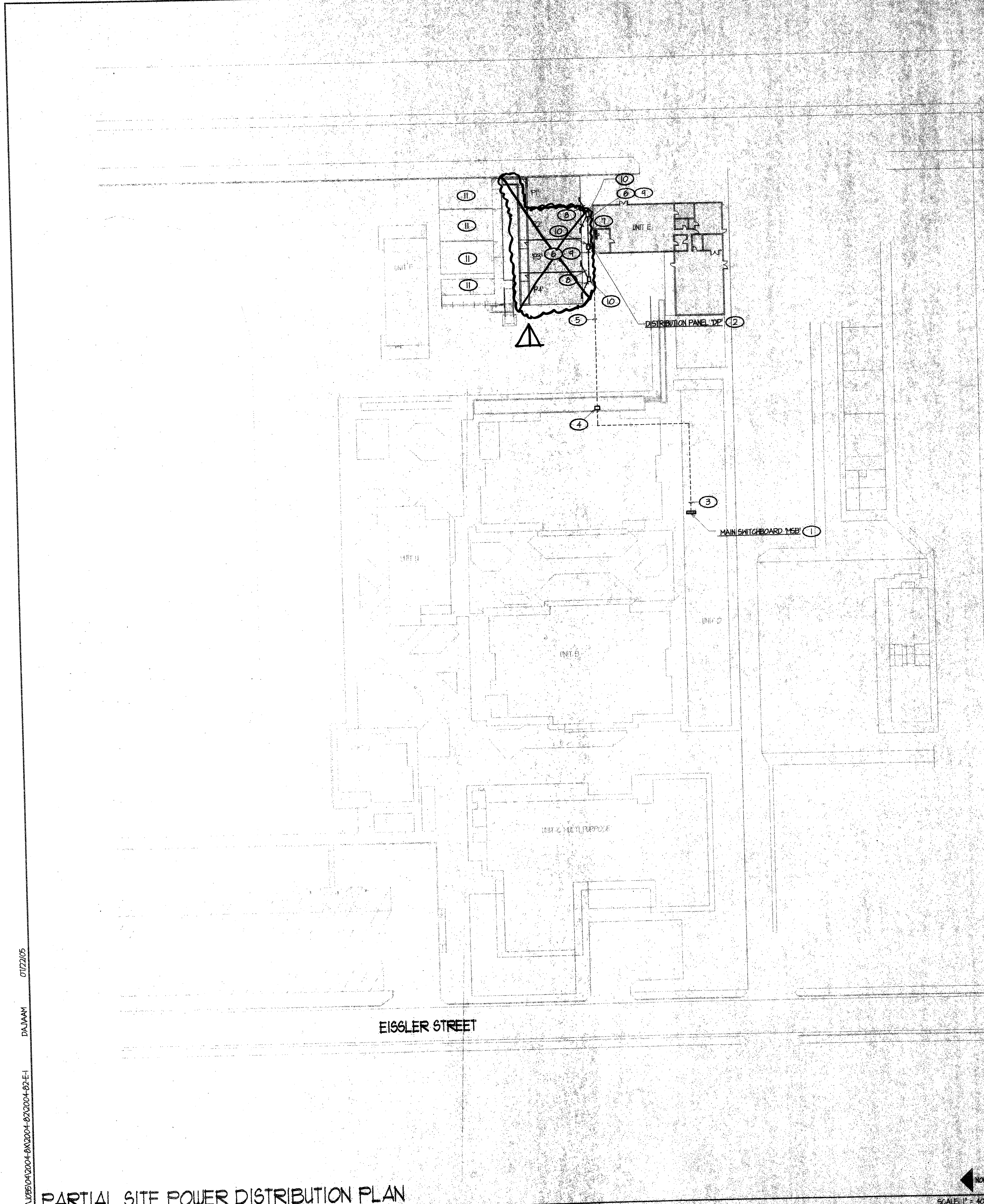

PARTIAL SITE POWER DISTRIBUTION PLAN

PARTIAL SITE POWER DISTRIBUTION PLAN NOTES

(1) EXISTING MAIN SWITCHBOARD 'MSB' TO REMAIN. REFER TO SINGLE LINE DIAGRAM, 1/E-3 FOR WORK REQUIRED AND COORDINATION/REFERENCE.

(2) EXISTING DISTRIBUTION PANEL 'DP' TO REPLACED IN PLACE WITH NEW. REMOVE EXISTING AS REQUIRED GIVING OWNER FIRST RIGHT OF REFUSAL PER GENERAL NOTE F, THIS SHEET. PROVIDE NEW DISTRIBUTION PANEL PER SPECIFICATIONS, INSTALL PER 2/E-3 AND CONNECT PER SINGLE LINE DIAGRAM, 1/E-3.

(3) EXISTING TWO 3"C. TO REMAIN. REPLACE EXISTING CONDUCTORS WITH NEW 4 #600 KCMIL CU THWN + 1 #1/0 CU GROUND IN EACH CONDUIT. CONTRACTOR SHALL FIELD VERIFY EXISTING CONDUIT ROUTING PRIOR TO BID.

(4) EXISTING POWER PULL BOX MOUNTED ON ROOF TO REMAIN. REPLACE EXISTING 3"C. RUNNING DOWN BUILDING WALL WITH NEW 3 1/2"C. AND PROVIDE NEW CONDUCTORS IN EACH CONDUIT PER ITEM (3) ABOVE. CONVERT FROM EMT TO PVC WRAPPED RIGID CONDUIT AT 46" A.F.G. THEN TO PVC AT 18" BELOW GRADE. ATTACH CONDUIT TO BUILDING STRUCTURE PER C.E.C. ARTICLE 346 REQUIREMENTS. CONTRACTOR SHALL FIELD VERIFY ALL.

(5) REPLACE EXISTING TWO 3"C. AND FEEDER CONDUCTORS WITH NEW TWO 3 1/2"C. 4 #600 KCMIL CU THWN + 1 #1/0 CU GROUND EACH. SAW CUT EXISTING AC PAVING/CONCRETE AS REQUIRED, BACK FILL TRENCH AND INFILL AREA WITH LIKE MATERIAL SUCH THAT FINISH MATERIAL IS FLUSH WITH EXISTING WHEN CURED/DRY.

(6) TWO 1 1/4"C. 3 #2 CU THWN + 1 #8 CU GROUND EACH.

(7) FOUR 1 1/4"C. 3#2 CU THWN + 1 #8 GROUND EACH.

(8) ONE 1 1/4"C. 3 #2 CU THWN + 1 #8 CU GROUND. RUN POWER FEEDER TO RELOCATABLE CLASSROOM PANEL PROVIDED BY BUILDING MANUFACTURER AND CONNECT POWER PER MANUFACTURER'S WRITTEN INSTRUCTIONS. SAW CUT EXISTING AC PAVING/CONCRETE AS REQUIRED, BACK FILL TRENCH AND INFILL AREA WITH LIKE MATERIAL SUCH THAT FINISH MATERIAL IS FLUSH WITH EXISTING WHEN CURED/DRY. CONTRACTOR SHALL EXERCISE CAUTION IN NEW TRENCHING SO AS TO NOT DISTURB OR DISRUPT EXISTING UNDERGROUND UTILITIES. CONTRACTOR SHALL FIELD VERIFY ALL. CONVERT FROM PVC TO PVC WRAPPED RIGID CONDUIT 18" BELOW GRADE TO 46" A.F.G. THEN CONTINUE SURFACE MOUNTED ON BUILDING EXTERIOR TO PANEL, ATTACHING CONDUIT TO BUILDING STRUCTURE PER C.E.C. ARTICLE 346 REQUIREMENTS. PROVIDE ALL FITTINGS, CONDULETS, ETC. AS REQUIRED TO CONNECT TO PANEL WHETHER PANEL IS LOCATED INSIDE BUILDING OR MOUNTED TO EXTERIOR WALL AS REQUIRED. CONTRACTOR SHALL FIELD VERIFY ALL.

(9) SAW CUT EXISTING AC PAVING/CONCRETE AS REQUIRED, BACK FILL TRENCH AND INFILL AREA WITH LIKE MATERIAL SUCH THAT FINISH MATERIAL IS FLUSH WITH EXISTING WHEN CURED/DRY. CONTRACTOR SHALL EXERCISE CAUTION IN NEW TRENCHING SO AS TO NOT DISTURB OR DISRUPT EXISTING UNDERGROUND UTILITIES. CONTRACTOR SHALL FIELD VERIFY ALL.

(10) PROVIDE NEW UNDERGROUND POWER PULL BOX PER SPECIFICATIONS AND INSTALL PER 4/E-3, TYPICAL WHERE OCCURS, U.O.N.

(11) EXISTING RELOCATABLE BUILDINGS TO REMAIN. EXISTING POWER IS CONNECTED TO EXISTING DISTRIBUTION PANEL BEING REPLACED IN PLACE. REFER TO SINGLE LINE DIAGRAM, 1/E-3 FOR CONNECTION TO NEW DISTRIBUTION PANEL AND COORDINATION/REFERENCE.

GENERAL NOTES

A. ALL EXISTING ELECTRICAL INFORMATION SHOWN HEREIN HAS BEEN COMPILED FROM PREVIOUS STATE APPROVED CONSTRUCTION DOCUMENTS AND INFORMATION PROVIDED BY THE OWNER'S FACILITIES PERSONNEL. IT HAS NOT NECESSARILY BEEN PHYSICALLY FIELD VERIFIED BY THIS OFFICE. USE AND APPLICATION OF THIS INFORMATION SHALL BE CONFINED TO THE PROJECT FOR WHICH IT IS INTENDED.

B. ALL EQUIPMENT SHALL HAVE AN INDEPENDENT TESTING LABORATORY LABEL (UL, CSA, ETC.) AS REQUIRED BY C.E.C. ARTICLE 110. PROVIDE EVIDENCE OF COMPLIANCE WITH THIS REQUIREMENT WITH EQUIPMENT SUBMITTALS. CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO ISSUING PURCHASE ORDERS IF EQUIPMENT PROPOSED IS NOT COMPLIANT WITH THIS REQUIREMENT. WHERE FIELD CERTIFIED PRODUCTS MAY BE REQUIRED FOR FIELD ASSEMBLED COMPONENTS, PROVIDE CERTIFIED REPORT BY AN APPROVED TESTING AGENCY ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION. ALL TESTING FEES SHALL BE INCLUDED IN CONTRACTOR'S BID.

C. WORKING CLEARANCES ABOUT ELECTRICAL EQUIPMENT SHALL COMPLY WITH THE REQUIREMENTS OF C.E.C. ARTICLE 110. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATION OF WORKING CLEARANCES FOR EQUIPMENT INSTALLED AS PART OF THIS CONTRACT.

D. PROVIDE 1/2" NYLON PULL ROPE IN ALL NEW CONDUIT AND RACEWAY TO ALLOW FUTURE ADDITION OF CONDUCTORS AS REQUIRED, WHETHER OR NOT CONDUCTORS ARE INSTALLED AT THIS TIME.

E. WHERE EXISTING CONDUIT IS BEING REUSED ON THE SITE, NEW CONDUCTORS SHALL BE PULLED CONTINUOUS AND UNSPLICED THROUGH THE EXISTING RACEWAY, RE-PULLING EXISTING CONDUCTORS AS REQUIRED AND PROVIDING A PULL ROPE IN THE EXISTING CONDUIT PER ABOVE.

F. FOR ALL ELECTRICAL EQUIPMENT BEING REMOVED, PROVIDE THE OWNER WITH THE FIRST RIGHT OF REFUSAL. IF OWNER EXERCISES THE FIRST RIGHT, THE CONTRACTOR SHALL REMOVE AND DISPOSE OF ALL SUCH REFUSED EQUIPMENT COMPLETE AND IN A PROPER MANNER.

G. RELOCATABLE CLASSROOM MANUFACTURER SHALL PROVIDE AND INSTALL ALL ELECTRICAL CONDUIT, OUTLET, LIGHTING, PANELS AND TERMINAL CABINETS AS SHOWN ON THE RELOCATABLE CLASSROOM BUILDING MANUFACTURER'S BUILDING DRAWINGS.

H. RELOCATABLE BUILDING MANUFACTURER SHALL PROVIDE AND INSTALL 4S JUNCTION BOXES WITH SINGLE GANG PLASTER RINGS FOR COMMUNICATION AND FIRE ALARM SYSTEM OUTLETS.

I. CONTRACTOR SHALL SUPPLY ALL BACK BOXES FOR CLOCK AND SPEAKER OUTLETS, INSTALL ALL SIGNAL SYSTEMS DEVICES AND WIRING AND CONNECT SAME PER ELECTRICAL DRAWINGS AND SPECIFICATIONS.

J. CONTRACTOR SHALL USE JUNCTION AND PULL BOXES PROVIDED BY THE RELOCATABLE BUILDING MANUFACTURER TO THE FULLEST EXTENT POSSIBLE. WHEN NOT POSSIBLE, NEW JUNCTION AND/OR PULL BOXES SHALL BE PROVIDED AT LOCATIONS ON THE BUILDING ELECTRICAL FLOOR PLAN DRAWINGS.

K. PROVIDE FLEXIBLE CONDUIT CONNECTION BETWEEN BUILDING MODULES, TYPICAL WHERE BUILDING MODULE LINES OCCUR. CONTRACTOR SHALL VERIFY EXACT LOCATIONS WITH RELOCATABLE BUILDING MANUFACTURER.

L. WHERE SURFACE MOUNTED RACEWAY IS REQUIRED WITHIN THE RELOCATABLE CLASSROOM BUILDING, USE SURFACE METAL RACEWAY, WIREMOLD #700 SERIES OR APPROVED EQUAL. VERIFY ANY SURFACE RACEWAY ROUTING AND FINISH WITH THE ARCHITECT PRIOR TO ORDERING MATERIALS AND COMMENCING ROUGH IN WORK.

M. CONTRACTOR SHALL COORDINATE ALL ELECTRICAL ROUGH-IN, POWER CONNECTION AND SITE DISTRIBUTION REQUIREMENTS PRIOR TO COMMENCING CONSTRUCTION AND RELOCATABLE BUILDING MANUFACTURER AND/OR RELOCATABLE BUILDING MANUFACTURER'S BUILDING DRAWINGS.

N. CONTRACTOR SHALL WARRANTY ALL MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM DATE OF ACCEPTANCE OF WORK BY OWNER.

CODES, RULES & REGULATIONS

ALL WORK AND MATERIALS SHALL COMPLY WITH THE LATEST REGULATIONS OF THE STATE FIRE MARSHAL, CALIFORNIA CODE OF REGULATIONS, SERVING UTILITY COMPANIES AND OTHER APPLICABLE STATE ORDINANCES. NOTHING IN THESE PLANS OR SPECIFICATIONS IS TO BE CONSTRUED AS TO PERMIT WORK NOT CONFORMING TO THESE CODES. WHERE WORK OF A HIGHER DEGREE IS INDICATED IN THE PLANS OR SPECIFICATIONS THIS REQUIREMENT SHALL GOVERN.

ELECTRICAL SYMBOL SCHEDULE

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

SYMBOL	DESCRIPTION	NOTES
(2-A-100)	DENOTES LIGHTING FIXTURE CIRCUIT, FIXTURE TYPE AND FIXTURE WATTAGE	
U.G.	DENOTES UNDERGROUND INSTALLATION	
W.P.	WEATHERPROOF	
A.F.F.	DENOTES ABOVE FINISHED FLOOR	
U.O.N.	UNLESS OTHERWISE NOTED	
(1)	ELECTRICAL KEYNOTE #1. REFER TO NOTES ON SAME SHEET.	
	HOME RUN 3/4" C. MINIMUM. (DENOTES PANEL A, CIRCUIT #1).	
	CONDUIT RUN IN WALL OR ATTIC (1/2" C - 2 #12 AWG THWN + 1 #12 GND)	
	CONDUIT RUN IN FLOOR OR U.G. (1/2" C - 2 #12 AWG THWN + 1 #12 GND)	(1)
	CONDUIT RUN: DENOTES 1/2"C - 3 #12 AWG CU THWN + 1 #12 CU GND	(1)
	ELECTRICAL PANELBOARD PER PLANS, FLUSH MOUNTED IN WALL	
	ELECTRICAL PANELBOARD PER PLANS, SURFACE MOUNTED ON WALL	
J	JUNCTION BOX PROVIDED BY BUILDING MANUFACTURER, U.O.N.	
J	JUNCTION BOX PER PLANS.	
	UNDERGROUND SYSTEMS PULL BOX PER PLANS.	
IC	INTERCOM HANDSET PER PLANS.	
TV	TELEVISION OUTLET +18" A.F.F., U.O.N.	
S	SURFACE MOUNTED INTERCOM SPEAKER PER PLANS.	
	FIRE ALARM MASTER CONTROL PANEL PER PLANS.	
F	FIRE ALARM MANUAL PULL STATION, +48" A.F.F., U.O.N.	
SD	FIRE ALARM SMOKE DETECTOR ON CEILING, U.O.N.	
DD	FIRE ALARM DUCT SMOKE DETECTOR IN AIR CONDITIONING DUCT.	
V	FIRE ALARM VISUAL ALARM UNIT @ +80" MINIMUM, U.O.N.	
AV	FIRE ALARM HORN/STROBE ALARM UNIT @ +80" MINIMUM, U.O.N.	
H	FIRE ALARM HORN, MOUNTED ON CEILING, U.O.N.	
H	FIRE ALARM MINI-HORN, MOUNTED ON CEILING, U.O.N.	
S	EXTERIOR SPEAKER @ +10'-0", U.O.N.	
E.O.L.	FIRE ALARM SIGNALLING CIRCUIT END OF LINE RESISTOR LOCATED AT THE FIRE ALARM MASTER PANEL, U.O.N.	

NOTES

(1) ALL UNDERGROUND SITE CONDUIT SHALL BE MINIMUM 3/4"C. UNLESS NOTED OTHERWISE.

