

April 22, 2025

Addendum No. 07

File Reference Number: RFP 2025 010

Title: Engineering Design Services for North Bay Shops Compressed Air System Upgrades

RE: Clarifications/Questions

Please refer to the following information/clarification:

Item 1: Please see attached at Appendix "A", the second-floor plan details of the Car Shop, in addition to the M14 and M15 drawings which reference the upgrades that will take place in the second-floor mechanical rooms of the Car Shop.

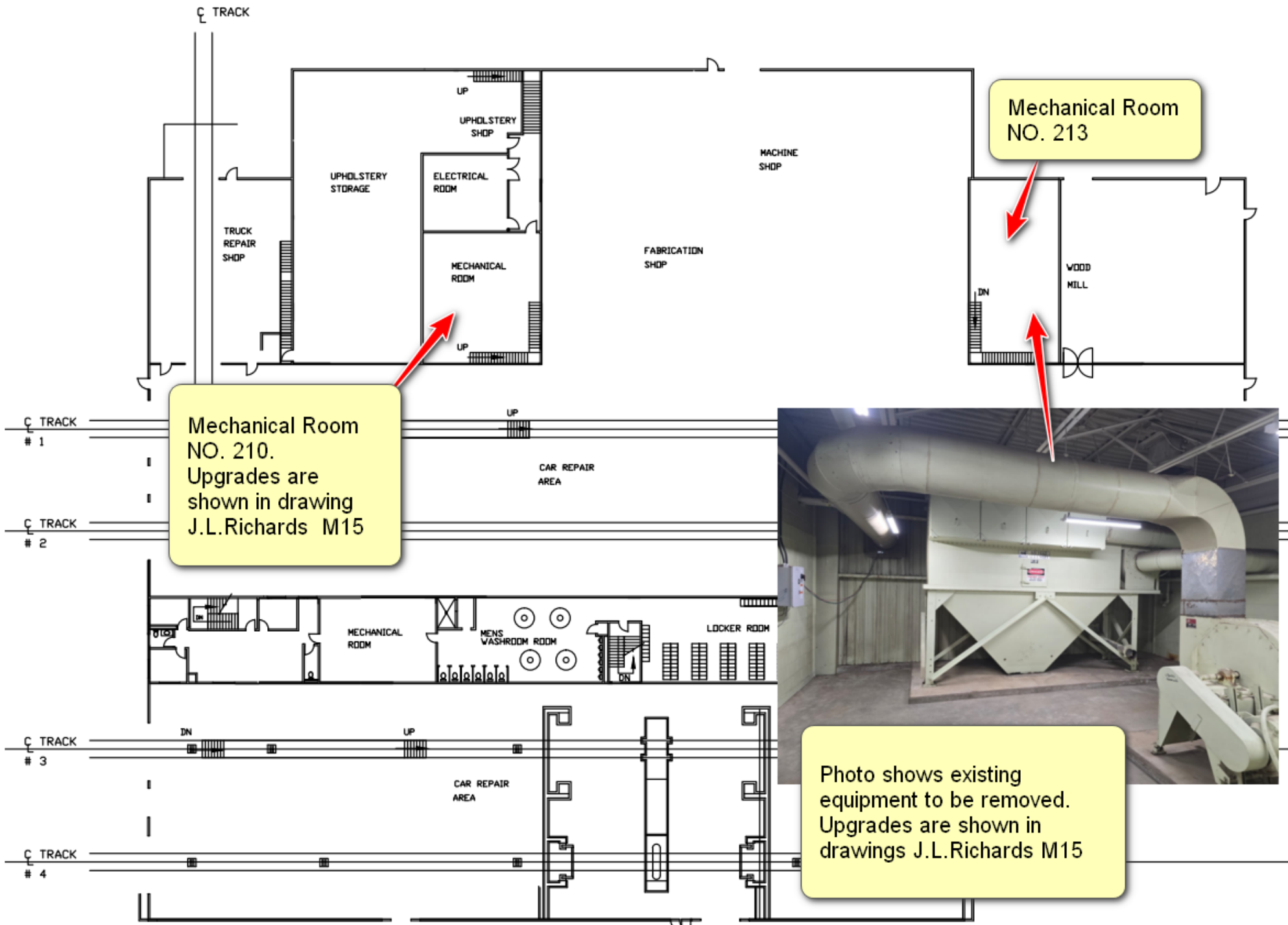
Item 2: Kindly see attached at Appendix "B", the first-floor plan details of the Car Shop, as well as the M11 and Electrical Set drawings for review, in consideration of the new compressed air system potentially being installed in the battery room of the Car Shop.

This Addendum hereby forms part of the RFP.

Regards,

Nicole Laplante
Procurement Contracts Specialist
nicole.laplante@ontarionorthland.ca

Appendix "A"

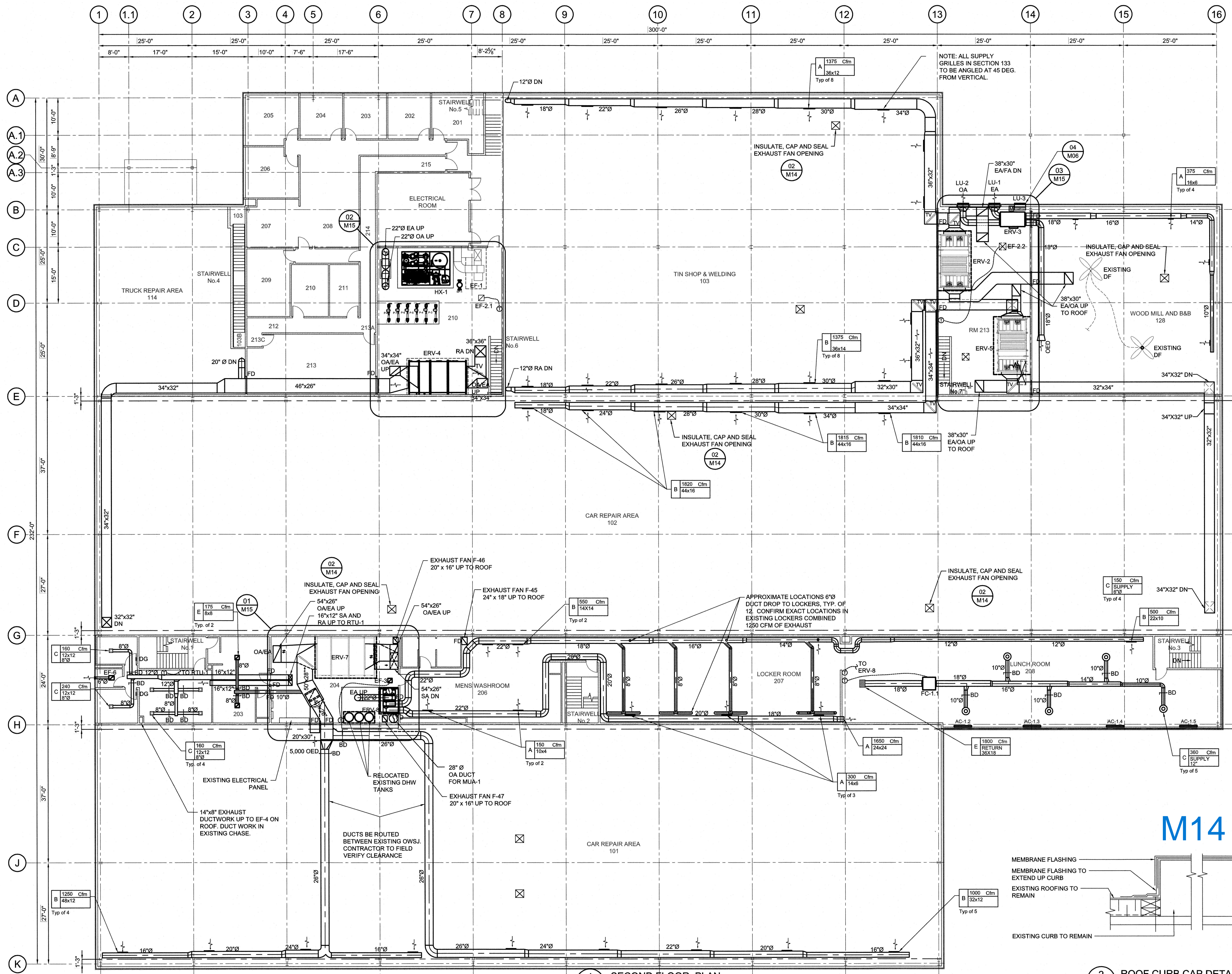


Mechanical Room NO. 213

Mechanical Room NO. 210. Upgrades are shown in drawing J.L.Richards M15

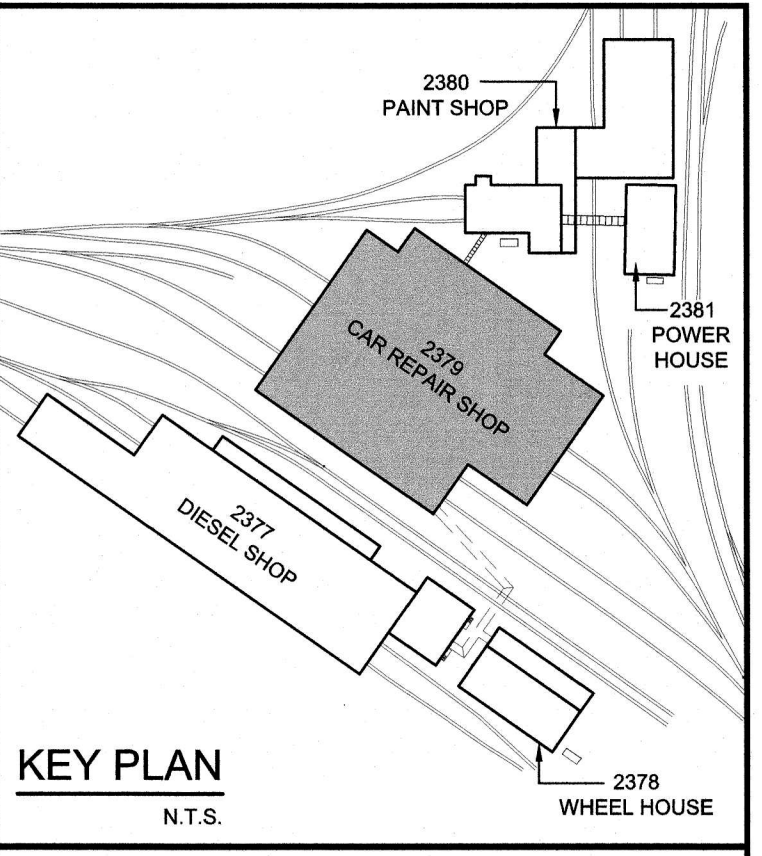
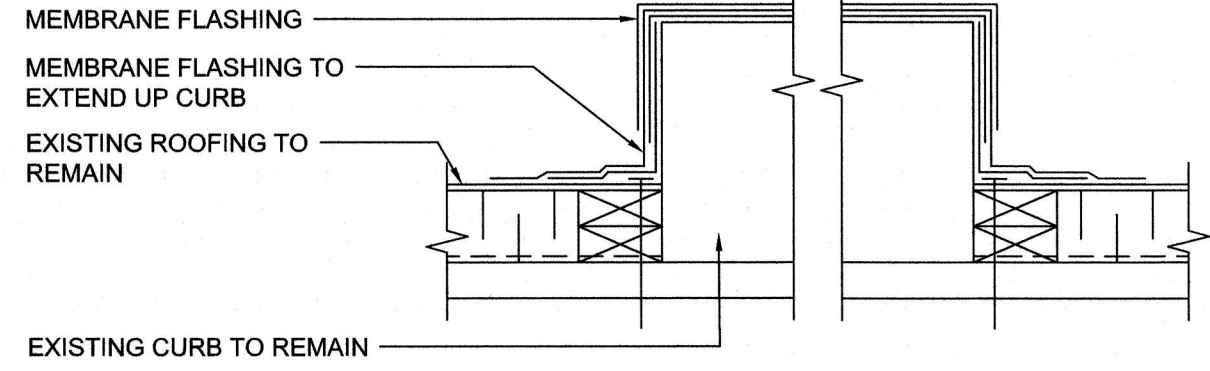
Photo shows existing equipment to be removed. Upgrades are shown in drawings J.L.Richards M15

File Location: \\proj\corp-sd\Projects-Corp\28000\28994-000 - ONTC Heating and Ventilation Upgrades\3-Production\5-Mech\Car Shop\M14 SECOND FLOOR - GA PLAN - VENTILATION ALTERATIONS.dwg



1 SECOND FLOOR PLAN
SCALE: 1/12"=1'-0"

2 ROOF CURB CAP DETAIL
SCALE: NTS



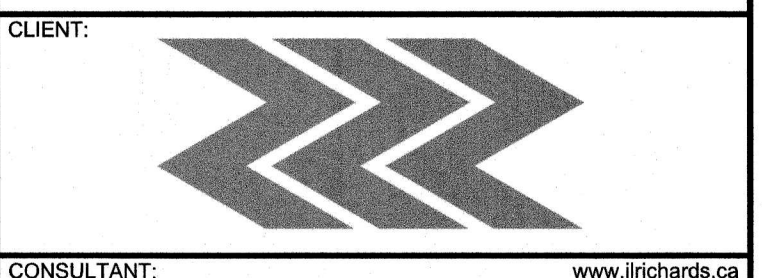
KEY PLAN
N.T.S.

0	ISSUED FOR RFP	26/03/21
No.	ISSUE / REVISION	DD/MM/YY

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VERIFY SHEET SIZE AND SCALES BAR TO THE RIGHT IS 1" IF THIS IS A FULL SIZE DRAWING.

SCALE: NTS



CONSULTANT:
J.L. Richards
ENGINEERS - ARCHITECTS - PLANNERS

PROFESSIONAL STAMP

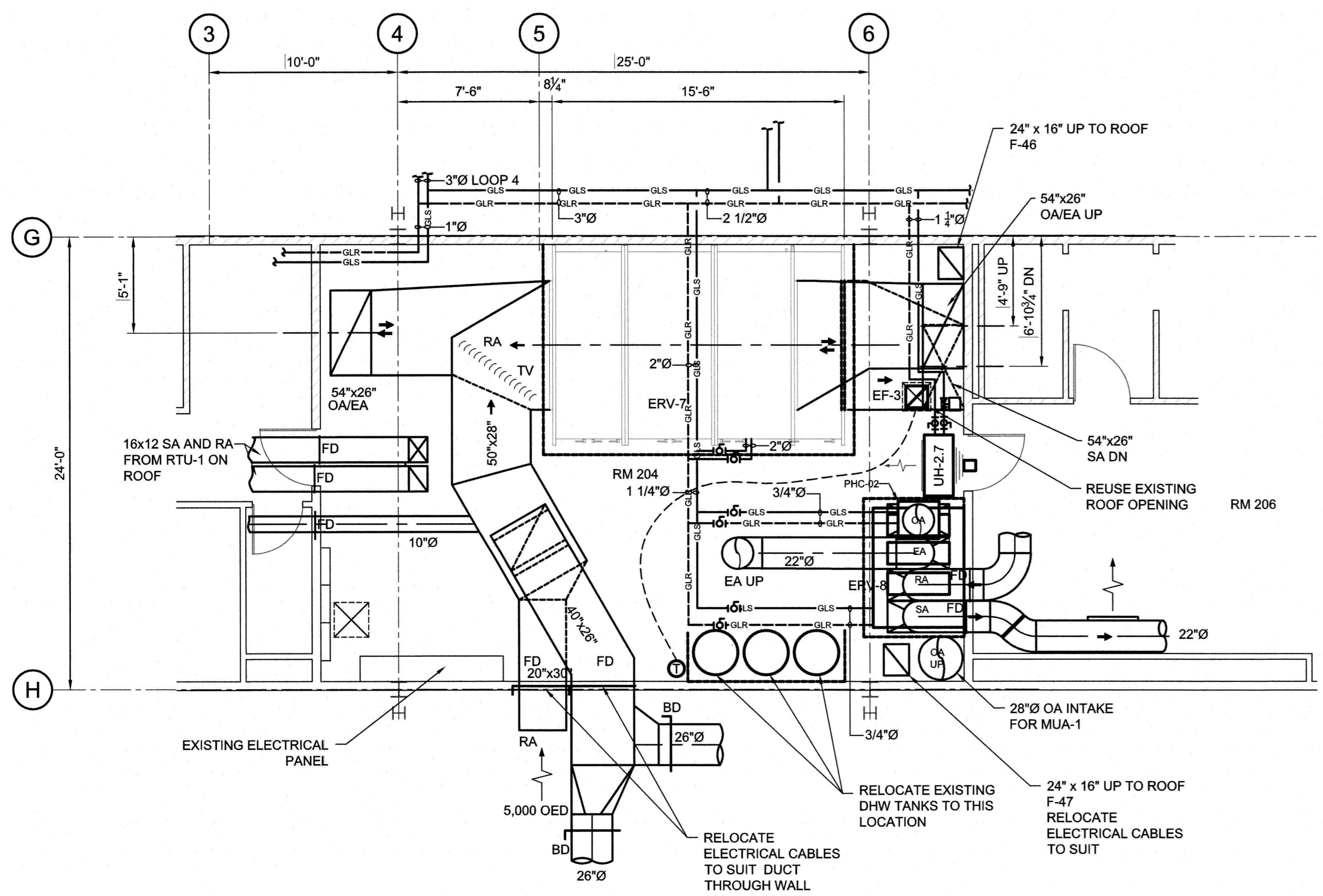
PROFESSIONAL STAMP
PROJECT NORTH

PROJECT:
**ONTC HEATING AND VENTILATION UPGRADES
2379 - CAR REPAIR SHOP**
NORTH BAY, ONTARIO

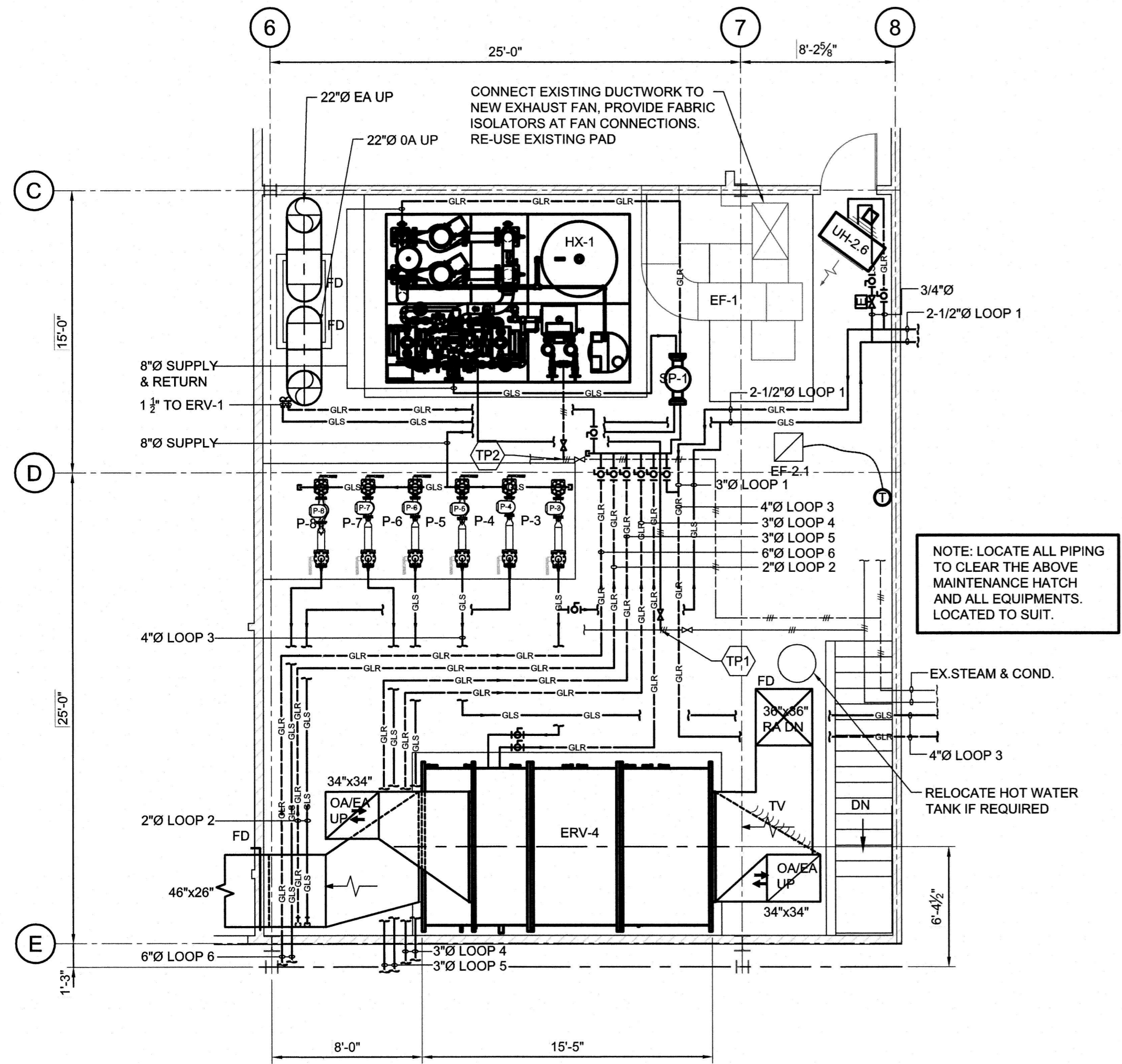
DRAWING:
**SECOND FLOOR - GA PLAN
VENTILATION MODIFICATIONS**

DESIGN: BC	DRAWING #:
DRAWN: MB	CHECKED: MD
CHECKED: MD	JLR #: 28994
JLR #: 28994	28994-2379-M14

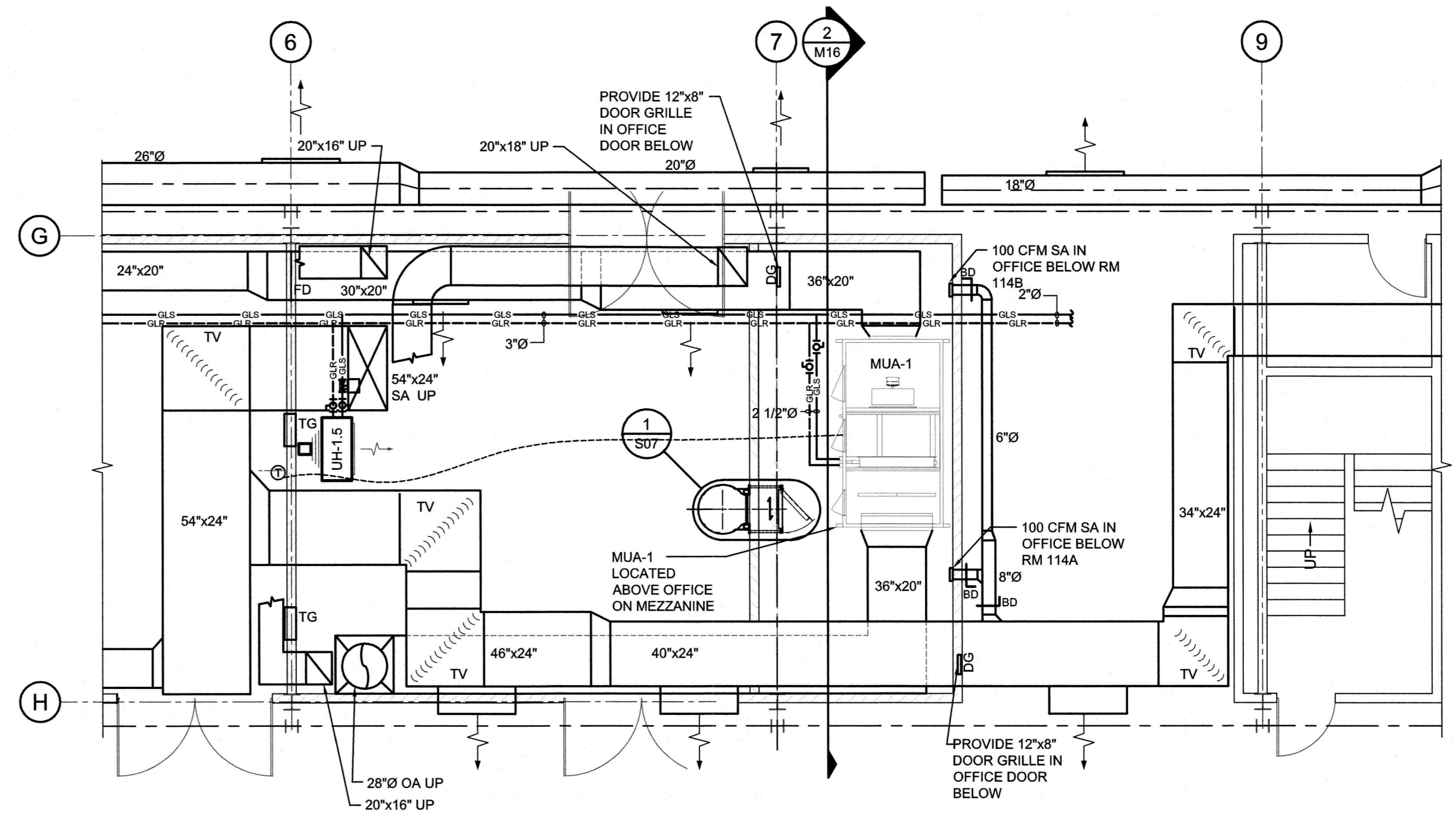
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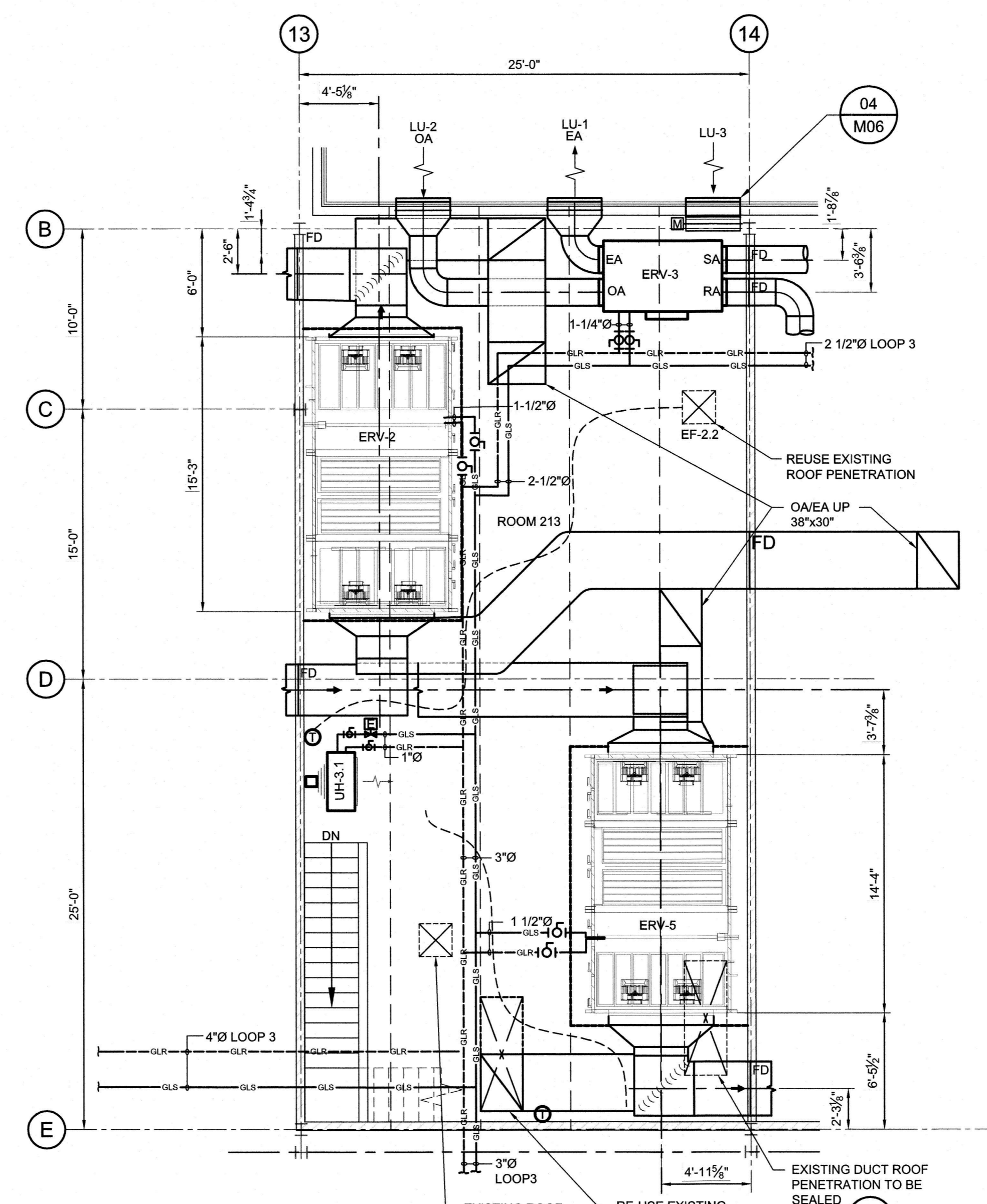
01 MECH. ROOM NO.204 - PLAN
M15
SCALE: 3/16" = 1'-0"



02 MECH. ROOM NO.210 - PLAN
M15
SCALE: 3/16" = 1'-0"



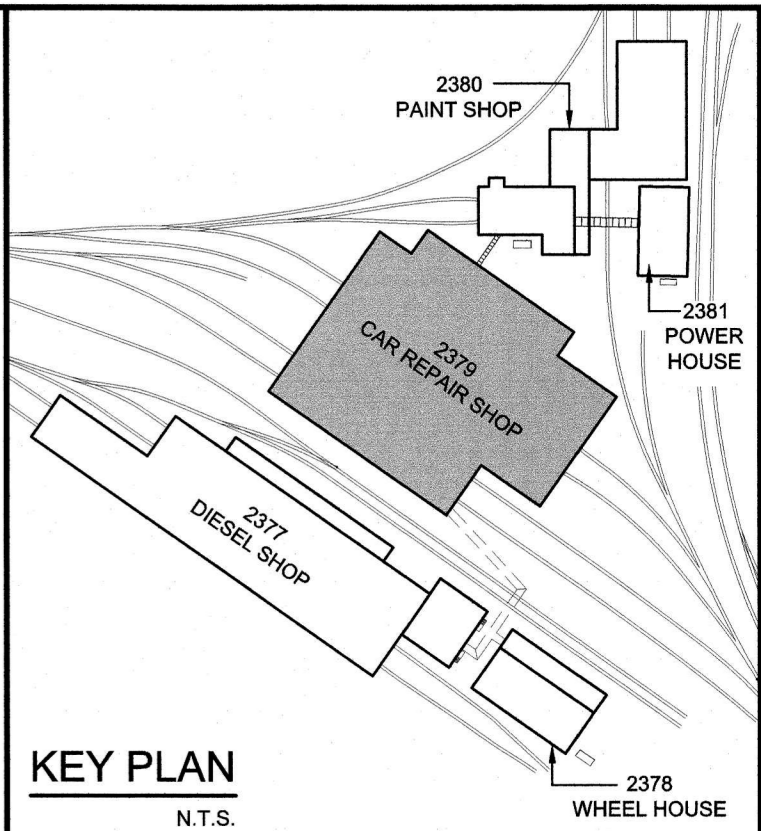
04 MECH. ROOM NO.108A - PLAN
M15
SCALE: 3/16" = 1'-0"



03 MECH. ROOM NO.213 - PLAN
M15
SCALE: 3/16" = 1'-0"

- NOTES:**
- REFER TO DRAWING 28994-2379-M01 FOR GENERAL NOTES AND SPECIFICATIONS.
 - WORK WITH DRAWING M07 & M08 HEATING DISTRIBUTION SCHEMATIC FOR DETAILS.
 - DIMENSIONS ARE FOR REFERENCE ONLY.
 - LOCATION OF HEATERS AND PIPING ARE APPROXIMATE. CONFIRM FINAL LOCATION WITH OWNER PRIOR TO INSTALLATION.
 - PIPE REDUCERS AND LOCATIONS NOT SHOWN FOR CLARITY. CONTRACTOR LOCATE TO SUIT GOOD PIPING PRACTICES.
 - FLEX PIPING REQUIRED AT ALL EQUIPMENT CONNECTIONS.
 - ALL PIPE SUPPORTS NOT SHOWN SHALL BE SLIDING / GUIDED SUPPORTS IN ACCORDANCE WITH THE GENERAL NOTES AND SPECIFICATIONS.

M15

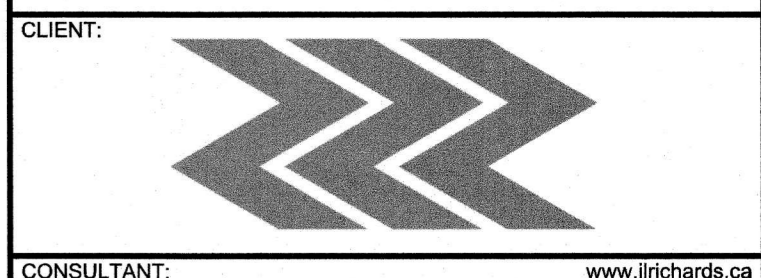


KEY PLAN
N.T.S.

