
BR	BIOMETRIC READER
C	CONDUIT
CAT	CATEGORY
CC	CENTRAL CONTROL
CCTV	CLOSED CIRCUIT TELEVISION
CD	CAMPUS DISTRIBUTOR
CMP	COMMUNICATIONS PLENUM JACKET
CMR	COMMUNICATIONS RISER JACKET
(D)	REMOTE DEVICE
DAS	DISTRIBUTED ANTENNA SYSTEM
dB	DECIBELS
DCS	DOOR CONTROL SYSTEM
DEMO	DEMOLITION
DSP	DIGITAL SIGNAL PROCESSOR
DVR	DIGITAL VIDEO RECORDER
(E)	EXISTING DEVICE
EC	ELECTRICAL CONTRACTOR
ECIA	ELECTRONIC OMPONENTS INDUSTRY ASSOCIATION
EMI	ELECTROMAGNETIC INTERFERENCE
EMS	ENERGY MANAGEMENT SYSTEM
EMT	ELECTRICAL METALLIC TUBING
ER	EQUIPMENT ROOM
(ETR)	EXISTING TO REMAIN
(F)	DOOR FRAME MOUNTED DEVICE
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FACP	FIRE ALARM CONTROL PANEL
FD	FLOOR DISTRIBUTOR
FMC	FLEXIBLE METAL CONDUIT
FOR	FIBER OPTIC RACK
FS	FIRE STOP SYSTEM
FLR	FLOOR
GC	GENERAL CONTRACTOR
(GT)	GUARD TOUR
GYP	GYPSUM BOARD
HH	HAND HOLE
Hz	HERTZ
IMC	INTERMEDIATE METAL CONDUIT
ICS	INTERCOM CONTROL SYSTEM
IP	INTERNET PROTOCOL
ISP	INSIDE PLANT CABLE
J-BOX	JUNCTION BOX
(K)	ELECTRICALLY OPERATED BY KEY
KP	KEY PAD
KVM	KEYBOARD VIDEO MOUSE SWITCH
LAN	LOCAL AREA NETWORK
LED	LIGHT-EMITTING DIODE
LF	LINEAR FEET
MBS	MAINTENANCE BYPASS SWITCH
MDF	MAIN DISTRIBUTION FRAME
MFR	MANUFACTURER
MH	MAINTENANCE HOLE
MM	MULTIMODE
MPOE	MAIN POINT OF ENTRANCE
MPOP	MAIN POINT OF PRESENCE
MTD	MOUNTED
N/A	NOT APPLICABLE
NEC	NATIONAL ELECTRICAL CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCATION
NIC	NOT IN CONTRACT
nm	NANOMETER
NRTL	NATIONALLY RECOGNIZED TESTING LAB
NVR	NETWORK VIDEO RECORDER
OC	ON CENTER
OSHA	OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
OSP	OUTSIDE PLANT
POE	POWER OVER ETHERNET
PON	PASSIVE OPTICAL NETWORK
QTY	QUANTITY
(R)	RELOCATED EXISTING DEVICE
(RE)	REMOVE EXISTING DEVICE AND INSTALL AT ANOTHER LOCATION, SEE (R)
RMC	RIGID METAL CONDUIT
RMS	REMOTE MONITORING STATION
RU	RACK UNIT
SCS	STRUCTURED CABLING SYSTEM
SF	SQUARE FEET
SM	SINGLEMODE
SP	SCRAMBLE PAD
TBD	TO BE DETERMINED
TIA	TELECOMMUNICATIONS INDUSTRY ASSOCIATION
TGB	TELECOMMUNICATIONS GROUND BUS BAR
TMGB	TELECOMMUNICATIONS MAIN GROUND BUS BAR
TR	TELECOMMUNICATIONS ROOM
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
UL	UNDERWRITER LABORATORIES, INC.
UPS	UNINTERRUPTIBLE POWER SUPPLY
UPSDP	UNINTERRUPTIBLE POWER SUPPLY DISTRIBUTION PANEL
V	VOLT(S)
VCM	VERTICAL CABLE MANAGER
VMS	VIDEO MANAGEMENT SYSTEM
WAO	WORK AREA OUTLET
WP	WEATHER PROOF
WR	WEATHER RESISTANT
WT	WATERTIGHT
XP	EXPLOSION-PROOF

