Skanska Shimmick Herzog
A Joint Venture in Association with LAN | TY Lin

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SSH JV

Milpitas Station Fire Alarm Design Unit 023 – Work Package 06 Definitive Design

SVBX C700

Thursday, February 14, 2013

HALF SIZE
COPY

Lockwood, Andrews & Newnam, Inc.
A LEO A DALY COMPANY

T·Y·LIN INTERNATIONAL
engineers | planners | scientists

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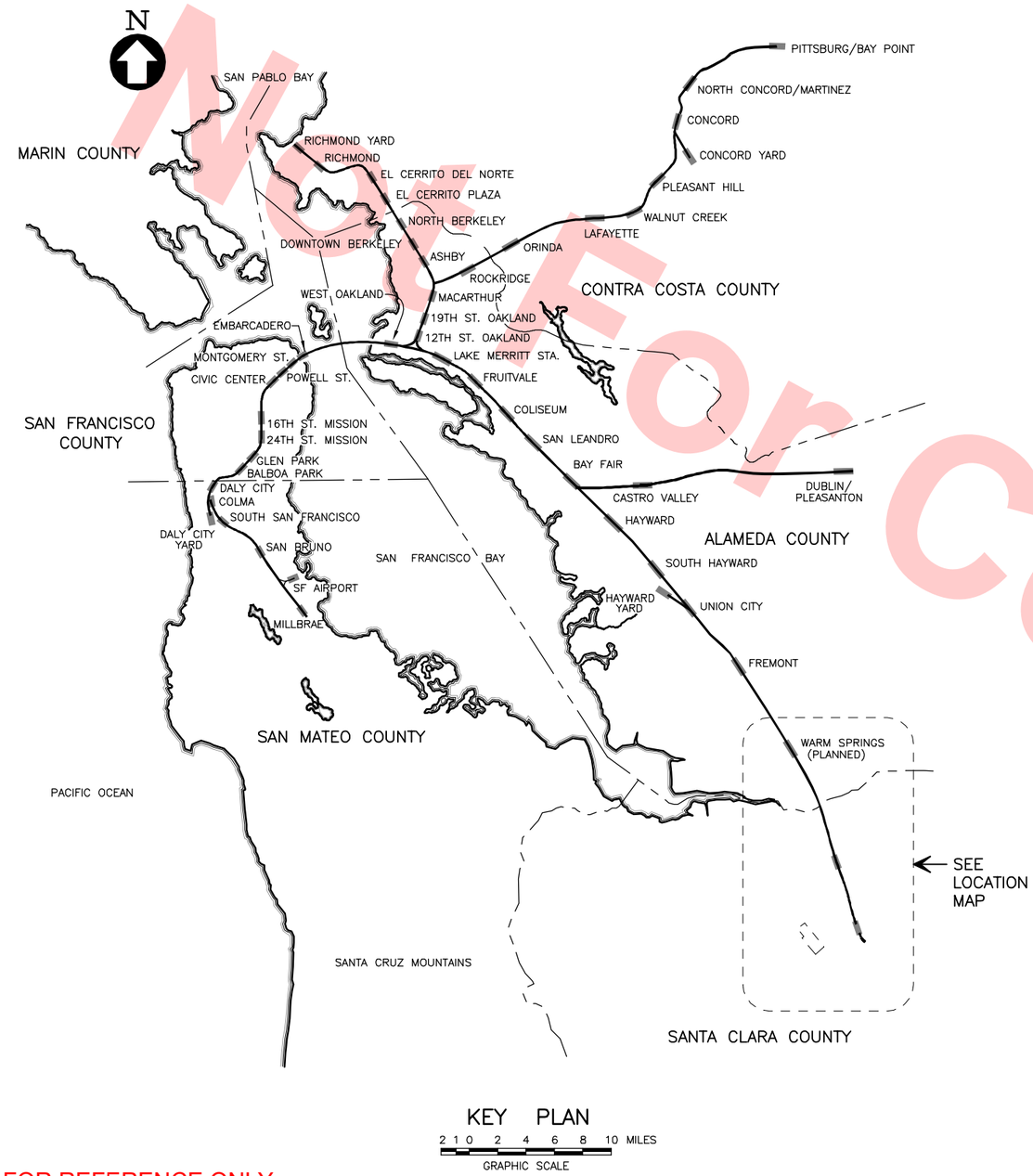
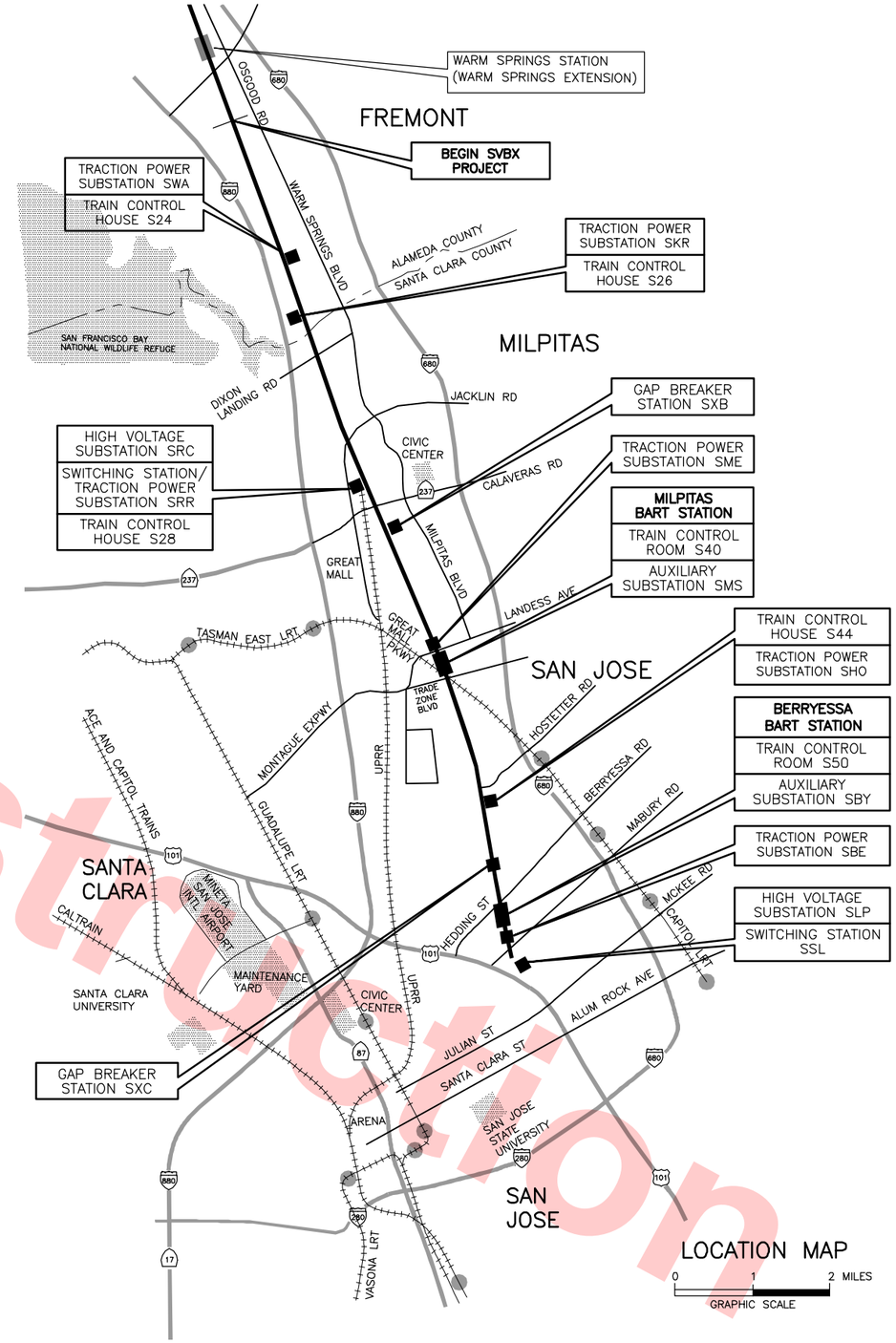


KEY PLAN

2 1 0 2 4 6 8 10 MILES

GRAPHIC SCALE



LOCATION MAP

0 1 2 MILES

GRAPHIC SCALE

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REV	DATE	BY	SUB	APP	DESCRIPTION
	20120907				DEFINITIVE DESIGN

DESIGNED BY S. DEBNATH
DRAWN BY B. ITURALDE
CHECKED BY E. BALLADA
IN CHARGE R. BARLAAN
DATE

Skanska Shimmick Herzog
1436 California Circle
Milpitas, California 95035
A Joint Venture

Lockwood, Andrews & Newnam, Inc. A LEO A DALY COMPANY
T·Y·LIN INTERNATIONAL

SUBMITTED _____
APPROVED _____

VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS, AND SYSTEMS

TITLE SHEET

CADD FILENAME C700-S-DB-X001.DWG
SIZE D | SCALE AS SHOWN
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. X001 | PAGE NO.

JosephG Feb 07, 2013 – 3:07pm G:\Current Projects\VTA-Berryessa Extension Project\Station – Milpitas\CAD\Drawings Out\13-0207 General\C700-S-DB-X001.dwg

PAGE NO.	DWG NO.	REV NO.	TITLE
GENERAL (MILPITAS STATION, ANCILLARY BUILDING, AND TRANSIT CENTER BUS SHELTER)			
	DB–X001		TITLE SHEETS
	DB–X027		INDEX OF DRAWINGS
	DB–X033		INDEX OF DRAWINGS

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VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS, AND SYSTEMS
MILPITAS STATION

INDEX OF DRAWINGS

CADD FILENAME C700–S–DB–X027.dwg
SIZE D | SCALE NONE
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. X027 | PAGE NO.

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MILPITAS STATION – FIRE ALARM

PAGE NO.	DWG NO.	REV NO.	TITLE
	COVER SHEET		
	DB–E700		FIRE ALARM COVER SHEET
	DB–E701		FIRE ALARM EQUIPMENT LIST
	DB–E702		FIRE ALARM MISCELLANEOUS DETAILS
	DB–E703		FIRE ALARM SEQUENCE OF OPERATION
	DB–E704		LEFT BLANKED INTENTIONALLY
	DB–E705		LEFT BLANKED INTENTIONALLY
	DB–E706		LEFT BLANKED INTENTIONALLY
	DB–E707		LEFT BLANKED INTENTIONALLY
	DB–E708		LEFT BLANKED INTENTIONALLY
	DB–E709		LEFT BLANKED INTENTIONALLY
	PLANS		
	DB–E710		KEY PLAN PLATFORM LEVEL FIRE ALARM SYSTEM
	DB–E711		PLATFORM LEVEL PLAN FIRE ALARM SYSTEM SHEET 1 OF 6
	DB–E712		PLATFORM LEVEL PLAN FIRE ALARM SYSTEM SHEET 2 OF 6
	DB–E713		PLATFORM LEVEL PLAN FIRE ALARM SYSTEM SHEET 3 OF 6
	DB–E714		PLATFORM LEVEL PLAN FIRE ALARM SYSTEM SHEET 4 OF 6
	DB–E715		PLATFORM LEVEL PLAN FIRE ALARM SYSTEM SHEET 5 OF 6
	DB–E716		PLATFORM LEVEL PLAN FIRE ALARM SYSTEM SHEET 6 OF 6
	DB–E717		NOT USED
	DB–E718		NOT USED
	DB–E719		NOT USED
	DB–E720		KEY PLAN CONCOURSE LEVEL FIRE ALARM SYSTEM
	DB–E721		CONCOURSE LEVEL PLAN FIRE ALARM SYSTEM SHEET 1 OF 6
	DB–E722		CONCOURSE LEVEL PLAN FIRE ALARM SYSTEM SHEET 2 OF 6
	DB–E723		CONCOURSE LEVEL PLAN FIRE ALARM SYSTEM SHEET 3 OF 6
	FIRE ALARM		
	DB–E724		CONCOURSE LEVEL PLAN FIRE ALARM SYSTEM SHEET 4 OF 6
	DB–E725		CONCOURSE LEVEL PLAN FIRE ALARM SYSTEM SHEET 5 OF 6
	DB–E726		CONCOURSE LEVEL PLAN FIRE ALARM SYSTEM SHEET 6 OF 6
	DB–E727		ANCILLARY BUILDING FIRE ALARM SYSTEM
	DB–E728		NOT USED
	DB–E729		NOT USED
	DB–E730		KEY PLAN LOWER ROOF AND MEZZANINE LEVEL FIRE ALARM SYSTEM
	DB–E731		LOWER ROOF AND MEZZANINE LEVEL PLAN FIRE ALARM SYSTEM SHEET 1 OF 3
	DB–E732		LOWER ROOF AND MEZZANINE LEVEL PLAN FIRE ALARM SYSTEM SHEET 2 OF 3
	DB–E733		LOWER ROOF AND MEZZANINE LEVEL PLAN FIRE ALARM SYSTEM SHEET 3 OF 3
	DB–E734		NOT USED
	DB–E735		NOT USED
	DB–E736		NOT USED
	DB–E737		NOT USED
	DB–E738		NOT USED
	DB–E739		NOT USED
	DB–E740		KEY PLAN ROOF LEVEL FIRE ALARM SYSTEM
	DB–E741		ROOF LEVEL PLAN FIRE ALARM SYSTEM SHEET 1 OF 4
	DB–E742		ROOF LEVEL PLAN FIRE ALARM SYSTEM SHEET 2 OF 4
	DB–E743		ROOF LEVEL PLAN FIRE ALARM SYSTEM SHEET 3 OF 4
	DB–E744		ROOF LEVEL PLAN FIRE ALARM SYSTEM SHEET 4 OF 4
	DB–E745		NOT USED
	DB–E746		NOT USED
	DB–E747		NOT USED
	DB–E748		NOT USED
	DB–E749		NOT USED
	DB–E750		FIRE ALARM CONTROL UNIT DETAILS OUTER & INNER DOOR
	DB–E751		FIRE ALARM CONTROL UNIT DETAILS
	DB–E752		FIRE ALARM POWER SUPPLY DETAILS STROBE CIRCUIT SCHEDULE
	DB–E753		FIRE ALARM BATTERY AND VOLTAGE DROP CALCULATIONS
	DB–E754		FIRE ALARM FIELD DEVICES WIRING DETAILS PART–1
	DB–E755		FIRE ALARM FIELD DEVICES WIRING DETAILS PART–2
	DB–E756		FIRE ALARM FIELD DEVICES WIRING DETAILS PART–3
	DB–E757		FIRE ALARM RISER DIAGRAM PART – 1
	DB–E758		FIRE ALARM RISER DIAGRAM PART – 2
	DB–E759		RESERVED FOR OTHER FIRE ALARM MISCELLANEOUS SHEETS
	DB–E760 TO DB–E779 ----		RESERVED FOR OTHER FIRE ALARM MISCELLANEOUS SHEETS

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VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS, AND SYSTEMS
MILPITAS STATION

INDEX OF DRAWINGS

SHEET 7 OF 7

CADD FILENAME C700-S-DB-X033.dwg
SIZE D | SCALE NONE
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MILPITAS STATION S40

SILICON VALLEY BERRYESSA EXTENSION PROJECT

555 E. CAPITOL AVE
MILPITAS, CA 95035

FIRE ALARM SYSTEM

FIRE ALARM SYSTEM SCOPE OF WORK

1. SIEMENS INDUSTRY INC. SHALL SUPPLY DESIGN, PARTS AND PROGRAMMING NECESSARY FOR MILPITAS STATION (EXCLUDING POC AREAS) AND BART PORTION OF ANCILLARY BUILDING AS SHOWN ON THE DRAWINGS.
2. POC AREAS AND VTA PORTION OF ANCILLARY BUILDING MUST BE SERVED BY EXISTING VTA FIRE ALARM SYSTEM. IT IS NOT UNDER SIEMENS SCOPE OF WORK TO PROVIDE PARTS AND FIRE ALARM SYSTEM DESIGN FOR THESE AREAS.
2. INSTALLATION OF OUTLET BOXES, CONDUIT, AND, WIRING OF FIRE ALARM DEVICES BY ELECTRICAL CONTRACTOR.
3. SIEMENS INDUSTRY INC. SHALL PROVIDE INSPECTION & TESTING FOR A COMPLETE AND OPERATIONAL FIRE ALARM SYSTEM.
4. SIEMENS INDUSTRY INC. SHALL PROVIDE A FUNCTIONAL PRE–TEST OF THE FIRE ALARM SYSTEM PRIOR TO CALLING FOR THE FINAL TEST.
5. UPON COMPLETION OF THE INSTALLATION AN OPERATIONAL ACCEPTANCE TEST OF THE SYSTEM SHALL BE MADE IN THE PRESENCE OF THE INSPECTOR OF RECORD AND/OR AUTHORITY HAVING JURISDICTION.
6. AFTER COMPLETION OF THE OPERATIONAL ACCEPTANCE TEST A "RECORD OF COMPLETION" PER NFPA 72–10.18.2.1.1 SHALL BE PROVIDED TO THE INSPECTOR OF RECORD.

APPLICABLE CODES

ADMINISTRATION:	2010 CALIFORNIA ADMINISTRATION CODE (CAC) PART 1, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)
BUILDING:	2010 CALIFORNIA BUILDING CODE (CBC) PART 2, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)
ELECTRICAL:	2010 CALIFORNIA ELECTICAL CODE (CEC) PART 3, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)
MECHANICAL:	2010 CALIFORNIA MECHANICAL CODE (CMC) PART 4, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)
PLUMBING:	2010 CALIFORNIA PLUMBING CODE (CPC) PART 5, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)
FIRE:	2010 CALIFORNIA FIRE CODE (CFC) PART 9, TITLE 24, CALIFORNIA CODE OF REGULATIONS (CCR)
ADAAG:	2010 AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG)

CONTRACTOR'S NOTES

1. SHOWN IN THIS DRAWING SET IS SIEMENS ENGINEERED FIRE ALARM SYSTEM PER CONTRACTUAL DESIGN DRAWINGS AND SPECIFICATIONS.
2. CONTRACTOR SHALL NOT DEVIATE BY NOT MORE THAN 5% FROM THE FINAL APPROVED SHOP DRAWINGS.
3. WIRE RUNS HAVE BEEN ENGINEERED TO COMPLY WITH SPECIFIC VOLTAGE DROP REQUIREMENTS. ANY DEVIATION FROM SHOWN WIRE RUNS WHICH RESULTS IN NON–COMPLIANCE WITH VOLTAGE DROP REQUIREMENTS SHALL BE THE SOLE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR.
4. IF DURING INSTALLATION, CONTRACTOR DEVIATES BY MORE THAN 5% FROM THE SHOP DRAWINGS, CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL ADDITIONAL ENGINEERING COSTS THAT MAY ARISE TO ACCOMMODATE INCLUSION OF THESE DEVIATIONS ON RECORD DRAWINGS (AS–BUILTS).
5. THESE SUBMITTED SHOP DRAWINGS ARE COMPLETE. SIEMENS SHALL NOT BEAR ANY ADDITIONAL COSTS OF RE–ENGINEERING RECORD DRAWINGS (AS–BUILTS).
6. SIEMENS SHALL NOT BEAR ANY LIABILITY FOR ENGINEERED DESIGN IF MORE THAN 5% DEVIATION HAS OCCURRED DURING INSTALLATION.

NFPA STANDARDS

NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NFPA 13	2010 STANDARD FOR THE INSTALLATION OF FIRE SPRINKLER SYSTEM
NFPA 72	NATIONAL FIRE ALARM AND SIGNALING CODE

FIRE ALARM SYSTEM DESCRIPTION

1. FIRE ALARM SYSTEM IS INDIVIDUALLY ADDRESSABLE MANUAL FIRE ALARM SYSTEM WITH SUPPLEMENTARY AUTOMATIC FIRE ALARM DEVICES.
2. INITIATING DEVICE CIRCUITS (IDC) IS CLASS B.
3. NOTIFICATION ALARM CIRCUITS (NAC) IS CLASS A.
4. SIGNALING LINE CIRCUITS (SLC) IS CLASS X.

FIRE ALARM MONITORING

FIRE ALARM GENERAL NOTES

1. NO WORK ON THE FIRE ALARMS SYSTEM SHALL BEGIN WITHOUT APPROVED PLANS AND SIGNED PERMITS.
2. INSTALLATION SHALL BE IN STRICT CONFORMANCE WITH THE CALIFORNIA ELECTRICAL CODE, NFPA 72; 2010 EDITION WITH CALIFORNIA AMENDMENTS, STATE CODE(S), AND/OR STATE FIRE MARSHAL.
3. ANY DEVIATION FROM THE DESIGN AND LOCATION OF EQUIPMENT SHOWN MUST FIRST HAVE A WRITTEN APPROVAL FROM VTA/BART & SIEMENS INDUSTRY, INC. (SIEMENS). ANY DEVIATION FROM DESIGN MUST ALSO BE INDICATED ON SIEMENS SHOP DRAWINGS (BLUEPRINTS) AND RETURNED TO SIEMENS AT TIME OF JOB COMPLETION.
4. INSTALLATION MATERIALS (I.E. CONDUIT, WIRE, FITTINGS, HANGERS, AND STANDARD BOXES) SHALL BE PROVIDED BY ELECTRICAL CONTRCATOR.
5. WIRING SHALL BE PER PLAN WITH RESPECT TO CONDUCTOR SIZE, TYPE, QUANTITY AND COLOR CODE. CONDUCTORS SHALL BE PERMANENTLY MARKED FOR FUTURE IDENTIFICATION.
6. CONDUIT KNOCKOUTS ARE PROVIDED ON ALL MANUFACTURERS PROVIDED BACK BOXES. DO NOT ENLARGE OR CHANGE LOCATION OF CONDUIT ENTRY WITHOUT PRIOR APPROVAL OF SIEMENS.
7. CONDUIT RUNS SHALL NOT DEVIATE FROM FROM APPROVED SHOP DRAWINGS.
8. CONDUCTOR TERMINATIONS SHALL BE BRADY OR EQUALLY LABELED.
9. ALL FIRE ALARM CIRCUITS ARE CONTINUOUS FROM DEVICE TO DEVICE. NO SPLICES OR INTERIM CIRCUIT CONNECTIONS SHALL BE MADE UNLESS IN AN APPROVED JUNCTION BOX ON APPROVED TERMINAL BLOCKS.
10. DETECTOR AND AUDIBLE/VISUAL CIRCUIT POLARITY SHALL BE OBSERVED.
11. AUDIBLE/VISUAL CIRCUIT WIRING IS SUPERVISED. NO PARALLEL BRANCHING IS PERMISSIBLE.
12. 120 VAC POWER SHALL NOT BE APPLIED TO FIRE ALARM PANEL WITHOUT DIRECT SUPERVISION OF A SIEMENS TECHNICIAN.
13. STANDARD CONTROL PANEL, TERMINAL BOXES ETC. MOUNTING IS 6'–0" FROM FINISHED FLOOR TO TOP OF DEVICE UNLESS OTHERWISE NOTED.
14. FIGURES ADJACENT TO ANY INITIATING DEVICE DESIGNATE FIRE LOOP AND ADDRESS NUMBER.
15. FIGURES ADJACENT TO ANY AUDIBLE/VISUAL DEVICE DESIGNATE CIRCUIT AND ADDRESS NUMBER.
16. WHERE DETECTORS ARE INSTALLED FOR SIGNAL INITIATION DURING CONSTRUCTION, THEY SHALL BE CLEANED AND VERIFIED TO BE OPERATING IN ACCORDANCE WITH THE LISTED SENSITIVITY, OR THEY SHALL BE REPLACED PRIOR TO THE FINAL COMMISSIONING OF THE SYSTEM PER NFPA 72–17.7.1.11.1, AT AN ADDITIONAL COST TO THE CONTRACTOR.
17. WHERE DETECTORS ARE INSTALLED BUT NOT OPERATIONAL DURING CONSTRUCTION, THEY SHALL BE PROTECTED FROM CONSTRUCTION DEBRIS, DUST, DIRT, AND DAMAGE IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS AND VERIFIED TO BE OPERATING IN ACCORDANCE WITH THE LISTED SENSITIVITY, OR THEY SHALL BE REPLACED PRIOR TO THE FINAL COMMISSIONING OF THE SYSTEM PER NFPA 72–17.7.1.11.2, AT AN ADDITIONAL COST TO THE CONTRACTOR.
18. WHERE DETECTION IS NOT REQUIRED DURING CONSTRUCTION, DETECTORS SHALL NOT BE INSTALLED UNTIL ALL OTHER CONSTRUCTION TRADES HAVE COMPLETED CLEANUP PER NFPA 72–17.7.1.11.3.
19. SMOKE DETECTORS THAT ARE USED EXCLUSIVELY FOR SMOKE DOOR RELEASE SERVICE SHALL BE LOCATED AND SPACED AS REQUIRED BY NFPA 72–17.7.5.6.
20. DETECTORS ARE NOT TO BE LOCATED WITHIN 3'–0" OF ANY AIR SUPPLY DIFFUSER, IN ACCORDANCE WITH NFPA 72–A.17.7.4.1, AND SHALL NOT BE PLACED WHERE RETURN AIR MOVEMENT SHALL EXCEED THE MANUFACTURERS RECOMMENDATION AS TO AFFECT THE OPERATION OF THE SMOKE DETECTOR.
21. PENETRATIONS OF RATED ASSEMBLIES REQUIRING OPENING PROTECTION SHALL USE AN APPROVED THROUGH PENETRATION FIRE STOP SYSTEM TO MAINTAIN THE FIRE RESISTANCE RATING OF THE ASSEMBLY PENETRATED CBC 713.
22. CONNECT FIRE ALARM PANEL TO LIFE SAFETY BRANCH OF THE EMERGENCY CIRCUIT.
23. ALL MANUAL PULL STATIONS SHALL BE INSTALLED SUCH THAT THE OPERABLE PART OF EACH PULL STATION SHALL BE NOT LESS THAN 42 IN. (1.1 m) AND NOT MORE THAN 48 IN. (1.37 m) ABOVE FLOOR LEVEL. NFPA 72–17.14.4.
23. ALL AUDIBLE/VISUAL DEVICES SHALL BE MOUNTED SUCH THAT THE ENTIRE LENS IS NOT LESS THAN 80" AND NOT GREATER THAN 96" A.F.F. AS TO CONFORM TO NFPA 72–18.5.4.1 (SEE NFPA 72–18.4.8.1 FOR AUDIBLES ONLY).
24. ALL 120 VAC POWER SOURCES SHALL BE ON DEDICATED CIRCUITS WITH A CIRCUIT BREAKER LOCK AND A LABEL IN ACCORDANCE WITH NFPA 72–10.5.5.3.
25. ALL 24 VDC WIRE TO BE INSTALLED IN DEDICATED CONDUIT SEPARATE FROM 120 VAC WIRING.
26. REVIEW SEQUENCE OF SYSTEM OPERATION ON INPUT/OUTPUT MATRIX.
27. INSTALLING CONTRACTOR SHALL RETURN ONE SET OF ACCURATELY MARKED DRAWINGS FOR "AS BUILT" PURPOSES.
28. THE SECONDARY POWER SUPPLY SHALL CONSIST OF STORAGE BATTERIES THAT SHALL HAVE SUFFICIENT CAPACITY TO OPERATE THE SYSTEM UNDER QUIESCENT LOAD (NONALARM CONDITION) FOR A MINIMUM OF 4 HOURS AND, AT THE END OF THAT PERIOD SHALL BE CAPABLE OF OPERATING ALL ALARM NOTIFICATION APPLIANCES FOR 15 MINUTES PER NFPA 72–10.5.6.3.1.