0	ISSUED FOR RFP	26/03/21
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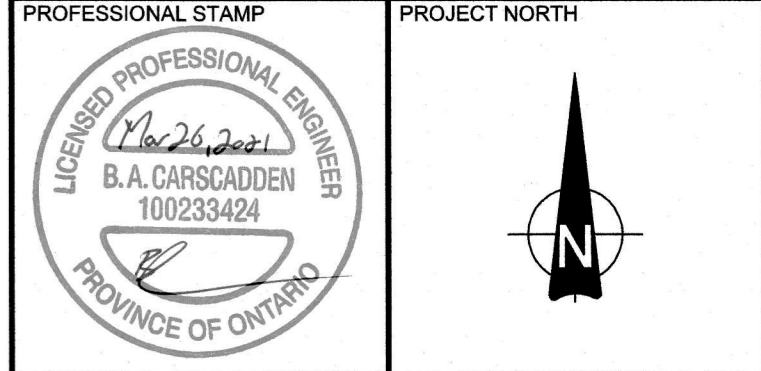
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SCALE: NTS



J.L. Richards
ENGINEERS - ARCHITECTS - PLANNERS

PROFESSIONAL STAMP
PROFESSIONAL STAMP



PROJECT:
ONTC HEATING AND VENTILATION UPGRADES
2379 - CAR REPAIR SHOP
NORTH BAY, ONTARIO

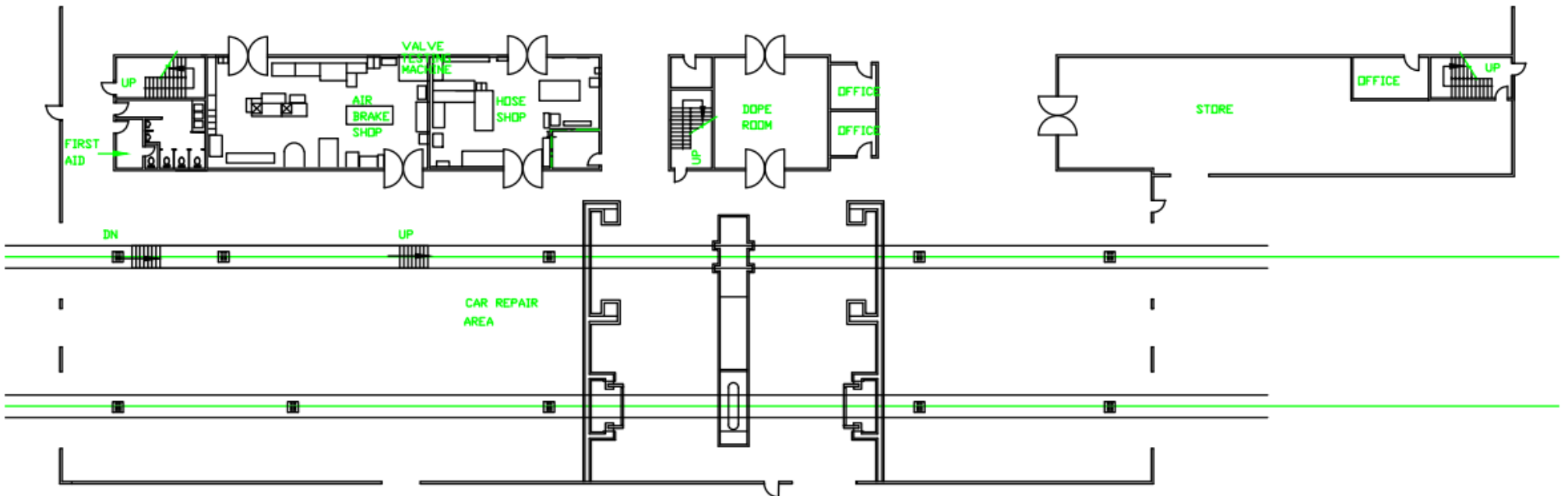
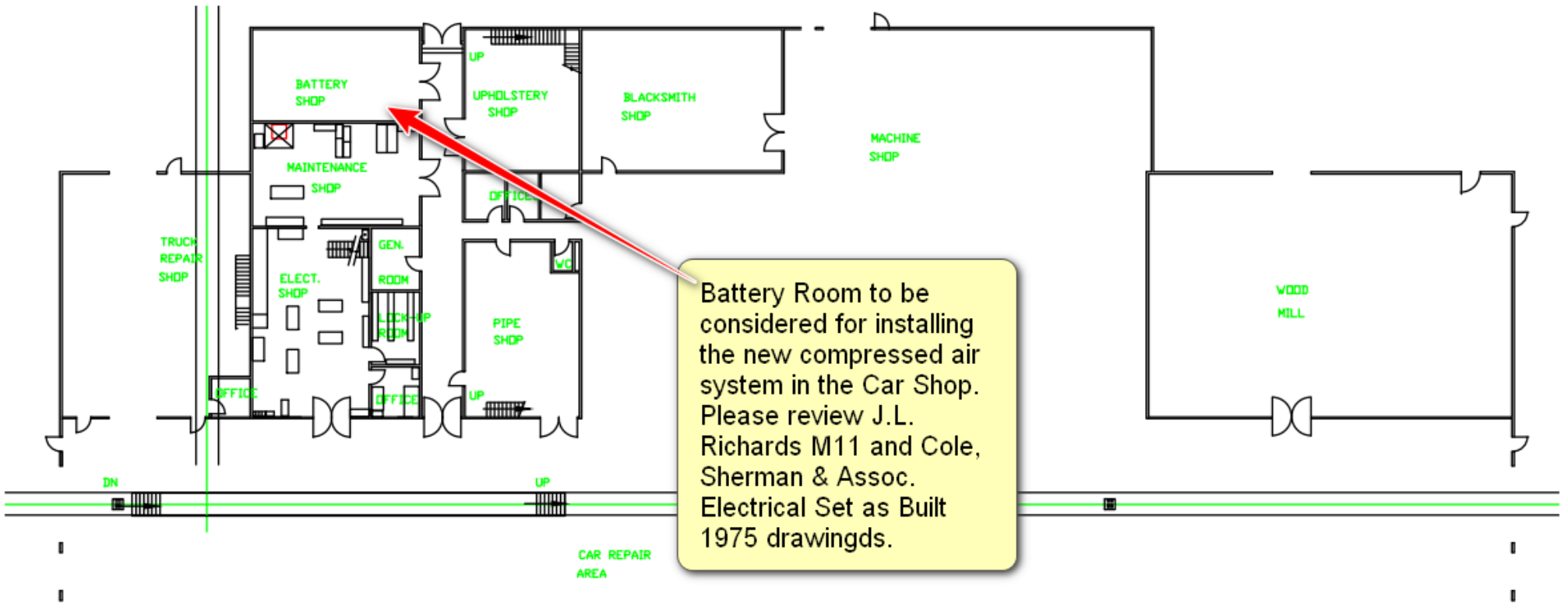
DRAWING:
MECHANICAL ROOMS PLANS

DESIGN: BC	DRAWING #:
DRAWN: MB	28994-2379-M15
CHECKED: MD	
JLR #: 28994	

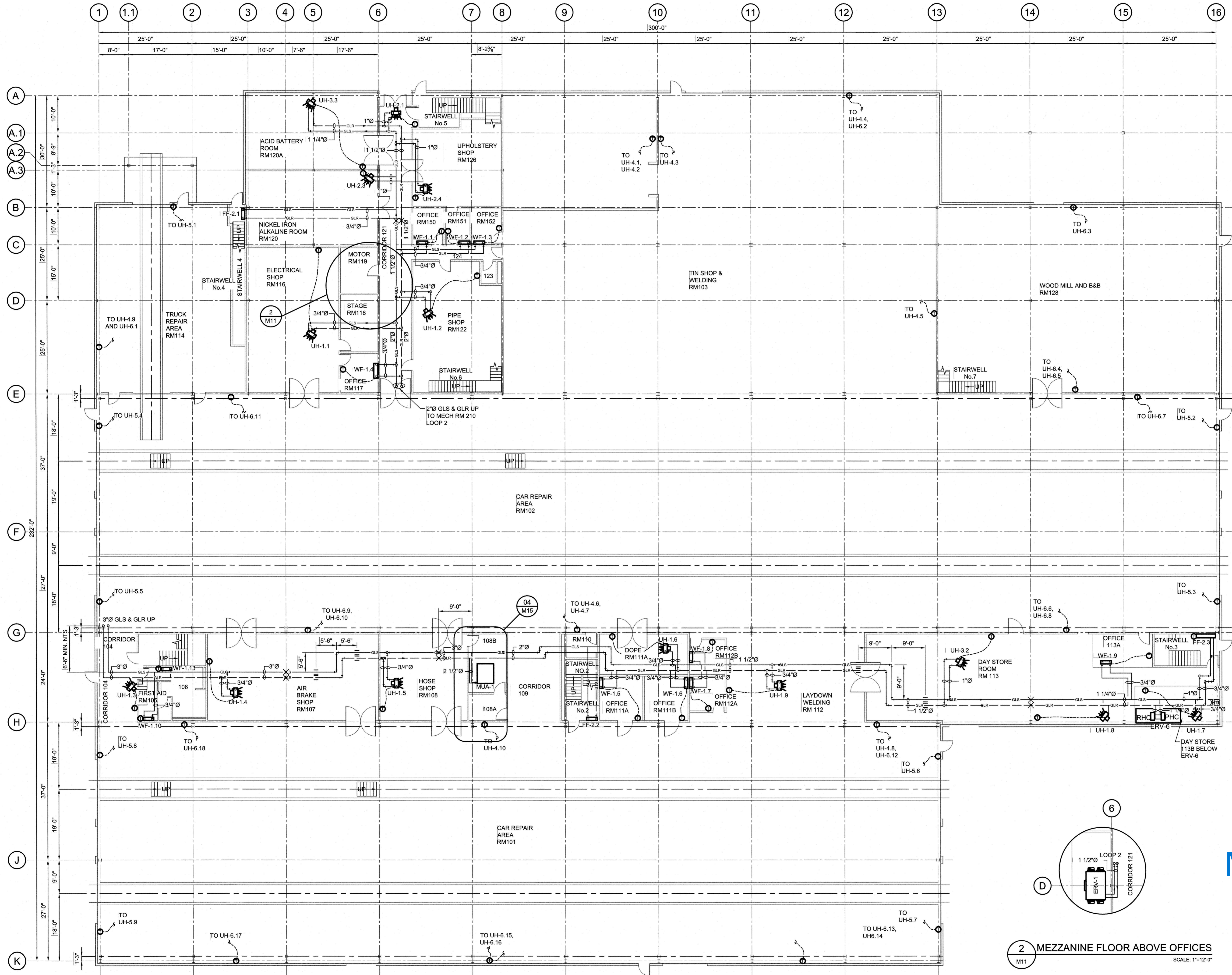
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PLOT DATE: March 26, 2021 11:56:51 AM

Appendix “B”

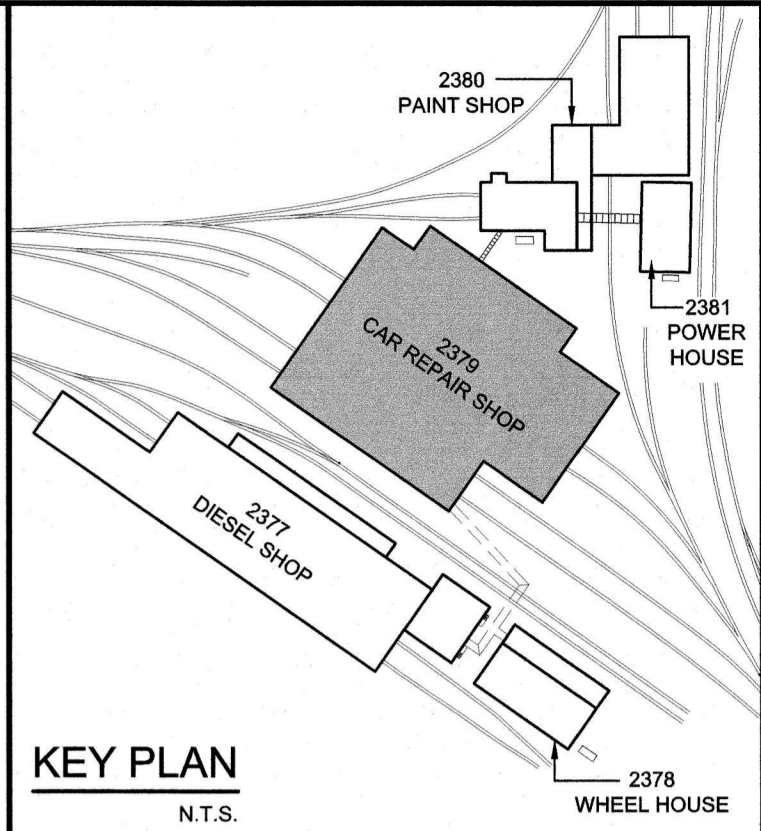


File Location: P:\28900\28994-000 - ONTC Heating and Ventilation Upgrades\3-Production\Mech\Car Shop\M11 FIRST FLOOR - GA PLAN - HEATING ALTERATIONS.dwg



1 FIRST FLOOR PLAN
SCALE: 1" = 12'-0"

2 MEZZANINE FLOOR ABOVE OFFICES
SCALE: 1" = 12'-0"



KEY PLAN
N.T.S.

- NOTES:**
- REFER TO DRAWING 28994-2379-M01 FOR GENERAL NOTES AND SPECIFICATIONS.
 - WORK WITH DRAWING M07 HEATING DISTRIBUTION SCHEMATIC FOR DETAILS.
 - DIMENSIONS ARE FOR REFERENCE ONLY.
 - LOCATION OF HEATERS AND PIPING ARE APPROXIMATE. CONFIRM FINAL LOCATION WITH OWNER PRIOR TO INSTALLATION.
 - PIPE REDUCERS AND LOCATIONS NOT SHOWN FOR CLARITY. CONTRACTOR LOCATE TO SUIT GOOD PIPING PRACTICES.
 - FLEX PIPING REQUIRED AT ALL EQUIPMENT CONNECTIONS.
 - ALL PIPE SUPPORTS NOT SHOWN SHALL BE SLIDING / GUIDED SUPPORTS IN ACCORDANCE WITH THE GENERAL NOTES AND SPECIFICATIONS.

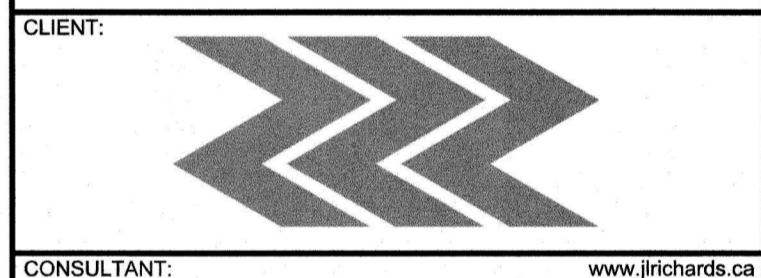
- X : DENOTES PIPE SUPPORT ANCHORS
- : DENOTES SLIDING PIPE SUPPORT

No.	ISSUE / REVISION	DD/MY/YY
0	ISSUED FOR RFP	26/03/21

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VERIFY SHEET SIZE AND SCALES. BAR TO THE RIGHT IS 1" IF THIS IS A FULL SIZE DRAWING.

SCALE: 1" = 12'-0"



CONSULTANT: **J.L. Richards**
ENGINEERS - ARCHITECTS - PLANNERS

PROFESSIONAL STAMP

PROFESSIONAL STAMP
PROJECT NORTH

PROJECT:
ONTC HEATING AND VENTILATION UPGRADES 2379 - CAR REPAIR SHOP
NORTH BAY, ONTARIO

DRAWING:
FIRST FLOOR - GA PLAN HEATING MODIFICATIONS

DESIGN: BC	DRAWING #:
DRAWN: MB	28994-2379-M11
CHECKED: MD	JLR #:
JLR #: 28994	

PLOT DATE: March 26, 2021 1:27:19 PM

Project

ELECTRICAL

5473 - E1

MAIN SINGLE

LINE DIAGRAM

& LEGEND.

- E2

SITE SERVICES

SHEET No. 1

- E3

SITE SERVICES

SHEET No. 2.

- E4

PAINT SHOP

PLANS AND

DETAILS

- E5

FIRST FLOOR

PLAN

- E6

SECOND FLOOR

PLAN.

- E7

DETAIL

SHEET

- E8

POWER

DISTRIBUTION

PANEL.

- E9

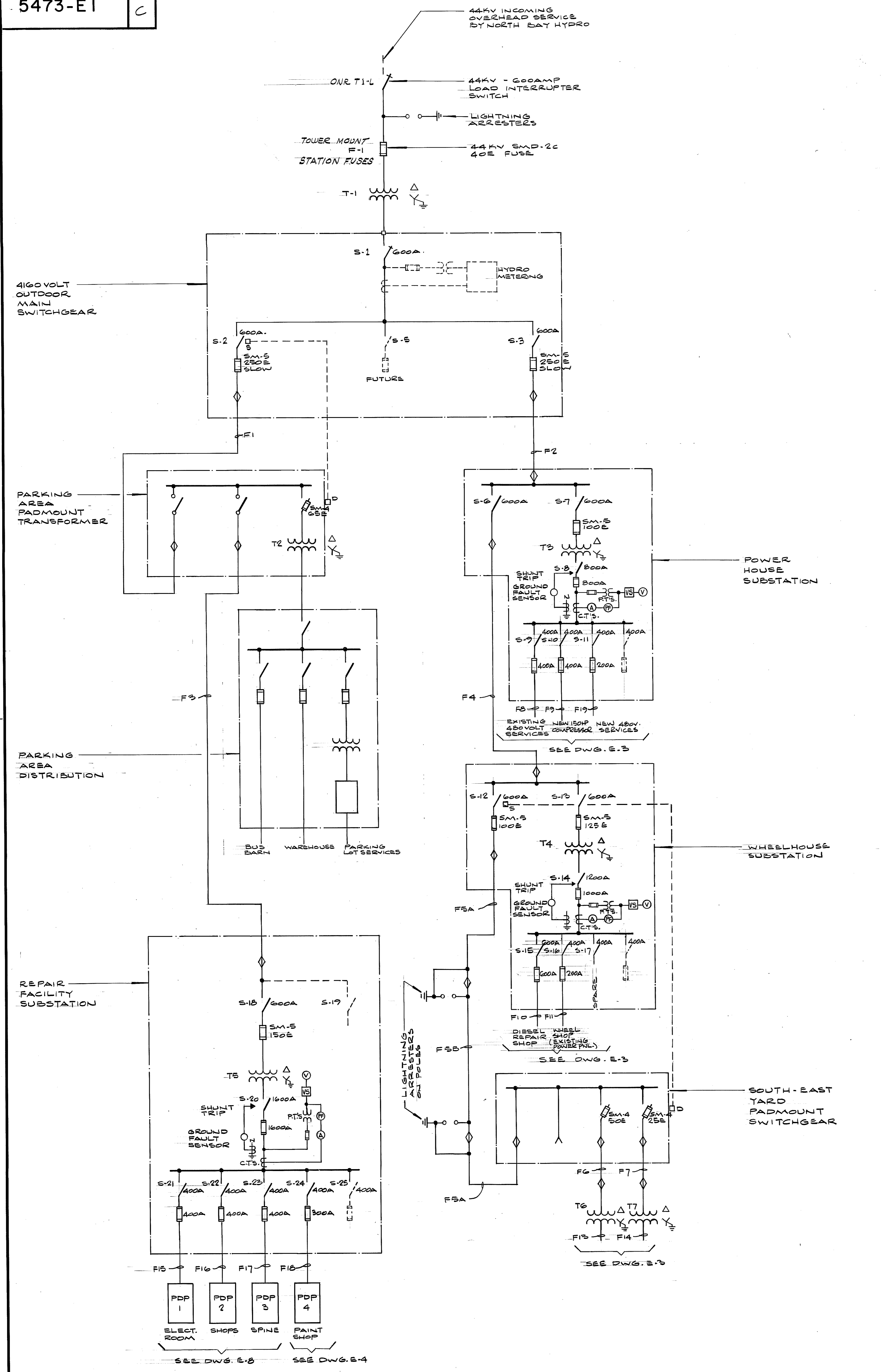
SCHEMATIC

SHEET.

- E10

EQUIPMENT

LAYOUT.



POWER FEEDER SCHEDULE

FEEDER NO.	QUANTITY	WIRE SIZE	TYPE	RACEWAY	
				QUANTITY	SIZE
F1	3	#4/0	CLIP, SHLD. CABLE TRAY NEUTRAL ALUMINUM	DIRECT BURIED	# DUCT BANK
F2	3	"	"	"	DUCT BANK
F3	3	"	"	"	DUCT BANK & CABLE TRAY
F4	3	"	"	"	DUCT BANK & CABLE TRAY
F5A	3	"	"	"	DIRECT BURIED, DUCT BANK & CABLE TRAY
F5B	3	"	SHV ALUM. POLYETHYLENE INSULATION OVERHEAD PHASED AERIAL CABLE SYSTEM	"	"
F6	3	"	CLIP, SHLD. NEUTRAL ALUMINUM	"	DUCT BANK
F7	3	"	"	"	"
F8	3	500MCM	RW-90	1	3"
F9	3	#2/0	"	1	2"
F10	6	300MCM	"	2	2 1/2"
F11	3	#4/0	"	1	2 1/2"
F12	6	300MCM	"	2	2 1/2"
F14	3	#1/0	"	1	2"
F15	3	500MCM	"	1	3 1/2"
F16	3	500MCM	"	1	3 1/2"
F17	3	350MCM	"	1	3 1/2"
F18	3	350MCM	"	1	3"
F19	3	#4/0	"	1	2 1/2"

POWER TRANSFORMER SCHEDULE

NR.	DESCRIPTION
T-1	2000KVA ONAN, 2250KVA ONAB, 44KV - 4160VOLT, 3 PHASE, 4 WIRE, 60 HERTZ, OIL IMMERSIED
T-2	300KVA, 4160V-480/277VOLT, 3 PHASE, 4 WIRE 60 HERTZ, OIL IMMERSIED, PADMOUNT
T-3	600KVA, 4160V-480/277VOLT, 3 PHASE, 4 WIRE, 60 HERTZ, DRY TYPE
T-4	750KVA, 4160V-480/277VOLT, 3 PHASE, 4 WIRE 60 HERTZ, DRY TYPE
T-5	1000KVA, 4160V-480/277VOLT, 3 PHASE, 4 WIRE 60 HERTZ, DRY TYPE
T-6	225 KVA, 4160V-220VOLT, 3 PHASE, 3 WIRE 60 HERTZ, DRY TYPE
T-7	112 1/2 KVA, 4160V-480 VOLT, 3 PHASE 3 WIRE, 60 HERTZ, DRY TYPE

- LEGEND**
- [Symbol] 1'-0" x 8'-0" FLUORESCENT FIXTURE - TYPE AS SHOWN
 - [Symbol] - AS ABOVE BUT ON NIGHT LIGHT CIRCUIT
 - [Symbol] 1'-0" x 4'-0" FLUORESCENT FIXTURE - TYPE AS SHOWN
 - [Symbol] - AS ABOVE BUT ON NIGHT LIGHT CIRCUIT
 - [Symbol] 4'-0" FLUORESCENT STRIP LIGHT
 - [Symbol] 1000W. MERCURY VAPOUR FIXTURE
 - [Symbol] - AS ABOVE BUT WITH 2-250W. QUARTZ LAMPS ON NIGHT LIGHT CIRCUIT
 - [Symbol] 400W. METAL HALIDE FIXTURE - BRACKET MOUNTED
 - [Symbol] 200W. INCANDESCENT FIXTURE - BRACKET MOUNTED
 - [Symbol] - INCANDESCENT FIXTURE - TYPE AS SHOWN
 - [Symbol] - EXIT LIGHT - TYPE AS SHOWN
 - [Symbol] - EMERGENCY LIGHT (SINGLE HEAD) ON EMERGENCY LIGHTING POWER SUPPLY - TYPE AS SHOWN
 - [Symbol] - AS ABOVE BUT DOUBLE HEAD - TYPE AS SHOWN
 - [Symbol] - ROOF MOUNTED FLOODLIGHT
 - [Symbol] - PIT LIGHT RECESSED IN CONCRETE
 - [Symbol] - SINGLE POLE SWITCH
 - [Symbol] - THREE POLE SWITCH
 - [Symbol] - THERMOSTAT
 - [Symbol] - ELECTRIC HEATER
 - [Symbol] - 120VOLT 1/2" MANUAL STARTER
 - [Symbol] - COMBINATION MAGNETIC STARTER
 - [Symbol] - DISCONNECT SWITCH
 - [Symbol] - PUSHBUTTON STATION
 - [Symbol] - TELEPHONE OUTLET
 - [Symbol] - P.A. SPEAKER
 - [Symbol] - LIGHTING OR POWER PANEL
 - [Symbol] - TRANSFORMER
 - [Symbol] - DESIGNATES MOTOR - NUMBER AS INDICATED
 - [Symbol] - AS ABOVE BUT MOUNTED ON ROOF
 - [Symbol] - 15A DUPLEX RECEPTACLE 120VOLT
 - [Symbol] - AS ABOVE BUT WEATHERPROOF
 - [Symbol] - 208V, 1/2", 30 AMP RECEPTACLE
 - [Symbol] - 220V, 3/4", 100 AMP RECEPTACLE
 - [Symbol] - 120V, 1/2", CLOCK RECEPTACLE
 - [Symbol] - 100A. D.C. OUTLET
 - [Symbol] - 480V, 3/4" RECEPTACLE
 - [Symbol] - 120V, 1/2", 30AMP TWIST-LOCK RECEPTACLE MTD. @ 7'-0" ABOVE FINISHED FLOOR
 - [Symbol] - 15A DUPLEX RECEPTACLE 120V. EXPLOSION PROOF
 - [Symbol] - 15A DOUBLE DUPLEX RECEPTACLE INSTALLED IN A 2 GANG BOX
 - [Symbol] - DUCT HEATER
 - [Symbol] - LOCK-OUT STOP
 - [Symbol] - FIRE ALARM BELL (SUPPLIED BY OTHERS, INSTALLED BY ELECTRICAL CONTRACTOR)
 - [Symbol] - HEAT DETECTOR

notes and reference drawings

A detail no.
 B location drawing no.
 C drawing no.

no.	date	revisions	drawn	checked	approved
D	07/06	AS BUILT			G.L.
E	Nov. 75	AS BUILT			G.L.
B	12-6-74	CHANGE NOTICE NO 1 DELETED INDUC. MTR. TRANS. INSTALLED FOR SHOP			G.L. K.T.O. T.J.S.
A	Mar. 74	Issued for General Contract Tender			

Professional Engineer Seal: T.J. SHERMAN, P. ENG., No. 12345, Province of Ontario.

COLE, SHERMAN & ASSOC. LIMITED
 TORONTO, ONTARIO

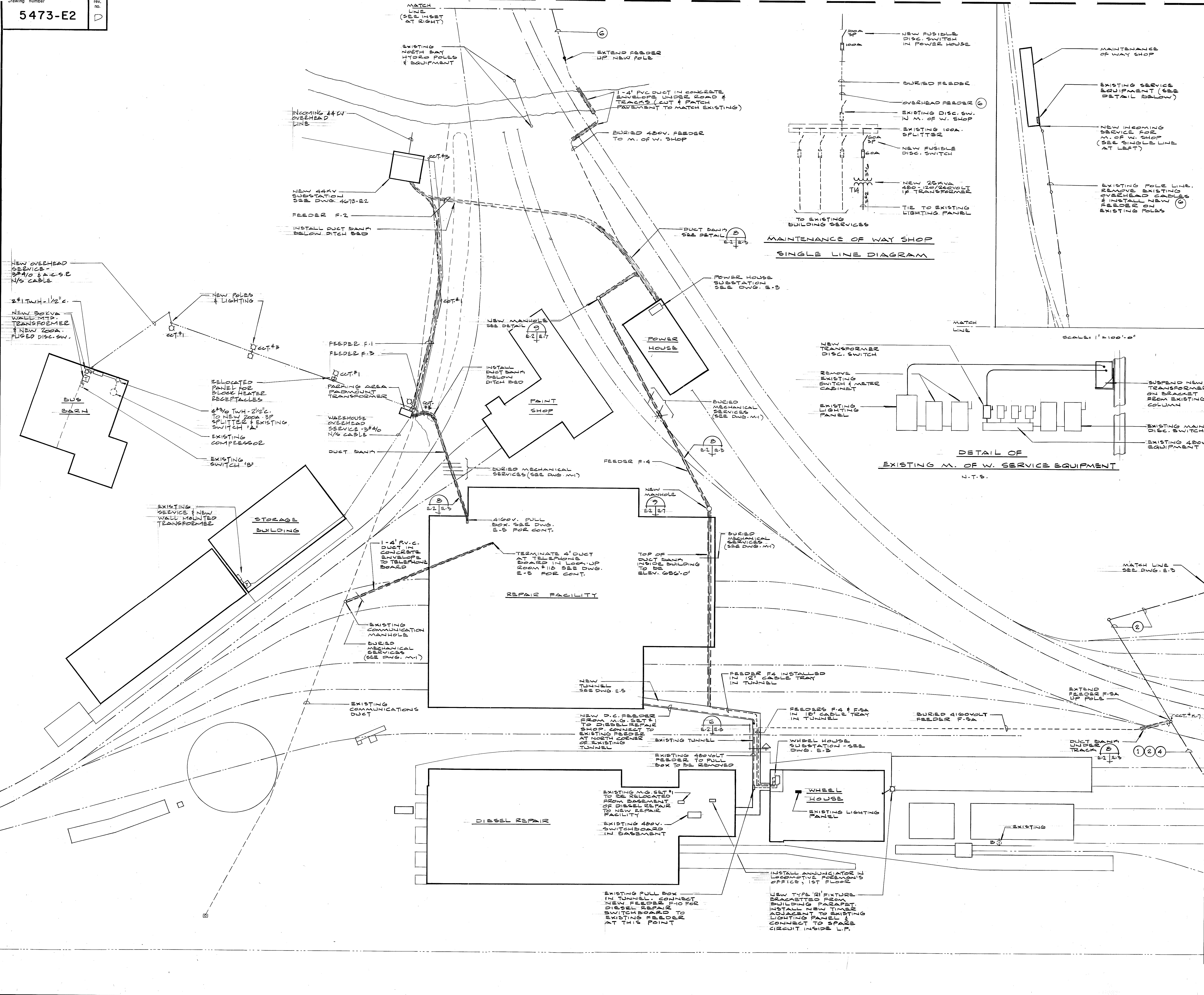
ONTARIO NORTHLAND RAILWAY
 NORTH BAY YARD
 CONSOLIDATION OF REPAIR FACILITIES

SITE
 ELECTRICAL

drawing title
MAIN SINGLE LINE DIAGRAM & LEGEND

designed by P.J.	checked by P.J.	date MARCH, 74
drawn by G.W.L.	approved by T.J.S.	
scale NO SCALE	drawg. status	drawing number
project number		5473-E1
5473		C

NOTE:
 SD - SWITCH INTERLOCK
 DD - DOOR INTERLOCK



notes and reference drawings
 1. SEE DWG. E-3 FOR NOTES & LEGEND ON OVERHEAD WIRING.

