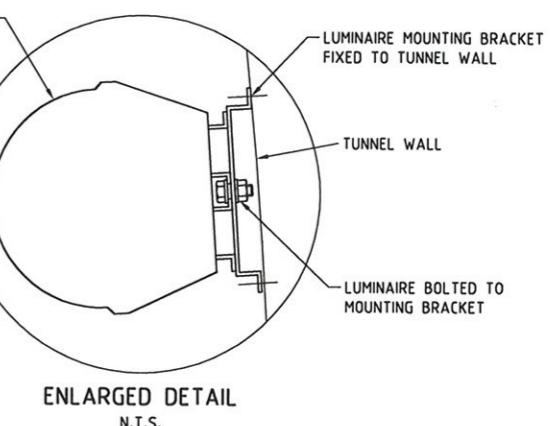
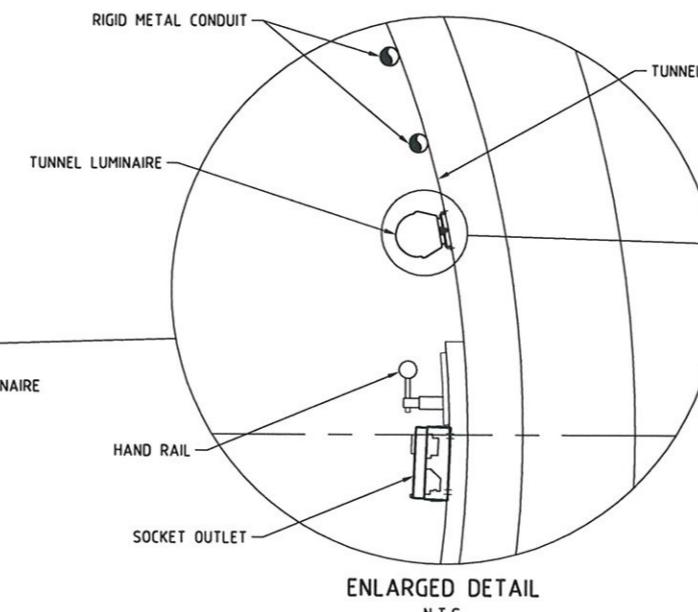
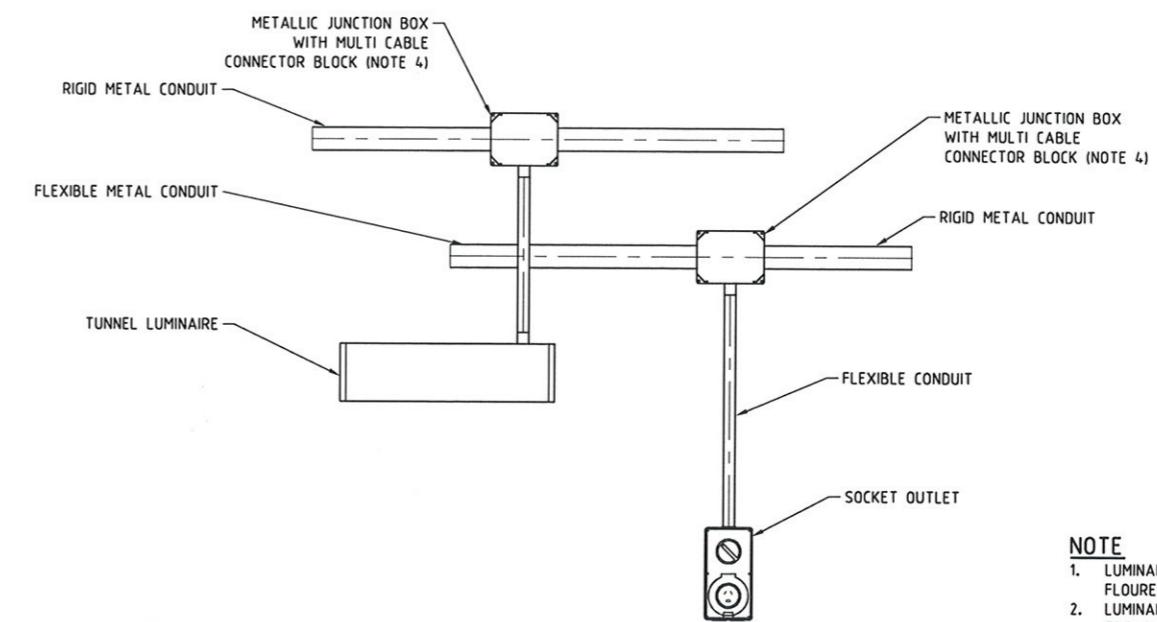


BORED TUNNEL TYPICAL LUMINAIRE INSTALLATION
GATEWAY STATION TO STA L6036+73.96
(LEFT TRACK SHOWN)



ENLARGED DETAIL
N.T.S.



TYPICAL LUMINAIRE & RECEPTACLE INSTALLATION DETAIL
N.T.S.

- NOTE**
1. LUMINAIRE TO BE SCHREDER MY2-PL42 c/w 42W FLOURESCENT LAMP AND SURFACE MOUNTING BRACKET.
 2. LUMINAIRE TO INCLUDE SPECIAL ANTI CORROSION TREATMENT.
 3. ONLY EVERY SECOND LUMINAIRE HAVE A CORRESPONDING RECEPTACLE INSTALLED, REFER TO EL-106 & EL-107 FOR RECEPTACLE CHAINAGES.
 4. INSTALL MULTI CABLE CONNECTOR BLOCK SUITABLE FOR CONNECTING 1/0 AWG TO #14 AWG WIRE.

LIGHT FITTING SCHEDULE			
LIGHT FITTING No.	TRACK CHAINAGE	LIGHT FITTING SPACING CENTRE TO CENTRE	MOUNTING HEIGHT ABOVE GANGWAY
GW01-L TO GW49-L	L6014+50 TO L6026+43	25'	4'-6"
NSE61-L TO NSE21-L	L6026+68 TO L6036+25	25'	4'-6"
NSE20-L TO NSE17-L	L6036+19 TO L6037+45	19'	6'
NSE16-L TO NSE05L	L6037+57 TO L6039+77	18'	7'
NSE04-L TO NSE01-L	L6039+90 TO L6040+44	19'	6'
NSW01-L TO NSW22-L	L6043+19 TO L6047+17	19'	6'
NSW23-L TO NSW31-L	L6047+30 TO L6048+81	19'	6'
GW01-R TO GW48-R	R6014+47 TO R6026+24	25'	4'-6"
NSE65-R TO NSE24-R	R6026+49 TO R6036+65	25'	4'-6"
NSE23-R TO NSE20-R	R6036+84 TO R6037+49	19'	6'
NSE19-R TO NSE06-R	R6037+55 TO R6040+00	18'	7'
NSE05-R TO NSE04-R	R6040+14 TO R6040+91	19'	6'
NSW01-R TO NSW22-L	R6043+19 TO R6047+17	19'	6'
NSW23-L TO NSW31	R6047+30 TO R6048+81	19'	6'

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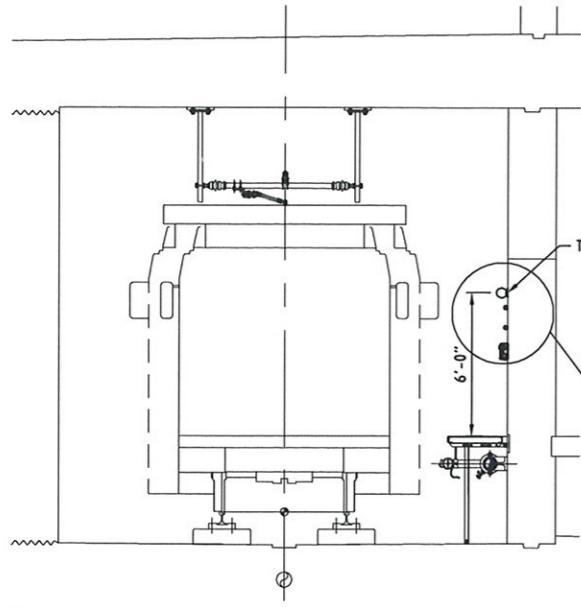


CONRAD R.R. STACEY
RPEQ 5128
APPROVED
SIGNATURE
PAPT #002194

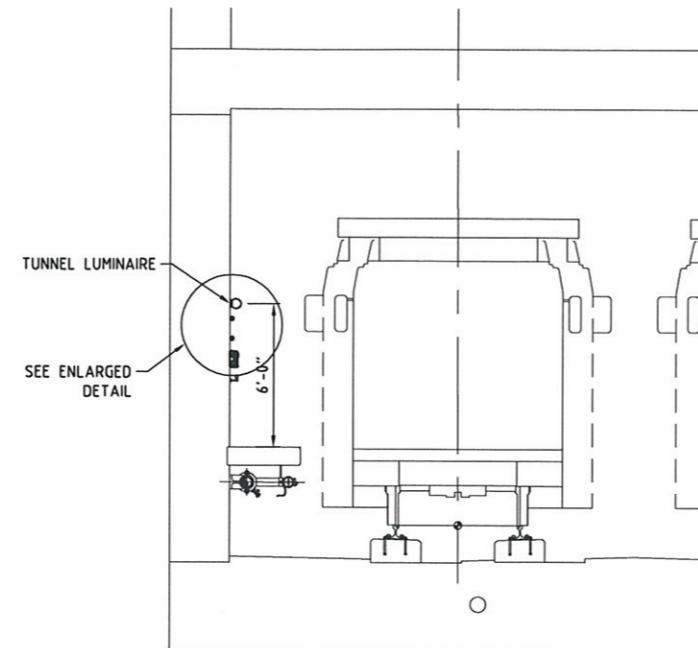
APPROVED DATE

DESIGNED TS
DRAWN GH
CHECKED MHS
IN CHARGE CS
DATE 06/27/08
SCALE

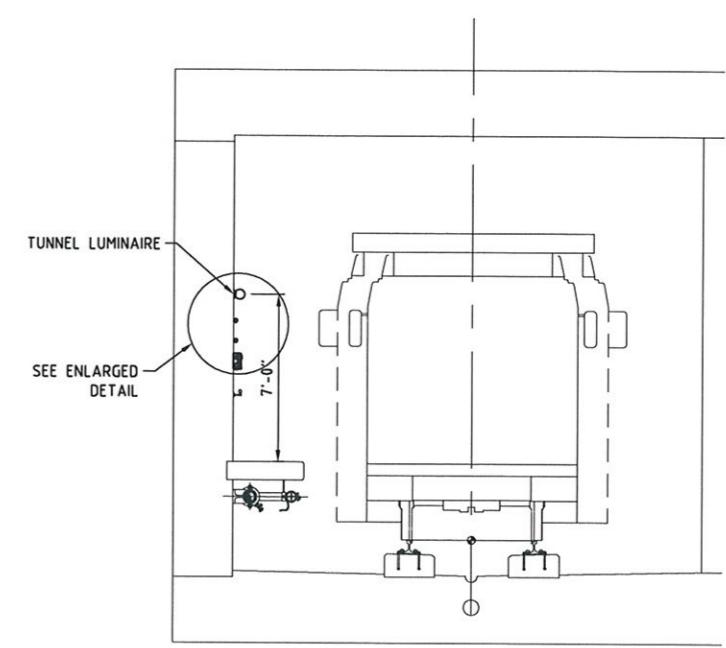
MAUNSELL AECOM	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH PENNSYLVANIA
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925 <i>[Signature]</i> APPROVED JUNE 27 08 DATE	NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) TUNNEL LIGHTING TYPICAL DETAILS
NO. DATE DESCRIPTION REVISIONS	Port Authority Contract No. NSC-009 DWG. NO. EL-002 SHT. 649



CUT & COVER TUNNEL TYPICAL LUMINAIRE INSTALLATION
STA L6036+83 TO STA L6037+43 &
STA L6039+77 TO STA L6040+44
(L6037 LEFT TRACK SHOWN)

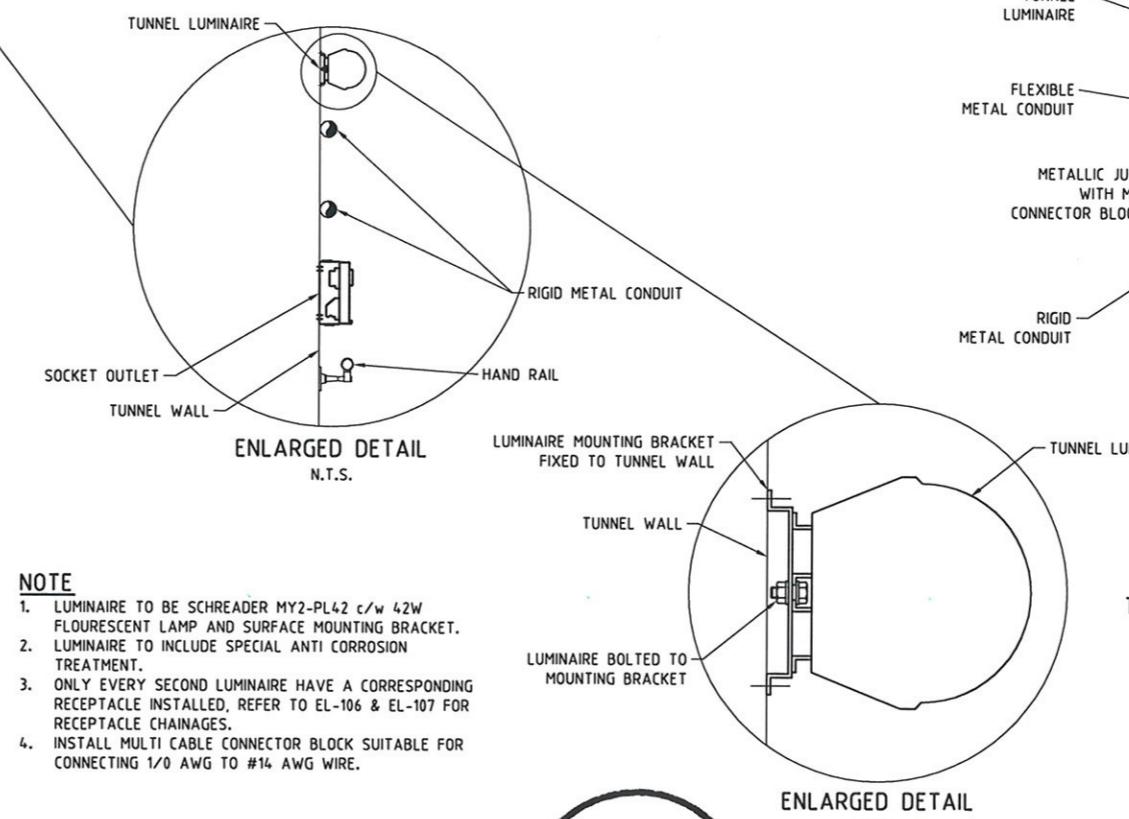


CUT & COVER TUNNEL TYPICAL LUMINAIRE INSTALLATION
STA 6037+43 TO STA 6038+74
(L6038 LEFT TRACK SHOWN)