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	20130125				DEFINITIVE DESIGN

DESIGNED BY V. SINGH
DRAWN BY V. SINGH
CHECKED BY F. CASABONNE
IN CHARGE F. CASABONNE
DATE 20130125

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U.L. Certificate ID No. 3247187-001

SIEMENS Industry, Inc.
Fire Safety Division
SUBMITTED

Lockwood, Andrews & Newnam, Inc. A LEO A DALY COMPANY
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VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

FIRE ALARM
COVER SHEET

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FIRE ALARM EQUIPMENT LIST

CATE-GORY	ITEM NO.	SYMBOL	QTY	MODEL NUMBER	DESCRIPTION	MANUFACTURER	DATA SHEET NUMBER	CALIFORNIA STATE FIRE MARSHAL LISTING NUMBER
MAIN FACU LOC @ CONCOURSE LEVEL	1	FACU	1	CAB3-BB	LARGE SIZE (3 ROW) ENCLOSURE BACKBOX BLACK	SIEMENS	6327	7165-0067:0222
	2		1	CAB3-BD	LARGE (3 ROW) INNER & OUTER DOOR BLACK	SIEMENS	6327	7165-0067:0222
	3		2	OD-LP	OUTER DOOR CLEAR LENS PLATE	SIEMENS	6327	7165-0067:0222
	4		1	OD-BP	OUTER DOOR BLANK PLATE	SIEMENS	6327	7165-0067:0222
	5		2	ID-SP	INNER DOOR SINGLE MODULE BLANK PLATE (2 PER PACKAGE)	SIEMENS	6327	7165-0067:0222
	6		1	ID-FP	INNER DOOR FOUR MODULE BLANK PLATE	SIEMENS	6327	7165-0067:0222
	7		2	ID-MP	MOUNTING PLATE/BRACKET	SIEMENS	6327	---
	8		1	BCM	BLANK PLATE FOR ID-MP (4 PLATES)	SIEMENS	6317	---
	9		1	CC-5	CARD CAGE - 5 SLOTS	SIEMENS	6321	7165-0067:0222
	10		2	CCL	30" LONG 6 WIRE CABLE (P/N 599-634214)	SIEMENS	6317	---
	11		2	BCL	40" LONG 60 PIN WIRE CABLE (P/N 555-133743)	SIEMENS	---	---
	12	XLS-250-ZIC4A-EP	1	CC-5	CARD CAGE - 5 SLOTS	SIEMENS	6321	7165-0067:0222
	13		1	ZIC-4A	ZONE INDICATING CARD	SIEMENS	6315	7165-0067:0222
	14		1	DLC	DEVICE LOOP CARD	SIEMENS	6312	7165-0067:0222
	15		1	PMI	PERSON MACHINE INTERFACE	SIEMENS	6329	7165-0067:0222
	16		1	PSC-12	12A POWER SUPPLY	SIEMENS	6322	7165-0067:0222
	17		1	NIC-C	NETWORK INTERFACE CARD	SIEMENS	6338	7165-0067:0222
	18		1	DAC-NET	DIGITAL AUDIO CARD	SIEMENS	6334	6912-0067:0237
	19		1	ZAC-40	ZONE AMPLIFIER MODULE (40 WATTS)	SIEMENS	XXXXX	XXXXXXXXXX
	20		1	LPB	LIVE PAGE BOARD	SIEMENS	---	6912-0067:0237
	21		1	LVM	LIVE VOICE MODULE	SIEMENS	6333	6912-0067:0237
	22		1	FMT	FIREMAN'S MASTER TELEPHONE	SIEMENS	6335	6912-0067:0237
	23		1	PSX-12	POWER SUPPLY EXTENDER	SIEMENS	6322	7165-0067:0222
	24		1	CP2341	SURGE SUPPRESSOR	SIEMENS	---	7300-0067:0172
	25		1	CAB-BATT	BATTERY CABINET	SIEMENS	6322	7165-0067:0222
	26		2	PS-121000	100 AMP/HOUR BATTERY (12 VDC)	POWER SONIC	---	NOT APPLICABLE
	27		1	MDACT	MULTIPOINT DIGITAL ALARM COMMUNICATOR	SIEMENS	5074	7300-0067:0172
	28		1	XMI	FIREFINDER XLS-MXL INTERFACE CARD	SIEMENS	5074	7300-0067:0172
	29		1	MOM2-XMP	MOUNTING PLATE	SIEMENS	5074	7300-0067:0172
	30		1	MOM-2	NETWORK OPTION MODULE CARD CAGE	SIEMENS	5043	7300-0067:0172
	31							
	32	PRINTER	1	TSP-40A	THERMAL STRIP PRINTER	SIEMENS	5007	7300-0067:0172
	33		1	TSP-40-PP	TSP-40 PRINTER PAPER	SIEMENS	5007	---
	34		1	TSP-XB	XLSTSP-40A BRACKETS	SIEMENS	5007	---
	35		1	TSP-XC	XLSTSP-40A CABLES	SIEMENS	5007	---
	36							
	37	FAA	1	SSD-C	SYSTEM STATUS DISPLAY WITH CONTROL (REMOTE ANN.)	SIEMENS	5043	7300-0067:0172
	38	NAC	4	PS-8	NAC EXTENDER POWER SUPPLY PANEL (RED)	COOPER WHEELOCK	---	7315-0785:0167
	39		4	PS-EXP	4 CLASS B or 2 CLASS A EXPANSION MODULE	SPACE AGE	---	NOT APPLICABLE
	40		8	PS-1270	7 AMP/HOUR BATTERY (12 VDC)	POWER SONIC	---	NOT APPLICABLE
	41							
	42							

FIRE ALARM EQUIPMENT LIST

CATE-GORY	ITEM NO.	SYMBOL	QTY	MODEL NUMBER	DESCRIPTION	MANUFACTURER	DATA SHEET NUMBER	CALIFORNIA STATE FIRE MARSHAL LISTING NUMBER
FIRE ALARM FIELD DEVICES	43		X	HFP-11	INTELLIGENT PHOTOELECTRIC SMOKE DETECTOR	SIEMENS	6301	7272-0067:0203
	44		X	DB-11	DETECTOR BASE FOR HFP-11 DETECTOR	SIEMENS	6301	7300-0067:0134
	45		X	HFP-11	INTELLIGENT PHOTOELECTRIC SMOKE DETECTOR	SIEMENS	6301	7272-0067:0203
	46	RB	X	DB-HR	DETECTOR RELAY BASE FOR HFP-11 DETECTOR	SIEMENS	6301	7300-0067:0134
	47		X	HFPT-11	INTELLIGENT THERMAL DETECTOR	SIEMENS	6302	7270-0067:0224
	48		X	DB-11	DETECTOR BASE FOR HFPT-11 DETECTOR	SIEMENS	6302	7300-0067:0134
	49		X	HFP-11	INTELLIGENT FIRE DETECTOR	SIEMENS	6301	7272-0067:0203
	50		X	AD2-XHR	RELAY BASE FOR H SERIES DETECTOR	SIEMENS	6185	3240-0067:0245
	51	WP	X	WP-2000	WEATHERPROOF BACKBOX	SIEMENS	---	NOT APPLICABLE
	52		X	ST-50	SAMPLING TUBE FOR DUCTS 3' TO 5'	SIEMENS	6185	NOT APPLICABLE
	53	RM	X	HTRI-R	INTELLIGENT INTERFACE MODULE W/RELAY	SIEMENS	6304	7165-0067:0222
	54	DM	X	HTRI-D	INTELLIGENT INTERFACE MODULE DUAL INPUT	SIEMENS	6304	7165-0067:0222
	55	HTRI-S	X	HTRI-S	INTELLIGENT INTERFACE MODULE SINGLE INPUT	SIEMENS	6304	7165-0067:0222
	56	M	X	HTRI-M	INTELLIGENT INTERFACE MODULE SINGLE INPUT	SIEMENS	6304	7165-0067:0222
	57	P	X	HMS-D	INTELLIGENT MANUAL PULL STATION (DUAL ACTION)	SIEMENS	6306	7150-0067:0036
	58	P	X	MSM-K-WP	CONVENTIONAL WEATHERPRROF PULL STATION	SIEMENS	6184	7150-0067:0215
	59	WP	X	MSM-BOX	SURFACE BACKBOX FOR MSM-SERIES PULL STSTION	SIEMENS	6184	NOT APPLICABLE
	60							
	61	DSM	X	DSM-12/24	DUAL SYNCHRONIZATION CONTROL MODULE	COOPER WHEELOCK	---	7300-0785:0132
	62							
	63							
	64							
	65	xxCD	X	STW	MULTI CANDELA (15/30/75/110) STROBE (RED) WALL MOUNTED	COOPER WHEELOCK	---	7125-0785:0168
	66							
	67	30cd	X	RSSWP-2475W-FR	WEATHERPROOF STROBE (RED) WALL MOUNTED	COOPER WHEELOCK	---	7300-0785:0154
	68	WP	X	WFP	WEATHERPROOF BACKBOX (FLUSH MOUNT)	COOPER WHEELOCK	---	NOT APPLICABLE
	69		X	E50-24MCW-FR	MULTI CANDELA (15/30/75/110) SPEAKER/ STROBE (RED) WALL MOUNTED	COOPER WHEELOCK	---	7300-0785:0165
	70	CD -W						
	71							
	72		X	ET70WP-2475W -FR	WEATHERPROOF SPEAKER/STROBE 30 CANDELA (RED) WALL MOUNTED	COOPER WHEELOCK	---	7300-0785:0146
	73	CD -W	X	WFP	WEATHERPROOF BACKBOX (FLUSH MOUNT)	COOPER WHEELOCK	---	NOT APPLICABLE
	74	WP	X	IOB	WEATHERPROOF BACKBOX (FLUSH MOUNT)	COOPER WHEELOCK	---	NOT APPLICABLE
	75							
	76							
	77		X	E50-W	SPEAKER ONLY DEVICE (RED) WALL MOUNTED	COOPER WHEELOCK	---	7320-0785:0134
	78	-W						
	79							
	80							
	81							
	82							
	83							
	84							

FIRE ALARM EQUIPMENT LIST

CATE-GORY	ITEM NO.	SYMBOL	QTY	MODEL NUMBER	DESCRIPTION	MANUFACTURER	DATA SHEET NUMBER	CALIFORNIA STATE FIRE MARSHAL LISTING NUMBER
FIREFIGHTER'S OVERRIDE PANEL	85		1	RSE-L-GR	KIRKLAND ANNUNCIATOR 29.25"W X 24.25"W	KIRKLAND	---	7120-1178:0100
	86	FOP	2	OCM-16	OUTPUT CONTROL MODULE	SIEMENS	6318	7165-0067:0222
	87		1	SIM-16	INPUT CONTROL MODULE	SIEMENS	6319	7165-0067:0222
	88							
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	20130125				DEFINITIVE DESIGN

DESIGNED BY V. SINGH
DRAWN BY V. SINGH
CHECKED BY F. CASABONNE
IN CHARGE F. CASABONNE
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VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

FIRE ALARM
EQUIPMENT LIST

CADD FILENAME C700-S-DB-E701.dwg
SIZE D | SCALE NONE
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. E701 | PAGE NO.

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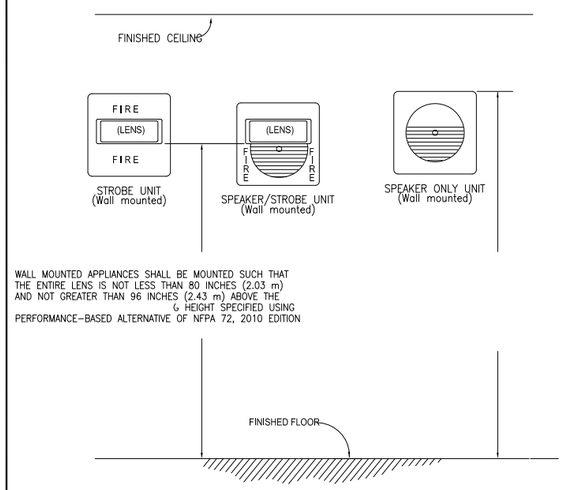
RECOMMENDED WIRING SCHEDULE

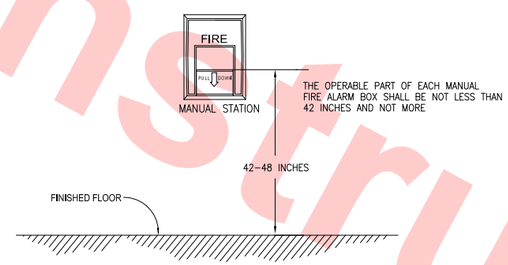
SYMBOL	RECOMMENDED WIRE TYPE	USED ON
A	2-CONDUCTOR, #16 AWG SOLID TWISTED CABLE Cable Part Number: F1TP16SRD-FPLR (CONDUIT)	ADDRESSABLE ALARM INITIATING DEVICES: - HFP-SERIES SMOKE DETECTORS - HTRI-SERIES INTERFACE MODULES - AD-SERIES DUCT DETECTORS - HMS-SERIES PULL STATION
B	2-CONDUCTOR, #12 AWG SOLID or STRANDED (PER NEC) Cable Part Number: FA-1202C-1-1N-03 (CONDUIT)	NOTIFICATION APPLIANCE CIRCUIT: - STROBE CIRCUIT
C	2-CONDUCTOR, #16 AWG SOLID TWISTED CABLE Cable Part Number: F1TP16SRD-FPLR (CONDUIT)	VOICE AUDIO CIRCUIT: - SPEAKER CIRCUIT
D	2-CONDUCTOR, #12 AWG SOLID or STRANDED (PER NEC) Cable Part Number: FA-1202C-1-1N-03 (CONDUIT)	24 VDC POWER TO: - FIRE ALARM PANELS - DOOR HOLDERS - NURSE CALL DOME LIGHT
F	2-CONDUCTOR, #16 AWG SOLID TWISTED CABLE Cable Part Number: F1TP16SRD-FPLR (CONDUIT)	TELEPHONE CIRCUIT: - FIREFIGHTER'S TELEPHONE JACK - FIREFIGTER'S REMOTE TELEPHONE STATION
G	2-CONDUCTOR, #16 AWG SOLID TWISTED CABLE Cable Part Number: F1TP16SRD-FPLR (CONDUIT)	MISCELLANEOUS FIELD DEVICES: - HTRI to MONITORED DEVICES - WATERFLOW SWITCH / TAMPER SWITCH
M	2-CONDUCTOR, #16 AWG SOLID TWISTED CABLE Cable Part Number: F1TP16SRD-FPLR (CONDUIT)	"H-NET" XLS NETWORK WIRING: - MODULES that "SPEAK" H-NET: (SSD-C (ANNUNCIATOR))
N	2-CONDUCTOR, #16 AWG SOLID TWISTED SHIELDED CABLE Cable Part Number: F1TSP16SRD-FPLR (CONDUIT)	"CAN BUS" - NETWORK WIRING: - MODULES that "SPEAK" CAN: - NIC-C, PSC-12 to (RPM, SCM-8, LCM-8, FCM-8, SIM-16 / OCM-16)
V	2-CONDUCTOR, #16 AWG SOLID TWISTED CABLE Cable Part Number: F1TP16SRD-FPLR (CONDUIT)	VOICE AUDIO RISER: LOW LEVEL - DISTRIBUTED AMPLIFICATION (DAC-NET TO DAC-NET)
X	2-CONDUCTOR, #16 AWG SOLID TWISTED CABLE Cable Part Number: F1TP16SRD-FPLR (CONDUIT)	"X-NET" GLOBAL NETWORK WIRING: - MODULES that "SPEAK" X-NET: (NIC-C / NIM-1W / NCC-1F)
P	2-CONDUCTOR, #12 AWG SOLID or STRANDED (PER NEC) Cable Part Number: FA-1202C-1-1N-03 (CONDUIT)	EXTENDER PANEL ACTIVATION: - SIEMENS PAD-3 EXTENDER PANEL
120 VAC	2-CONDUCTOR, #12 AWG SOLID, THHN (GROUNDED WIRE)	120 VAC POWER WIRING TO: - F.A. CONTROL PANELS - WHEELOCK PS-12/24-8 EXTENDER PANEL - POWER SUPPLY PANEL - FIRE ALARM PRINTERS

NOTES:
1. WIRING FOR NOTIFICATION APPLIANCE CIRCUIT IS CLASS A.
2. WIRING FOR SIGNAL LINE CIRCUIT IS CLASS X.
3. CONDUIT FILL < 40%, 3/4" CONDUIT.
4. LOCAL FIRE ALARM SYSTEM MONITORED BY A CENTRAL STATION.
5. SEE WIRING GUIDELINES FOR CABLE TYPE USE.
6. ALL WIRING SHALL BE IN A CONTINUOUS GRS CONDUIT SYSTEM.
7. ALL CONDUITS SHALL BE CONCEALED.

MISCELLANEOUS DETAILS

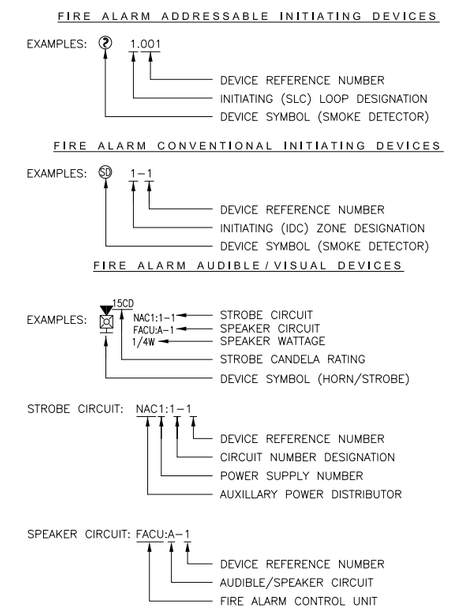


TYPICAL ELEVATION DETAIL
OF AUDIBLE & VISUAL ALARM DEVICE



TYPICAL ELEVATION DETAIL
OF MANUAL PULL STATION

FIRE ALARM DESIGNATION



MISCELLANEOUS DETAILS

MANUFACTURER	PANEL DESCRIPTION	HEIGHT	WIDTH	DEPTH	WEIGHT	OSP NUMBER
Siemens	FACU CAB-3 (XLSV)	62-1/2"	26-1/8"	6-7/8"	175 Lbs.	0057-10
Siemens	CAB-BATT (100 A/H)	12-0"	26-1/8"	8-3/8"	135 Lbs.	0057-10
Wheelock	PS-8	16.7"	14.8"	5.5"	18 Lbs.	N/A
Kirkland	FAN CONTROL PANEL	30.0"	30.0"	5.0"	30 Lbs.	0139-10

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BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

FIRE ALARM
MISCELLANEOUS DETAILS

CADD FILENAME C700-S-DB-E702.dwg
SIZE D | SCALE NONE
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. E702 | PAGE NO.

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FIRE ALARM SEQUENCE OF OPERATION

INPUT & OUTPUT MATRIX

SYSTEM OUTPUTS	SYSTEM INPUTS: MANUAL PULL STATION	SMOKE DETECTOR 1ST ALARM	AREA SMOKE DETECTOR AFTER ALARM VERIFICATION	IN-DUCT SMOKE DETECTOR (FSD) AFTER ALARM VERIFICATION	DUCT SMOKE DETECTOR (HVAC UNIT) AFTER ALARM VERIFICATION	AREA HEAT DETECTOR		ELEVATOR LOBBY SMOKE DETECTOR MAIN FLOOR (CONCOURSE LEVEL)	ELEVATOR LOBBY SMOKE DETECTOR ALL FLOORS EXCEPT MAIN FLOOR	SMOKE DETECTOR @ ELEVATOR SHAFT AND ELEVATOR MACHINE ROOM	HEAT DETECTOR @ ELEVATOR SHAFT AND ELEVATOR MACHINE ROOM	ELEVATOR MONITORING SHUNT TRIP POWER CIRCUIT		WATERFLOW SWITCH	SUPERVISORY SWITCH (SPRINKLER CONTROL VALVE)	SUPERVISORY SWITCH (OS&Y VALVE)	FIRE PUMP RUNNING	FIRE PUMP POWER FAILURE	FIRE PUMP PHASE REVERSAL		ALARM FROM CLEAN AGENT SUPPRESSION SYSTEM	SUPERVISORY FROM CLEAN AGENT SUPPRESSION SYSTEM	TROUBLE FROM CLEAN AGENT SUPPRESSION SYSTEM		SYSTEM RESET	SIGNAL SILENCE	FIRE ALARM AC POWER FAILURE	FIRE ALARM SYSTEM LOW BATTERY	OPEN CIRCUIT	GROUND FAULT	NOTIFICATION APPLIANCE CIRCUIT SHORT		ALARM SIGNAL FROM PARKING STRUCTURE FACP	SUPERVISORY SIGNAL FROM PARKING STRUCTURE FACP	TROUBLE SIGNAL FROM PARKING STRUCTURE FACP			AUTOMATIC TRANSFER SWITCH (THE CONTROLLER MAIN SWITCH HAS BEEN TURNED TO "OFF" OR "MANUAL" POSITION	DIESEL GENERATOR ENGINE RUNNING	GENERATOR TROUBLE (TROUBLE ON THE CONTROLLER OR ENGINE) OR ENGINE LOW FUEL					REMARKS
Control Unit Annunciation																																																
ACTUATE COMMON ALARM SIGNAL INDICATOR (RED LED)	●		●	●	●	●		●	●	●	●			●							●												●														
ACTUATE AUDIBLE ALARM SIGNAL (PIEZO BUZZER)	●		●	●	●	●		●	●	●	●			●							●												●														
ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR (AMBER LED)													●			●	●	●	●	●			●											●							●	●						
ACTUATE AUDIBLE SUPERVISORY SIGNAL (PIEZO BUZZER)													●			●	●	●	●	●			●											●							●	●						
ACTUATE COMMON TROUBLE SIGNAL INDICATOR (AMBER LED)																								●				●	●	●	●	●				●								●				
ACTUATE AUDIBLE COMMON TROUBLE SIGNAL (PIEZO BUZZER)																								●				●	●	●	●	●				●								●				
ACTUATE ALARM VERIFICATION		A																																														
SYSTEM NORMAL																											●																					
Notification																																																
ACTUATE EVACUATION SIGNAL THROUGHOUT THE BUILDING	●		●	●	●	●		●	●	●	●			●							●																										
ACTUATE WATERFLOW BELL														●																																		
TRANSMIT FIRE ALARM SIGNAL TO SUPERVISING STATION			●			●		●	●	●	●			●							●												●														
TRANSMIT SUPERVISORY SIGNAL TO SUPERVISING STATION	●											●			●	●	●	●	●			●											●							●	●						
TRANSMIT TROUBLE SIGNAL TO SUPERVISING STATION																							●					●	●	●	●	●				●								●				
TRANSMIT MANUAL PULL STATION ALARM SIGNAL TO SCADA	●																																															
TRANSMIT SMOKE DETECTOR ALARM SIGNAL TO SCADA			●					●	●	●																																						
TRANSMIT HEAT DETECTOR ALARM SIGNAL TO SCADA						●					●																																					
TRANSMIT DUCT SMOKE DETECTOR ALARM SIGNAL TO SCADA				●	●																																											
TRANSMIT WATERFLOW ALARM SIGNAL TO SCADA														●																																		
TRANSMIT CLEAN AGENT SUPPRESSION SYSTEM ALARM SIGNAL TO SCADA																					●																											
TRANSMIT PARKING STRUCTURE FACP ALARM SIGNAL TO SCADA																																	●															
DEACTIVE EVACUATION SIGNAL THROUGHOUT THE BUILDING																											●																					
RESET ALARM SIGNAL FROM OTHER FIRE ALARM SYSTEMS																											●																					
Required Fire Safety Control																																																
CLOSE SMOKE CURTIAN	●		●	●	●	●		●	●	●	●			●							●																											
RECALL ELEVATORS TO PRIMARY RECALL FLOOR & STOP	●		●	●	●	●			●	●	●			●							●																											
RECALL ELEVATORS TO ALTERNATE RECALL FLOOR & STOP								●																																								
ELEVATOR SHUNT TRIP											●																																					
ACTUATE FIREMAN'S HAT LIGHT INDICATOR										●	●																																					
CLOSE SMOKE/FIRE DAMPERS IN RATED WALLS			●	●																																												
HVAC SHUTDOWN			●	●	●																																											
UNLOCK EXIT DOORS	●		●	●	●	●		●	●	●	●			●																												●						
UNLOCK FARE GATE	●		●	●	●	●		●	●	●	●			●																												●						
ESCALATOR SHUTDOWN AFTER 20 SECONDS DELAY	●																																															
Supplementary																																																
RECORD ALL SYSTEM ACTIVITY WITH DATE & TIME @ PRINTER	●		●	●	●	●		●	●	●	●			●	●	●	●	●	●		●	●	●		●	●		●	●	●	●		●	●	●												
ACTUATE FIRE ALARM SYSTEM ANNUNCIATOR PANEL	●		●	●	●	●		●	●	●	●			●	●	●	●	●	●																												

A = THE ACTIVATION OF ANY SYSTEM SMOKE DETECTOR SHALL INITATE AN ALARM VERIFICATION OPERATION WHEREBY THE CONTROL PANEL SHALL RESET THE ACTIVATED DETECTOR AND WAIT FOR A SECOND ACTIVATION. IF AFTER RESET, A SECOND ALARM IS REPORTED FROM THE SAME OR ANY OTHER SMOKE DETECTOR WITHIN ONE MINUTE, THE SYSTEM SHALL PROCESS THE ALARM IN ACCORDANCE WITH THE FIRE ALARM SEQUENCE OF OPERATION. IF NO SECOND ALARM OCCURS WITHIN ONE MINUTE, THE SYSTEM SHALL RESUME NORMAL OPERATIONS.

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	20130125				DEFINITIVE DESIGN

DESIGNED BY V. SINGH
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CHECKED BY F. CASABONNE
IN CHARGE F. CASABONNE
DATE 20130125

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VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS, AND SYSTEMS
MILPITAS STATION

FIRE ALARM
SEQUENCE OF OPERATION

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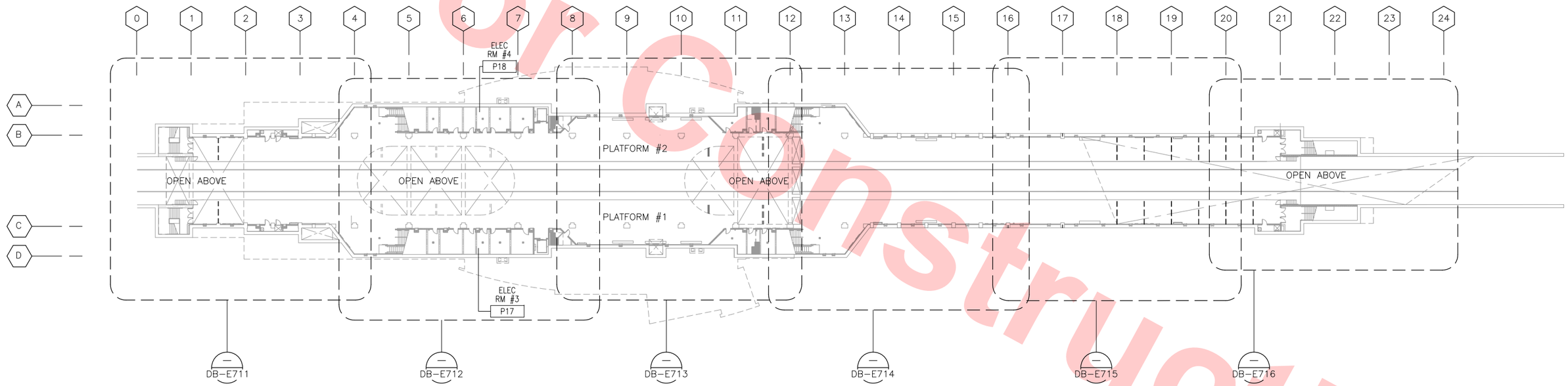
SIZE D | SCALE NONE
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. E703 | PAGE NO.



KEY PLAN – PLATFORM LEVEL – FIRE ALARM SYSTEM

SCALE: 1/32"=1'-0"

32' 0' 32' 64'

GRAPHIC SCALE

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BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

KEY PLAN
PLATFORM LEVEL
FIRE ALARM SYSTEM

CADD FILENAME C700-S-DB-E710.dwg
SIZE D
SCALE 1/32"=1'-0"
CONTRACT NO. C700
REV.
AREA CODE DB
SHEET NO. E710
PAGE NO.

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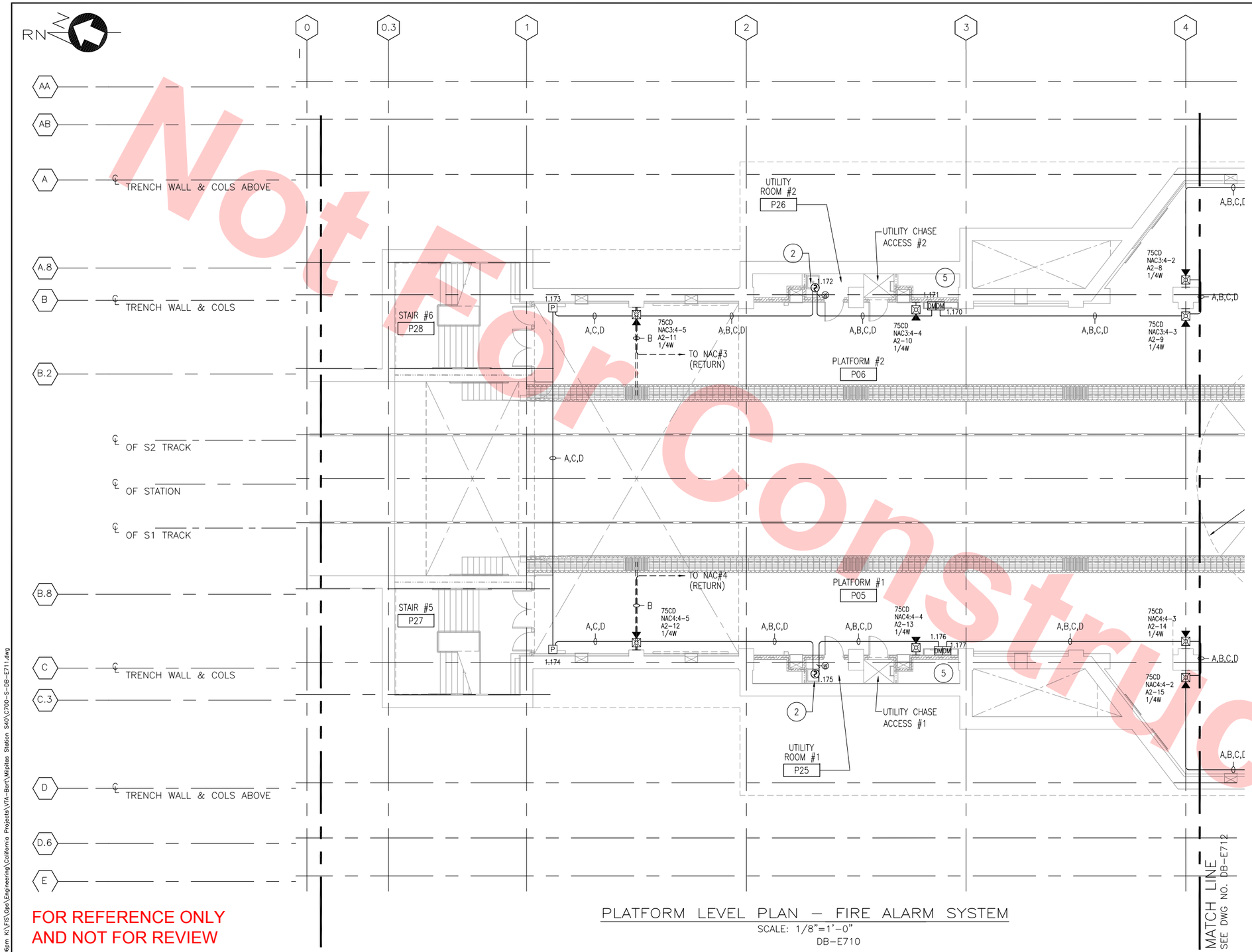

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PLATFORM LEVEL PLAN – FIRE ALARM SYSTEM

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

DB-E710

NOTE

SHEET NOTES:

1. FIRE SMOKE DAMPER ACTUATION AS PER CBC 716.3.3.2.1
2. FIRE SMOKE DAMPER ACTUATION AS PER CBC 716.3.3.2.3
3. FIRE ALARM INTERFACE WITH SCADA SYSTEM.
4. FIRE ALARM INTERFACE WITH FM-200 FIRE SUPPRESSION SYSTEM. SMOKE DETECTION AND MECHANICAL CONTROL INSIDE TRAIN CONTROL/COMM ROOM PROVIDED BY FM-200 SYSTEM.
5. INTELLIGENT INTERFACE MODULE MONITORING SPRINKLER SYSTEM TAMPER SWITCHES AND WATERFOWL SWITCHES.
6. FIRE ALARM MODULES FOR ELEVATOR CONTROL. NO ELEVATOR SHUNT TRIP BECAUSE THERE ARE NO SPRINKLER'S INSIDE ELEVATOR MACHINE ROOM.
7. FIRE ALARM MODULE FOR ESCALATOR SHUTDOWN.