A detail no.
 B location drawing no.
 C drawing no.

no.	date	description	drawn	checked	approved
1	Nov. 75	AS BUILT			G.L.
2	4-6-74	CHANGE NOTICE No. 6			G.L. K.T.O. T.J.S.
3	10-8-74	ISSUED FOR CONSTR.			G.L. K.T.O. T.J.S.
4	Mar. 74	Issued for General Contract Tender			G.L. K.T.O. T.J.S.

revisions

COLE, SHERMAN & ASSOC. LIMITED
 TORONTO, ONTARIO

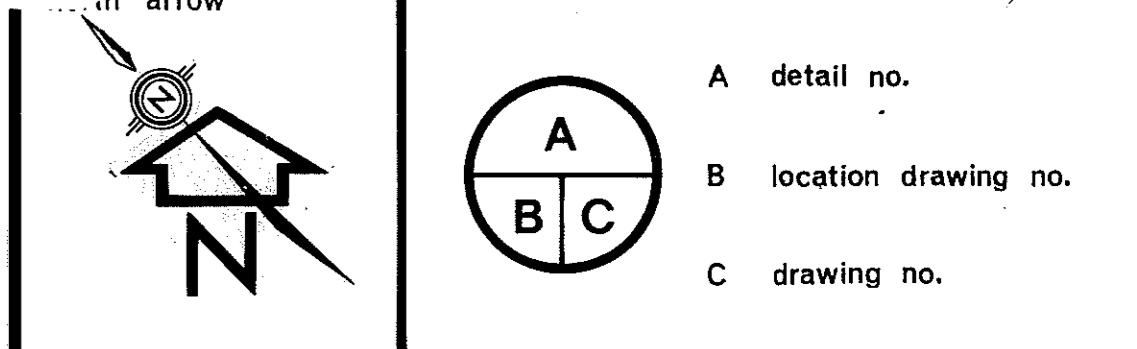
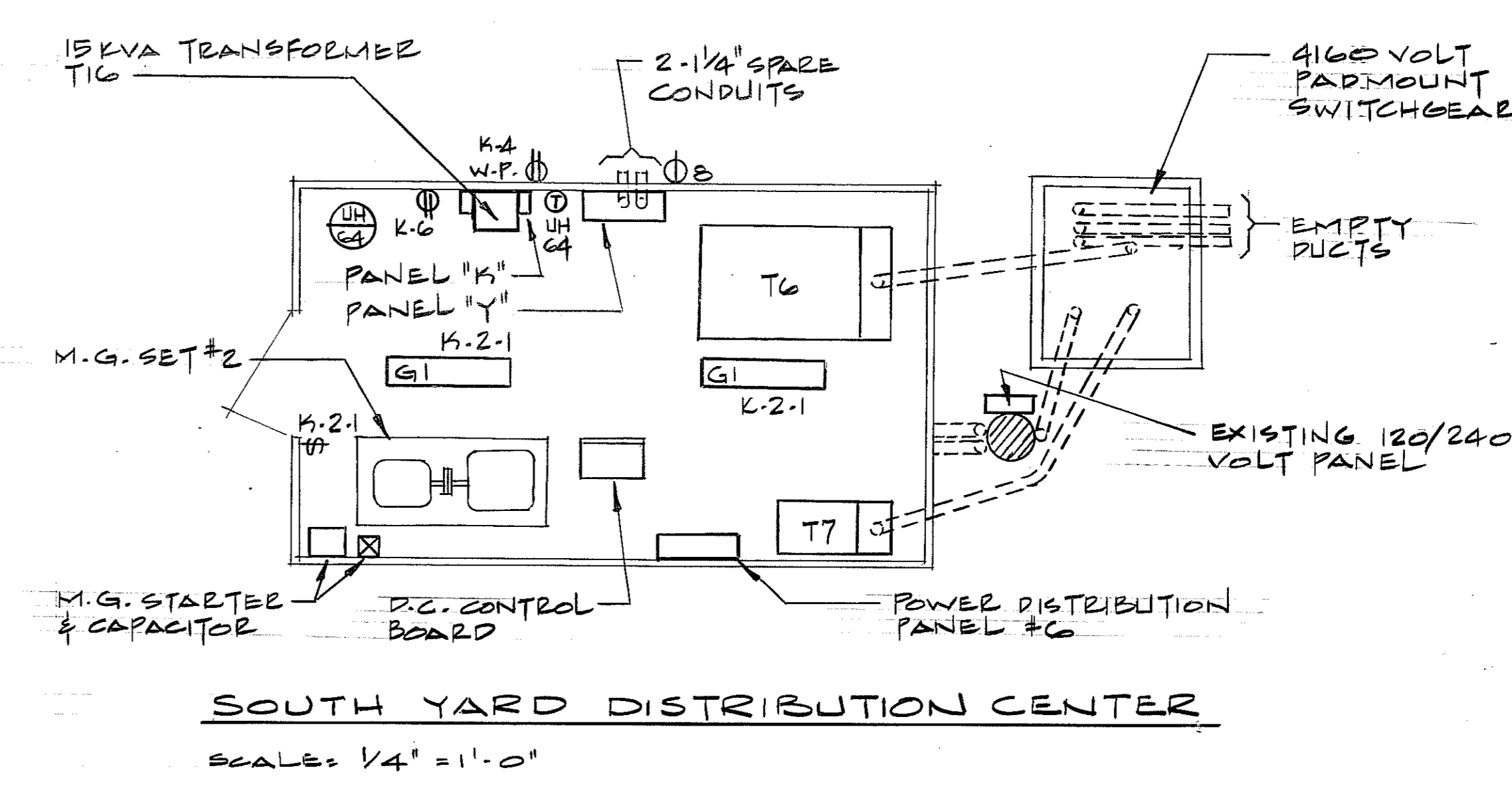
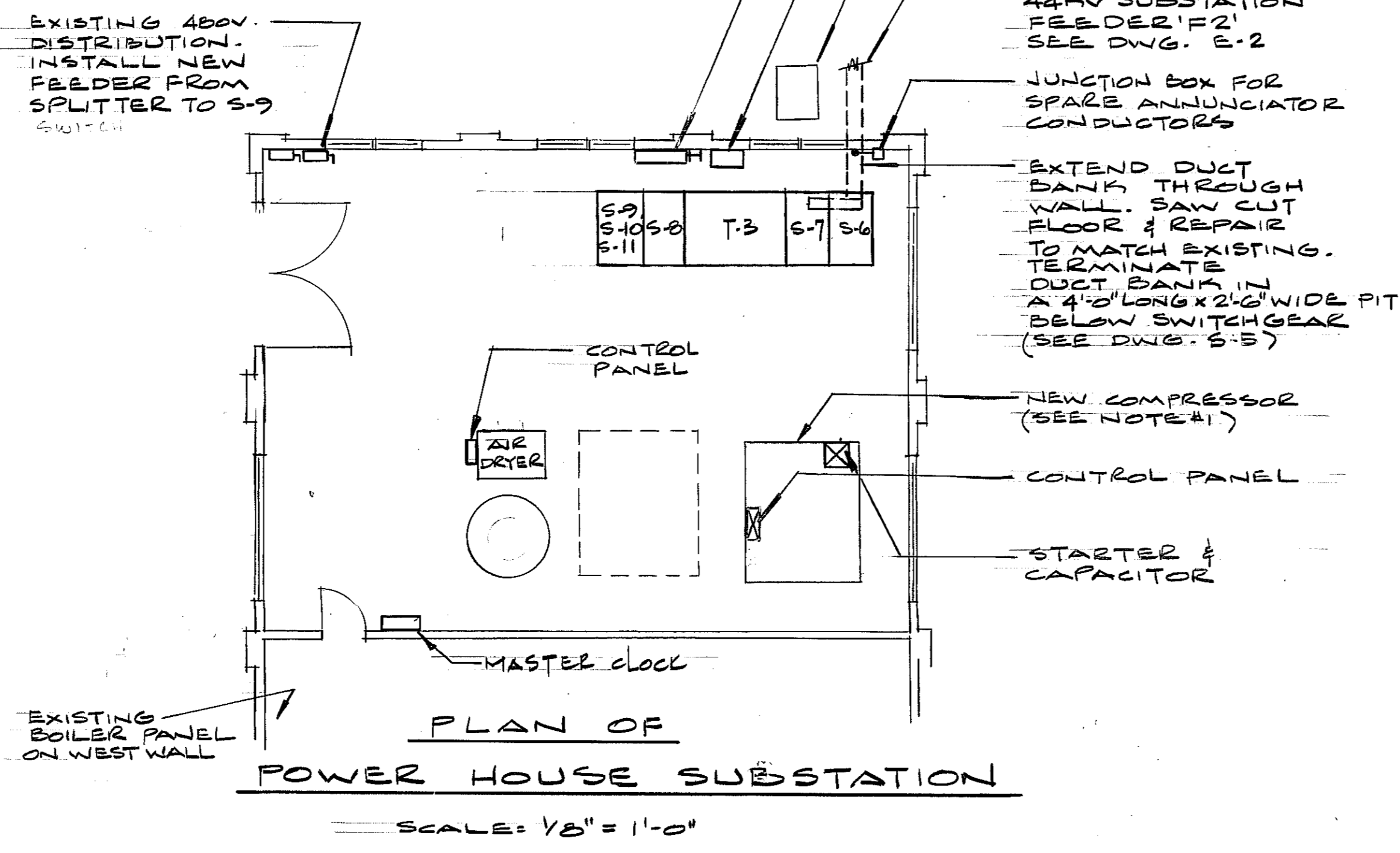
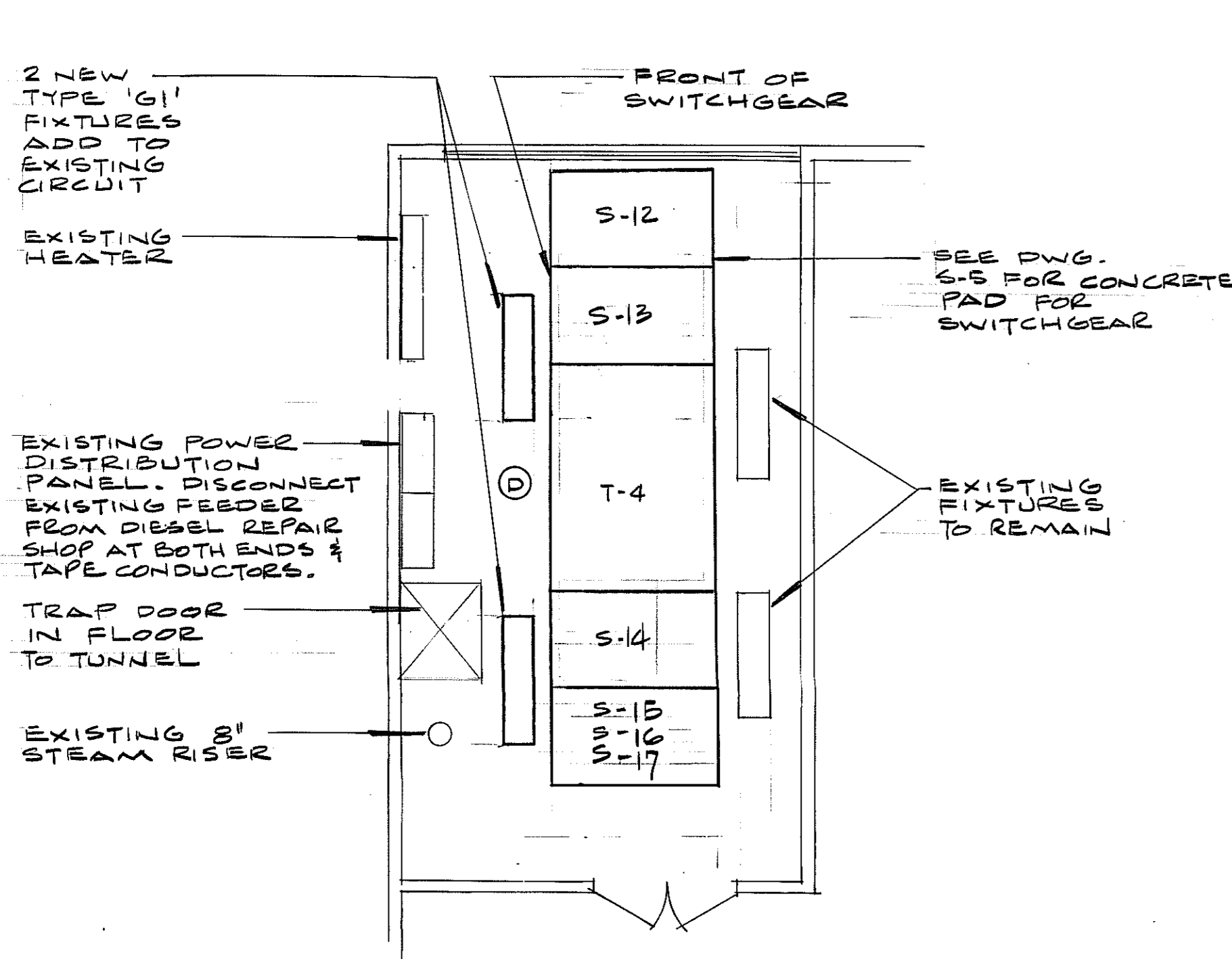
ONTARIO NORTHLAND RAILWAY
NORTH BAY YARD
CONSOLIDATION OF REPAIR FACILITIES

SITE

ELECTRICAL

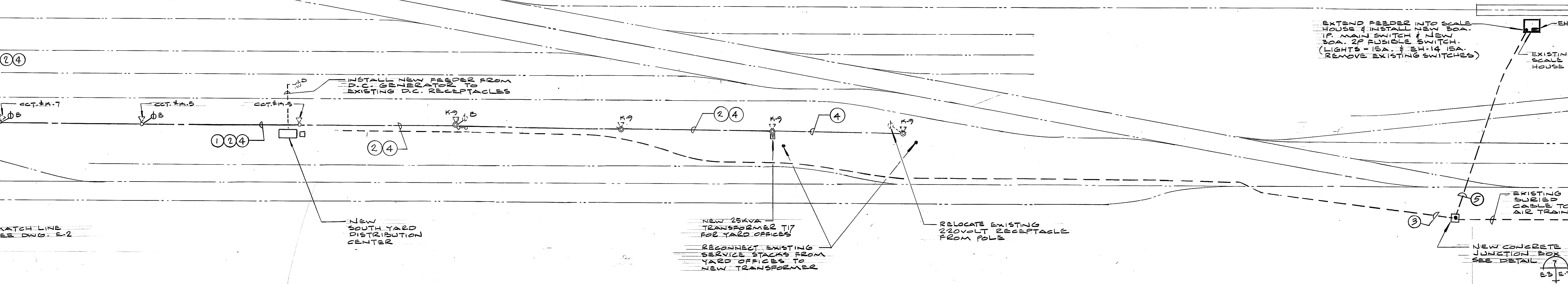
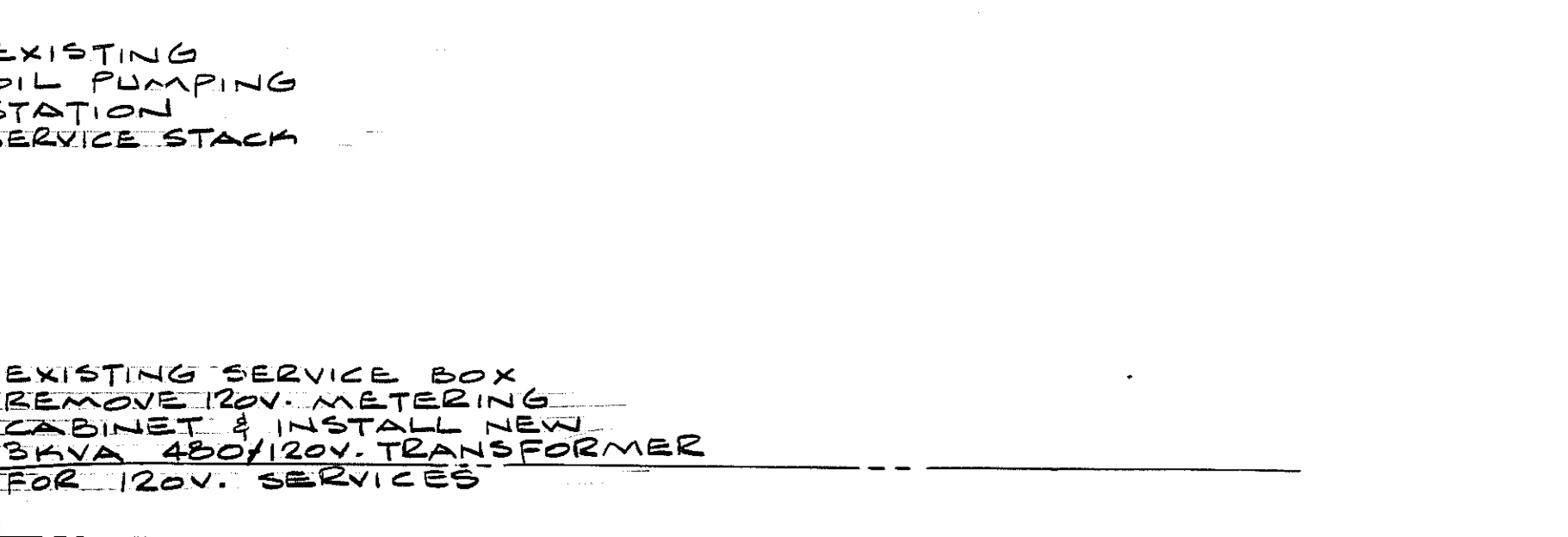
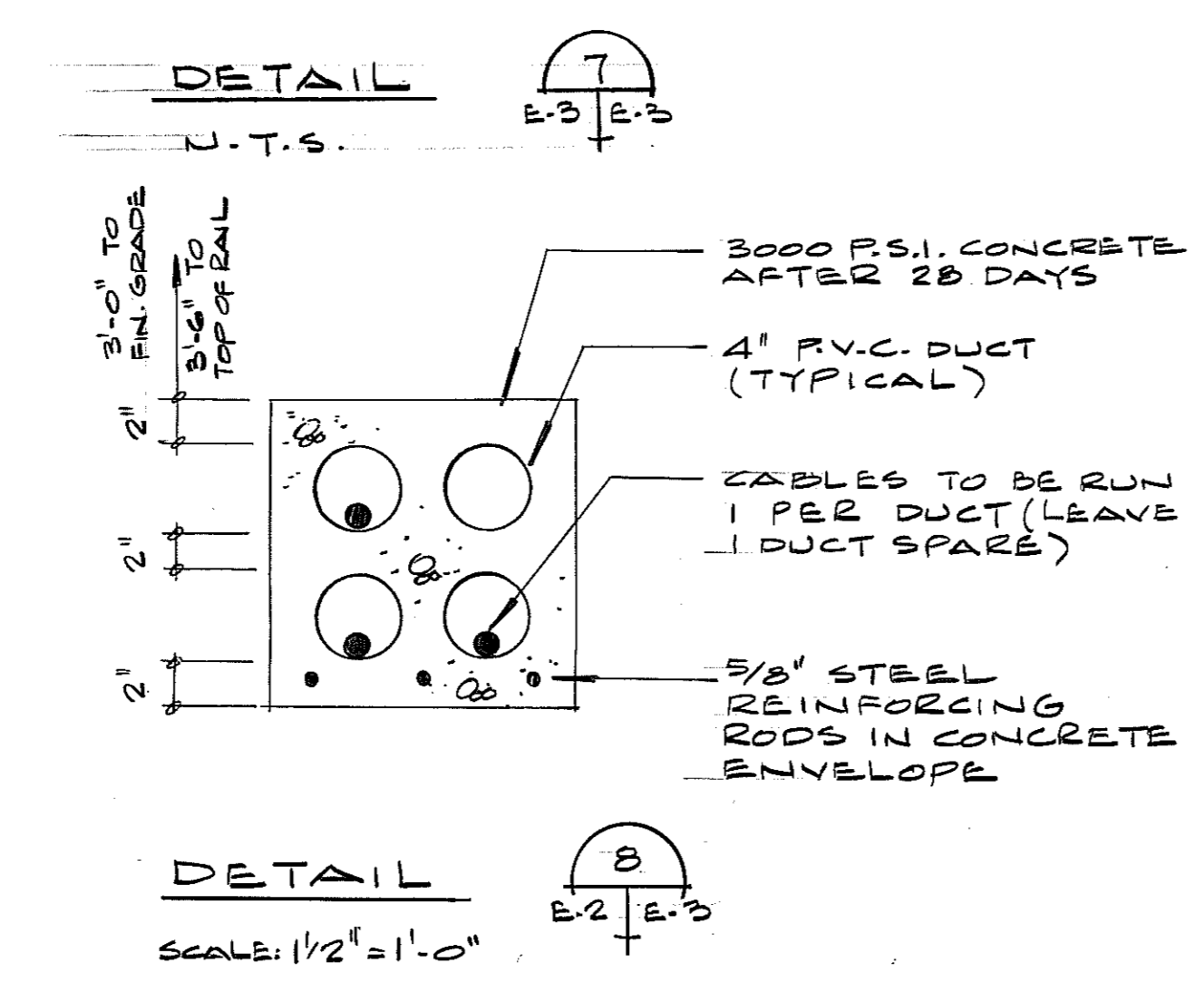
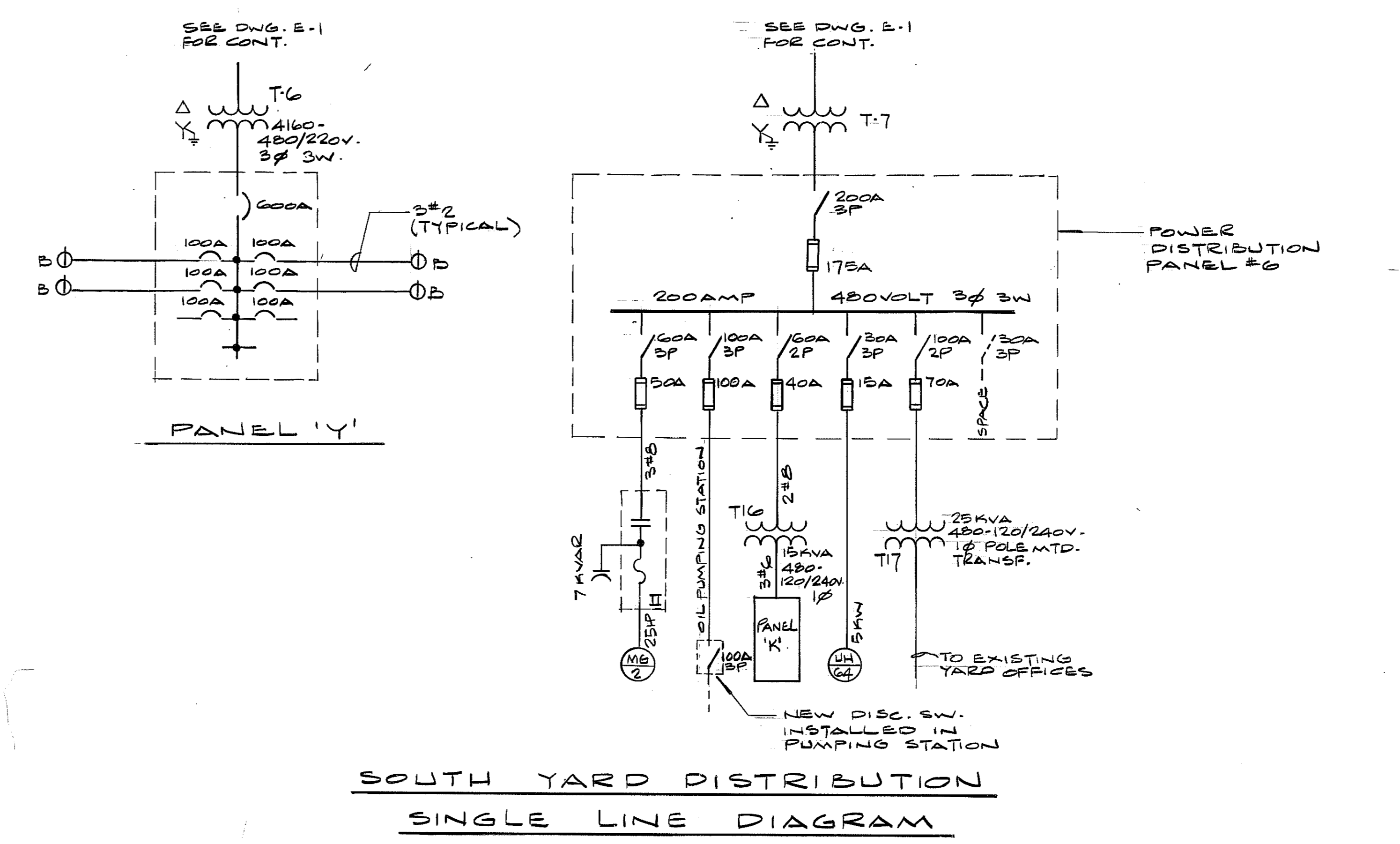
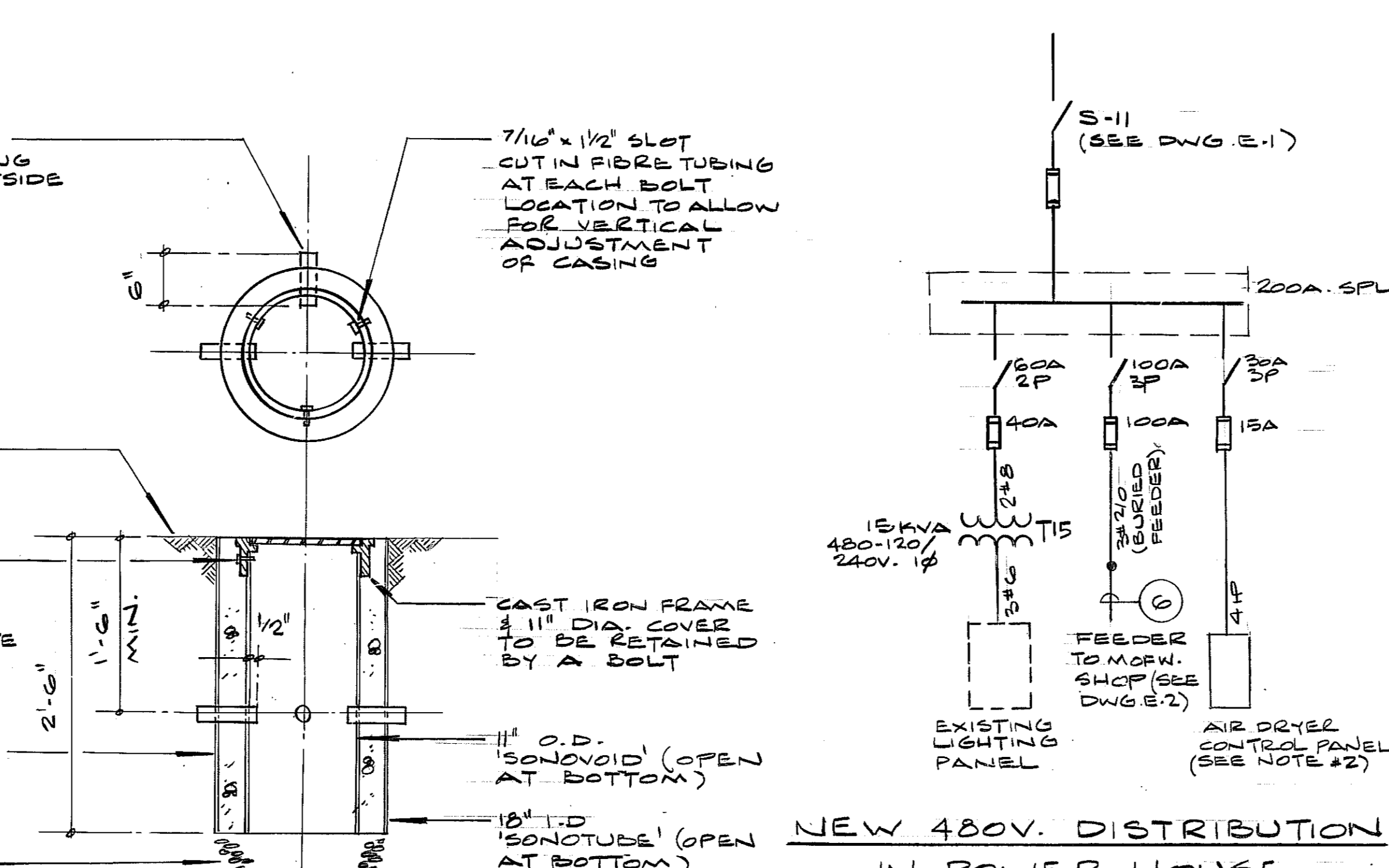
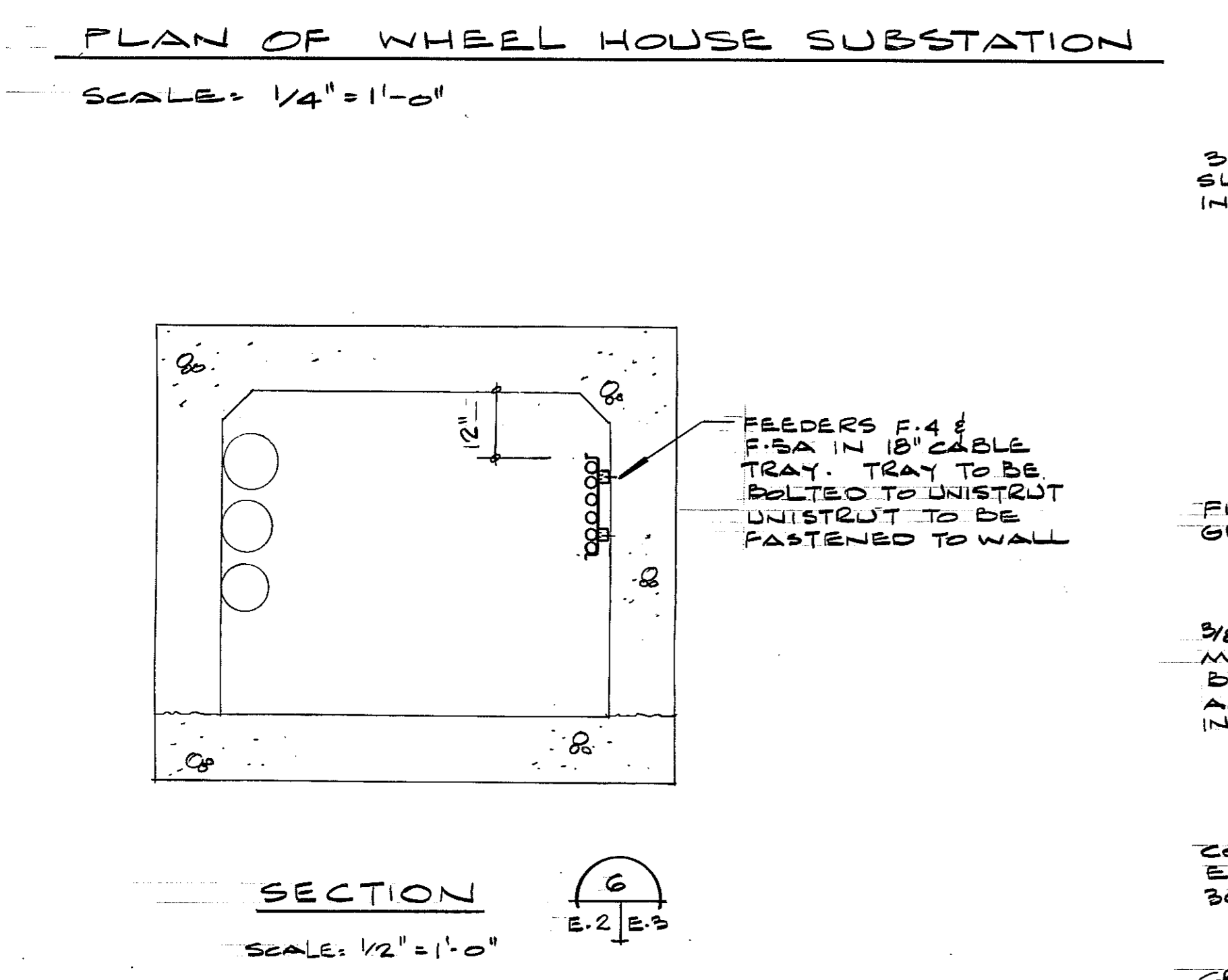
drawing title
ELECTRICAL SITE SERVICES SHEET No. 1

designed by P.J. checked by P.J. date MARCH, 74
 drawn by G.W.L. approved by T.J.S.
 scale 1" = 30'-0" drawing number 5473-E2
 project number 5473



- OVERHEAD WIRING LEGEND
- ① - 4160VOLT FEEDER F-5B
 - ② - 480VOLT FEEDER TO OIL PUMPING STATION. TYPE NSF-2, #2 AWG ALUMINUM CONDUCTOR. (TYPICAL FOR SOUTH YARD OFFICES)
 - ③ - 120/240VOLT FEEDER TO SCALE HOUSE & AIR TRAIN. BURIED 2" IN P.V.C. CONDUIT.
 - ④ - 120VOLT FEEDER TO EXISTING FLOODLIGHTS. TYPE NSF-1 #2 AWG ALUMINUM CONDUCTOR.
 - ⑤ - 120VOLT FEEDER TO SCALE HOUSE. BURIED 2" IN P.V.C. CONDUIT.
 - ⑥ - 480VOLT FEEDER TO D.C. OF W. SHOP. TYPE NSF-2 #2 AWG ALUMINUM CONDUCTOR.
 - - EXISTING POLE TO BE REUSED. (REMOVE EXISTING OVERHEAD LINES PRIOR TO NEW CONSTRUCTION)
 - - NEW POLE
 - ⊖ - EXISTING POLE TO BE REMOVED

- NOTES:
1. ELECTRICAL CONTRACTOR TO SUPPLY & INSTALL 1-1/2" SIZE B COMBINATION ALTO. TRANSFORMER TYPE REDUCED VOLTAGE STARTER & 30KVAR CAPACITOR FOR THE 150HP COMPRESSOR. PROVIDE & INSTALL LINE SIDE 480VOLT WIRING TO THE COMPRESSOR CONTROL PANEL & COMPRESSOR MOTOR.
 2. SUPPLY & INSTALLED BY THE MECHANICAL CONTRACTOR. LINE SIDE WIRING BY ELECTRICAL CONTRACTOR.