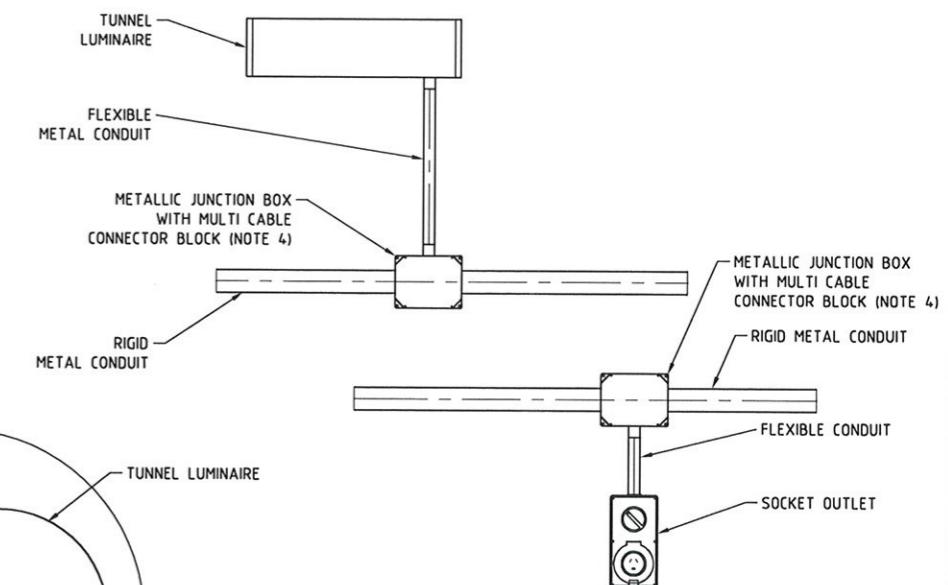


CUT & COVER TUNNEL TYPICAL LUMINAIRE INSTALLATION
STA 6038+74 TO STA 6039+77
(L6039 LEFT TRACK SHOWN)

LIGHT FITTING SCHEDULE			
LIGHT FITTING No.	TRACK CHAINAGE	LIGHT FITTING SPACING CENTRE TO CENTRE	MOUNTING HEIGHT ABOVE GANGWAY
GW01-L TO GW49-L	L6014+50 TO L6026+43	25'	4'-6"
NSE61-L TO NSE21-L	L6026+68 TO L6036+25	25'	4'-6"
NSE20-L TO NSE17-L	L6036+19 TO L6037+45	19'	6'
NSE16-L TO NSE05L	L6037+57 TO L6039+77	18'	7'
NSE04-L TO NSE01-L	L6039+90 TO L6040+44	19'	6'
NSW01-L TO NSW22-L	L6043+19 TO L6047+17	19'	6'
NSW23-L TO NSW31-L	L6047+30 TO L6048+81	19'	6'
GW01-R TO GW48-R	R6014+47 TO R6026+24	25'	4'-6"
NSE65-R TO NSE24-R	R6026+49 TO R6036+65	25'	4'-6"
NSE23-R TO NSE20-R	R6036+84 TO R6037+49	19'	6'
NSE19-R TO NSE06-R	R6037+55 TO R6040+00	18'	7'
NSE05-R TO NSE04-R	R6040+14 TO R6040+91	19'	6'
NSW01-R TO NSW22-L	R6043+19 TO R6047+17	19'	6'
NSW23-L TO NSW31	R6047+30 TO R6048+81	19'	6'



- NOTE
1. LUMINAIRE TO BE SCHREIDER MY2-PL42 c/w 42W FLUORESCENT LAMP AND SURFACE MOUNTING BRACKET.
 2. LUMINAIRE TO INCLUDE SPECIAL ANTI CORROSION TREATMENT.
 3. ONLY EVERY SECOND LUMINAIRE HAVE A CORRESPONDING RECEPTACLE INSTALLED. REFER TO EL-106 & EL-107 FOR RECEPTACLE CHAINAGES.
 4. INSTALL MULTI CABLE CONNECTOR BLOCK SUITABLE FOR CONNECTING 1/0 AWG TO #14 AWG WIRE.



TYPICAL LUMINAIRE & RECEPTACLE INSTALLATION DETAIL
N.T.S.

MAUNSELL AECOM		
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925		
APPROVED	JUNIE 27 08	DATE
	NO. DATE	DESCRIPTION
		REVISIONS

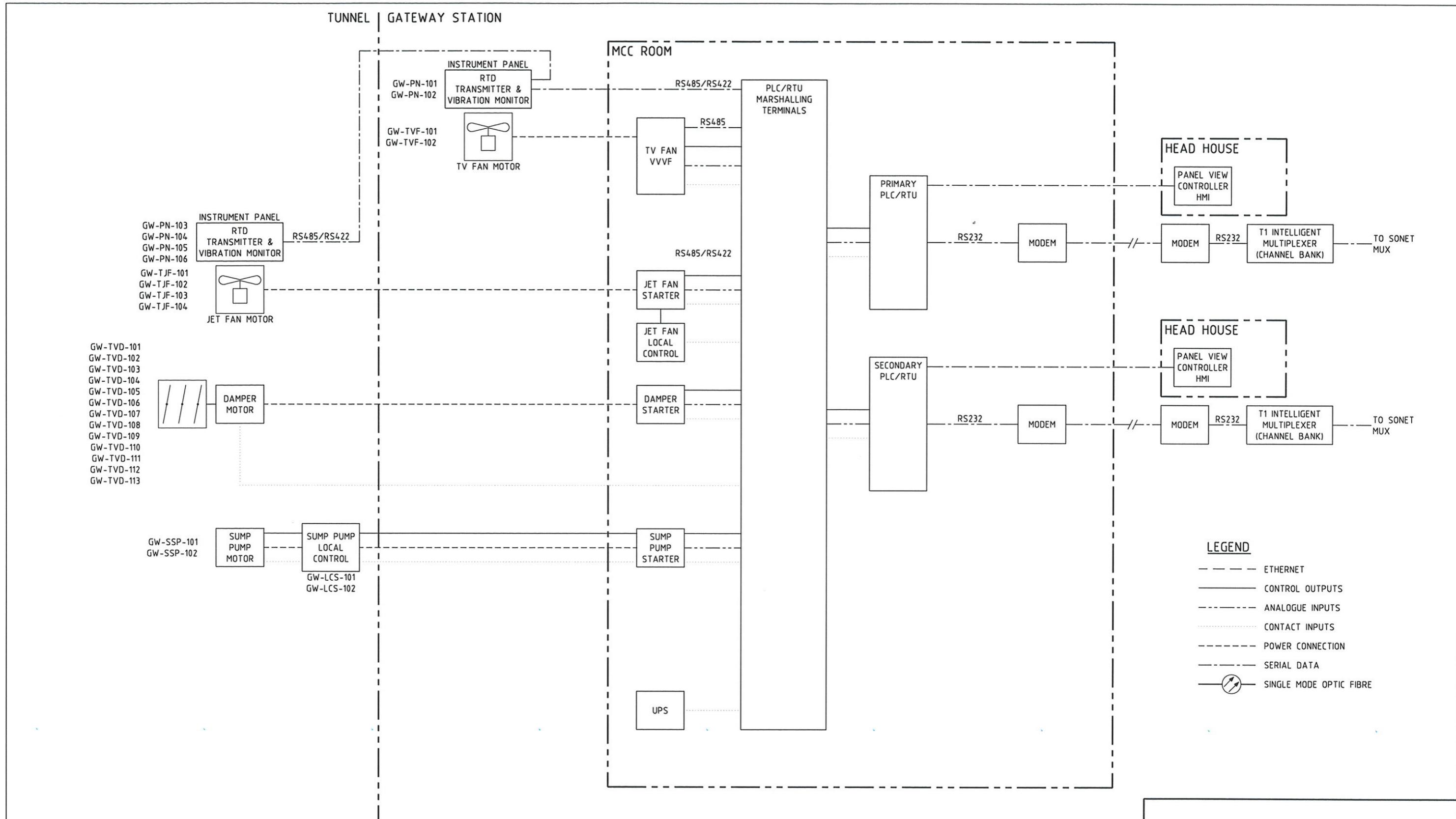
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REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND
CONRAD K.B. STACY
RPEQ 5128
Signature
PATP #002194

OMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

APPROVED DATE

PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH PENNSYLVANIA	CONTRACT NO. NSC-009
NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) TUNNEL LIGHTING TYPICAL DETAILS	
Port Authority	DWG. NO. EL-003
	SHT. 650



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Maunsell Australia Pty Ltd A.B.N. 20 093 846 925

Gary Johnson
APPROVED

JUNE 27 08
DATE

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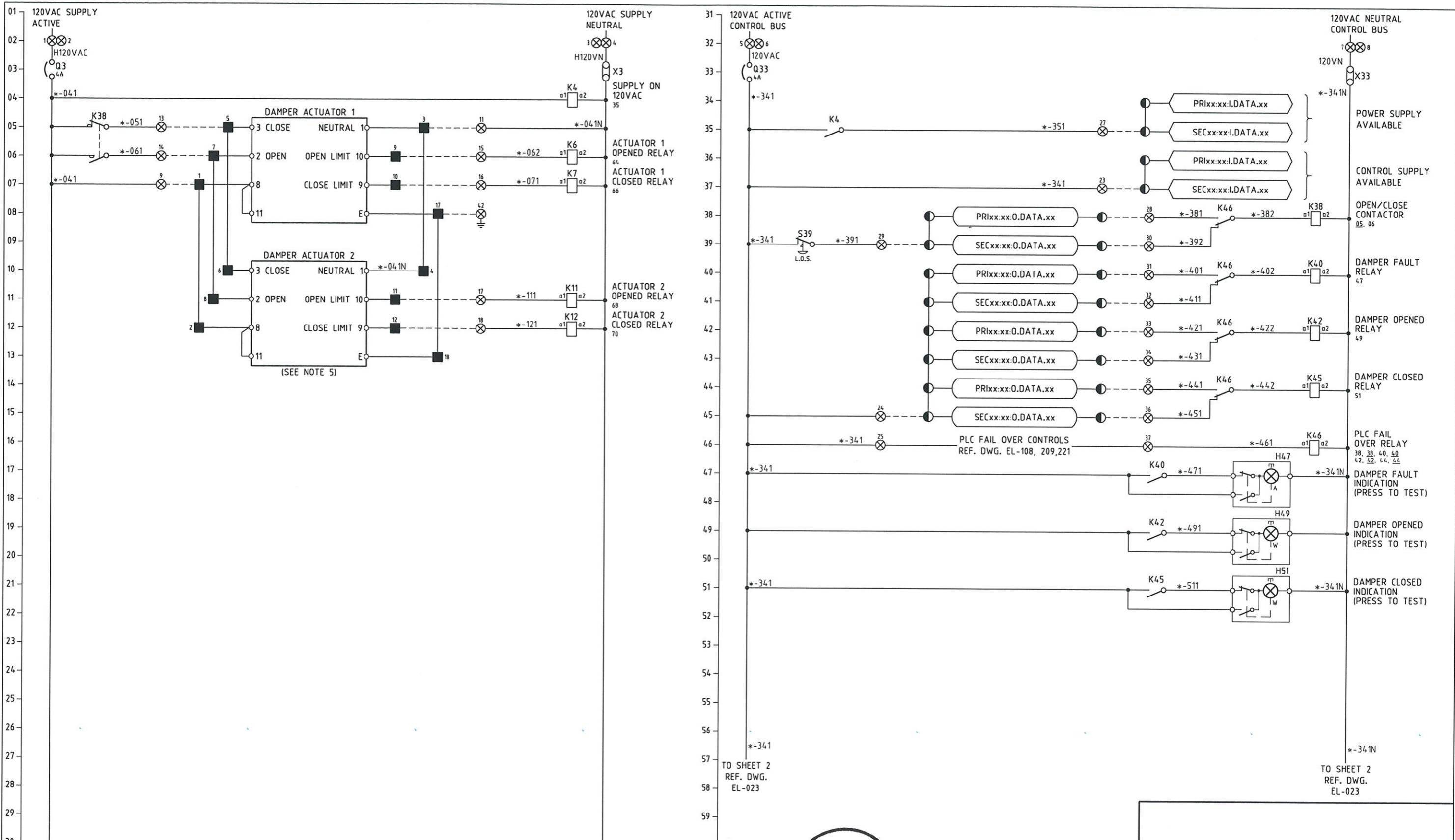
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FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

APPROVED DA

COM
TE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA
**NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
GATEWAY STATION
CONTROL SYSTEM BLOCK DIAGRAM**



MAUNSELL AECOM		
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925		
<i>John J. Stacey</i> APPROVED	JUNE 27 08 DATE	DESCRIPTION
		REVISIONS

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DMJM HARRIS | AECOM

FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

APPROVED DATE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA

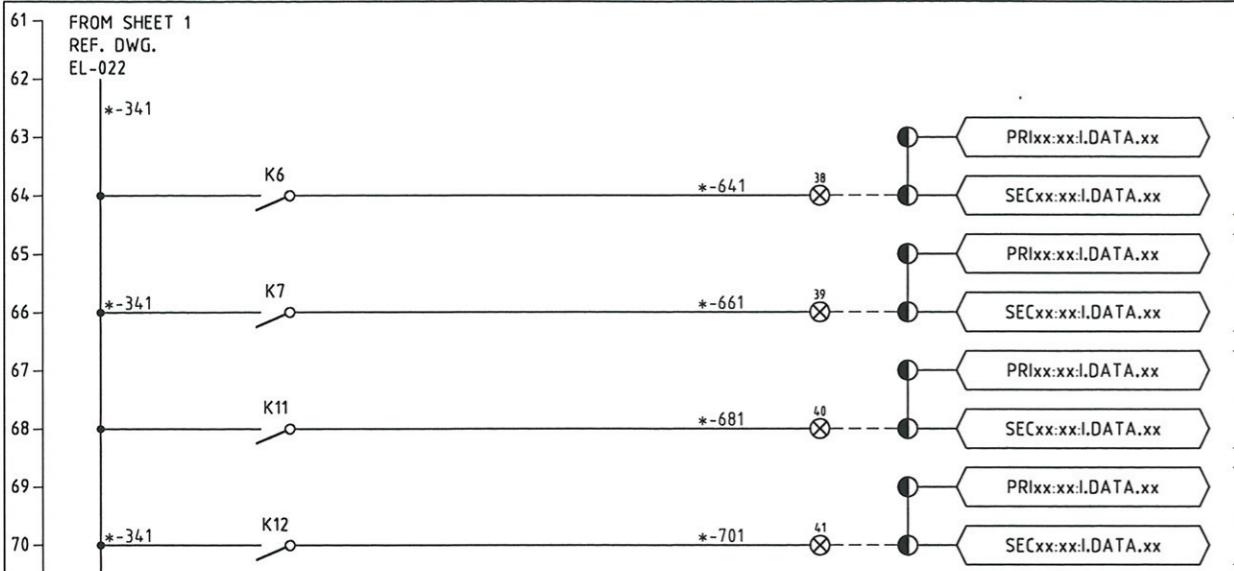
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
TUNNEL VENTILATION