( ) - INDICATES MODIFIER FOR SPECIAL OPERATION IN LABELING SCHEME

ANNOTATION

- 1 — SECURITY PLAN CALLOUT
- CONNECTION POINT OF NEW WORK TO EXISTING
- 1 / TY1 — DETAIL REFERENCE UPPER NUMBER INDICATES DETAIL NUMBER. LOWER NUMBER INDICATES SHEET NUMBER
- 1 / TY1 — SECTION CUT DESIGNATION

LINETYPE LEGEND

THROUGHOUT THE DRAWINGS DIFFERENT LINE-TYPES ARE USED IN COMBINATION WITH THE SYMBOLS TO INDICATE THE STATUS OF ITEMS AS EXISTING, TO BE DEMOLISHED, TO BE INCLUDED AS PART OF THE NEW WORK AND/OR ITEMS WHICH ARE ANTICIPATED TO BE PROVIDED IN THE FUTURE. THE STATUS OF ITEMS USING THESE LINETYPES ARE RELATIVE TO THE VIEW IN WHICH THEY APPEAR. PHASING SHOWN IN DRAWINGS IS NOT INTENDED TO FULLY DESCRIBE ALL NECESSARY CONSTRUCTION PHASING, WHICH IS DETERMINED BY THE CONTRACTOR AS PART OF THEIR RESPONSIBILITIES. ANY SUCH PHASES DESCRIBED IN THE CONSTRUCTION DOCUMENTS ARE GENERAL AND ONLY INTENDED TO INDICATE A BROAD ORDER FOR THE SAKE OF DESCRIBING THE PROJECT. THE FOLLOWING LINETYPES MAY BE USED ON ANY DEVICE, EQUIPMENT, NOTE, LINE, SHAPE, ETC.

EXISTING	———	NEW	———
DEMOLISH	— — — — —	FUTURE	- - - - - - - -

SECURITY SYMBOLS

- AR — AREA OF REFUGE CALL BOX
- CR — PROXIMITY CARD READER
- CW X — CLIENT WORKSTATION WHERE X = NUMBER OF MONITORS
  - (AC) ACCESS CONTROL
  - (SM) SECURITY MANAGEMENT
  - (TS) TOUCHSCREEN CONTROL
  - (VS) VIDEO SURVEILLANCE
- DA — DOOR ANNUCATOR
- DB — DOOR BELL
  - (PB) PUSH BUTTON
  - (CH) CHIME
- DM — DOOR POSITION SWITCH ONLY
  - SEE ARCHITECTURAL DOOR HARDWARE SCHEDULE
- DL — DOOR POSITION SWITCH AND LATCHBOLT MONITOR
  - SEE ARCHITECTURAL DOOR HARDWARE SCHEDULE
- EL — ELECTRIFIED LOCKING DEVICE, REQUEST TO EXIT, DOOR POSITION SWITCH, AND LATCH BOLT MONITOR
  - SEE ARCHITECTURAL DOOR HARDWARE SCHEDULE
- EO — ELECTRIFIED LOOKING DEVICE
  - SEE ARCHITECTURAL DOOR HARDWARE SCHEDULE
- EP — EMERGENCY PHONE
- GB — GLASS BREAK DETECTOR
- IC — INTERCOM
  - (CR) WITH CARD READER
  - (DS) DOOR STATION
  - (RS) RECEIVING (MASTER) STATION
  - (VS) VIDEO STATION
- IP — INMATE PHONE
- KP — KEYPAD
  - (ID) INTRUSION DETECTION SYSTEM
  - (AC) ACCESS CONTROL
- LC — LIGHTING CONTROL RELAYS
- MD — MOTION DETECTOR
- PL — PANIC ALARM THREE-COLOR INDICATOR LIGHT
- PB — PANIC/DURESS BUTTON
- RE — REQUEST-TO-EXIT PUSH PAD
- RO — REMOTE UNLOCK/OPEN BUTTON
- ML — MICROPHONE STATUS LIGHT, WALL MOUNT
- MP — MICROPHONE
- MS — MICROPHONE MUTE ILLUMINATED SWITCH
- S — SPEAKER (DOOR BELL)
- SP — PAGING SPEAKER
- VM — VAULT MONITOR
- WC — WATER CONTROL VALVE
  - VALVE BY DIVISION 22, CONTROL BY DIVISION 28
- WT — WATCH TOUR