no.	date	Issued For General Contract Tender	drawn	checked	approved
C	Nov. 75	AS BUILT			G.L.
B	10-5-74	CHANGE NOTICE NO. 1 DELIVERED INDICATING THE TRANSFERRED FOR CONSTRUCTION			G.L., K.T.S., T.J.S.
A	Mar. 74	Issued For General Contract Tender			

revisions

COLE, SHERMAN & ASSOC. LIMITED
TORONTO, ONTARIO

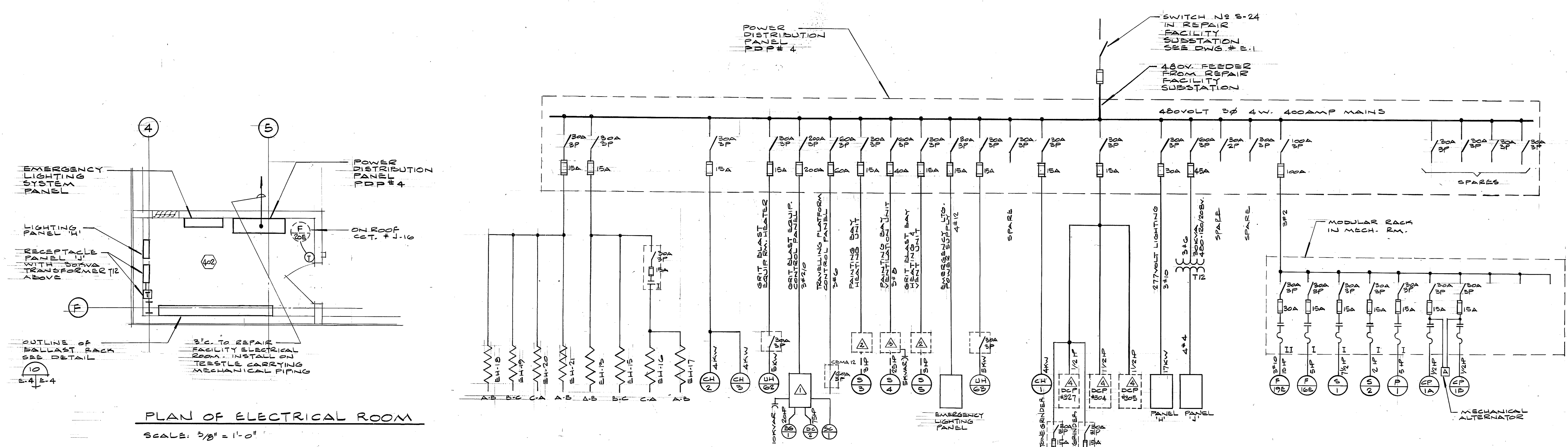
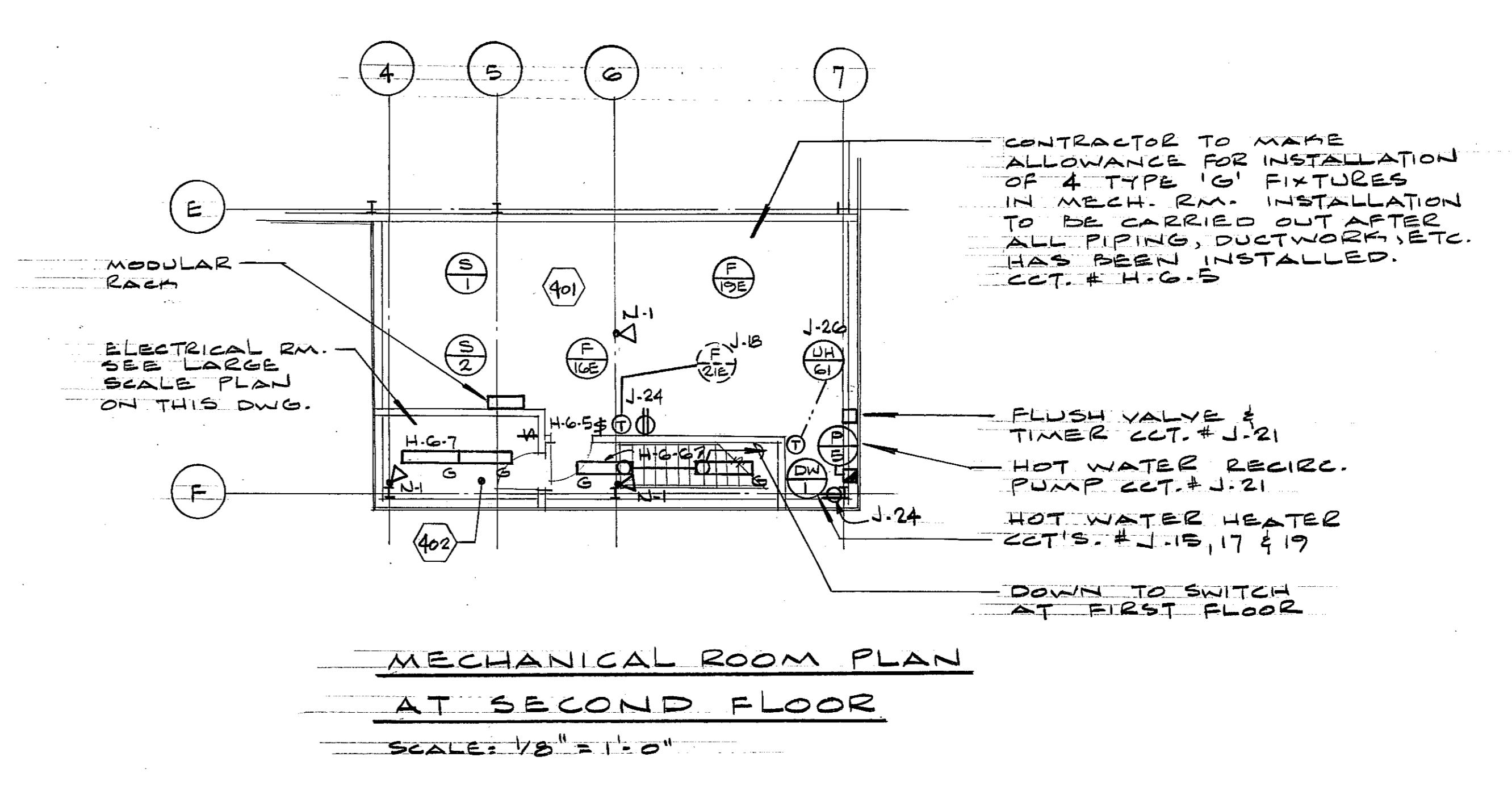
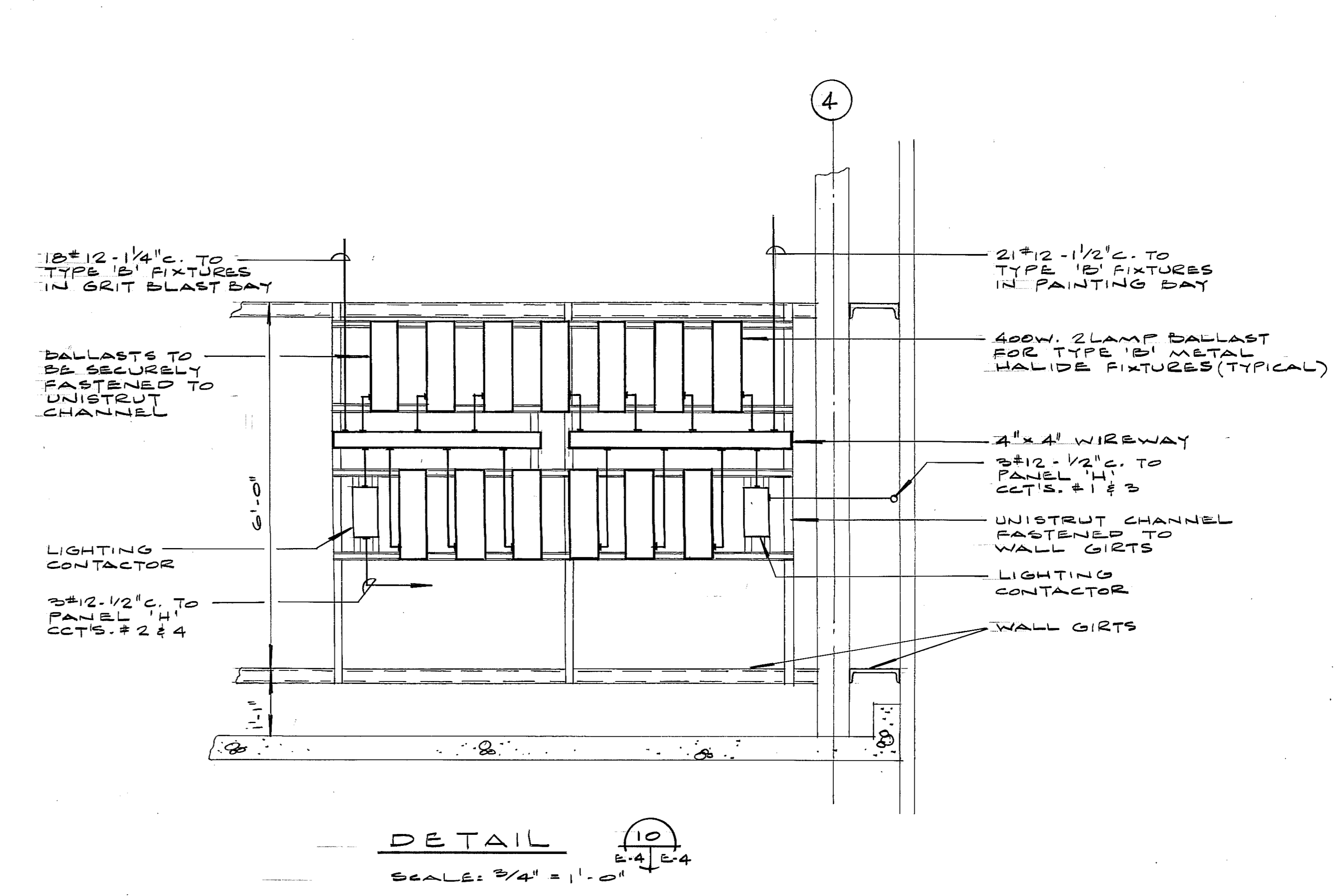
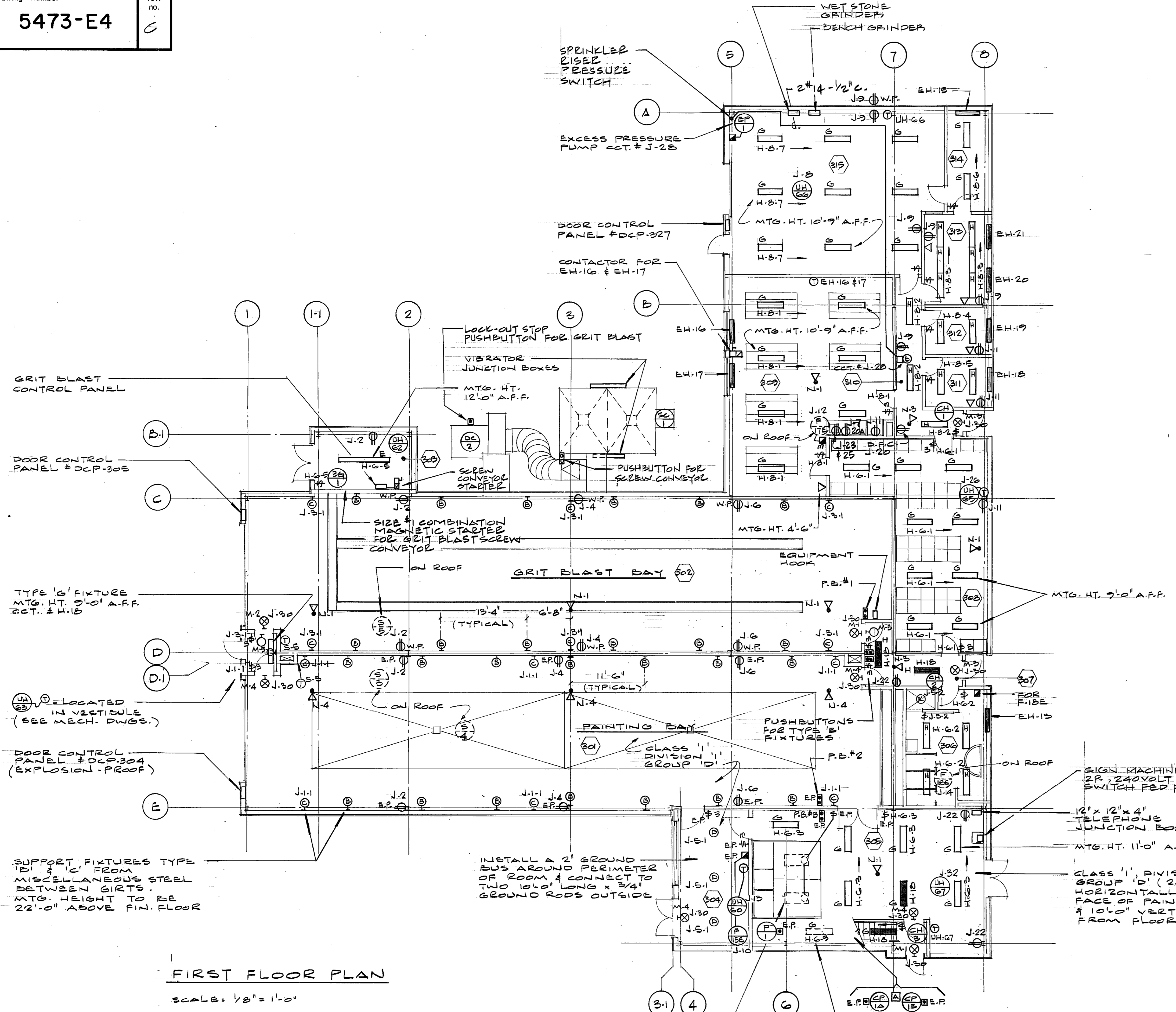
ONTARIO NORTHLAND RAILWAY
NORTH BAY YARD
CONSOLIDATION OF REPAIR FACILITIES

SITE

ELECTRICAL

drawing title
ELECTRICAL SITE SERVICES SHEET NO 2

designed by	P.J.	checked by	P.J.	date	MARCH, 74
drawn by	G.W.L.	approved by	T.J.S.		
scale	1" = 30'-0"	drawg. status	drawing number		
project number	5473		5473-E3		



	A	A detail no.
	B	B location drawing no.
	C	C drawing no.

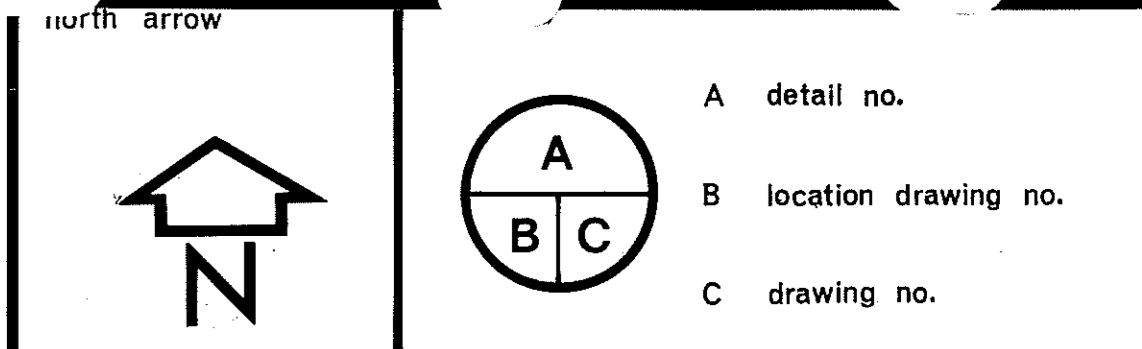
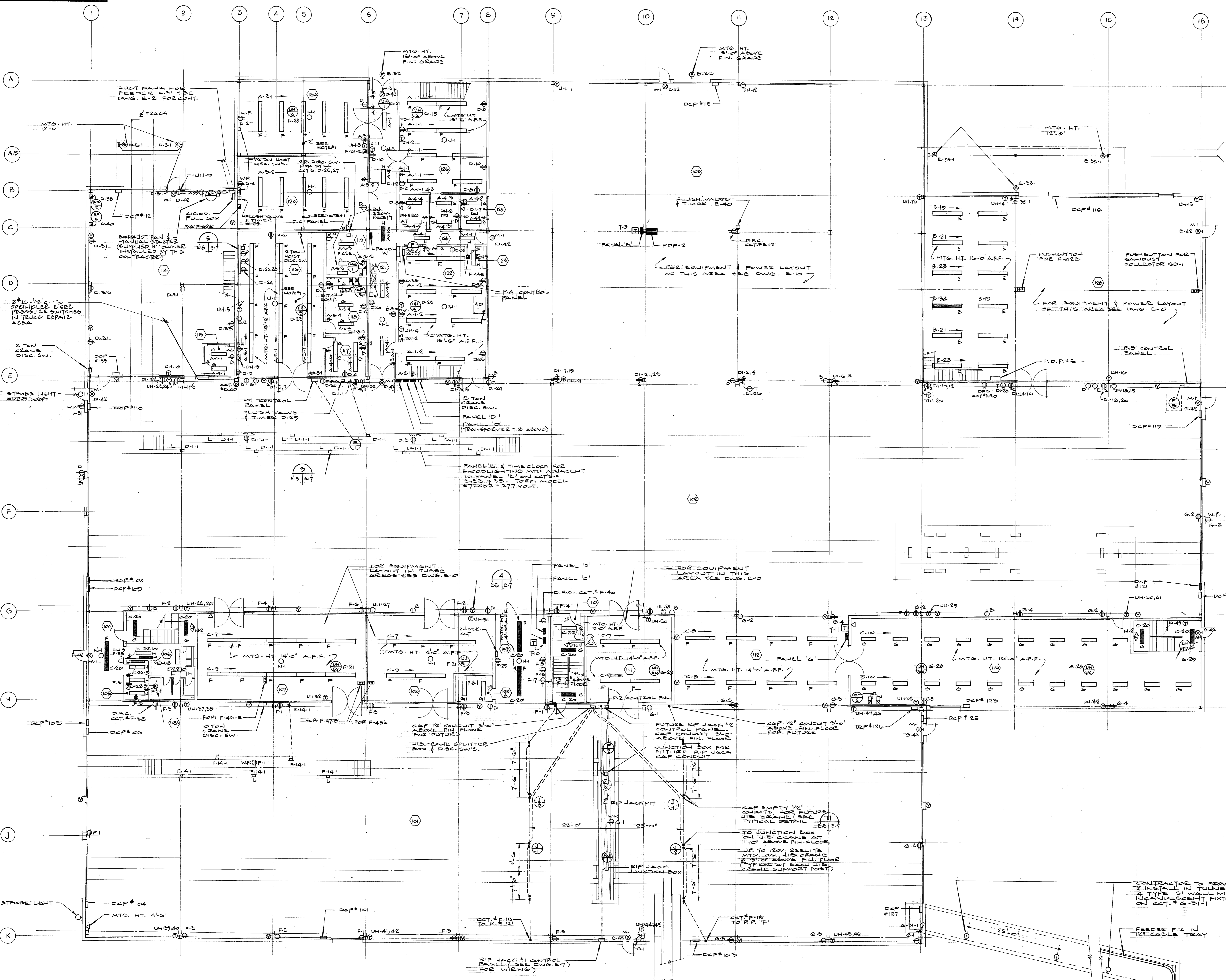
- notes and reference drawings
- ELECTRICAL CONTRACTOR TO SUPPLY & INSTALL THE GRIT BLAST EQUIPMENT CONTROL PANEL COMPLETE WITH 1 MAIN 200A DISCONNECT SWITCH; 1-200A FUSED DISCONNECT SWITCH; 1-500A FUSED DISCONNECT SWITCH; 1-500A AUTO-TRANSFORMER REDUCED VOLTAGE STARTER; 1-500A DELAY RELAYS; 2 TIME DELAY RELAYS; PILOT LIGHTS, ETC. ALL CONTAINED IN ONE 600A 12 ENCLOSURE. 10KVA CAPACITOR FOR DC. 2 MOUNTED ADJACENT.
 - SUPPLIED & INSTALLED BY MECHANICAL CONTRACTOR. LINE SIDE WIRING THROUGHOUT AND WIRING & CERTAIN INTERLOCK WIRING BY ELECTRICAL CONTRACTOR.
 - SUPPLIED & INSTALLED BY MECHANICAL CONTRACTOR. LINE SIDE WIRING THROUGHOUT AND WIRING & CERTAIN INTERLOCK WIRING BY ELECTRICAL CONTRACTOR.
 - LINE SIDE WIRING & CERTAIN INTERLOCK WIRING ONLY BY ELECTRICAL CONTRACTOR.
 - BATTERIES & CHARGER SUPPLIED BY OWNER. INSTALLED & CONNECTED BY ELECTRICAL CONTRACTOR.
 - D.C. OUTLETS TO BE GROUSE WINDS EAT. # F39C-3920 (4 REQUIRED) C/W ONE CAT. # APJ-3965 MATING PLUG.

C	Nov 75	AS BUILT	G.L.
D	0-5-76	ISSUED FOR CONSTR.	G.L. K.T.O. T.J.S.
A	Mar. 74	Issued for General Contract Tender	
No.	date		drawn checked approved

revisions

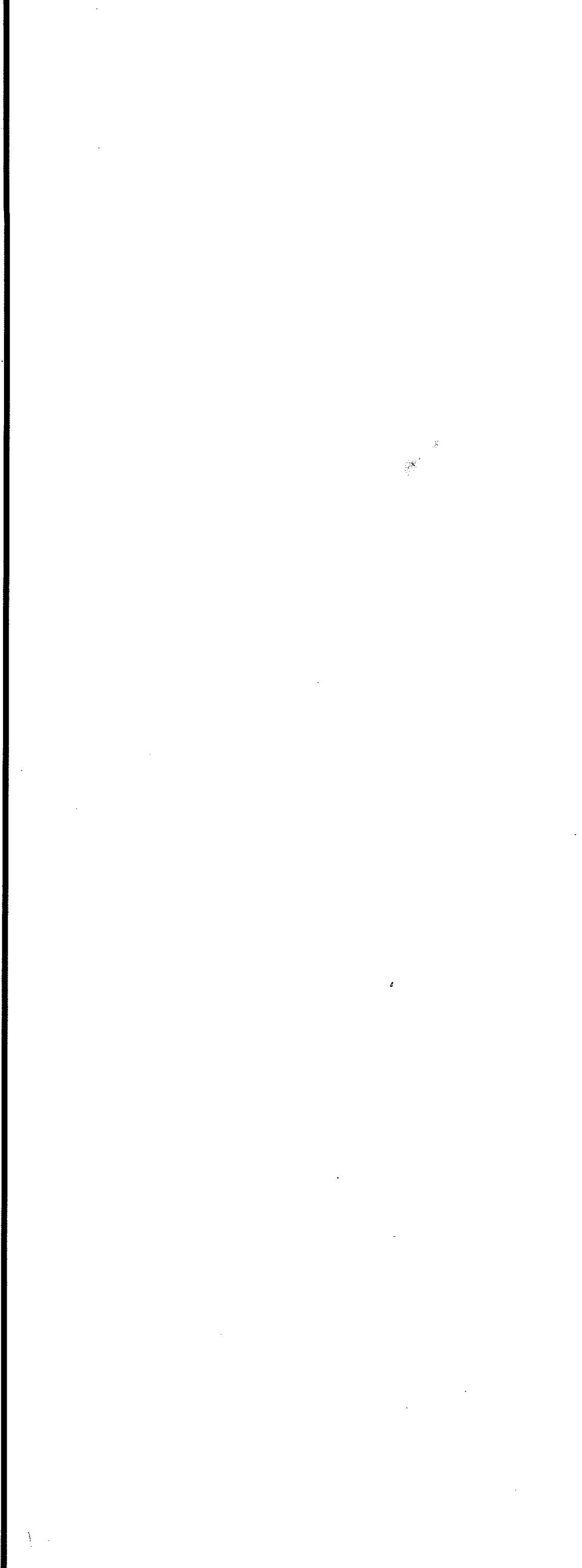
COLE, SHERMAN & ASSOC. LIMITED
TORONTO, ONTARIO

ONTARIO NORTHLAND RAILWAY NORTH BAY YARD CONSOLIDATION OF REPAIR FACILITIES		
PAINT SHOP		
ELECTRICAL		
drawing title PLANS & DETAILS		
designed by P.J.	checked by P.J.	date MARCH, 74
drawn by G.W.L.	approved by T.J.S.	
scale AS SHOWN	draw status	drawing number 5473-E4
project number 5473		rev. no. C



notes and reference drawings

1. INSTALL A CAT. # YS-104-40 REELITE AT CENTER POINT OF HOIST TRAVEL. REELITE TO BE SECURELY FASTENED TO BUILDING BEAM & POSITIONED TO ALLOW CABLE TRAVEL TO ANY HOIST POSITION. INSTALL A CABLE GRIP AT HOIST TO TAKE CABLE TENSION.



F	Nov. 75	AS BUILT	G.L.	
E	29-74	CHANGE NOTICE NO 10	G.L.	K.T.O. T.J.S.
D	4-74	CHANGE NOTICE NO 6	G.L.	K.T.O. T.J.S.
C	29-74	CHANGE NOTICE NO 2	G.L.	K.T.O. T.J.S.
B	10-5-74	ISSUED FOR CONST. N	G.L.	K.T.O. T.J.S.
A	Mar. 74	Issued for General Contract Tender		
no.	date	description	drawn	checked

seal

seal

COLE, SHERMAN & ASSOC. LIMITED
TORONTO, ONTARIO

ONTARIO NORTHLAND RAILWAY
NORTH BAY YARD
CONSOLIDATION OF REPAIR FACILITIES

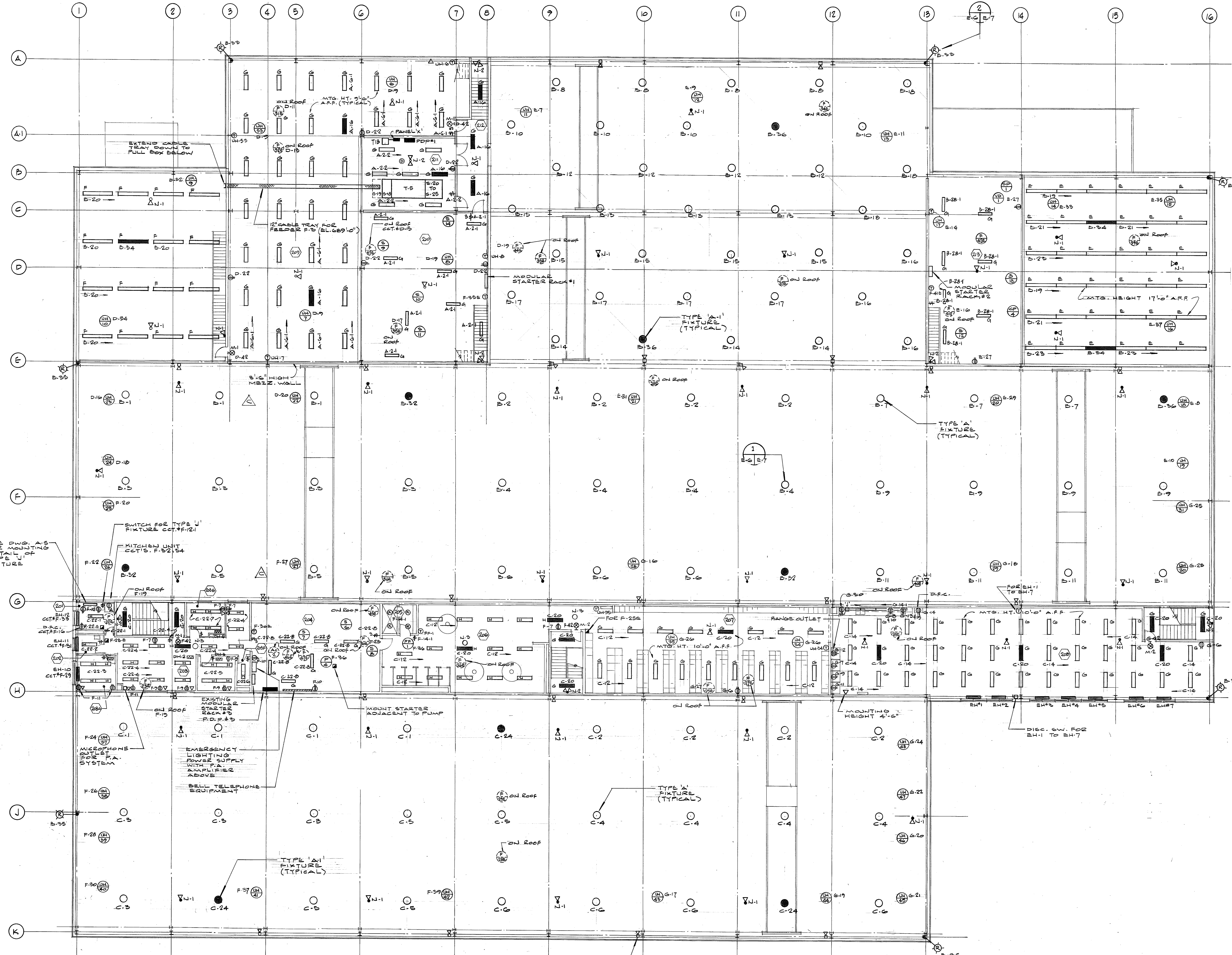
REPAIR FACILITY
ELECTRICAL

drawing title
FIRST FLOOR PLAN

designed by	P. J.	checked by	P. J.	date	MARCH, 74
drawn by	G.W.L.	approved by	T.J.S.		
scale	1/8" = 1'-0"	drawg. status		drawing number	5473-E5
project number	5473			rev. no.	F

notes and reference drawings

A detail no.
B location drawing no.
C drawing no.