TYPICAL NON-MODULATING DAMPER CONTROL SCHEMATICS SHEET 1 OF 2

Port Authority

CONTRACT NO. NSC-009

DWG. NO. EL-022 SHT. 652



FROM SHEET 1
REF. DWG.
EL-022

*-341N
ACTUATOR 1
OPENED

ACTUATOR 1
CLOSED

ACTUATOR 2
OPENED

ACTUATOR 2
CLOSED

DAMPER EQUIPMENT NUMBER	TYPE	NUMBER OF ACTUATORS
GW-TVD-101	NON-MODULATING	4
GW-TVD-102	NON-MODULATING	4
GW-TVD-103	NON-MODULATING	4
GW-TVD-104	MODULATING	4
GW-TVD-105	MODULATING	4
GW-TVD-106	MODULATING	4
GW-TVD-107	MODULATING	4
GW-TVD-108	NON-MODULATING	2
GW-TVD-109	NON-MODULATING	2
GW-TVD-110	NON-MODULATING	2
GW-TVD-111	NON-MODULATING	2
GW-TVD-112	NON-MODULATING	4
GW-TVD-113	NON-MODULATING	4
NSE-TVD-201	NON-MODULATING	4
NSE-TVD-202	NON-MODULATING	4
NSW-TVD-203	NON-MODULATING	4
NSW-TVD-204	NON-MODULATING	4
NSE-TVD-205	NON-MODULATING	2
NSE-TVD-206	NON-MODULATING	2
NSE-TVD-207	NON-MODULATING	4
NSE-TVD-208	NON-MODULATING	4
NSW-TVD-209	MODULATING	2
NSW-TVD-210	MODULATING	2
NSW-TVD-211	NON-MODULATING	2
NSW-TVD-212	NON-MODULATING	6
NSW-TVD-213	NON-MODULATING	6

LEGEND

xx:xx:I.DATA.xx PLC DIGITAL INPUT

xx:xx:O.DATA.xx PLC DIGITAL OUTPUT

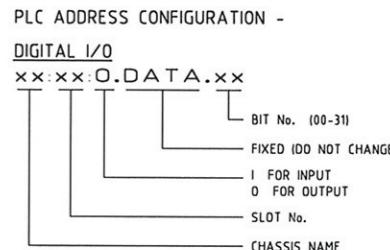
xx:xx:I.CHxDATA PLC ANALOG INPUT

xx:xx:O.CHxDATA PLC ANALOG OUTPUT

● PLC MARSHALLING CABINET TERMINAL

⊗ MCC TERMINAL

■ LOCAL CONTROL STATION (LCS) TERMINAL



NOTES

1. * DENOTES DRIVE FERRULE PREFIX. ALL WIRING EXTERNAL TO MCC MODULES SHALL BE PREFIXED WITH THE DRIVE NUMBER e.g. *-121 BECOMES xxx-yyy-zzz-121.
2. L.O.S. = LOCK OUT STOP
3. ACTUATOR TO COMPLY WITH NFPA130 - THERMAL OVERLOAD BYPASSED.
4. DAMPER ACTUATOR TO BE RCS SURE 100-10
5. FOR PARALLELING OF ACTUATORS REFER TO MANUFACTURERS INSTALLATION MANUALS.
6. CONTRACTOR TO ASSIGN PLC I/O ADDRESS.
7. TYPICAL DAMPER SCHEMATICS INDICATE TWO ACTUATOR CONFIGURATION, FOUR 4 AND 6 ACTUATOR CONFIGURATION DUPLICATE OR TRIPLEX 2 ACTUATOR CONFIGURATION.



DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

DESIGNED TS
DRAWN GH
CHECKED MHS
IN CHARGE CS
DATE 06/27/08
SCALE
APPROVED DATE

PORT AUTHORITY OF ALLEGHENY COUNTY

PITTSBURGH PENNSYLVANIA

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
TUNNEL VENTILATION

TYPICAL NON-MODULATING DAMPER CONTROL SCHEMATICS SHEET 2 OF 2

Port Authority	CONTRACT NO. NSC-009
DWG. NO. EL-023	SHT. 653

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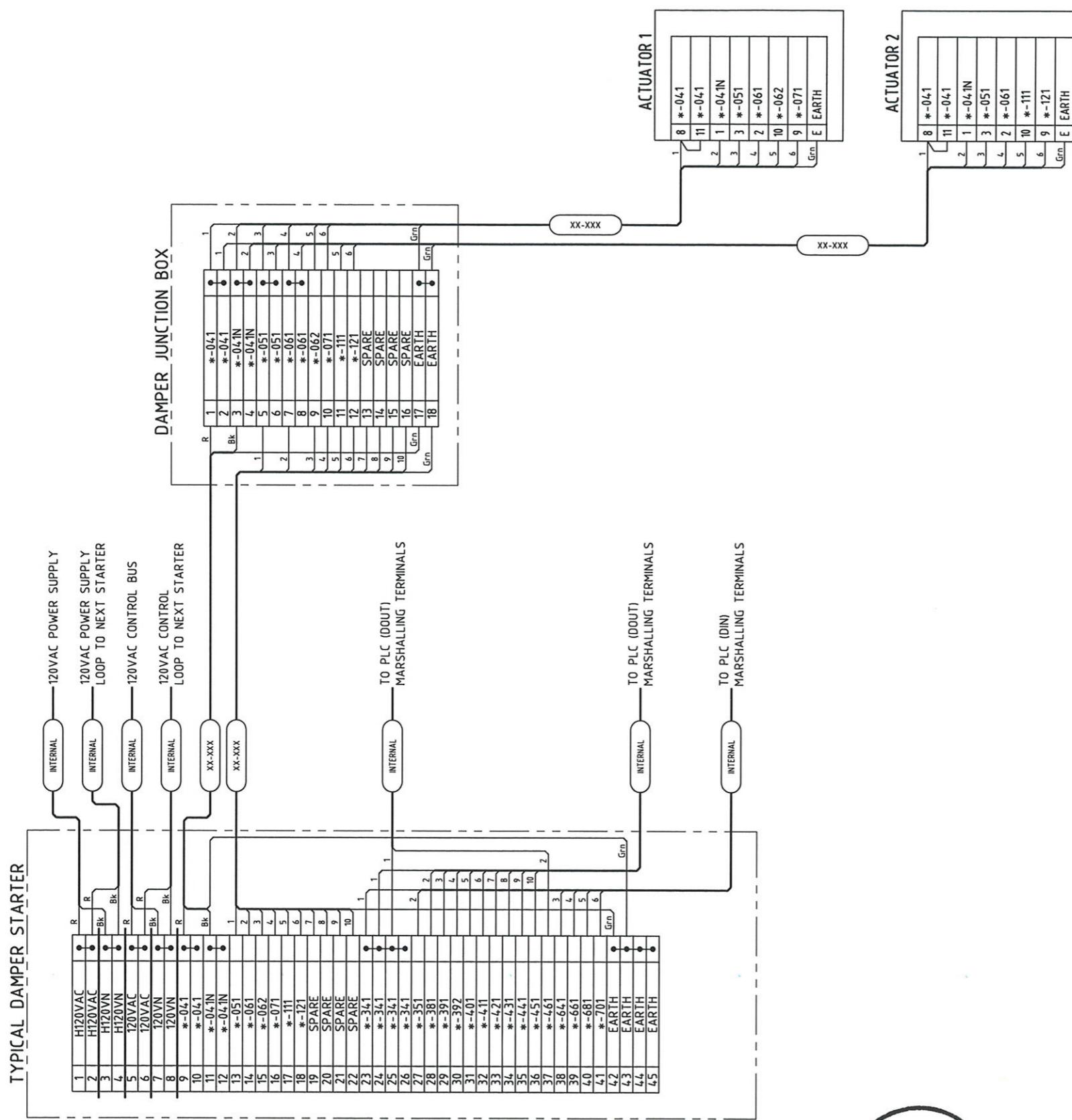
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925

APPROVED
Signature

JUNE 27 08
DATE

NO.	DATE	DESCRIPTION	REVISIONS

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NOTES

- CONNECT EARTH CORE OF ALL CABLES TO EARTH BAR, FERRULED WITH IT'S CABLE NUMBER.
- * DENOTES DRIVE FERRULE PREFIX, ALL WIRING EXTERNAL TO THE MCC SHALL BE PREFIXED WITH THE DRIVE NUMBER i.e *-041 BECOMES xxx-yyy-zzz-041.
- FOR CABLE NUMBER REFER TO CABLE SCHEDULE DRAWINGS EL-160, 161, 162
- TYPICAL DAMPER SCHEMATICS INDICATE TWO ACTUATOR CONFIGURATION, FOR 4 AND 6 ACTUATOR CONFIGURATION DUPLICATE OR TRIPPLICATE 2 ACTUATOR CONFIGURATION.

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Maunsell Australia Pty Ltd A.B.N. 20 093 846 925

Gary J. Johnson
APPROVED

JUNE 27 08
DATE

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CONRAD H.B. STACEY
R.P.O. 5128
C. Stacey
SIGNATURE
PATP #002194

DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

DESIGNED TS
DRAWN GH

CHECKED MHS

IN CHARGE CS

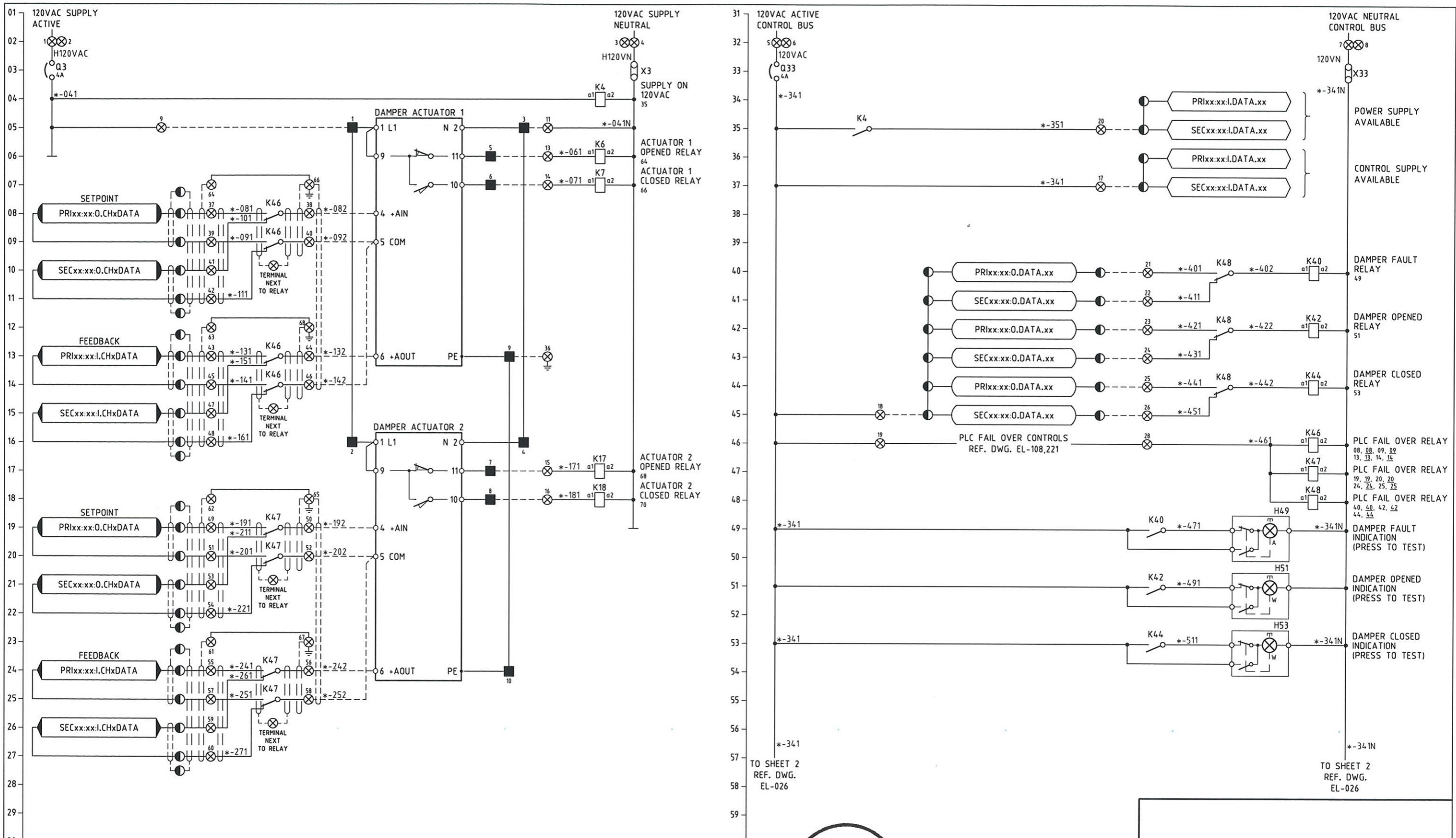
DATE 06/27/08

SCALE

APPROVED

DATE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
TUNNEL VENTILATION
TYPICAL NON-MODULATING DAMPER CONTROL CONNECTION DIAGRAM
Port Authority
Contract No. NSC-009
DWG. NO. EL-024
SHT. 654



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[Signature] APPROVED JUNE 27 08 DATE

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REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND CONRAD H.B. STANCY RPEQ 5128

[Signature] APPROVED DATE

SIGNATURE PAPN #002194

DMJM HARRIS | AECOM

FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222

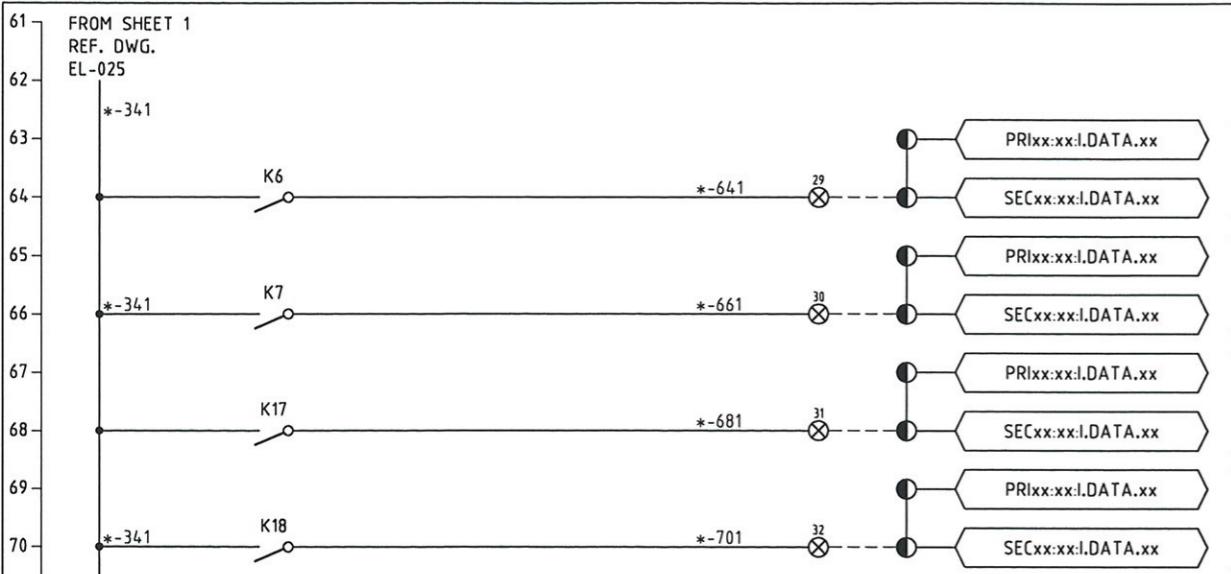
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DRAWN GH
CHECKED HHS
IN CHARGE CS
DATE 06/27/08
SCALE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
TUNNEL VENTILATION