(2) REFER TO SHEET E-4 FOR FIRE ALARM DEVICE SCHEDULE

LICENSED ARCHITECT DANNY ESPINEDA ORDIZ NO. C-14728 MAY 31 2015 RENEWAL DATE STATE OF CALIFORNIA

APPROVED
DIVISION OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
DATE 2/12/2015

ELECTRICAL DRAWING INDEX

SHEET NUMBER	SHEET TITLE
E-1	PARTIAL SITE POWER DISTRIBUTION PLAN
E-2	PARTIAL SITE SIGNAL DISTRIBUTION AND BUILDING SIGNAL PLANS
E-3	SINGLE LINE DIAGRAM
E-4	FIRE ALARM SINGLE LINE DIAGRAM, DETAIL CALCULATIONS
E-5	MATERIAL SPECIFICATIONS

REGISTERED PROFESSIONAL ENGINEER No. E 14... Exp. 6/30/07 ELECTRICAL STATE OF CALIFORNIA

WE WATERS ENGINEERING Consulting Electrical Engineer

ORDIZ MELBY ARCHITECTS, INC.
5500 MING AVENUE SUITE 280
BAKERSFIELD, CALIFORNIA 93309
TELEPHONE (661) 832-5258
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LICENSED ARCHITECT WILLIAM JOHN MELBY No. C-16835 DEC. 31 2006 RENEWAL DATE STATE OF CALIFORNIA

DANNY E. ORDIZ, A.I.A.
ARCHITECT C-14,728
WILLIAM J. MELBY, A.I.A.
ARCHITECT C-16,835

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL. # 03-108679
FILE # 15-6
AC FLS CO SS
DATE JUL 26 2005

PTN:63321-50

SITE IMPROVEMENTS
PORTABLE CLASSROOMS
AT
CHIPMAN JUNIOR HIGH SCHOOL

BAKERSFIELD CITY SCHOOL DISTRICT

EISSLER STREET
BAKERSFIELD, CALIFORNIA
93306

MARK	DATE	DESCRIPTION
SD		
CD		
1	01-13-15	CCD #01

JOB NUMBER: 2004771
CAD DRAWING FILE: 2004-82-E-1.DWG
DRAWN BY: DAJ
CHECKED BY: VWW

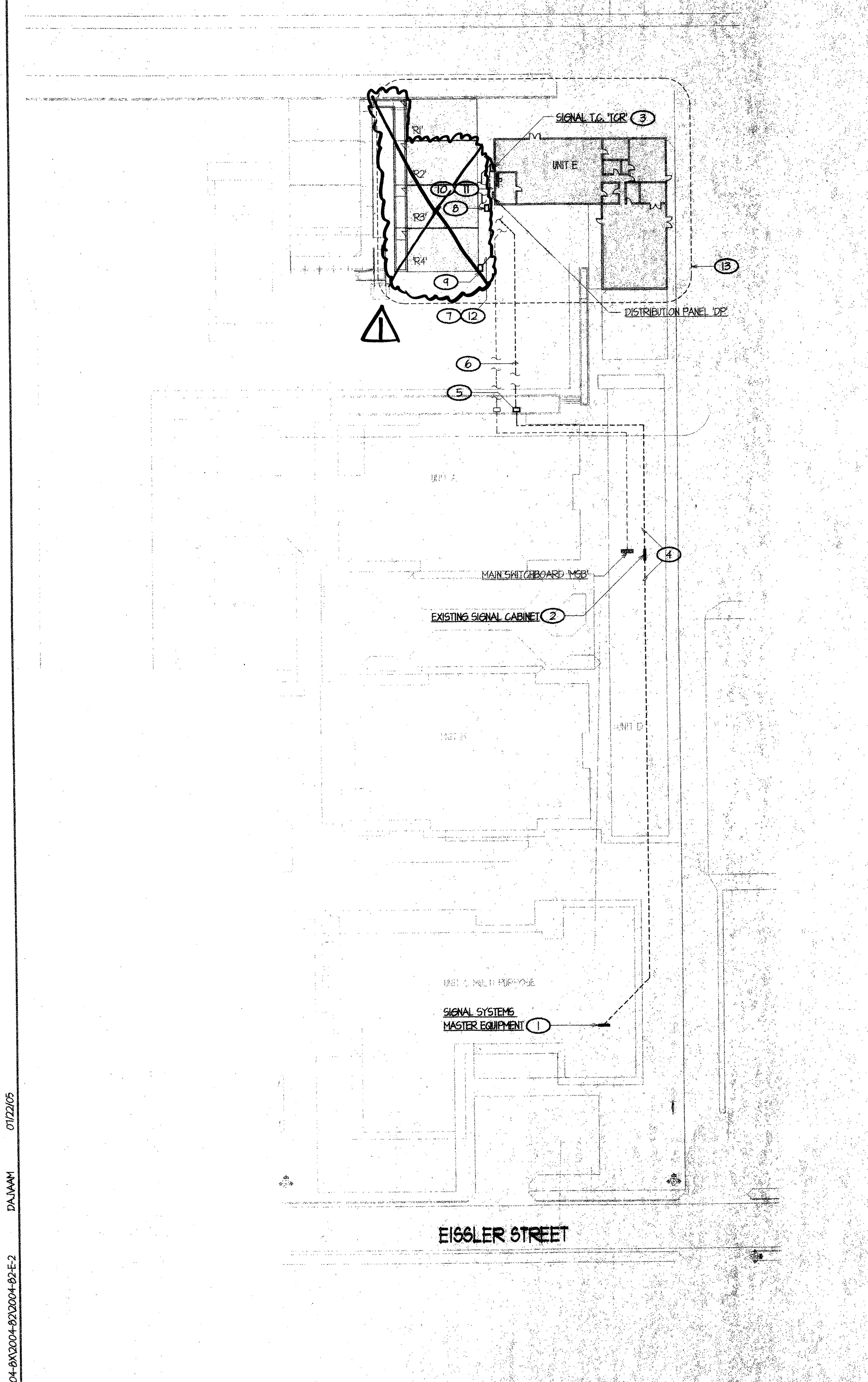
CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT.

THE DRAWINGS, IDEAS, AND DESIGNS REPRESENTED ON THIS SHEET ARE THE PROPERTY OF THE ARCHITECT.

SHEET TITLE
PARTIAL SITE POWER DISTRIBUTION PLANS

SHEET IDENTIFICATION NUMBER
E-1
SHEET OF

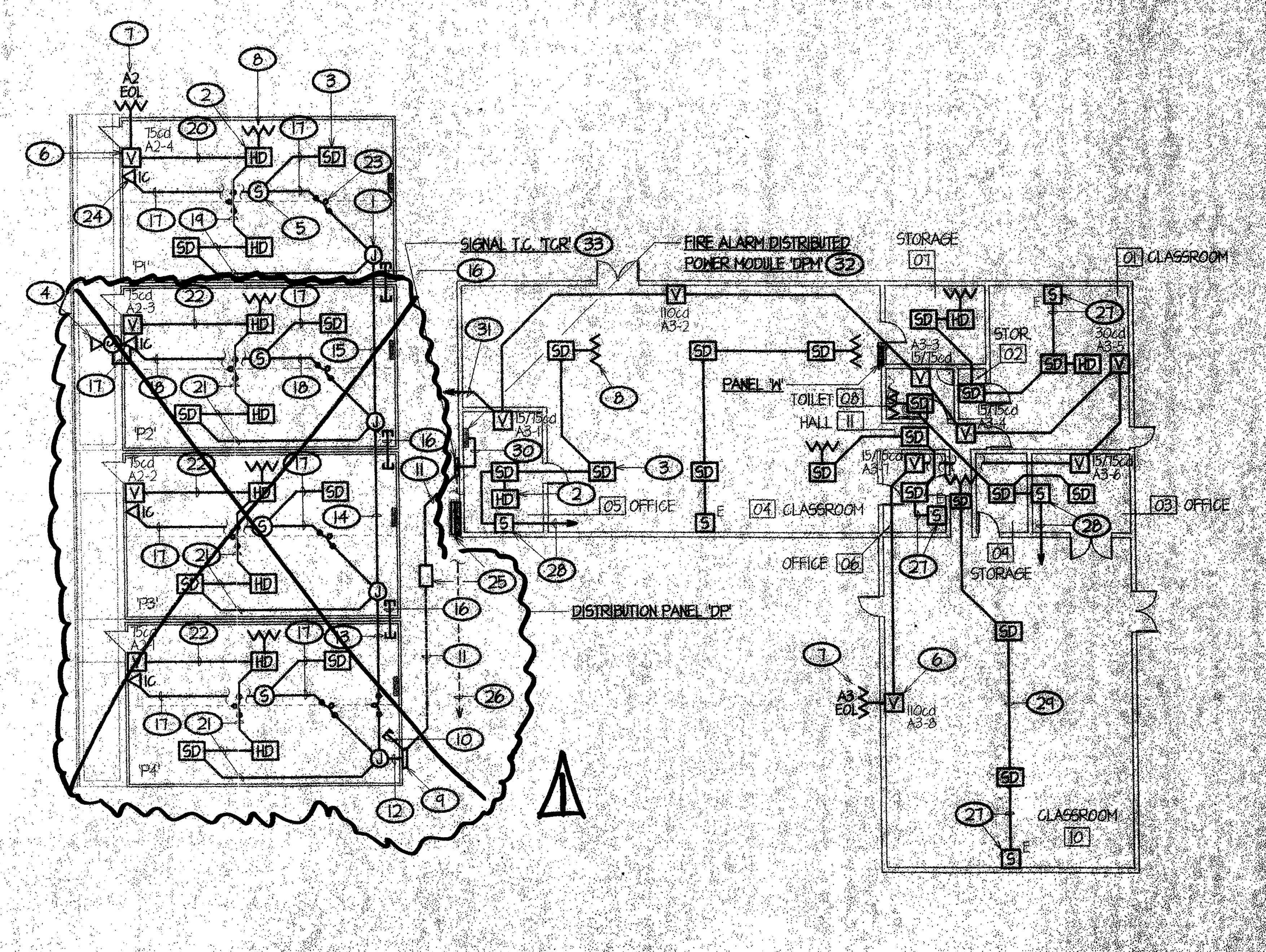
X:\JOBS\04\2004-8X\2004-82\2004-82-E-1 DAJ/VWW 07/22/05



PARTIAL SITE SIGNAL DISTRIBUTION PLAN (14)

NORTH

SCALE: 1" = 40'-0"



BUILDING SIGNAL PLANS

NORTH

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

APPROVED
DIVISION OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
DATE 2/12/2015

PARTIAL SITE SIGNAL DISTRIBUTION PLAN NOTES

1. EXISTING INTERCOM SYSTEM MASTER RACK TO REMAIN. PROVIDE NEW FIRE ALARM/INTERCOM DEVICES PER PLANS. REFER TO SIGNAL PLAN, THIS SHEET FOR COORDINATION/REFERENCE. EXISTING FIRE ALARM MASTER PANEL IS A UNIFIED FIRE ALARM PANEL, RAULAND SECUREFLEX #FA3002, INSTALLED UNDER D.S.A. APPLICATION #03-106755, MOUNTED IN EXISTING INTERCOM SYSTEM RACK AND HAS CAPACITY FOR FIRE ALARM AUDIBLE DEVICES REQUIRED BY THE SCOPE OF THIS WORK. REFER TO FIRE ALARM SINGLE LINE DIAGRAM, 1/E-4 FOR COORDINATION/REFERENCE.
2. EXISTING SIGNAL TERMINAL CABINET TO REMAIN, NO WORK REQUIRED.
3. EXISTING SIGNAL TERMINAL CABINET TO REMAIN. PICK UP EXISTING SPARE SIGNAL SYSTEMS CIRCUITS, NEW FIRE ALARM VISUAL ANNUNCIATION CIRCUIT AND EXTEND TO NEW RELOCATABLE CLASSROOM BUILDINGS PER PLANS. REFER TO SIGNAL PLAN, THIS SHEET AND FIRE ALARM SINGLE LINE DIAGRAM, 1/E-4 FOR ADDITIONAL WORK AND COORDINATION/REFERENCE.
4. EXISTING ROOF MOUNTED SIGNAL SYSTEMS CONDUIT AND CABLING FROM EXISTING SIGNAL SYSTEMS MASTER EQUIPMENT TO REMAIN, NO WORK REQUIRED.
5. EXISTING SIGNAL SYSTEM PULL BOX MOUNTED ON ROOF TO REMAIN, NO WORK REQUIRED.
6. EXISTING UNDERGROUND SIGNAL SYSTEMS CONDUIT AND CABLING FROM EXISTING SIGNAL SYSTEMS MASTER EQUIPMENT TO REMAIN, NO WORK REQUIRED.
7. RISE CONDUIT FROM UNDERGROUND ON EXTERIOR WALL OF RELOCATABLE BUILDING AND CONVERT PVC TO PVC WRAPPED RIGID CONDUIT AT 18" BELOW FINISH GRADE, THEN RISE CONDUIT FROM UNDERGROUND ON EXTERIOR WALL OF RELOCATABLE BUILDING AND CONVERT FROM PVC WRAPPED RIGID CONDUIT TO W.P. EMT AT +6" A.F.G. THEN CONTINUE TO NEW, WALL MOUNTED SIGNAL PULL BOX, ITEM (9) BELOW, ATTACHING CONDUIT TO BUILDING STRUCTURE PER C.E.C. ARTICLE 346 REQUIREMENTS. PROVIDE ALL FITTINGS, CONDULETS, ETC. AS REQUIRED TO TERMINATE CONDUIT AT SIGNAL PULL BOX. CONTRACTOR SHALL FIELD VERIFY ALL.
8. PROVIDE UNDERGROUND SIGNAL SYSTEMS PULL BOX PER SPECIFICATIONS AND INSTALL PER 1/E-3, TYPICAL WHERE OCCURS U.O.N.
9. PROVIDE WALL MOUNTED, W.P. PULL BOX MOUNTED HIGH UPON EXTERIOR WALL OF RELOCATABLE CLASSROOM BUILDING FOR EXTENSION OF SIGNAL SYSTEMS AS SHOWN. PROVIDE PULL BOX PER SPECIFICATIONS AND INSTALL PER 1/E-3. EXIT PULL BOX ENCLOSURE WITH CONDUIT, PENETRATE BUILDING AND RUN SIGNALING CIRCUITS INTO BUILDING AS SHOWN. SEAL ALL PENETRATIONS WATERTIGHT. PAINT EXPOSED CONDUIT, SCREW COVER ENCLOSURE, CONNECTORS, ETC. TO MATCH EXISTING ADJACENT FINISHED SURFACES.
10. PICK UP FOUR EXISTING SPARE SIGNAL SYSTEMS CABLE PAIRS AT EXISTING TERMINAL BLOCK IN EXISTING SIGNAL T.C. 'TCR', PROVIDE NEW CONDUIT COMPLETE FROM TERMINAL CABINET TO BUILDING MOUNTED PULL BOX AND RUN 1"C. FOUR 'A' CABLES (INTERCOM/AUDIBLE ANNUNCIATION), 3/4"C. 2 #12 CU THHN (VISUAL ANNUNCIATION) TO NEW RELOCATABLE CLASSROOM BUILDINGS AS SHOWN.
11. SAW CUT EXISTING AC PAVING/CONCRETE AS REQUIRED, BACK FILL TRENCH AND INFILL AREA WITH LIKE MATERIAL SUCH THAT FINISH MATERIAL IS FLUSH WITH EXISTING WHEN CURED/DRY. CONTRACTOR SHALL EXERCISE CAUTION IN NEW TRENCHING SO AS TO NOT DISTURB OR DISRUPT EXISTING UNDERGROUND UTILITIES. CONTRACTOR SHALL FIELD VERIFY ALL.
12. 1"C. FOUR 'A' CABLES (INTERCOM/AUDIBLE ANNUNCIATION) 3/4"C. 2 #12 CU THHN (VISUAL ANNUNCIATION).
13. REFER TO PARTIAL SIGNAL PLAN SHEET E-2 FOR ADDITIONAL WORK REQUIRED WITHIN EACH INDIVIDUAL BUILDING, TYPICAL.
14. FIRE ALARM ANNUNCIATION SIGNAL SOUNDS OVER CAMPUS INTERCOM SPEAKER SYSTEM THROUGHOUT. ALL SPEAKERS SHALL SOUND THE CALIFORNIA CODE GENERATED BY THE FIRE ALARM MASTER, ITEM (1) ABOVE. SEPARATE, 24VDC FIRE ALARM AUDIBLE ANNUNCIATION DEVICES ARE NOT USED ON THIS CAMPUS.