NO. 75	AS BUILT	G.L.
D 10-5-75	ORIGINAL ISSUE FOR BENTON TENDER	G.L. K.T.O. T.J.S.
C 29-5-74	CHANGE NOTICE NO. 2	G.L. K.T.O. T.J.S.
B 10-5-70	ISSUED FOR CONST'N	G.L. K.T.O. T.J.S.
A Mar. 74	Issued for General Contract Tender	G.L. K.T.O. T.J.S.
no. date		drawn checked approved

revisions

COLE, SHERMAN & ASSOC. LIMITED
TORONTO, ONTARIO

ONTARIO NORTHLAND RAILWAY
NORTH BAY YARD
CONSOLIDATION OF REPAIR FACILITIES

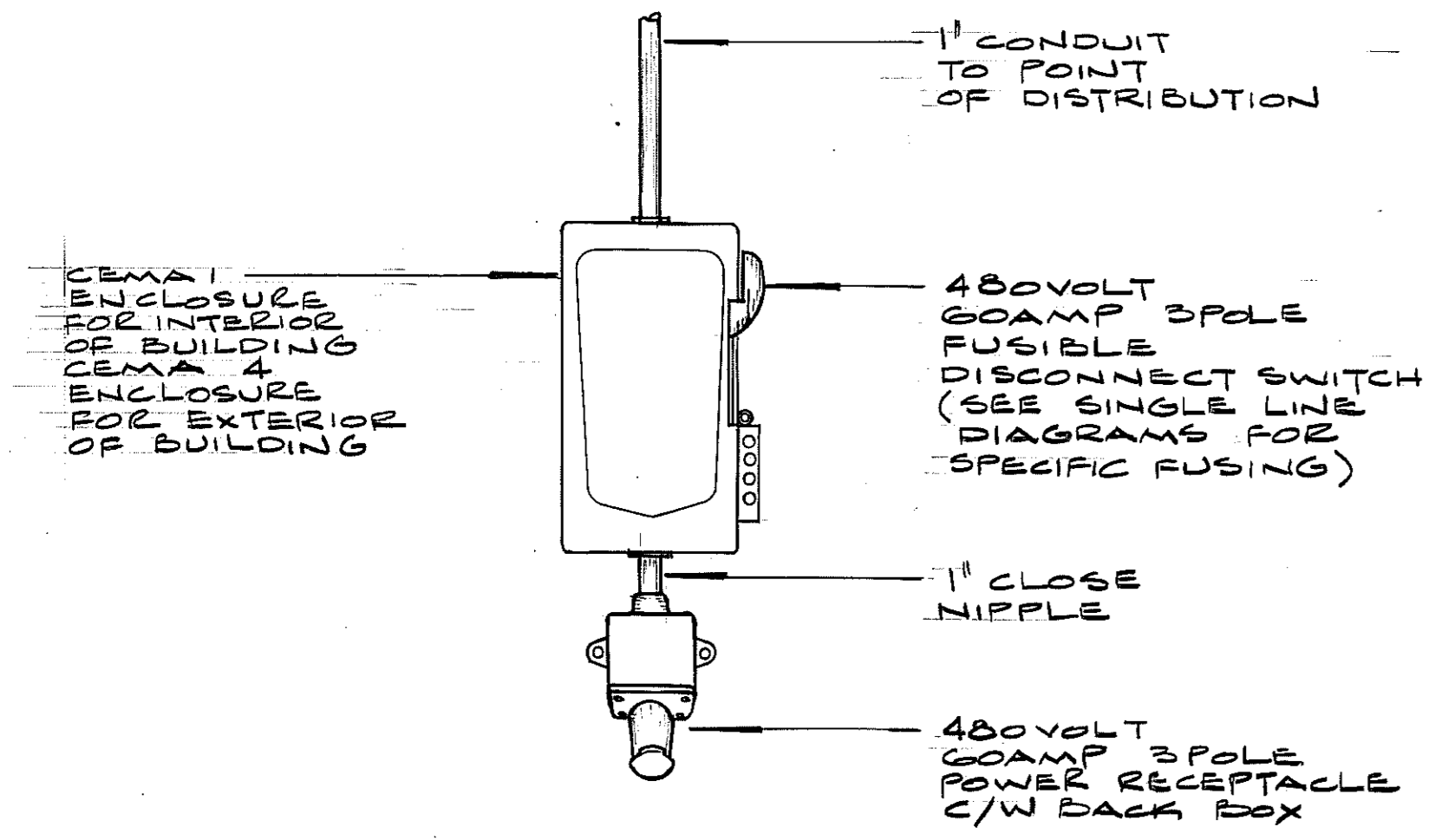
REPAIR FACILITY

ELECTRICAL

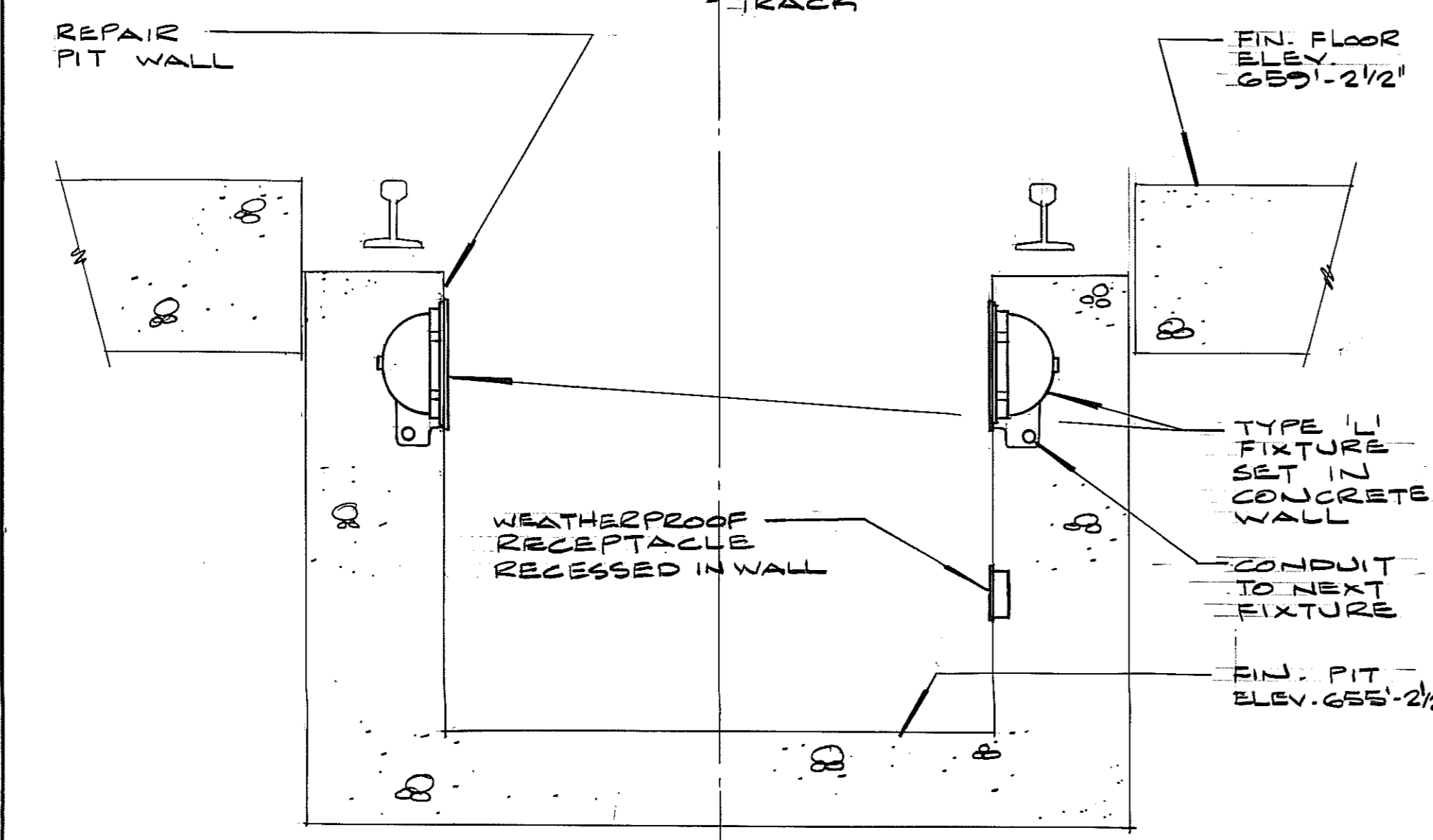
drawing title

SECOND FLOOR PLAN

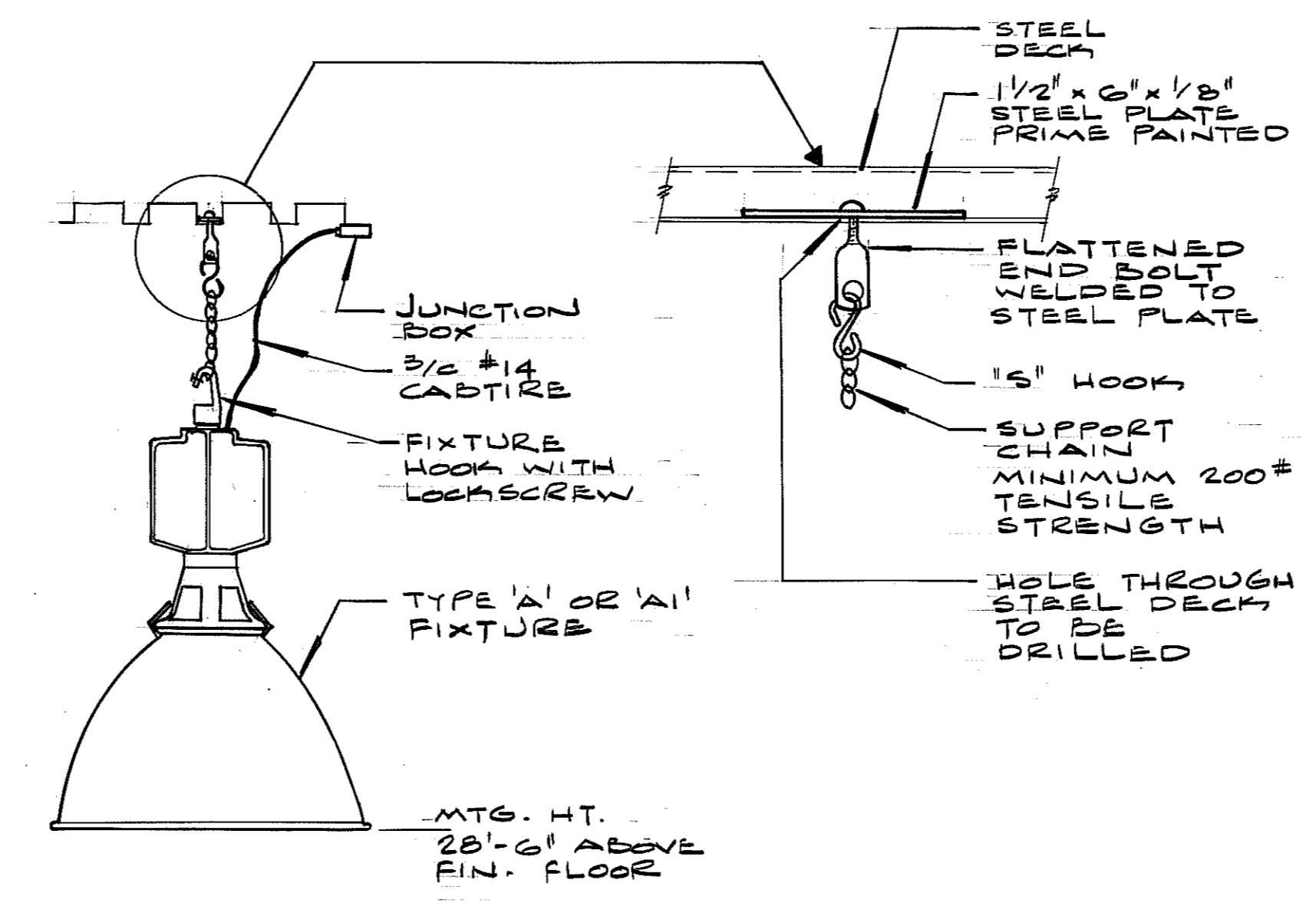
designed by	P.J.	checked by	P.J.	date	MARCH, 74
drawn by	G.W.L.	approved by	T.J.S.		
scale	1/8" = 1'-0"	status		drawing number	5473-E6
project number	5473			rev. no.	E



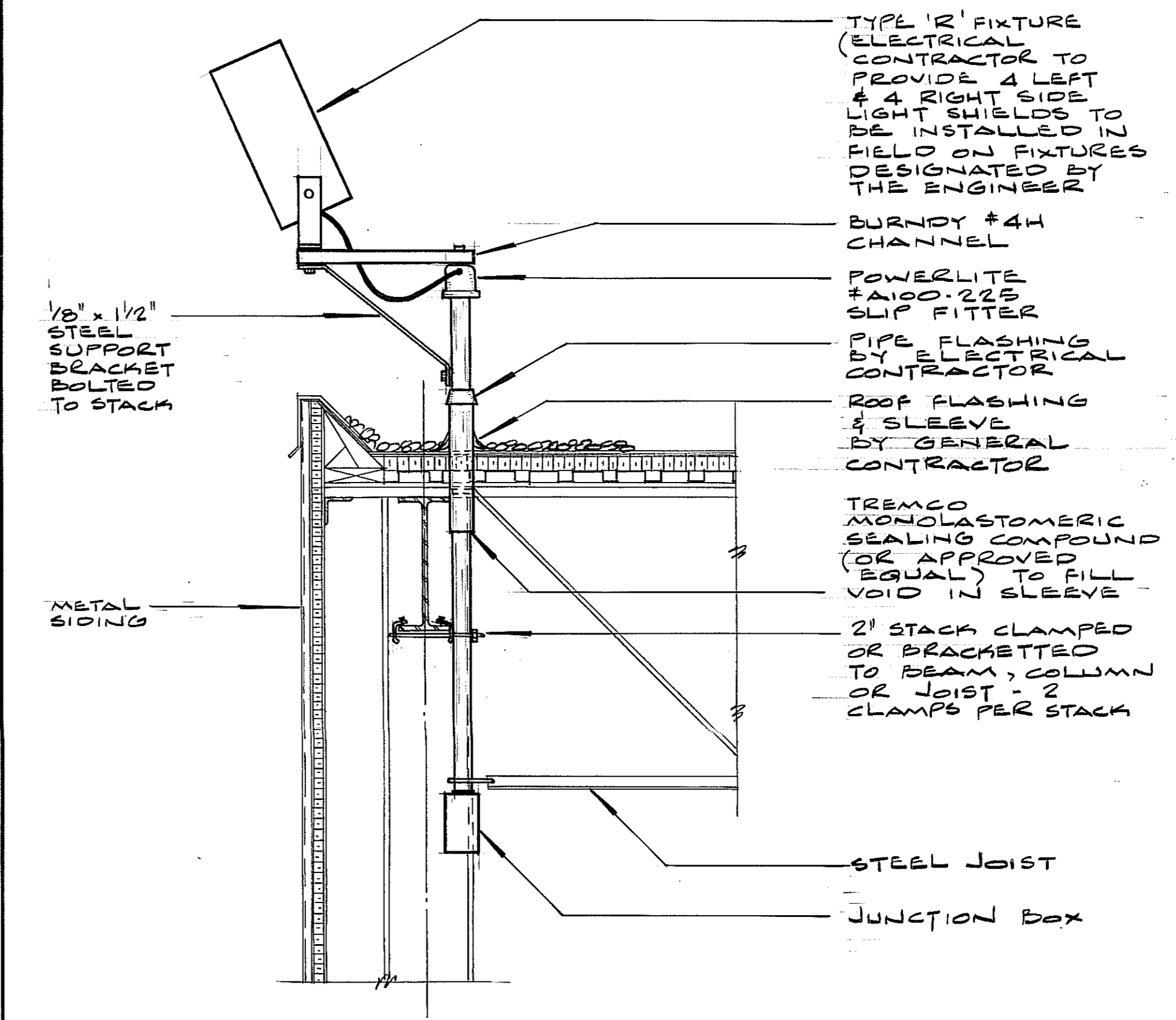
DETAIL 4
SCALE: 1/2" = 1'-0"



DETAIL 3
SCALE: 1" = 1'-0"



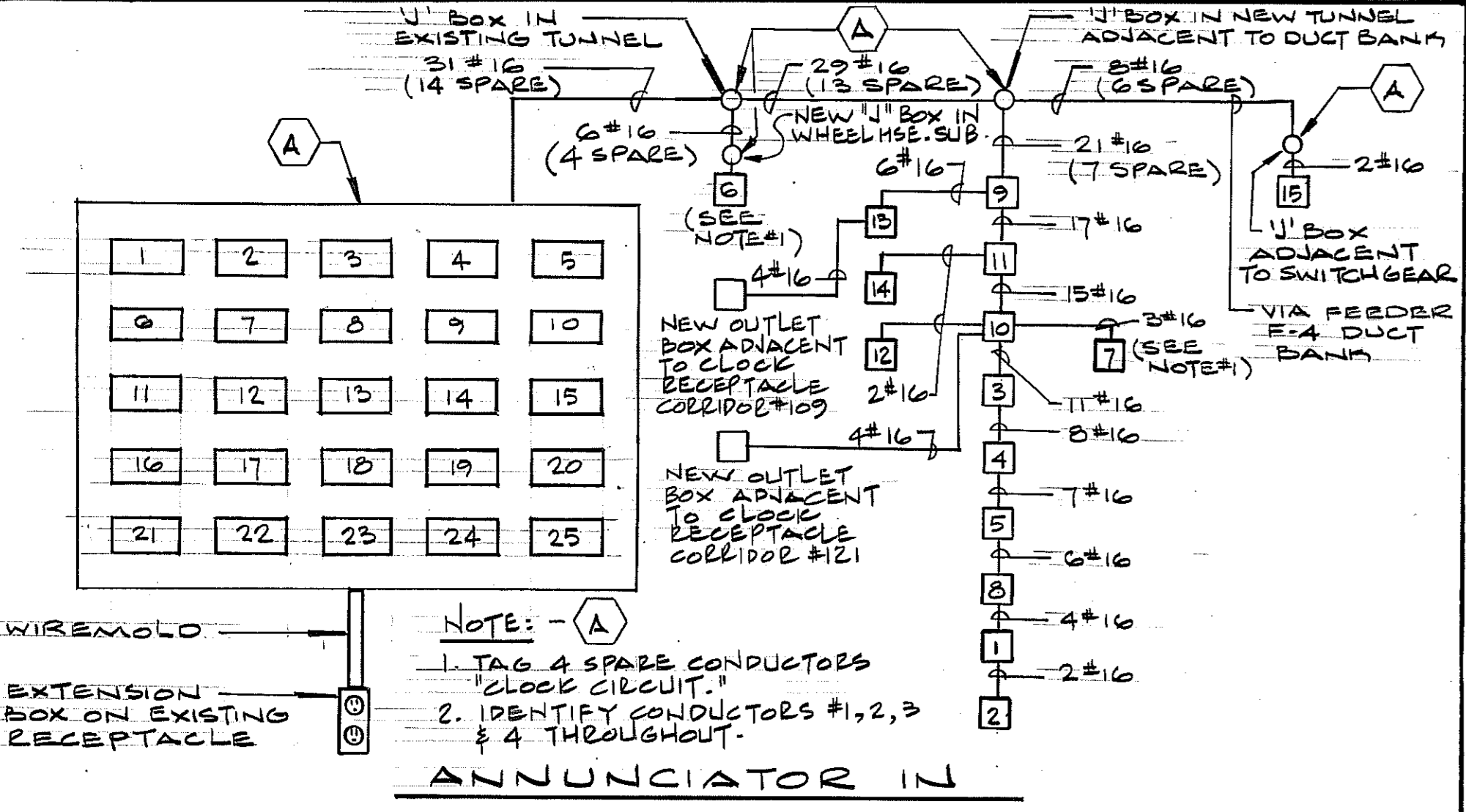
DETAIL 1
SCALE: 1" = 1'-0"



DETAIL 2
SCALE: 3/4" = 1'-0"

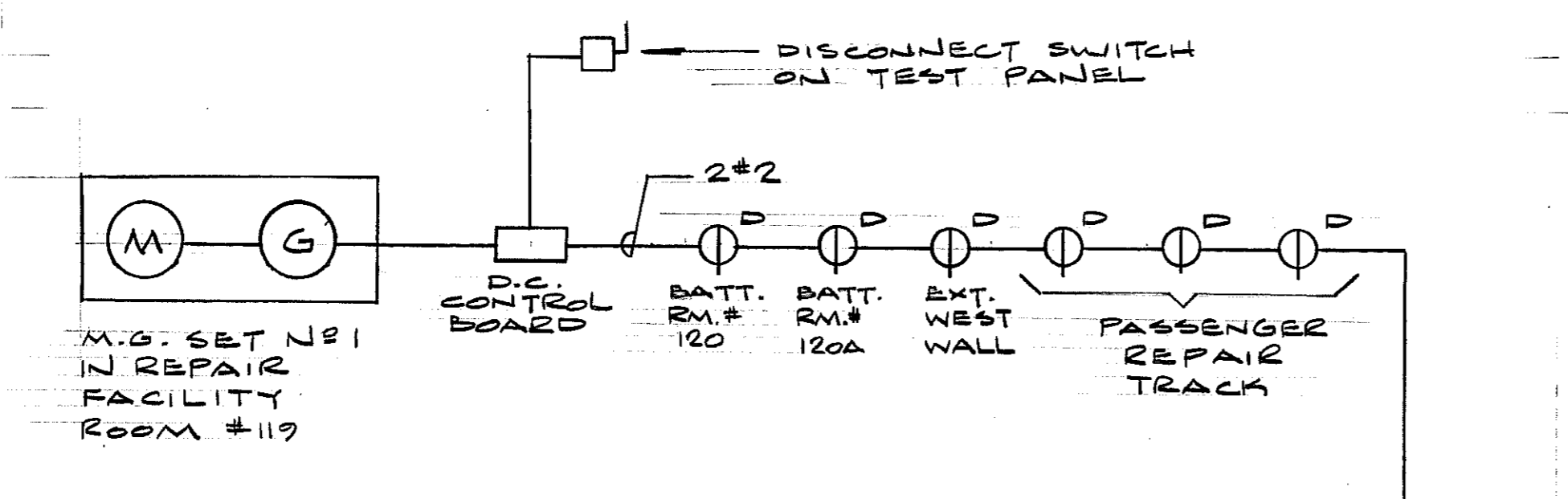
A	detail no.
B	location drawing no.
C	drawing no.

notes and reference drawings
THE ELECTRICAL CONTRACTOR SHALL SUPPLY & INSTALL EDWARDS CAT # 782 HEAT DETECTORS (100°F FINE TEMPERATURE RATE OF RISE) IN THE REPAIR FACILITY AND WHEEL HOUSE SUBSTATIONS.



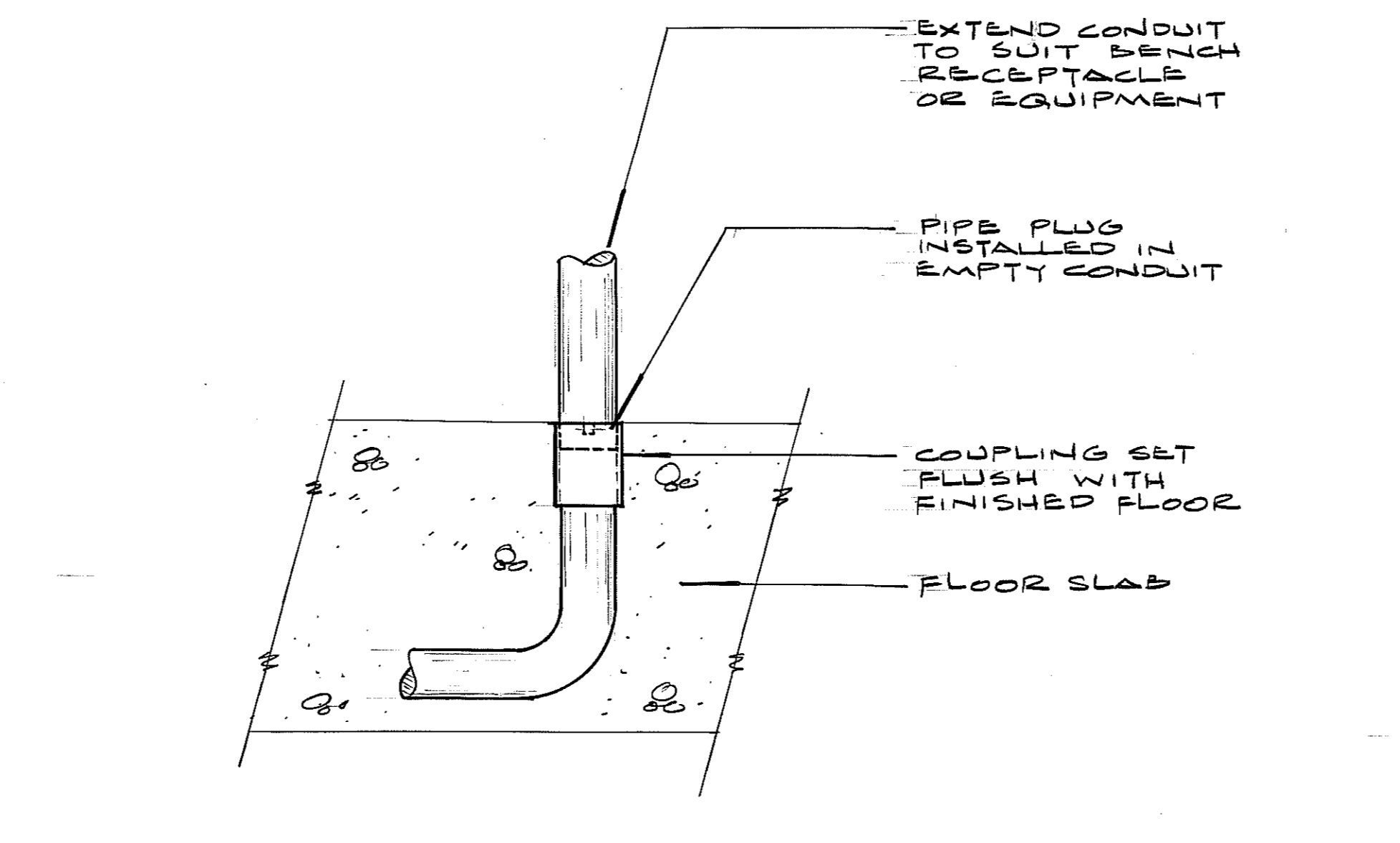
ANNUNCIATOR IN LOCOMOTIVE FOREMAN'S OFFICE DIESEL SHOP

- WINDOW DESIGNATIONS
- | | | |
|--|---|---|
| 1. SPRINKLER VALVES OFF PAINT SHOP | 6. WHEEL HOUSE SUBSTATION HIGH TEMPERATURE | 11. CONDENSATE PUMP 4 REPAIR FACILITY WOOD SHOP |
| 2. SPRINKLER PAINT SHOP | 7. REPAIR FACILITY SUBSTATION HIGH TEMPERATURE | 12. SUMP PUMP P-1 REPAIR FACILITY |
| 3. SPRINKLER VALVES OR REPAIR FACILITY | 8. CONDENSATE PUMP 1 PAINT SHOP STORAGE ROOM | 13. SUMP PUMP P-2 REPAIR FACILITY |
| 4. SPRINKLER ZONE 1 REPAIR FACILITY | 9. CONDENSATE PUMP 2 REPAIR FACILITY | 14. SEWAGE PUMP P-3 REPAIR FACILITY |
| 5. SPRINKLER ZONE 2 REPAIR FACILITY | 10. CONDENSATE PUMP 3 REPAIR FACILITY ELECTRIC SHOP | 15. BOILER POWER HOUSE |
| | 16. SEWAGE PUMP P-4 REPAIR FACILITY | 17. COMPRESSORS-POWER HSE. (AIP) 18 TO 25-SPACE |

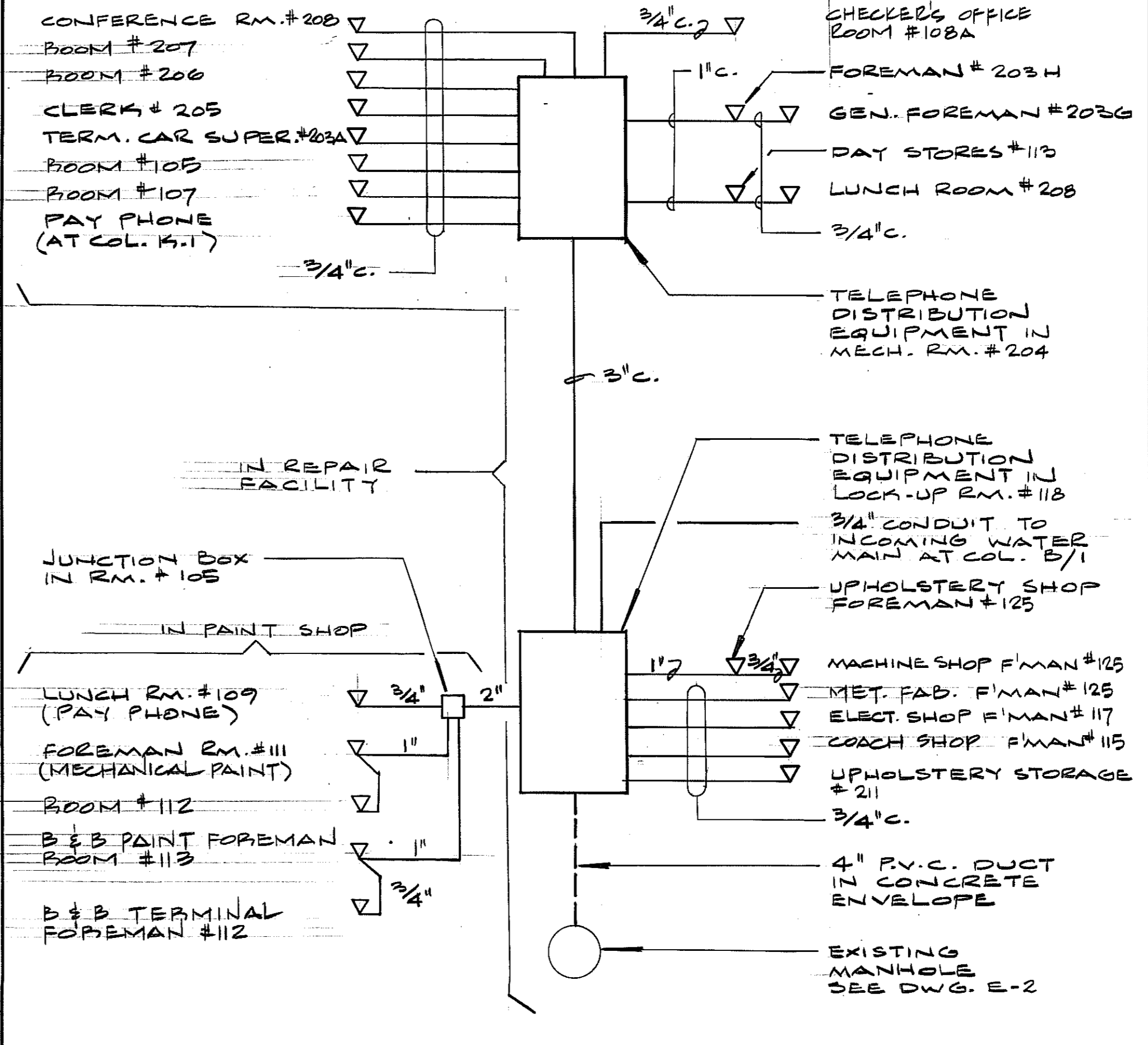


D.C. POWER DISTRIBUTION

NOTE: ALL D.C. OUTLETS TO BE SERIES CONNECTED.



DETAIL 11
U.T.S.

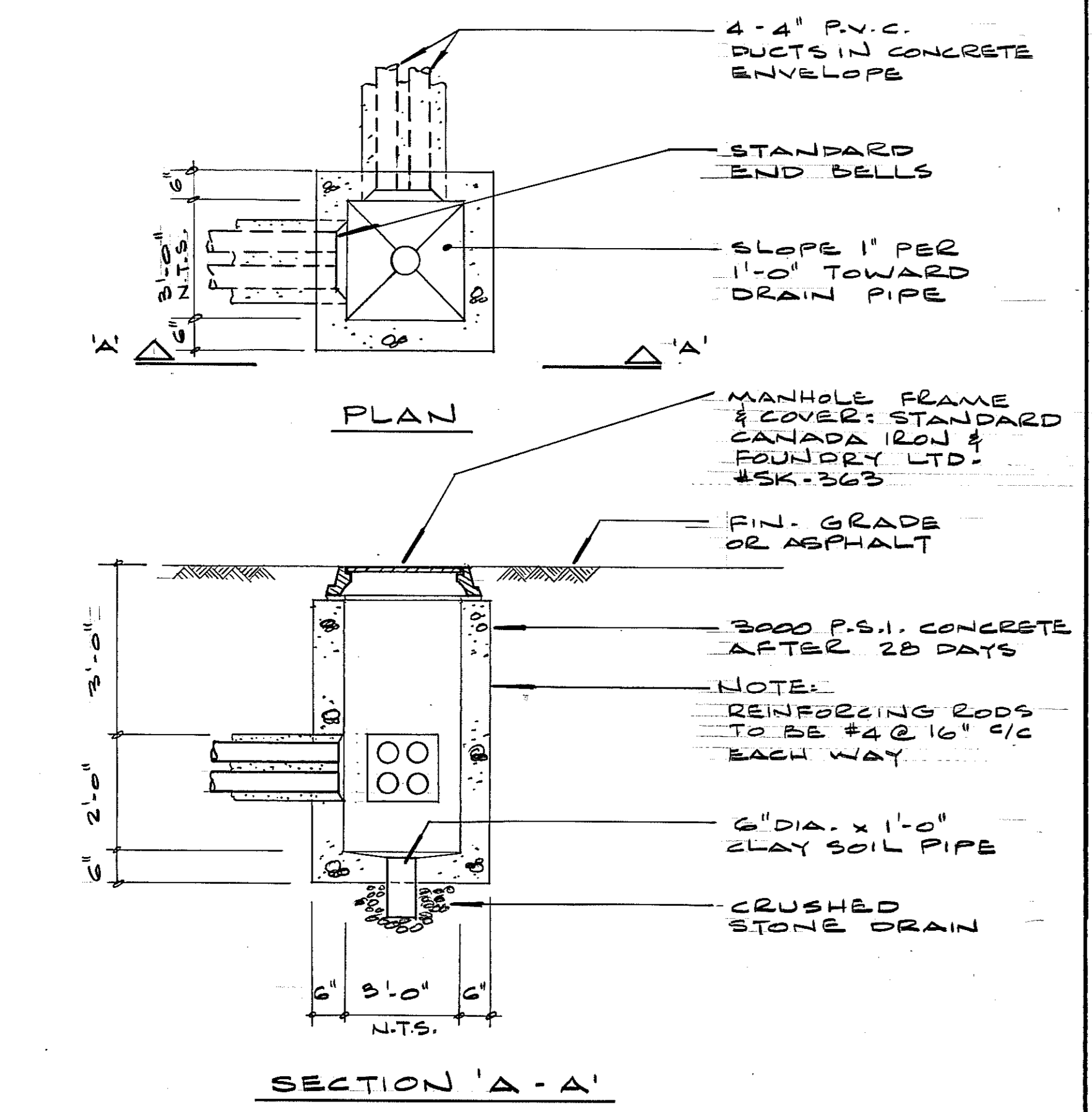


TELEPHONE RISER DIAGRAM
U.T.S.