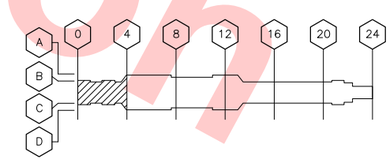
GENERAL NOTES:

1. CLASS A AND CLASS X CIRCUITS USING PHYSICAL CONDUCTORS (e.g METALLIC) SHALL BE INSTALLED SUCH THAT THE OUTGOING AND RETURN CONDUCTORS, EXISTING FROM AND RETURNING TO THE CONTROL UNIT RESPECTIVELY, ARE ROUTED SEPARATELY. THE RECOMMENDED MINIMUM SEPARATION TO PREVENT PHYSICAL DAMAGE IS 12 INCHES WHERE CABLE IS INSTALLED VERTICALLY AND 48 INCHES WHERE THE CABLE IS INSTALLED HORIZONTALLY.

8' 0' 8' 16'

GRAPHIC SCALE

KEY PLAN



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Skanska Shimmick Herzog
1436 California Circle
Milpitas, California 95035
A Joint Venture

SIEMENS Industry, Inc.
Fire Safety Division

SUBMITTED

Lockwood, Andrews & Newnam, Inc. — A CH2M HILL COMPANY
SAN FRANCISCO BRANCH
25267 Industrial Boulevard, Suite 200
Hayward, California 94545-2991
Tel (510) 783-6500 Fax (510) 265-2100
California State C10 License No. 758796
U.L. Certificate ID No. 324755-001

T·Y·LIN INTERNATIONAL

APPROVED

NOT FOR CONSTRUCTION

VTA BART SILICON VALLEY

BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

PLATFORM LEVEL PLAN
FIRE ALARM SYSTEM
SHEET 1 OF 6

CADD FILENAME C700-S-DB-E711.dwg
SIZE D | SCALE 1/8"=1'-0"
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. E711 | PAGE NO.

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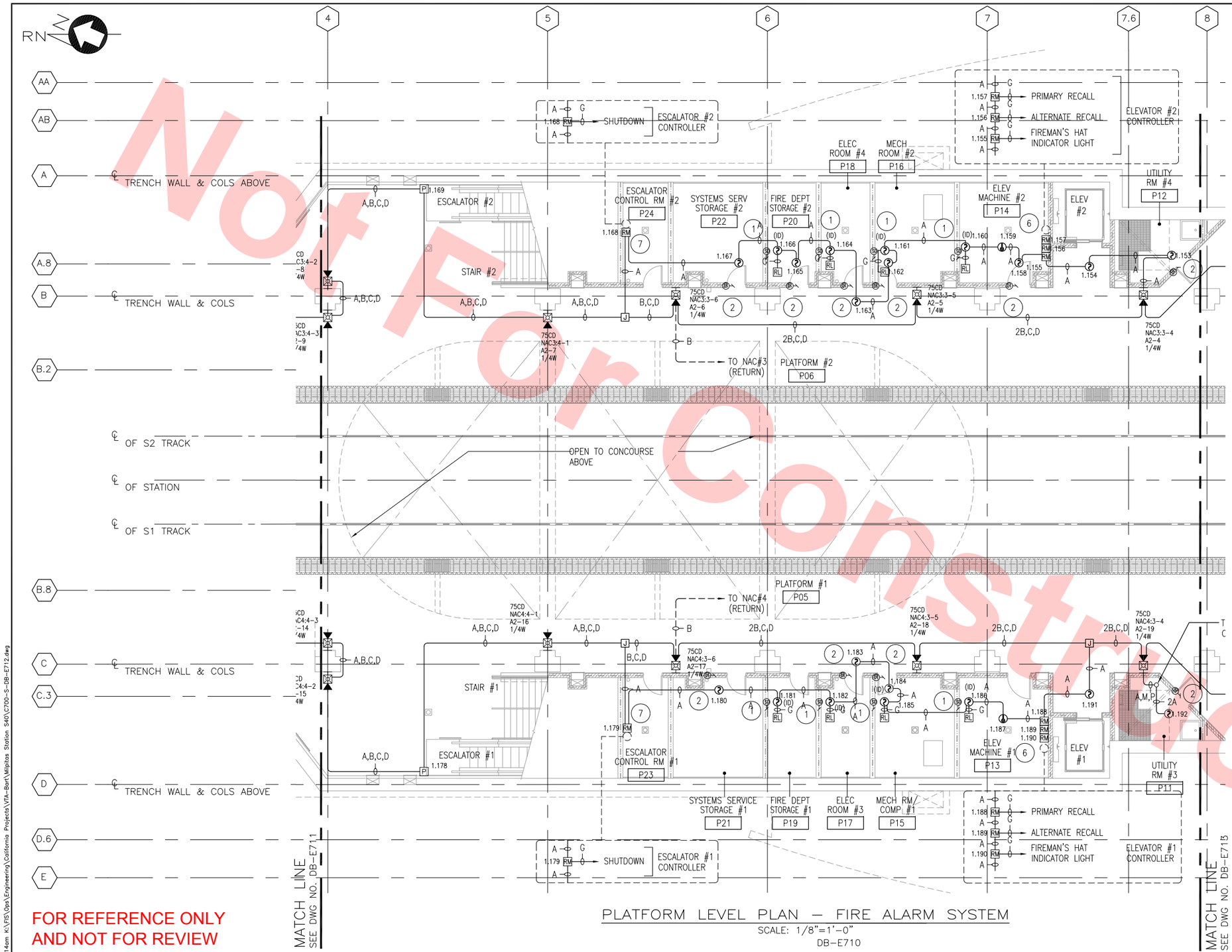

PLATFORM LEVEL PLAN – FIRE ALARM SYSTEM

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

DB-E710

FOR REFERENCE ONLY AND NOT FOR REVIEW

Not For Construction

NOTE

SHEET NOTES:

1. FIRE SMOKE DAMPER ACTUATION AS PER CBC 716.3.3.2.1
2. FIRE SMOKE DAMPER ACTUATION AS PER CBC 716.3.3.2.3
3. FIRE ALARM INTERFACE WITH SCADA SYSTEM.
4. FIRE ALARM INTERFACE WITH FM-200 FIRE SUPPRESSION SYSTEM. SMOKE DETECTION AND MECHANICAL CONTROL INSIDE TRAIN CONTROL/COMM ROOM PROVIDED BY FM-200 SYSTEM.
5. INTELLIGENT INTERFACE MODULE MONITORING SPRINKLER SYSTEM TAMPER SWITCHES AND WATERFOWL SWITCHES.
6. FIRE ALARM MODULES FOR ELEVATOR CONTROL. NO ELEVATOR SHUNT TRIP BECAUSE THERE ARE NO SPRINKLER'S INSIDE ELEVATOR MACHINE ROOM.
7. FIRE ALARM MODULE FOR ESCALATOR SHUTDOWN.

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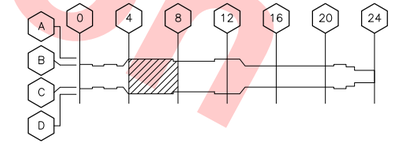
8' 0' 8' 16'

GRAPHIC SCALE

KEY PLAN



REV	DATE	BY	SUB	APP	DESCRIPTION
	20130125				DEFINITIVE DESIGN

DESIGNED BY V. SINGH
DRAWN BY V. SINGH
CHECKED BY F. CASABONNE
IN CHARGE F. CASABONNE
DATE 20130125

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VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

PLATFORM LEVEL PLAN
FIRE ALARM SYSTEM
SHEET 2 OF 6

CADD FILENAME C700-S-DB-E712.dwg
SIZE D | SCALE 1/8"=1'-0"
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. E712 | PAGE NO.

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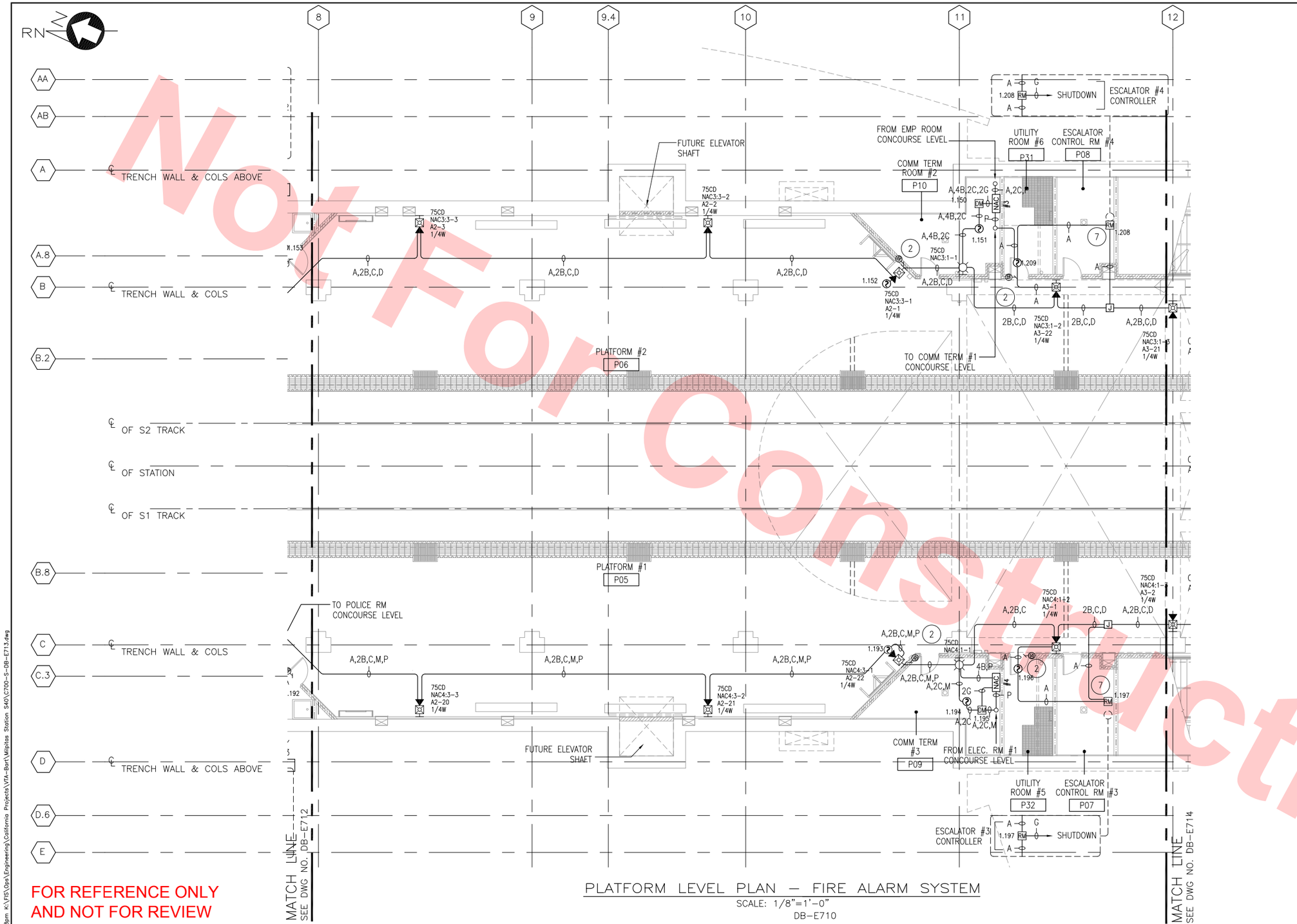

PLATFORM LEVEL PLAN – FIRE ALARM SYSTEM

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

DB-E710

NOTE

SHEET NOTES:

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2. FIRE SMOKE DAMPER ACTUATION AS PER CBC 716.3.3.2.3
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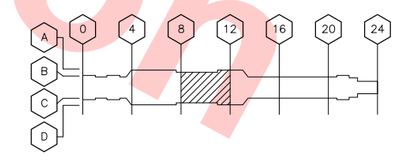
8' 0' 8' 16'

GRAPHIC SCALE

KEY PLAN



Not For Construction

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REV	DATE	BY	SUB	APP	DESCRIPTION
	20130125				DEFINITIVE DESIGN

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DRAWN BY V. SINGH
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IN CHARGE F. CASABONNE
DATE 20130125

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Fire Safety Division

Lockwood, Andrews & Newnam, Inc. — T·Y·LIN INTERNATIONAL

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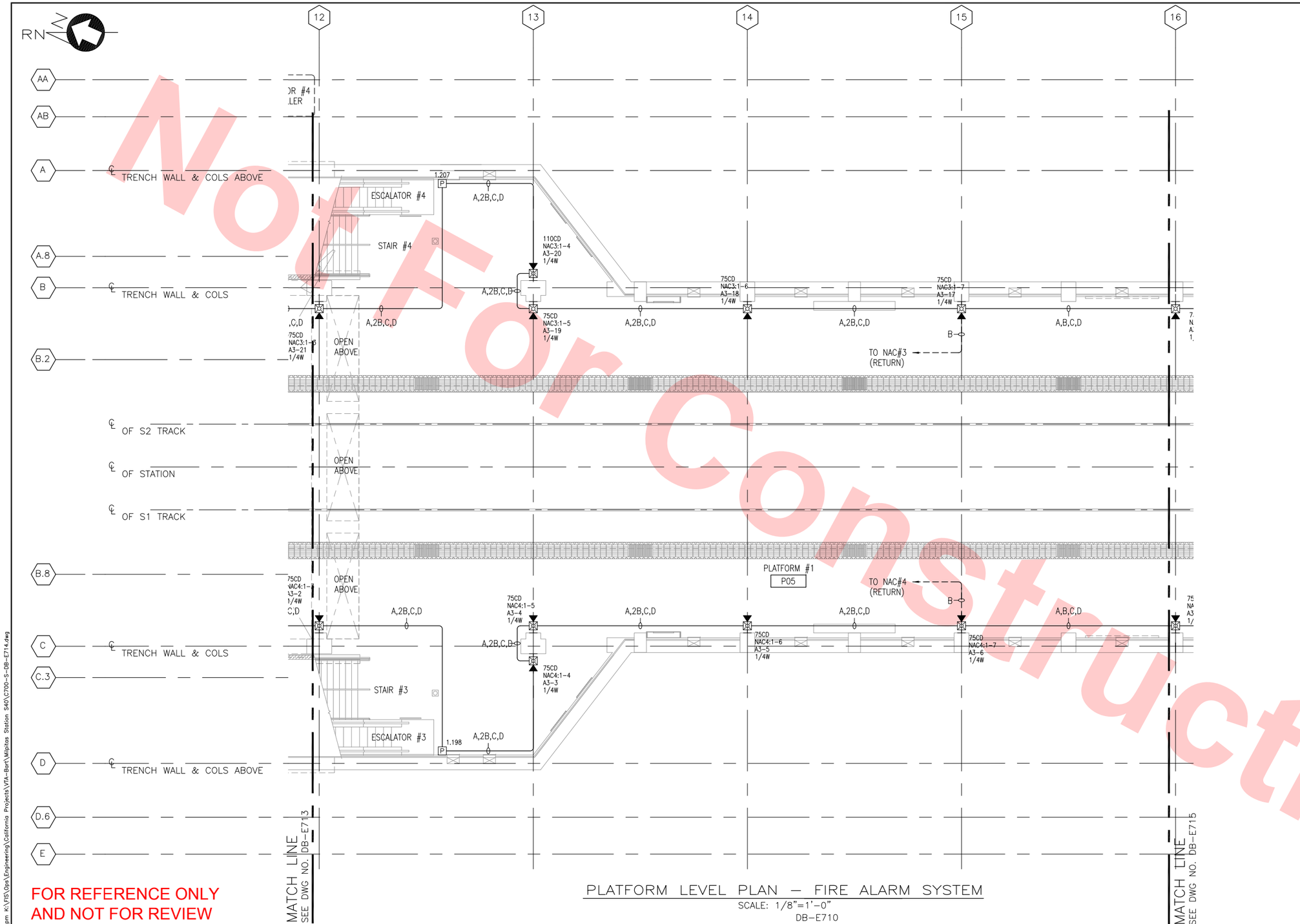
VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

PLATFORM LEVEL PLAN
FIRE ALARM SYSTEM
SHEET 3 OF 6

CADD FILENAME C700-S-DB-E713.dwg
SIZE D | SCALE 1/8"=1'-0"
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. E713 | PAGE NO.

SingV Jan 23, 2013 – 6:08pm K:\FIS\Ops\Engineering\California Projects\VTA-Bart\Milpitas Station S40\C700-S-DB-E713.dwg



FOR REFERENCE ONLY AND NOT FOR REVIEW

PLATFORM LEVEL PLAN – FIRE ALARM SYSTEM

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

DB-E710

NOTE

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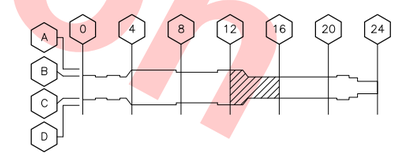
8' 0' 8' 16'

GRAPHIC SCALE

KEY PLAN



REV	DATE	BY	SUB	APP	DESCRIPTION
	20130125				DEFINITIVE DESIGN

DESIGNED BY V. SINGH
DRAWN BY V. SINGH
CHECKED BY F. CASABONNE
IN CHARGE F. CASABONNE
DATE 20130125

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Tel (510) 783-5000 Fax (510) 293-6700
Cal. Lic. No. 805 Exp. 12/31/2013
D.I.R. Certificate ID No. 324781-001

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VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

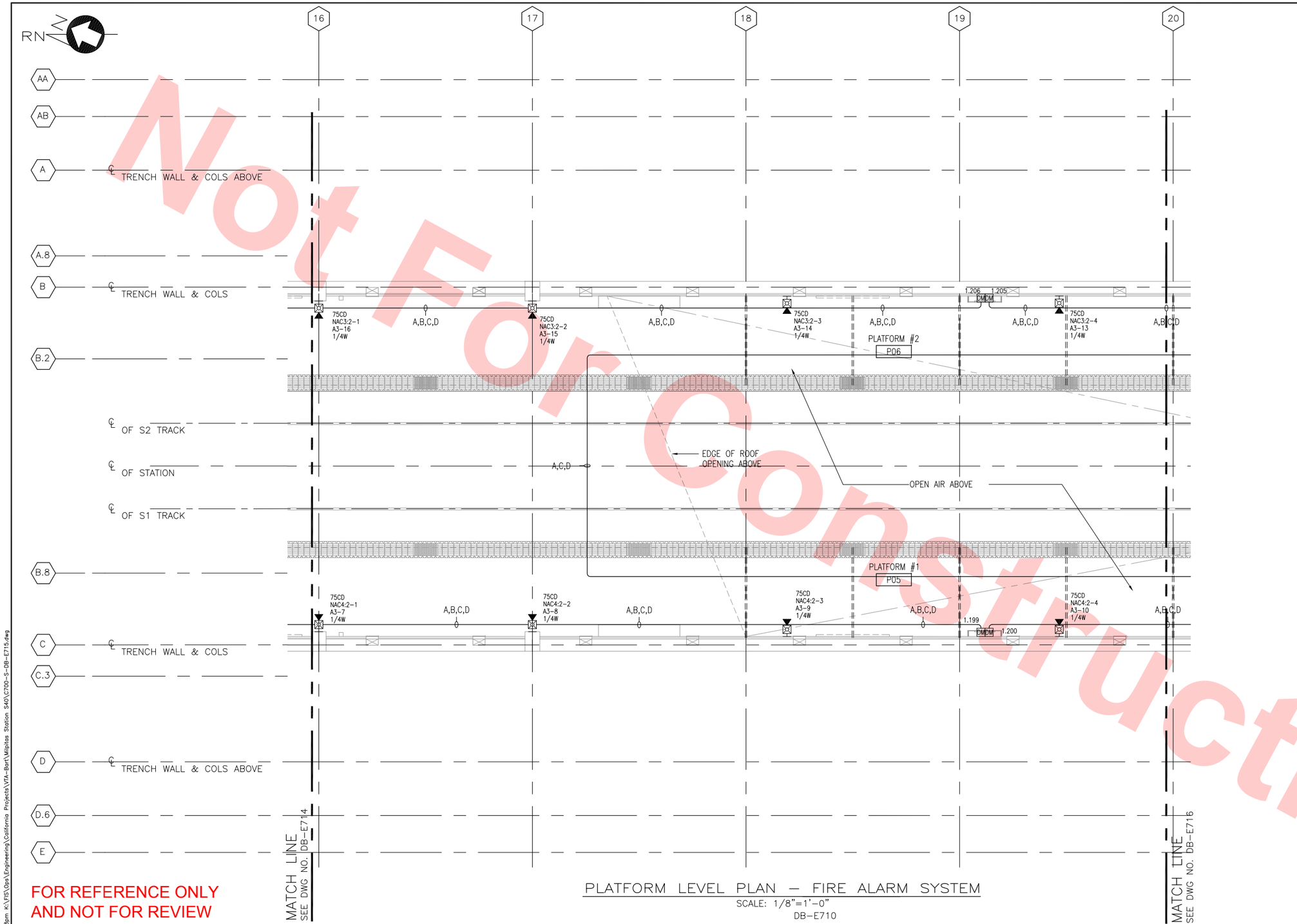
LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

PLATFORM LEVEL PLAN
FIRE ALARM SYSTEM
SHEET 4 OF 6

CADD FILENAME C700-S-DB-E714.dwg
SIZE D | SCALE 1/8"=1'-0"
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. E714 | PAGE NO.

SingV Jan 23, 2013 – 6:08pm K:\FIS\Ops\Engineering\California Projects\VTA-Bart\Milpitas Station S40\C700-S-DB-E714.dwg

Not For Construction



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PLATFORM LEVEL PLAN – FIRE ALARM SYSTEM

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

DB-E710

NOTE

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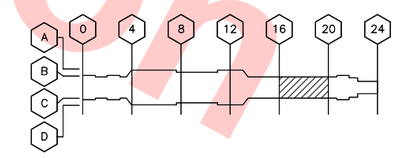
8' 0' 8' 16'

GRAPHIC SCALE

KEY PLAN



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	20130125				DEFINITIVE DESIGN

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DRAWN BY V. SINGH
CHECKED BY F. CASABONNE
IN CHARGE F. CASABONNE
DATE 20130125

Skanska Shimmick Herzog
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California Lic. No. 746 Nevada Lic. No. 0046
U.L. Certificate ID No. S24781-001

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VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

PLATFORM LEVEL PLAN
FIRE ALARM SYSTEM
SHEET 5 OF 6

CADD FILENAME C700-S-DB-E715.dwg
SIZE D | SCALE 1/8"=1'-0"
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. E715 | PAGE NO.

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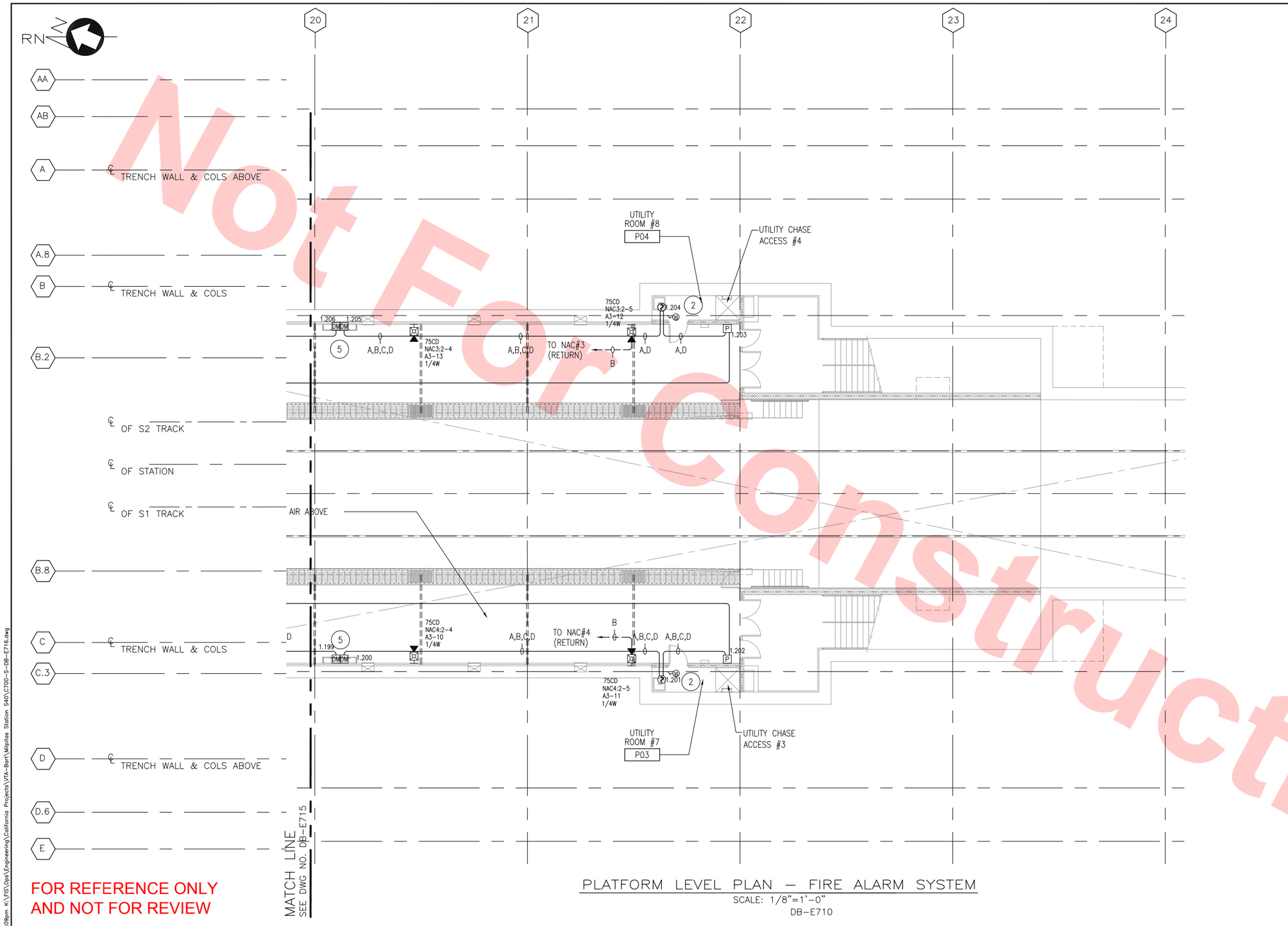

FOR REFERENCE ONLY
AND NOT FOR REVIEW

PLATFORM LEVEL PLAN – FIRE ALARM SYSTEM

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

DB-E710

NOTE

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1. FIRE SMOKE DAMPER ACTUATION AS PER CBC 716.3.3.2.1
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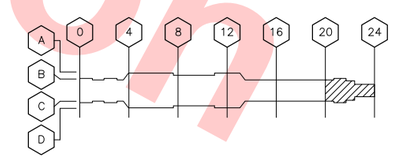
8' 0' 8' 16'

GRAPHIC SCALE

KEY PLAN



REV	DATE	BY	SUB	APP	DESCRIPTION
	20130125				DEFINITIVE DESIGN

DESIGNED BY V. SINGH
DRAWN BY V. SINGH
CHECKED BY F. CASABONNE
IN CHARGE F. CASABONNE
DATE 20130125

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1436 California Circle
Milpitas, California 95035
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Tel (510) 785-8000 Fax (510) 293-2190
California State C10 License No. 758796
U.L. Certificate ID No. 5241SA001

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VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

PLATFORM LEVEL PLAN
FIRE ALARM SYSTEM
SHEET 6 OF 6

CADD FILENAME C700-S-DB-E716.dwg
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SCALE 1/8"=1'-0"
CONTRACT NO. C700
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AREA CODE DB
SHEET NO. E716
PAGE NO.