BUILDING SIGNAL PLAN NOTES

1. PROVIDE AND INSTALL 6" X 6" X 4" JUNCTION BOX PER SPECIFICATIONS IN ACCESSIBLE ATTIC SPACE FOR EXTENSION OF SIGNALING CIRCUITS AS SHOWN, TYPICAL WHERE OCCURS.
2. PROVIDE HEAT DETECTOR PER SPECIFICATIONS, INSTALL PER 1/E-3 AND CONNECT AS SHOWN, TYPICAL WHERE OCCURS. REFER TO FIRE ALARM SINGLE LINE DIAGRAM 1/E-4 FOR COORDINATION/REFERENCE.
3. PROVIDE SMOKE DETECTOR PER SPECIFICATIONS, INSTALL PER 1/E-3 AND CONNECT AS SHOWN, TYPICAL WHERE OCCURS. REFER TO FIRE ALARM SINGLE LINE DIAGRAM 1/E-4 FOR COORDINATION/REFERENCE.
4. PROVIDE WALL MOUNTED, W.P. EXTERIOR SPEAKER AT JUNCTION BOX SUPPLIED BY BUILDING MANUFACTURER, PER SPECIFICATIONS, INSTALL PER 1/E-3 AND CONNECT AS SHOWN, TYPICAL WHERE OCCURS. REFER TO SINGLE LINE DIAGRAM 1/E4 FOR COORDINATION/REFERENCE.
5. PROVIDE CEILING MOUNTED, INTERIOR SPEAKER PER SPECIFICATIONS, INSTALL PER 1/E-3 AND CONNECT AS SHOWN, TYPICAL WHERE OCCURS. REFER TO SINGLE LINE DIAGRAM 1/E4 FOR COORDINATION/REFERENCE.
6. PROVIDE VISUAL ANNUNCIATION DEVICE PER SPECIFICATIONS, INSTALL PER 1/E-3 AND CONNECT AS SHOWN, TYPICAL WHERE OCCURS. REFER TO FIRE ALARM SINGLE LINE DIAGRAM 1/E-4 FOR COORDINATION/REFERENCE.
7. ANNUNCIATION CIRCUIT END OF LINE RESISTOR PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
8. INITIATION CIRCUIT END OF LINE RESISTOR PER MANUFACTURER'S WRITTEN INSTRUCTIONS.
9. WALL MOUNTED, W.P. PULL BOX PER PARTIAL SITE SIGNAL DISTRIBUTION PLAN, THIS SHEET.
10. STUB TWO 2"C. INTO ACCESSIBLE ATTIC SPACE FOR FUTURE DATA SYSTEMS CABLING EXTENSION BY DISTRICT PERSONNEL. PROVIDE AN INSULATED BUSHING, BRIDGEPORT #YHB-56 OR EQUAL AT EACH END OF EACH CONDUIT STUB FOR CABLING PROTECTION. SEAL ALL PENETRATIONS WATERTIGHT. PAINT EXPOSED CONDUIT, SCREW COVER ENCLOSURE, CONNECTORS, ETC. TO MATCH EXISTING ADJACENT FINISHED SURFACES.
11. 1"C. FIVE 'A' CABLES (INTERCOM/AUDIBLE ANNUNCIATION) 3/4"C. 2 #12 CU THHN (VISUAL ANNUNCIATION) PER PARTIAL SITE SIGNAL DISTRIBUTION PLAN, THIS SHEET.
12. 1"C. FIVE 'A' CABLES (INTERCOM/AUDIBLE ANNUNCIATION), 3/4"C. 2 #12 CU THHN (VISUAL ANNUNCIATION).
13. 1"C. FOUR 'A' CABLES (INTERCOM/AUDIBLE ANNUNCIATION), 3/4"C. 2 #12 CU THHN (VISUAL ANNUNCIATION).
14. 1"C. THREE 'A' CABLES (INTERCOM/AUDIBLE ANNUNCIATION), 3/4"C. 2 #12 CU THHN (VISUAL ANNUNCIATION).
15. 3/4"C. ONE 'A' CABLE (INTERCOM/AUDIBLE ANNUNCIATION), 3/4"C. 2 #12 CU THHN (VISUAL ANNUNCIATION).
16. STUB TWO 2"C. SLEEVES BETWEEN ACCESSIBLE ATTIC SPACES OF ADJACENT BUILDINGS, TYPICAL WHERE OCCURS. PROVIDE AN INSULATED BUSHING, BRIDGEPORT #YHB-56 OR EQUAL AT EACH END OF EACH CONDUIT SLEEVE FOR CABLING PROTECTION. FINISH THROUGH EXTERIOR WALLS AS REQUIRE AND SEAL ALL PENETRATIONS WATERTIGHT. PAINT EXPOSED CONDUIT, CONNECTORS, ETC. TO MATCH EXISTING ADJACENT FINISHED SURFACES.
17. 3/4" C. ONE 'A' CABLE (INTERCOM/AUDIBLE ANNUNCIATION) CONCEALED IN ATTIC SPACE.
18. 3/4"C. TWO 'A' CABLES (INTERCOM/AUDIBLE ANNUNCIATION) CONCEALED IN ATTIC SPACE.
19. 3/4"C. ONE 'A' CABLE (INTERCOM/AUDIBLE ANNUNCIATION), 1/2"C. 2 #12 CU THHN (VISUAL ANNUNCIATION) CONCEALED IN ATTIC SPACE.
20. 1/2"C. 2 #12 CU THHN (VISUAL ANNUNCIATION) CONCEALED IN ATTIC SPACE.
21. 3/4"C. ONE 'A' CABLE (INTERCOM/AUDIBLE ANNUNCIATION), 1/2"C. 4 #12 CU THHN (VISUAL ANNUNCIATION) CONCEALED IN ATTIC SPACE.
22. 1/2"C. 4 #12 CU THHN (VISUAL ANNUNCIATION) CONCEALED IN ATTIC SPACE.
23. PROVIDE FLEXIBLE CONDUIT CONNECTION AT MODULE LINE BETWEEN BUILDING MODULES, TYPICAL WHERE OCCURS.
24. PROVIDE TELEPHONE HANDSET PER SPECIFICATIONS, INSTALL TO WALL AT BACK BOX PROVIDED BY BUILDING MANUFACTURER AND CONNECT AS SHOWN, TYPICAL WHERE OCCURS.
25. SIGNAL SYSTEMS UNDERGROUND PULL BOXES PER PARTIAL SITE SIGNAL PLAN, THIS SHEET.
26. REFER TO PARTIAL SITE SIGNAL PLAN, THIS SHEET FOR SITE FEEDER CIRCUIT CONTINUATION.
27. AT EXISTING WALL MOUNTED SPEAKER, PICK UP EXISTING SIGNAL CIRCUIT AND RUN SURFACE METAL RACEWAY (WIREMOLD V700 SERIES OR EQUAL) + ONE 'A' CABLE (AUDIBLE ANNUNCIATION) TO SYSTEM DETECTORS AS SHOWN AND CONNECT.
28. PROVIDE WALL MOUNTED SPEAKER PER SPECIFICATIONS, INSTALL AND CONNECT AS SHOWN, AND RUN SURFACE METAL RACEWAY (WIREMOLD V700 SERIES OR EQUAL) + ONE 'A' CABLE TO SIGNAL T.C. 'TCR' AND CONNECT TO SPARE SIGNAL CIRCUIT. REFER TO FIRE ALARM SINGLE LINE DIAGRAM 1/E4 FOR COORDINATION/REFERENCE.
29. ONE 'A' CABLE (AUDIBLE ANNUNCIATION) IN SURFACE METAL RACEWAY (WIREMOLD V700 SERIES OR EQUAL) BETWEEN DETECTORS, TYPICAL THIS BUILDING.
30. SURFACE METAL RACEWAY (WIREMOLD V700 SERIES OR EQUAL) + 10 #12 CU THHN (VISUAL ANNUNCIATION) FOR DPM CIRCUIT, AND ANNUNCIATION CIRCUITS 'A1', 'A2', 'A3' AND 'A4'.
31. SURFACE METAL RACEWAY (WIREMOLD V700 SERIES OR EQUAL) + 2 #12 CU THHN (VISUAL ANNUNCIATION) TO SIGNAL T.C. 'TCR'.
32. PROVIDE NEW FIRE ALARM DISTRIBUTED POWER MODULE PER SPECIFICATIONS, RUN SURFACE METAL RACEWAY (WIREMOLD V700 SERIES OR EQUAL) + 2 #12 CU THHN + 1 #12 CU GROUND TO BUILDING PANEL AND CONNECT TO SPARE 20/1 CIRCUIT BREAKER LOCATED AT BUSS POSITION NUMBER 12 IN PANEL 'W' PER MANUFACTURER'S WRITTEN INSTRUCTIONS. PROVIDE DISCONNECT LOCATION LABELING PER NFPA 72, 1-5.2.5.2. REFER TO FIRE ALARM SINGLE LINE DIAGRAM, 1/E-4 FOR COORDINATION/REFERENCE.
33. 25 PAIR INTERCOM/AUDIBLE ANNUNCIATION CABLE IS TERMINATED AT THIS SIGNAL TERMINAL CABINET. THERE ARE SUFFICIENT SPARE PAIRS AVAILABLE FOR THE SCOPE OF THIS WORK. EXISTING VISUAL ANNUNCIATION CIRCUIT FROM FIRE ALARM MASTER THAT CURRENTLY FEEDS EXISTING RELOCATABLE BUILDINGS ALSO TERMINATES AT, AND IS EXTENDED FROM, THIS SIGNAL T.C. RE-CONNECT EXISTING VISUAL ANNUNCIATION CIRCUIT TO NEW FIRE ALARM DISTRIBUTED POWER MODULE 'DPM', ITEM (32) ABOVE. RE-CONNECT EXISTING RELOCATABLE BUILDING VISUAL CIRCUIT TO NEW DPM CIRCUIT 'A1' AT THIS SIGNAL T.C. AND TEST TO ENSURE EXISTING VISUALS OPERATE CORRECTLY.

REGISTERED PROFESSIONAL ENGINEER
No. E 14975
Exp. 6/30/07
ELECTRICAL
STATE OF CALIFORNIA

[illegible]

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LICENSED ARCHITECT
WILLIAM JOHN MELBY
No. C-16835
DEC. 31, 2006
RENEWAL DATE
STATE OF CALIFORNIA

LICENSED ARCHITECT
DANNY E. ORDIZ
MAY 31 2015
RENEWAL DATE
STATE OF CALIFORNIA

[illegible]

DANNY E. ORDIZ, A.I.A.
ARCHITECT C-14,728
WILLIAM J. MELBY, A.I.A.
ARCHITECT C-16,835

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL. 108679
FILE 15-6
AC SW FLS CO SS AS
DATE JUL 2 8 2005

PTN:63321-50

SITE IMPROVEMENTS
PORTABLE CLASSROOMS
AT
CHIPMAN JUNIOR HIGH SCHOOL

BAKERSFIELD CITY SCHOOL DISTRICT

EISSLER STREET
BAKERSFIELD, CALIFORNIA
93306

MARK	DATE	DESCRIPTION
SD	XXXX	XXXX
CD		
1	01-13-15	CCD #01
X		
X		
X		

JOB NUMBER: 2004771
CAD DRAWING FILE: 2004-82-E-2.DWG
DRAWN BY: DAJ
CHECKED BY: WWW

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT.

THE DRAWINGS, IDEAS, AND DESIGNS REPRESENTED ON THIS SHEET ARE THE PROPERTY OF THE ARCHITECT.

SHEET TITLE

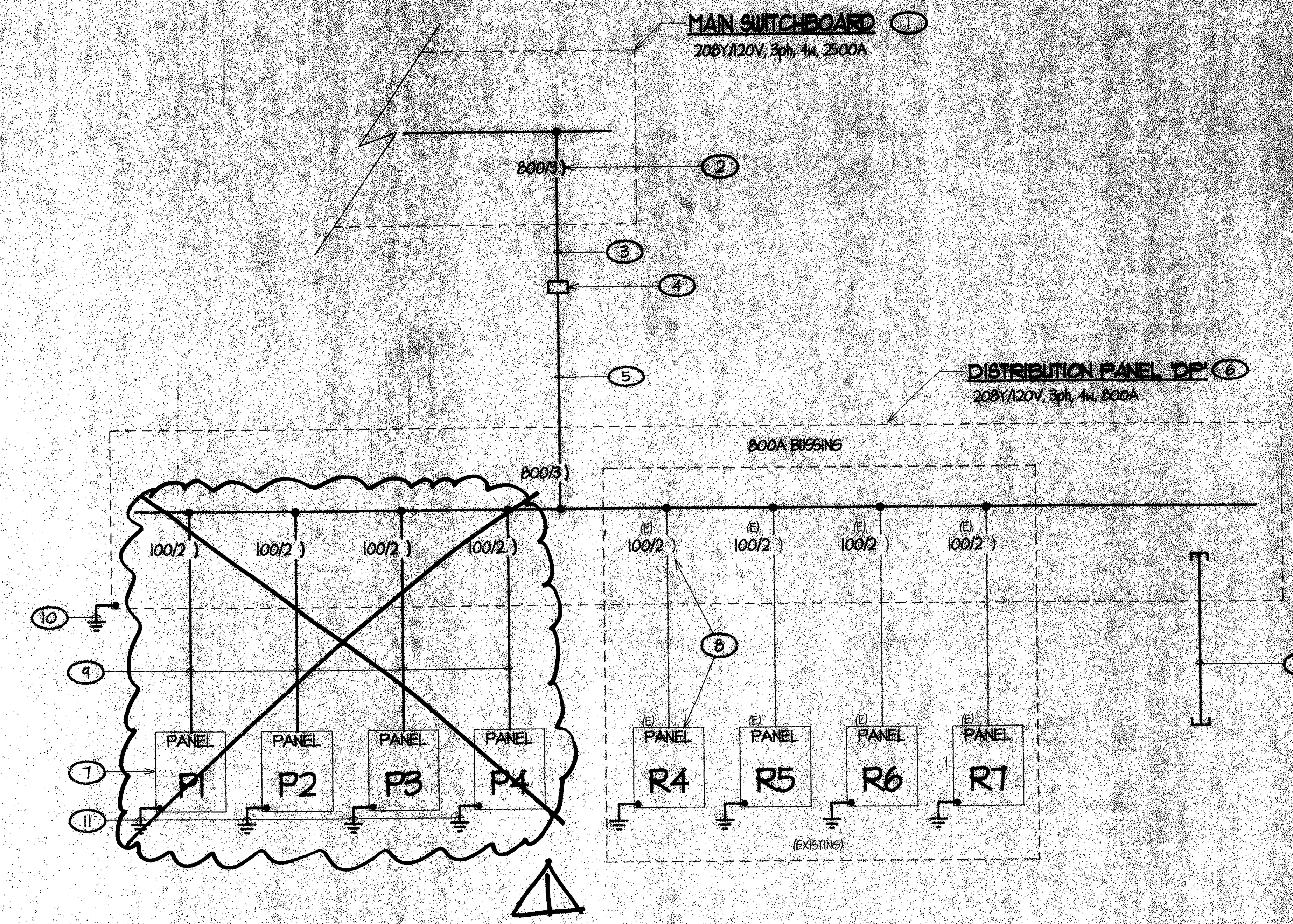
PARTIAL SITE SIGNAL DISTRIBUTION AND BUILDING SIGNAL PLANS

SHEET IDENTIFICATION NUMBER

E-2

SHEET OF

X:\JOBS\04\2004-8X\2004-82\2004-82-E-2 DAJ/WM 07/22/05



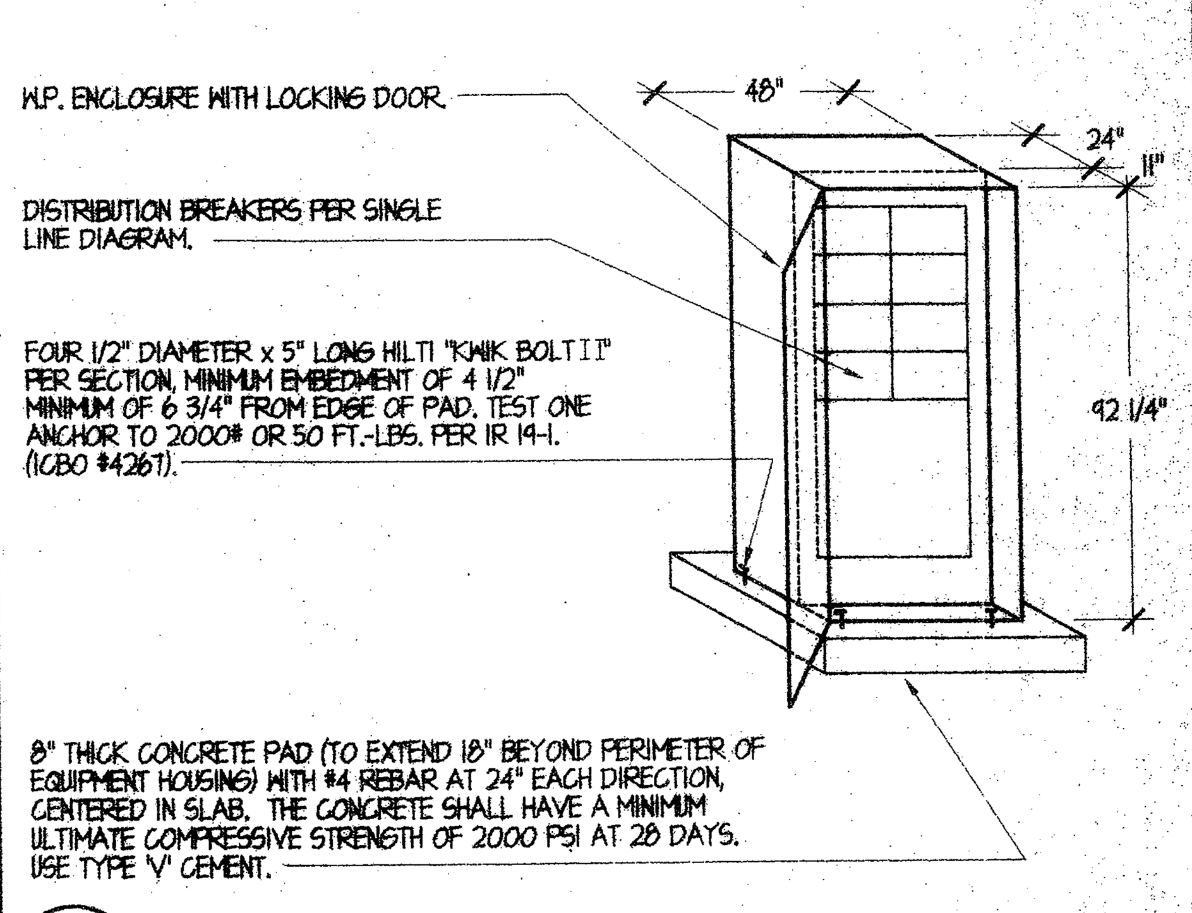
(1) SINGLE LINE DIAGRAM

NO SCALE

SINGLE LINE DIAGRAM NOTES

1. EXISTING 'ZINCO' MAIN SWITCH BOARD, 208Y/120V, 3 PHASE, 4W, 2500 AMPS TO REMAIN. PROVIDE NEW CIRCUIT BREAKER PER ITEM (2), BELOW.
2. REPLACE EXISTING 400/3 CIRCUIT BREAKER IN EXISTING SPACE WITH NEW 800/3 CIRCUIT BREAKER (MATCH EXISTING EQUIPMENT MANUFACTURER AND I.C. RATINGS). IF 800A FRAME WILL NOT FIT IN EXISTING SPACE IN EXISTING DISTRIBUTION SECTION, CONTRACTOR SHALL REARRANGE OTHER CIRCUIT BREAKERS AND FEEDERS AS REQUIRED TO ACCOMMODATE NEW CIRCUIT BREAKER. ANY EXISTING CIRCUIT BREAKERS BEING RELOCATED IN DISTRIBUTION SECTION SHALL BE SO RELOCATED AS TO ONLY REQUIRE SHORTENING AND RECONNECTION OF EXISTING FEEDER CONDUCTORS. CONTRACTOR SHALL FIELD VERIFY ALL.
3. TWO EXISTING 3"C. PULL IN NEW 4 #600 KCMIL CU THWN + 1 #1/0 CU GROUND IN EACH PER PLANS.
4. PULL BOX PER PLANS. REFER TO PARTIAL SITE POWER DISTRIBUTION PLAN, SHEET E-1 FOR COORDINATION/REFERENCE.
5. TWO 3 1/2"C. 4 #600 KCMIL CU THWN + 1 #1/0 CU GROUND EACH.
6. REPLACE EXISTING 400A DISTRIBUTION PANEL IN PLACE WITH NEW 208Y/120V, 3 PHASE, 4W, 800A/3 DISTRIBUTION PANEL PER SPECIFICATIONS AND INSTALLED PER 2/E-3. MATCH, EXTEND AND RECONNECT EXISTING FEEDER CONDUCTORS TO NEW DISTRIBUTION PANEL 'DP' CIRCUIT BREAKERS AS REQUIRED. CONTRACTOR SHALL FIELD VERIFY ALL.
7. PANEL PROVIDED AND INSTALLED BY BUILDING MANUFACTURER, CONNECTED BY CONTRACTOR. TYPICAL.
8. EXISTING RELOCATABLE BUILDING PANEL LOCATED IN EXISTING RELOCATABLE BUILDING TO REMAIN. MATCH AND EXTEND EXISTING INDIVIDUAL BUILDING FEEDER CONDUCTORS AS REQUIRED AND RECONNECT FEEDER TO NEW CIRCUIT BREAKER IN NEW DISTRIBUTION PANEL. CONTRACTOR SHALL FIELD VERIFY ALL. TYPICAL FOR FOUR RELOCATABLE BUILDINGS, 'R4' THROUGH 'R7'.
9. ONE 1 1/4"C. 3 #2 CU THWN + 1 #8 CU GROUND.
10. SYSTEM GROUNDING PER 3/E-3.
11. SYSTEM GROUNDING PER 5/E-3.
12. STUB, CAP AND LABEL TWO 2"C., FIVE FEET BEYOND EQUIPMENT PAD FOR FUTURE.