C	Nov 75	AS BUILT	G.L.
B	Oct 74	ISSUED FOR CONSTRUCTION	G.L. K.T.G. T.J.S.
A	Mar. 74	Issued for General Contract Tender	
no.	date	Issued for	drawn checked approved

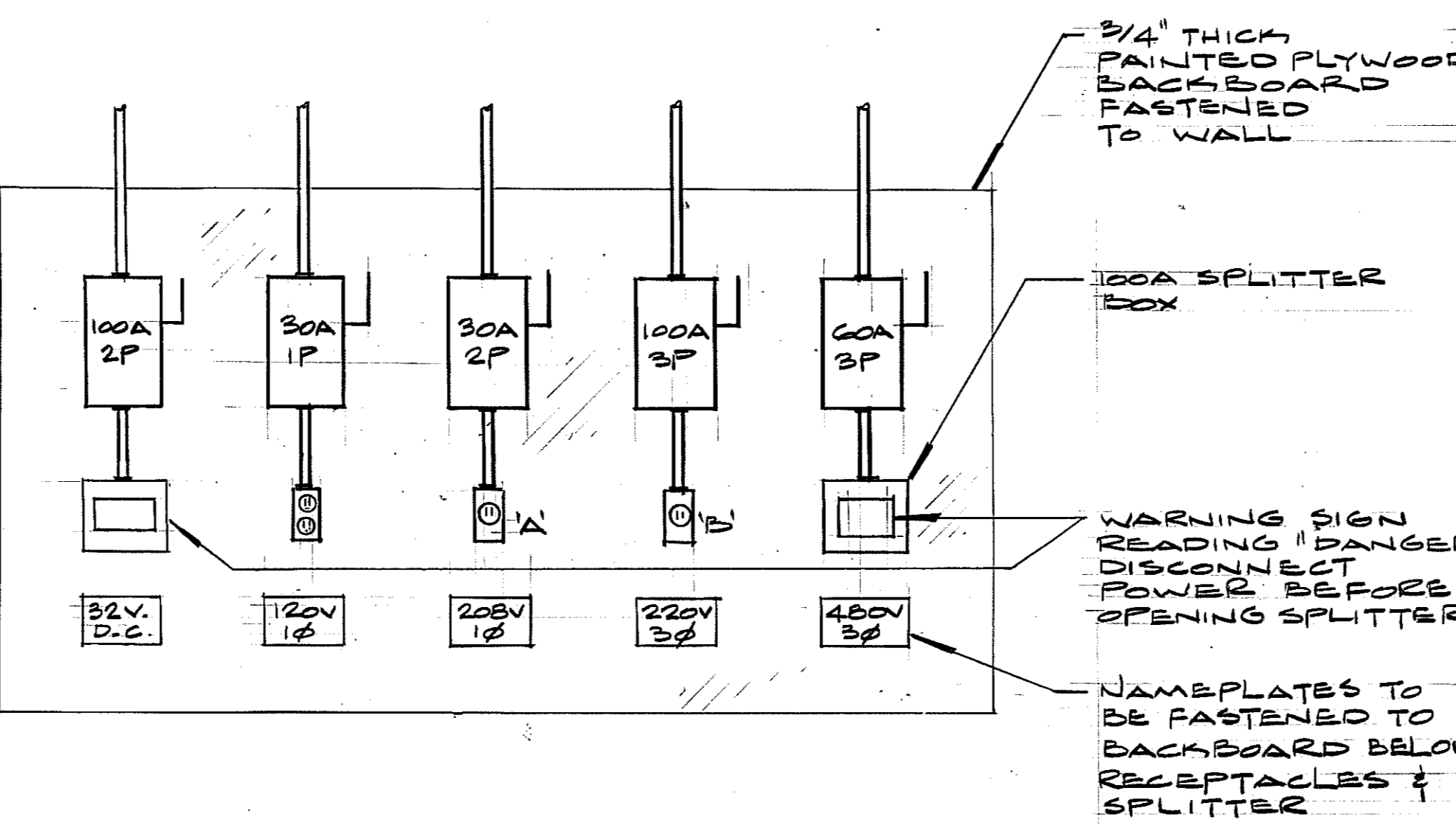
revisions

COLE, SHERMAN & ASSOC. LIMITED
TORONTO, ONTARIO

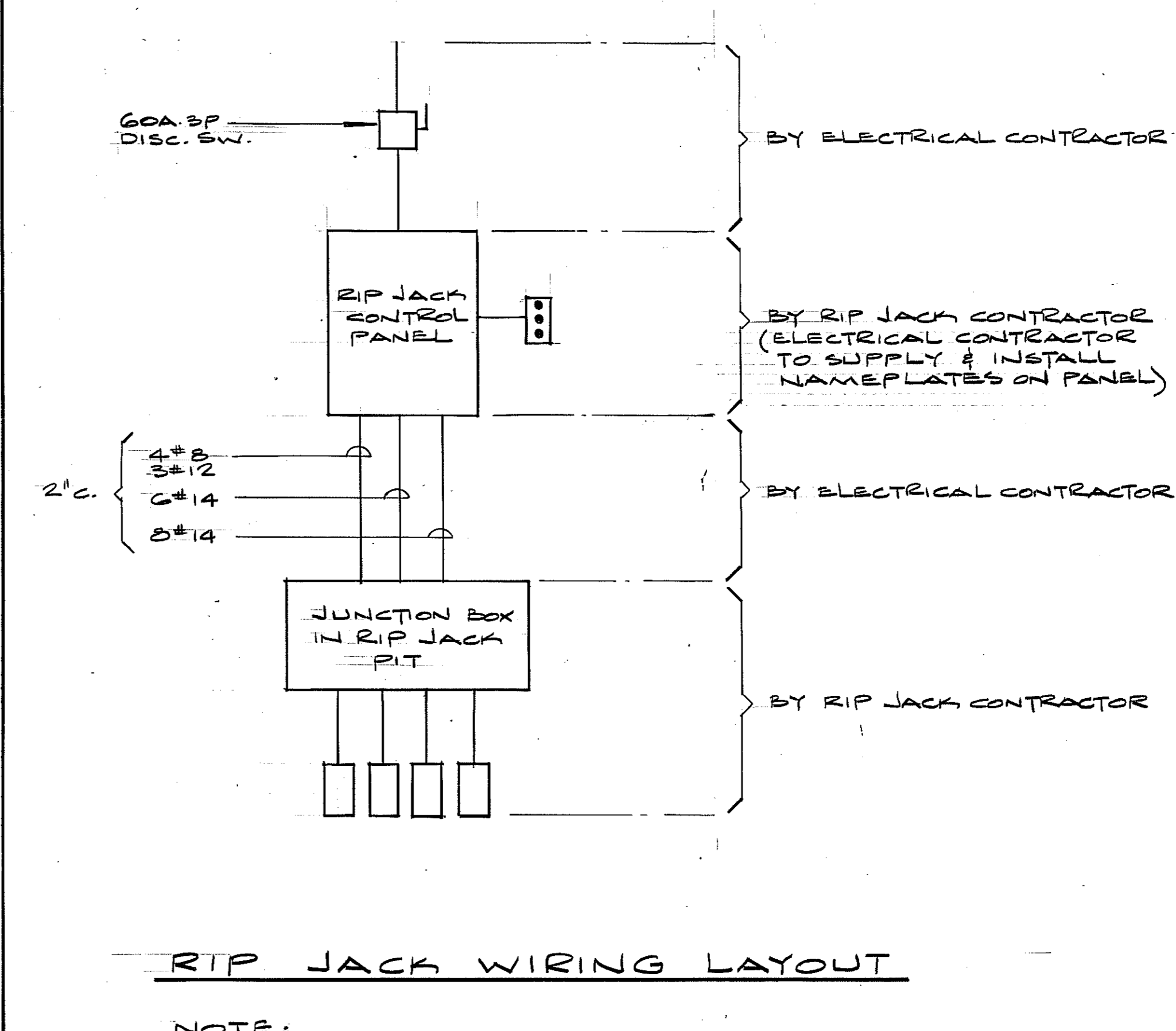


DETAIL 9
SCALE: 1/2" = 1'-0"

SYMBOL	TYPE	VOLT/PH/2VC	KW	MANUF.	CAT. NO.	REMARKS
EH-1,2,3 13,14,17, 19,20,21	CONNECTOR	480/1/60	2	CHROMALOX	WH-420 T-1B5	BUILT-IN 2 POLE THERMOSTAT (EH-13,14,17,20 & 21 ONLY)
EH-8, 16,17	CONNECTOR	480/1/60	3	"	WH-620 T-1B5	BUILT-IN 2 POLE THERMOSTAT (EH-8 ONLY)
EH-9,11	BASEBOARD	120/1/60	1	"	B3-500- TS	BUILT-IN 1 POLE THERMOSTAT
EH-12, 13,14	BASEBOARD	120/1/60	1.5	"	B3-7415- TS	BUILT-IN 1 POLE THERMOSTAT
EH-1	CABINET HEATER	480/3/60	4	"	CH-104	SEMI-RECESSED WITH TRIM BASE C/W BUILT-IN THERMOSTAT CONTRACTOR & CONTROLS
DH-105	UNIT HEATER	480/3/60	5	"	YLB-1050	C/W BUILT-IN 120V TRANSFORMER & T-4795 THERMOSTAT
DH-1,5, 6,7,8,9	DUCT HEATER	480/1/60	1.5	"	"	SUPPLIED & INSTALLED BY MECH. CONTRACTOR C/W CONTRACTOR & CONTROLS. LINE SIDE WIRING & INTERCONNECTING WIRING TO SERVO CONTROLS BY ELECTRICAL CONTRACTOR.
DH-4, 2 & 3	DUCT HEATER	480/1/60	3.0	"	"	"
DH-62 & 64	UNIT HEATER	480/3/60	5	CHROMALOX	BUH-51T	C/W BUILT-IN 120V TRANSFORMER & THERMOSTAT CONTRACTOR & BUH-W1 BRACKET



DETAIL 5
U.T.S.



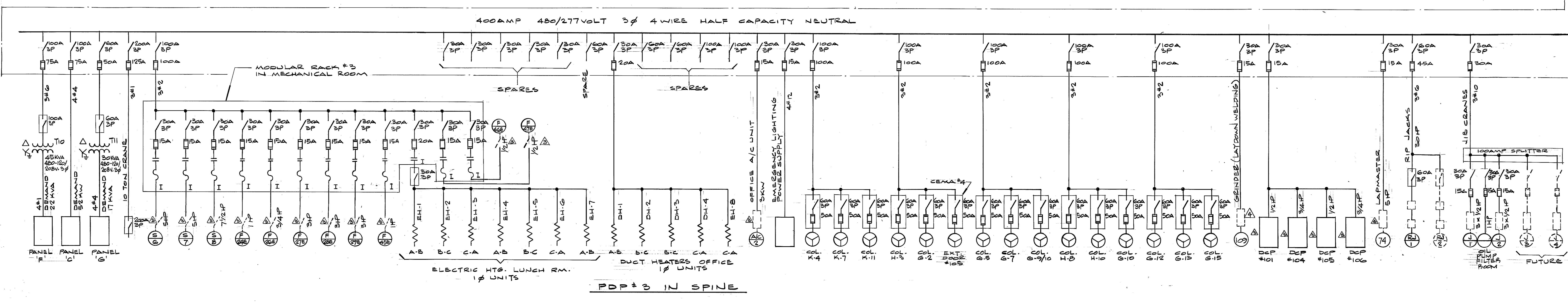
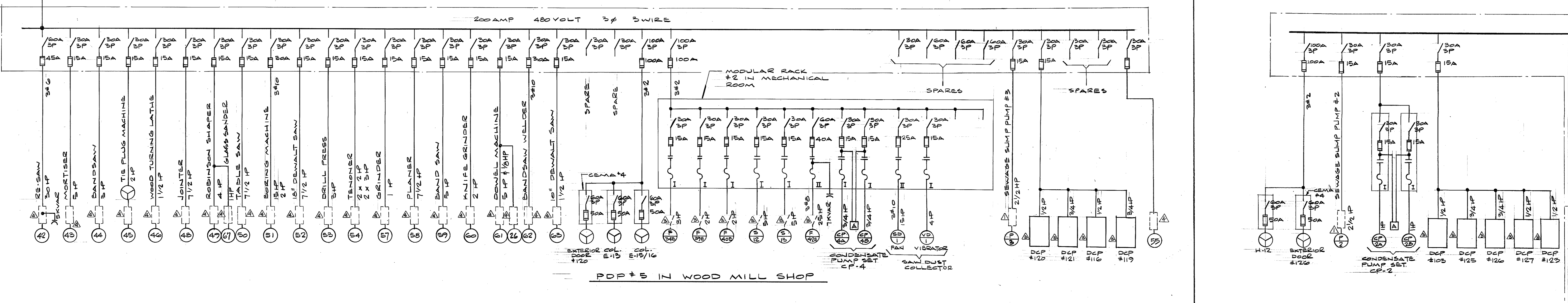
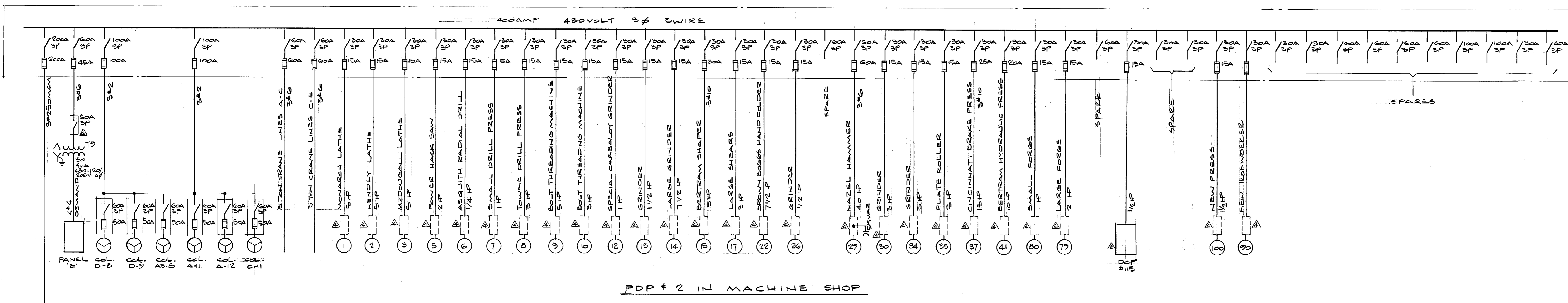
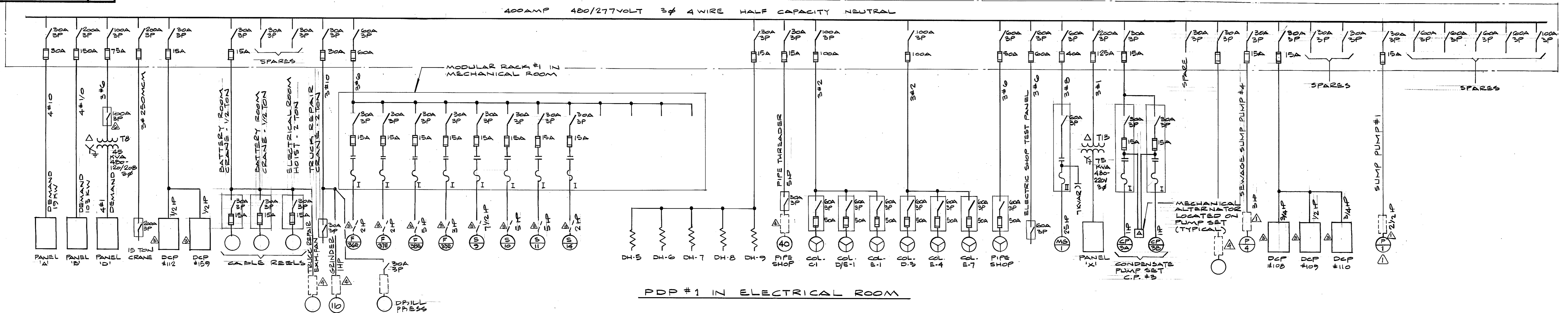
RIP JACK WIRING LAYOUT

NOTE: ELECTRICAL CONTRACTOR TO INSTALL EMPTY 2" C. FOR FUTURE RIP JACK

ONTARIO NORTHLAND RAILWAY
NORTH BAY YARD
CONSOLIDATION OF REPAIR FACILITIES

ELECTRICAL
DETAIL SHEET

designed by	P. J.	checked by	P. J.	date	
drawn by	GW.L.	approved by	T.J.S.		MARCH, 74
scale	AS SHOWN	drawg. status	drawing number	rev. no.	
project number	5473		5473-E7	C	



notes and reference drawings

CONTROL PANEL SUPPLIED BY MECHANICAL CONTRACTOR & INSTALLED BY ELECTRICAL CONTRACTOR. INSTALL 2-1/2" CONDUITS FROM CONTROL PANEL TO SUMP & CONNECT CABLES SUPPLIED WITH SUMP PUMP TO CONTROL PANEL.

SUPPLIED & INSTALLED BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR.

LINE SIDE WIRING ONLY BY ELECTRICAL CONTRACTOR.

EXISTING CONTROLS MOUNTED ON OR ADJACENT TO EQUIPMENT. ELECTRICAL CONTRACTOR TO INSTALL AND/OR RECONNECT WHEN EQUIPMENT IS LOCATED IN NEW SHOPS.

ALL WIRING TO BE #12 AWG UNLESS NOTED OTHERWISE.

TRANSFORMER TO BE MOUNTED IN JOIST SPACE.

AS BUILT	G.L.		
ORIGINAL ISSUE FOR VENTIL TENDER	G.L.	K.T.O.	T.J.S.
CHANGE ORDER NO 10	G.L.	K.T.O.	T.J.S.
ISSUED FOR CONST'N	G.L.	K.T.O.	T.J.S.

Issued for General Contract Tender

no. date

draw checked approved

revisions			
no.	date	draw	checked

seal

COLE, SHERMAN & ASSOC. LIMITED
TORONTO, ONTARIO

ONTARIO NORTHLAND RAILWAY
NORTH BAY YARD
CONSOLIDATION OF REPAIR FACILITIES

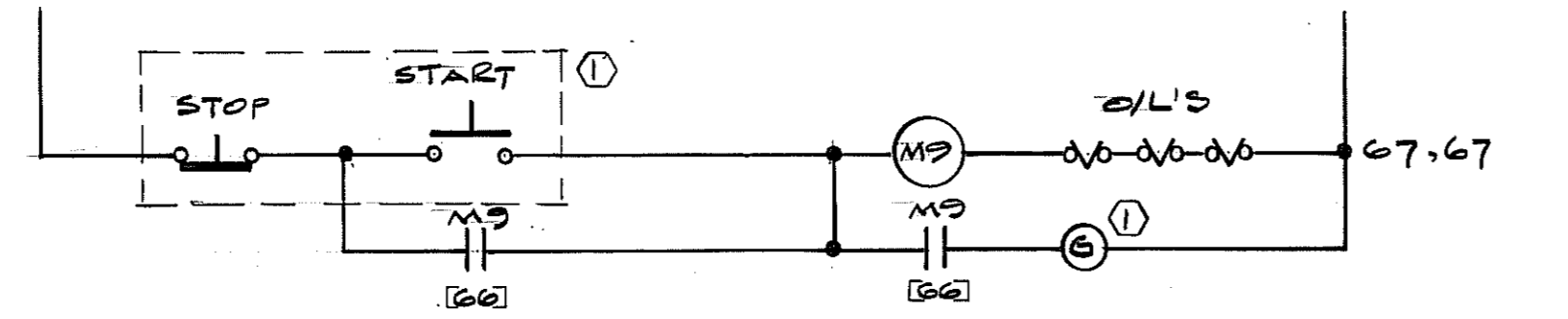
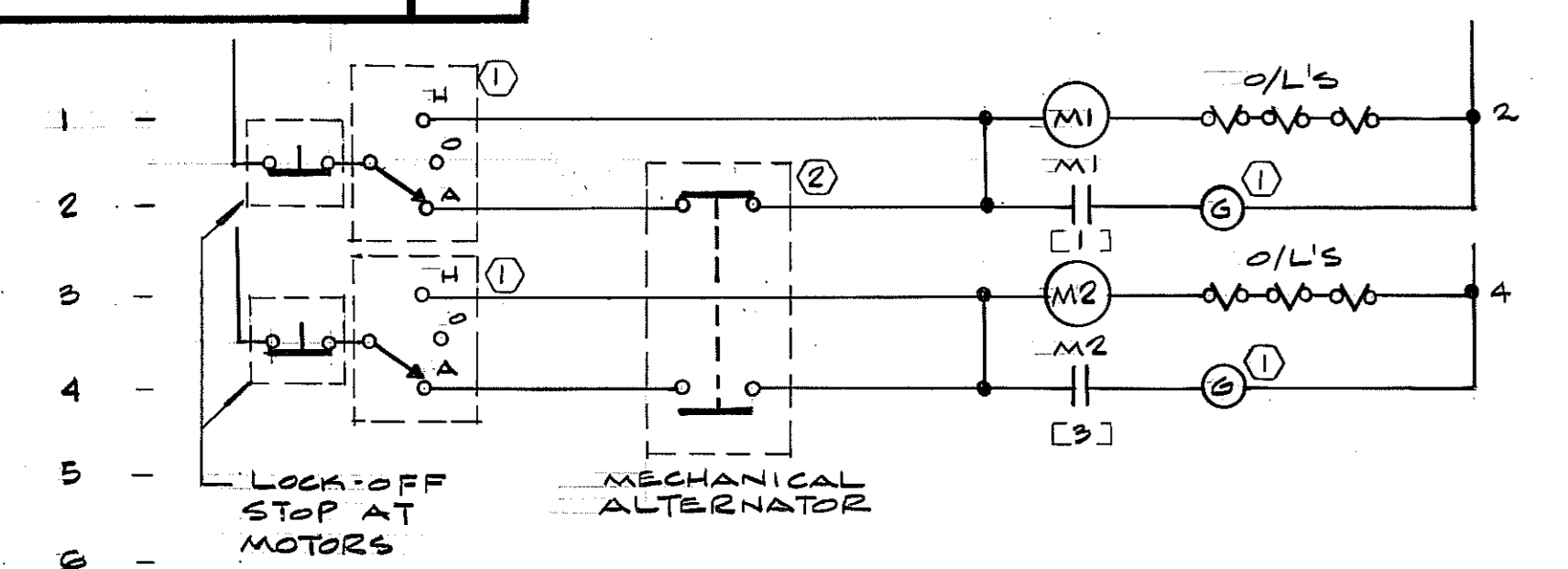
REPAIR FACILITY

ELECTRICAL

drawing title
**POWER DISTRIBUTION PANEL
SINGLE LINE DIAGRAMS**

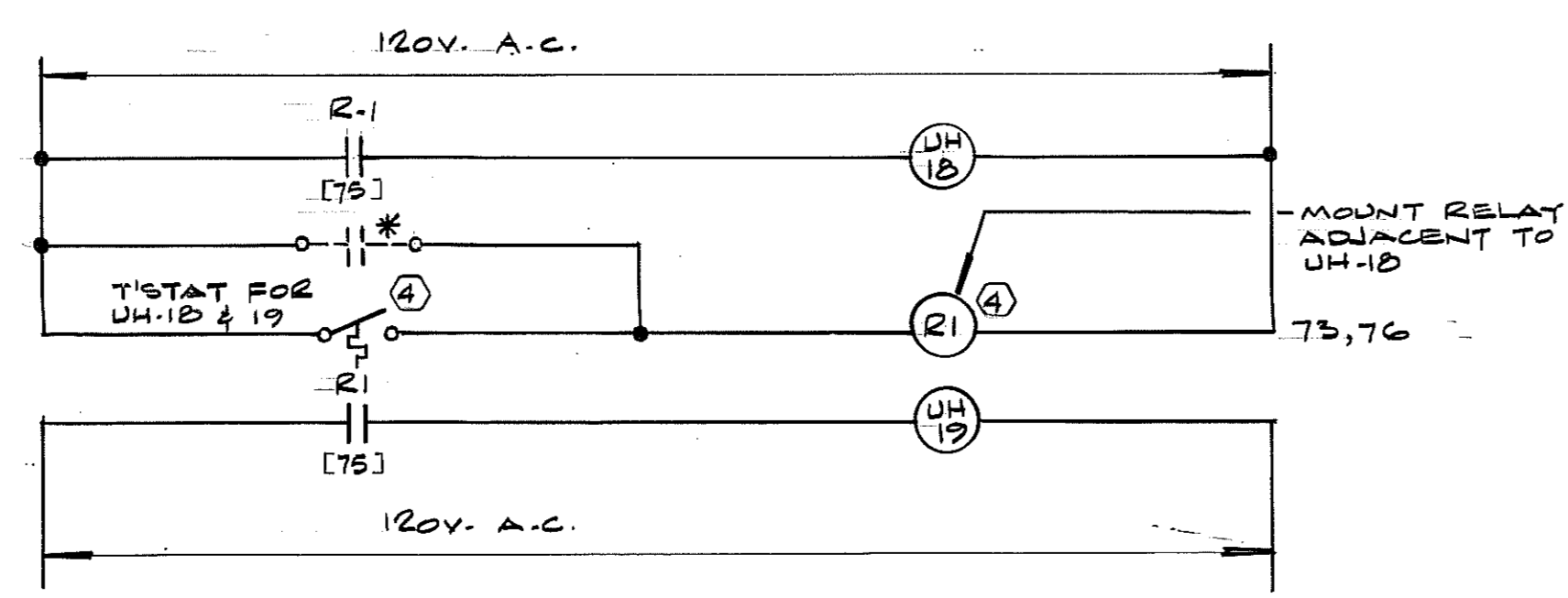
designed by P.J.	checked by P.J.	date
drawn by GWL	approved by T.J.S.	MARCH, 74

scale NO SCALE	draw status	drawing number	rev. no.
project number 5473		5473-E8	E



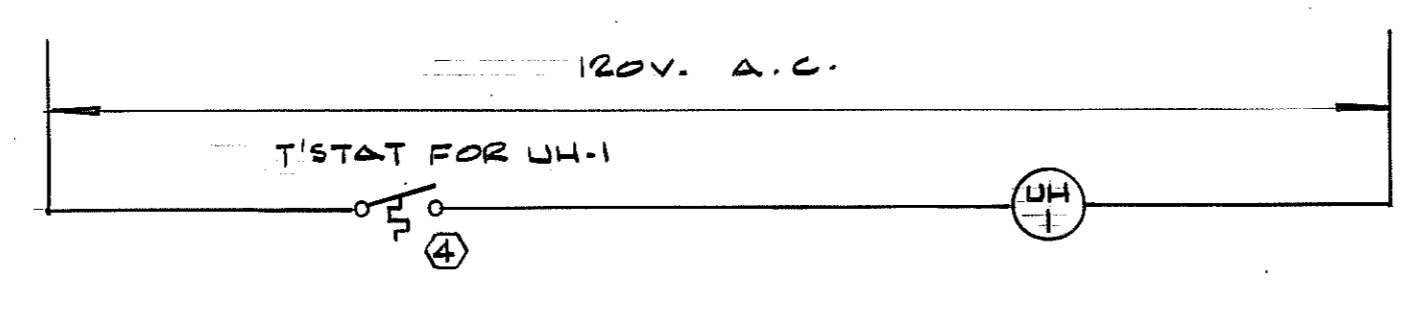
MOTOR GENERATOR SET MG-1

TYPICAL FOR MG-2



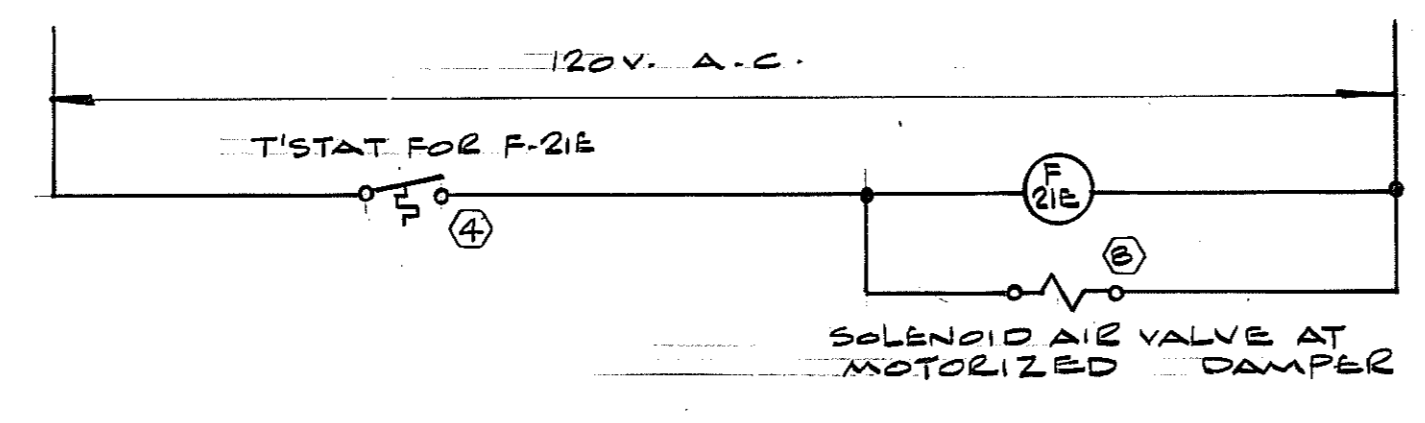
DOOR UNIT HEATERS UH-1B & UH-19

Table listing heater models and their remote contacts: UH-25,26; UH-30,31; UH-37,38; UH-39,40; UH-45,46; UH-47,48; UH-41,42; UH-43,44.