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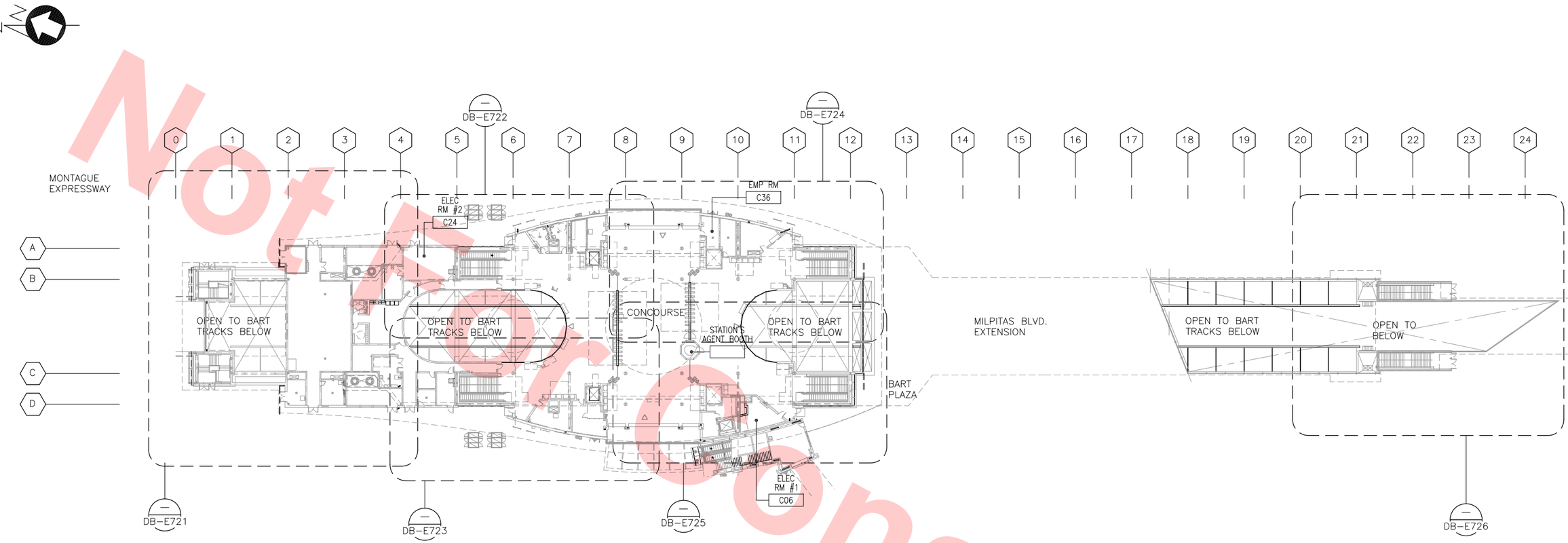
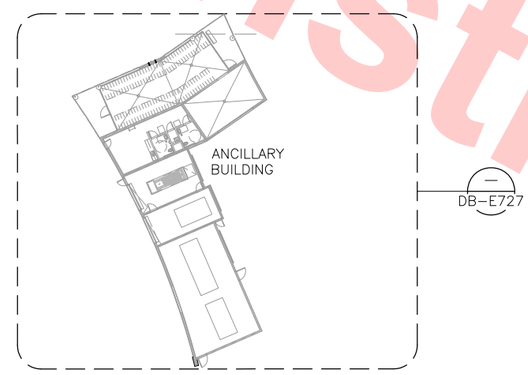
Not For Construction





KEY PLAN – CONCOURSE LEVEL – FIRE ALARM SYSTEM

SCALE: 1/32"=1'-0"

Not For Construction

FOR REFERENCE ONLY
AND NOT FOR REVIEW

32' 0' 32' 64'

GRAPHIC SCALE

REV	DATE	BY	SUB	APP	DESCRIPTION
	20130125				DEFINITIVE DESIGN

DESIGNED BY V. SINGH
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CHECKED BY F. CASABONNE
IN CHARGE F. CASABONNE
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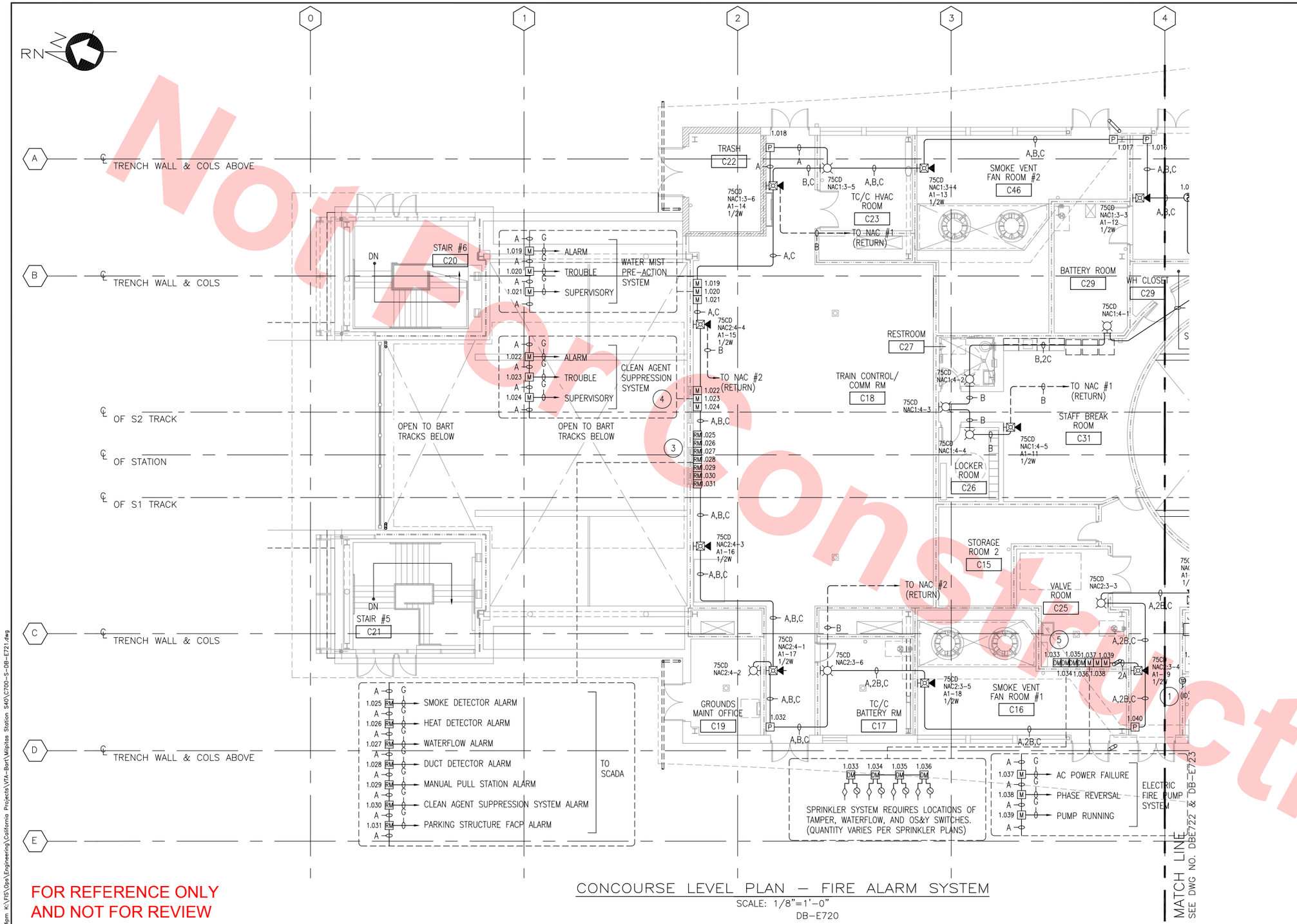
VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

KEY PLAN
CONCOURSE LEVEL
FIRE ALARM SYSTEM

CADD FILENAME C700-S-DB-E720.dwg
SIZE D
SCALE 1/32"=1'-0"
CONTRACT NO. C700
REV.
AREA CODE DB
SHEET NO. E720
PAGE NO.

SingV Jan 23, 2013 – 6:45pm K:\FES\Ops\Engineering\California Projects\VTA-Bart\Milpitas Station S40\C700-S-DB-E720.dwg



CONCOURSE LEVEL PLAN – FIRE ALARM SYSTEM

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

DB-E720

FOR REFERENCE ONLY AND NOT FOR REVIEW

Not For Construction

NOTE

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1. FIRE SMOKE DAMPER ACTUATION AS PER CBC 716.3.3.2.1
2. FIRE SMOKE DAMPER ACTUATION AS PER CBC 716.3.3.2.3
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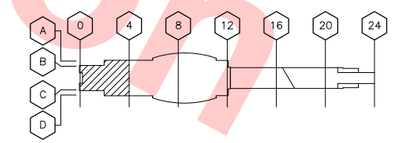
8' 0' 8' 16'

GRAPHIC SCALE

KEY PLAN



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VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

CONCOURSE LEVEL PLAN
FIRE ALARM SYSTEM
SHEET 1 OF 6

CADD FILENAME C700-S-DB-E721.dwg
SIZE D | SCALE 1/8"=1'-0"
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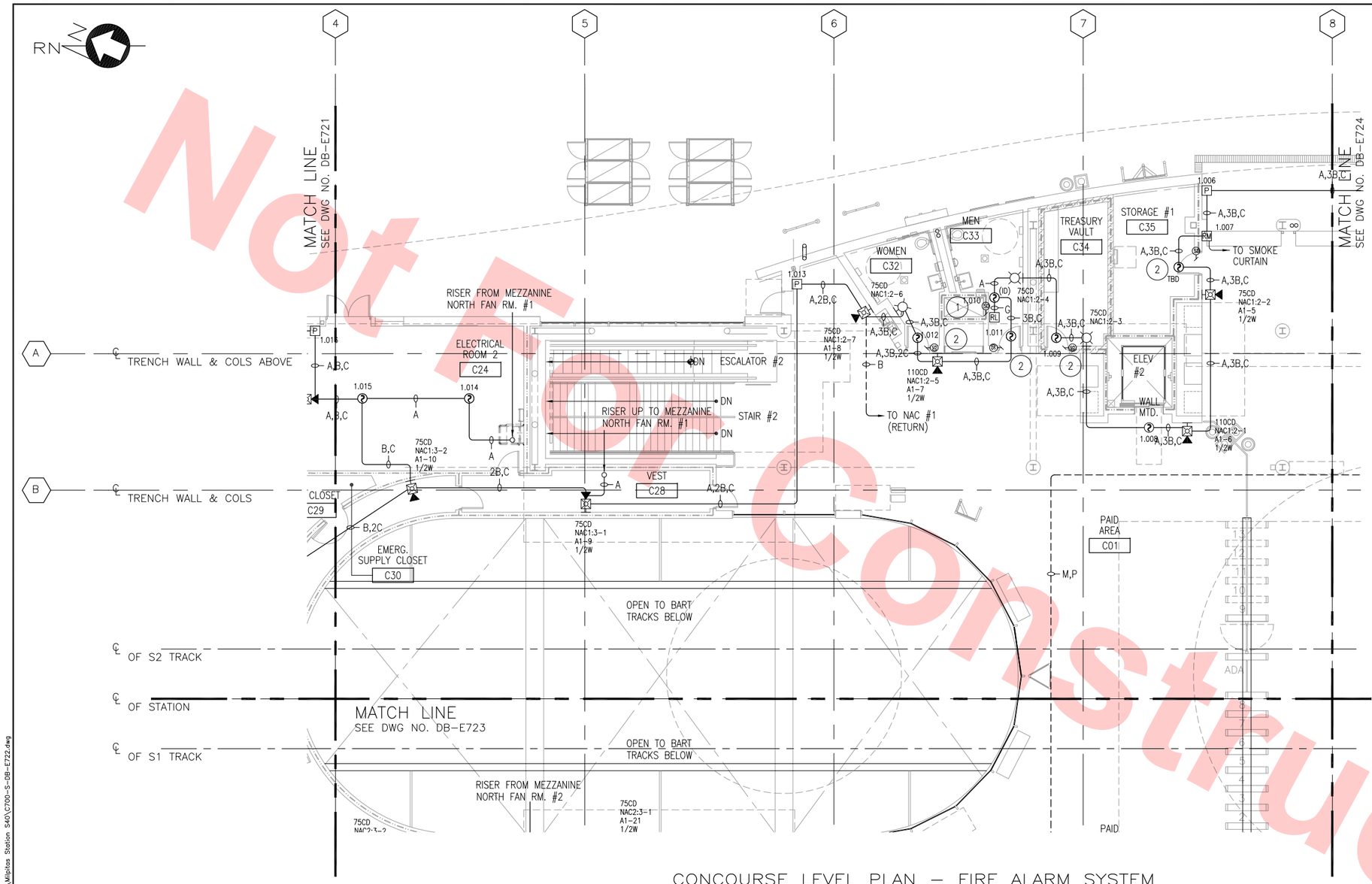
AREA CODE DB | SHEET NO. E721 | PAGE NO.

SingiV Jan 23, 2013 - 4:04pm K:\FIS\Ops\Engineering\California Projects\VTA-Bart\Milpitas Station S40\C700-S-DB-E721.dwg



CONCOURSE LEVEL PLAN – FIRE ALARM SYSTEM

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

DB-E720

NOTE

SHEET NOTES:

1. FIRE SMOKE DAMPER ACTUATION AS PER CBC 716.3.3.2.1
2. FIRE SMOKE DAMPER ACTUATION AS PER CBC 716.3.3.2.3
3. FIRE ALARM INTERFACE WITH SCADA SYSTEM.
4. FIRE ALARM INTERFACE WITH FM-200 FIRE SUPPRESSION SYSTEM. SMOKE DETECTION AND MECHANICAL CONTROL INSIDE TRAIN CONTROL/COMM ROOM PROVIDED BY FM-200 SYSTEM.
5. INTELLIGENT INTERFACE MODULE MONITORING SPRINKLER SYSTEM TAMPER SWITCHES AND WATERFOWL SWITCHES.
6. FIRE ALARM MODULES FOR ELEVATOR CONTROL. NO ELEVATOR SHUNT TRIP BECAUSE THERE ARE NO SPRINKLER'S INSIDE ELEVATOR MACHINE ROOM.

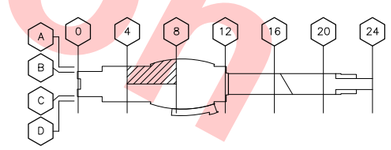
GENERAL NOTES:

1. CLASS A AND CLASS X CIRCUITS USING PHYSICAL CONDUCTORS (e.g METALLIC) SHALL BE INSTALLED SUCH THAT THE OUTGOING AND RETURN CONDUCTORS, EXISTING FROM AND RETURNING TO THE CONTROL UNIT RESPECTIVELY, ARE ROUTED SEPARATELY. THE RECOMMENDED MINIMUM SEPARATION TO PREVENT PHYSICAL DAMAGE IS 12 INCHES WHERE CABLE IS INSTALLED VERTICALLY AND 48 INCHES WHERE THE CABLE IS INSTALLED HORIZONTALLY.

8' 0' 8' 16'

GRAPHIC SCALE

KEY PLAN



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REV	DATE	BY	SUB	APP	DESCRIPTION
	20130125				DEFINITIVE DESIGN

DESIGNED BY V. SINGH
DRAWN BY V. SINGH
CHECKED BY F. CASABONNE
IN CHARGE F. CASABONNE
DATE 20130125

Skanska Shimmick Herzog
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California State C10 License No. 758796
U.L. Certificate Ex No. 3241SA001

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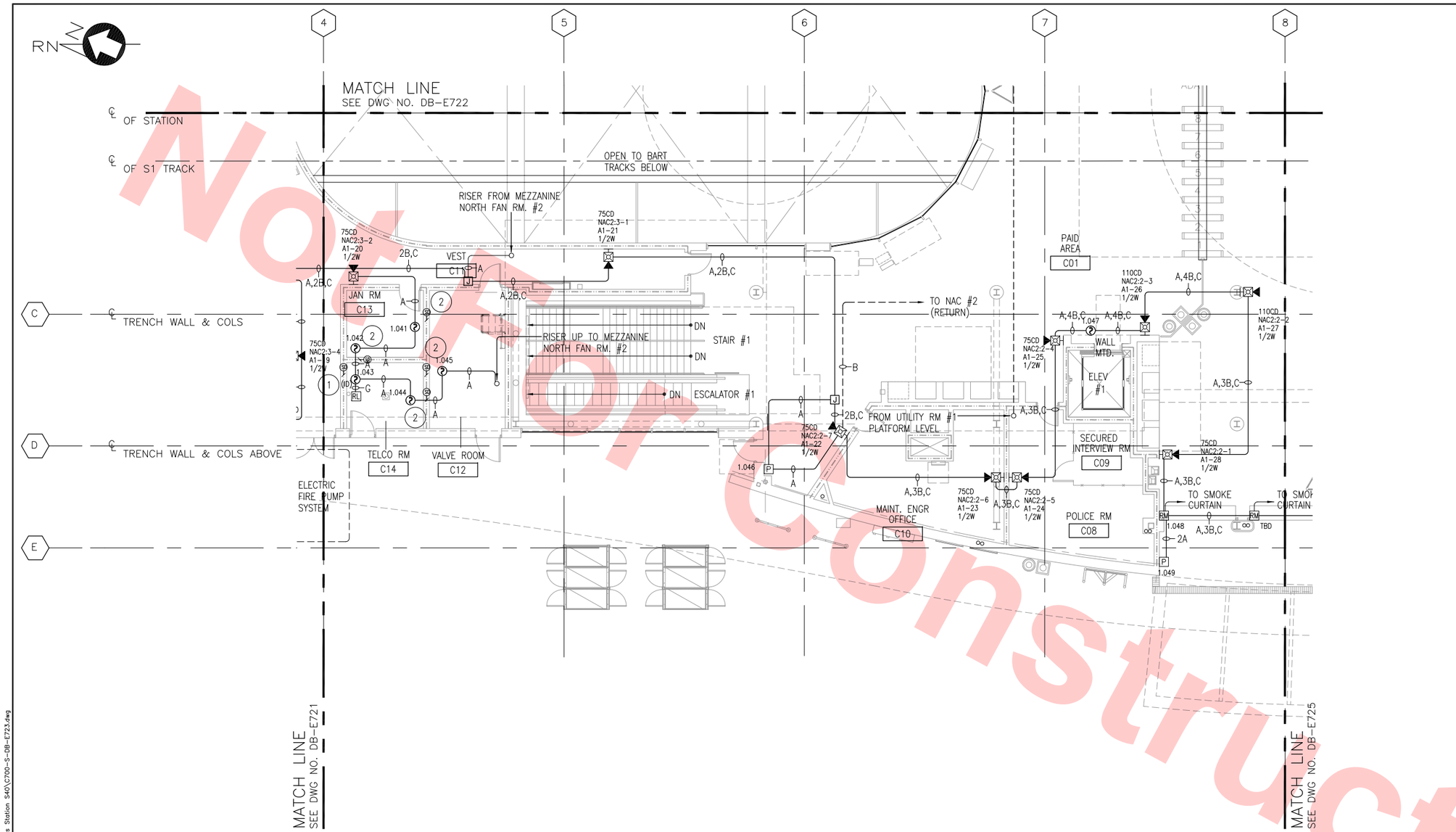
VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

CONCOURSE LEVEL PLAN
FIRE ALARM SYSTEM
SHEET 2 OF 6

CADD FILENAME C700-S-DB-E722.dwg
SIZE D | SCALE 1/8"=1'-0"
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. E722 | PAGE NO.

SingV Jan 23, 2013 – 4:06pm K:\FE\Ops\Engineering\California Projects\VTA-Bart\Milpitas Station S40\C700-S-DB-E722.dwg



CONCOURSE LEVEL PLAN – FIRE ALARM SYSTEM

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

DB-E720

NOTE

SHEET NOTES:

1. FIRE SMOKE DAMPER ACTUATION AS PER CBC 716.3.3.2.1
2. FIRE SMOKE DAMPER ACTUATION AS PER CBC 716.3.3.2.3
3. FIRE ALARM INTERFACE WITH SCADA SYSTEM.
4. FIRE ALARM INTERFACE WITH FM-200 FIRE SUPPRESSION SYSTEM. SMOKE DETECTION AND MECHANICAL CONTROL INSIDE TRAIN CONTROL/COMM ROOM PROVIDED BY FM-200 SYSTEM.
5. INTELLIGENT INTERFACE MODULE MONITORING SPRINKLER SYSTEM TAMPER SWITCHES AND WATERFOWL SWITCHES.
6. FIRE ALARM MODULES FOR ELEVATOR CONTROL. NO ELEVATOR SHUNT TRIP BECAUSE THERE ARE NO SPRINKLER'S INSIDE ELEVATOR MACHINE ROOM.

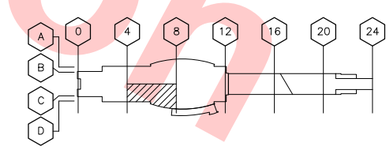
GENERAL NOTES:

1. CLASS A AND CLASS X CIRCUITS USING PHYSICAL CONDUCTORS (e.g METALLIC) SHALL BE INSTALLED SUCH THAT THE OUTGOING AND RETURN CONDUCTORS, EXISTING FROM AND RETURNING TO THE CONTROL UNIT RESPECTIVELY, ARE ROUTED SEPARATELY. THE RECOMMENDED MINIMUM SEPARATION TO PREVENT PHYSICAL DAMAGE IS 12 INCHES WHERE CABLE IS INSTALLED VERTICALLY AND 48 INCHES WHERE THE CABLE IS INSTALLED HORIZONTALLY.

8' 0' 8' 16'

GRAPHIC SCALE

KEY PLAN



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REV	DATE	BY	SUB	APP	DESCRIPTION
	20130125				DEFINITIVE DESIGN

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DRAWN BY V. SINGH
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IN CHARGE F. CASABONNE
DATE 20130125

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VTA BART SILICON VALLEY

BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

CONCOURSE LEVEL PLAN
FIRE ALARM SYSTEM
SHEET 3 OF 6

CADD FILENAME C700-S-DB-E723.dwg
SIZE D | SCALE 1/8"=1'-0"
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. E723 | PAGE NO.

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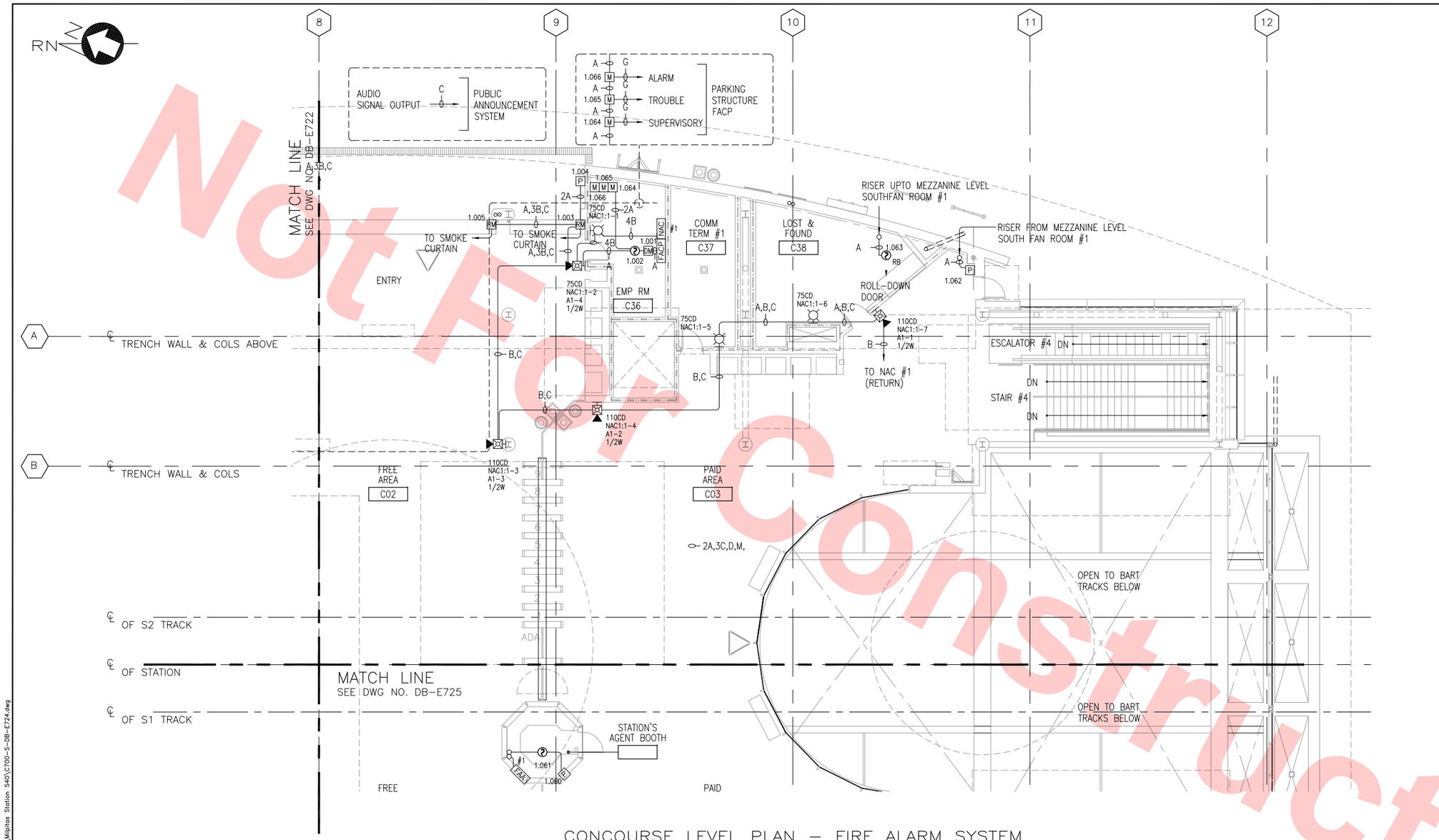

CONCOURSE LEVEL PLAN – FIRE ALARM SYSTEM

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

DB-E720

NOTE

SHEET NOTES:

1. FIRE SMOKE DAMPER ACTUATION AS PER CBC 716.3.3.2.1
2. FIRE SMOKE DAMPER ACTUATION AS PER CBC 716.3.3.2.3
3. FIRE ALARM INTERFACE WITH SCADA SYSTEM.
4. FIRE ALARM INTERFACE WITH FM-200 FIRE SUPPRESSION SYSTEM. SMOKE DETECTION AND MECHANICAL CONTROL INSIDE TRAIN CONTROL/COMM ROOM PROVIDED BY FM-200 SYSTEM.
5. INTELLIGENT INTERFACE MODULE MONITORING SPRINKLER SYSTEM TAMPER SWITCHES AND WATERFOWL SWITCHES.
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GENERAL NOTES:

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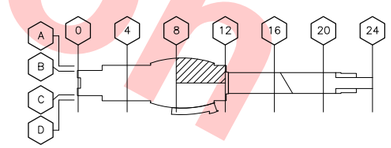
8' 0' 8' 16'

GRAPHIC SCALE

KEY PLAN



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	20130125				DEFINITIVE DESIGN

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DRAWN BY V. SINGH
CHECKED BY F. CASABONNE
IN CHARGE F. CASABONNE
DATE 20130125

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VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

CONCOURSE LEVEL PLAN
FIRE ALARM SYSTEM
SHEET 4 OF 6

CADD FILENAME C700-S-DB-E724.dwg
SIZE D
SCALE 1/8"=1'-0"
CONTRACT NO. C700
REV.
AREA CODE DB
SHEET NO. E724
PAGE NO.

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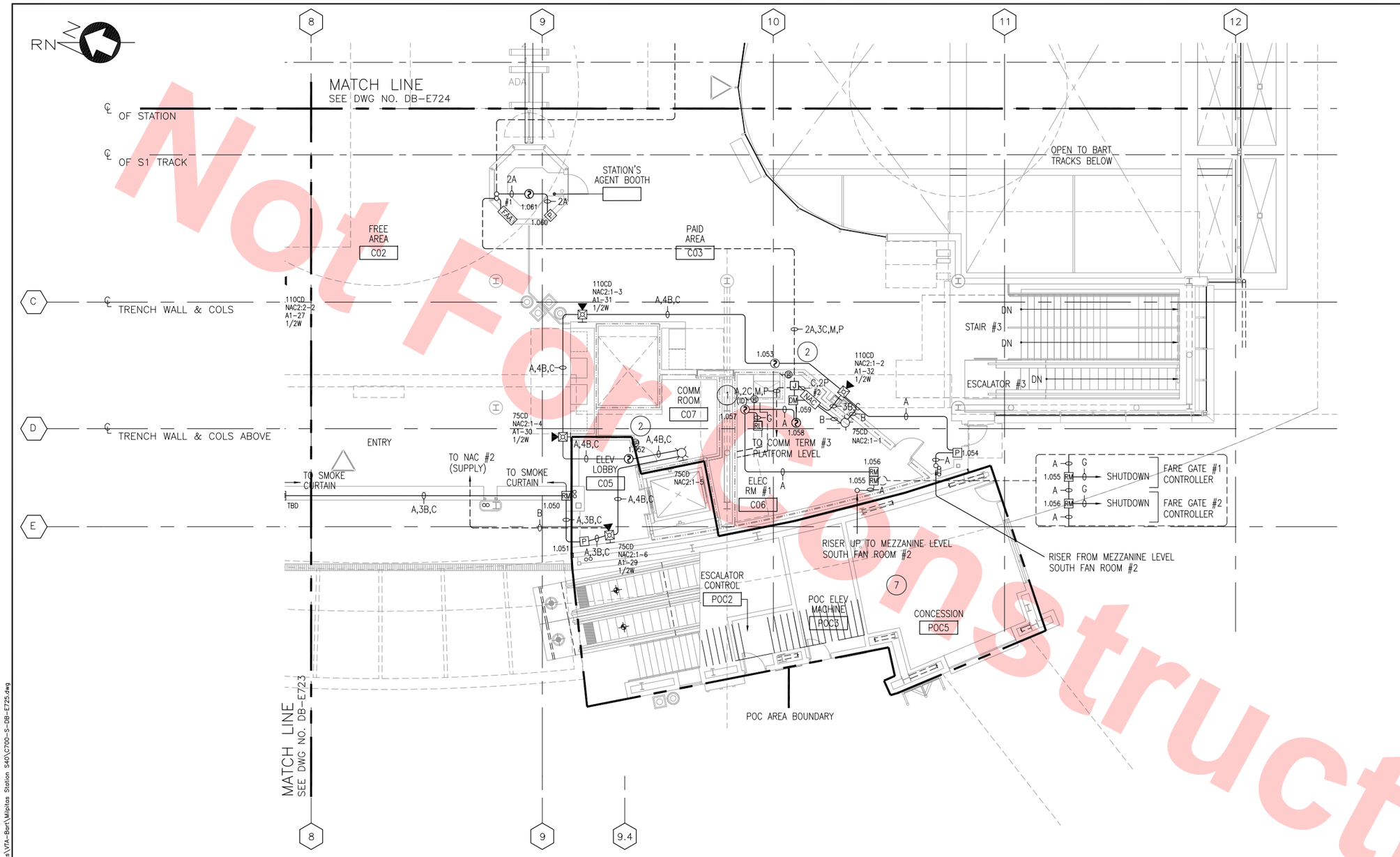


NOTE

SHEET NOTES:

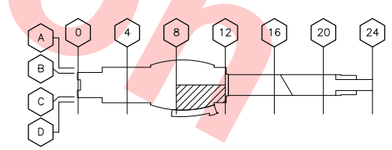
1. FIRE SMOKE DAMPER ACTUATION AS PER CBC 716.3.3.2.1
2. FIRE SMOKE DAMPER ACTUATION AS PER CBC 716.3.3.2.3
3. FIRE ALARM INTERFACE WITH SCADA SYSTEM.
4. FIRE ALARM INTERFACE WITH FM-200 FIRE SUPPRESSION SYSTEM. SMOKE DETECTION AND MECHANICAL CONTROL INSIDE TRAIN CONTROL/COMM ROOM PROVIDED BY FM-200 SYSTEM.
5. INTELLIGENT INTERFACE MODULE MONITORING SPRINKLER SYSTEM TAMPER SWITCHES AND WATERFOWL SWITCHES.
6. FIRE ALARM MODULES FOR ELEVATOR CONTROL. NO ELEVATOR SHUNT TRIP BECAUSE THERE ARE NO SPRINKLER'S INSIDE ELEVATOR MACHINE ROOM.
7. THIS AREA WILL BE SERVED BY THE EXISTING VTA FIRE ALARM SYSTEM. THIS INCLUDES THE ESCALATOR CONTROL, POC ELEVATOR CONTROL, DETECTION & NOTIFICATION.