TYPICAL MODULATING DAMPER CONTROL SCHEMATICS SHEET 1 OF 2

Port Authority	CONTRACT NO. NSC-009
DWG. NO. EL-025	SHT. 655



FROM SHEET 1
REF. DWG.
EL-025

*-341N
ACTUATOR 1
OPENED

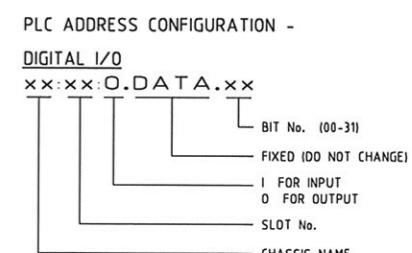
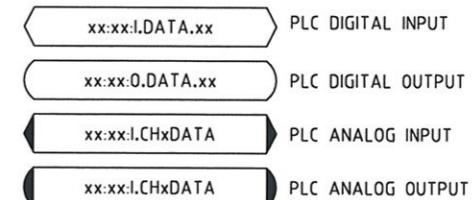
ACTUATOR 1
CLOSED

ACTUATOR 2
OPENED

ACTUATOR 2
CLOSED

DAMPER EQUIPMENT NUMBER	TYPE	NUMBER OF ACTUATORS
GW-TVD-101	NON-MODULATING	4
GW-TVD-102	NON-MODULATING	4
GW-TVD-103	NON-MODULATING	4
GW-TVD-104	MODULATING	4
GW-TVD-105	MODULATING	4
GW-TVD-106	MODULATING	4
GW-TVD-107	MODULATING	4
GW-TVD-108	NON-MODULATING	2
GW-TVD-109	NON-MODULATING	2
GW-TVD-110	NON-MODULATING	2
GW-TVD-111	NON-MODULATING	2
GW-TVD-112	NON-MODULATING	4
GW-TVD-113	NON-MODULATING	4
NSE-TVD-201	NON-MODULATING	4
NSE-TVD-202	NON-MODULATING	4
NSW-TVD-203	NON-MODULATING	4
NSW-TVD-204	NON-MODULATING	4
NSE-TVD-205	NON-MODULATING	2
NSE-TVD-206	NON-MODULATING	2
NSE-TVD-207	NON-MODULATING	4
NSE-TVD-208	NON-MODULATING	4
NSW-TVD-209	MODULATING	2
NSW-TVD-210	MODULATING	2
NSW-TVD-211	NON-MODULATING	2
NSW-TVD-212	NON-MODULATING	6
NSW-TVD-213	NON-MODULATING	6

LEGEND



● PLC MARSHALLING CABINET TERMINAL

⊗ MCC TERMINAL

■ LOCAL CONTROL STATION (LCS) TERMINAL

NOTES

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- FOR PARALLELISING OF ACTUATORS REFER TO MANUFACTURERS INSTALLATION MANUALS.
- CONTRACTOR TO ASSIGN PLC I/O ADDRESS.
- TYPICAL DAMPER SCHEMATICS INDICATE TWO ACTUATOR CONFIGURATION, FOR 4 AND 6 ACTUATOR CONFIGURATION DUPLICATE OR TRIPPLICATE 2 ACTUATOR CONFIGURATION.

REGISTERED
PROFESSIONAL
ENGINEER OF
QUEENSLAND
CONRAD H.B. STACEY
RPEQ 5128
C. Stacey
SIGNATURE
PATP #002194

DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

DESIGNED TS
DRAWN GH
CHECKED MHS
IN CHARGE CS
DATE 06/27/08
SCALE
APPROVED DATE

PORT AUTHORITY OF ALLEGHENY COUNTY

PITTSBURGH PENNSYLVANIA

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
TUNNEL VENTILATION

TYPICAL MODULATING DAMPER CONTROL SCHEMATICS SHEET 2 OF 2

Port Authority	CONTRACT NO. NSC-009
DWG. NO. EL-026	SHT. 656

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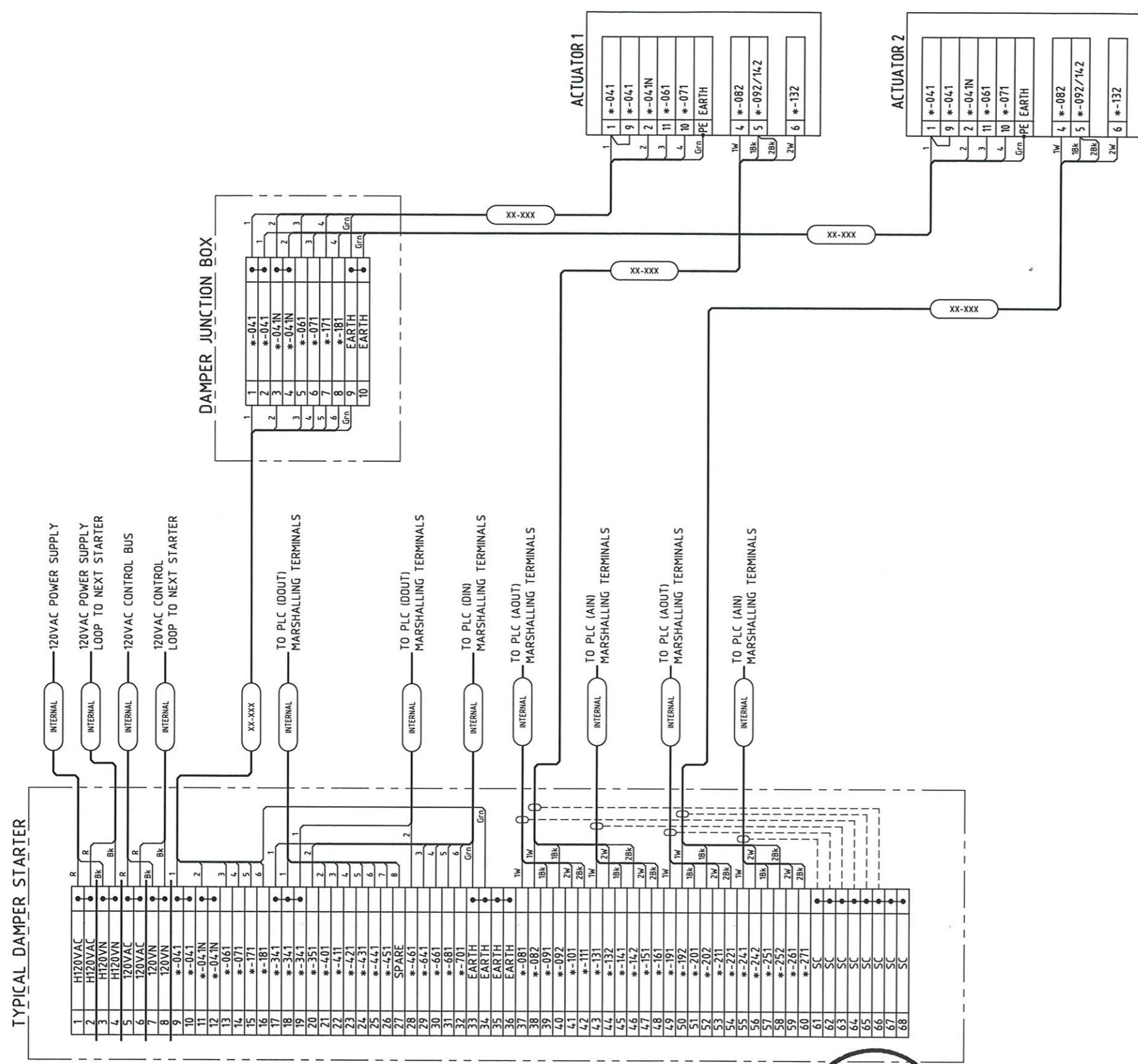
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Gary James
APPROVED

JUNE 27 08
DATE

NO.	DATE	DESCRIPTION	REVISIONS

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NOTES

1. CONNECT EARTH CORE OF ALL CABLES TO EARTH BAR, FERRULED WITH IT'S CABLE NUMBER.
 2. * DENOTES DRIVE FERRULE PREFIX, ALL WIRING EXTERNAL TO THE MCC SHALL BE PREFIXED WITH THE DRIVE NUMBER i.e *-041 BECOMES xxx-yyy-zzz-041.
 3. FOR CABLE NUMBER REFER TO CABLE SCHEDULE DRAWINGS EL-160, 161, 162
 4. TYPICAL DAMPER SCHEMATICS INDICATE TWO ACTUATOR CONFIGURATION, FOR 4 AND 6 ACTUATOR CONFIGURATION DUPLICATE OR TRIPPLICATE 2 ACTUATOR CONFIGURATION.

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REGISTERED
PROFESSIONAL
ENGINEER OF
QUEENSLAND
CONRAD H.B. STACEY
RPEQ 5128
C. Stacey
SIGNATURE
PATP #002190

FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

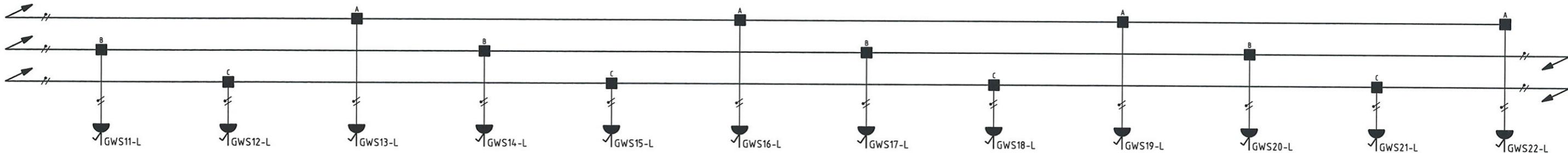
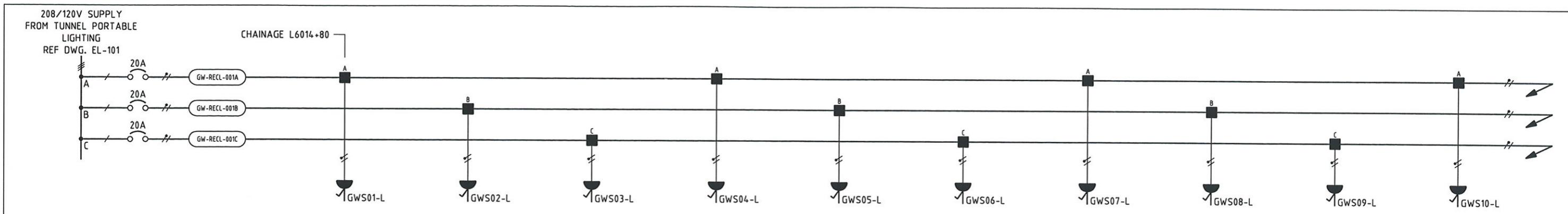
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PITTSBURGH PA. 15222

www.english-test.net

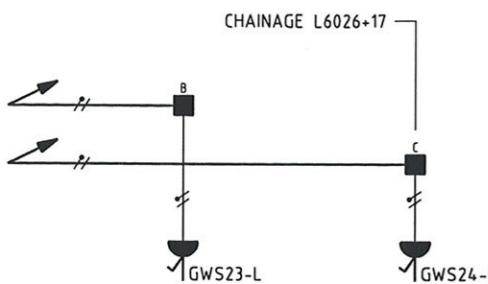
APPROVED

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH **PENNSYLVANIA**

NORTH SHORE CONNECTOR
 NSC TRAIN SYSTEM (SYSTEM WIDE)
 TUNNEL VENTILATION
 PICAL MODULATING DAMPER CONTROL CONNECTION DIAGRAM

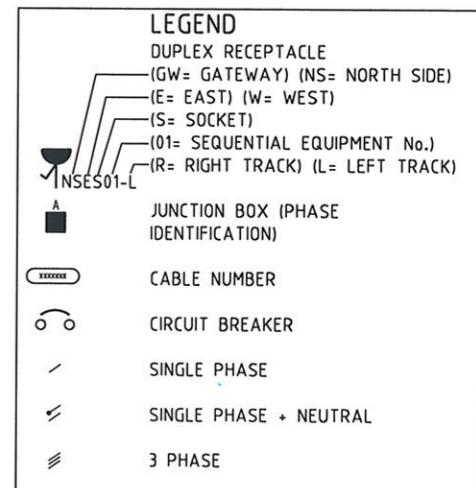


GATEWAY STATION TUNNEL SOCKET OUTLET CIRCUITS LEFT TRACK

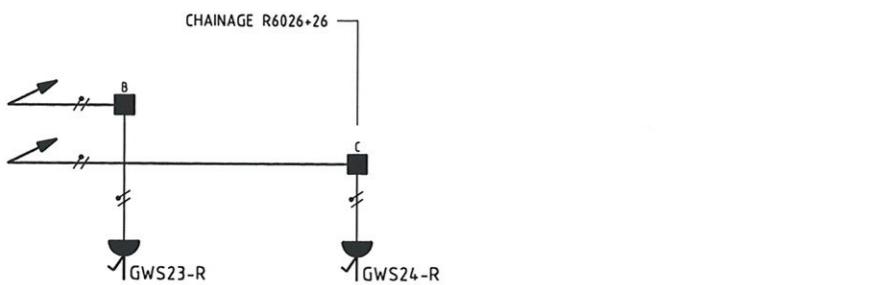
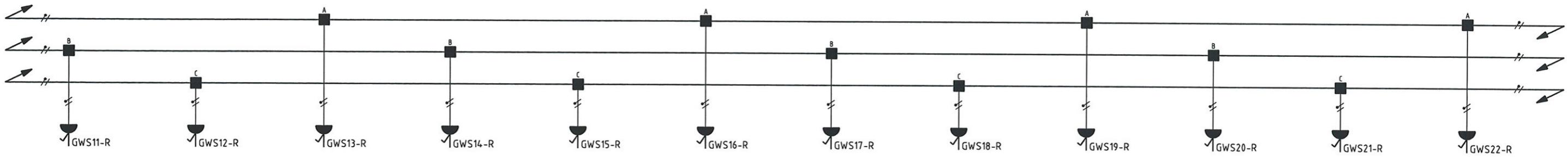
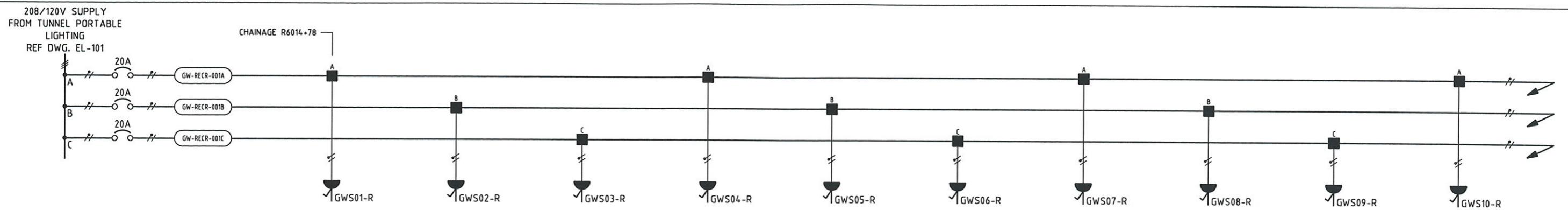


NOTE

1. FOR CABLE NUMBERS REFER TO CABLE SCHEDULE DRAWINGS EL-160, 161, 162.
2. DUPLEX RECEPTACLE TO BE 120VAC, 20A NEMA WD6-5-20R WITH GROUND FAULT CIRCUIT INTERRUPTER, NEMA 4X WITH COVER.