SECURITY CAMERAS

- FIXED CAMERA
- PTZ CAMERA
- 360 CAMERA
- 180 CAMERA
- TWO IMAGER CAMERA
- FOUR IMAGER CAMERA

MOUNTING TYPE SYMBOLS (APPLIES TO ANY SECURITY DEVICE SYMBOL)

- CEILING MOUNT
- WALL MOUNT
- POLE / BOLLARD MOUNT
- CORNER MOUNT
- PENDANT MOUNT
- WALL MOUNT PENDANT ARM

LABELING SCHEME

SECURITY DEVICES (TYPICAL)

A XX YY
- A: DEVICE SYMBOL
- XX: MODIFIER FOR SPECIAL OPERATION IF APPLICABLE
- YY: DEVICE TYPE

SEE MATCHING SCHEDULES ON THIS SHEET (IF APPLICABLE)

SECURITY CAMERAS (TYPICAL)

C-XX AA ##' AFF
- XX: CAMERA NUMBER
- AA: CAMERA TYPE (SEE CAMERA SCHEDULE ON THIS PAGE)
- FOR WALL MOUNTED CAMERAS, HEIGHT ABOVE FINISHED FLOOR

SEE MATCHING SCHEDULES ON THIS SHEET (IF APPLICABLE)

DOOR POSITION SWITCH TYPE SCHEDULE

TYPE	FORM FACTOR	DESCRIPTION	LOCATIONS	TYPE	POWER	MODELS	COLOR	COMMENTS
01		RECESSED STEEL DOOR CONTACT	INDOOR	1" GAP, SPDT	30V AC/DC	INTERLOGIX 1076-G INTERLOGIX 1076-M INTERLOGIX 1076-N	MATCH DOOR	
02		SURFACE MOUNT DOOR CONTACT WITH ARMORED CABLE	INDOOR	5/8" GAP, SPDT	30V AC/DC	INTERLOGIX 2707A-L	ALUMINUM	
03		OVERHEAD DOOR CONTACT FLOOR MOUNT WITH ARMORED CABLE	INDOOR	3" GAP, SPDT	30V AC/DC	INTERLOGIX 2207A-L	ALUMINUM	

MOTION DETECTOR TYPE SCHEDULE

TYPE	FORM FACTOR	DESCRIPTION	LOCATIONS	COVERAGE AREA	POWER	MODELS	COLOR	COMMENTS
01		WALL MOUNT MIRROR OPTIC PIR	INDOOR	40 FOOT DIAMETER 180 DEGREES	12VDC	DSC LC-120-PI	WHITE	LC-L1ST WALL MOUNT BRACKET

GENERAL NOTES

1 CONTRACTOR SHALL SUPPORT ALL CABLE WITH APPROVED PATHWAY.

2 ALL CABLES SHALL BE ROUTED PARALLEL AND PERPENDICULAR TO THE BUILDING STRUCTURE, UNLESS OTHERWISE NOTED.

3 DOOR HARDWARE AND OPENING CONDITIONS SHOULD BE EVALUATED PRIOR TO CONDUIT AND CABLING INSTALLATION AND COORDINATED WITH DIVISION 08.

4 PROVIDE CONDUIT SLEEVE WITH NYLON BUSHINGS FOR NON-RATED WALL PENENTRATIONS FOR COMMUNICATIONS AND SECURITY CABLES. PATHWAYS SHALL BE SIZED FOR NO MORE THAN FORTY (40) PERCENT FILL.

5 PROVIDE CONDUIT SLEEVE WITH NYLON BUSHINGS FOR OVERHEAD CEILINGS THAT BLOCK ACCESS FOR MOVE/ADD/CHANGES TO CABLE PATHWAY, LIKE HARD GYPSUM CEILING. PATHWAYS SHALL BE SIZED FOR NO MORE THAN FORTY (40) PERCENT FILL.