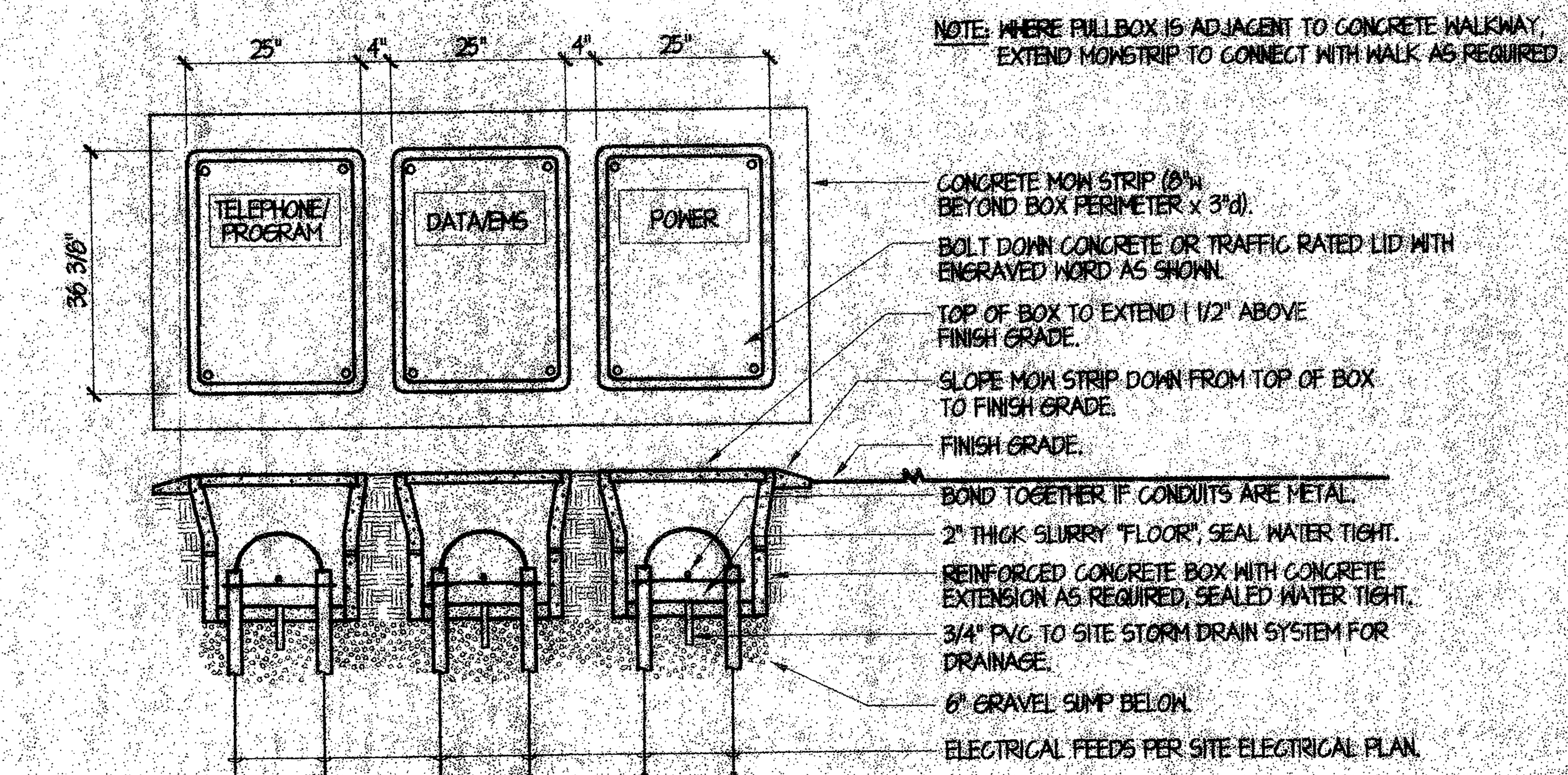
LICENSED ARCHITECT DANNY ESPINEDA ORDIZ MAY 31 2015 RENEWAL DATE STATE OF CALIFORNIA


W.P. ENCLOSURE WITH LOCKING DOOR.
DISTRIBUTION BREAKERS PER SINGLE LINE DIAGRAM.
FOUR 1/2" DIAMETER x 5" LONG HILTI "KWIK BOLT II" PER SECTION, MINIMUM EMBEDMENT OF 4 1/2" MINIMUM OF 6 3/4" FROM EDGE OF PAD. TEST ONE ANCHOR TO 2000# OR 50 FT.-LBS. PER IR 14-1. (ICBO #4261).
48"
24"
11"
92 1/4"
8" THICK CONCRETE PAD (TO EXTEND 18" BEYOND PERIMETER OF EQUIPMENT HOUSING) WITH #4 REBAR AT 24" EACH DIRECTION, CENTERED IN SLAB. THE CONCRETE SHALL HAVE A MINIMUM ULTIMATE COMPRESSIVE STRENGTH OF 2000 PSI AT 28 DAYS. USE TYPE 'V' CEMENT.

(2) DISTRIBUTION PANEL ELEVATION

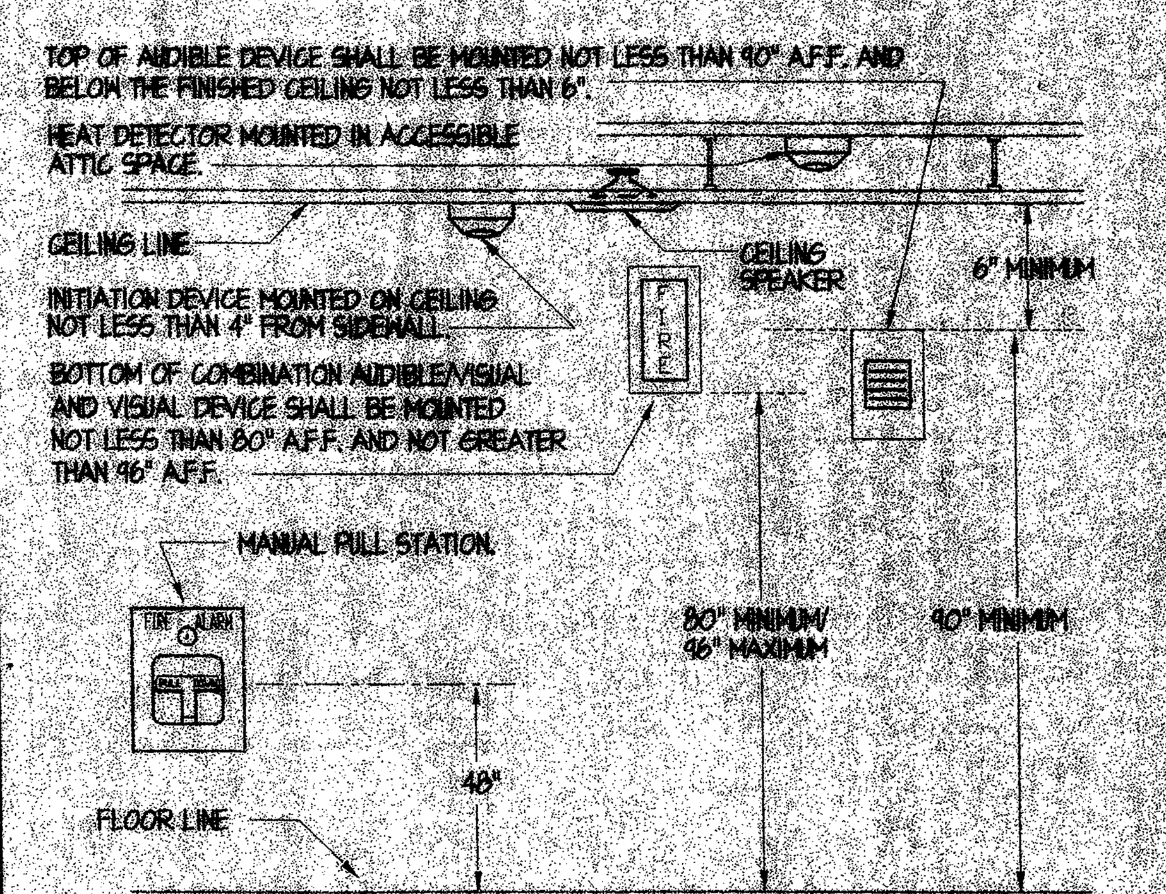
ALL CONSTRUCTION NEMA 3R

NTS


NOTE: WHERE PULLBOX IS ADJACENT TO CONCRETE WALKWAY, EXTEND MOWSTRIP TO CONNECT WITH WALK AS REQUIRED.
25"
4"
TELEPHONE/ PROGRAM
DATA/EMS
POWER
36 3/8"
CONCRETE MOW STRIP (8"W BEYOND BOX PERIMETER x 3"d).
BOLT DOWN CONCRETE OR TRAFFIC RATED LID WITH ENGRAVED WORD AS SHOWN.
TOP OF BOX TO EXTEND 1 1/2" ABOVE FINISH GRADE.
SLOPE MOW STRIP DOWN FROM TOP OF BOX TO FINISH GRADE.
FINISH GRADE.
BOND TOGETHER IF CONDUITS ARE METAL.
2" THICK SLURRY "FLOOR", SEAL WATER TIGHT.
REINFORCED CONCRETE BOX WITH CONCRETE EXTENSION AS REQUIRED, SEALED WATER TIGHT.
3/4" PVC TO SITE STORM DRAIN SYSTEM FOR DRAINAGE.
6" GRAVEL SUMP BELOW.
ELECTRICAL FEEDS PER SITE ELECTRICAL PLAN.

(4) UNDERGROUND PULLBOX CLUSTER

NTS

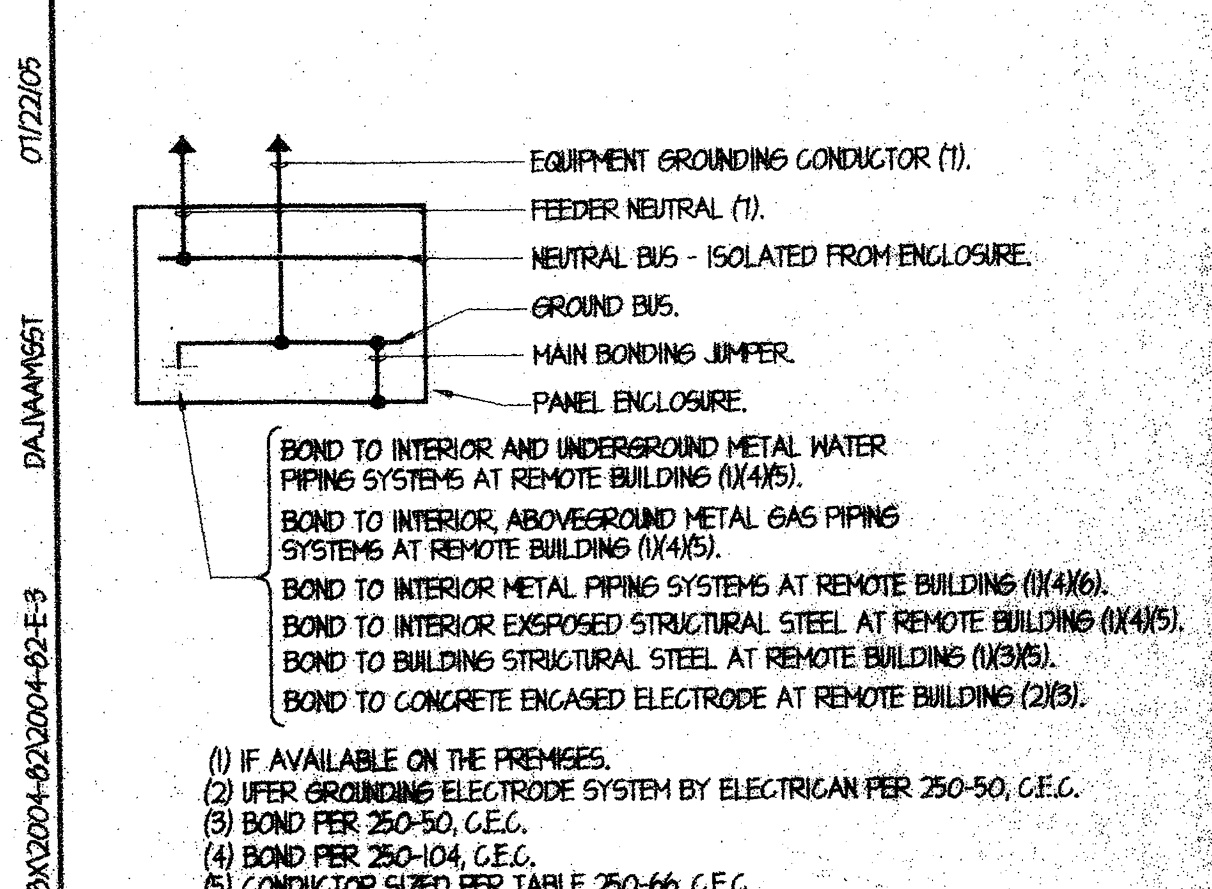

TOP OF AUDIBLE DEVICE SHALL BE MOUNTED NOT LESS THAN 90" A.F.F. AND BELOW THE FINISHED CEILING NOT LESS THAN 6".
HEAT DETECTOR MOUNTED IN ACCESSIBLE ATTIC SPACE.
CEILING LINE
INITIATION DEVICE MOUNTED ON CEILING NOT LESS THAN 4" FROM SIDEWALL.
BOTTOM OF COMBINATION AUDIBLE/VISUAL AND VISUAL DEVICE SHALL BE MOUNTED NOT LESS THAN 80" A.F.F. AND NOT GREATER THAN 96" A.F.F.
CEILING SPEAKER
6" MINIMUM
MANUAL PULL STATION.
80" MINIMUM/ 96" MAXIMUM
90" MINIMUM
48"
FLOOR LINE

(7) FIRE ALARM DEVICE ELEVATION

NTS

(9) NOT USED

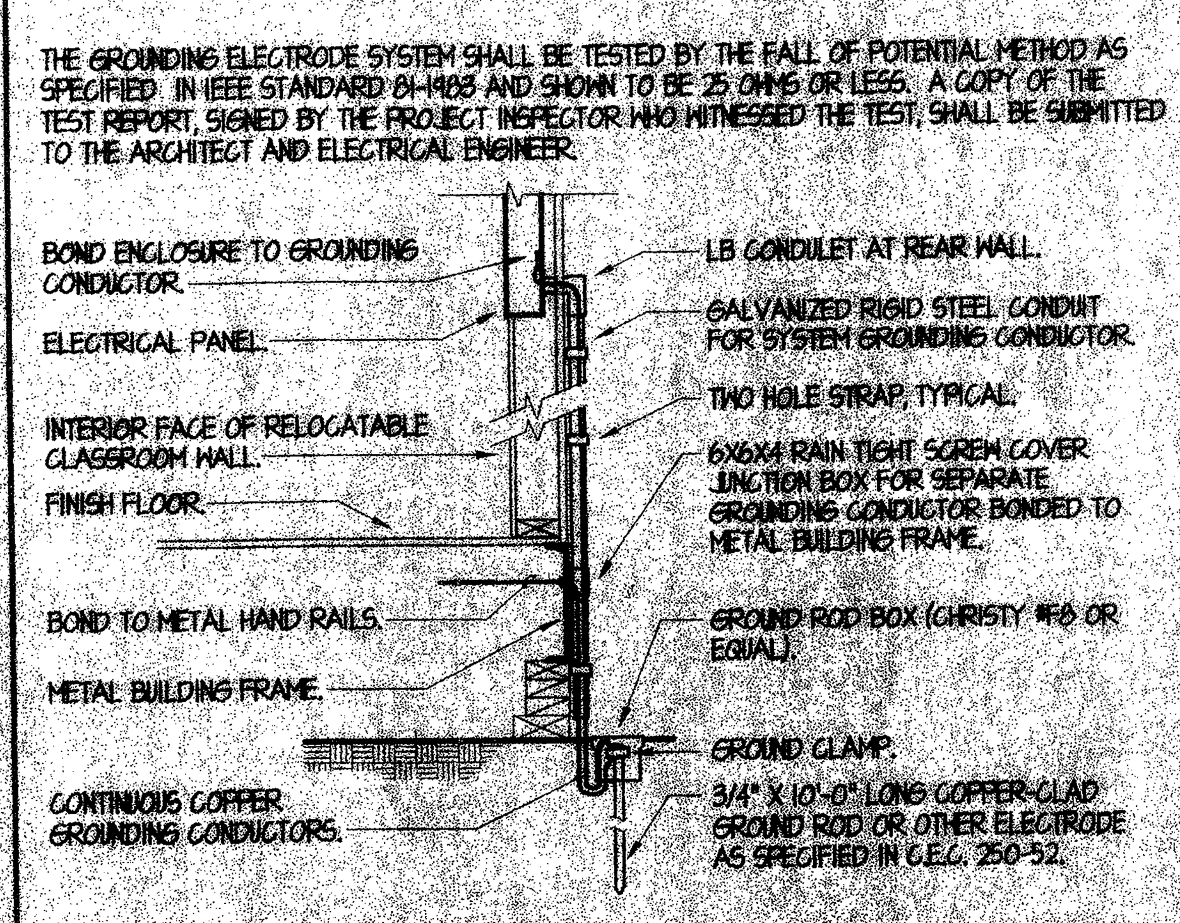
NTS


EQUIPMENT GROUNDING CONDUCTOR (7).
FEEDER NEUTRAL (7).
NEUTRAL BUS - ISOLATED FROM ENCLOSURE.
GROUND BUS.
MAIN BONDING JUMPER.
PANEL ENCLOSURE.
BOND TO INTERIOR AND UNDERGROUND METAL WATER PIPING SYSTEMS AT REMOTE BUILDING (1)(4)(5).
BOND TO INTERIOR, ABOVEGROUND METAL GAS PIPING SYSTEMS AT REMOTE BUILDING (1)(4)(5).
BOND TO INTERIOR METAL PIPING SYSTEMS AT REMOTE BUILDING (1)(4)(6).
BOND TO INTERIOR EXPOSED STRUCTURAL STEEL AT REMOTE BUILDING (1)(4)(5).
BOND TO BUILDING STRUCTURAL STEEL AT REMOTE BUILDING (1)(3)(5).
BOND TO CONCRETE ENCASED ELECTRODE AT REMOTE BUILDING (2)(3).

(1) IF AVAILABLE ON THE PREMISES.
(2) UFER GROUNDING ELECTRODE SYSTEM BY ELECTRICIAN PER 250-50, C.E.C.
(3) BOND PER 250-50, C.E.C.
(4) BOND PER 250-104, C.E.C.
(5) CONDUCTOR SIZED PER TABLE 250-66, C.E.C.
(6) CONDUCTOR SIZED PER TABLE 250-122, C.E.C.
(7) FEEDS FROM MAIN SERVICE AT OTHER BUILDING PER SITE ELECTRICAL PLAN.