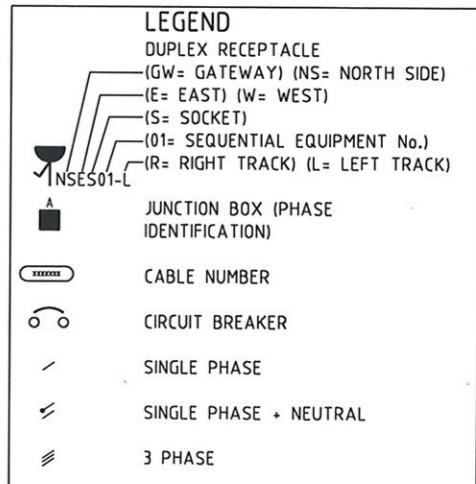
MAUNSELL AECOM Maunsell Australia Pty Ltd A.B.N. 20 093 846 925 <i>Signature</i> APPROVED	JUNE 27 08 DATE	NO. DATE DESCRIPTION REVISED	THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.	REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND CONRAD H.B. SIMONY RPEQ 6128 <i>C. Stacey</i> SIGNATURE PATP #002194	APPROVED DATE	DMJM HARRIS AECOM FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222 APPROVED DATE	DESIGNED TS				
							DRAWN GH				
				CHECKED MHS <i>C. Stacey</i> SIGNATURE PATP #002194	APPROVED DATE		CHECKED MHS				
							IN CHARGE CS				
				DATE 06/27/08 APPROVED DATE			DATE 06/27/08				
							SCALE				
						PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH PENNSYLVANIA NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) GATEWAY STATION LV DISTRIBUTION CONTRIBUTION SHEET 1 OF 2					
				Port Authority CONTRACT NO. NSC-009 DWG. NO. EL-106 SHT. 659							



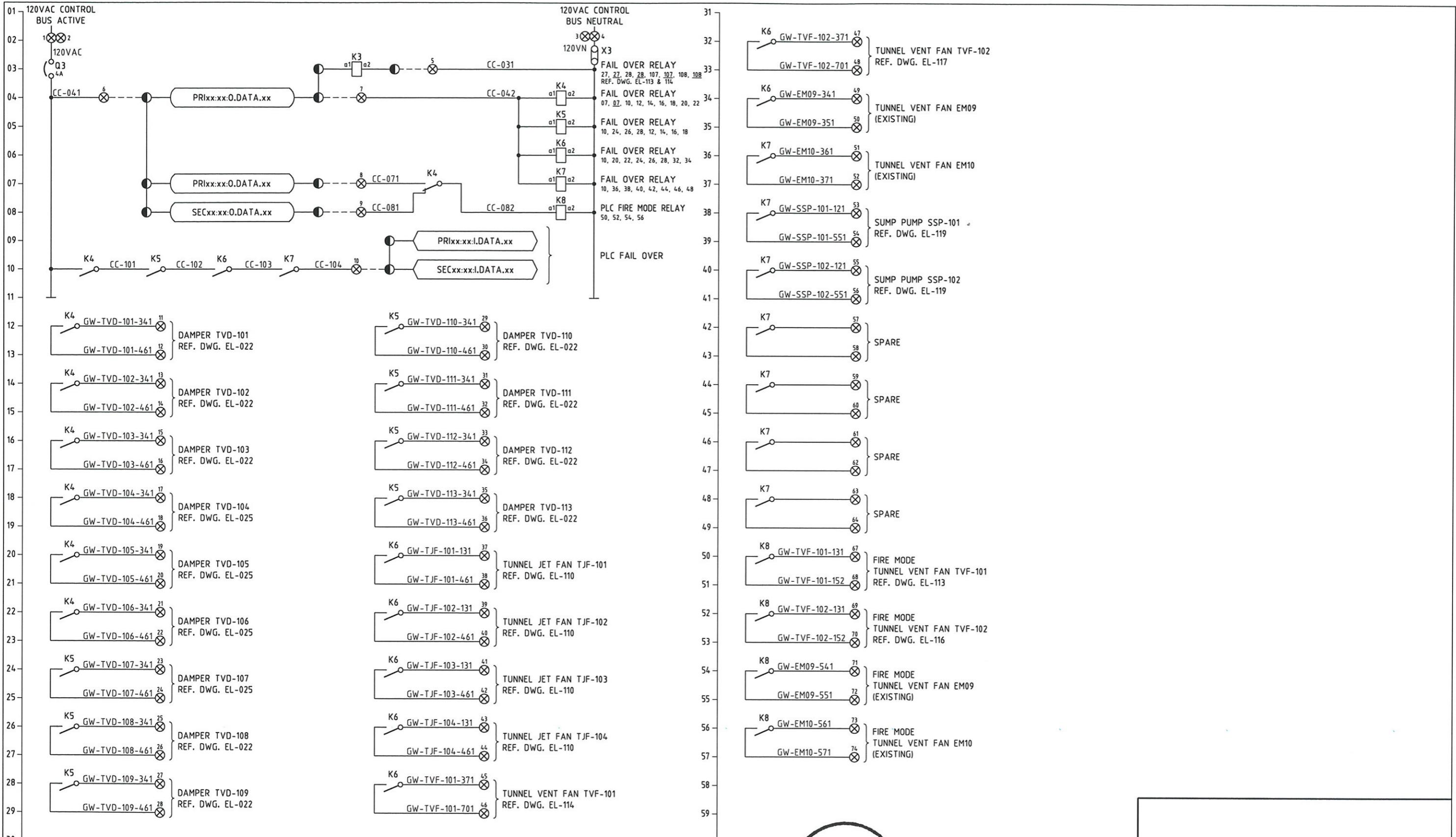
GATEWAY STATION TUNNEL SOCKET OUTLET CIRCUITS RIGHT TRACK

NOTE

1. FOR CABLE NUMBERS REFER TO CABLE SCHEDULE DRAWINGS EL-160, 161, 162.
2. DUPLEX RECEPTACLE TO BE 120VAC, 20A NEMA WD6-5-20R WITH GROUND FAULT CIRCUIT INTERRUPTER, NEMA 4X WITH COVER.



MAUNSELL AECOM								
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925								
<i>George J. Denner</i> APPROVED		JUN 27 2008						
NO.	DATE	DESCRIPTION						
REVISIONS								
<small>THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.</small>					REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND COMMAND H.D. STACEY RPEQ 5128 <i>[Signature]</i> <small>PATP #002194</small>		DMJM HARRIS AECOM <small>FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222</small>	
					APPROVED	DATE	DESIGNED TS DRAWN GH CHECKED HHS IN CHARGE CS DATE 06/27/08 SCALE	
							CONTRACT NO. NSC-009 DWG. NO. EL-107 SHT. 660	
					Port Authority			

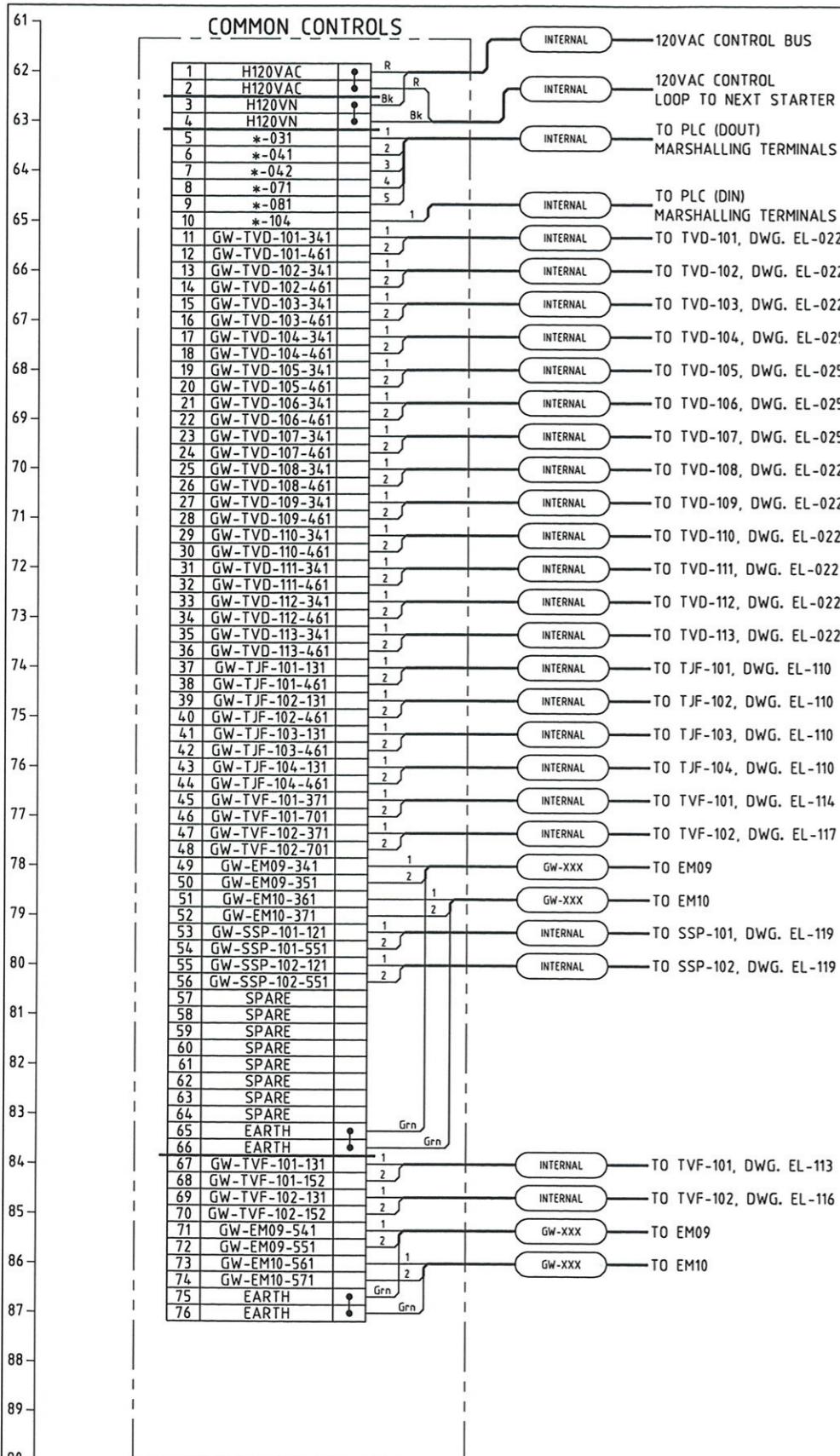


MAUNSELL AECOM		
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925		
<i>gary harris</i> APPROVED	JUNE 27 08 DATE	NO. DATE DESCRIPTION
		REVISIONS

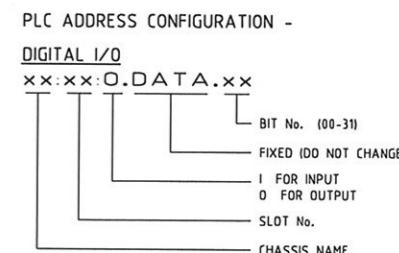
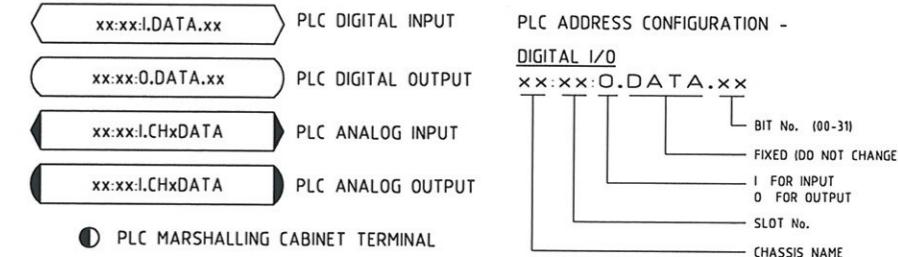
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REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND CONRAD M.D. STACEY RPEQ 5128 <i>C. Stacey</i> SIGNATURE PATP #002194	DESIGNED TS DRAWN GH CHECKED MHS IN CHARGE CS DATE 06/27/08 SCALE
DMJM HARRIS AECOM	APPROVED DATE
FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222	

PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH PENNSYLVANIA	
NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) GATEWAY STATION	
COMMON CONTROLS PLC FAIL OVER SHEET 1 OF 2	
Port Authority	CONTRACT NO. NSC-009
DWG. NO. EL-108	SHT. 661



LEGEND



NOTES

- * DENOTES DRIVE FERRULE PREFIX. ALL WIRING EXTERNAL TO MCC MODULES SHALL BE PREFIXED WITH THE DRIVE NUMBER e.g. *-121 BECOMES xxx-yyy-zzz-121.
- CONTRACTOR TO ASSIGN PLC I/O ADDRESS.

MAUNSELL | AECOM

Maunsell Australia Pty Ltd A.B.N. 20 093 846 925

Signature APPROVED JUNE 27 08 DATE

NO.	DATE	DESCRIPTION
REVISIONS		

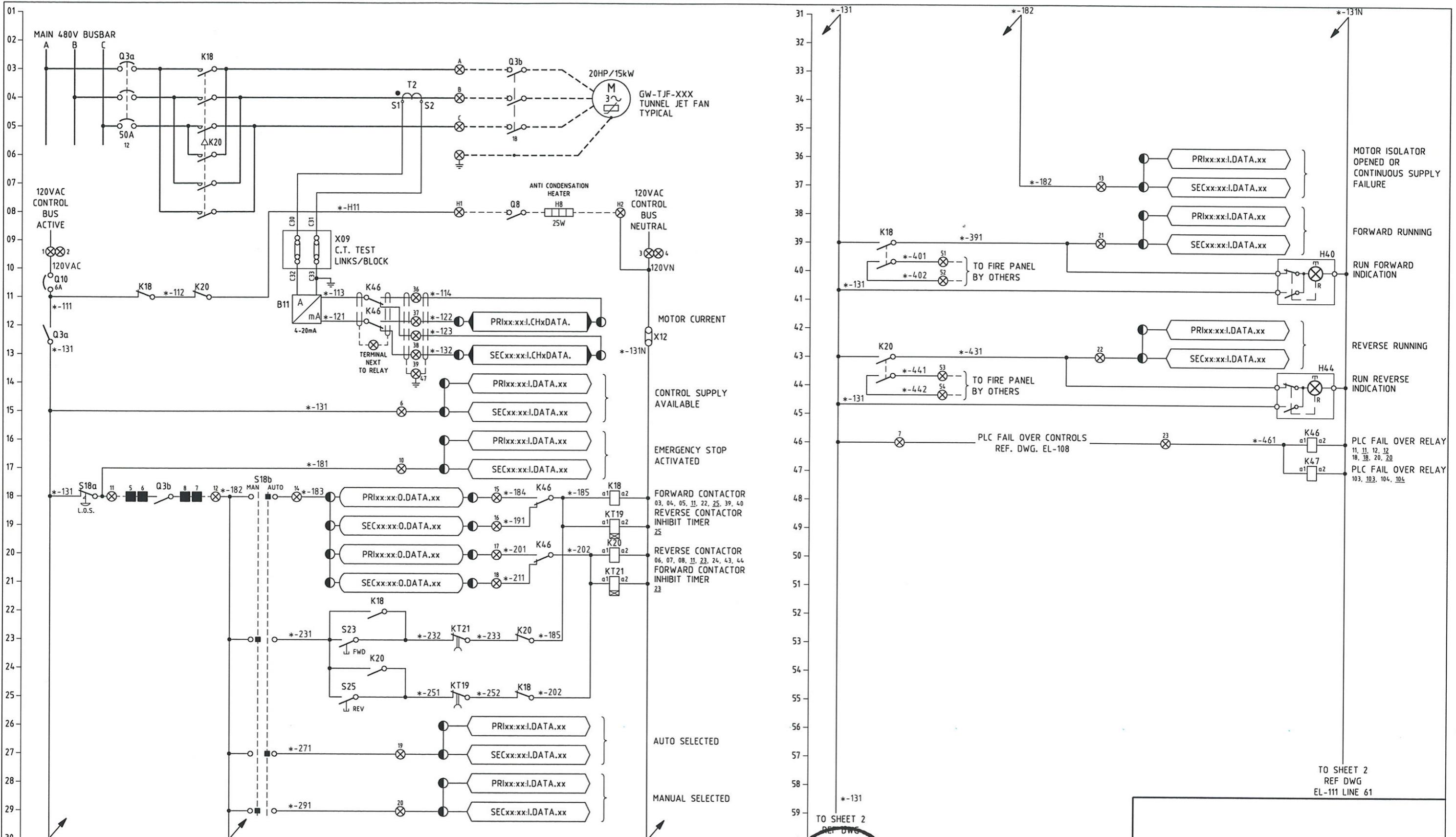
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DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