6 PROVIDE UL LISTED FIRESTOP ASSEMBLY AT FIRE WALL PENETRATIONS FOR COMMUNICATIONS AND SECURITY CABLES. MATERIAL AND INSTALLATION SHALL MAINTAIN THE RATED CAPACITY OF WALL AND MEET ALL APPLICABLE CODES.

7 CONTRACTOR SHALL COORDINATE ALL COMMUNICATIONS AND CABLING PATHWAYS WITH OTHER DIVISIONS (08, 21, 22, 23, 26, AND 27) PRIOR TO INSTALL OF DUCTWORK, PIPING, CONDUITS, AND ETC.

8 READ THE SPECIFICATIONS AND REVIEW THE DRAWINGS OF ALL DIVISIONS OF WORK. COORDINATE THIS WORK WITH ALL OTHER DIVISIONS OF WORK AND ALL SUBCONTRACTORS. PROVIDE ALL SUBCONTRACTORS WITH A COMPLETE SET OF BID DOCUMENTS.

9 FULLY COORDINATE ALL CONDUIT ROUTING WITH STRUCTURAL ELEMENTS. COORDINATE CONDUIT INSTALLATIONS WITH ARCHITECT, STRUCTURAL ENGINEER, STRUCTURAL CONTRACTOR, AND GENERAL CONTRACTOR PRIOR TO INSTALLATION. ROUTING IN OR UNDER THE SLAB FLOOR REQUIRES THE USE OF CABLE RATED FOR A WET ENVIRONMENT.

10 ALL WIRING SHALL BE INSTALLED COMPLETE AND UNSPLICED FROM THE SERVING EQUIPMENT PANEL TO DEVICE.

11 REFER TO TN0.00 FOR TELECOMMUNICATIONS RESPONSIBILITY MATRIX THAT ALSO DESCRIBES SECURITY COMPONENTS.

Sheet List - Security

Sheet Number	Sheet Name	Sheet Order
TY0.00	SECURITY GENERAL NOTES AND LEGEND	
TY2.01	SECURITY FIRST FLOOR PLAN	
TY4.00	SECURITY DETAILS	
TY5.00	SECURITY SCHEDULES AND RISERS	

Grand total: 4

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

NOT FOR CONSTRUCTION

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL
TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER — SIMRAN UBHI — No. 19855 — ELECTRICAL — STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE
NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