GENERAL NOTES:

1. CLASS A AND CLASS X CIRCUITS USING PHYSICAL CONDUCTORS (e.g METALLIC) SHALL BE INSTALLED SUCH THAT THE OUTGOING AND RETURN CONDUCTORS, EXISTING FROM AND RETURNING TO THE CONTROL UNIT RESPECTIVELY, ARE ROUTED SEPARATELY. THE RECOMMENDED MINIMUM SEPARATION TO PREVENT PHYSICAL DAMAGE IS 12 INCHES WHERE CABLE IS INSTALLED VERTICALLY AND 48 INCHES WHERE THE CABLE IS INSTALLED HORIZONTALLY.

8' 0' 8' 16'
GRAPHIC SCALE

KEY PLAN



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CONCOURSE LEVEL PLAN – FIRE ALARM SYSTEM

SCALE: 1/8"=1'-0"
DB-E720

REV	DATE	BY	SUB	APP	DESCRIPTION
	20130125				DEFINITIVE DESIGN

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DRAWN BY V. SINGH
CHECKED BY F. CASABONNE
IN CHARGE F. CASABONNE
DATE 20130125

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VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

CONCOURSE LEVEL PLAN
FIRE ALARM SYSTEM
SHEET 5 OF 6

CADD FILENAME C700-S-DB-E725.dwg
SIZE D | SCALE 1/8"=1'-0"
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. E725 | PAGE NO.

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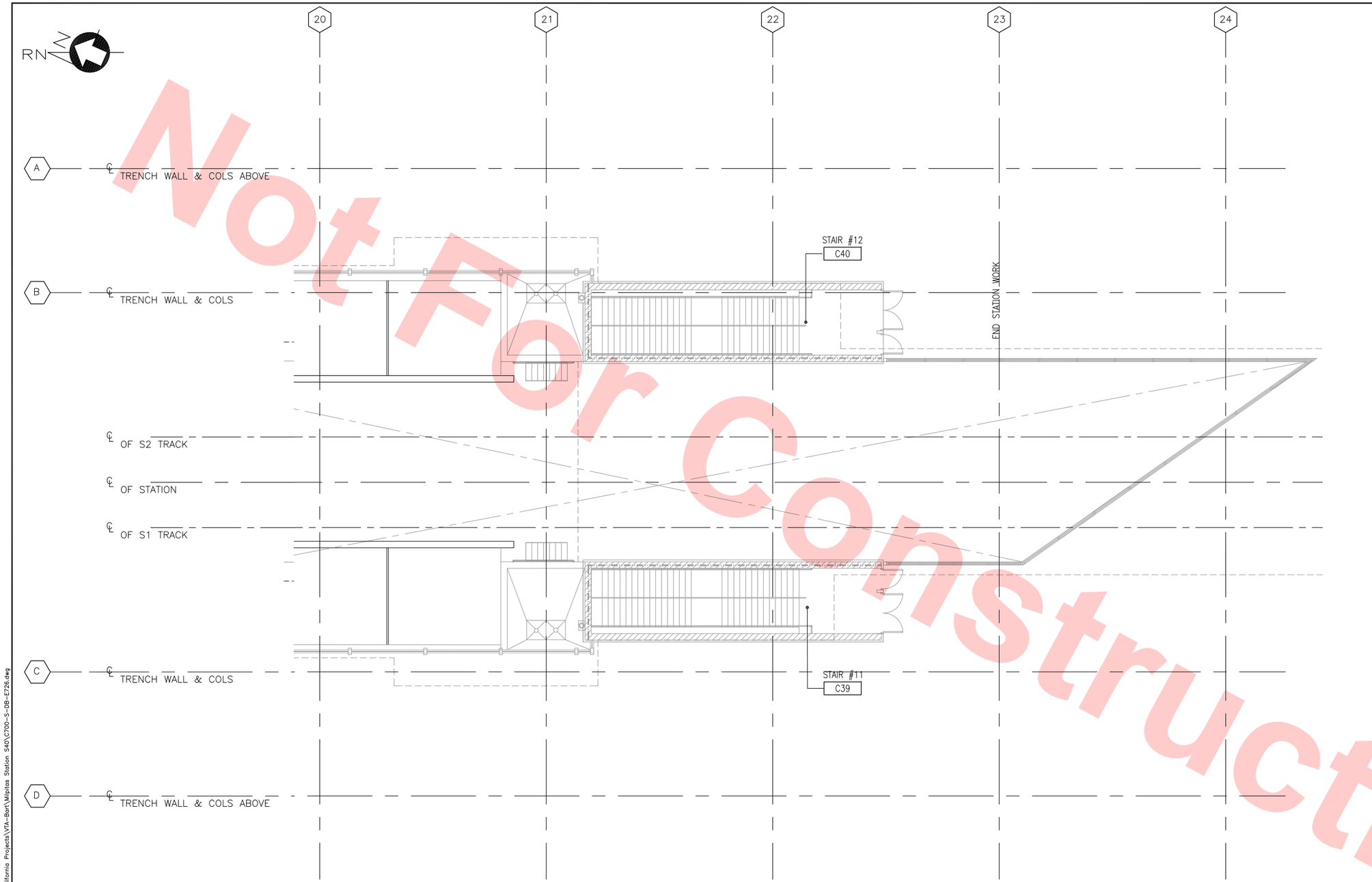


Not For Construction

NOTE

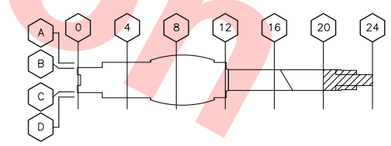
GENERAL NOTES:

1. NO FIRE ALARM SCOPE OF WORK ON THIS SHEET.

8' 0' 8' 16'

GRAPHIC SCALE

KEY PLAN



CONCOURSE LEVEL PLAN – FIRE ALARM SYSTEM

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

DB-E720

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REV	DATE	BY	SUB	APP	DESCRIPTION
	20130125				DEFINITIVE DESIGN

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DRAWN BY V. SINGH
CHECKED BY F. CASABONNE
IN CHARGE F. CASABONNE
DATE 20130125

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U.L. Certificate ID No. 3247857-001

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BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

CONCOURSE LEVEL PLAN
FIRE ALARM SYSTEM
SHEET 6 OF 6

CADD FILENAME C700-S-DB-E726.dwg
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CONTRACT NO. C700
REV.
AREA CODE DB
SHEET NO. E726
PAGE NO.

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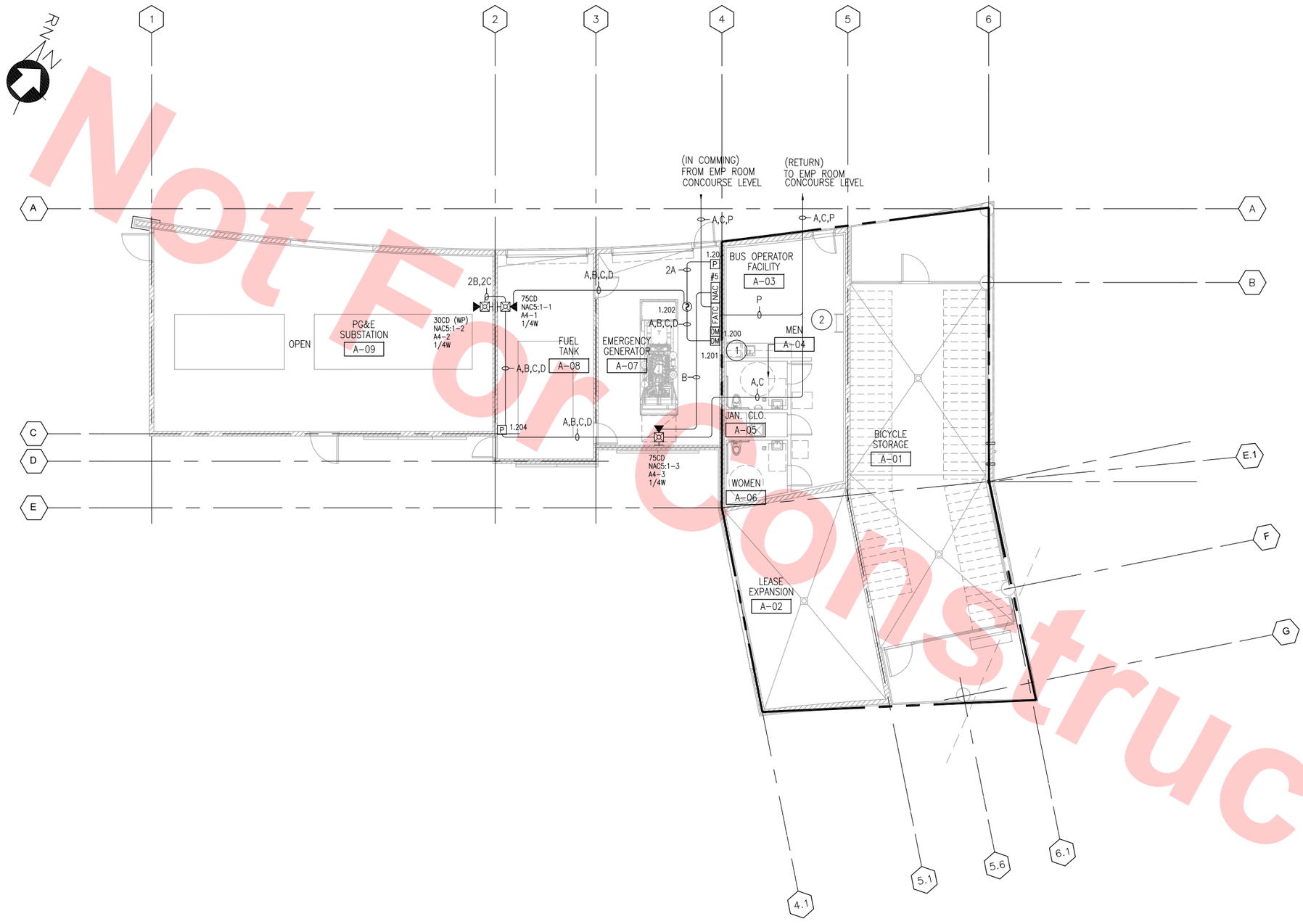


Not For Construction

NOTE

SHEET NOTES:

1. FIRE ALARM MODULES FOR GENERATOR MONITORING.
2. THIS PORTION OF ANCILLARY BUILDING MUST BE SERVED BY EXISTING VTA FIRE ALARM SYSTEM.

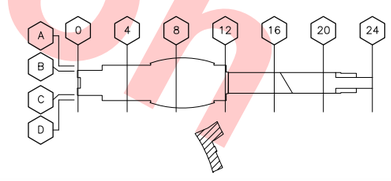
GENERAL NOTES:

1. CLASS A AND CLASS X CIRCUITS USING PHYSICAL CONDUCTORS (e.g METALLIC) SHALL BE INSTALLED SUCH THAT THE OUTGOING AND RETURN CONDUCTORS, EXISTING FROM AND RETURNING TO THE CONTROL UNIT RESPECTIVELY, ARE ROUTED SEPARATELY. THE RECOMMENDED MINIMUM SEPARATION TO PREVENT PHYSICAL DAMAGE IS 12 INCHES WHERE CABLE IS INSTALLED VERTICALLY AND 48 INCHES WHERE THE CABLE IS INSTALLED HORIZONTALLY.

8' 0' 8' 16'

GRAPHIC SCALE

KEY PLAN



ANCILLARY BUILDING FLOOR PLAN – FIRE ALARM SYSTEM

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

DB-E720

FOR REFERENCE ONLY
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REV	DATE	BY	SUB	APP	DESCRIPTION
	20130125				DEFINITIVE DESIGN

DESIGNED BY V. SINGH
DRAWN BY V. SINGH
CHECKED BY F. CASABONNE
IN CHARGE F. CASABONNE
DATE 20130125

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VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

ANCILLARY BUILDING
FIRE ALARM SYSTEM

CADD FILENAME C700-S-DB-E727.dwg
SIZE D | SCALE 1/8"=1'-0"
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. E727 | PAGE NO.

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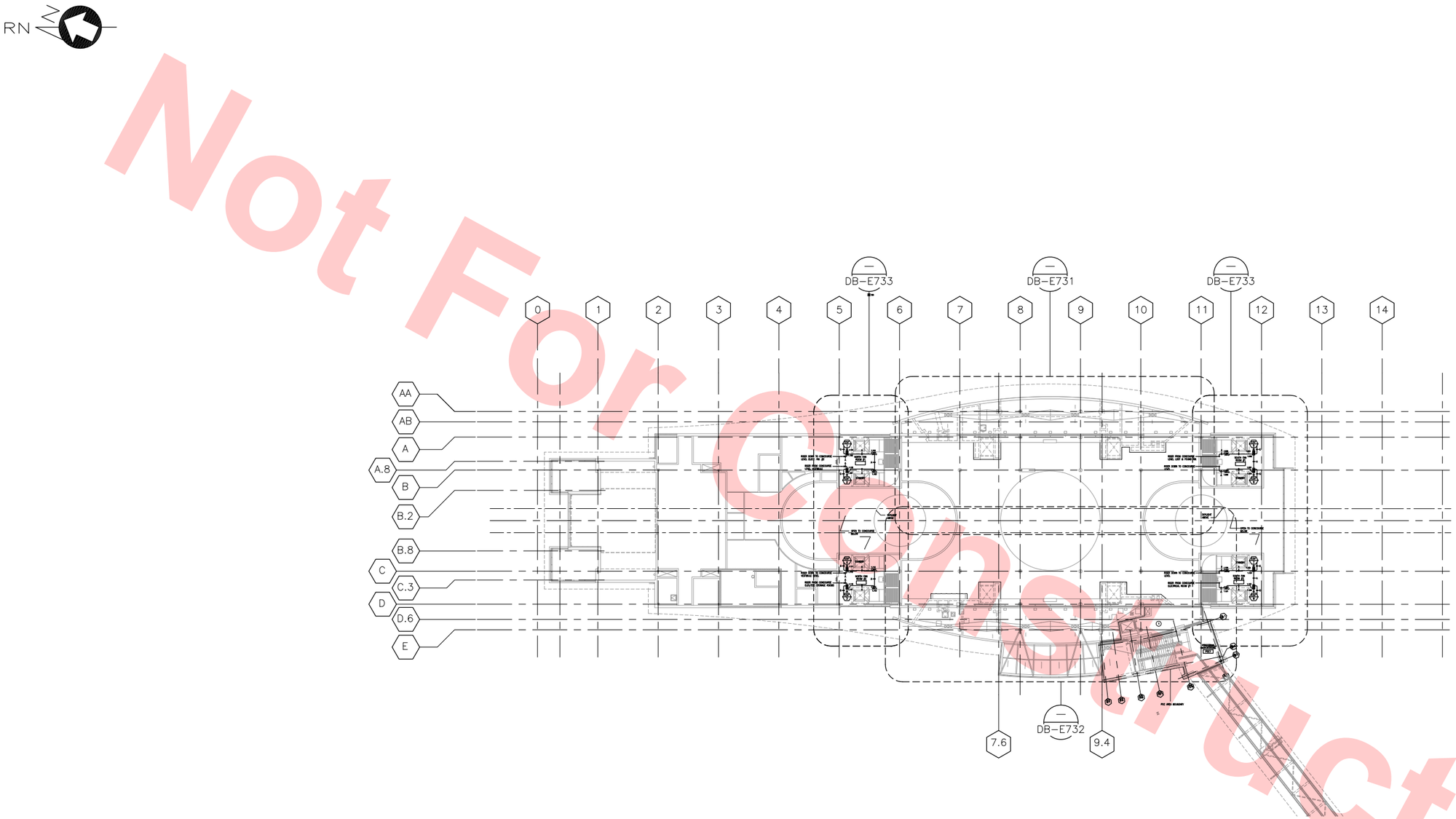

KEY PLAN LOWER ROOF AND MEZZANINE LEVEL – FIRE ALARM SYSTEM

SCALE: 1/32"=1'-0"

Not For Construction

FOR REFERENCE ONLY
AND NOT FOR REVIEW

32' 0' 32' 64'

GRAPHIC SCALE

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	20130125				DEFINITIVE DESIGN

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DRAWN BY V. SINGH
CHECKED BY F. CASABONNE
IN CHARGE F. CASABONNE
DATE 20130125

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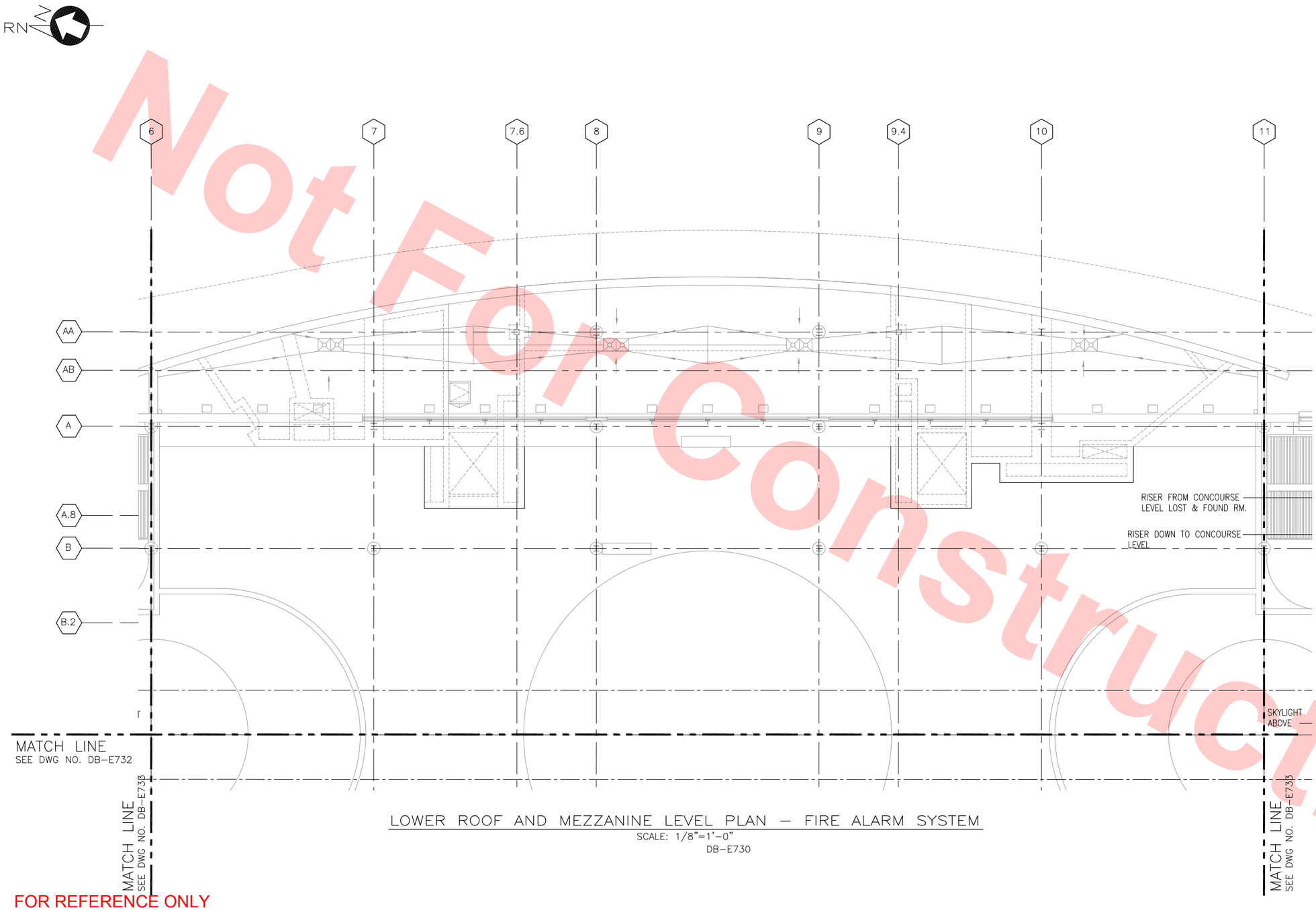
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

KEY PLAN
LOWER ROOF AND MEZZANINE LEVEL
FIRE ALARM SYSTEM

CADD FILENAME C700-S-DB-E730.dwg
SIZE D
SCALE 1/32"=1'-0"
CONTRACT NO. C700
REV.
AREA CODE DB
SHEET NO. E730
PAGE NO.

SingiV Jan 23, 2013 – 5:52pm K:\FIS\Ops\Engineering\California Projects\VTA-Bart\Milpitas Station S40\C700-S-DB-E730.dwg



LOWER ROOF AND MEZZANINE LEVEL PLAN – FIRE ALARM SYSTEM

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

DB-E730

FOR REFERENCE ONLY
AND NOT FOR REVIEW

KEY NOTES

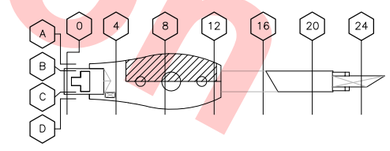
GENERAL NOTES:

1. NO FIRE ALARM SCOPE OF WORK ON THIS SHEET.

8' 0' 8' 16'

GRAPHIC SCALE

KEY PLAN



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REV	DATE	BY	SUB	APP	DESCRIPTION
	20130125				DEFINITIVE SUBMITTAL

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DRAWN BY V. SINGH
CHECKED BY F. CASABONNE
IN CHARGE F. CASABONNE
DATE 20130125

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Fire Safety Division

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BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

LOWER ROOF AND MEZZANINE LEVEL PLAN
FIRE ALARM SYSTEM
SHEET 1 OF 3

CADD FILENAME C700-S-DB-E731.dwg
SIZE D
SCALE 1/8"=1'-0"
CONTRACT NO. C700
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AREA CODE DB
SHEET NO. E731
PAGE NO.

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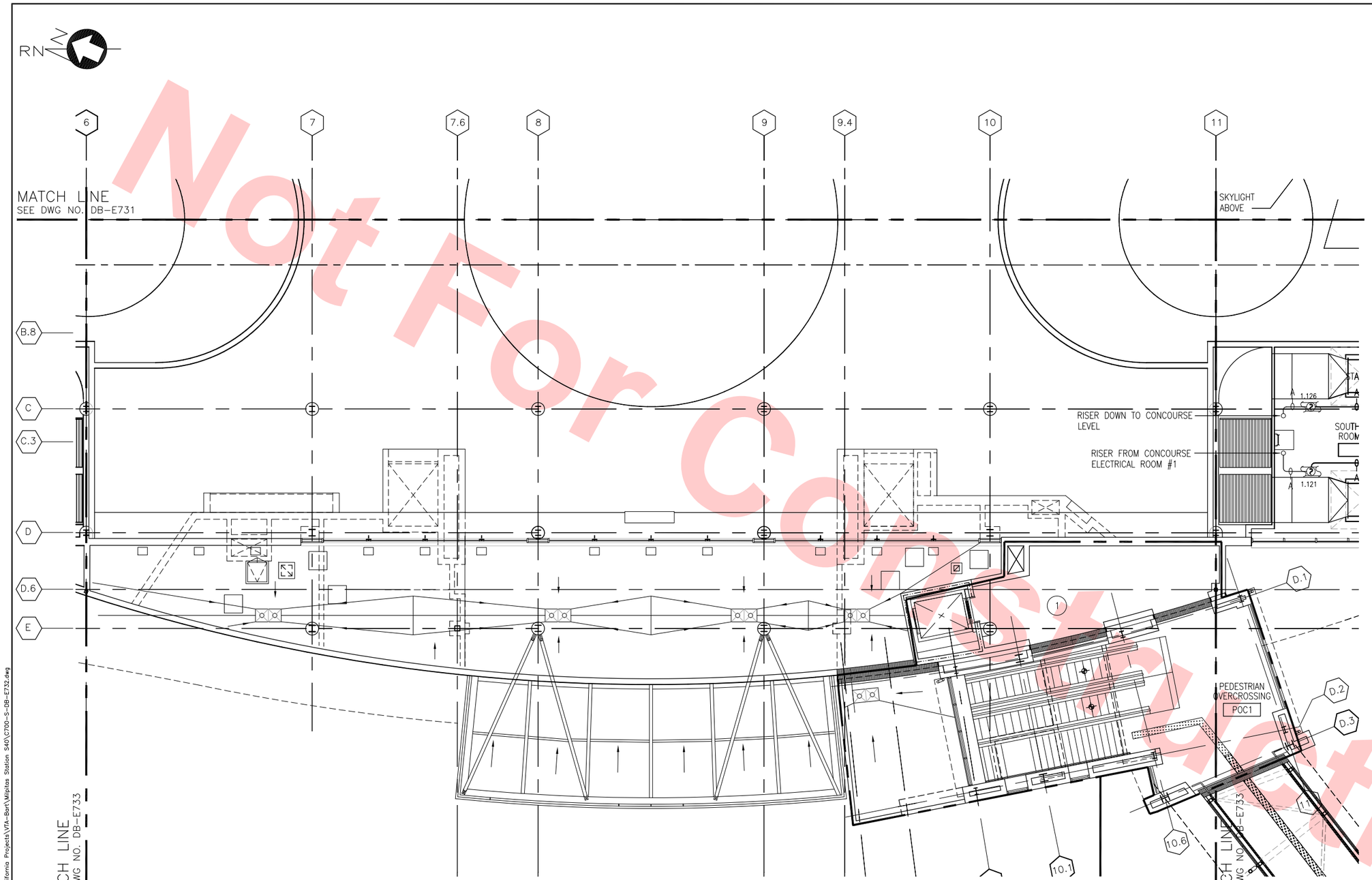


LOWER ROOF AND MEZZANINE LEVEL PLAN – FIRE ALARM SYSTEM

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

DB-E730

FOR REFERENCE ONLY
AND NOT FOR REVIEW

KEY NOTES

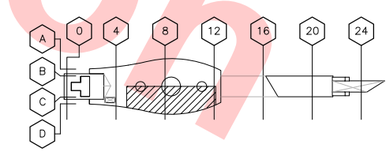
SHEET NOTES:

1. THIS AREA WILL BE SERVED BY THE EXISTING VTA FIRE ALARM SYSTEM. THIS INCLUDES THE ESCALATOR CONTROL, POC ELEVATOR CONTROL, DETECTION & NOTIFICATION.

8' 0' 8' 16'

GRAPHIC SCALE

KEY PLAN



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	20130125				DEFINITIVE DESIGN

DESIGNED BY V. SINGH
DRAWN BY V. SINGH
CHECKED BY F. CASABONNE
IN CHARGE F. CASABONNE
DATE 20130125

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Fire Safety Division

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VTA BART SILICON VALLEY

BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

LOWER ROOF AND MEZZANINE LEVEL PLAN
FIRE ALARM SYSTEM
SHEET 2 OF 3

CADD FILENAME C700-S-DB-E732.dwg
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CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. E732 | PAGE NO.

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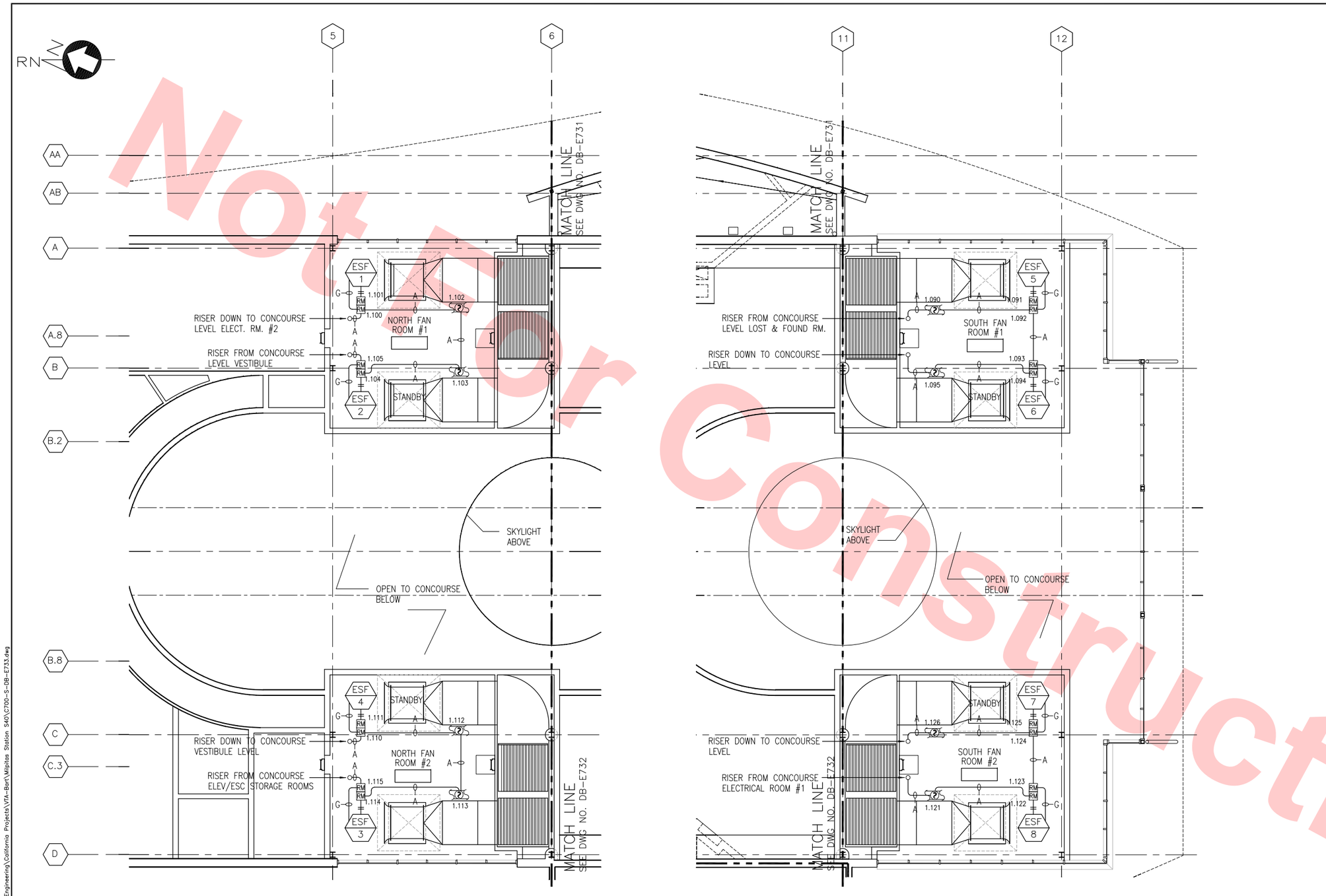

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LOWER ROOF AND MEZZANINE LEVEL PLAN – FIRE ALARM SYSTEM

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

DB-E730

NOTE

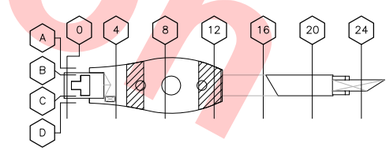
SHEET NOTES:

1. FIRE ALARM MODULES FOR MONITORING AND CONTROLLING STAIR PRESSURIZATION FANS.

8' 0' 8' 16'

GRAPHIC SCALE

KEY PLAN



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	20130125				DEFINITIVE DESIGN

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VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

LOWER ROOF AND MEZZANINE LEVEL PLAN
FIRE ALARM SYSTEM
SHEET 3 OF 3

CADD FILENAME C700-S-DB-E733.dwg
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AREA CODE DB | SHEET NO. E733 | PAGE NO.