(3) GROUNDING ELECTRODE SYSTEM FOR REMOTE BUILDINGS

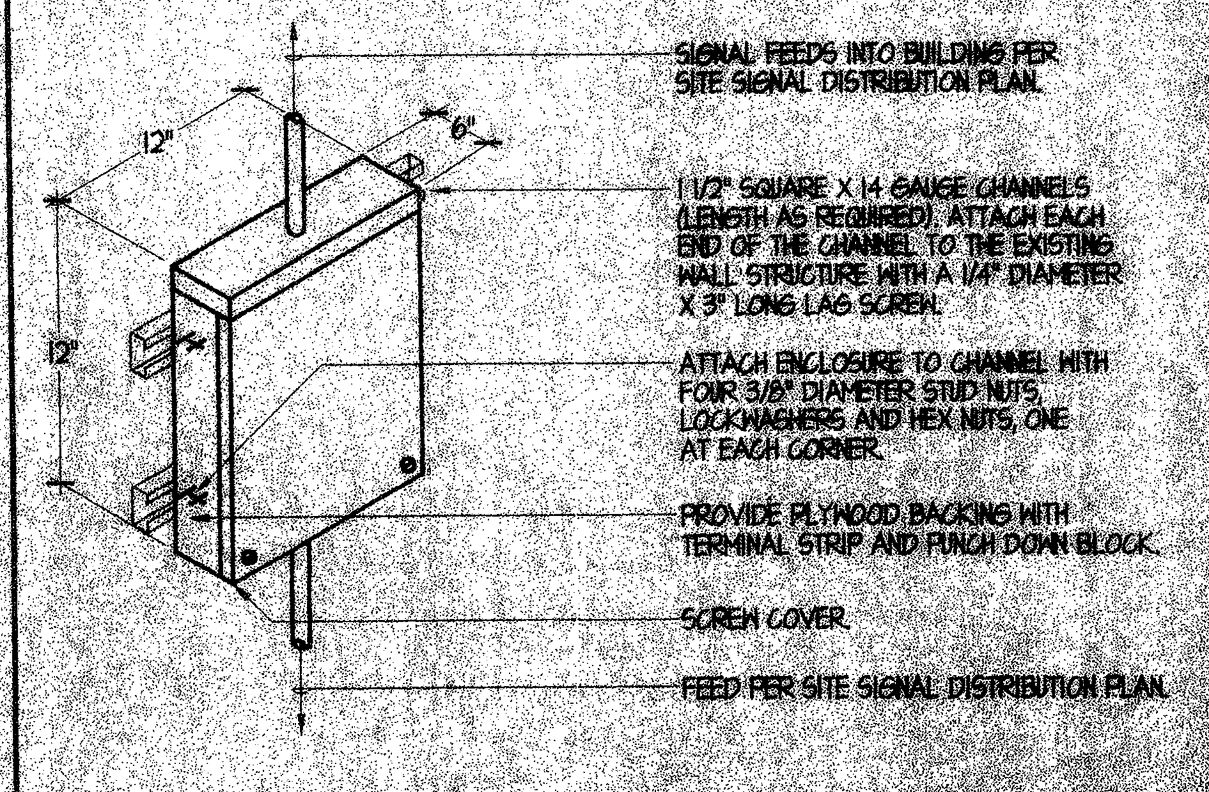
NTS


THE GROUNDING ELECTRODE SYSTEM SHALL BE TESTED BY THE FALL OF POTENTIAL METHOD AS SPECIFIED IN IEEE STANDARD 81-1983 AND SHOWN TO BE 25 OHMS OR LESS. A COPY OF THE TEST REPORT, SIGNED BY THE PROJECT INSPECTOR WHO WITNESSED THE TEST, SHALL BE SUBMITTED TO THE ARCHITECT AND ELECTRICAL ENGINEER.
BOND ENCLOSURE TO GROUNDING CONDUCTOR.
ELECTRICAL PANEL.
INTERIOR FACE OF RELOCATABLE CLASSROOM WALL.
FINISH FLOOR.
BOND TO METAL HAND RAILS.
METAL BUILDING FRAME.
CONTINUOUS COPPER GROUNDING CONDUCTORS.
LB CONDULET AT REAR WALL.
GALVANIZED RIGID STEEL CONDUIT FOR SYSTEM GROUNDING CONDUCTOR.
TWO HOLE STRAP, TYPICAL.
6X6X4 RAIN TIGHT SCREW COVER JUNCTION BOX FOR SEPARATE GROUNDING CONDUCTOR BONDED TO METAL BUILDING FRAME.
GROUND ROD BOX (CHRISTY #F8 OR EQUAL).
GROUND CLAMP.
3/4" X 10'-0" LONG COPPER-CLAD GROUND ROD OR OTHER ELECTRODE AS SPECIFIED IN C.E.C. 250-52.

(5) SYSTEM GROUND

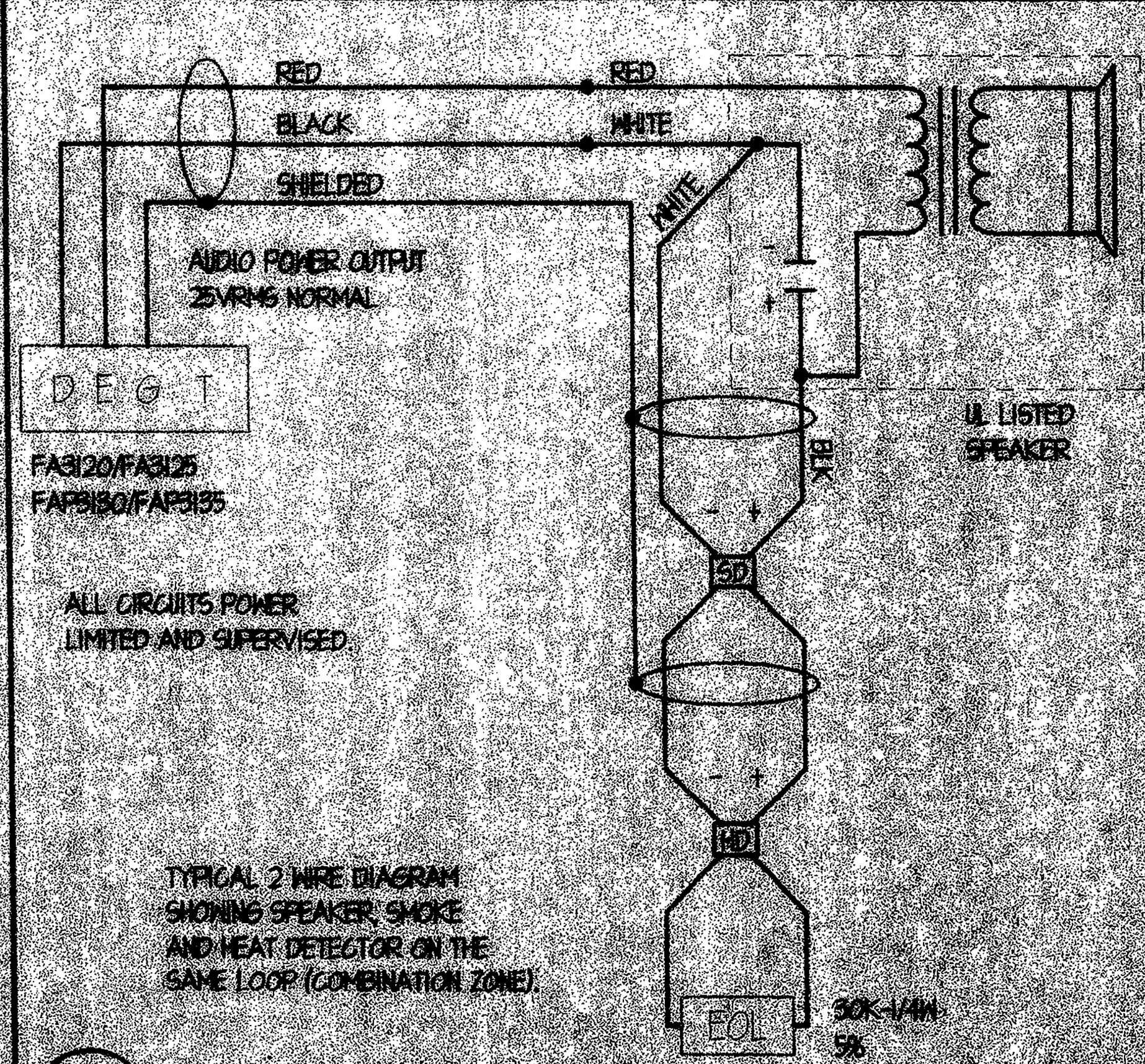
BOND CLASSROOM BUILDINGS TOGETHER WITH 1 #6 CU CONDUCTOR WHERE RELOCATABLES OCCUR SIDE BY SIDE.

NTS


12"
6"
SIGNAL FEEDS INTO BUILDING PER SITE SIGNAL DISTRIBUTION PLAN.
1 1/2" SQUARE X 14 GAUGE CHANNELS (LENGTH AS REQUIRED). ATTACH EACH END OF THE CHANNEL TO THE EXISTING WALL STRUCTURE WITH A 1/4" DIAMETER X 3" LONG LAG SCREW.
ATTACH ENCLOSURE TO CHANNEL WITH FOUR 3/8" DIAMETER STUD NUTS, LOCKWASHERS AND HEX NUTS, ONE AT EACH CORNER.
PROVIDE PLYWOOD BACKING WITH TERMINAL STRIP AND PUNCH DOWN BLOCK.
SCREW COVER.
FEED PER SITE SIGNAL DISTRIBUTION PLAN.

(6) SIGNAL SYSTEMS PULL BOX

NTS


RED
BLACK
SHIELDED
RED
WHITE
WHITE
AUDIO POWER OUTPUT 25VRMS NORMAL
D E G T
FA3120/FA3125
FAP3180/FAP3185
ALL CIRCUITS POWER LIMITED AND SUPERVISED
BLK
UL LISTED SPEAKER
SD
HD
EOL
20K-1/4W 5%
TYPICAL 2 WIRE DIAGRAM SHOWING SPEAKER, SMOKE AND HEAT DETECTOR ON THE SAME LOOP (COMBINATION ZONE).

(8) TYPICAL WIRE DIAGRAM

NTS

(10) NOT USED

NTS

APPROVED
DIVISION OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
DATE 7/17/2015

REGISTERED PROFESSIONAL ENGINEER WATERS No. E 14976 Exp. 6/30/07 ELECTRICAL STATE OF CALIFORNIA

WATERS ENGINEERING
Consulting Electrical Engineer

ORDIZ MELBY ARCHITECTS, INC.

5500 MING AVENUE SUITE 280
BAKERSFIELD, CALIFORNIA 93309
TELEPHONE (661) 832-5258
FACSIMILE (661) 832-4291

LICENSED ARCHITECT WILLIAM JOHN MELBY No. C-16835 DEC. 31, 2005 RENEWAL DATE STATE OF CALIFORNIA

DANNY E. ORDIZ, A.I.A.
ARCHITECT C-14,728
WILLIAM J. MELBY, A.I.A.
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APPL. 03-106674
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PORTABLE CLASSROOMS
AT
CHIPMAN JUNIOR HIGH SCHOOL

BAKERSFIELD CITY SCHOOL DISTRICT

EISSLER STREET
BAKERSFIELD, CALIFORNIA
93306

MARK	DATE	DESCRIPTION
SD		D.S.A. APPROVAL
CD		
1	01-13-15	CCD #01
X		
X		
X		

JOB NUMBER: 2004771
CAD DRAWING FILE: 2004-82-E-3.DWG
DRAWN BY: DAJ
CHECKED BY: VWV

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT.

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SHEET TITLE

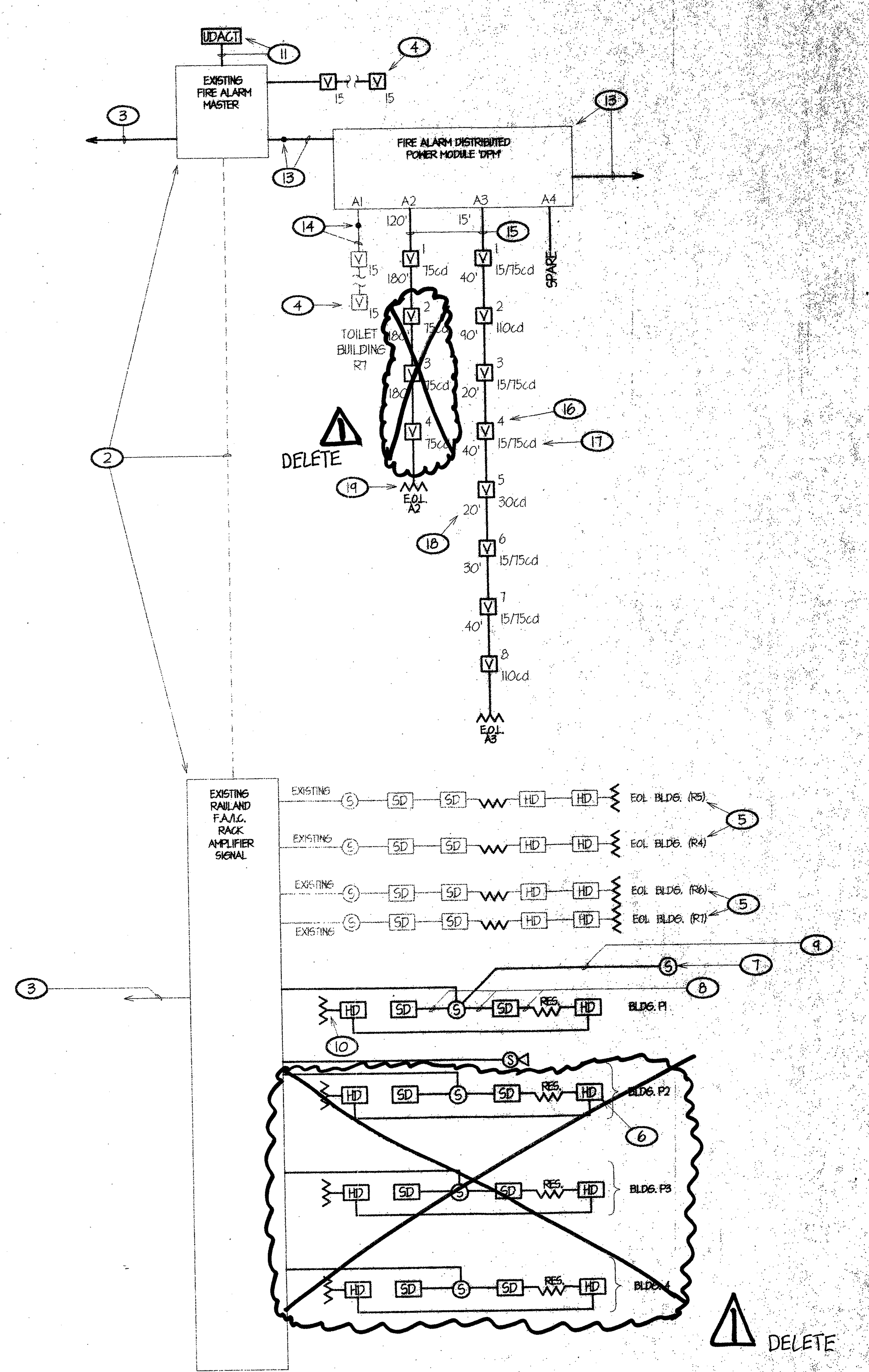
SINGLE LINE DIAGRAM

SHEET IDENTIFICATION NUMBER

E-3

SHEET OF

X:\JOBS\04\2004-8X\2004-82\2004-82-E-3 DAJ/VWV/MGST 07/22/05



FIRE ALARM SIGNAL LINE DIAGRAM (1)

NO SCALE

FIRE ALARM SINGLE LINE DIAGRAM NOTES

(1) SINGLE LINE DIAGRAM IS A SCHEMATIC REPRESENTATION OF FIRE ALARM DISTRIBUTION AND BRANCH CIRCUITING. REFER TO PARTIAL SITE SIGNAL DISTRIBUTION PLAN, SHEET E-2 FOR SPECIFIC SITE DISTRIBUTION ROUTING AND COORDINATION/REFERENCE. FIRE ALARM ANNUNCIATION SIGNAL SOUNDS OVER CAMPUS INTERCOM-SPEAKER SYSTEM THROUGHOUT. ALL SPEAKERS SHALL SOUND THE CALIFORNIA CODE GENERATED BY THE FIRE ALARM MASTER, ITEM 2 BELOW. SEPARATE, 24VDC FIRE ALARM AUDIBLE ANNUNCIATION DEVICES ARE NOT USED ON THIS CAMPUS.

(2) EXISTING UNIFIED SYSTEM RACK MOUNTED PANELS AND ASSOCIATED INTERCONNECTION CABLING CURRENTLY SERVING INTERCOMMUNICATION AND FIRE ALARM SYSTEMS TO REMAIN, NO WORK REQUIRED. EXISTING FIRE ALARM MASTER PANEL IS A UNIFIED FIRE ALARM PANEL, RAILAND SECUREPLEX #FA3002 INSTALLED UNDER D.S.A. APPLICATION #03-106155, MOUNTED IN THE EXISTING INTERCOM SYSTEM RACK. REPLACE EXISTING 28.00 A.H. BATTERIES WITH NEW 40.0 A.H. BATTERIES.

(3) EXISTING, DEDICATED POWER CIRCUIT AND 20A CIRCUIT BREAKER IN EXISTING PANEL TO REMAIN, NO WORK REQUIRED.

(4) EXISTING ANNUNCIATION DEVICES SHOWN FADED TO REMAIN, TYPICAL, NO WORK REQUIRED.

(5) EXISTING INITIATION DEVICES SHOWN FADED TO REMAIN, TYPICAL, NO WORK REQUIRED.

(6) PROVIDE NEW SMOKE AND HEAT DETECTORS PER PLANS AND SPECIFICATIONS, TYPICAL. REFER TO INDIVIDUAL BUILDING SIGNAL PLANS, SHEET E-2 FOR EXACT DEVICE LOCATIONS, QUANTITIES AND CONDUIT ROUTING REQUIREMENTS. REFER TO FIRE ALARM SYMBOL SCHEDULE, THIS SHEET FOR COORDINATION/REFERENCE.

(7) PROVIDE NEW SYSTEM SPEAKERS PER PLANS AND SPECIFICATIONS, TYPICAL. REFER TO INDIVIDUAL BUILDING SIGNAL PLANS, SHEET E-2 FOR EXACT DEVICE LOCATIONS, QUANTITIES AND CONDUIT ROUTING REQUIREMENTS. REFER TO FIRE ALARM SYMBOL SCHEDULE, THIS SHEET FOR COORDINATION/REFERENCE.

(8) RUN ONE 'A' CABLE BETWEEN INITIATION DEVICES, TYPICAL, SHOWN HERE FOR CLARITY ONLY. SEE INDIVIDUAL BUILDING SIGNAL PLANS, SHEET E-2 FOR EXACT ROUTING REQUIREMENTS OF FIRE ALARM CIRCUITING AND CONDUIT, TYPICAL WHERE OCCURS. REFER TO E/E-3 FOR TYPICAL SYSTEM WIRING REQUIREMENTS.

(9) RUN ONE 'A' CABLE BETWEEN ANNUNCIATION DEVICES, TYPICAL, SHOWN HERE FOR CLARITY ONLY. SEE INDIVIDUAL BUILDING SIGNAL PLANS, SHEET E-2 FOR EXACT ROUTING REQUIREMENTS OF FIRE ALARM CIRCUITING AND CONDUIT, TYPICAL WHERE OCCURS. REFER TO E/E-3 FOR TYPICAL SYSTEM WIRING REQUIREMENTS.

(10) END OF LINE RESISTOR FOR INDICATED INITIATION CIRCUIT, TYPICAL. PROVIDE AND INSTALL AT LAST ANNUNCIATION DEVICE IN CIRCUIT PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

(11) EXISTING FIRE ALARM SYSTEM AUTOMATIC DIALER COMMUNICATION/TRANSMITTER AND DEDICATED TELEPHONE CABLING/LINE TO REMAIN, NO WORK REQUIRED.

(12) FIRE ALARM DISTRIBUTED POWER MODULE AND DEDICATED 120VAC, 20A CIRCUIT BREAKER PER PLANS FOR FIRE ALARM CONTROL EQUIPMENT. PROVIDE DISCONNECT LOCATION LABELING PER NFPA 72, 1-5.2.5.2.

(13) RE-CONNECT EXISTING VISUAL ANNUNCIATION CIRCUIT TO NEW DISTRIBUTED POWER MODULE INPUT PER PLANS.

(14) RE-CONNECT EXISTING VISUAL ANNUNCIATION CIRCUIT TO NEW DISTRIBUTED POWER MODULE ANNUNCIATION CIRCUIT WIRING PER PLANS.

(15) 2 #12 CU THHN (VISUAL ANNUNCIATION) BETWEEN VISUAL DEVICES, TYPICAL. SEE INDIVIDUAL BUILDING SIGNAL PLANS, SHEET E-2 FOR EXACT ROUTING REQUIREMENTS OF FIRE ALARM CIRCUITING AND CONDUIT, TYPICAL WHERE OCCURS.

(16) DENOTES DEVICE NUMBER USED IN VOLTAGE DROP CALCULATIONS, TYPICAL. REFER TO FIRE ALARM VOLTAGE DROP CALCULATIONS, SHEET EXX AND BATTERY CALCULATIONS, SHEET EXX FOR COORDINATION/ REFERENCE.