SECURITY GENERAL NOTES AND LEGEND

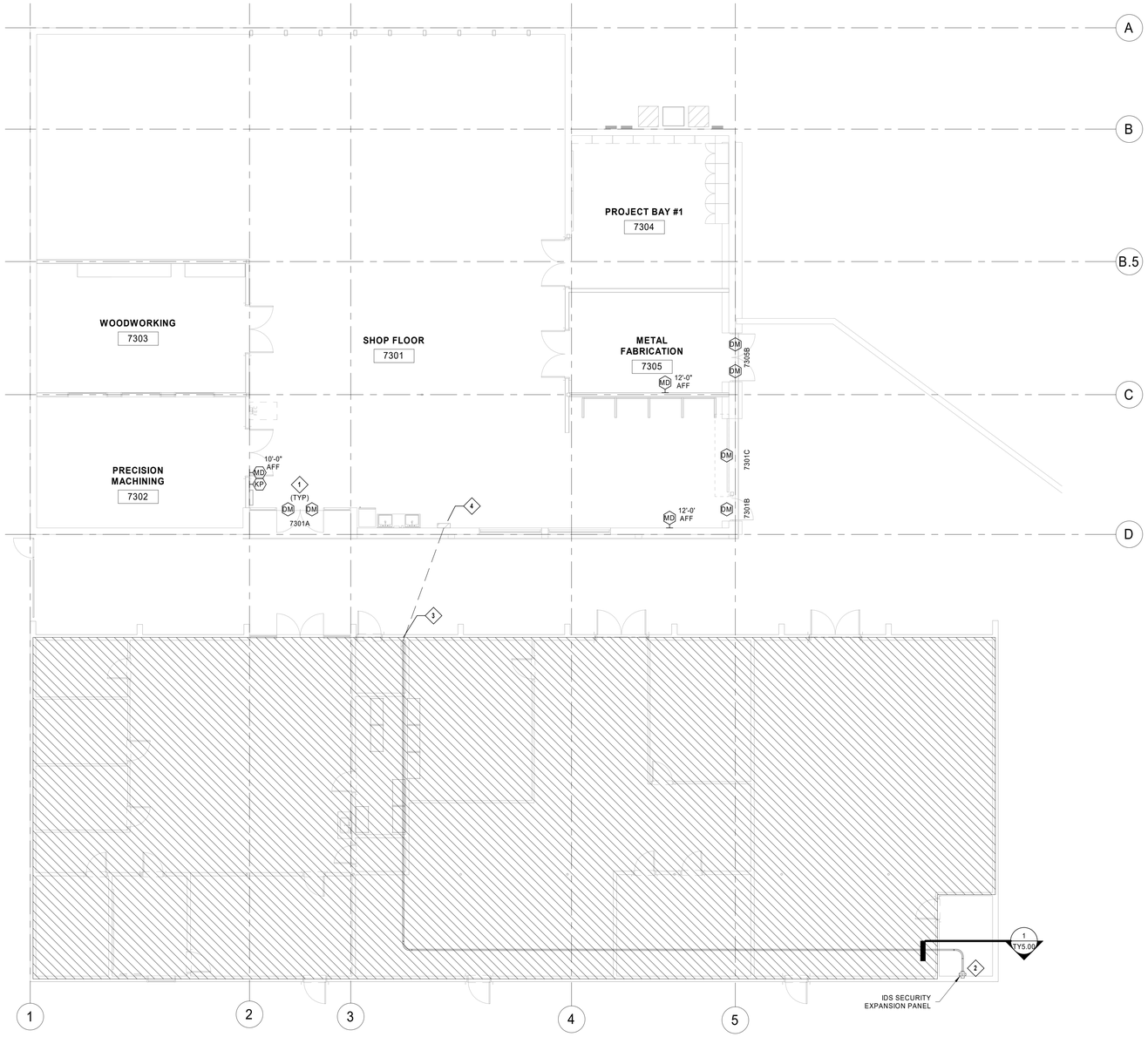
TY0.00

© 2019 NAC, Inc.

SIMRAN S. UBHI

SECURITY PLAN NOTES:

1. DOOR POSITION SWITCHES SHALL BE RECESSED, WHEN POSSIBLE; COORDINATE COLOR WITH ARCHITECT.
2. INSTALL IDS EXPANSION PANEL ADJACENT TO MASTER CONTROL PANEL. FIELD VERIFY EXACT LOCATION. CREATE A HARDWIRED ZONE FOR EACH NEW SENSOR IN THE NEW BUILDING. PROGRAM NEW ZONES TO BE PART OF NEW PARTITION "ROBOTICS LAB" IN THE IDS.
3. 2" CONDUIT FOR SECURITY DEVICES IN NEW BUILDING. CONDUIT ROUTES FROM EXISTING IDF ROOM IN EXISTING BUILDING TO PULL BOX IN SHOP FLOOR IN NEW BUILDING. COORDINATE EXTERIOR PENETRATION/PULL BOX LOCATIONS, INSTALLATION, TRENCHING AND CONDUIT ROUTING WITH DIVISION 26 AND 27 CONTRACTORS.
4. PULL BOX FOR SECURITY CABLING IN NEW BUILDING. COORDINATE EXACT LOCATION AND SIZING WITH DIVISION 26 AND 27 CONTRACTORS.



① SECURITY LEVEL 1
1/8" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

NOT FOR CONSTRUCTION

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER
SIMRAN UBHI
No. 19855
ELECTRICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE
NAC NO. 161-19034
DATE 09/04/2020