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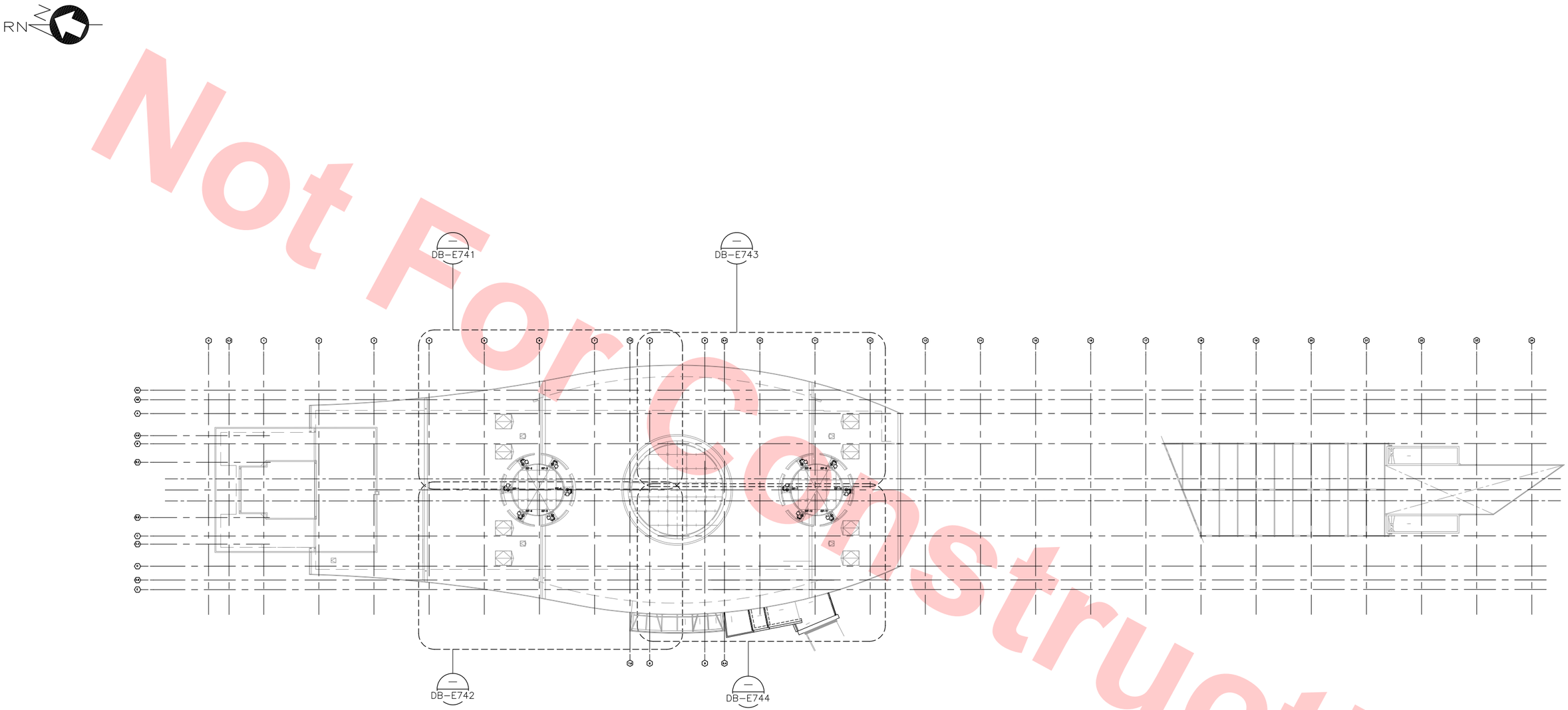

KEY PLAN ROOF LEVEL – FIRE ALARM SYSTEM

SCALE: 1/32"=1'-0"

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32' 0' 32' 64'

GRAPHIC SCALE

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	20130125				DEFINITIVE DESIGN

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VTA BART SILICON VALLEY

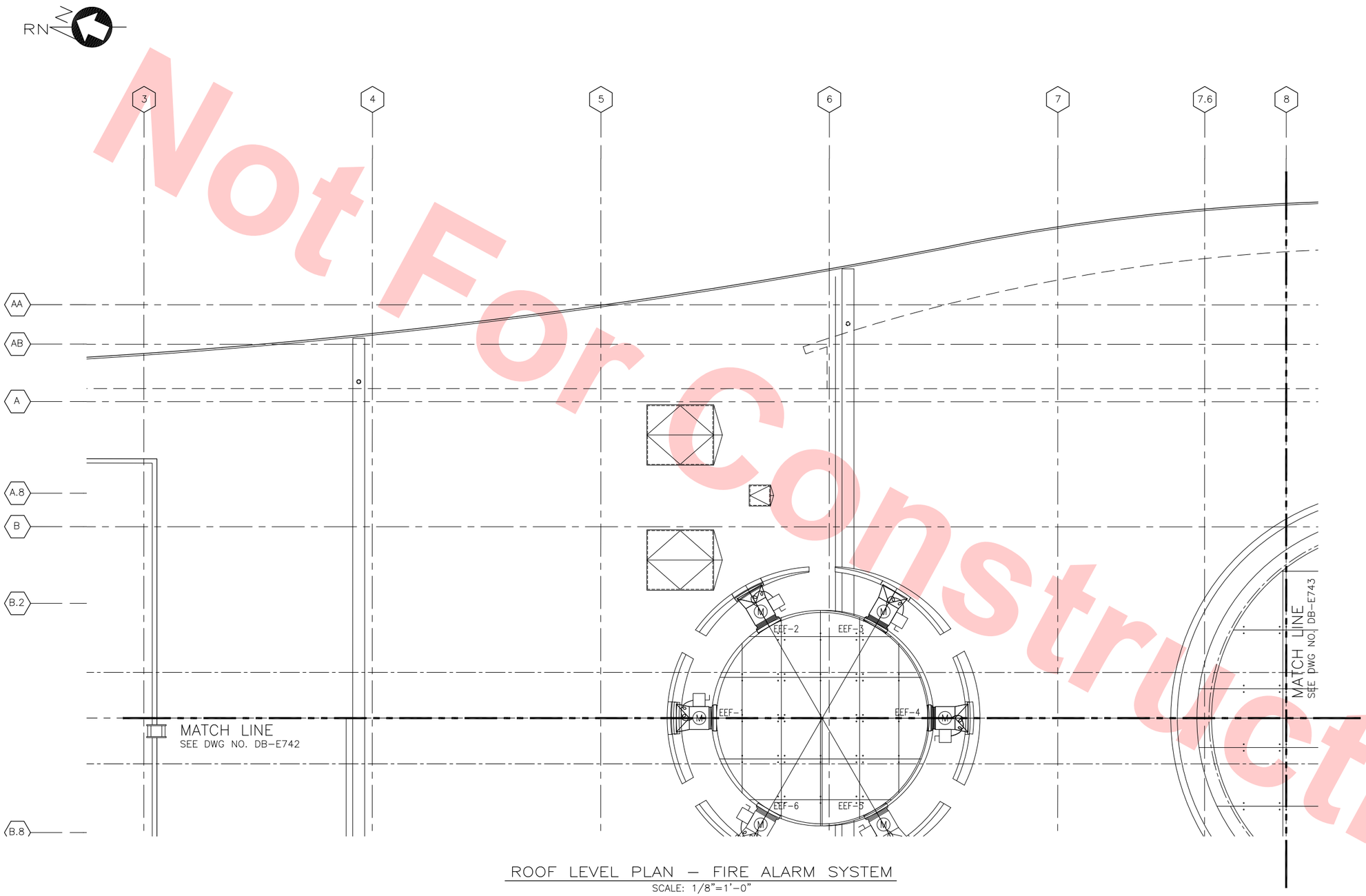
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

KEY PLAN
ROOF LEVEL
FIRE ALARM SYSTEM

CADD FILENAME C700-S-DB-E740.dwg
SIZE D | SCALE 1/32"=1'-0"
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. E740 | PAGE NO.

SingIV Jan 23, 2013 – 5:59pm K:\FIS\Ops\Engineering\California Projects\VTA-Bart\Milpitas Station S40\C700-S-DB-E740.dwg



ROOF LEVEL PLAN – FIRE ALARM SYSTEM

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

DB-E740

KEY NOTES

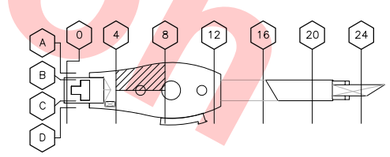
SHEET NOTES:

1. NO FIRE ALARM SCOPE OF WORK ON THIS SHEET.

8' 0' 8' 16'

GRAPHIC SCALE

KEY ROOF PLAN



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REV	DATE	BY	SUB	APP	DESCRIPTION
	20130125				DEFINITIVE DESIGN

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DATE 20120125

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VTA BART SILICON VALLEY

BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

ROOF LEVEL PLAN
FIRE ALARM SYSTEM
SHEET 1 OF 4

CADD FILENAME C700-S-DB-E741.dwg
SIZE D | SCALE 1/8"=1'-0"
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. E741 | PAGE NO.

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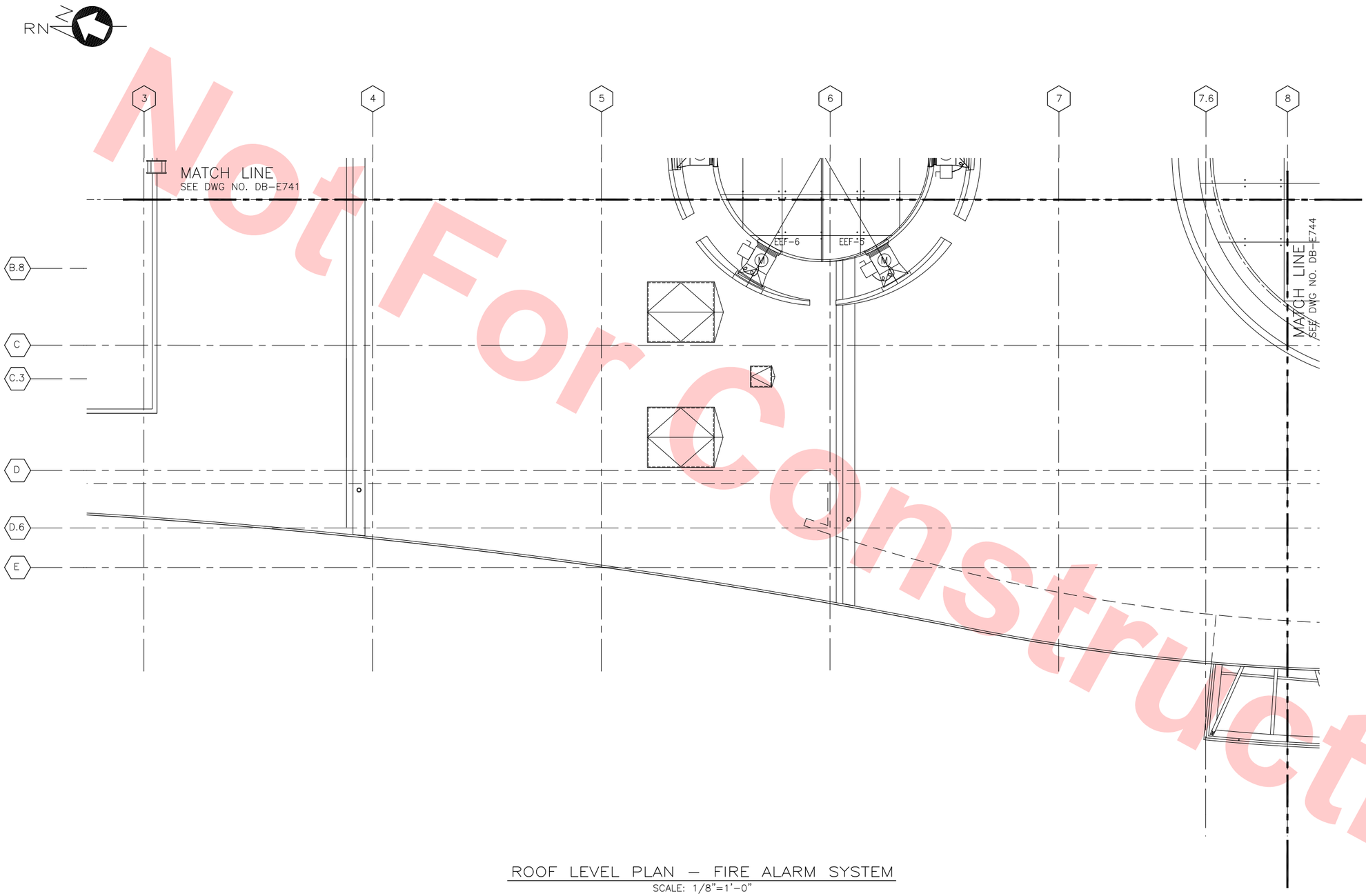

ROOF LEVEL PLAN – FIRE ALARM SYSTEM

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

DB-E740

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AND NOT FOR REVIEW

KEY NOTES

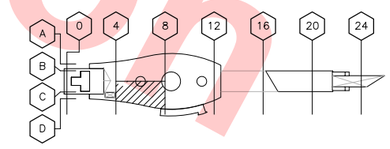
GENERAL NOTES:

1. NO FIRE ALARM SCOPE OF WORK ON THIS SHEET.

8' 0' 8' 16'

GRAPHIC SCALE

KEY ROOF PLAN



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	20130125				DEFINITIVE DESIGN

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VTA BART SILICON VALLEY

BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

ROOF LEVEL PLAN
FIRE ALARM SYSTEM
SHEET 2 OF 4

CADD FILENAME C700-S-DB-742.dwg
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CONTRACT NO. C700
REV.
AREA CODE DB
SHEET NO. E742
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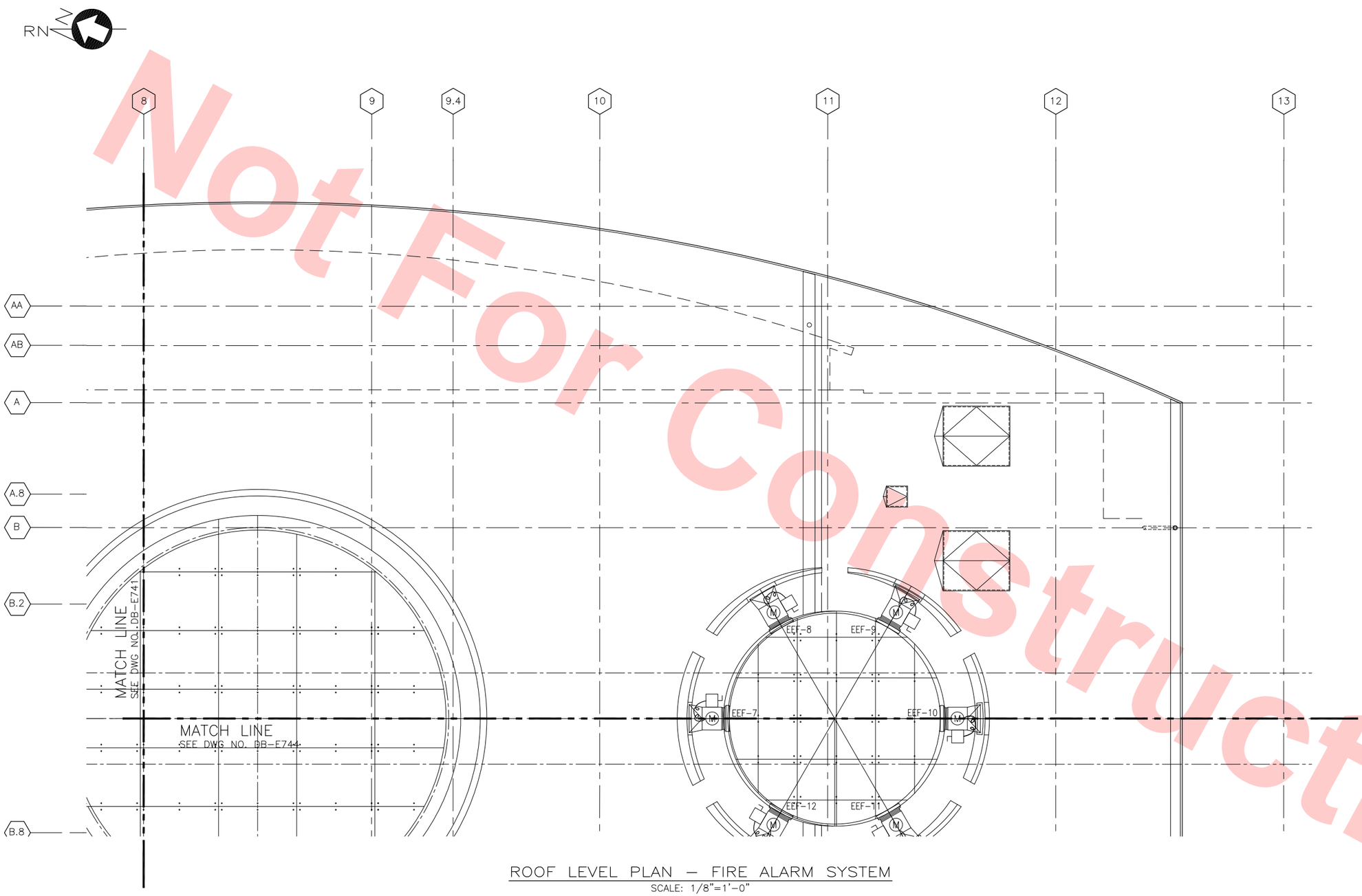

ROOF LEVEL PLAN – FIRE ALARM SYSTEM

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

DB-E740

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AND NOT FOR REVIEW

Not For Construction

KEY NOTES

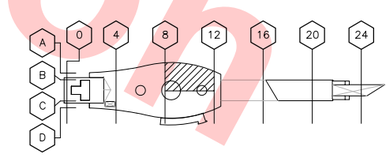
GENERAL NOTES:

1. NO FIRE ALARM SCOPE OF WORK ON THIS SHEET.

8' 0' 8' 16'

GRAPHIC SCALE

KEY ROOF PLAN



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VTA BART SILICON VALLEY

BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

ROOF LEVEL PLAN
FIRE ALARM SYSTEM
SHEET 3 OF 4

CADD FILENAME C700-S-DB-E743.dwg
SIZE D | SCALE 1/8"=1'-0"
CONTRACT NO. C700 | REV.
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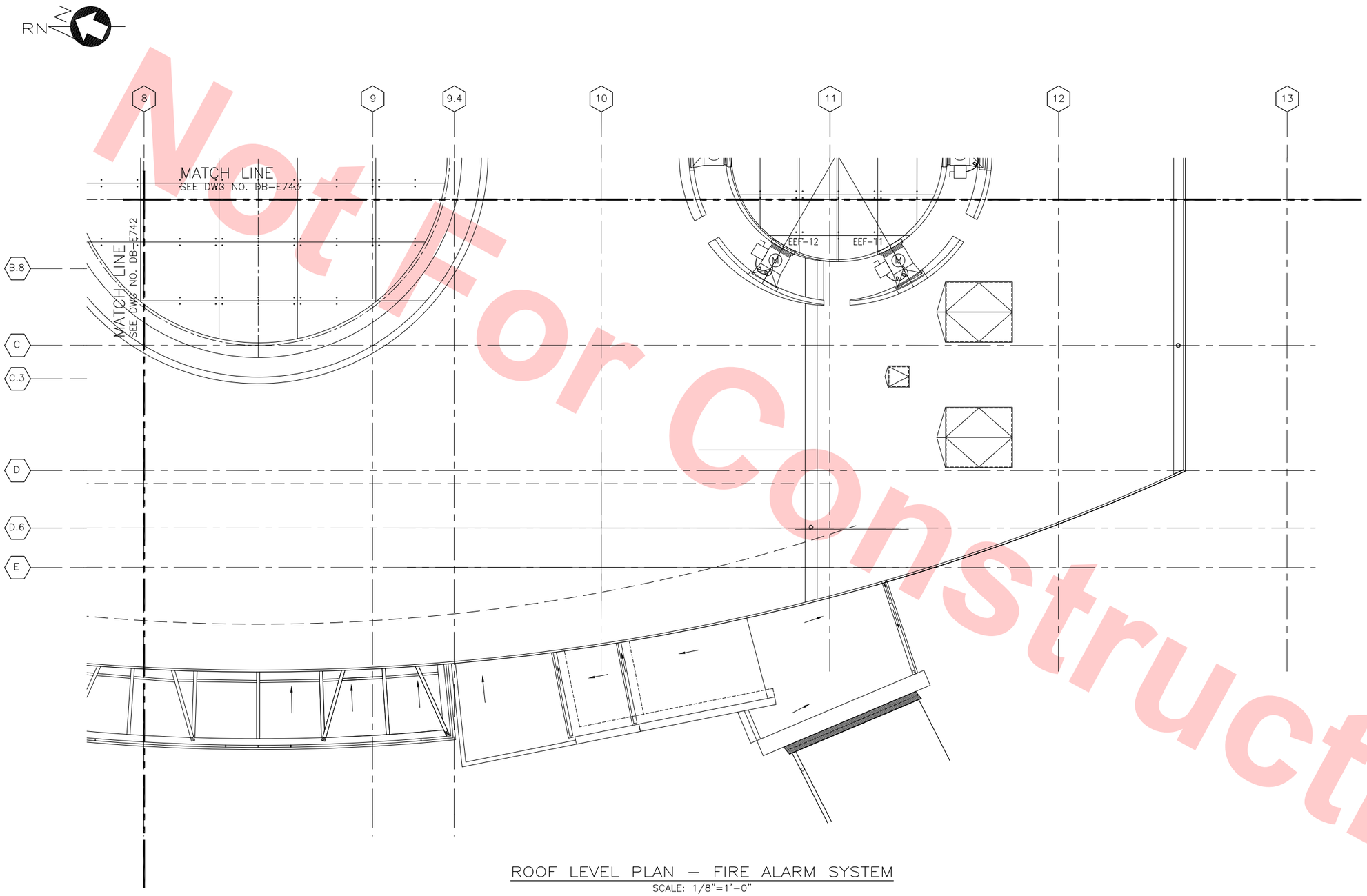


ROOF LEVEL PLAN – FIRE ALARM SYSTEM

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

DB-E740

FOR REFERENCE ONLY
AND NOT FOR REVIEW

KEY NOTES

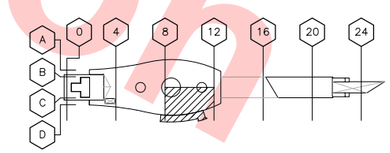
GENERAL NOTES:

1. NO FIRE ALARM SCOPE OF WORK ON THIS SHEET.

8' 0' 8' 16'

GRAPHIC SCALE

KEY ROOF PLAN



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	20130125				DEFINITIVE DESIGN

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IN CHARGE F. CASABONNE
DATE 20130125

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VTA BART SILICON VALLEY

BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

ROOF LEVEL PLAN
FIRE ALARM SYSTEM
SHEET 4 OF 4

CADD FILENAME C700-S-DB-E744.dwg
SIZE D | SCALE 1/8"=1'-0"
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. E744 | PAGE NO.

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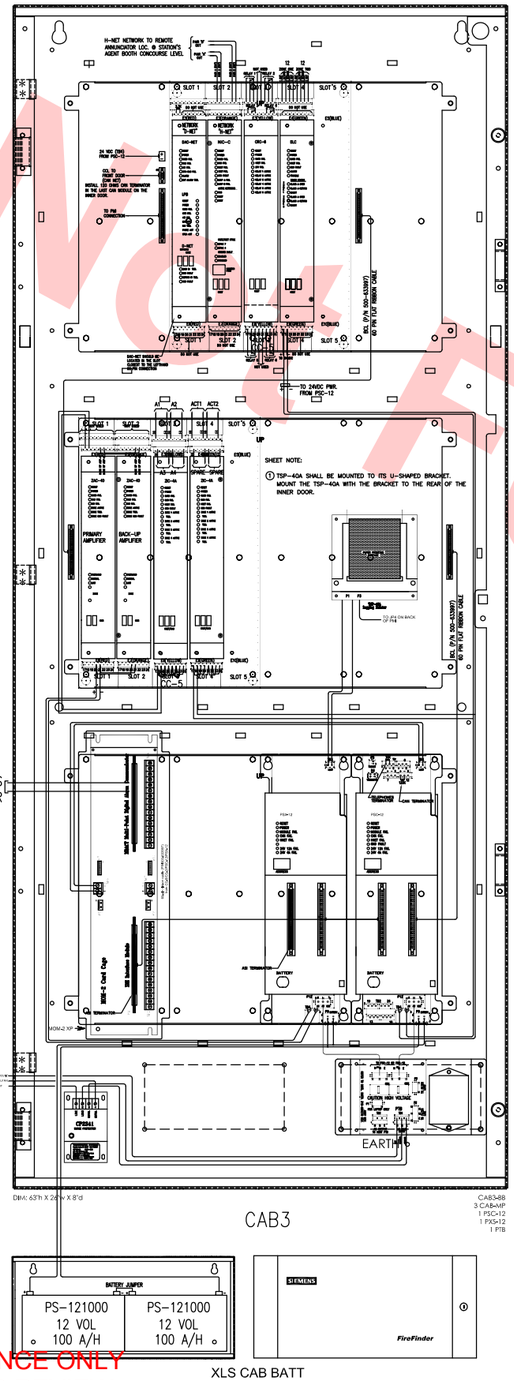

GENERAL NOTES:

1. ALL BATTERY CALCULATION ARE BASED ON A 4 HOUR BATTERY BACKUP PER NFPA 72: 10.5.10.3.2.1 & NFPA 110: CHAPTER 4.

2. THE STATION EMERGENCY GENERATOR IS LOCATED AT THE ANCILLARY BUILDING. THE EMERGENCY GENERATOR MEETS ALL THE REQUIREMENTS FOR LEVEL 1.

3. PLEASE REFER TO FLOOR PLANS FOR EACH SPEAKER WATTAGE TAPPING.

XLSV – SPEAKER CIRCUIT SCHEDULE					
CIRCUIT DESIGNATION	CARD TYPE	CIRCUIT DESCRIPTION	CIRCUIT LOCATION	CIRCUIT WATTAGE	CIRCUIT ALARM CURRENT
A1	ZIC–4A	SPEAKER ONLY (CLASS A)	CONCOURSE LEVEL	16	0.848000
A2	ZIC–4A	SPEAKER ONLY (CLASS A)	PLATFORM LEVEL	5.5	0.291500
A3	ZIC–4A	SPEAKER ONLY (CLASS A)	PLATFORM LEVEL	5.5	0.291500
A4	ZIC–4A	SPEAKER ONLY (CLASS A)	ANCILLARY BUILDING	.75	0.039750
			TOTAL	27.7500	1.4708

XLSV – NAC ACTIVATION SCHEDULE			
CIRCUIT DESIGNATION	CARD TYPE	CIRCUIT DESCRIPTION	CIRCUIT LOCATION
ACT1	ZIC–4A	POWER BOOSTER ACTIVATION	MILPITAS STATION
ACT2	ZIC–4A	POWER BOOSTER ACTIVATION	ANCILLARY BUILDING

XLSV – SIGNALING LINE CIRCUIT SCHEDULE				
CIRCUIT DESIGNATION	ZONE NO.	CIRCUIT DESCRIPTION	LOOP DESCRIPTION	CIRCUIT LOCATION
DLC	ZONE #1	SLC CIRCUIT (CLASS A)	1	CONCOURSE LEVEL & ANCILLARY BUILDING
DLC	ZONE #2	SLC CIRCUIT (CLASS A)	1	PLATFORM LEVEL

XLSV #1 FIRE ALARM & VOICE CONTROL UNIT
LOCATED @ CONCOURSE LEVEL – EMP ROOM

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AND NOT FOR REVIEW

REV	DATE	BY	SUB	APP	DESCRIPTION
	20130125				DEFINITIVE DESIGN

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DRAWN BY V. SINGH
CHECKED BY F.CASABONNE
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VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

FIRE ALARM
CONTROL UNIT DETAILS

CADD FILENAME C700–S–DB–E751.dwg
SIZE D | SCALE NONE
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. E751 | PAGE NO.