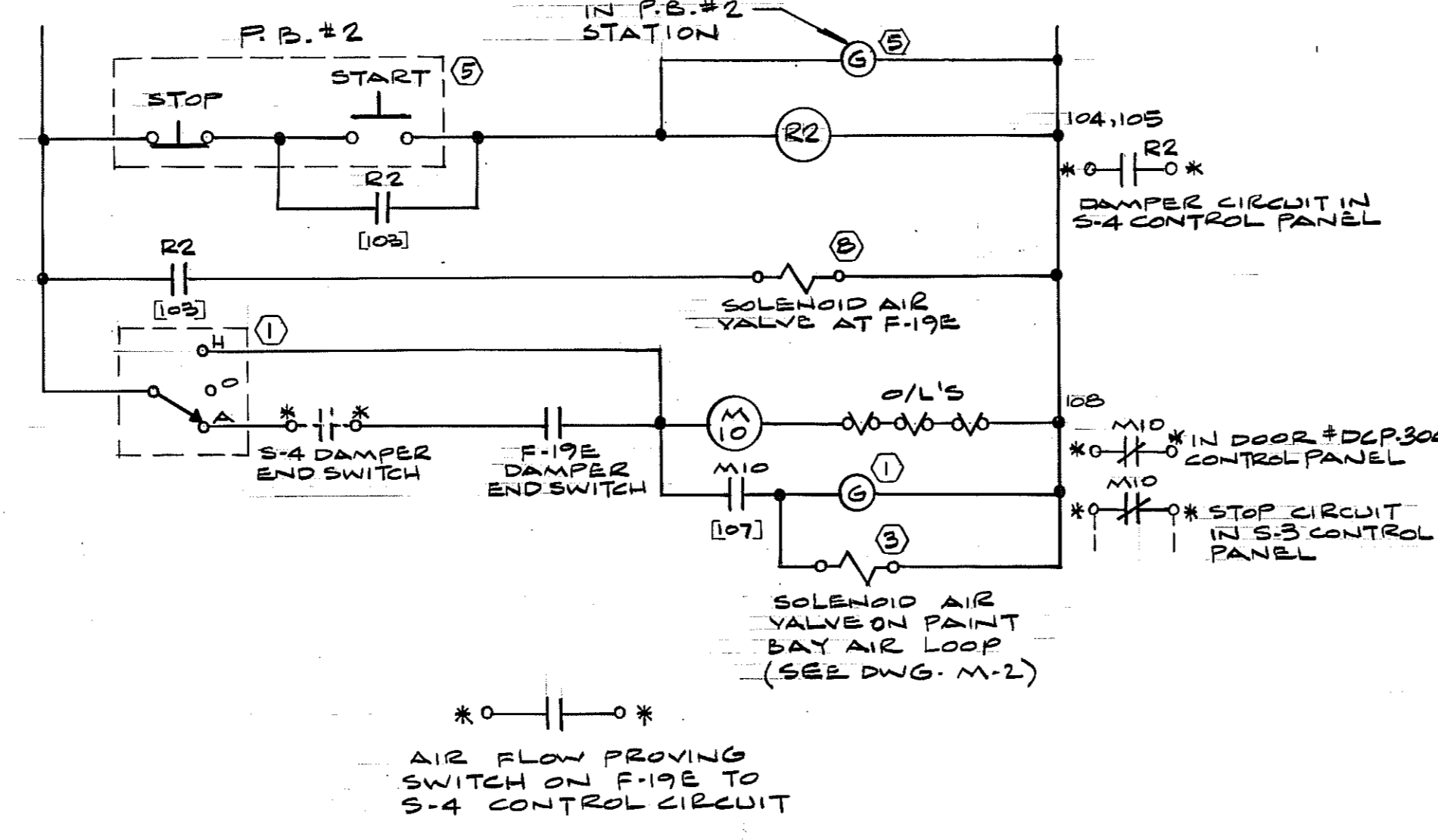
UNIT HEATER UH-1

TYPICAL FOR UH-2 TO UH-17 INCLUSIVE, UH-20 TO UH-22 INCLUSIVE, UH-27 TO UH-29 INCLUSIVE, UH-32 TO UH-35 INCLUSIVE, UH-49 TO UH-52 INCLUSIVE, UH-60 & UH-61



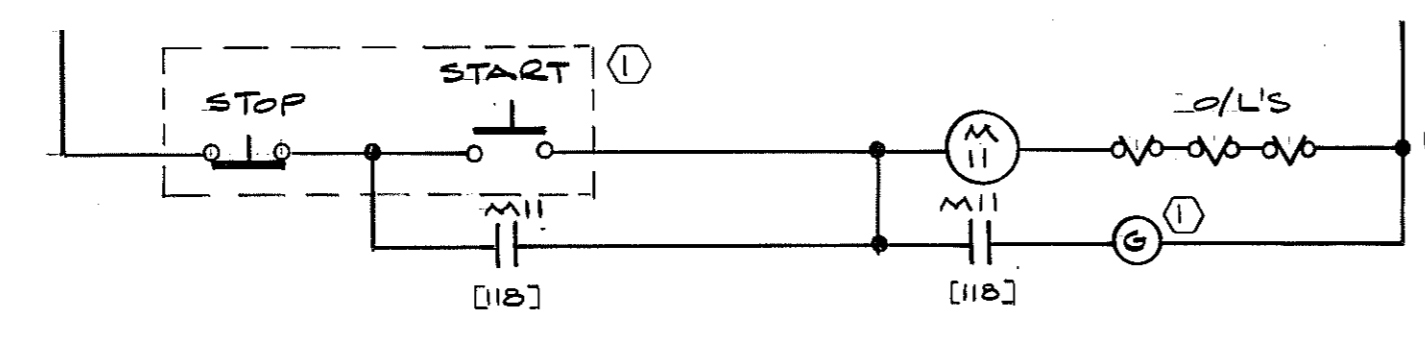
ROOF EXHAUST FAN F-21E

TYPICAL FOR F-30E, F-35E, F-20E & F-41E



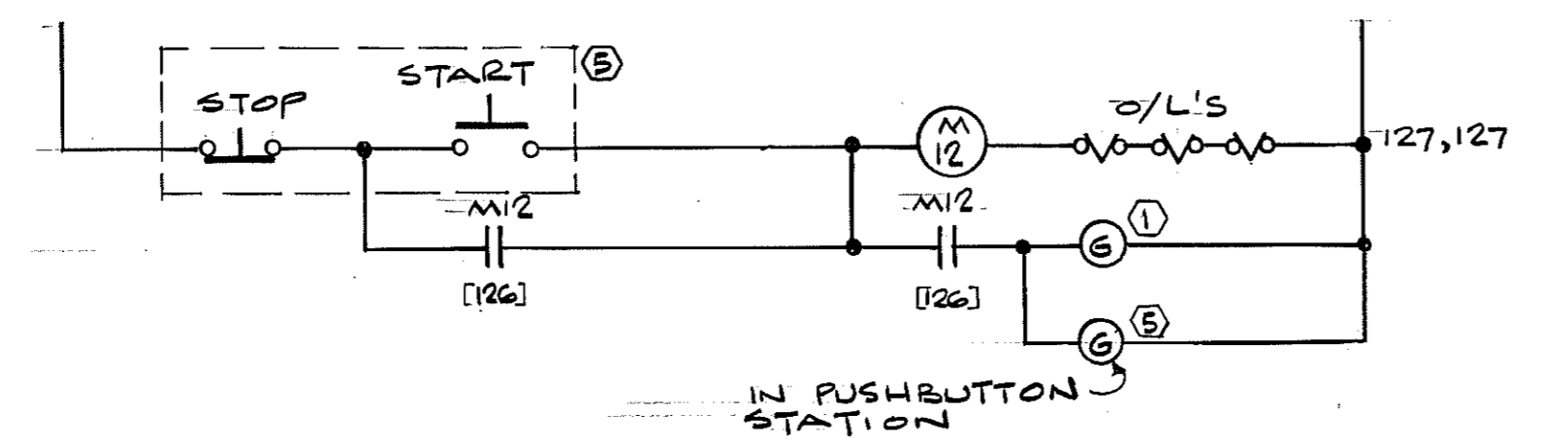
EXHAUST FAN F-19E

NOTE: * - INDICATES TERMINALS IN APPLICABLE CONTROL PANELS.



EXHAUST FAN F-26E

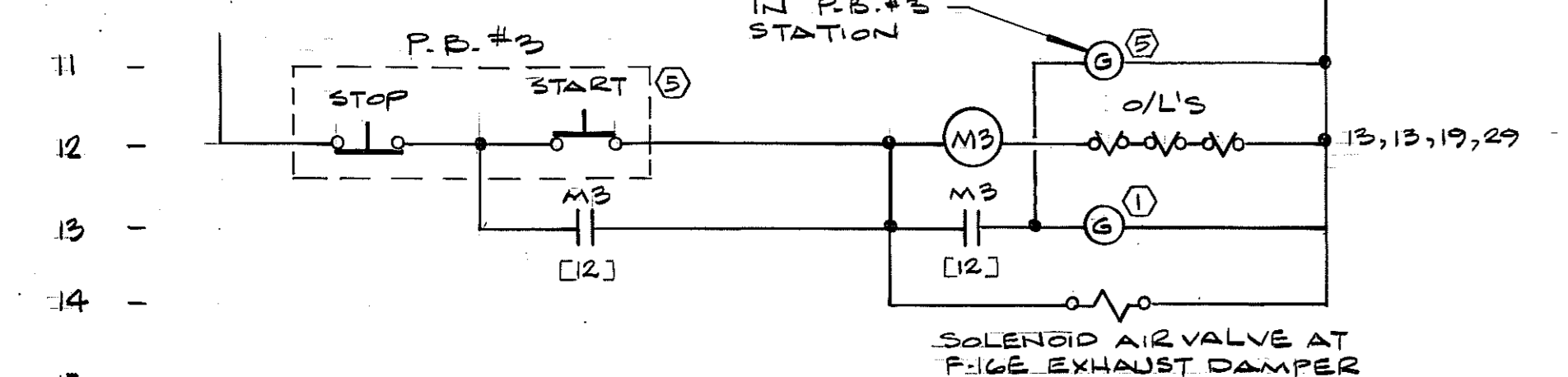
TYPICAL FOR F-29E, F-34E & F-40E



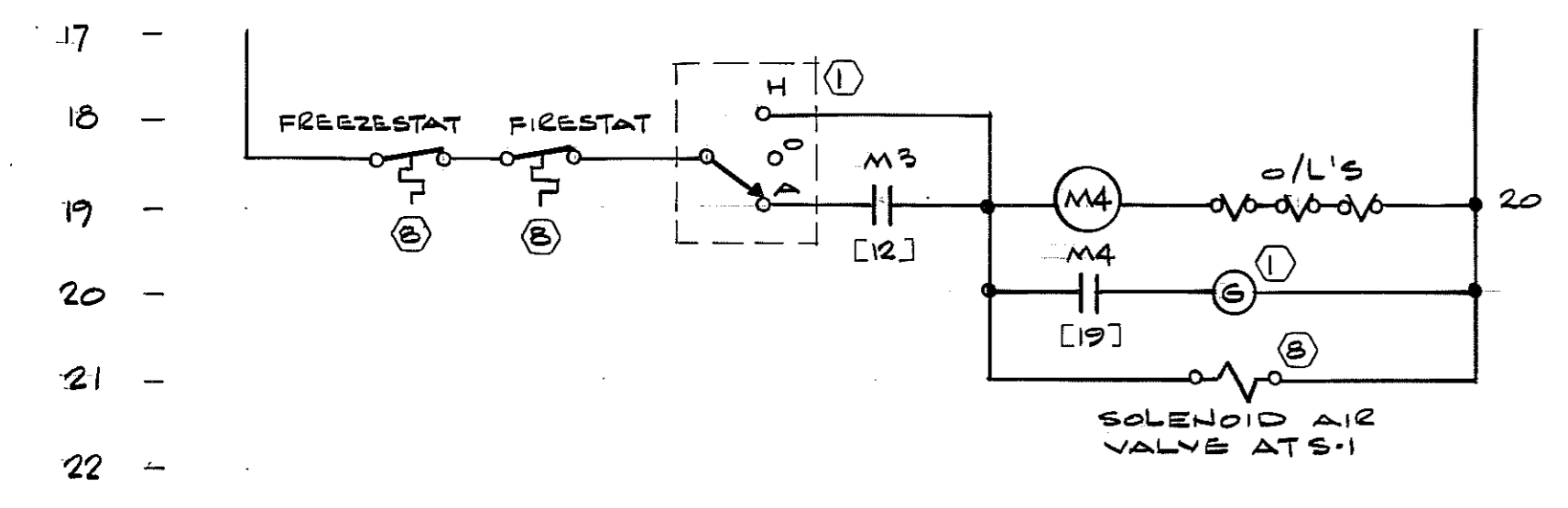
AIR BRAKE SHOP EXHAUST F-45E

CONDENSATE PUMP SET CP-1

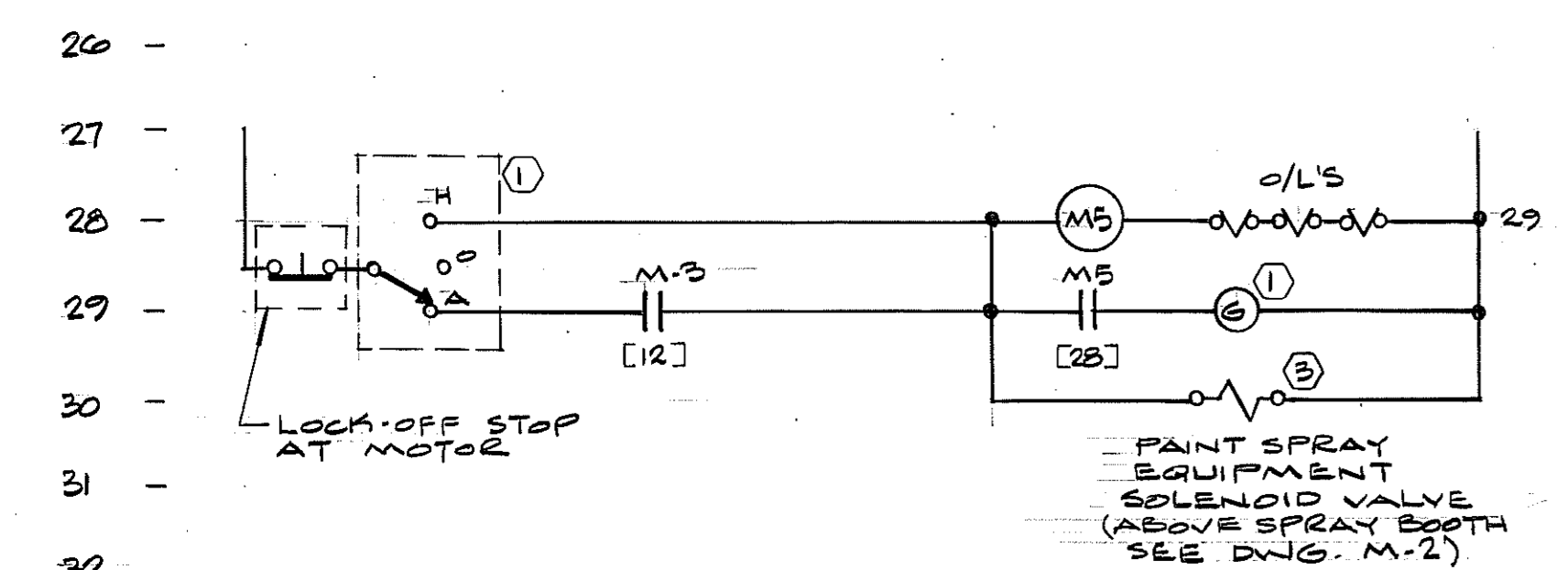
TYPICAL FOR CONDENSATE PUMP SETS CP-2, CP-3, CP-4 EXCEPT LOCK-OFF STOP PUSHBUTTONS NOT REQUIRED.



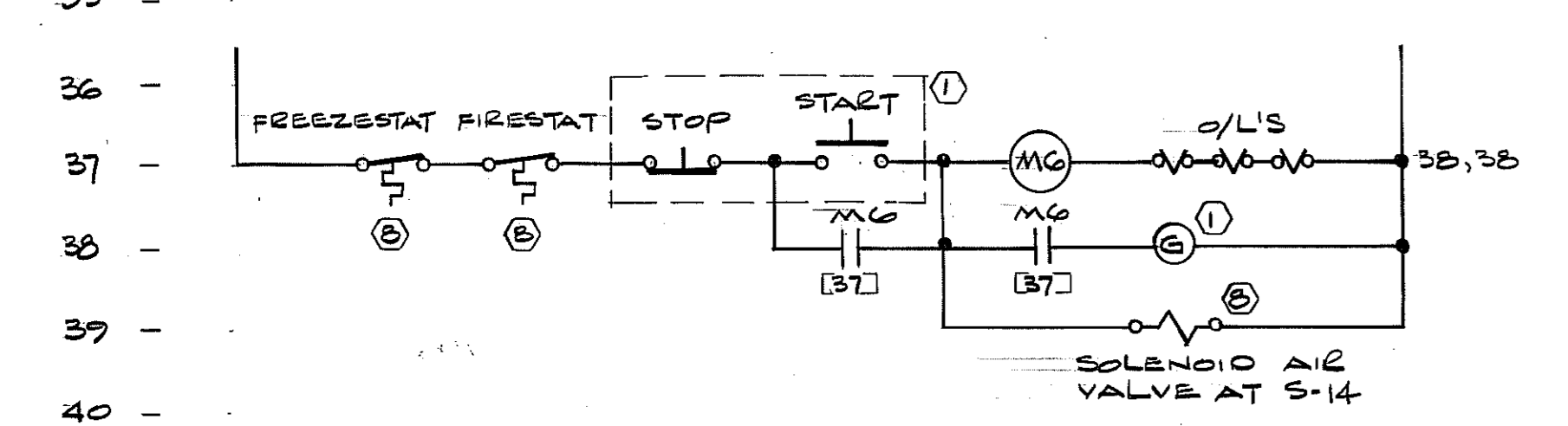
PAINT SPRAY BOOTH EXHAUST F-1GE



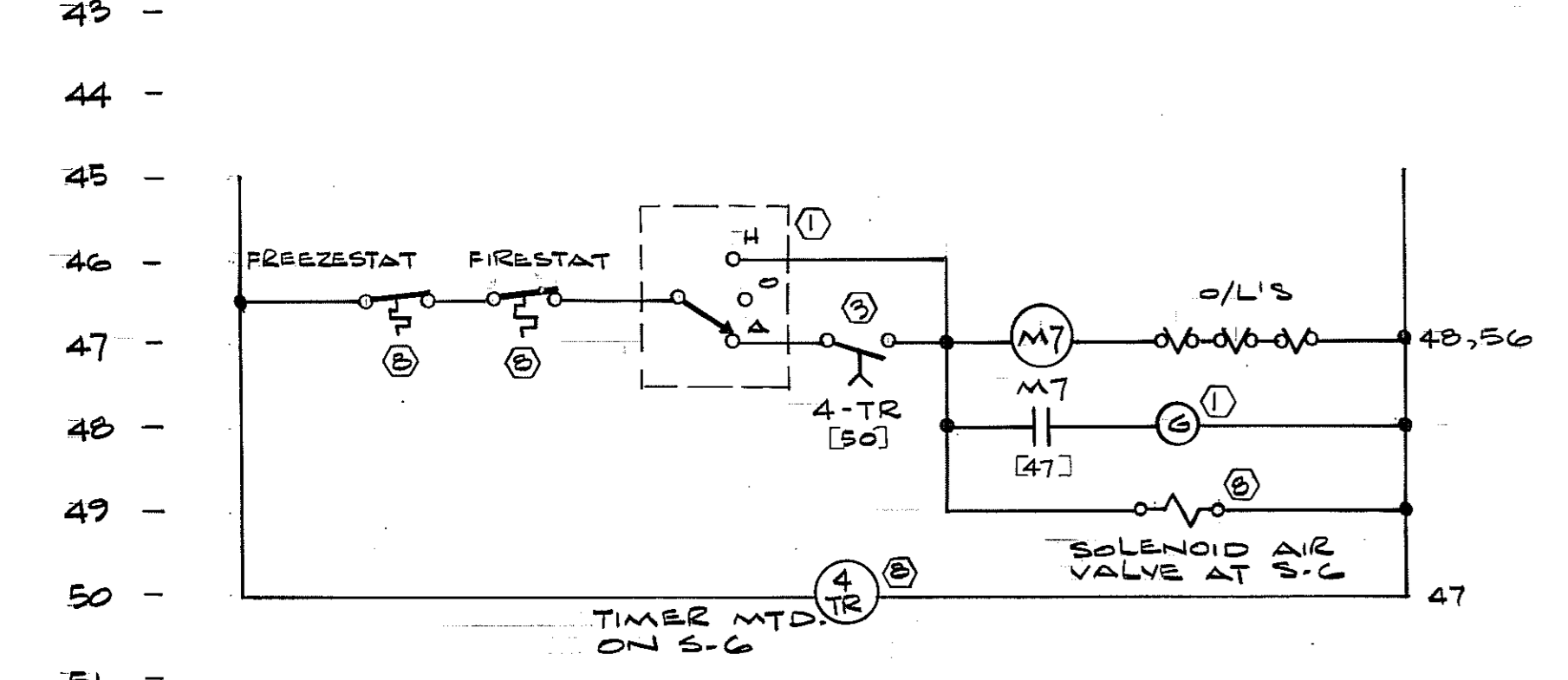
PAINT SPRAY BOOTH MAKE-UP AIR VENTILATION FAN S-1



PAINT SPRAY BOOTH PUMP P-1

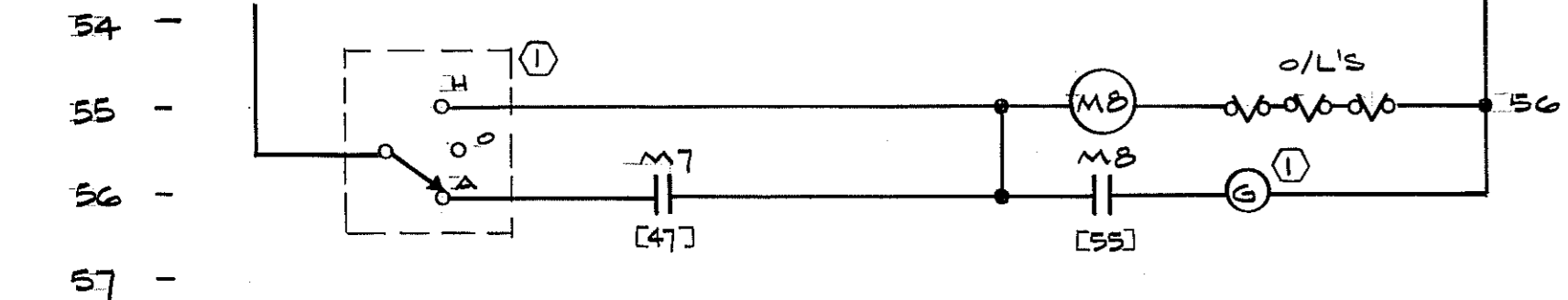


ELECTRICAL ROOM VENTILATING UNIT S-14



2ND FLOOR SPINE VENTILATION UNIT S-G

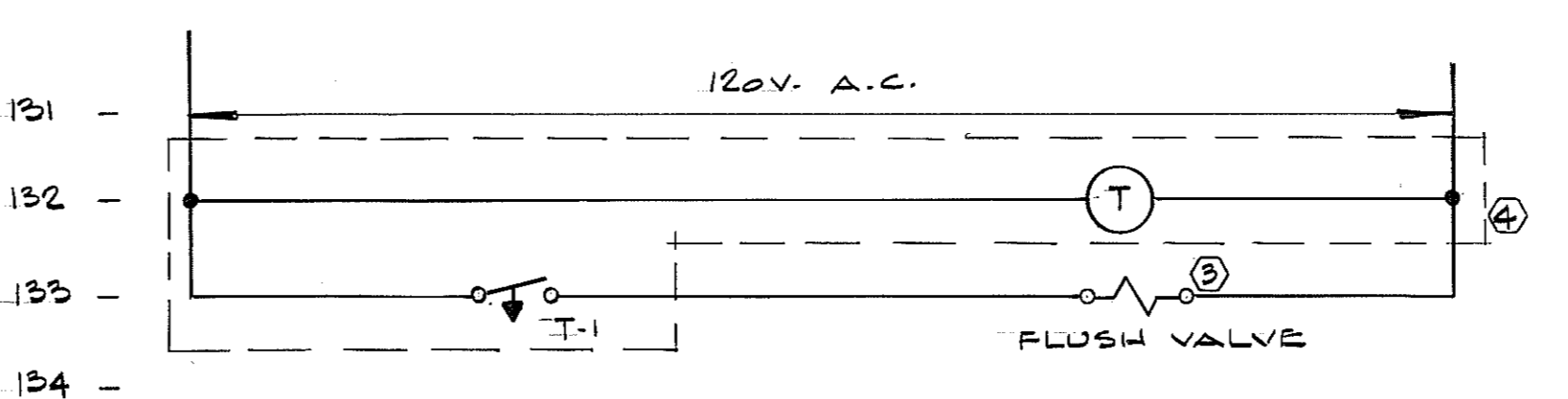
TYPICAL FOR UNITS S-7, S-8, S-9, S-10, S-11, S-12 & S-2



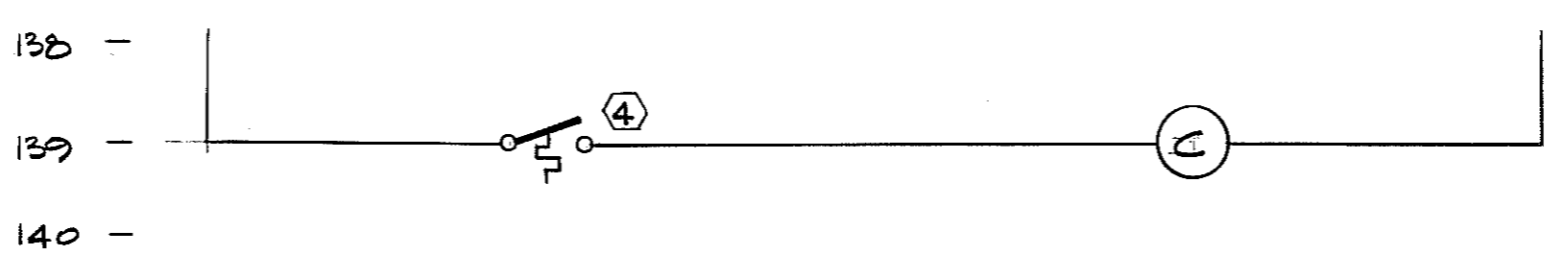
LUNCH ROOM EXHAUST FAN F-24E

TYPICAL FOR F-27E, F-28E, F-33E, F-36E, F-37E & F-38E

Table listing interlocking relationships: S-7 interlocked with F-27E, S-8 with F-28E, S-9 with F-37E, S-10 with F-33E, S-11 with F-38E, S-12 with F-36E.

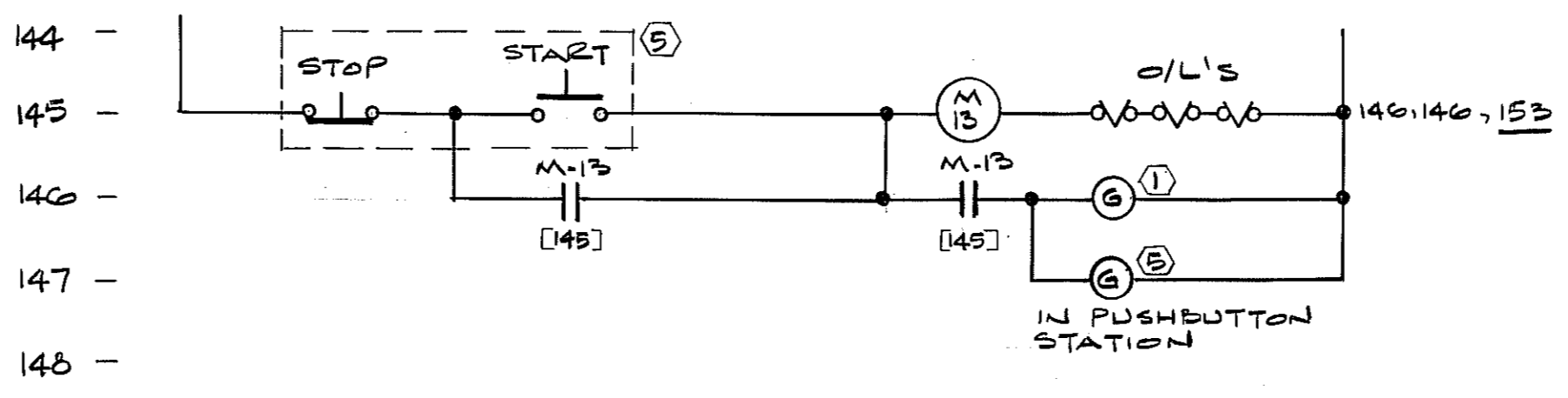


SCHEMATIC OF FLUSH VALVE

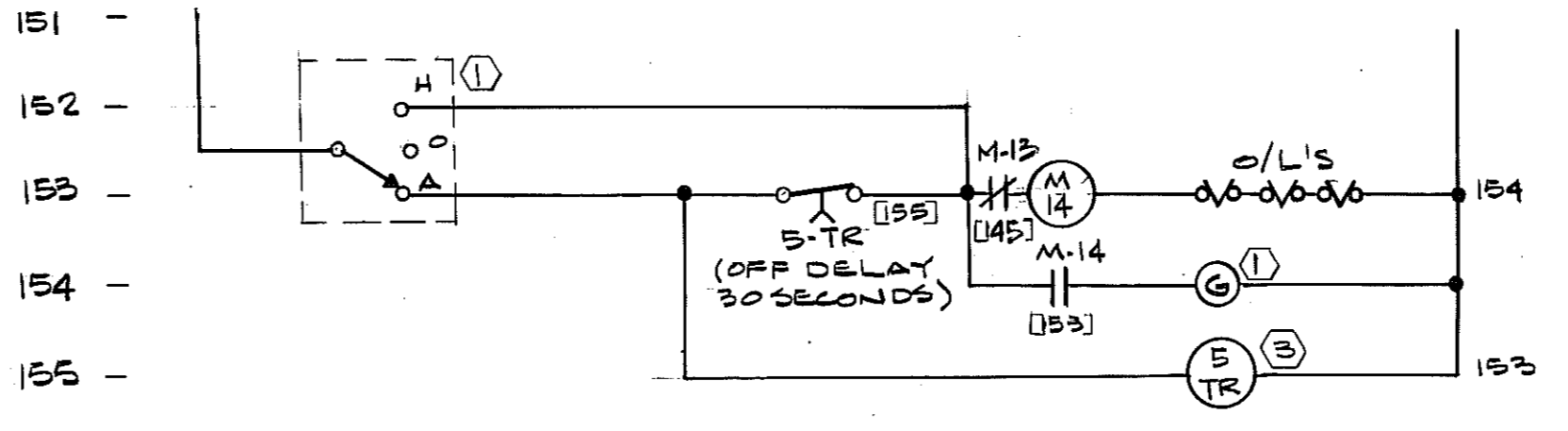


ELECTRIC HEATERS EH-1 TO EH-7

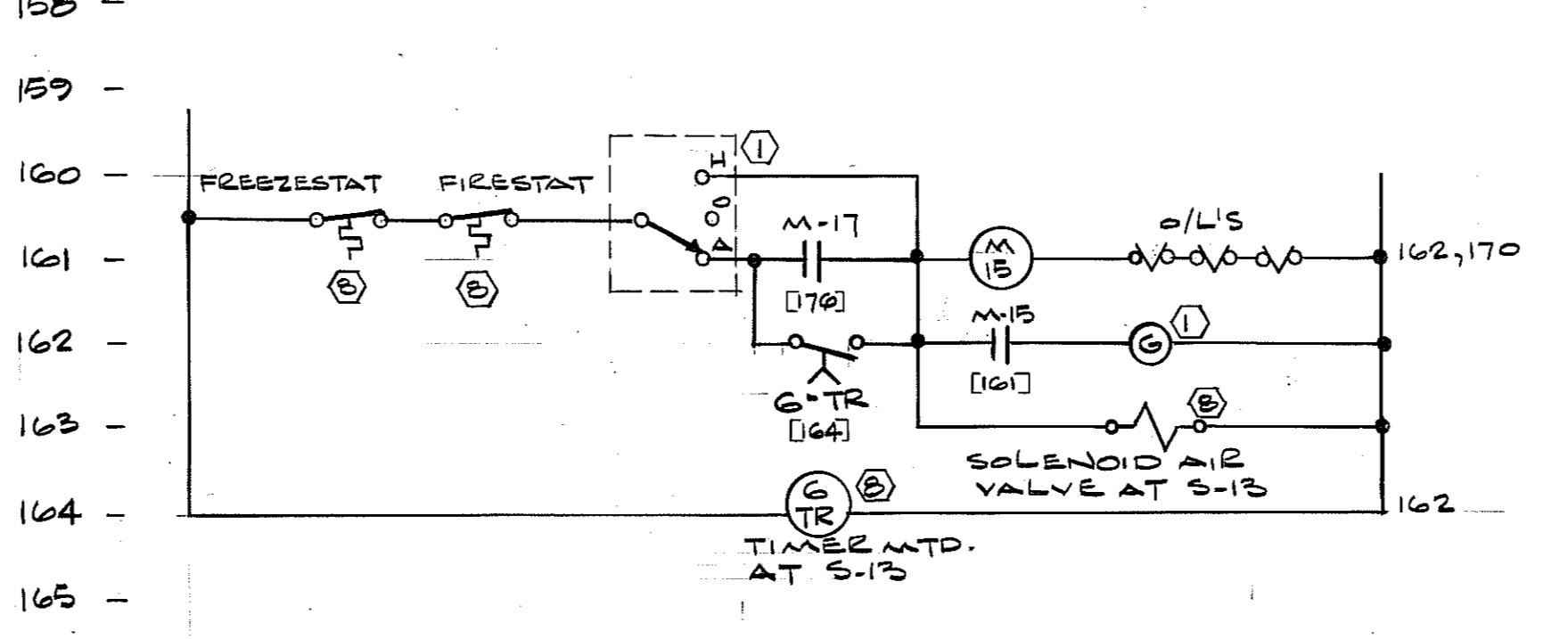
(TYPICAL FOR EH-16 & EH-17)