DESIGNED	TS
DRAWN	GH
CHECKED	MHS
IN CHARGE	CS
DATE	06/27/08
SCALE	
APPROVED	DATE

PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH PENNSYLVANIA	CONTRACT NO. NSC-009
NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) GATEWAY STATION	
COMMON CONTROLS PLC FAIL OVER SHEET 2 OF 2	



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Maunsell Australia Pty Ltd A.B.N. 20 093 846 925		
<i>Signature</i>	JUNE 27 08	DATE
APPROVED		
NO.	DATE	DESCRIPTION
		REVISIONS

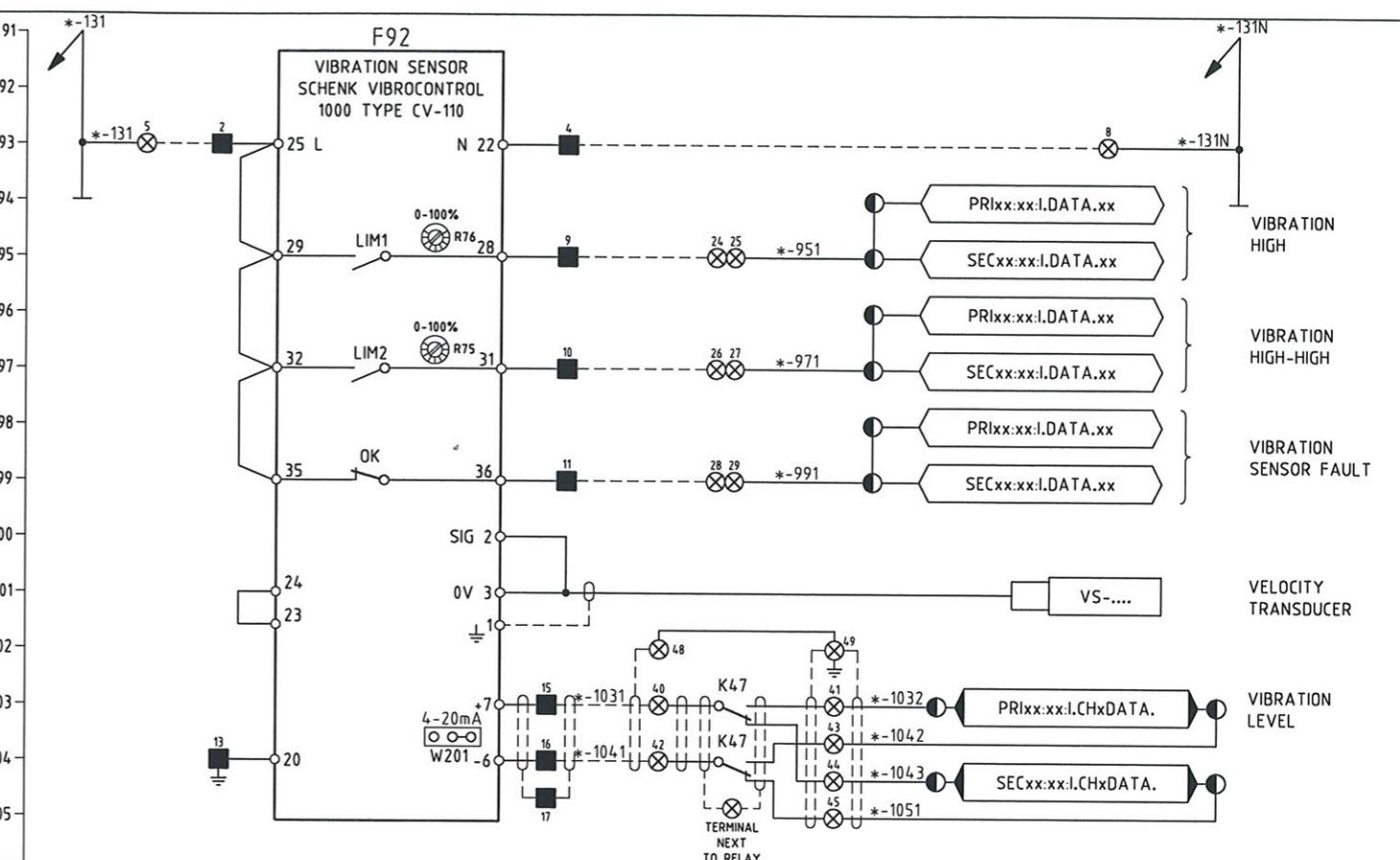
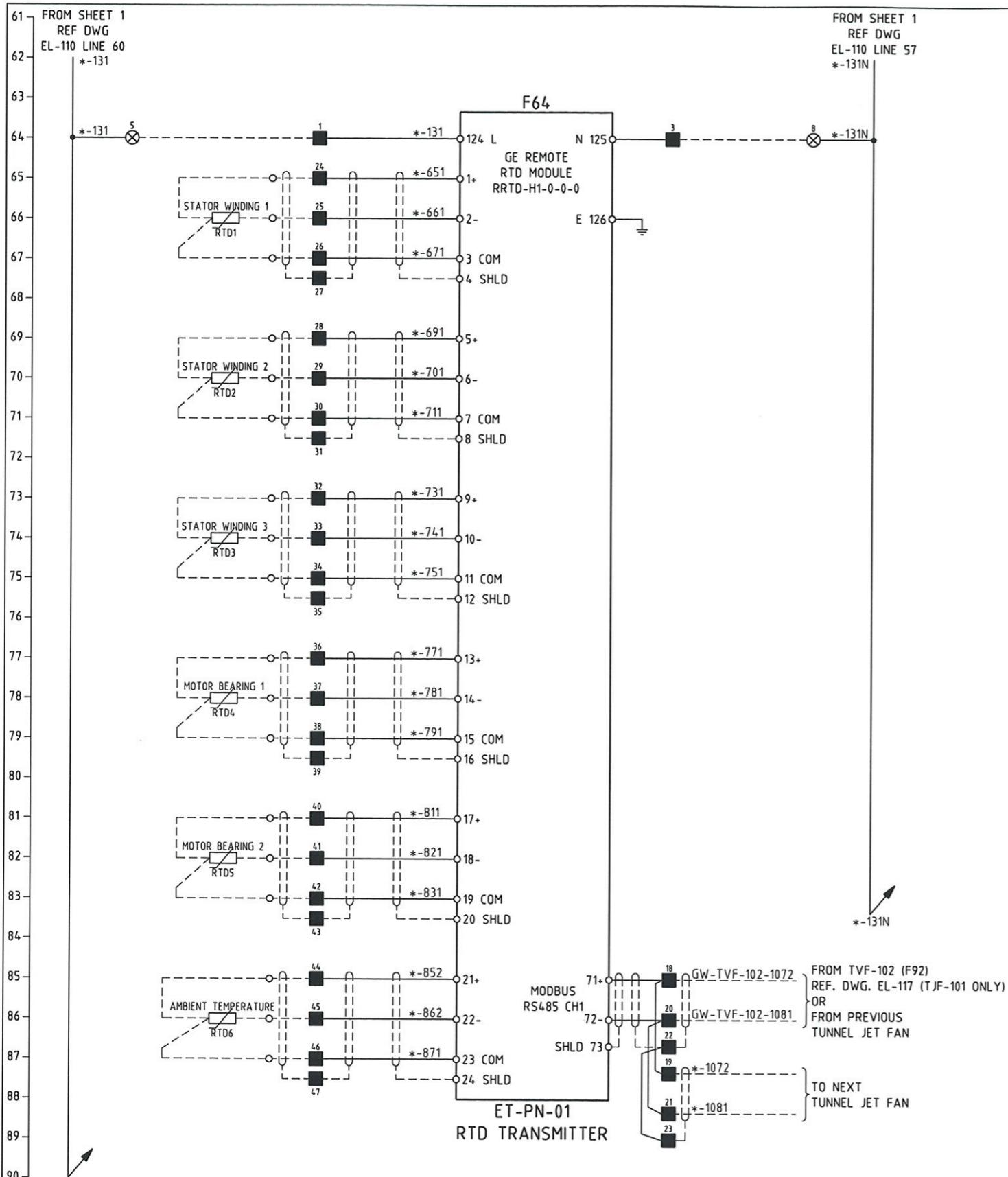
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DMJM HARRIS AECOM	
REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND	
CONRAD N.D. STACEY	
RPEQ 5128	
<i>Signature</i>	PATP #002194
APPROVED	DATE

FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

DESIGNED TS	
DRAWN GH	
CHECKED MHS	
IN CHARGE CS	
DATE 06/27/08	
SCALE	
Port Authority	CONTRACT NO. NSC-009
DWG. NO. EL-110	SHT. 663

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
GATEWAY STATION
GW-TJF-101 - 104 TUNNEL JET FAN ELECTRICAL SCHEMATIC DIA. SHT 1 OF 2



LEGEND

- | | |
|-----------------|--------------------|
| xx:xx:I.DATAXX | PLC DIGITAL INPUT |
| xx:xx:O.DATAXX | PLC DIGITAL OUTPUT |
| xx:xx:I.CHxDATA | PLC ANALOG INPUT |
| xx:xx:O.CHxDATA | PLC ANALOG OUTPUT |

NOTES

1. * DENOTES DRIVE FERRULE PREFIX. ALL WIRING EXTERNAL TO MCC MODULES SHALL BE PREFIXED WITH THE DRIVE NUMBER e.g. -*121 BECOMES xxx-yyy-zzz-121.
 2. L.O.S. = LOCK OUT STOP
 3. CONTRACTOR TO ASSIGN ADDRESS FOR PLC I/O



DMJM HARRIS | AECOM
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PITTSBURGH PA 15222