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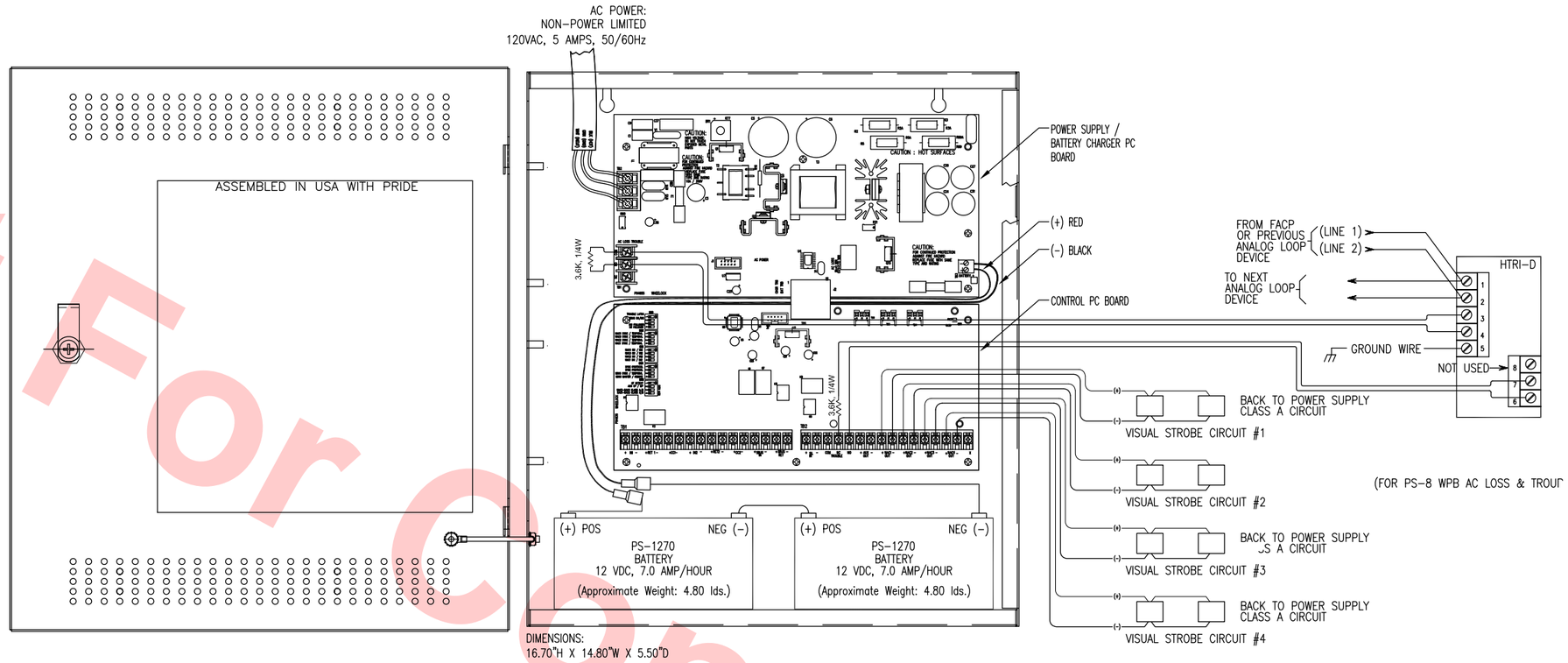

WHEELOCK POWER BOOSTER PANEL (PS-8)

USE PS-8EXP MODULE FOR CLASS A CONFIGURATION (TYP. OF 4)

STROBE CIRCUIT SCHEDULE

SERVED LEVEL DESIGNATION	CIRCUIT DESIGNATION	POWER SUPPLY LOCATION	CIRCUIT DESCRIPTION	SERVED AREA LOCATION
MILPITAS STATION	NAC1:1	EMP ROOM	STROBE CIRCUIT	CONCOURSE LEVEL
	NAC1:2	EMP ROOM	STROBE CIRCUIT	CONCOURSE LEVEL
	NAC1:3	EMP ROOM	STROBE CIRCUIT	CONCOURSE LEVEL
	NAC1:4	EMP ROOM	STROBE CIRCUIT	CONCOURSE LEVEL
	NAC2:1	ELEC. ROOM #2	STROBE CIRCUIT	CONCOURSE LEVEL
	NAC2:2	ELEC. ROOM #2	STROBE CIRCUIT	CONCOURSE LEVEL
	NAC2:3	ELEC. ROOM #2	STROBE CIRCUIT	CONCOURSE LEVEL
	NAC2:4	ELEC. ROOM #2	STROBE CIRCUIT	CONCOURSE LEVEL
	NAC3:1	COMM ROOM #2	STROBE CIRCUIT	PLATFORM LEVEL
	NAC3:2	COMM ROOM #2	STROBE CIRCUIT	PLATFORM LEVEL
	NAC3:3	COMM ROOM #2	STROBE CIRCUIT	PLATFORM LEVEL
	NAC3:4	COMM ROOM #2	STROBE CIRCUIT	PLATFORM LEVEL
	NAC4:1	COMM ROOM #3	STROBE CIRCUIT	PLATFORM LEVEL
	NAC4:2	COMM ROOM #3	STROBE CIRCUIT	PLATFORM LEVEL
	NAC4:3	COMM ROOM #3	STROBE CIRCUIT	PLATFORM LEVEL
	NAC4:4	COMM ROOM #3	STROBE CIRCUIT	PLATFORM LEVEL

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VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

FIRE ALARM
POWER SUPPLY DETAILS
STROBE CIRCUIT SCHEDULE

CADD FILENAME C700-S-DB-E752.dwg
SIZE D | SCALE NONE
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. E752 | PAGE NO.

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XLSV #1 BATTERY CALCULATION

SUPERVISORY CURRENT

DESCRIPTION	QTY	MODULE CURRENT	EOL CURRENT	DEVICE CURRENT	TOTAL ROW CURRENT
CRC-6 CONTROLLABLE RELAY CARD	1	0.051			0.051
20.5mA per Active Relay	6			0.02	0.12
DAC-NET DIGITAL AUDIO CARD NETWORK	1	0.23			0.23
FMT FIREFIGHTERS MASTER TELEPHONE	1	0.15			0.15
30mA per Active Handset	1			0.03	0.03
LPB LOCAL PAGE BOARD	1	0.1			0.1
LVM LIVE VOICE MODULE	1	0.025			0.025
NIC-C NETWORK INTERFACE CARD	1	0.12			0.12
OCM-16 OUTPUT CONTROL MODULE	1	0.014			0.014
10mA per Active LED	16			0.01	0.16
PMI PERSON MACHINE INTERFACE	1	0.23			0.23
PSC-12 PWR SUPPLY CHARGER MODULE	1	0.15			0.15
20mA per Active Relays	4			0.04	0.16
PSX-12 POWER SUPPLY EXTENDER	1	0.15			0.15
TSP-40A PRINTER	1	0.17			0.17
SCM-8 SWITCH CONTROL MODULE	1	0.014			0.014
1mA per LED (8 LED per Module)	8			0.008	0.064
SIM-16 SUPERVISED INPUT MODULE	1	0.02			0.02
1.2mA per Supervised Input	16		0.001		0.016
10mA per Active Relay	0			0.01	0
SSD/SSD-C SYSTEM STATUS DISPLAY	1	0.2			0.2
XMI MDAC" INTERFACE	1	0.005			0.005
MDACT DIALER	1	0.38			0.38
ZAC-40 ZONE AMPLIFIER CARD 40 WATTS	2	0.15			0.3
# Speaker Circuits	4		0.001		0.004
ZIC-4A ZONE INDICATING CARD	2	0.089			0.178
TOTAL CURRENT					**3.041**

ALARM CURRENT

DESCRIPTION	QTY	MODULE CURRENT	TOTAL CKT CURRENT LOAD
DAC-NET DIGITAL AUDIO CARD NETWORK	1	0.23	0.23
NIC-C NETWORK INTERFACE CARD	1	0.12	0.12
PMI-PERSON MACHINE INTERFACE	1	0.23	0.23
PSC-12 PCWER SUPPLY MODULE	1	0.23	0.23
PSX-12 POWER SUPPLY EXTENDER	1	0.15	0.15
TSP-40A PRINTER	1	0.17	0.17
LPB LOCAL PAGE BOARD	1	0.1	0.1
XMI MDAC" INTERFACE	1	0.005	0.005
MDACT DIALER	1	0.38	0.38
LVM LIVE VOICE MODULE	1	0.025	0.025
ZAC-40 ZONE AMPLIFIER CARD 40 WATTS	1	0.15	0.15
ZIC-4A ZONE INDICATING CARD	2	0.077	0.154
SCM-8 SWITCH CONTROL MODULE	1	0.014	0.014
FMT FIREFIGHTERS MASTER TELEPHONE	1	0.18	0.18

PSX-12 #1	1.5508	TOTAL SPEAKERS CURRENT (.053X27.75)	1.4708
		PS-8 POWER SUPPLY ACTIVATION ACT1	0.075
		PS-8 POWER SUPPLY ACTIVATION ACT2	0.005
			0
		TOTAL ALARM CURRENT (AMFS)	**3.6888**

SUMMARY

A = TOTAL SUPERVISORY CURRENT x SUPERVISORY TIME REQUIRED
3.041 AMPS x 4 HR
= 12.164 (AMP/HR)

B = TOTAL ALARM CURRENT x ALARM TIME REQUIRED
3.6888 AMPS x 15 MINS.
= 0.922 (AMP/HR)

C = (A + B) x 1.2 (20% Safety Margin)
= 15.703 (AMP/HR)

SUPERVISORY TIME REQUIRED———4 HR
ALARM TIME REQUIRED——15 MINS. or .25 HR

BATTERY PROVIDED..... PS-121000 (2)
BATTERY SIZE..... 100 (AMP/HR)

TOTAL SYSTEM REQUIRED (A/H)
= 15.703 AMP/HOUR

BATTERY RESERVE AFTER
4 HOURS SUPERVISORY
& 5 MINUTES ALARM (AMP/HOUR)
= 84.297 AMP/HOUR

PSC-12 POWER SUPPLY LOAD CALCULATION

Card/ Module	Quantity	Card/Module 24 VDC Current: Back Plane Current, Per Card/Module	Back Plane Current, Total 1	Screw Terminal 24V Current, Per Card/Module	Screw Terminal 24V Current, Total 2	Total 24 VDC Current (Total 1 + Total 2)
CRC-6	1	10mA	0.133	0	0	0.133
	6	20.5mA per active relay				
DAC-NET	1	230mA	0.23	0	0	0.23
DLC	1	0	0	100mA	0.1	0.1
	252	0	0	1.8mA per device	0.4536	0.4536
FMT	1	0	0	150mA	0.15	0.15
LPB	1	50mA	0.05	0	0	0.05
LVM	1	0	0	25mA	0.025	0.025
NIC-C	1	120mA	0.12	0	0	0.12
PMI	1	230mA	0.23	0	0	0.23
XMI	1	0	0	5mA	0.005	0.005
MDACT	1	0	0	380mA	0.38	0.38
SCM-8	1	0	0	14mA + 1mA per active LED	0.022	0.022
	8					
SSD/SSD-C	1	0	0	200mA	0.2	0.2
ZIC-4A	1	166mA max	0.166	Total NAC device current	0	0
		TOTAL	0.929		TOTAL	2.0986
			(Must not exceed 2 Amps)			(Must not exceed 5 Amps in Standby / 12 Amps in Alarm)

PSX-12 POWER SUPPLY LOAD CALCULATION

Card/ Module	Quantity	Card/Module 24 VDC Current: Screw Terminal 24V Current, Per Card/Module	Screw Terminal 24V Current, Total 2	Total 24 VDC Current (Total 1 + Total 2)
DLC	1	100mA	0.1	0.1
	252	1.8mA per device	0.4536	0.4536
OCM-16	1	14mA + 1mA per active LED	0.03	0.03
	16			
SIM-16	1	10mA per active relay+ 1.2mA per supervised input	0.0292	0.0292
	16			
TSP-40A	1	170mA	0.7	0.7
ZAC-40	2	150mA	0.3	0.3
	40	53mA per w att	2.12	2.12
ZIC-4A	1	227mA max	0.166	0.166
			TOTAL	3.8988
				(Must not exceed 12 Amps in Alarm)

NAC#1 Loc@CONCOURSE LEVEL EMP RM. NAC1 BATTERY CALCULATIONS

SUPERVISORY CURRENT

DESCRIPTION	QTY	DEVICE CURRENT	STAND BY	ALARM CURRENT
NAC#1 Loc@CONCOURSE LEVEL EMP RM.	1		0.129	0.129
			0	
			0	
TOTAL CURRENT			0.129	

ALARM CURRENT

CKT	DEVICE DESCRIPTION	QTY	DEVICE CURRENT RATING	TOTAL CKT CURRENT LOAD
NAC1:1 1.054	STROBE ONLY 15CD (CM)	0	0.064	0
	STROBE ONLY 30CD (CM)	0	0.098	0
	STROBE ONLY 75CD (WM)	3	0.175	0.626
	SPEAKER/STROBE 75CD (WM)	1	0.109	0.109
	SPEAKER/STROBE 110CD (WM)	3	0.14	0.42
NAC1:2 0.97	STROBE ONLY 15CD (CM)	0	0.064	0
	STROBE ONLY 75CD (WM)	3	0.175	0.626
	SPEAKER/STROBE 75CD (WM)	2	0.109	0.218
	SPEAKER/STROBE 110CD (WM)	2	0.14	0.28
NAC1:3 0.72	STROBE ONLY 15CD (CM)	0	0.064	0
	STROBE ONLY 30CD (CM)	0	0.098	0
	STROBE ONLY 75CD (WM)	1	0.175	0.175
	SPEAKER/STROBE 75CD (WM)	5	0.109	0.545
NAC1:4 0.809	STROBE ONLY 15CD (CM)	0	0.064	0
	STROBE ONLY 30CD (CM)	0	0.098	0
	STROBE ONLY 75CD (WM)	4	0.175	0.7
	SPEAKER/STROBE 75CD (WM)	1	0.109	0.109
			TOTAL ALARM CURRENT (AMPS)	3.606

SUMMARY

A = TOTAL SUPERVISORY CURRENT x SUPERVISORY TIME REQUIRED
= 0.129 AMPS x 4 HR
= 0.516 (AMP/HR)

B = TOTAL ALARM CURRENT x ALARM TIME REQUIRED
= 3.606 AMPS + .129 AMPS x .25 HR
= 0.934 (AMP/HR)

C = (A + B) x 1.2 (20% Safety Margin)
= 1.740 (AMP/HR)

SUPERVISORY TIME REQUIRED - 4 HR
ALARM TIME RQED 15 MINS. or .25 HR

BATTERY PROVIDED - PS-1270 (2)
BATT. SIZE 7.0 (AMP/HR)

TOTAL SYSTEM REQUIRED (A/H)
= 1.740 AMP/HOUR

BATTERY RESERVE AFTER
4 HOURS SUPERVISORY
& 15 MINUTES ALARM
= 5.260 AMP/HOUR

NAC#2 Loc@CONCOURSE LEVEL ELEC. RM.#2 NAC2 BATTERY CALCULATIONS

SUPERVISORY CURRENT

DESCRIPTION	QTY	DEVICE CURRENT	STAND BY	ALARM CURRENT
NAC#2 Loc@CONCOURSE LEVEL ELEC. RM.#2	1		0.129	0.129
			0	
			0	
TOTAL CURRENT			0.129	

ALARM CURRENT

CKT	DEVICE DESCRIPTION	QTY	DEVICE CURRENT RATING	TOTAL CKT CURRENT LOAD
NAC2:1 0.848	STROBE ONLY 15CD (CM)	0	0.064	0
	STROBE ONLY 30CD (CM)	0	0.098	0
	STROBE ONLY 75CD (WM)	2	0.175	0.35
	SPEAKER/STROBE 75CD (WM)	2	0.109	0.218
	SPEAKER/STROBE 110CD (WM)	2	0.14	0.28
NAC2:2 0.97	STROBE ONLY 15CD (CM)	0	0.064	0
	STROBE ONLY 30CD (CM)	0	0.098	0
	SPEAKER/STROBE 110CD (WM)	2	0.14	0.28
	WP SPEAKER/STROBE 30CD (WM)	5	0.138	0.69
NAC2:3 0.786	STROBE ONLY 15CD (CM)	0	0.064	0
	STROBE ONLY 30CD (CM)	0	0.098	0
	STROBE ONLY 75CD (WM)	2	0.175	0.35
	SPEAKER/STROBE 75CD (WM)	4	0.109	0.436
NAC2:4 0.502	STROBE ONLY 15CD (CM)	0	0.064	0
	STROBE ONLY 30CD (CM)	0	0.098	0
	STROBE ONLY 75CD (WM)	1	0.175	0.175
	SPEAKER/STROBE 75CD (WM)	3	0.109	0.327
			TOTAL ALARM CURRENT (AMPS)	3.106

SUMMARY

A = TOTAL SUPERVISORY CURRENT x SUPERVISORY TIME REQUIRED
= 0.129 AMPS x 4 HR
= 0.516 (AMP/HR)

B = TOTAL ALARM CURRENT x ALARM TIME REQUIRED
= 3.106 AMPS + .129 AMPS x .25 HR
= 0.801 (AMP/HR)

C = (A + B) x 1.2 (20% Safety Margin)
= 1.590 (AMP/HR)

SUPERVISORY TIME REQUIRED - 4 HR
ALARM TIME RQED 15 MINS. or .25 HR

BATTERY PROVIDED - PS-1270 (2)
BATT. SIZE 7.0 (AMP/HR)

TOTAL SYSTEM REQUIRED (A/H)
= 1.590 AMP/HOUR

BATTERY RESERVE AFTER
4 HOURS SUPERVISORY
& 15 MINUTES ALARM
= 5.410 AMP/HOUR

VOLTAGE DROP CALCULATIONS WIRE GAUGE: #12

CKT	DISTANCE (ft.)	CURRENT LOAD (amps)	VOLTAGE DROP (%)	OPERATING VOLTAGE (16-33 VOLTS)
NAC1:1	250	1.054	4.273	19.528
NAC1:2	450	1.023	7.464	18.877
NAC1:3	800	0.72	9.340	18.495
NAC1:4	675	0.809	8.854	18.594
NAC2:1	400	0.848	5.500	19.278
NAC2:2	530	0.97	8.336	18.699
NAC2:3	350	0.786	4.461	19.490
NAC2:4	900	0.502	7.326	18.906
NAC3:1	500	0.829	6.721	19.029
NAC3:2	830	0.545	7.335	18.904
NAC3:3	580	0.654	6.151	19.145
NAC3:4	920	0.545	8.130	18.741
NAC4:1	500	0.829	6.721	19.029
NAC4:2	830	0.545	7.335	18.904
NAC4:3	580	0.654	6.151	19.145
NAC4:4	920	0.545	8.130	18.741
NAC5:1	450	0.356	2.208	19.950

NAC#3 Loc@PLATFORM LEVEL COMM RM.#2 NAC3 BATTERY CALCULATIONS

SUPERVISORY CURRENT

DESCRIPTION	QTY	DEVICE CURRENT	STAND BY	ALARM CURRENT
NAC#3 Loc@PLATFORM LEVEL COMM RM.#2	1		0.129	0.129
			0	
			0	
TOTAL CURRENT			0.129	

ALARM CURRENT

CKT	DEVICE DESCRIPTION	QTY	DEVICE CURRENT RATING	TOTAL CKT CURRENT LOAD
NAC3:1 0.829	STROBE ONLY 15CD (CM)	0	0.064	0
	STROBE ONLY 30CD (CM)	0	0.098	0
	STROBE ONLY 75CD (WM)	1	0.175	0.175
	SPEAKER/STROBE 75CD (WM)	6	0.109	0.654
NAC3:2 0.545	STROBE ONLY 15CD (CM)	0	0.064	0
	STROBE ONLY 30CD (CM)	0	0.098	0
	SPEAKER/STROBE 75CD (WM)	5	0.109	0.545
NAC3:3 0.654	STROBE ONLY 15CD (CM)	0	0.064	0
	STROBE ONLY 30CD (CM)	0	0.098	0
	SPEAKER/STROBE 75CD (WM)	6	0.109	0.654
NAC3:4 0.545	STROBE ONLY 15CD (CM)	0	0.064	0
	STROBE ONLY 30CD (CM)	0	0.098	0
	SPEAKER/STROBE 75CD (WM)	5	0.109	0.545
			TOTAL ALARM CURRENT (AMPS)	2.573

SUMMARY

A = TOTAL SUPERVISORY CURRENT x SUPERVISORY TIME REQUIRED
= 0.129 AMPS x 4 HR
= 0.516 (AMP/HR)

B = TOTAL ALARM CURRENT x ALARM TIME REQUIRED
= 2.573 AMPS + .129 AMPS x .25 HR
= 0.675 (AMP/HR)

C = (A + B) x 1.2 (20% Safety Margin)
= 1.430 (AMP/HR)

SUPERVISORY TIME REQUIRED - 4 HR
ALARM TIME RQED 15 MINS. or .25 HR

BATTERY PROVIDED - PS-1270 (2)
BATT. SIZE 7.0 (AMP/HR)

TOTAL SYSTEM REQUIRED (A/H)
= 1.430 AMP/HOUR

BATTERY RESERVE AFTER
4 HOURS SUPERVISORY
& 15 MINUTES ALARM
= 5.570 AMP/HOUR

NAC#4 Loc@PLATFORM LEVEL COMM RM.#3 NAC4 BATTERY CALCULATIONS

SUPERVISORY CURRENT

DESCRIPTION	QTY	DEVICE CURRENT	STAND BY	ALARM CURRENT
NAC#4 Loc@PLATFORM LEVEL COMM RM.#3	1		0.129	0.129
			0	
			0	
TOTAL CURRENT			0.129	

ALARM CURRENT

CKT	DEVICE DESCRIPTION	QTY	DEVICE CURRENT RATING	TOTAL CKT CURRENT LOAD
NAC4:1 0.829	STROBE ONLY 15CD (CM)	0	0.064	0
	STROBE ONLY 30CD (CM)	0	0.098	0
	STROBE ONLY 75CD (WM)	1	0.175	0.175
	SPEAKER/STROBE 75CD (WM)	6	0.109	0.654
NAC4:2 0.545	STROBE ONLY 15CD (CM)	0	0.064	0
	STROBE ONLY 30CD (CM)	0	0.098	0
	SPEAKER/STROBE 75CD (WM)	5	0.109	0.545
NAC4:3 0.654	STROBE ONLY 15CD (CM)	0	0.064	0
	STROBE ONLY 30CD (CM)	0	0.098	0
	SPEAKER/STROBE 75CD (WM)	6	0.109	0.654
NAC4:4 0.545	STROBE ONLY 15CD (CM)	0	0.064	0
	STROBE ONLY 30CD (CM)	0	0.098	0
	SPEAKER/STROBE 75CD (WM)	5	0.109	0.545
			TOTAL ALARM CURRENT (AMPS)	2.573

SUMMARY

A = TOTAL SUPERVISORY CURRENT x SUPERVISORY TIME REQUIRED
= 0.129 AMPS x 4 HR
= 0.516 (AMP/HR)

B = TOTAL ALARM CURRENT x ALARM TIME REQUIRED
= 2.573 AMPS + .129 AMPS x .25 HR
= 0.676 (AMP/HR)

C = (A + B) x 1.2 (20% Safety Margin)
= 1.430 (AMP/HR)

SUPERVISORY TIME REQUIRED - 4 HR
ALARM TIME RQED 15 MINS. or .25 HR

BATTERY PROVIDED - PS-1270 (2)
BATT. SIZE 7.0 (AMP/HR)

TOTAL SYSTEM REQUIRED (A/H)
= 1.430 AMP/HOUR

BATTERY RESERVE AFTER
4 HOURS SUPERVISORY
& 15 MINUTES ALARM
= 5.570 AMP/HOUR

NAC#4 Loc@PLATFORM LEVEL COMM RM.#3 NAC4 BATTERY CALCULATIONS

SUPERVISORY CURRENT

DESCRIPTION	QTY	DEVICE CURRENT	STAND BY	ALARM CURRENT
NAC#4 Loc@PLATFORM LEVEL COMM RM.#3	1		0.129	0.129
			0	
			0	
TOTAL CURRENT			0.129	

ALARM CURRENT

CKT	DEVICE DESCRIPTION	QTY	DEVICE CURRENT RATING	TOTAL CKT CURRENT LOAD
NAC4:1 0.829	STROBE ONLY 15CD (CM)	0	0.064	0
	STROBE ONLY 30CD (CM)	0	0.098	0
	STROBE ONLY 75CD (WM)	1	0.175	0.175
	SPEAKER/STROBE 75CD (WM)	6	0.109	0.654
NAC4:2 0.545	STROBE ONLY 15CD (CM)	0	0.064	0
	STROBE ONLY 30CD (CM)	0	0.098	0
	SPEAKER/STROBE 75CD (WM)	5	0.109	0.545
NAC4:3 0.654	STROBE ONLY 15CD (CM)	0	0.064	0
	STROBE ONLY 30CD (CM)	0	0.098	0
	SPEAKER/STROBE 75CD (WM)	6	0.109	0.654
NAC4:4 0.545	STROBE ONLY 15CD (CM)	0	0.064	0
	STROBE ONLY 30CD (CM)	0	0.098	0
	SPEAKER/STROBE 75CD (WM)	5	0.109	0.545
			TOTAL ALARM CURRENT (AMPS)	2.573

SUMMARY

A = TOTAL SUPERVISORY CURRENT x SUPERVISORY TIME REQUIRED
= 0.129 AMPS x 4 HR
= 0.516 (AMP/HR)

B = TOTAL ALARM CURRENT x ALARM TIME REQUIRED
= 2.573 AMPS + .129 AMPS x .25 HR
= 0.676 (AMP/HR)

C = (A + B) x 1.2 (20% Safety Margin)
= 1.430 (AMP/HR)

SUPERVISORY TIME REQUIRED - 4 HR
ALARM TIME RQED 15 MINS. or .25 HR

BATTERY PROVIDED - PS-1270 (2)
BATT. SIZE 7.0 (AMP/HR)

TOTAL SYSTEM REQUIRED (A/H)
= 1.430 AMP/HOUR

BATTERY RESERVE AFTER
4 HOURS SUPERVISORY
& 15 MINUTES ALARM
= 5.570 AMP/HOUR

FOR REFERENCE ONLY
AND NOT FOR REVIEW

REV	DATE	BY	SUB	APP	DESCRIPTION
	20130125				DEFINITIVE DESIGN

DESIGNED BY V. SINGH
DRAWN BY V. SINGH
CHECKED BY F. CASABONNE
IN CHARGE F. CASABONNE
DATE 20130125

SIEMENS Industry, Inc.
Fire Safety Division
SUBMITTED

Skanska Shimmick Herzog
SAN FRANCISCO BRANCH
2500 Industrial Boulevard, Suite 200
Hayward, California 94545-2991
Tel (510) 783-6000 Fax (510) 293-2100
California State C10 License No. 758796
U.L. Certificate ID No. 32107-001
1436 California Circle
Milpitas, California 95035
A Joint Venture

Lockwood, Andrews & Newnam, Inc. A LEO A DALY COMPANY
T·Y·LIN INTERNATIONAL
APPROVED

NOT FOR CONSTRUCTION

VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

FIRE ALARM
BATTERY AND VOLTAGE
DROP CALCULATIONS

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SIZE D | SCALE NONE
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. E753 | PAGE NO.