(17) DENOTES FIRE ALARM VISUAL ANNUNCIATION DEVICE NOMINAL CANDELA RATING REQUIRED, TYPICAL.

(18) DENOTES DISTANCE BETWEEN DEVICES, TYPICAL.

(19) END OF LINE RESISTOR FOR INDICATED ANNUNCIATION CIRCUIT, TYPICAL. PROVIDE AND INSTALL AT LAST ANNUNCIATION DEVICE IN CIRCUIT PER MANUFACTURER'S WRITTEN INSTRUCTIONS.

FIRE ALARM SYMBOL SCHEDULE

▭	EXISTING FIRE ALARM CONTROL PANEL RAILAND-BORG, INC. SECUREPLEX #FA3002 UNIFIED CONTROL PANEL (C.S.F.M. #7165-0062:103)
▭	FIRE ALARM DISTRIBUTED POWER MODULE SILENT KNIGHT #5499 (C.S.F.M. #7300-0559:128)
SM	FIRE ALARM SYNCHRONIZATION MODULE WHEELOCK #DSM-12/24-R (C.S.F.M. #7300-0785:132)
S	INTERIOR AUDIBLE DEVICES RAILAND-BORG, INC. #150221 CEILING MOUNTED 8" SPEAKER ASSEMBLY, #ACG1100 BACKBOX, #ACG1001 BAFFLE AND #ACG1104 SUPPORT BRIDGE (C.S.F.M. #7150-0416:002)
S	RAILAND-BORG, INC. #150221 WALL MOUNTED 8" SPEAKER ASSEMBLY, #ACG1100 BACKBOX AND #ACG1012 BAFFLE (C.S.F.M. #7150-0416:002)
S	EXTERIOR W.P. AUDIBLE DEVICE ATLAS-SOUND #AFF-15TIC HORN LOUDSPEAKER ASSEMBLY MOUNTED IN #VP161-AFF BAFFLE (C.S.F.M. #7320-1113:101)
V 15/75cd	INTERIOR VISUAL DEVICE WHEELOCK #RSS-24151W-FR (C.S.F.M. #7125-0785:141)
V 75cd	INTERIOR VISUAL DEVICE CANDELA RATING PER PLANS WHEELOCK #RSS-24MCW-FR (C.S.F.M. #7125-0785:141)
SD	SMOKE DETECTOR MOUNTED ON CEILING HOCHIKI #SLR-24 PHOTOELECTRIC DETECTOR (C.S.F.M. #7272-0410:107) WITH NS6-220 DETECTOR BASE (C.S.F.M. #7300-0410:132)
HD	HEAT DETECTOR MOUNTED IN ATTIC HOCHIKI #AL-DFE-140 THERMAL DETECTOR (C.S.F.M. #7254-0410:118) WITH NS6-220 DETECTOR BASE (C.S.F.M. #7300-0410:132)
EOL	END-OF-LINE RESISTOR

"A" CABLE - WEST PENN WIRE #AQC364

FIRE ALARM SYSTEM OPERATIONAL MATRIX

SYMBOL	DEVICE DESCRIPTION	ACTIVATE EVACUATION HORNS/ STROBES	RELEASE DOOR CLOSURE DEVICE	SHUT DOWN HVAC FANS	ANNUNCIATE AT BUILDING F.A.C.P.	ACTIVATE FIRE/ SMOKE DAMPERS	ACTIVATE FIRE RATED ROLL-UP DOORS
F	MANUAL PULL STATION	X			X		
DD	DUCT SMOKE DETECTOR	X		X	X	X	
SD	SMOKE DETECTOR	X	X		X	X	X
HD	HEAT DETECTOR	X	X		X	X	X
WF	WATERFLOW SWITCH	X			X		
TS	TAMPER SWITCH				SUPERVISORY		

APPLICABLE CODES AND STANDARDS

APPLICABLE CODES AS OF NOVEMBER 1, 2002.

PART 1	2001 CALIFORNIA BUILDING STANDARD ADMINISTRATIVE CODE, TITLE 24 C.C.R.	
PART 2	2001 CALIFORNIA BUILDING CODE, TITLE 24 C.C.R. (1997 UNIFORM BUILDING CODE VOLUMES 1-3 OF THE INTERNATIONAL CONFERENCE OF BUILDING OFFICIALS, WITH CALIFORNIA AMENDMENTS)	
PART 3	2001 CALIFORNIA ELECTRICAL CODE, TITLE 24 C.C.R. (1999 NATIONAL ELECTRICAL CODE OF THE NATIONAL FIRE PROTECTION ASSOCIATION, NFPA)	
PART 4	2001 CALIFORNIA MECHANICAL CODE, TITLE 24 C.C.R. (2000 UNIFORM MECHANICAL CODE OF THE INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS, IAPMO)	
PART 5	2001 CALIFORNIA PLUMBING CODE, TITLE 24 C.C.R. (2000 UNIFORM PLUMBING CODE OF THE INTERNATIONAL ASSOCIATION OF PLUMBING AND MECHANICAL OFFICIALS, IAPMO)	
PART 6	2001 CALIFORNIA ENERGY CODE, TITLE 24 C.C.R.	
PART 7	2001 CALIFORNIA ELEVATOR SAFETY CONSTRUCTION CODE, TITLE 24 C.C.R.	
PART 8	2001 CALIFORNIA HISTORICAL BUILDING CODE, TITLE 24 C.C.R.	
PART 9	2001 CALIFORNIA FIRE CODE, TITLE 24 C.C.R. (2000 UNIFORM FIRE CODE OF THE WESTERN FIRE CHIEFS ASSOCIATION)	
PART 10	2001 CALIFORNIA CODE FOR BUILDING CONSERVATION, TITLE 24 C.C.R. (1997 UNIFORM CODE FOR BUILDING CONSERVATION OF THE INTERNATION CONFERENCE OF BUILDING OFFICIALS, WITH AMENDMENTS)	
PART 12	2001 CALIFORNIA REFERENCE STANDARDS CODE, TITLE 24 C.C.R.	

PARTIAL LIST OF APPLICABLE STANDARDS.

NFPA 13	AUTOMATIC SPRINKLER SYSTEMS	1999 EDITION
NFPA 14	STANDPIPE SYSTEMS	2000 EDITION
NFPA 17	DRY CHEMICAL EXTINGUISHING SYSTEMS	1998 EDITION
NFPA 17A	WET CHEMICAL SYSTEMS	1994 EDITION
NFPA 20	STATIONARY PUMPS	1999 EDITION
NFPA 24	PRIVATE FIRE MAINS	1995 EDITION
NFPA 72 (NOTE: SEE UL STANDARDS 1971 FOR "VISUAL DEVICES")	NATIONAL FIRE ALARM CODE (CALIFORNIA AMMENDED)	1999 EDITION
NFPA 253	CRITICAL RADIANT FLUX OF FLOOR COVERING SYSTEMS	2000 EDITION
NFPA2001	CLEAN AGENT FIRE EXTINGUISHING SYSTEMS	2000 EDITION

REFERENCE CODE SECTION FOR NFPA STANDARDS - G85 (SFM) 35041

COMPLETE AUTOMATIC FIRE ALARM SYSTEM SUBMITTAL

THE FIRE ALARM SYSTEM DESIGN IS A COMPLETE PLAN SUBMITTAL PER DSA-ORS POLICY. THE CONTRACTOR SHALL INSTALL THE FIRE PROTECTION SYSTEM AS SHOWN AND AS HEREIN SPECIFIED. IF ANY SUBSTITUTION OF FIRE ALARM EQUIPMENT IS TO BE REQUESTED, SUCH REQUEST SHALL BE MADE A MINIMUM OF TEN BUSINESS DAYS PRIOR TO PROJECT BID DATE. THE CONTRACTOR SUBMITTAL SHALL INCLUDE ALL MANUFACTURER'S CATALOG EQUIPMENT SPECIFICATION SHEETS, THE CSFM LISTING SHEETS FOR INDIVIDUAL COMPONENTS COMPRISING THE SUBSTITUTED FIRE ALARM SYSTEM, FOR EACH SIGNALLING CIRCUIT. SHOULD THE SUBSTITUTED SYSTEM BE APPROVED AND INSTALLED, THE CONTRACTOR SHALL PROVIDE ONE SET OF REPRODUCIBLE, CAD GENERATED, DSA-ORS APPROVED AND STAMPED 'AS-CONSTRUCTED' DRAWINGS TO THE ENGINEER UPON COMPLETION OF THE SYSTEM INSTALLATION.

FIRE ALARM SYSTEM INSTALLATION NOTES

ALL DRAWINGS ARE DIAGRAMMATIC ONLY, AND SHALL NOT BE USED IN DETERMINING ACTUAL CONDUIT ROUTING. THE CONTRACTOR SHALL VERIFY ALL CONDUIT ROUTING CONDITIONS AT THE PROJECT SITE AS CONSTRUCTION PROGRESSES.

ALL FIRE ALARM DATA COMMUNICATIONS AND INITIATING CIRCUITS SHALL BE INSTALLED UTILIZING SOLID COPPER CONDUCTORS WITH OUTER COVERING COLORS PER THE SPECIFICATIONS AND AS SHOWN ON THE DRAWINGS. ALL SMOKE DAMPER AND REMOTE TROUBLE INDICATOR CIRCUITS SHALL BE YELLOW. ALL CIRCUITS SHALL BE INDIVIDUALLY LABELLED, BOTH AT THE DEVICE END AND AT THE SIGNAL TERMINAL CABINET AND/OR FIRE ALARM MASTER PANEL TERMINATION POINT.

ALL FIRE ALARM CIRCUITS SHALL CONTINUOUS FROM DEVICE TO DEVICE. SPLICES ARE NOT ALLOWED UNLESS IN COVERED JUNCTION BOXES ON APPROVED TERMINAL BLOCKS. 'T' TAPPING IS ALLOWED ONLY UNDER THESE CONDITIONS.

FIRE ALARM SYSTEM LEVEL OF AUDIBILITY

BE SO LOCATED AND UNOBSTRUCTED AS TO CAUSE A LEVEL OF AUDIBILITY OF NOT LESS THAN 15 DB ABOVE AMBIENT NOISE LEVELS MEASURED FOUR FEET ABOVE THE FLOOR INSIDE BUILDING.

ADDITIONALLY, DEVICES SHALL BE RATED TO DELIVER NOT LESS THAN 75 dba AT 10'-0" NOR MORE THAN 120 dba MAXIMUM.

AMBIENT NOISE LEVELS SHALL BE CONSTRUED TO MEAN THAT WHICH CAN NORMALLY BE EXPECTED TO EXIST WHEN THE FACILITY, BUILDING, ROOM OR AREA IS FUNCTIONING UNDER NORMAL OPERATIVE OR WORKING CONDITIONS.

FIRE ALARM SYSTEM SHALL SOUND WITH THE TEMPORAL PATTERN ADOPTED BY THE STATE OF CALIFORNIA.

SEISMIC ANCHORAGE REQUIREMENTS

ALL ELECTRICAL EQUIPMENT AND CONDUIT SYSTEMS ANCHORAGE SHALL COMPLY WITH CALIFORNIA BUILDING CODE SECTION 1632A AND WITH TABLE 16A-O.

WHERE ANCHORAGE DETAILS ARE NOT SHOWN ON THE DRAWINGS, THE INSTALLATION SHALL BE SUBJECT TO THE APPROVAL OF THE FIELD ENGINEER FOR THE DIVISION OF THE STATE ARCHITECT, OFFICE OF REGULATION SERVICES AND THE ELECTRICAL ENGINEER.

FIRE ALARM BATTERY CALCULATIONS

EQUIPMENT DESCRIPTION		QUANTITY EXISTING	QUANTITY NEW	SUPERVISORY CURRENT (AMPERES) EACH	SUPERVISORY SUB-TOTAL	ALARM CURRENT (AMPERES) EACH	ALARM SUB-TOTAL
MASTER PANEL		1		0.6	0.6	0.1	0.1
PA320		2		0.03	0.06	0.03	0.06
AMPLIFIER		1		0.185	0.185	11.0	11.0
DISTRIBUTED POWER MODULE		1	1	0.075	0.150	0.175	0.350
SMOKE DETECTORS		17	8	0.00045	0.013	0.00072	0.018
AUDIBLE/VISUALS	15/75 cd	15		0.000	0.000	0.08	1.2
AUDIBLE/VISUALS	15 cd	4		0.000	0.000	0.051	0.204
SUB-TOTAL AMPERES				1.006	AMPS	13.532	AMPS
				x 24 HOURS		x 0.084 HOURS	
SUB-TOTAL AMPERE-HOURS				24.144	A.H.	1.137	A.H.
TOTAL REQUIRED AMPERE-HOURS FOR:						25.281	A.H.
BATTERY NON-LINEAR DISCHARGE CHARACTERISTIC FACTOR						x 1.2	
TOTAL MINIMUM AMPERE HOURS REQUIRED						30.351	A.H.
PROVIDED BATTERY CAPACITY						40.00	A.H.

FIRE ALARM BATTERY CALCULATIONS - 'DPM'

EQUIPMENT DESCRIPTION		QUANTITY EXISTING	QUANTITY NEW	SUPERVISORY CURRENT (AMPERES) EACH	SUPERVISORY SUB-TOTAL	ALARM CURRENT (AMPERES) EACH	ALARM SUB-TOTAL
DISTRIBUTED POWER MODULE		0	1	0.075	0.075	0.175	0.175
SYNCHRONIZATION MODULE		0	1	0.030	0.030	0.070	0.070
VISUALS	15/75 cd	0	5	0.000	0.000	0.060	0.300
VISUALS	30 cd	0	1	0.000	0.000	0.068	0.068
VISUALS	75 cd	0	4	0.000	0.000	0.121	0.484
VISUALS	110 cd	0	2	0.000	0.000	0.141	0.282
SUB-TOTAL AMPERES				0.105	AMPS	1.374	AMPS
				x 24 HOURS		x 0.084 HOURS	
SUB-TOTAL AMPERE-HOURS				2.520	A.H.	0.115	A.H.
TOTAL REQUIRED AMPERE-HOURS FOR:						2.635	A.H.
BATTERY NON-LINEAR DISCHARGE CHARACTERISTIC FACTOR						x 1.2	
TOTAL MINIMUM AMPERE HOURS REQUIRED						3.162	A.H.
PROVIDE BATTERY CAPACITY						7.000	A.H.

FIRE ALARM VOLTAGE DROP CALCULATIONS

DEVICE NUMBER	AWG SIZE	CIRC. MILS	OHMS RES. PER/FT.	WIRE LENGTH	DEVICE AMPERES	TOTAL AMPERES	DEVICE % VD	TOTAL % VD
1	#12	6530	0.00164	120'	0.121	0.48	0.93	0.93
2	#12	6530	0.00164	180'	0.121	0.36	1.05	1.98
3	#12	6530	0.00164	180'	0.121	0.24	0.70	2.68
4	#12	6530	0.00164	180'	0.121	0.12	0.35	3.03
ANNUNCIATION CIRCUIT 'A2'				TOTAL PERCENTAGE DROP IN CIRCUIT:				3.03%

BASED UPON A 24 VDC CIRCUIT OPERATING AT 75 DEGREES FARENHEIT

FIRE ALARM VOLTAGE DROP CALCULATIONS

DEVICE NUMBER	AWG SIZE	CIRC. MILS	OHMS RES. PER/FT.	WIRE LENGTH	DEVICE AMPERES	TOTAL AMPERES	DEVICE % VD	TOTAL % VD
1	#12	6530	0.00164	15'	0.060	0.64	0.16	0.16
2	#12	6530	0.00164	40'	0.140	0.58	0.38	0.54
3	#12	6530	0.00164	90'	0.060	0.44	0.64	1.18
4	#12	6530	0.00164	20'	0.060	0.38	0.12	1.30
5	#12	6530	0.00164	40'	0.068	0.32	0.21	1.51
6	#12	6530	0.00164	20'	0.060	0.26	0.08	1.54
7	#12	6530	0.00164	30'	0.060	0.20	0.10	1.64
8	#12	6530	0.00164	40'	0.14	0.14	0.04	1.78
ANNUNCIATION CIRCUIT 'A3'				TOTAL PERCENTAGE DROP IN CIRCUIT:				1.78%

BASED UPON A 24 VDC CIRCUIT OPERATING AT 75 DEGREES FARENHEIT

FIRE ALARM SYSTEM REQUIREMENTS

THE FIRE ALARM SYSTEM SHALL CONFORM TO CALIFORNIA BUILDING CODE, SECTION 305.9, CALIFORNIA ELECTRICAL CODE, ARTICLE 760 AND CALIFORNIA FIRE CODE, ARTICLE 10.

INSTALLATION OF THE FIRE ALARM SYSTEM SHALL NOT COMMENCE UNTIL DETAILED PLANS AND SPECIFICATIONS, INCLUDING CALIFORNIA STATE FIRE MARSHAL LISTINGS FOR EACH COMPONENT OF THE SYSTEM HAVE BEEN APPROVED BY THE DIVISION OF THE STATE ARCHITECT - OFFICE OF REGULATION SERVICES.

UPON COMPLETION OF THE INSTALLATION OF THE FIRE PROTECTIVE SIGNALLING EQUIPMENT, A SATISFACTORY TEST OF THE ENTIRE SYSTEM SHALL BE MADE IN THE PRESENCE OF THE ENFORCING FIRE AGENCY, NFPA 72. IF TESTING RESULTS DETERMINE FIRE ALARM AUDIBILITY DOES NOT MEET 15db OVER AMBIENT NOISE LEVELS, ADDITIONAL FIRE ALARM SIGNALING DEVICES MAY BE REQUIRED BY THE ENFORCING AGENCY PER CALIFORNIA FIRE CODE.

A CERTIFICATE OF COMPLETION SHALL BE PROVIDED TO THE OWNER PER NFPA 72, CHAPTER 1 AND THE CALIFORNIA FIRE CODE.

APPROVED
DIVISION OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
DATE 2/12/2015

REGISTERED PROFESSIONAL ENGINEER No. E 14875 Exp. 6/30/07 ELECTRICAL STATE OF CALIFORNIA

WATERS ENGINEERING Consulting Electrical Engineer

#2001-82

ORDIZ MELBY ARCHITECTS, INC.

5500 MING AVENUE SUITE 280
BAKERSFIELD, CALIFORNIA 93309
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FACSIMILE (661) 832-4291

LICENSED ARCHITECT WILLIAM JOHN MELBY No. C-16835 DEC. 31, 2005 RENEWAL DATE STATE OF CALIFORNIA

LICENSED ARCHITECT DANNY E. ESPINEDA MAY 31 2015 RENEWAL DATE No. C-14728 STATE OF CALIFORNIA

DANNY E. ORDIZ, A.I.A. ARCHITECT C-14,728
WILLIAM J. MELBY, A.I.A. ARCHITECT C-16,835

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL. 03-106679
FILE 15-6
AC FLS CO
DATE JUL 26 2005

PTN:63321-50

SITE IMPROVEMENTS
PORTABLE CLASSROOMS
AT
CHIPMAN JUNIOR HIGH SCHOOL

BAKERSFIELD CITY SCHOOL DISTRICT

EISSLER STREET
BAKERSFIELD, CALIFORNIA 93306

MARK	DATE	DESCRIPTION
SD		D.S.A. APPROVAL
CD		
1	01-13-15	CCD #01
X		
X		
X		

JOB NUMBER: 2004771
CAD DRAWING FILE: 2004-82-E-4.DWG
DRAWN BY: CMH/DAJ
CHECKED BY: VWW

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DESCREPANCIES TO THE ARCHITECT.