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PITTSBURGH, PA. 15222

PITTSBURGH **PENNSYLVANIA**

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
GATEWAY STATION

01 - 104 TUNNEL JET FAN ELECTRICAL SCHEMATIC DIA. SHT 2 OF 2

Port Authority
connecting people to opportunity

CONTRACT NO.	NSC-009	
DWG. NO.	EL-111	SHT. 664

*-151

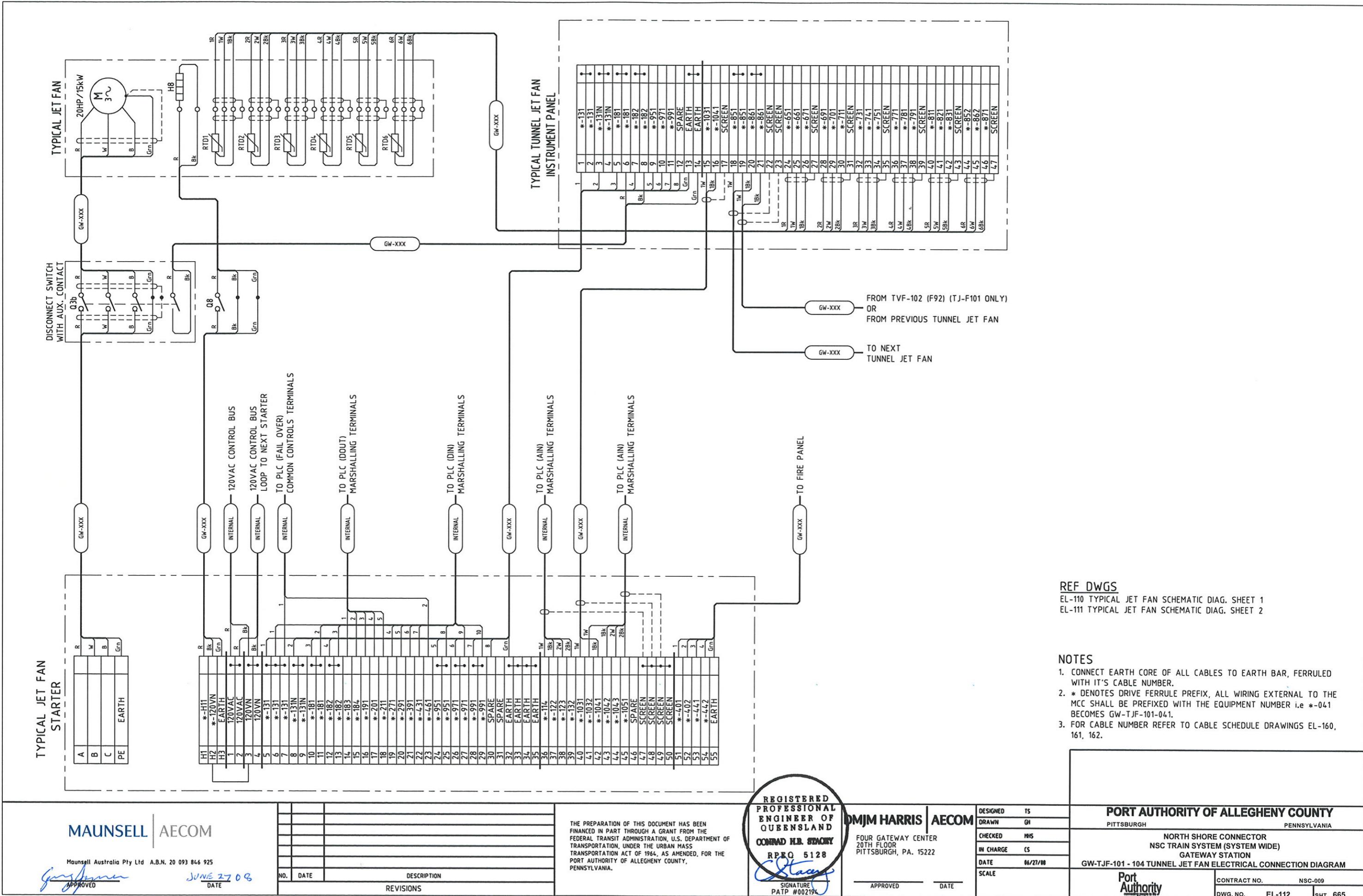
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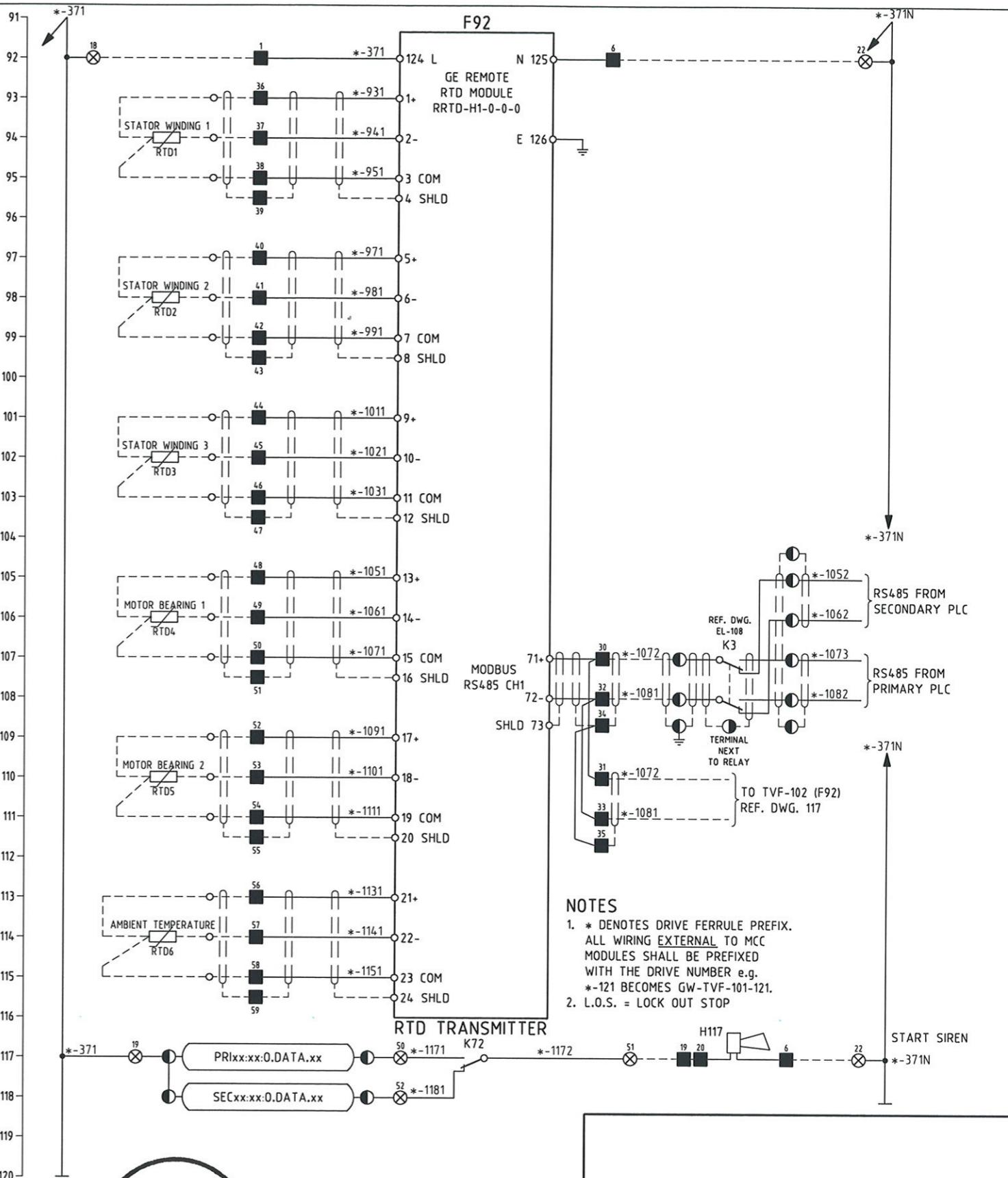
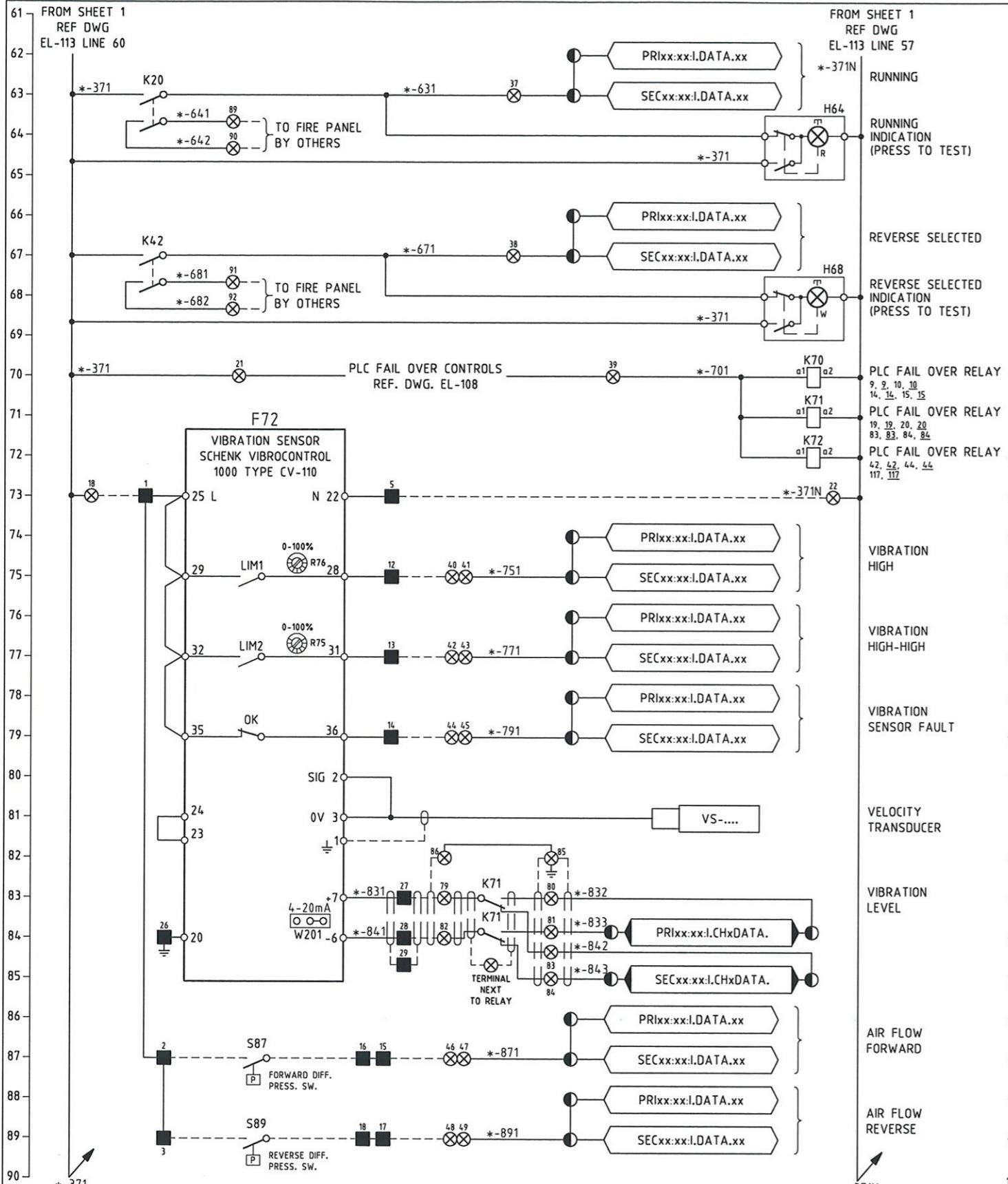
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925

Gary Jansen
APPROVED

JUNE 27
DATE

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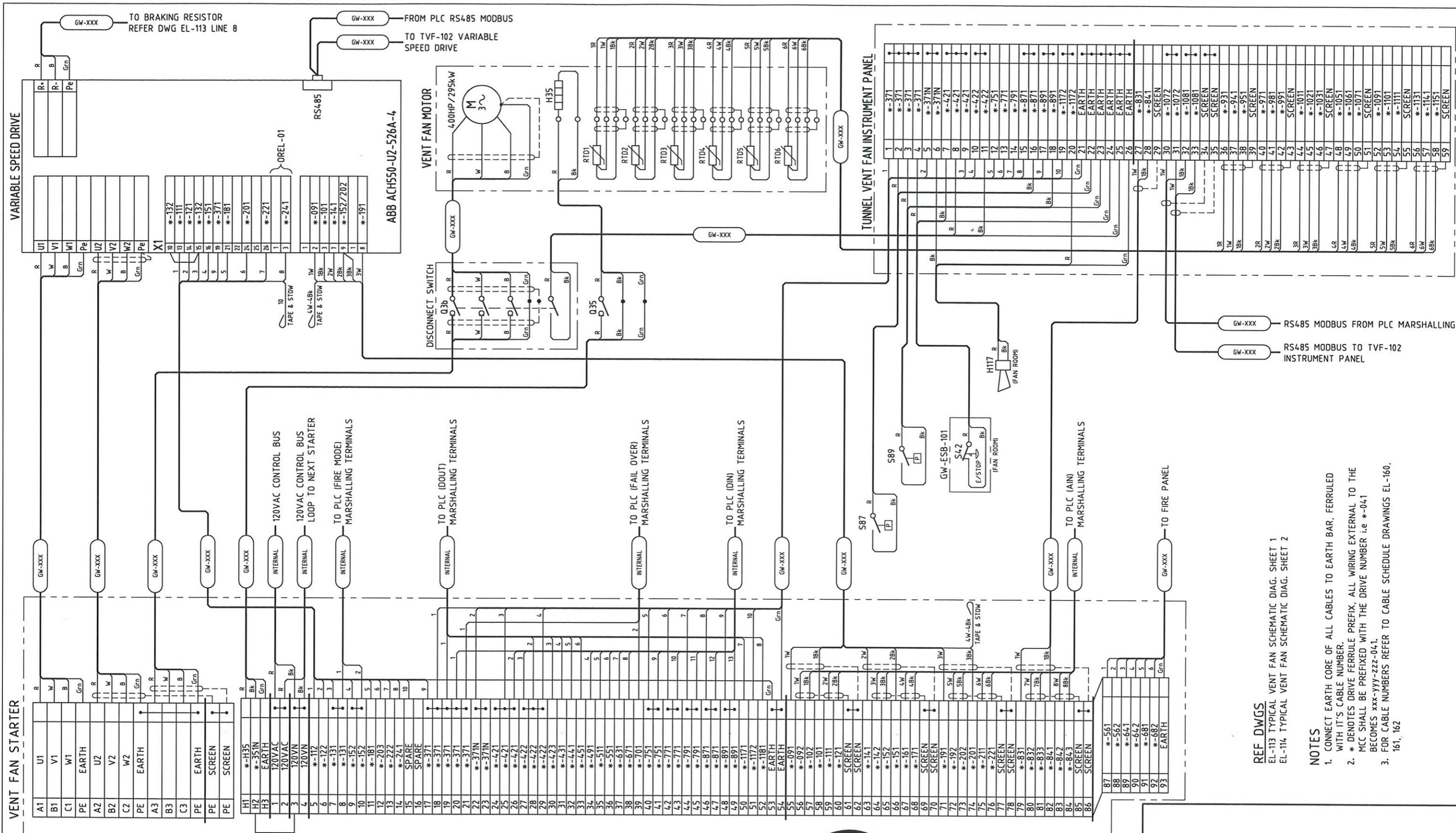
REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND CONRAD H.B. STACY RPEQ 5128 PATP #002194

DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

DESIGNED TS
DRAWN GH
CHECKED MHS
IN CHARGE CS
DATE 06/27/08
SCALE

APPROVED DATE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
GATEWAY STATION
GW-TVF-101 TUNNEL VENT FAN ELECTRICAL SCHEMATIC DIA. SHT 2 OF 2
Port Authority
CONTRACT NO. NSC-009
DWG. NO. EL-114 SHT. 667



REF DWGS

EL-113 TYPICAL VENT FAN SCHEMATIC DIAG. SHEET 1
EL-114 TYPICAL VENT FAN SCHEMATIC DIAG. SHEET 2

NOTES

1. CONNECT EARTH CORE OF ALL CABLES TO EARTH BAR, FERRULED WITH IT'S CABLE NUMBER.
2. * DENOTES DRIVE FERRULE PREFIX, ALL WIRING EXTERNAL TO THE MCC SHALL BE PREFIXED WITH THE DRIVE NUMBER i.e. *-041 BECOMES xxx-yyyy-222-041.
3. FOR CABLE NUMBERS REFER TO CABLE SCHEDULE DRAWINGS EL-160, 161, 162

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Jay Johnson
APPROVED

JUNE 27 08
DATE

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REGISTERED
PROFESSIONAL
ENGINEER OF
QUEENSLAND
CONRAD J.R. BRADY
RPEQ 5128
C. Stacey
SIGNATURE
PATP #002194

DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

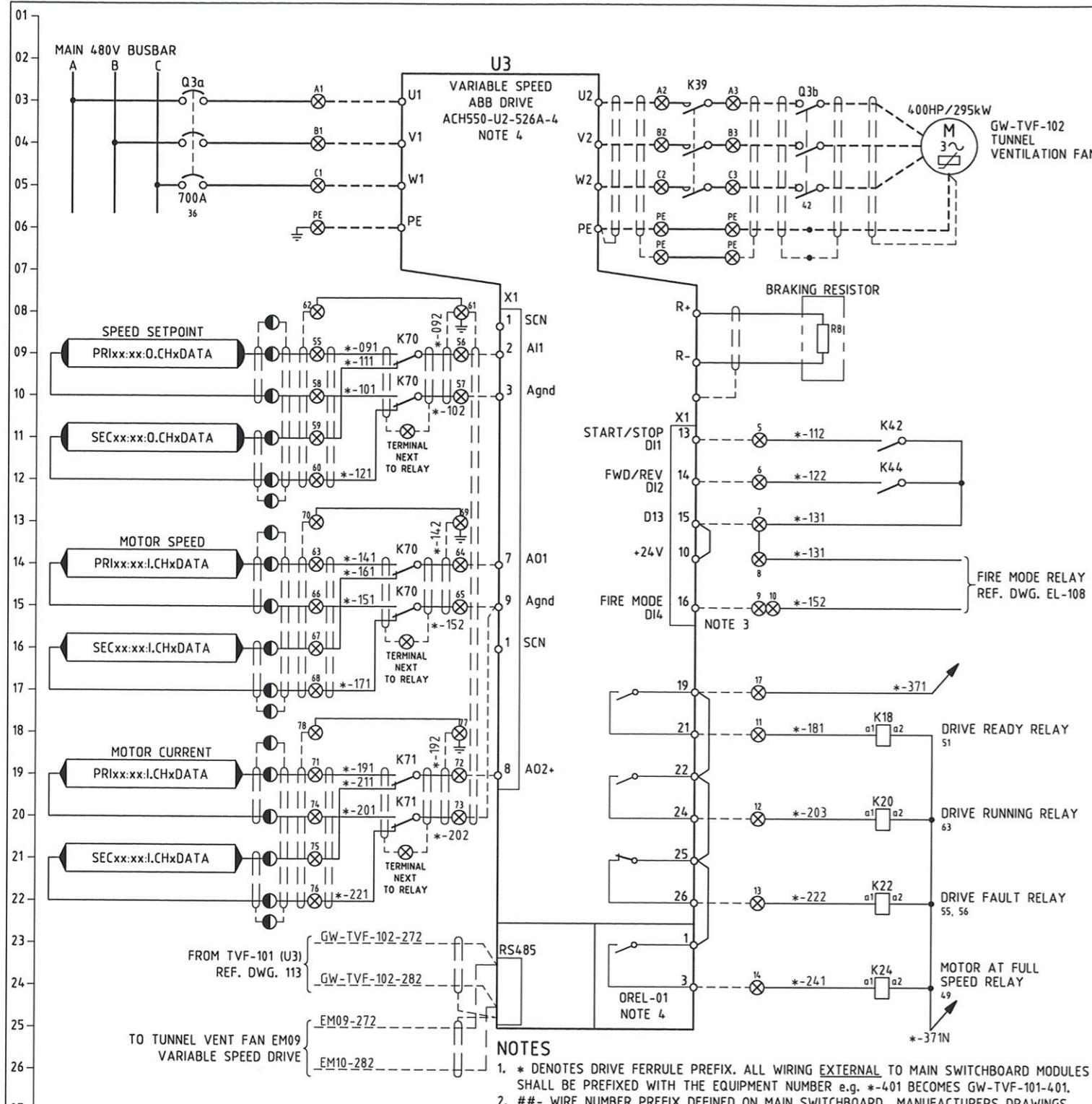
APPROVED DATE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
PENNSYLVANIA