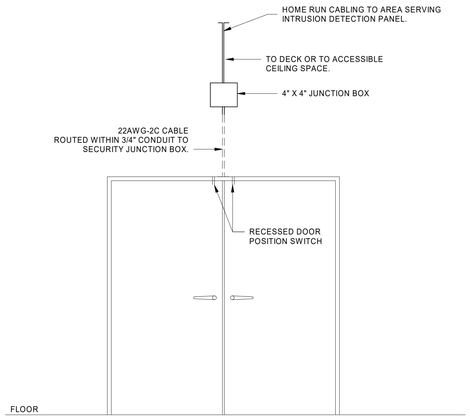
100% CONSTRUCTION DOCUMENTS

SECURITY FIRST FLOOR PLAN

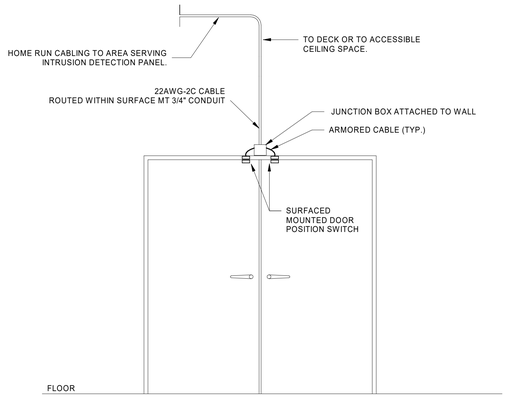
TY2.01

© 2019 NAC Inc

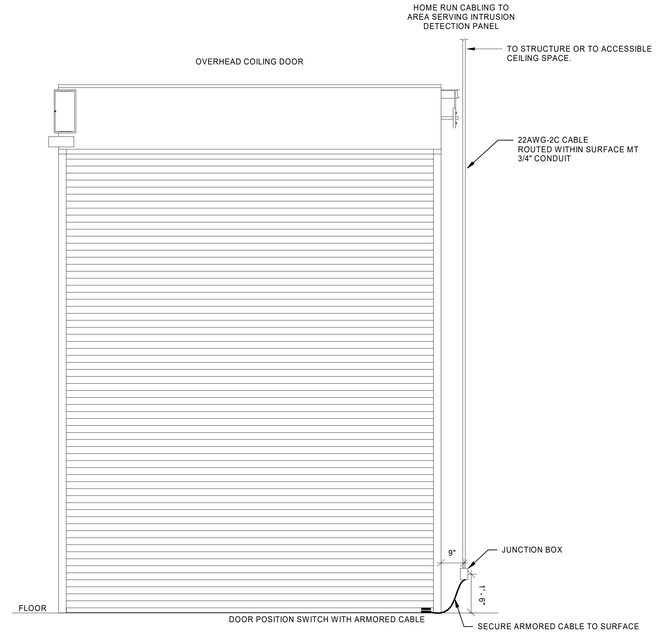
SIMRAN S. UBHI



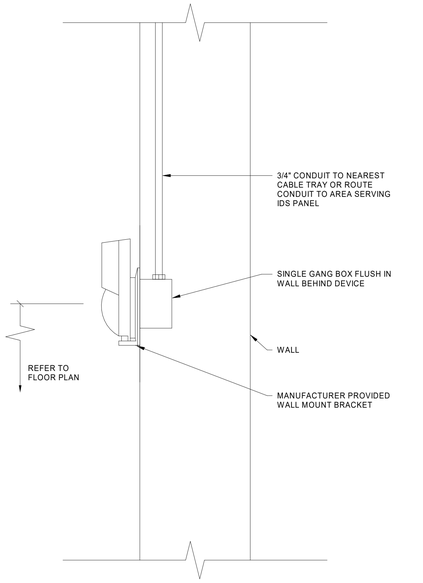
1 DOOR WITH RECESSED DOOR POSITION SWITCH
NTS



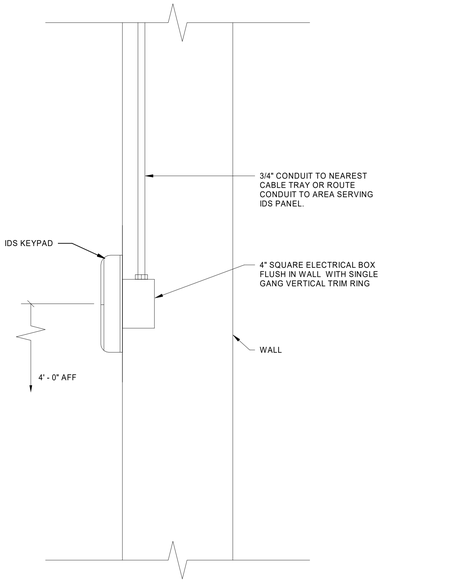
2 DOOR WITH SURFACE MOUNT DOOR POSITION SWITCH
NTS