THE DRAWINGS, IDEAS, AND DESIGNS REPRESENTED ON THIS SHEET ARE THE PROPERTY OF THE ARCHITECT.

SHEET TITLE
FIRE ALARM
SINGLE LINE DIAGRAM,
DETAIL CALCULATIONS

SHEET IDENTIFICATION NUMBER
E-4
SHEET OF

MATERIAL SPECIFICATIONS

I - PRODUCTS

GENERAL:

ALL MATERIALS, APPLIANCES AND EQUIPMENT EXCEPT THAT FURNISHED BY THE OWNER SHALL BE NEW, BEAR U.L. LABEL AND OF THE MAKE, BRAND OR QUALITY SPECIFIED OR AS ACCEPTED BY THE ARCHITECT AS HEREIN PROVIDED. THIS SHALL ALSO APPLY TO ALL PARTS OF THE WORK WHETHER OR NOT THIS PARTICULAR PARAGRAPH IS REFERRED TO BY NUMBER.

ALL APPARATUS, CONDUIT SYSTEMS, ETC., SHALL BE INSTALLED AND INTERCONNECTED SO AS TO FORM COMPLETE SYSTEMS AS HEREIN SPECIFIED AND/OR SHOWN ON ALL THE ACCOMPANYING DRAWINGS. THE CONTRACTOR SHALL FURNISH AND INSTALL ALL WORK NECESSARY TO MAKE COMPLETE WORKING SYSTEMS, EXCEPTING ONLY THOSE PORTIONS THAT ARE SPECIFICALLY MENTIONED HEREIN OR PLAINLY MARKED ON ACCOMPANYING DRAWINGS AS BEING FURNISHED BY OTHER CONTRACTORS.

RACEWAYS AND FITTINGS:

RACEWAY:

SHALL BE AS MANUFACTURED BY TRIANGLE CONDUIT AND CABLE COMPANY, ALLIED TUBE AND CONDUIT CORPORATION, AMERICAN FLEXIBLE CONDUIT COMPANY, CAROL CABLE COMPANY, INC., WHEATLAND TUBE COMPANY, CARLON ELECTRICAL PRODUCTS OR APPROVED EQUAL.

GALVANIZED RIGID STEEL CONDUITS (RSC) - MAY BE USED IN ALL LOCATIONS. FOR UNDERGROUND RUNS IN DIRECT CONTACT WITH EARTH, CONDUIT SHALL BE FACTORY WRAPPED WITH PVC TAPE OR SHALL HAVE FACTORY APPLIED PVC COATING.

GALVANIZED INTERMEDIATE METALLIC CONDUIT (IMC) - MAY BE USED IN INDOOR LOCATIONS NOT IN DIRECT CONTACT WITH EARTH.

GALVANIZED ELECTRICAL METALLIC TUBING (EMT) - MAY BE USED IN INDOOR DRY LOCATIONS IN WHICH IT IS:

NOT SUBJECT TO PHYSICAL DAMAGE.
NOT IN DIRECT CONTACT WITH EARTH.
NOT IN CONCRETE SLABS.
NOT IN HAZARDOUS AREAS.
ON ROOF OR WALK COVER WHEN SPECIFICALLY SHOWN ON DRAWINGS.

NON-METALLIC RIGID CONDUIT SHALL BE PVC SCHEDULE 40 AND MAY BE USED FOR:

UNDERGROUND.
BELOW CONCRETE SLAB ON GRADE.
IN CONCRETE SLAB ON FLOORS ABOVE GRADE.
IN MASONRY WALLS, NOT IN SAME MASONRY CELLS AS THE BUILDING STRUCTURAL REINFORCEMENT STEEL.

FLEXIBLE STEEL CONDUIT MAY BE USED IN DRY LOCATIONS TO FACILITATE WIRING IN TIGHT LOCATIONS, WHEN APPROVED BY ENGINEER. FLEXIBLE ALUMINUM CONDUIT MAY BE USED IN WALLS OR IN ATTICS TO FACILITATE WIRING IN TIGHT LOCATIONS, WHEN APPROVED BY THE ENGINEER.

LIQUID-TIGHT FLEXIBLE STEEL CONDUIT SHALL BE USED IN OUTDOOR OR WET LOCATIONS FOR FINAL CONNECTIONS.

FITTINGS:

SHALL BE THREADED TYPE ONLY FOR RIGID AND INTERMEDIATE STEEL CONDUITS.

FOR ELECTRICAL METALLIC TUBING (EMT), FITTINGS SHALL BE:

SET-SCREW WITH STEEL HOUSING OR COMPRESSION TYPE FOR SIZES 1/2" THROUGH 1", IN DRY LOCATIONS.
COMPRESSION TYPE FOR SIZES LARGER THAN 1" OR IN WET LOCATIONS.

FOR NON-METALLIC CONDUITS AND TUBINGS:

FITTINGS SHALL BE PVC TYPE. USE PVC ADAPTERS AT ALL BOXES AND PANEL BOARDS. BRUSH APPLY PVC CEMENT.
ALL PVC COMPONENTS, (CONDUITS, FITTINGS, CEMENT) SHALL BE OF SAME MANUFACTURER.

FLEXIBLE METALLIC CONDUITS: COMPRESSION TYPE.

LIQUID-TIGHT FLEXIBLE METALLIC CONDUITS: LIQUID-TIGHT, COMPRESSION TYPE.

USE OF THE FOLLOWING IS PROHIBITED:

CRIMP-ON, TAP-ON, INDENTER TYPE FITTINGS.
SPRAY (AEROSOL) PVC CEMENT.
ENT CONDUIT AND FITTINGS.

PULL BOXES:

PULL BOXES SHALL MEET ALL CODE REQUIREMENTS AS TO SIZE FOR CONDUITS TERMINATING THEREIN AND TO THICKNESS OF MATERIAL USED IN FABRICATION.

FABRICATED SHEET STEEL PULL BOXES SHALL BE INSTALLED ONLY IN DRY, PROTECTED LOCATIONS AND SHALL BE FURNISHED WITH KNOCKOUTS AND REMOVABLE SCREW COVER. BOX SHALL BE FINISHED WITH ONE COAT OF ZINC CHROMATE AND A COAT OF PRIMER SEALER AND WHERE EXPOSED TO PUBLIC VIEW SHALL BE PAINTED TO MATCH THE SURROUNDING SURFACE.

WEATHERPROOF SHEET STEEL PULL BOXES SHALL BE FABRICATED OF CODE GAUGE GALVANIZED SHEET STEEL WITH TWO COATS OF RUST RESISTANT FINISH AND SHALL BE FURNISHED WITH GASKET AND MADE COMPLETELY WEATHERTIGHT.

APPROVED MANUFACTURERS FOR METAL BOXES ARE CIRCLE AW, CROUSE HINDS, RACO INDUSTRIES, STEEL CITY OR EQUAL.

WEATHERPROOF UNDERGROUND CONCRETE PULL BOXES, JUNCTION BOXES AND TELEPHONE BOXES SHALL BE MANUFACTURED BY CHRISTY CONCRETE PRODUCTS, QUIKSET ASSOCIATED CONCRETE PRODUCTS, QUAZITE, SYNERTECH UNDERGROUND PRODUCTS OR EQUAL. ALL BOXES SHALL HAVE LIDS MARKED "POWER", "SIGNAL", "FIBER OPTIC", "DANGER - HIGH VOLTAGE", ETC., AND BE TRAFFIC RATED PER CALTRANS DRAWING ES-8 MINIMUM WHERE PULL BOX OCCURS IN VEHICULAR TRAFFIC AREAS.

OUTLETS:

ALL OUTLET BOXES SHALL BE STANDARD ONE OR TWO PIECE GALVANIZED KNOCK-OUT OUTLET BOXES, NATIONAL, STEEL CITY, APPLETON, BOWERS OR APPROVED EQUAL.

ALL OUTLET BOX COVERS, RINGS OR OTHER FITTINGS SHALL BE STANDARD GALVANIZED, NATIONAL, STEEL CITY, APPLETON, BOWERS OR APPROVED EQUAL.

NO OUTLET BOX SHALL BE SMALLER THAN FOUR INCHES (4") SQUARE AND 1 1/2" IN DEPTH, EXCEPT IN CONCRETE BLOCK CONSTRUCTION WHERE BOWERS CONCRETE BLOCK BOXES ARE APPROVED.

ALL SPECIAL OUTLETS SHALL BE AS HEREINAFTER SPECIFIED OR AS SHOWN ON DRAWINGS.

ANY UNUSED BOXES SHALL BE EQUIPPED WITH A COVER PLATE.

PANEL BOARDS

THE PANEL BOARDS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE STANDARD SET UP BY THE UNDERWRITERS' LABORATORIES, INC., AND AS MANUFACTURED BY SQUARE "D" COMPANY OR APPROVED EQUAL, AND EACH SHALL CONTAIN THE NUMBER AND TYPE OF CIRCUIT BREAKERS AS INDICATED ON THE DRAWINGS.

WHEN SHOWN ON THE DRAWINGS, PANEL BOARDS SHALL BE PROVIDED WITH AN INTEGRAL MAIN CIRCUIT BREAKER COMPLYING WITH OVERCURRENT DEVICE SECTION OF THIS SPECIFICATION, SIZED AS INDICATED ON THE DRAWINGS.

THE PANEL BOARDS SHALL BE EQUIPPED WITH BRANCH DISTRIBUTION CIRCUIT BREAKERS PER THE OVERCURRENT SECTION OF THIS SPECIFICATION.

THE PANEL BOARDS SHALL BE EQUIPPED WITH HINGED DOORS, FLAT FRONT, TYPEWRITTEN CIRCUIT DIRECTORIES. IN EXTERIOR LOCATIONS, PROVIDE A NEMA 3R RATED ENCLOSURE, FINISH SHALL BE STANDARD FACTORY GRAY HAMMERTONE. PROVIDE LOCK ON ALL PANELS. KEY AS DIRECTED BY ARCHITECT.

SEVEN COPIES OF DETAILED CONSTRUCTION DRAWINGS FOR THE PANEL BOARDS AND TERMINAL CABINETS SHALL BE SUBMITTED TO THE ARCHITECT FOR APPROVAL BEFORE THEIR CONSTRUCTION IS STARTED.

OVERCURRENT DEVICES:

MAIN PROTECTIVE DEVICE SHALL BE CIRCUIT BREAKER WITH INTERRUPTING RATING, FRAME AND TRIP RATINGS AS SHOWN ON THE DRAWINGS.

FEEDER PROTECTIVE DEVICES AS SHOWN SHALL BE MOLDED CASE CIRCUIT BREAKERS PROVIDING COMPLETE CIRCUIT OVERCURRENT PROTECTION BY HAVING INVERSE TIME AND INSTANTANEOUS TRIPPING CHARACTERISTICS, AND WHERE APPLICABLE, BE CURRENT LIMITING.

CIRCUIT BREAKERS SHALL BE OPERATED BY A TOGGLE-TYPE HANDLE AND SHALL HAVE A QUICK-MADE, QUICK-BREAK OVER-CENTER SWITCHING MECHANISM THAT IS MECHANICALLY TRIP FREE. AUTOMATIC TRIPPING OF THE BREAKER SHALL BE CLEARLY INDICATED BY HANDLE POSITION. CONTACTS SHALL BE NON-WELDING SILVER ALLOY AND ARC EXTINCTION SHALL BE ACCOMPLISHED BY MEANS OF DE-ION ARC CHUTES.

CIRCUIT BREAKER INTERRUPTING CAPACITIES SHALL BE AS INDICATED ON THE DRAWINGS OR AS SPECIFIED HEREINAFTER. WHERE APPLICABLE, CIRCUIT BREAKERS SHALL BE LISTED FOR SERIES APPLICATION.

ALL CIRCUIT BREAKERS IN MAIN SWITCHBOARD SHALL HAVE SHORT CIRCUIT CURRENT INTERRUPTING CAPACITY EXCEEDING THE MAXIMUM AVAILABLE AT SERVICE TRANSFORMER. CONTRACTOR SHALL VERIFY AND DOCUMENT EXACT REQUIREMENTS.

STANDARD TWO AND THREE POLE CIRCUIT BREAKERS SHALL BE UL LISTED AS HACR TYPE BREAKERS FOR USE WITH HEATING, VENTILATING AND AIR CONDITIONING EQUIPMENT.

ALL CIRCUIT BREAKERS LOCATED IN SEPARATE ENCLOSURES, WHETHER NEMA 1 OR NEMA 3R RATED, SHALL INCLUDE A HANDLE PADLOCK ATTACHMENT.

ALL CIRCUIT BREAKERS, 100 AMPS OR MORE, SHALL BE TESTED BY AN INDEPENDENT TESTING FIRM IN ACCORDANCE WITH NETA SPECIFICATIONS AND A REPORT SUBMITTED TO THE ARCHITECT. THE CONTRACTOR SHALL PAY FOR THE COST OF THIS REQUIREMENT. ANY CIRCUIT BREAKER THAT DOES NOT PASS THE TEST SHALL BE REPLACED.

CONDUCTORS:

ALL WIRE INSTALLED IN THIS CONTRACT SHALL BE OF A STANDARD MANUFACTURER AS APPROVED BY THE NATIONAL BOARD OF FIRE UNDERWRITERS AND BE OF THE SIZE AS INDICATED ON THE DRAWINGS. ALL WIRE SHALL BEAR THE UNDERWRITERS'S LABEL AND SHALL BE BROUGHT TO THE JOB IN UNBROKEN PACKAGES AND APPROVED BY THE JOB INSPECTOR BEFORE SAME IS INSTALLED.

ALL CONDUCTORS SHALL BE TYPE COPPER WITH THWN INSULATION UNLESS OTHERWISE NOTED.

CABLING

'A' CABLE SHALL BE TWISTED PAIR, ONE SHIELDED, TWO UNSHIELDED, SOLID DRAIN AND COPPER CONDUCTOR, 22 AWG, LOW CAPACITANCE, WEST PENN #AQC373 OR APPROVED EQUAL.

II - EXECUTION

CONDUIT SYSTEMS:

A CONCEALED CONDUIT SYSTEM SHALL BE INSTALLED FOR ALL INTERIOR WIRING. CONDUIT SHALL BE RUN CONTINUOUS BETWEEN OUTLETS, ETC., AND WITH THE MINIMUM NUMBER OF BENDS.

PVC 40 OR RIGID STEEL FACTORY WRAPPED WITH PVC TAPE SHALL BE USED FOR UNDERGROUND RUNS.

WHERE UNDERGROUND CONDUIT CANNOT BE RUN BELOW BUILDING FOOTINGS THE CONTRACTOR SHALL PROVIDE PVC-80 SLEEVES THROUGH THE FOOTINGS (CONTRACTOR SHALL OBTAIN APPROVAL FOR ALL SLEEVE SIZES AND LOCATIONS WITH THE STRUCTURAL ENGINEER BEFORE INSTALLATION).

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

ALL CONDUIT SHALL BE DELIVERED TO THE SITE OF CONSTRUCTION IN THEIR ORIGINAL BUNDLES. EACH LENGTH OF CONDUIT SHALL BEAR THE LABEL OF THE NATIONAL BOARD OF FIRE UNDERWRITERS. ALL CONDUIT SUBJECTED TO ROUGH USAGE WHILE ON THE JOB BEFORE INSTALLATION AND NOT ACCEPTABLE TO THE ARCHITECT SHALL BE REMOVED FROM THE PREMISES UPON NOTICE.

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

ALL CONDUITS WHERE THEY ENTER PANEL BOXES, PULL BOXES, OR OUTLET BOXES SHALL BE SECURED IN PLACE BY GALVANIZED LOCKNUTS - ONE (1) LOCKNUT INSIDE OF BOX. AN INSULATED THROAT SHALL BE USED WHERE CONDUCTORS ARE #4 OR LARGER.

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

CONDUIT 1" AND ABOVE SHALL HAVE INSULATED THROAT BUSHINGS.

ALL EMPTY CONDUIT SHALL BE EQUIPPED WITH A #12 GALVANIZED IRON PULL WIRE OR NYLON PULL ROPE CONTINUOUS FROM OUTLET TO OUTLET.

FLEXIBLE CONNECTIONS IN OUTDOOR AND DAMP LOCATIONS SHALL BE FLEXIBLE LIQUID-TIGHT METAL CONDUIT OR NON-CORROSIVE SEAMLESS METALLIC TUBING WITH WATER-TIGHT CONNECTIONS.

INSTALL ROOF JACKS FOR THIS CONSTRUCTION IN ACCORDANCE WITH OTHER SECTIONS OF THE PROJECT SPECIFICATIONS.

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

EXPANSION JOINTS FOR CONDUIT SHALL BE PROVIDED WHERE REQUIRED TO COMPENSATE FOR THERMAL EXPANSION AND CONTRACTION.

NO CONDUIT SMALLER THAN 1/2 INCH ELECTRICAL TRADE SIZE SHALL BE USED.

SUPPORT CONDUITS ON ROOF ON 2" X 4" REDWOOD BLOCKS SPACED 5 FT. APART AND SET IN MASTIC.

GUARANTEE AND TESTS:

ALL ELECTRICAL EQUIPMENT TESTING AND RELATED COSTS SHALL BE INCLUDED IN THE CONTRACTOR'S BID.

EQUIPMENT OF ALL KINDS INSTALLED BY THE CONTRACTOR SHALL BE TESTED TO DETERMINE WHETHER IT FULFILLS THE REQUIREMENTS OF THESE SPECIFICATIONS. THE CONTRACTOR SHALL FURNISH ALL LABOR NECESSARY TO ADJUST THE OPERATION OF THE APPARATUS AND MADE THE CONNECTIONS FOR THE TESTS. AFTER THE TESTS HAVE BEEN COMPLETED, THE CONTRACTOR SHALL RESTORE ALL CONNECTIONS, APPARATUS, ETC., TO THEIR ORIGINAL CONDITION.

ALL CIRCUIT BREAKERS, 100 AMPS OR MORE, SHALL BE TESTED BY AN INDEPENDENT TESTING FIRM IN ACCORDANCE WITH NETA SPECIFICATIONS AND A REPORT SUBMITTED TO THE ARCHITECT. ANY CIRCUIT BREAKER THAT DOES NOT PASS THE TEST SHALL BE REPLACED.

THE ENTIRE INSTALLATION SHALL BE FREE FROM SHORT CIRCUITS AND IMPROPER GROUNDS. PANELS AND ASSOCIATED CIRCUITS INSTALLED AS PART OF THIS PROJECT SHALL BE TESTED FOR GROUNDS AND SHORTS WITH MAINS DISCONNECTED FROM THE FEEDER, BRANCHES CONNECTED, LAMPS REMOVED OR OMITTED FROM THE SOCKETS AND ALL WALL SWITCHES CLOSED. EACH INDIVIDUAL CIRCUIT SHALL BE TESTED AT THE PANEL WITH THE EQUIPMENT CONNECTED FOR PROPER OPERATION. GROUND TESTS SHALL MEET THE REQUIREMENTS OF THE CALIFORNIA ELECTRICAL CODE. UPON COMPLETION OF THE WORK, A FINAL INSPECTION OF THE ARCHITECT AND OTHER INTERESTED AUTHORITIES SHALL BE CONDUCTED. THE CONTRACTOR SHALL GUARANTEE TO REPAIR OR REPLACE AT HIS EXPENSE ANY MATERIAL OR EQUIPMENT THAT DEVELOPS DEFECTS OR IS DETERMINED NOT TO BE IN CONFORMANCE WITH THE PLANS AND SPECIFICATIONS, DURING A PERIOD OF ONE YEAR AFTER WORK IS ACCEPTED BY THE OWNER.