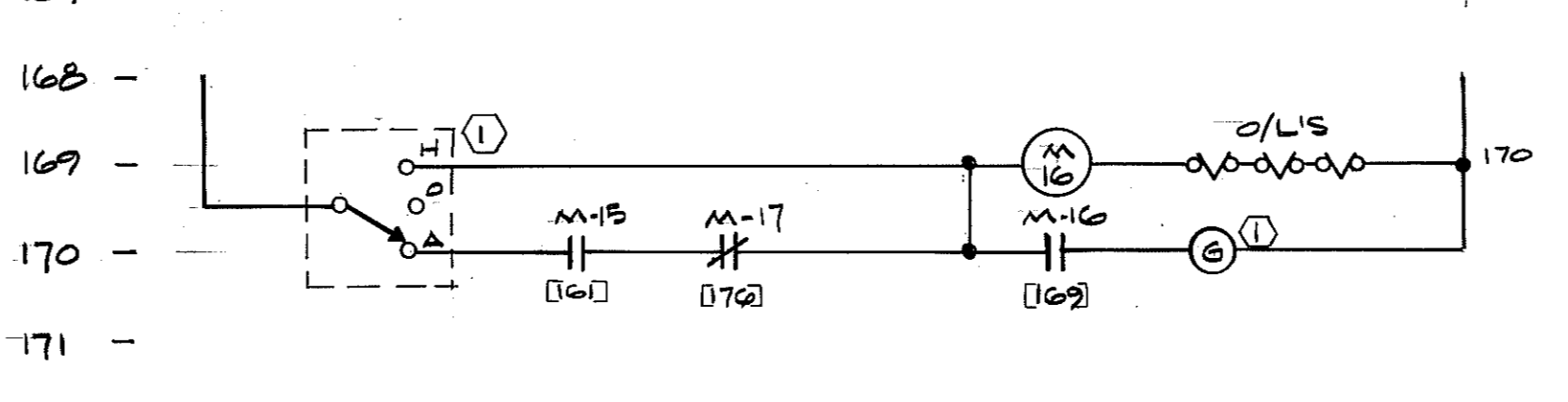
SAWDUST COLLECTOR FAN SD-1



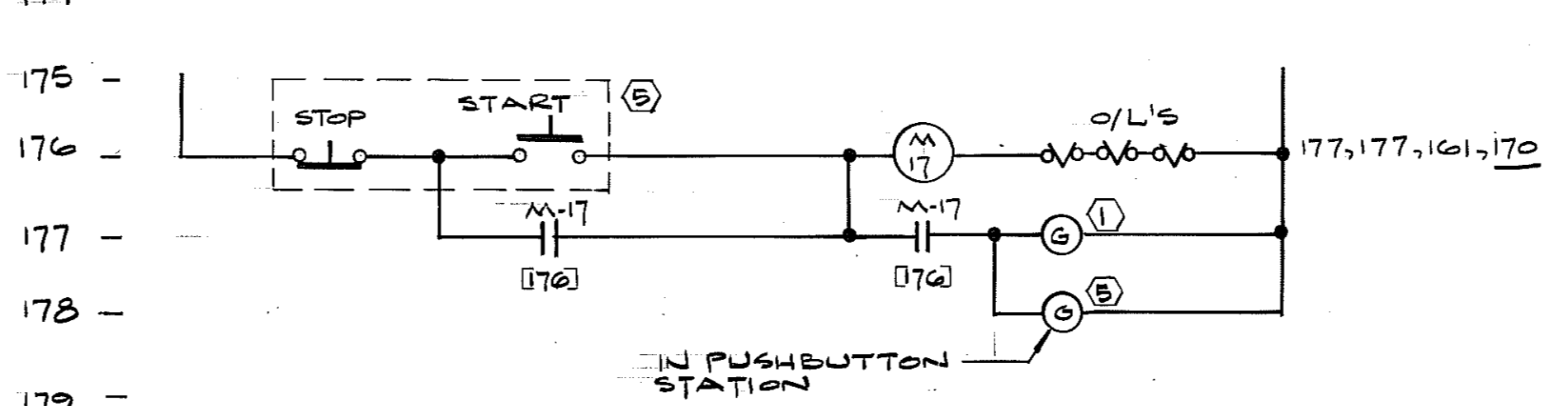
SAWDUST COLLECTOR VIBRATOR VD-1



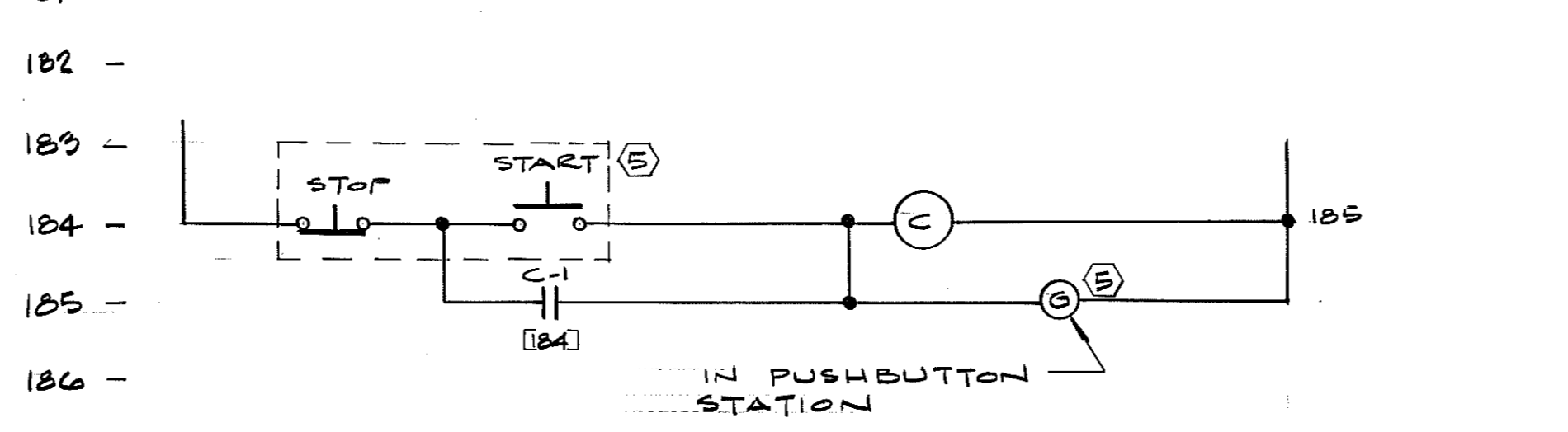
VENTILATION UNIT S-13



EXHAUST FAN F-39E

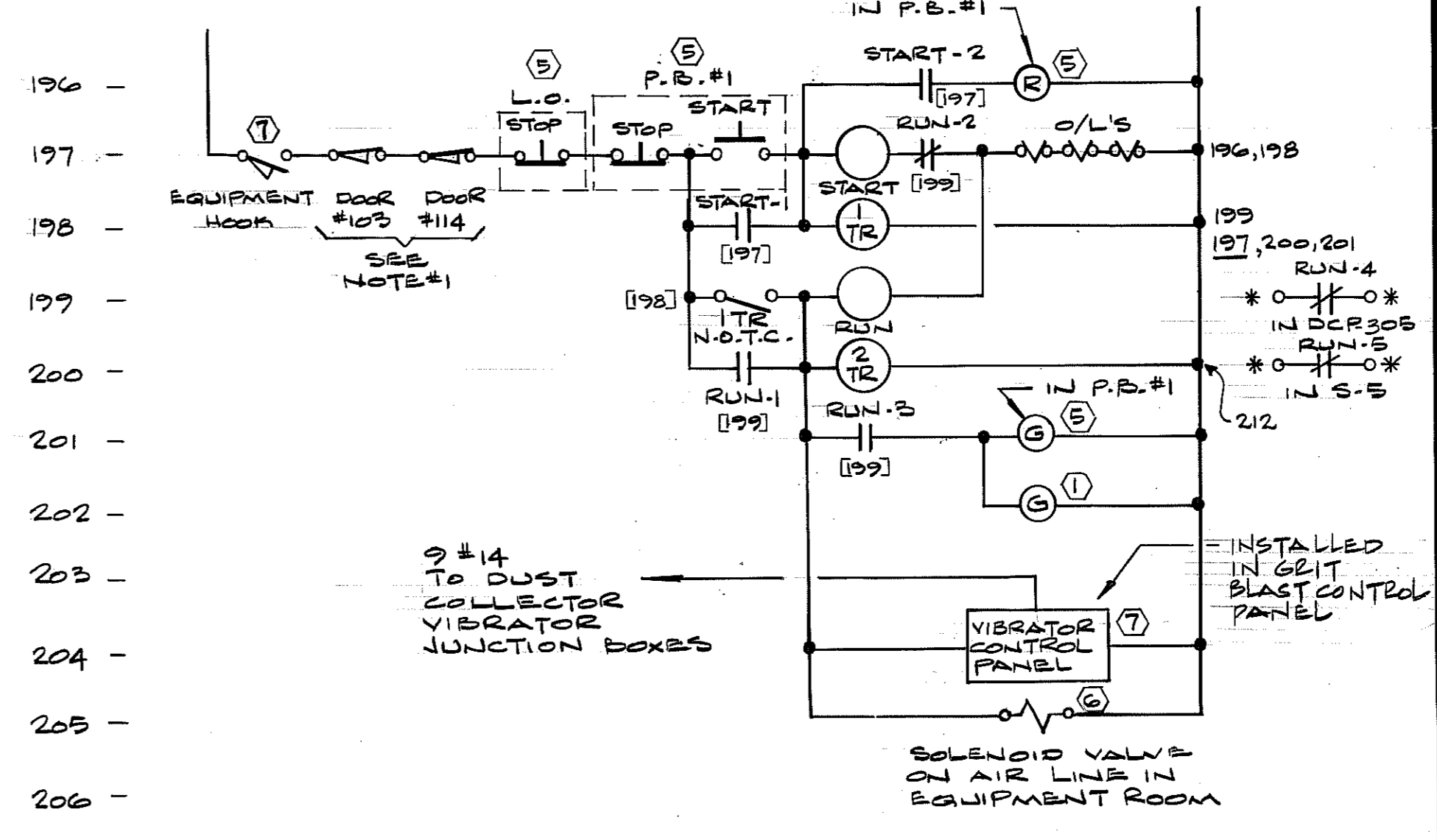
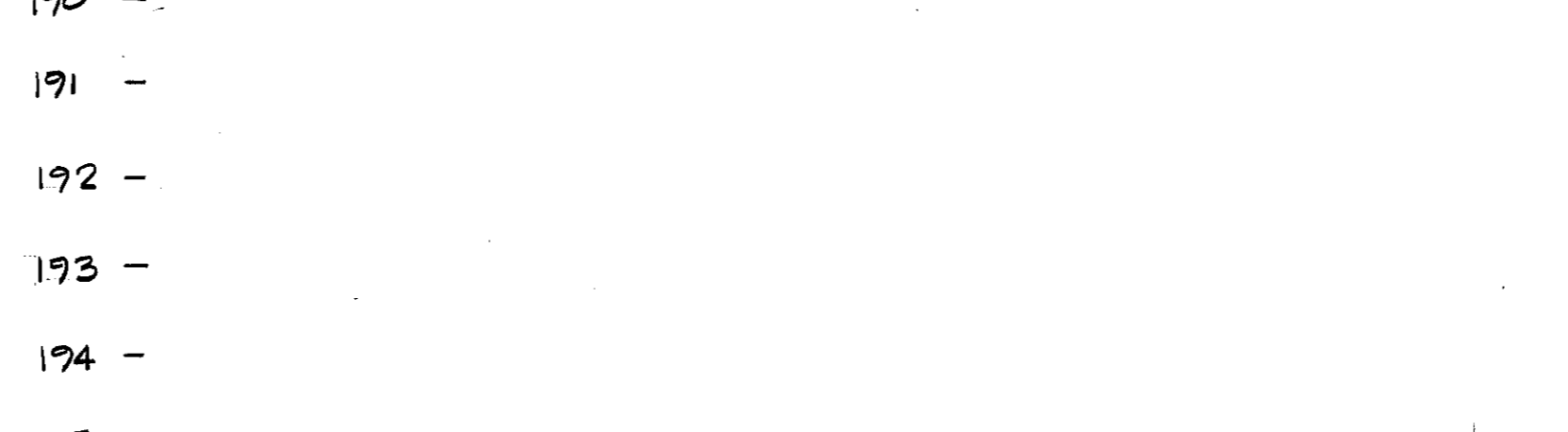


EXHAUST FAN F-42E

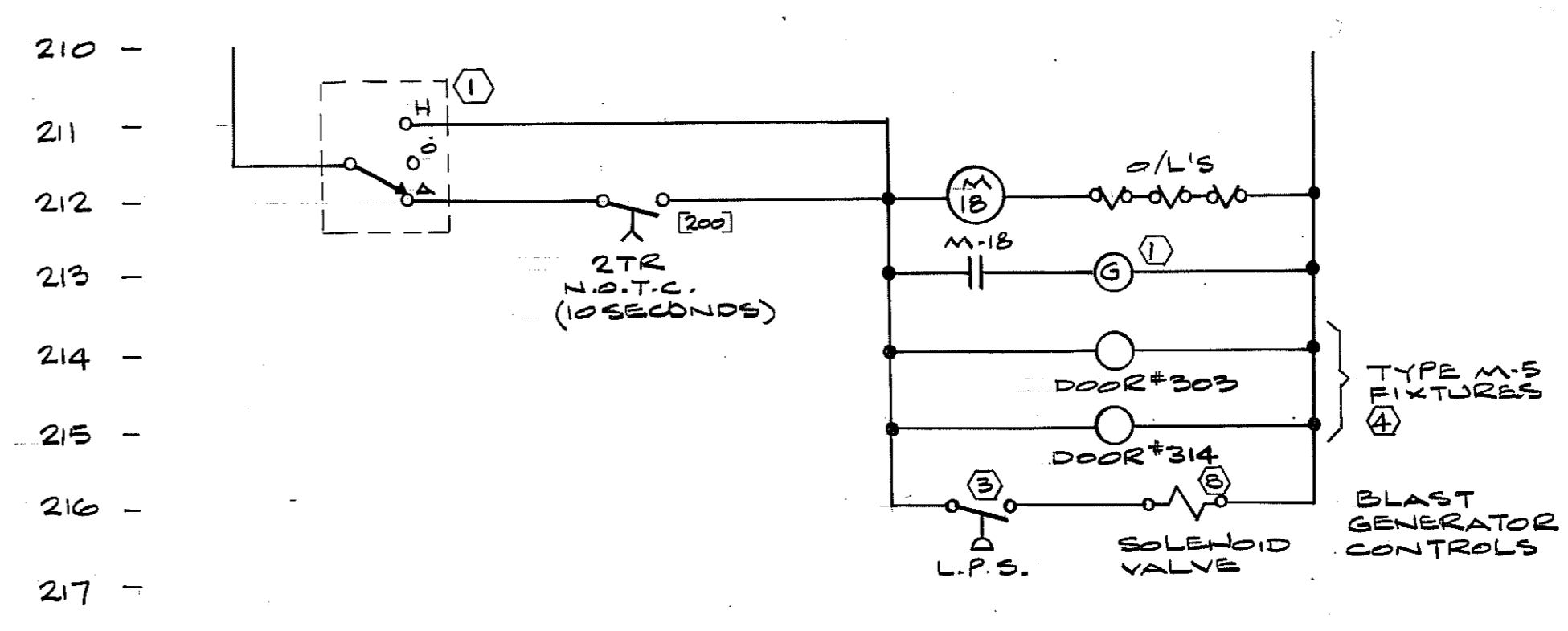


PAINT BAY LIGHTING CONTROL

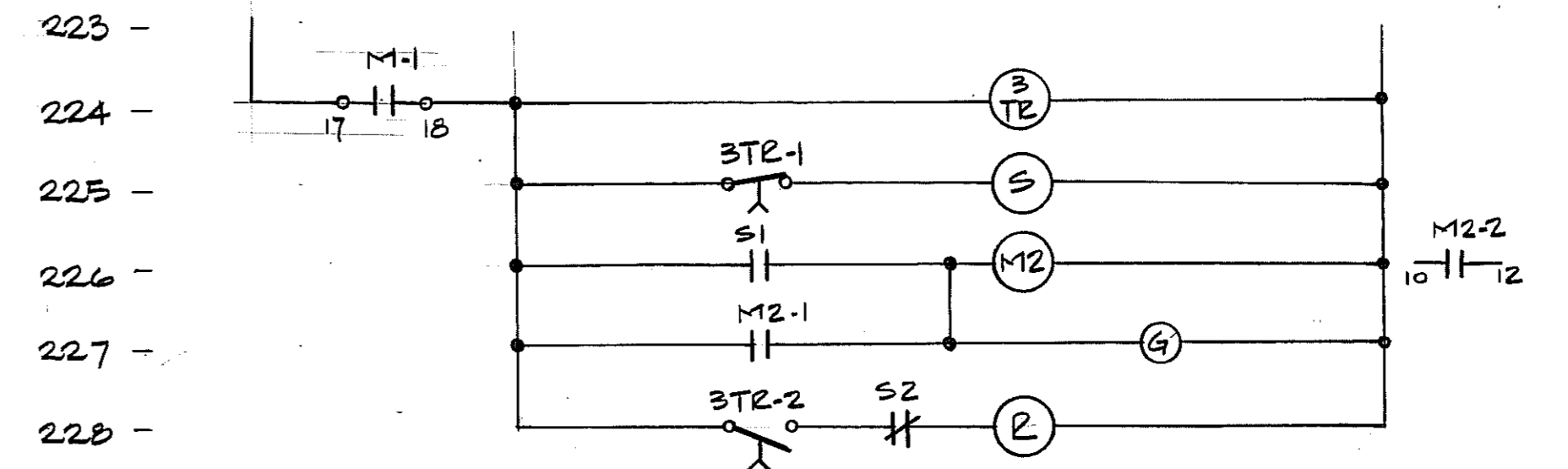
TYPICAL FOR GRIT BLAST BAY



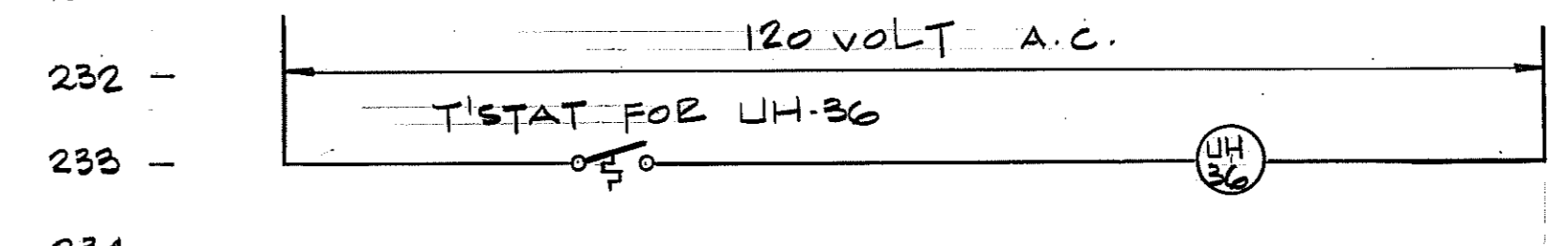
GRIT BLAST DUST COLLECTOR DC-2



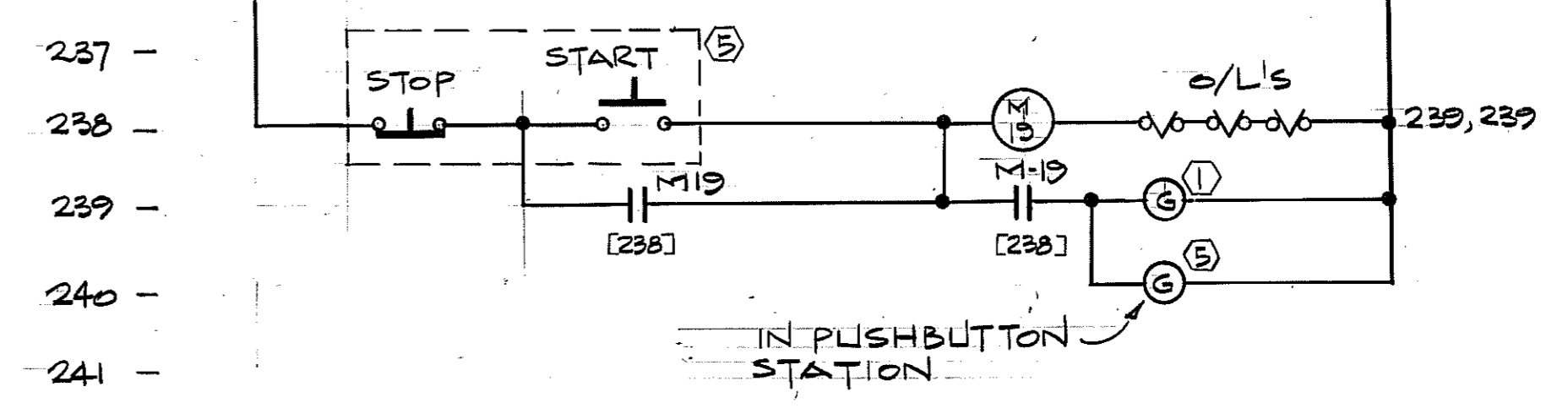
BLAST GENERATOR EXHAUST BG-1



POWER HOUSE - 150HP COMPRESSOR

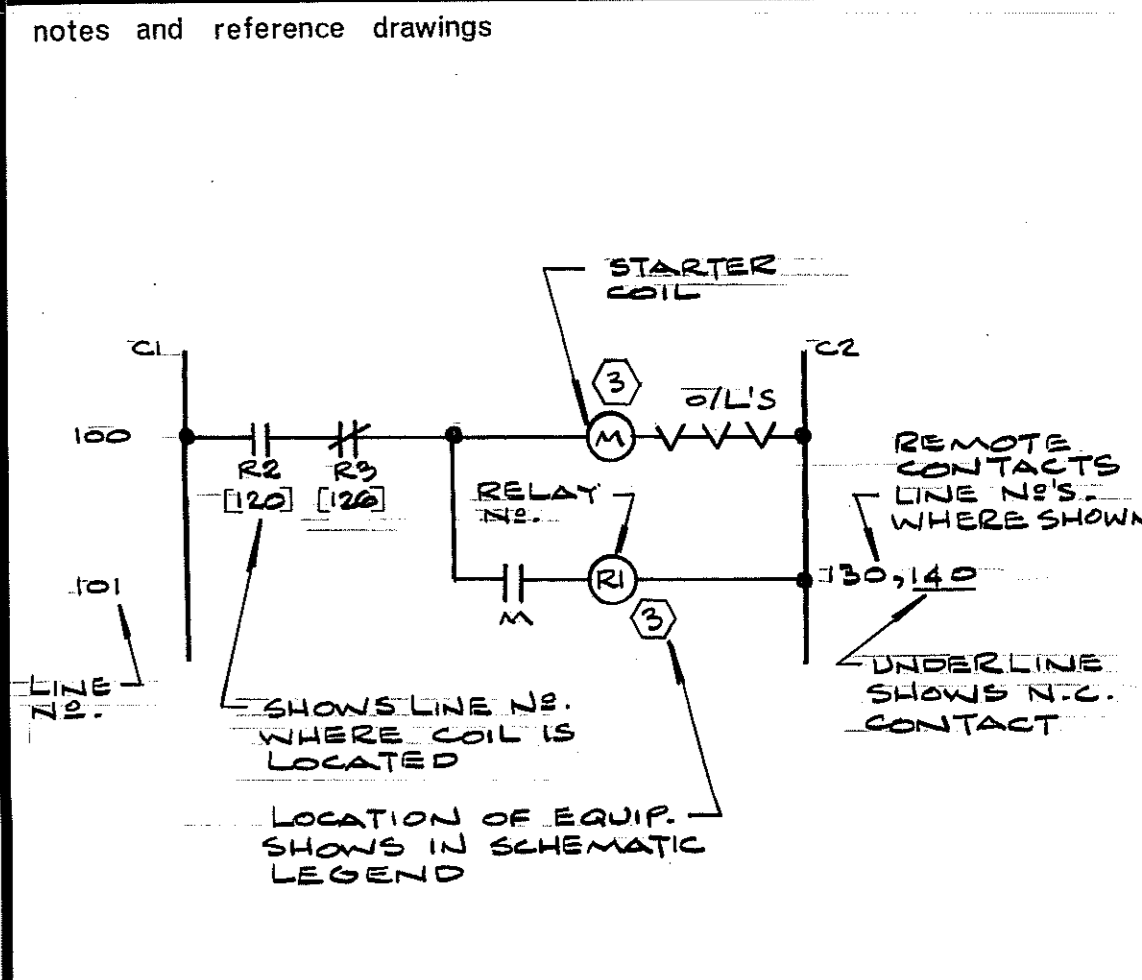


UNIT HEATER UH-36



EXHAUST FAN F-46E

TYPICAL FOR EXHAUST FAN F-47E



STANDARD SCHEMATIC

SCHEMATIC LEGEND

- Legend items 1-8: 1 - MOUNTED IN COVER, 2 - MOUNTED ON UNIT, 3 - SUPPLIED & INSTALLED ON UNIT BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR, 4 - SUPPLIED & INSTALLED BY ELECTRICAL CONTRACTOR, 5 - MOUNTED REMOTE, 6 - SUPPLIED & INSTALLED BY OTHERS, WIRED BY ELECTRICAL CONTRACTOR, 7 - SUPPLIED BY OTHERS, INSTALLED & WIRED BY ELECTRICAL CONTRACTOR, 8 - SUPPLIED & INSTALLED ON UNIT BY MECHANICAL CONTRACTOR, WIRED BY ELECTRICAL CONTRACTOR.

NOTES: 1. MOMENTARY CONTACT SWITCHES (N.C., WELD CLOSED) SUPPLIED & INSTALLED IN DOOR FRAME BY ELECTRICAL CONTRACTOR.

Revision table with columns for date, description, and initials. Revisions include 'AS BUILT', 'ORIGINAL ISSUE FOR VENDOR TENDER', 'CHANGE NOTICE NO. 1', and 'ISSUED FOR CONSTRUCTION'.

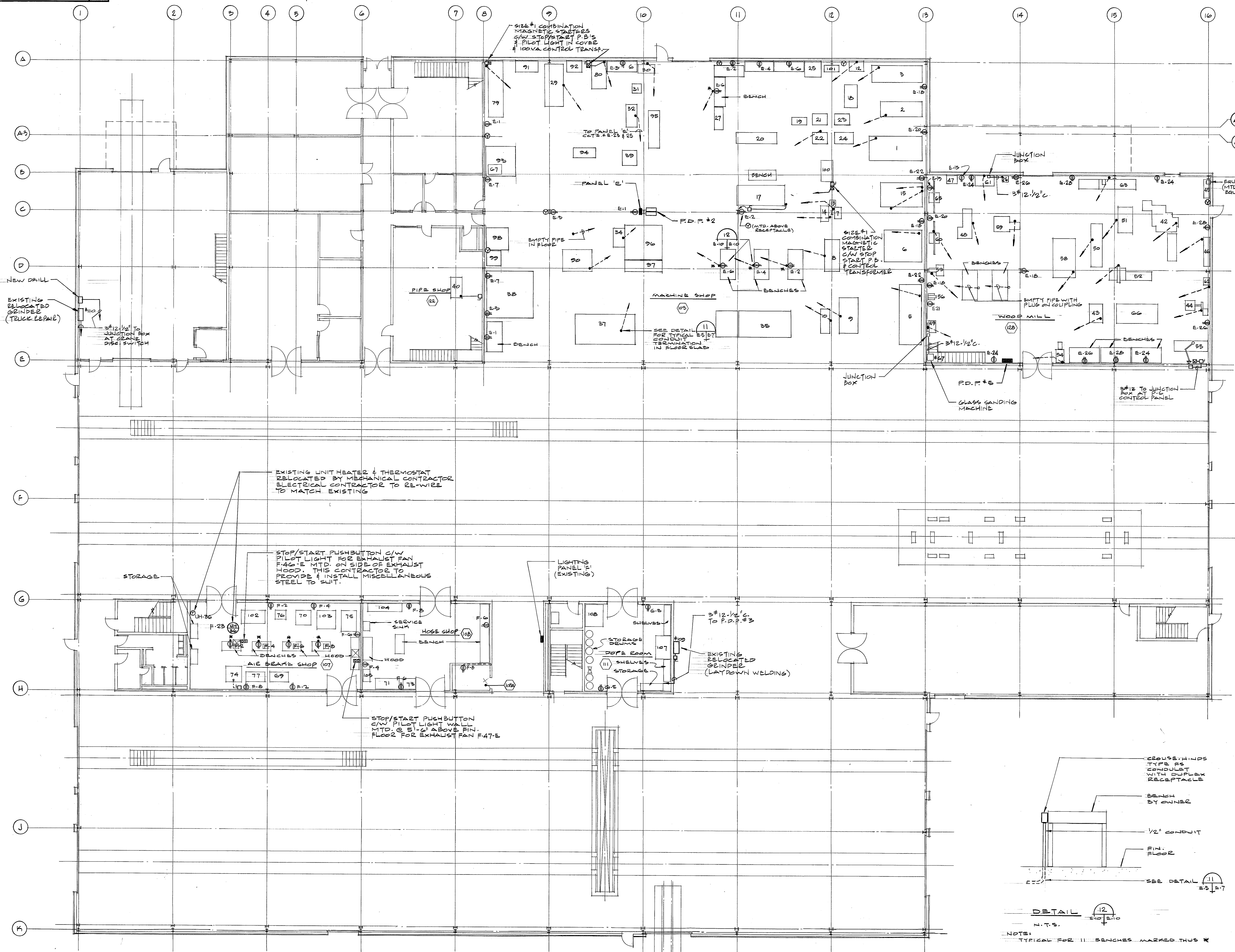
Professional Engineer seal for T.J. Sherman, License No. 10000, Province of Ontario. Logo for Cole, Sherman & Assoc. Limited, Toronto, Ontario.

ONTARIO NORTHLAND RAILWAY NORTH BAY YARD CONSOLIDATION OF REPAIR FACILITIES

ELECTRICAL

SCHEMATIC SHEET

Design and approval table: designed by P.J., checked by P.J., date MARCH 74, drawn by G.W.L., approved by T.J.S., drawing number, scale, and status.



notes and reference drawings

SEE DRAWING RE-AT FOR EQUIPMENT DESIGNATIONS.

A detail no.
B location drawing no.
C drawing no.

no.	date	description	drawn	checked	approved
D	Nov. 75	AS BUILT			
C	JUNE 75	ORIGINAL ISSUE FOR VENTILATOR	G.L.	K.T.O.	T.J.S.
B	10-2-74	ISSUED FOR CONSTRUCTION	G.L.	K.T.O.	T.J.S.
A	Mar. 74	ISSUED FOR GENERAL CONTRACT TENDER	G.L.	K.T.O.	T.J.S.

revisions

Professional Engineer Seal: T. J. SHERMAN, Province of Ontario

COLE, SHERMAN & ASSOC. LIMITED
TORONTO, ONTARIO

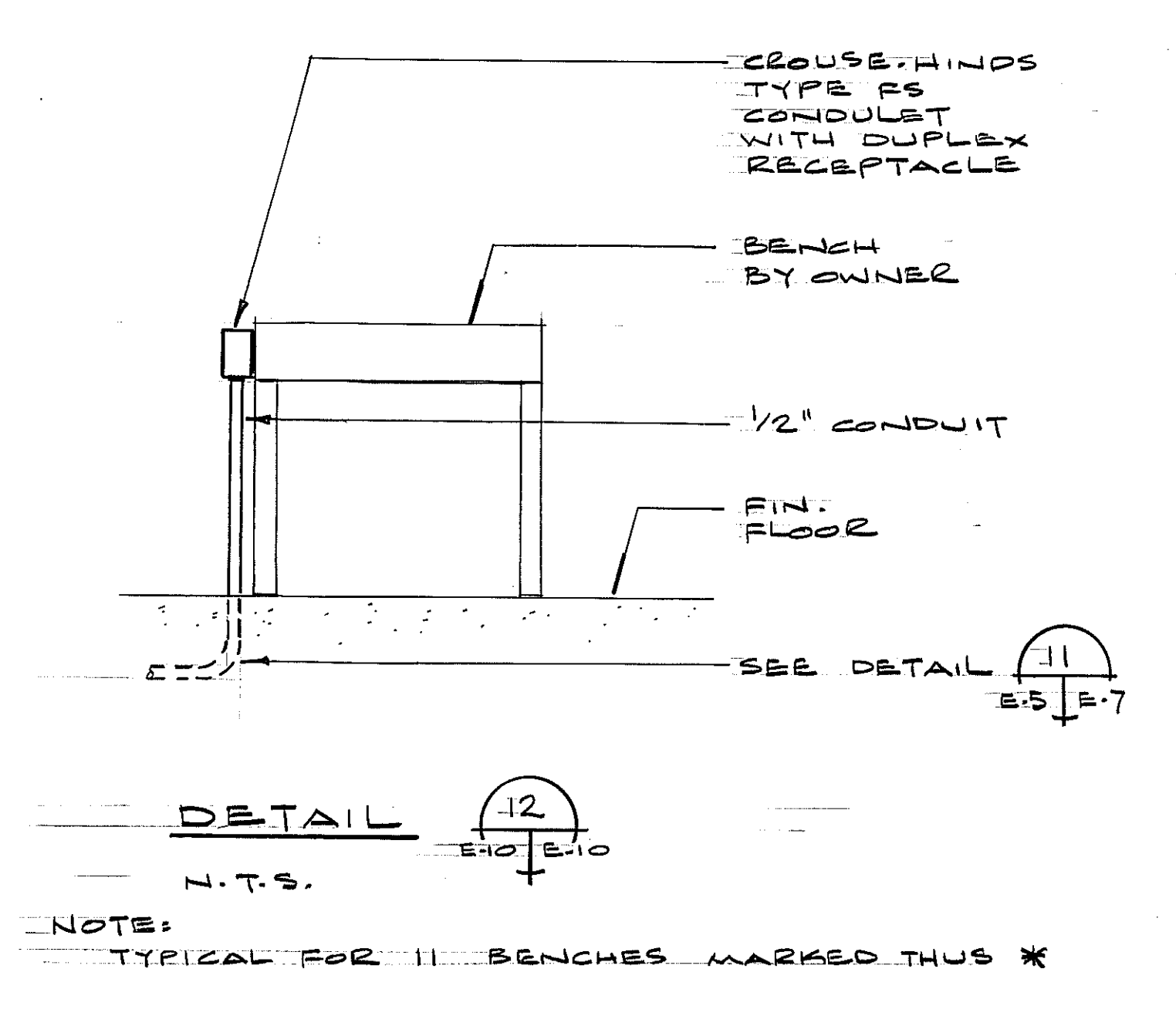
**ONTARIO NORTHLAND RAILWAY
NORTH BAY YARD
CONSOLIDATION OF REPAIR FACILITIES**

REPAIR FACILITY

ELECTRICAL

EQUIPMENT LAYOUT

designed by P.J.	checked by P.J.	date MARCH, 74
drawn by G.W.L.	approved by T.J.S.	
scale 1/8" = 1'-0"	drawing number 5473-E10	rev. no. 1
project number 5473		



DETAIL 12
N.T.S.
NOTE: TYPICAL FOR 11 BENCHES MARKED THUS *