3 OVERHEAD COILING DOOR WITH FLOOR MOUNTED DOOR POSITION SWITCH
NTS



4 WALL MOUNTED MOTION DETECTOR DETAIL
NTS



5 SURFACE MOUNTED SECURITY KEYPAD
NTS

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

NOT FOR CONSTRUCTION

GLENDALE UNIFIED SCHOOL DISTRICT

CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT

4747 NEW YORK AVE
GLENDALE, CA 91214

GLENDALE UNIFIED SCHOOL DISTRICT

REGISTERED PROFESSIONAL ENGINEER
SIMRAN UBHI
No. 19855
ELECTRICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

SECURITY DETAILS

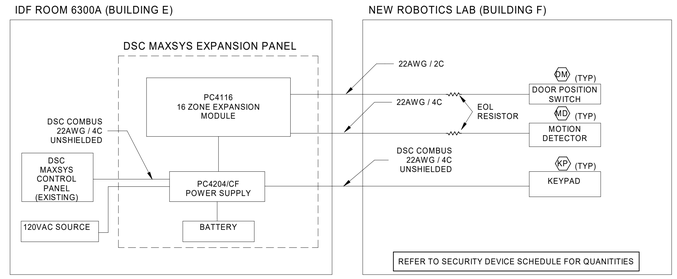
TY4.00

© 2019 NAC-LAC

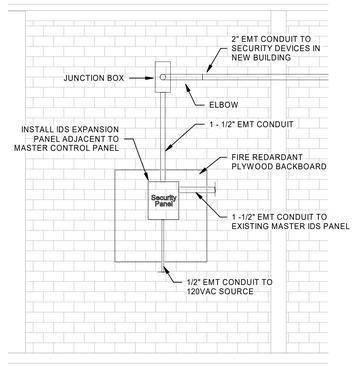
SIMRAN S. UBHI

9/2/2020 9:32:28 AM C:\Revit\Projects\2050001084 Clark CTE_MEPv20_laurafreeny_20200902082451.rvt

SECURITY DEVICE SCHEDULE				
DEVICE	TYPE	DOOR NO.	ROOM NO.	INSTALL HEIGHT
Door Monitor	01	7305B		
Door Monitor	03	7301C		
Door Monitor	01	7301B		
Door Monitor	01	7301A		
Door Monitor	01	7301A		
Door Monitor	01	7305B		
ENCLOSURE CABINET			6300A	FIELD VERIFY
Keypad			7301	4'-0" AFF
Motion Detector - 180	01		7301	10'-0" AFF
Motion Detector - 180	01		7305	12'-0" AFF
Motion Detector - 180	01		7301	12'-0' AFF



2 RISER DIAGRAM INTRUSION DETECTION ZONE EXPANSION PANEL
NTS



1 IDS EXPANSION PANEL ELEVATION
1/2" = 1'-0"

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
APP: 03-120696 INC:
REVIEWED FOR
SS ☑ FLS ☑ ACS ☑
DATE: 09/17/2020

REVISIONS

HENDERSON ENGINEERS
510 WEST SIXTH STREET, SUITE 800
LOS ANGELES, CA 90014
TEL 213.254.4750 FAX 213.254.4751
WWW.HENDERSONENGINEERS.COM

FILE NO. 19-H13
APPL NO. 03-120696

NOT FOR CONSTRUCTION

GLENDALE UNIFIED SCHOOL DISTRICT
CLARK MAGNET HIGH SCHOOL ENGINEERING AND TECHNOLOGY PROJECT
4747 NEW YORK AVE
GLENDALE, CA 91214

REGISTERED PROFESSIONAL ENGINEER
SIMRAN UBHI
No. 19855
ELECTRICAL
STATE OF CALIFORNIA

Sep 2 2020

NAC ARCHITECTURE

NAC NO. 161-19034
DATE 09/04/2020

100% CONSTRUCTION DOCUMENTS

SECURITY SCHEDULES AND RISERS

TY5.00

© 2019 NAC, INC.

SIMRAN S. UBHI