SHOULD ANY PIECE OF APPARATUS OR ANY MATERIAL OR WORK FAIL IN ANY OF THESE TESTS, IT SHALL BE IMMEDIATELY REMOVED AND BE REPLACED WITH NEW MATERIAL BY THE CONTRACTOR AT HIS EXPENSE AND THE PORTION OF THE WORK REPLACED BE AGAIN TESTED BY THE CONTRACTOR.

THE INDEPENDENT TESTING AGENCY PERFORMING THE ABOVE MENTIONED TESTS SHALL BE NETA OR NICET CERTIFIED. THE CONTRACTOR SHALL OBTAIN APPROVAL FROM THE ARCHITECT OF THE PROPOSED INDEPENDENT TESTING FIRM(S) BEFORE ANY TESTING IS STARTED.

DEMOLITION:

REMOVE AND/OR RELOCATE ELECTRICAL FACILITIES AS REQUIRED TO CLEAR AREAS FOR NEW CONSTRUCTION.

LOCATIONS:

THE WORK AS LAID OUT IS TO SOME EXTENT DIAGRAMMATIC, AND THE LOCATION THEREON INDICATED MAY BE APPROXIMATE ONLY. THE CONTRACTOR, THEREFORE, SHALL INSTALL ALL THE EQUIPMENT, APPARATUS, CONDUIT RUNS AND THE LIKE AS FOLLOWS:

ADHERE TO THE LOCATION INDICATED AS FAR AS POSSIBLE.

MAINTAIN AMPLE HEAD ROOM IN ALL ROOMS AND PASSAGEWAYS, CLEARANCE AROUND ALL APPARATUS AND EQUIPMENT AND UNDER PIPE LINES FOR UNRESTRICTED PASSAGE AND FOR EASY SERVICING OF ALL APPARATUS, EQUIPMENT, DEVICES AND THE LIKE.

VERIFY THE EXACT LOCATIONS OF ALL APPARATUS OR DEVICES AS INDICATED ON THE DRAWINGS. IN THE EVENT THESE DRAWINGS DO NOT SUFFICIENTLY INDICATE THE LOCATIONS FOR ALL SUCH APPARATUS OR DEVICES, THE CONTRACTOR SHALL OBTAIN THE EXACT LOCATIONS FROM THE ARCHITECT.

VERIFICATION OF DIMENSIONS:

THE CONTRACTOR SHALL, AS WORK PROGRESSES, VERIFY THE DIMENSIONS OF THE SPACES AVAILABLE FOR THE INSTALLATION OF THE WORK AND HE SHALL ASSUME FULL RESPONSIBILITY FOR THE PROPER LOCATIONS AND GRADING OF EACH PORTION THEREOF.

WHERE THE WORK REQUIRES CONNECTIONS TO BE MADE TO EQUIPMENT THAT IS FURNISHED AND SET IN PLACE BY OTHERS, THE CONTRACTOR SHALL OBTAIN EXACT ROUGH-IN DIMENSIONS FROM THE MANUFACTURER OF SUCH EQUIPMENT AND HE SHALL INSTALL THE CONNECTIONS IN A NEAT AND WORKMANLIKE MANNER.

PRELIMINARY OPERATION:

SHOULD THE OWNER REQUIRE THROUGH THE ARCHITECT THAT ANY PORTION OF THE SYSTEMS OR EQUIPMENT HEREIN SPECIFIED BE OPERATED PRIOR TO THE FINAL COMPLETION AND ACCEPTANCE OF THE WORK, THE CONTRACTOR SHALL CONSENT. SUCH OPERATION SHALL BE UNDER THE SUPERVISION AND DIRECTION OF THE CONTRACTOR, BUT ALL EXPENSES THEREFORE SHALL BE PAID BY THE OWNER, SEPARATE AND DISTINCT FROM ANY MONEY PAID ON ACCOUNT THEREFORE OF THE CONTRACT.

SUCH PRELIMINARY OPERATION, OR PAYMENT THEREFOR, SHALL NOT BE CONSTRUED AS AN ACCEPTANCE OF ANY OF THE WORK UNDER THE CONTRACT. THE ARCHITECT SHALL APPROVE ANY EXPENSE INCURRED BY THE CONTRACTOR BEFORE PAYMENT BY THE OWNER.

ACCESS OPENINGS:

IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE SUFFICIENT AND CONVENIENT ACCESS OPENINGS, PANELS, ETC., IN THE BUILDING CONSTRUCTION WHERE REQUIRED FOR THE MAINTENANCE OF, INSTALLATION AND/OR REMOVAL OF ALL ELECTRICAL EQUIPMENT, OR OTHER ITEMS OF THE VARIOUS SYSTEMS AND EQUIPMENT.

CUTTING AND PATCHING:

THE CONTRACTOR SHALL DO ALL CUTTING AND PATCHING OF THE WORK FOR THE INSTALLATION OF THE EQUIPMENT AND MATERIALS AS APPROVED BY THE ARCHITECT AND/OR ENGINEER. ALL PATCHING SHALL ACCURATELY MATCH THE ADJOINING WORK.

FOUNDATIONS AND SUPPORTS:

THE CONTRACTOR SHALL PROVIDE ALL FOUNDATIONS, SUPPORTS AND HANGERS, ETC., AS REQUIRED TO INSTALL THE EQUIPMENT AS SPECIFIED OR SHOWN ON THE DRAWINGS. ALL EQUIPMENT SHALL BE SUPPORTED, BRACED AND CROSS-BRACED IN SUCH MANNER AS TO PREVENT SWAY AND/OR LATERAL MOVEMENT.

EXCAVATION AND BACKFILLING:

EXCAVATING REQUIRED FOR THE INSTALLATION OF THE WORK SHALL BE DONE BY THIS CONTRACTOR. UNDERGROUND LINES OUTSIDE THE BUILDINGS SHALL BE INSTALLED WITH A MINIMUM COVER OF 24", EXCEPT DEPTH OF UTILITY SERVICES SHALL COMPLY WITH RESPECTIVE UTILITY COMPANY REQUIREMENTS.

BACKFILL:

6" BELOW, AROUND, AND TO 6" ABOVE CONDUIT: MATERIAL SHALL BE SAND. PLACE CAREFULLY AROUND AND ON TOP OF PIPE, TAKING CARE NOT TO DISTURB CONDUIT. CONSOLIDATE WITH VIBRATOR.

6" ABOVE CONDUIT TO GRADE: MATERIAL SHALL BE SANDY OR SILTY LOAM, FREE OF LUMPS, LAID IN 6" LAYERS, UNIFORMLY MIXED TO PROPER MOISTURE AND COMPACTED TO REQUIRED DENSITY. IF BACKFILL IS DETERMINED TO BE SUITABLE AND REQUIRED COMPACTION IS DEMONSTRATED BY LABORATORY TEST, WATER COMPACTION IN 6" LAYERS MAY BE USED, SUBJECT TO REVIEW BY ENGINEER.

COMPACTION:

COMPACT TO DENSITY OF 95% WITHIN BUILDING AND UNDER WALKWAYS, DRIVEWAYS, TRAFFIC AREAS, PAVED AREAS, ETC. AND TO 90% ELSEWHERE. DEMONSTRATE PROPER COMPACTION BY TESTING AT TOP, BOTTOM AND ONE-HALF OF THE TRENCH DEPTH. PERFORM THESE TESTS AT THREE LOCATIONS PER 100' OF TRENCH.

NO EXCAVATION BELOW THE LEVEL OF, OR ADJACENT TO, FOUNDATIONS OF FOOTINGS SHALL BE MADE EXCEPT IN A MANNER APPROVED BY THE ARCHITECT.

A DETECTABLE TRACER TAPE (RED OR YELLOW FOR POWER CONDUITS, ORANGE FOR TELECOMMUNICATIONS AND CATV CONDUITS) STATING "CAUTION ELECTRIC LINE BURIED BELOW" SHALL BE INSTALLED 12" ABOVE CONDUIT, FULL LENGTH OF DITCH.

ELECTRICAL CONDUIT SHALL NOT BE RUN IN EXCAVATIONS PROVIDED FOR PLUMBING OR HEATING PIPES, UNLESS SEPARATED BY A MINIMUM OF 12 INCHES.

VERIFY LOCATION OF ALL UNDERGROUND LINES WITH OWNER AND UTILITY COMPANIES BEFORE STARTING EXCAVATION.

TEN (10) DAYS BEFORE DOING ANY EXCAVATION OR TRENCHING CONTACT "UNDERGROUND ALERT SERVICE," 1-800-642-2444, ADVISE THEM OF WORK SCHEDULE AND COMPLY WITH THEIR RECOMMENDATIONS.

CLEANING UP:

THE CONTRACTOR SHALL KEEP THE PREMISES FREE FROM ACCUMULATIONS OF HIS WASTE MATERIAL OR RUBBISH. AT THE COMPLETION OF THE WORK, HE SHALL REMOVE ALL HIS RUBBISH, TOOLS, SCAFFOLDING AND SURPLUS MATERIALS FROM AND ABOUT THE BUILDINGS, LEAVING THE PREMISES IN A CLEAN CONDITION.

ALL EXTERIOR SURFACES OF EXPOSED EQUIPMENT AND MATERIAL SHALL BE THOROUGHLY CLEANED OF ALL DIRT, CEMENT, PLASTER AND OTHER DEBRIS, INCLUDING THE EXTERIOR SURFACES OF ALL CONDUIT, CONDUIT FITTINGS, CONDUIT HANGER, INSULATION AND THE LIKE.

ALL SURFACES TO BE PAINTED SHALL BE CAREFULLY WIPED OR OTHERWISE CLEANED, CRACKS AND CORNERS SCRAPED OUT CLEAN, GREASE AND OIL SPOTS REMOVED SO THAT SURFACES MAY RECEIVE PAINT WITHOUT FURTHER PREPARATION.

ALL FIXTURES AND PLATED MATERIALS SHALL BE THOROUGHLY CLEANED AND POLISHED.

DAMAGE BY LEAKS:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE TO ANY PART OF THE PREMISES, CAUSED BY BREAKS IN CONDUIT OR FIXTURES FURNISHED AND/OR INSTALLED BY HIM UNDER THIS SPECIFICATION FOR A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE OF THE PROJECT BY THE OWNER.

SITE CONDITIONS:

WHERE EXISTING UTILITIES ARE SHOWN ON THE PLANS, EXTREME CARE SHALL BE EXERCISED IN EXCAVATING NEAR THESE UTILITIES TO AVOID ANY DAMAGE THERETO, AND THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY SUCH DAMAGE CAUSED BY THIS OPERATION.

THE GENERAL LOCATION AND ARRANGEMENT OF CONDUIT, EQUIPMENT APPARATUS, ETC., AS SHOWN IN THE DRAWINGS OR HEREIN SPECIFIED AND ALL INSTALLATIONS SHALL BE MADE IN ACCORDANCE THEREWITH. INFORMATION ON THE DRAWINGS RELATIVE TO EXISTING SERVICES IS APPROXIMATE ONLY. MINOR DEVIATIONS REQUIRED TO CONFORM TO ACTUAL LOCATIONS SHALL BE MADE WITHOUT ADDITIONAL COST TO OWNER.

SHOULD UTILITIES NOT SHOWN ON THE PLANS BE FOUND DURING EXCAVATIONS, THE CONTRACTOR SHALL PROMPTLY NOTIFY THE ARCHITECT FOR INSTRUCTIONS AS TO FURTHER ACTION. FAILURE TO DO SO WILL MAKE THE CONTRACTOR LIABLE FOR ANY DAMAGE THERE ARISING FROM HIS OPERATIONS AFTER DISCOVERY OF SUCH UTILITIES NOT SHOWN ON THE PLANS. THESE UTILITIES SHALL BE REMOVED OR RELOCATED AS DIRECTED BY THE ARCHITECT. AN EQUITABLE ADJUSTMENT IN THE CONTRACT WILL BE MADE FOR THE ADDITIONAL WORK INVOLVED.

THE CONTRACTOR SHALL USE SPECIAL PRECAUTIONS WHERE EXCAVATIONS ARE MADE IN THE AREAS NEAR ELECTRICAL DUCTS SINCE THEY MAY BE HIGH VOLTAGE DUCTS. ALL SUCH DUCTS SHALL BE EXPOSED BY CAREFUL HAND EXCAVATION SO AS NOT TO DAMAGE THE DUCTS OR CAUSE INJURY TO PERSONNEL AND SHALL BE SUITABLY MARKED WITH WARNING SIGNS, BARRICADES, ETC. AS REQUIRED.

STANDARD PRACTICE:

ALL WORK NOT SHOWN IN COMPLETE DETAILS SHALL BE INSTALLED IN CONFORMANCE WITH THE BEST STANDARD PRACTICE FOR THE TRADE.

INTENT:

IT IS THE INTENTION TO PROVIDE SYSTEMS THAT ARE COMPLETE IN EVERY RESPECT WITHOUT FURTHER COST TO THE OWNER. ANYTHING NOT SHOWN IN DRAWINGS, OR INDICATED IN THE SPECIFICATIONS, BUT REQUIRED FOR COMPLETE OPERATING SYSTEMS SHALL BE INCLUDED AS PART OF THIS CONTRACT. THIS SHALL INCLUDE ALL CONNECTIONS TO EXISTING SERVICES.

SPECIAL NOTE:

ATTENTION OF THE CONTRACTOR IS HEREBY CALLED TO ALL WORK COVERED BY NOTES ON THE DRAWINGS. KEYNOTED CONDITIONS SPECIFY PARTICULAR DETAILS REQUIRED FOR THE WORK SO NOTED.

WORK COVERED BY NOTES MUST BE FURNISHED AND INSTALLED WHETHER IT IS SPECIFICALLY MENTIONED IN THESE SPECIFICATIONS OR NOT.

GUARANTEE:

EXCEPT AS OTHERWISE SPECIFIED, ALL MATERIALS, APPARATUS EQUIPMENT FURNISHED AND INSTALLED UNDER THIS SPECIFICATION SHALL BE NEW AND FREE FROM ALL DEFECTS. SHOULD ANY TROUBLE DEVELOP WITHIN A PERIOD OF ONE (1) YEAR FROM DATE OF ACCEPTANCE OF THE WORK, DUE TO INFERIOR OR FAULTY MATERIAL AND/OR WORKMANSHIP, THE TROUBLE SHALL BE CORRECTED AND MATERIAL AND EQUIPMENT REPLACED BY THE CONTRACTOR WITHOUT EXPENSE TO THE OWNER.

SERVICES:

THE LOCATION OF ANY EXISTING UTILITY SERVICES SHOWN ON THE DRAWINGS IS APPROXIMATE AND SHALL BE CHECKED BY THIS CONTRACTOR FOR EXACT LOCATION.

LIST OF MATERIALS:

WITHIN THIRTY (30) CALENDAR DAYS AFTER THE AWARD OF THE CONTRACT, THE CONTRACTOR SHALL SUBMIT SEVEN (7) COPIES OF A COMPLETE LIST OF MATERIALS TO BE INSTALLED UNDER THIS CONTRACT, GIVING, IN THE CASE OF EACH ITEM OF MATERIAL TO BE USED, THE NAME OF THE ARTICLE.

ALL SUBSTITUTIONS OF SPECIFIED MATERIALS MUST BE APPROVED BY THE ARCHITECT AS STIPULATED IN THE GENERAL CONDITIONS.

PURCHASE ORDERS AND ACCEPTANCE:

THE CONTRACTOR SHALL FILE WITH THE ARCHITECT TWO (2) CERTIFIED COPIES OF ALL PURCHASE ORDERS, FOR MATERIALS, EQUIPMENT, APPLIANCES AND RENTALS THEREOF WITHIN TWO (2) WEEKS FROM DATE OF NOTICE TO PROCEED WITH THE CONTRACT IF REQUESTED BY THE ARCHITECT.

THE CONTRACTOR SHALL FILE WITH THE ARCHITECT TWO (2) CERTIFIED COPIES OF ACCEPTANCE OF PURCHASE ORDERS FOR MATERIALS, EQUIPMENT, AND APPLIANCES BY THE MANUFACTURER, DISTRIBUTOR OR WHOLESALE HOUSE WITHIN SIX (6) WEEKS FROM THE DATE OF NOTICE TO PROCEED WITH THE CONTRACT IF REQUESTED BY THE ARCHITECT.

FAILURE TO PROVIDE SAME WITHIN THE STIPULATED TIME SHALL BE DEEMED SUFFICIENT CAUSE FOR THE ARCHITECT TO WITHHOLD CERTIFICATES OF PAYMENT FOR WORK COMPLETED OR MATERIALS AND EQUIPMENT PROVIDED BY THE CONTRACTOR OR HIS SUBCONTRACTORS TOWARD THE COMPLETION OF THEIR CONTRACTS.

APPROVED
DIVISION OF THE STATE ARCHITECT
LOS ANGELES REGIONAL OFFICE
DATE 7/12/2015

REGISTERED PROFESSIONAL ENGINEER — VINCENT W. WATERS — No. E 14975 — Exp. 6/30/07 — ELECTRICAL — STATE OF CALIFORNIA

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Consulting Electrical Engineer
3200 South Fairway Suite #B
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Telephone (559) 733-4735
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E-mail: Waterseng@sbcglobal.net

2004-22

ORDIZ MELBY ARCHITECTS, INC.
5500 MING AVENUE SUITE 280
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TELEPHONE (661) 832-5258
FACSIMILE (661) 832-4291

LICENSED ARCHITECT — WILLIAM JOHN MELBY — No. C-16835 — DEC. 31 2006 — RENEWAL DATE — STATE OF CALIFORNIA

LICENSED ARCHITECT — DANNY ESPINO ORDIZ — MAY 31 2015 — RENEWAL DATE — NO. C14728 — STATE OF CALIFORNIA

DANNY E. ORDIZ, A.I.A.
ARCHITECT C-14,728
WILLIAM J. MELBY, A.I.A.
ARCHITECT C-16,835

IDENTIFICATION STAMP
DIV. OF THE STATE ARCHITECT
OFFICE OF REGULATION SERVICES
APPL # 03-108679
FILE # 37-5-6
AC [illegible] FLS CO SS [illegible]
DATE JUL 2 6 2005

PTN:63321-50

SITE IMPROVEMENTS
PORTABLE CLASSROOMS
AT
CHIPMAN JUNIOR HIGH SCHOOL

BAKERSFIELD CITY SCHOOL DISTRICT

EISSLER STREET
BAKERSFIELD, CALIFORNIA
93306

MARK	DATE	DESCRIPTION
SD		D.S.A. APPROVAL
CD		
1	01-13-15	CCD #01

JOB NUMBER: 2004771
CAD DRAWING FILE: 2004-82-E-5.DWG
DRAWN BY: DAJ
CHECKED BY: VWW

CHECK AND VERIFY ALL DIMENSIONS BEFORE PROCEEDING WITH THE WORK. REPORT DISCREPANCIES TO THE ARCHITECT.

THE DRAWINGS, IDEAS, AND DESIGNS REPRESENTED ON THIS SHEET ARE THE PROPERTY OF THE ARCHITECT.

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MATERIAL SPECIFICATIONS

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