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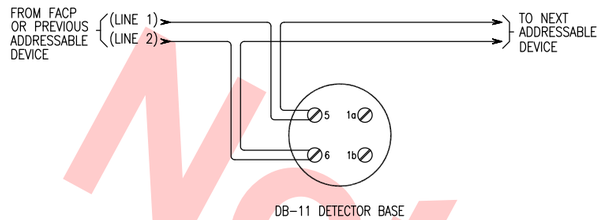
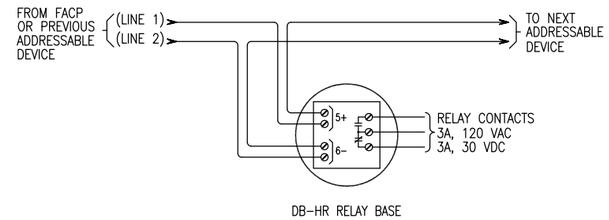
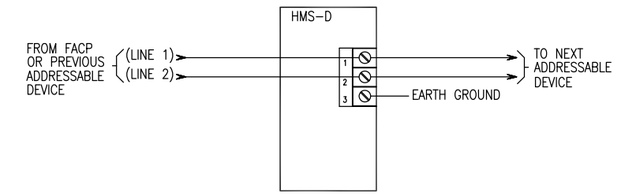


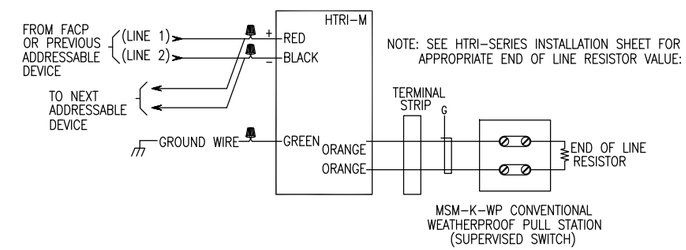
HFPT-11 INTELLIGENT THERMAL DETECTOR or
HFP-11 INTELLIGENT PHOTOELECTRIC FIRE DETECTOR
with DB-11 DETECTOR BASE



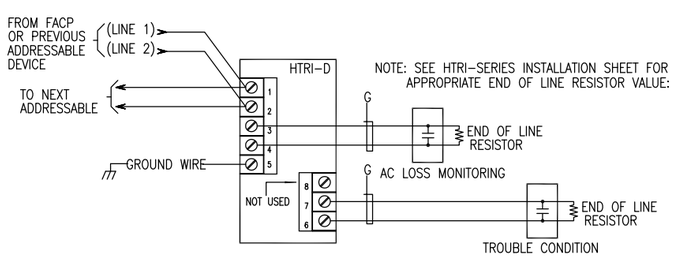
HFPT-11 INTELLIGENT THERMAL DETECTOR or
HFP-11 INTELLIGENT PHOTOELECTRIC FIRE DETECTOR
with DB-HR DETECTOR BASE with RELAY



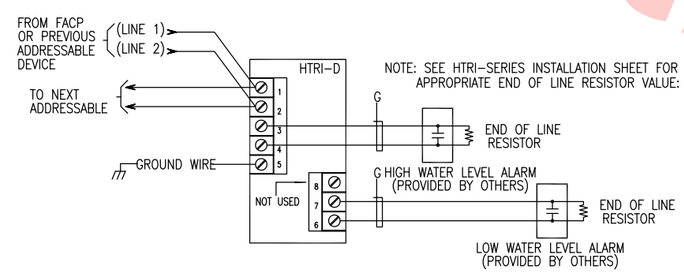
HMS-D MANUAL PULL STATION (DUAL ACTION)



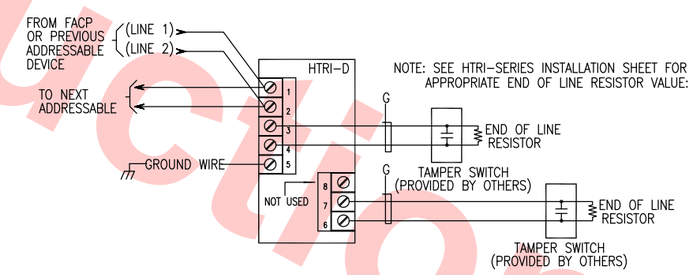
HTRI-M MINI-INTERFACE MODULE, SINGLE INPUT
for MONITORING MSM-K-WP CONVENTIONAL WEATHERPROOF PULL STATION



HTRI-D INTERFACE MODULE, DUAL INPUT
for PS8 BOOSTER POWER SUPPLY PANEL AC LOSS AND TROUBLE CONDITION



HTRI-D INTERFACE MODULE, DUAL INPUT
for FIRE PUMP WATER LEVEL SUPERVISION



HTRI-D INTERFACE MODULE, DUAL INPUT
for FIRE PUMP TAMPER & WATERFLOW SWITCH SUPERVISION

Not For Construction

FOR REFERENCE ONLY
AND NOT FOR REVIEW

REV	DATE	BY	SUB	APP	DESCRIPTION
	20130125				DEFINITIVE DESIGN

DESIGNED BY V. SINGH
DRAWN BY V. SINGH
CHECKED BY F. CASABONNE
IN CHARGE F. CASABONNE
DATE 20130125

Skanska Shimmick Herzog
1436 California Circle
Milpitas, California 95035
A Joint Venture

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U.L. Certificate ID No. 3241974001

Lockwood, Andrews & Newnam, Inc. A LEO A DALY COMPANY
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VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

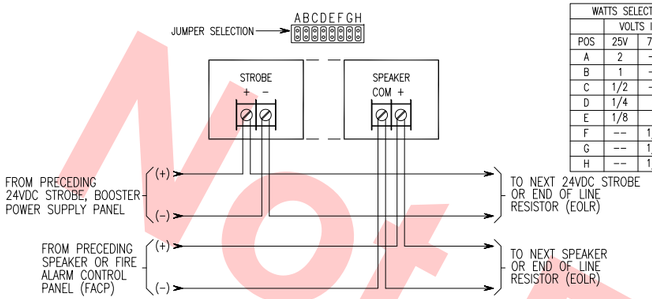
LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

FIRE ALARM
FIELD DEVICES WIRING DETAILS
PART-1

CADD FILENAME C700-S-DB-E754.dwg
SIZE D
SCALE NONE
CONTRACT NO. C700
REV.
AREA CODE DB
SHEET NO. E754
PAGE NO.

SingV Jan 23, 2013 – 6:09pm K:\FB\Das\Engineering\California Projects\VTA-Bart\Milpitas Station S40\C700-S-DB-E754.dwg

WARNING: THE STROBE APPLIANCES MUST BE FIELD SET TO THE DESIRED CANDELA RATING BEFORE THEY ARE INSTALLED. REFER TO FIRE ALARM FLOOR PLAN FOR APPROPRIATE CANDELA SETTING.
THE SPEAKER APPLIANCES MUST BE FIELD SET TO THE DESIRED dBA SOUND OUTPUT LEVEL BEFORE THEY ARE INSTALLED. THIS IS DONE BY PROPERLY INSERTING JUMPER PLUG IN ACCORDANCE WITH THE INSTALLATION INSTRUCTION.



WATTS SELECT		
	VOLTS IN	
POS	25V	70V
A	2	--
B	1	--
C	1/2	--
D	1/4	2
E	1/8	1
F	--	1/2
G	--	1/4
H	--	1/8

E50-24MCW-FR / E50-24MCWH-FR SPEAKER/STROBE (WALL MOUNTED)

(Multi-Candela Appliance 15 / 30 / 75 / 110cd),(High Candela Appliance 115/177)

NOTE: SET SPEAKER JUMPER PLUG TO 70 VOLTS AND TAP EACH SPEAKER TO 1/4 WATT, UNLESS OTHERWISE NOTED ON THE DRAWINGS. (SEE FLOOR PLAN FOR ADDITIONAL INFORMATION)

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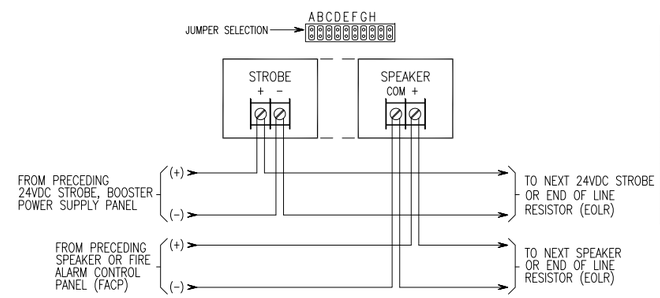
THE SPEAKER APPLIANCES MUST BE FIELD SET TO THE DESIRED dBA SOUND OUTPUT LEVEL BEFORE THEY ARE INSTALLED. THIS IS DONE BY PROPERLY INSERTING JUMPER PLUG IN ACCORDANCE WITH THE INSTALLATION INSTRUCTION.



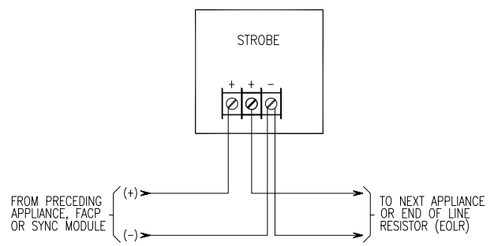
WATTS SELECT		
	VOLTS IN	
POS	25V	70V
A	8	--
B	4	--
C	2	--
D	1	2
E	1/2	4
F	1/4	2
G	1/8	1
H	--	1/2
I	--	1/4
J	--	1/8

ET70WP-24185W WEATHERPROOF SPEAKER/STROBE (WALL MOUNTED)

(Strobe Candela Appliance 185cd, 90cd at −40°C)

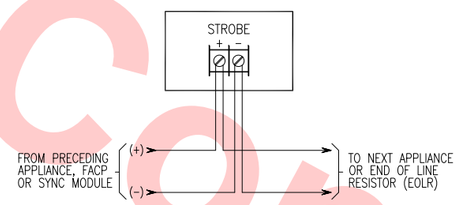
NOTE: SET SPEAKER JUMPER PLUG TO 70 VOLTS AND TAP EACH SPEAKER TO 2 WATT, UNLESS OTHERWISE NOTED ON THE DRAWINGS. (SEE FLOOR PLAN FOR ADDITIONAL INFORMATION)

WARNING: THE STROBE APPLIANCES MUST BE FIELD SET TO THE DESIRED CANDELA RATING BEFORE THEY ARE INSTALLED. REFER TO FIRE ALARM FLOOR PLAN FOR APPROPRIATE CANDELA SETTING.



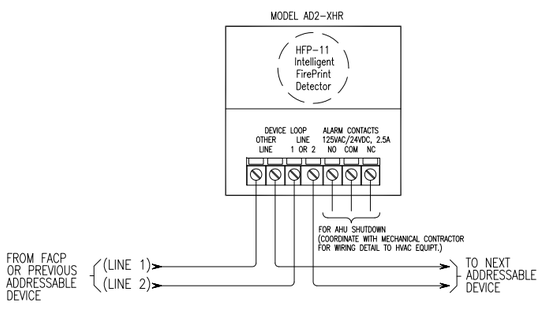
STW (WALL MOUNTED) & STWC (CEILING MOUNTED) STROBE

(Multi-Candela Appliance 15 / 1575 / 30 / 75 / 95 / 110 / 135 / 185cd)



RSSWP-2475W-FW WEATHERPROOF STROBE (WALL MOUNTED)

(Multi-Candela Appliance 30/180cd, 180cd is on Axis only)

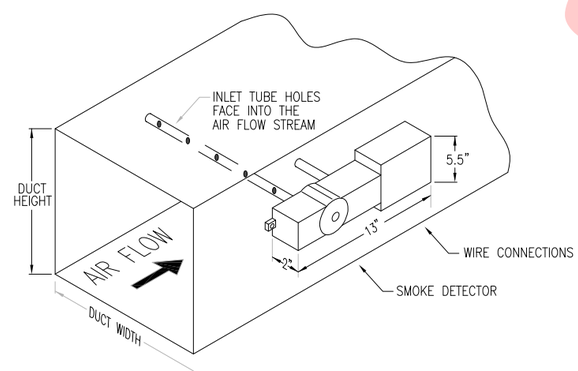


AD2-XHR DUCT DETECTOR HOUSING with RELAY for AHU/FSD CONTROL

with HFP-11 INTELLIGENT FirePrint SMOKE DETECTOR

NOTE: 1 THE AIR FLOW INSIDE THE DUCT MUST BE MORE THAT 100 FEET PER MINUTE FOR THE DUCT DETECTOR TO OPERATE PROPERLY.

2 THE INSTALLING CONTRACTOR MUST PROVIDE PROPER SHIELDING OR OVERHUNG PROTECTION TO SIEMENS DUCT DETECTORS ON THE ROOF. IN ADDITION, AVOID INSTALLING THE DUCT DETECTORS WITH DIRECT HEAT OF THE SUN.



SMOKE DUCT DETECTOR HOUSING INSTALLATION

TYPICAL APPLICATION

THE SIEMENS DUCT SMOKE DETECTOR HOUSING MUST BE INSTALLED ON A FLAT, ACCESSIBLE DUCT AREA. TO AVOID STRATIFICATION EFFECTS, INSTALL THE DETECTOR HOUSING A MINIMUM OF SIX DUCT WIDTHS BEYOND ANY BENDS IN THE DUCT. BEFORE INSTALLING THE DUCT DETECTOR HOUSING, VERIFY THAT DUCT AIR VELOCITY IS WITHIN THE LIMITS OF THE SMOKE DETECTOR. ALSO VERIFY THAT DUCT RELATIVE HUMIDITY IS WITHIN 0-93%, NONCONDENSING. MOUNT ONLY ON THE TOP OR SIDES OF THE DUCT TO AVOID CONDENSATION ISSUES. A PAPER MOUNTING TEMPLATE IS PROVIDED WITH EACH DUCT DETECTOR.

INLET SAMPLE TUBE SELECTION TABLE	
HVAC DUCT WIDTH	SAMPLE TUBE MODEL
6" TO 12"	ST-10
1' TO 3'	ST-25
3' TO 5'	ST-50
5' TO 10'	ST-100

THE ST-100 IS SHIPPED IN TWO FIVE FOOT PIECES WITH A COUPLING FOR FIELD ASSEMBLY.

IMPORTANT: THIS DEVICE DRAWS AIR FROM THE DUCT THRU THE INLET SAMPLE TUBE AND EXHAUSTS IT BACK INTO THE DUCT THROUGH THE OUTLET TUBE. EACH INLET SAMPLE TUBE IS MANUFACTURED WITH A DIFFERENT NUMBER AND SIZE OF SAMPLING HOLES. THE SPECIFIC MODEL TUBE MUST BE USED FOR THE DUCT WIDTH. THESE TUBES CAN BE CUT TO LENGTH AND MUST SPAN AT LEAST 80% THE WIDTH OF THE DUCT. ALWAYS USE THE NEXT LONGEST STANDARD SIZE AND CUT DOWN TO THE EXACT REQUIREMENT. SAMPLING TUBES OVER 3.0' MUST BE SUPPORTED ON THE OPPOSITE SIDE OF THE DUCT. TO ENSURE THE CORRECT OPERATION, THE RED STOPPER (SUPPLIED) MUST BE INSERTED IN THE END OF THE AIR INPUT SAMPLING TUBE.

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AND NOT FOR REVIEW

REV	DATE	BY	SUB	APP	DESCRIPTION
	20130125				DEFINITIVE DESIGN

DESIGNED BY V. SINGH
DRAWN BY V. SINGH
CHECKED BY F. CASABONNE
IN CHARGE F. CASABONNE
DATE 20130125

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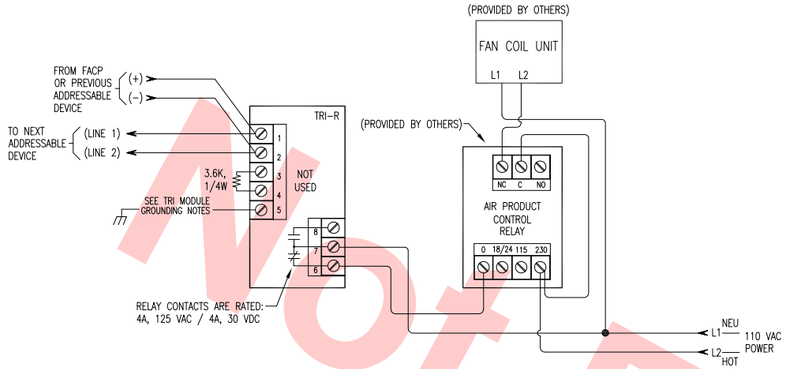
VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

FIRE ALARM
FIELD DEVICES WIRING DETAILS
PART-2

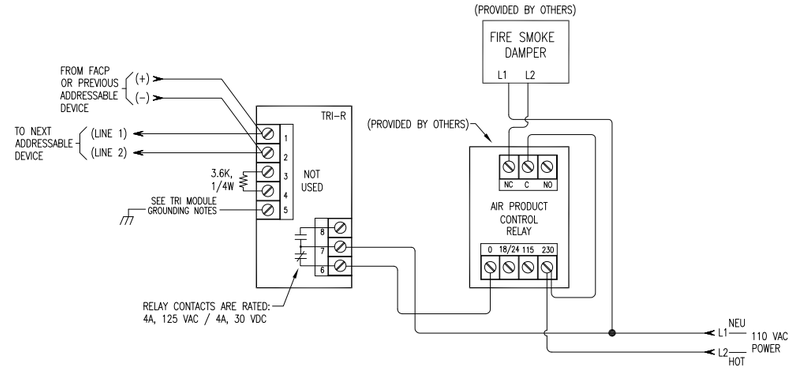
CADD FILENAME C700-S-DB-E755.dwg
SIZE D | SCALE NONE
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. E755 | PAGE NO.

SingpV Jan 24, 2013 - 3:50pm K:\FIS\Ops\Engineering\California Projects\VTA-Bart\Milpitas Station S40\C700-S-DB-E755.dwg



TRI-R INTERFACE MODULE, SINGLE INPUT w/ RELAY

for CONTROLLING FAN COIL UNIT VIA AIR PRODUCT CONTROL RELAY



TRI-R INTERFACE MODULE, SINGLE INPUT w/ RELAY

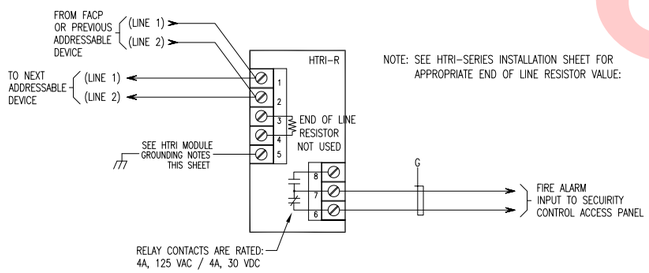
for CONTROLLING FIRE SMOKE DAMPERS VIA AIR PRODUCT CONTROL RELAY

HTRI-S/HTRI-R/HTRI-D GROUNDING NOTES

1. CAUTION: GROUND SHIELD ONLY AT THE SPECIFIED LOCATION ON THE CONTROL PANEL.
2. IMPORTANT: TERMINAL 5 OF THE TRI-S/TRI-R/TRI-D MUST BE CONNECTED TO A KNOWN GOOD EARTH GROUND FOR PROPER OPERATION.
3. IF A GOOD LOCAL EARTH GROUND IS AVAILABLE:
   a. TERMINAL 5 MUST BE CONNECTED TO EARTH GROUND.
   b. USE WIRE NUTS TO PASS THE SHIELD WIRE THROUGH THE ELECTRICAL BOX WITH NO CONNECTION TO THE DEVICE TERMINAL BLOCK OR TO LOCAL GROUND.
   c. USE SHIELDED WIRE TO CONNECT THE SWITCH WIRING.
   d. TIE THE SWITCH WIRING SHIELD TO THE ALD WIRING SHIELD. DO NOT CONNECT SHIELD TO TERMINAL 5 OR THE LOCAL EARTH GROUND.
4. IF A GOOD LOCAL EARTH GROUND IS NOT AVAILABLE:
   CONNECT SHIELD TO TERMINAL 5
   IF ALD WIRING IS NOT SHIELDED, THE SWITCH WIRING MUST BE IN METAL RACEWAY.

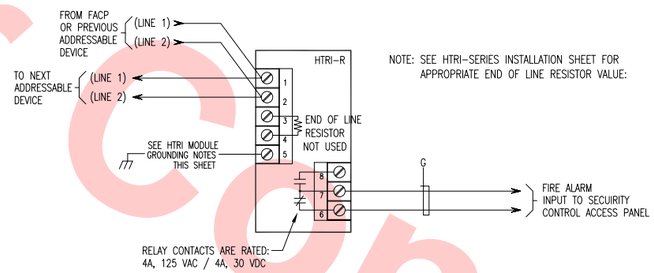
REFER TO INSTALLATION INSTRUCTIONS P/N 315-096242-2 FOR FURTHER DETAILS

TYPICAL HTRI MODULE GROUNDING DETAIL



HTRI-R INTERFACE MODULE, SINGLE INPUT w/ RELAY

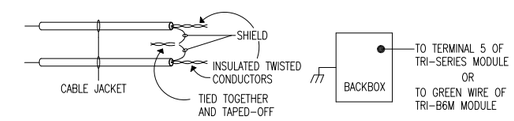
for SECURITY/CONTROL ACCESS PANEL INTERFACE



HTRI-R INTERFACE MODULE, SINGLE INPUT w/ RELAY

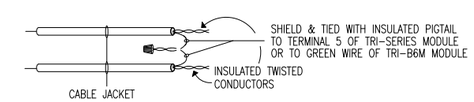
FIRE ALARM INPUT TO SCADA SYSTEM (TYP.)

WHERE FIELD BACK BOX HAS GOOD CONNECTION TO EARTH GROUND:

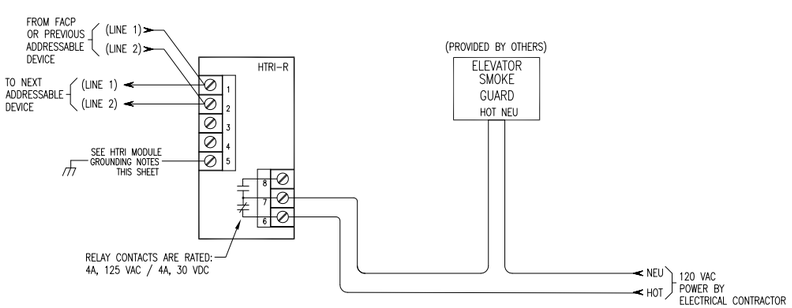


NOTE: CONDUIT SYSTEM MUST HAVE A GOOD REFERENCE TO EARTH GROUND

WHERE FIELD BACK BOX HAS NO CONNECTION TO EARTH GROUND:



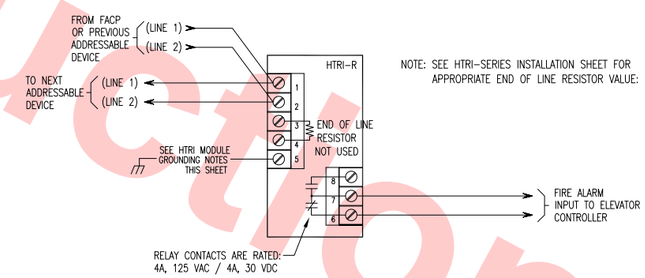
* ALL UNSHIELDED WIRE MUST BE ENTIRELY IN GROUND CONDUIT



HTRI-R INTERFACE MODULE, SINGLE INPUT w/ RELAY

for CONTROLLING SMOKE GUARD DOOR

FOR REFERENCE ONLY AND NOT FOR REVIEW



HTRI-R INTERFACE MODULE, SINGLE INPUT w/ RELAY

for ELEVATOR CONTROL FUNCTIONS

Not For Construction

REV	DATE	BY	SUB	APP	DESCRIPTION
	20130125				DEFINITIVE DESIGN

DESIGNED BY V. SINGH
DRAWN BY V. SINGH
CHECKED BY F. CASABONNE
IN CHARGE F. CASABONNE
DATE 20130125

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U.L. Certificate ID No. 3247974001

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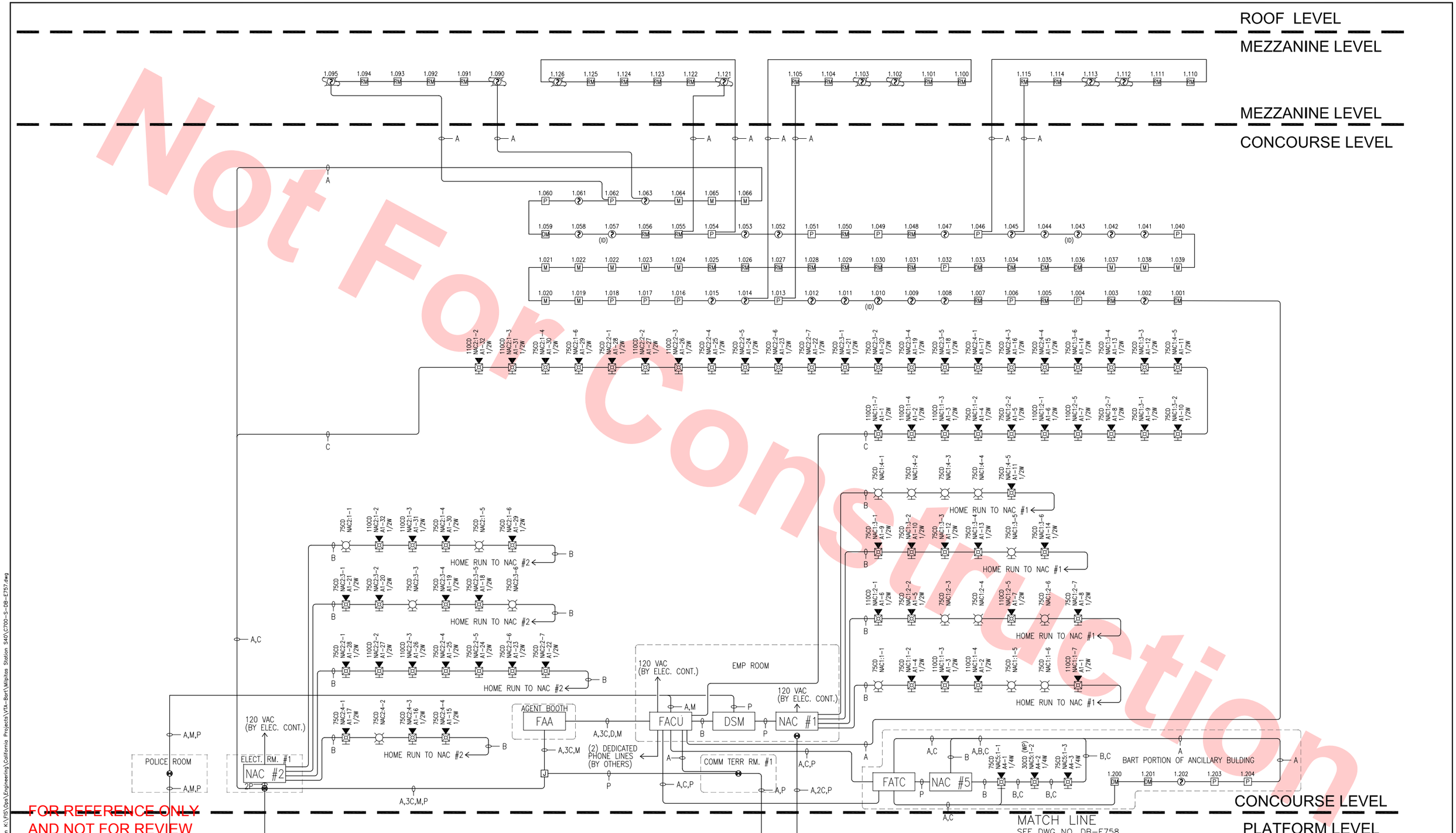
VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

FIRE ALARM
FIELD DEVICES WIRING DETAILS
PART-3

CADD FILENAME C700-S-DB-E756.dwg
SIZE D
SCALE NONE
CONTRACT NO. C700
REV.
AREA CODE DB
SHEET NO. E756
PAGE NO.

SingbV Jan 24, 2013 – 3:48pm K:\FIS\Ops\Engineering\California Projects\VTA-Bart\Milpitas Station S40\C700-S-DB-E756.dwg



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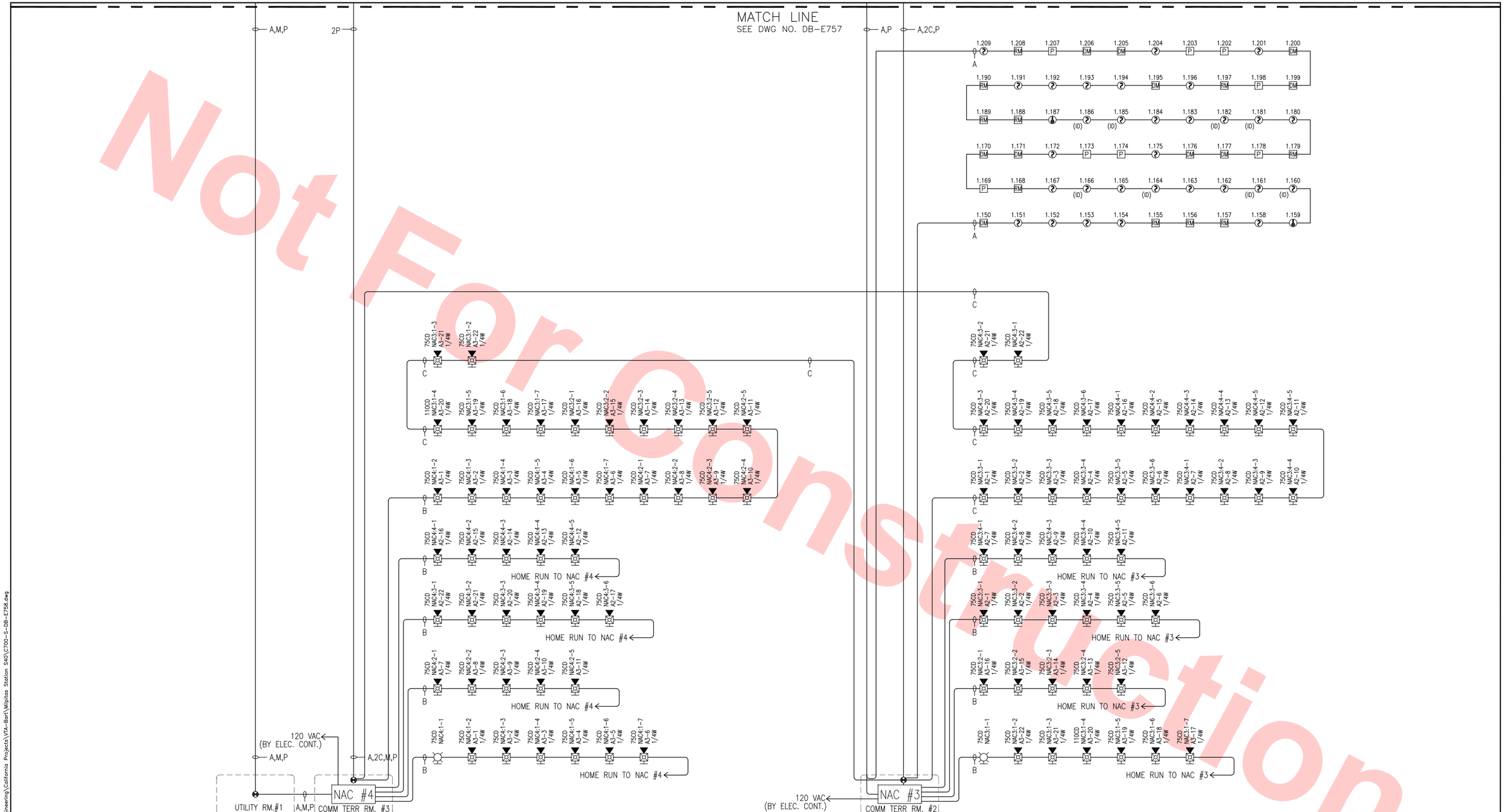
BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

FIRE ALARM
RISER DIAGRAM
PART-1

CADD FILENAME C700-S-DB-E757.dwg
SIZE D | SCALE NONE
CONTRACT NO. C700 | REV.
AREA CODE DB | SHEET NO. E757 | PAGE NO.

SingV Jan 23, 2013 - 6:11pm K:\PIS\Dpa\Engineering\California Projects\VTA-Bart\Milpitas Station 540\C700-S-DB-E757.dwg



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FIRE ALARM RISER DIAGRAM

REV	DATE	BY	SUB	APP	DESCRIPTION
	20130125				DEFINITIVE DESIGN

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VTA BART SILICON VALLEY
BART SILICON VALLEY BERRYESSA EXTENSION

LINE, TRACK, STATIONS AND SYSTEMS
MILPITAS STATION

FIRE ALARM
RISER DIAGRAM
PART-2

CADD FILENAME C700-S-DB-E758.dwg
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