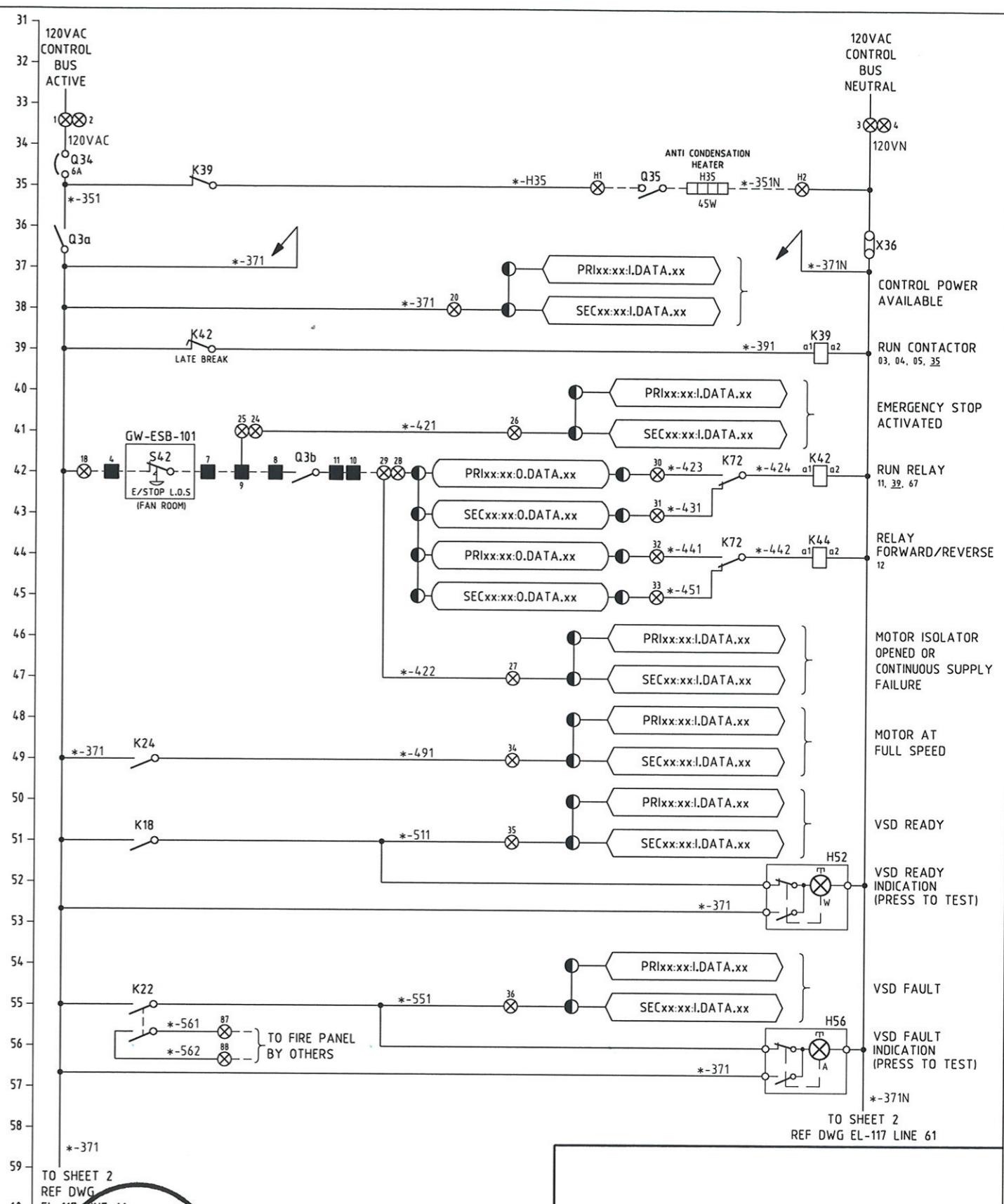
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
GATEWAY STATION

GW-TVF-101 TUNNEL VENT FAN ELECTRICAL CONNECTION DIAGRAM

Port Authority
CONTRACT NO. NSC-009
DWG. NO. EL-115 SHT. 668



1. * DENOTES DRIVE FERRULE PREFIX. ALL WIRING EXTERNAL TO MAIN SWITCHBOARD MODULES SHALL BE PREFIXED WITH THE EQUIPMENT NUMBER e.g. *-401 BECOMES GW-TVF-101-401.
 2. ##- WIRE NUMBER PREFIX DEFINED ON MAIN SWITCHBOARD MANUFACTURERS DRAWINGS.
 3. FIRE MODE FUNCTIONS SUCH AS OVERLOAD BYPASS TO BE PROGRAMMED IN THE VSD.
 4. VSD SHALL BE AS NOTED, c/w OREL-01 (EXTENSION RELAY OUTPUT MODULE). VSD TO BE SUPPLIED WITH FIRE MODE MACRO SUCH THAT OVERLOAD IS BYPASSED AND STOP/START & FWD/REV IS STILL ENABLED.
 5. FOR BRIDGING OF PLC MARSHALLING TERMINALS AND CABLE SCREEN DETAILS REFER TO RELEVANT CONNECTION DIAGRAM.
 6. CIRCUIT CO-ORDINATION FOR CONTROL CIRCUIT BASED ON USING A CA5-SERIES SPRECHER & SCHUH CONTACTOR.



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REGISTERED
PROFESSIONAL
ENGINEER OF
QUEENSLAND
CONRAD M.R. STACEY
RPEQ 5128
20/01/2000
Stacey
SIGNATURE
PATP #002194

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20TH FLOOR
PITTSBURGH, PA. 15222

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20TH FLOOR
PITTSBURGH, PA. 15222

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PITTSBURGH **PENNSYLVANIA**

NORTH SHORE CONNECTOR

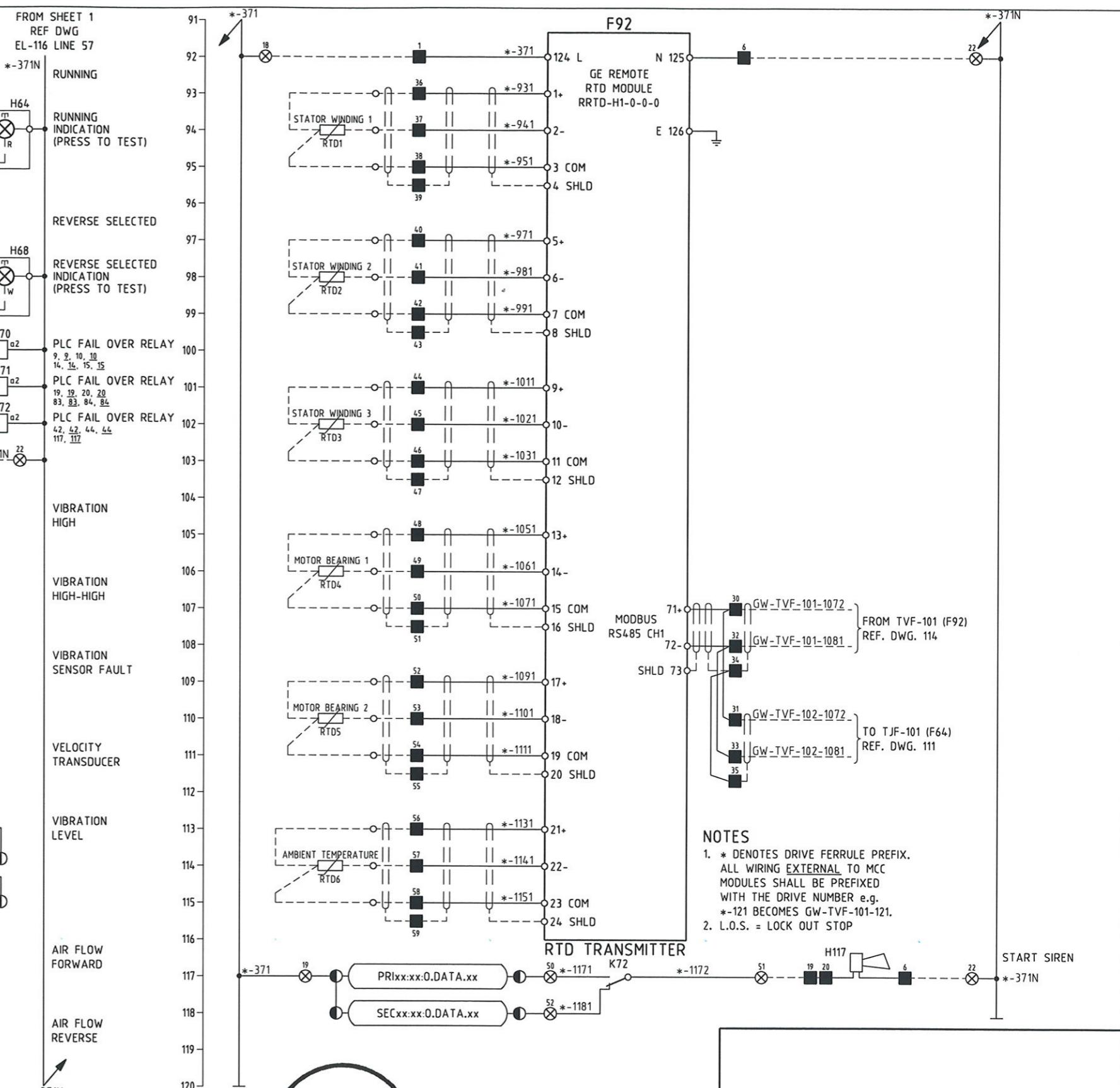
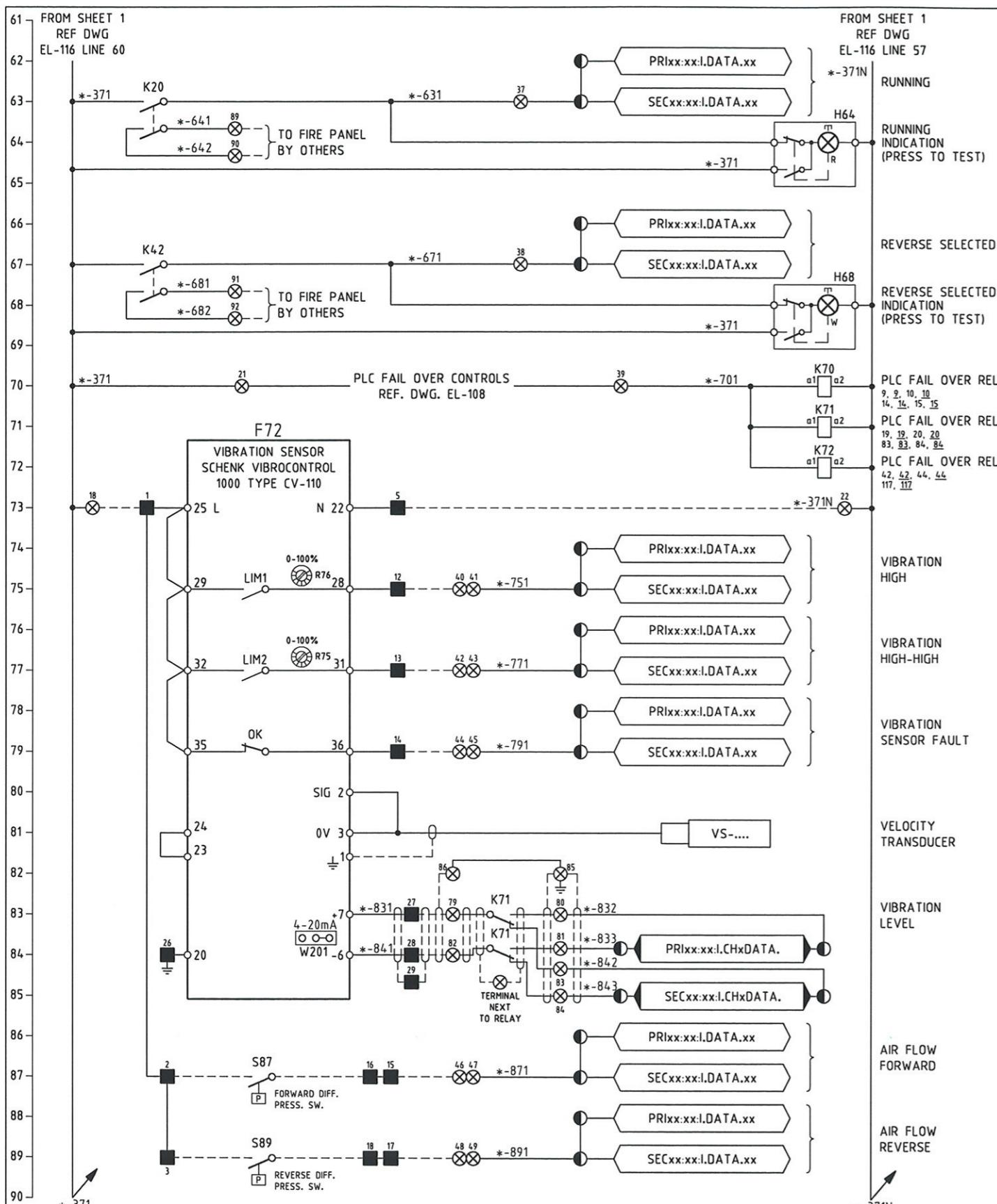
NSC TRAIN SYSTEM (SYSTEM WIDE)
GATEWAY STATION

TVF-102 TUNNEL VENT FAN ELECTRICAL SCHEMATIC DIA. SHT 1 OF 2

Port Authority CONTRACT NO. NSC-009

Authority
connecting people to life DWG. NO. EL-116 SHT. 669

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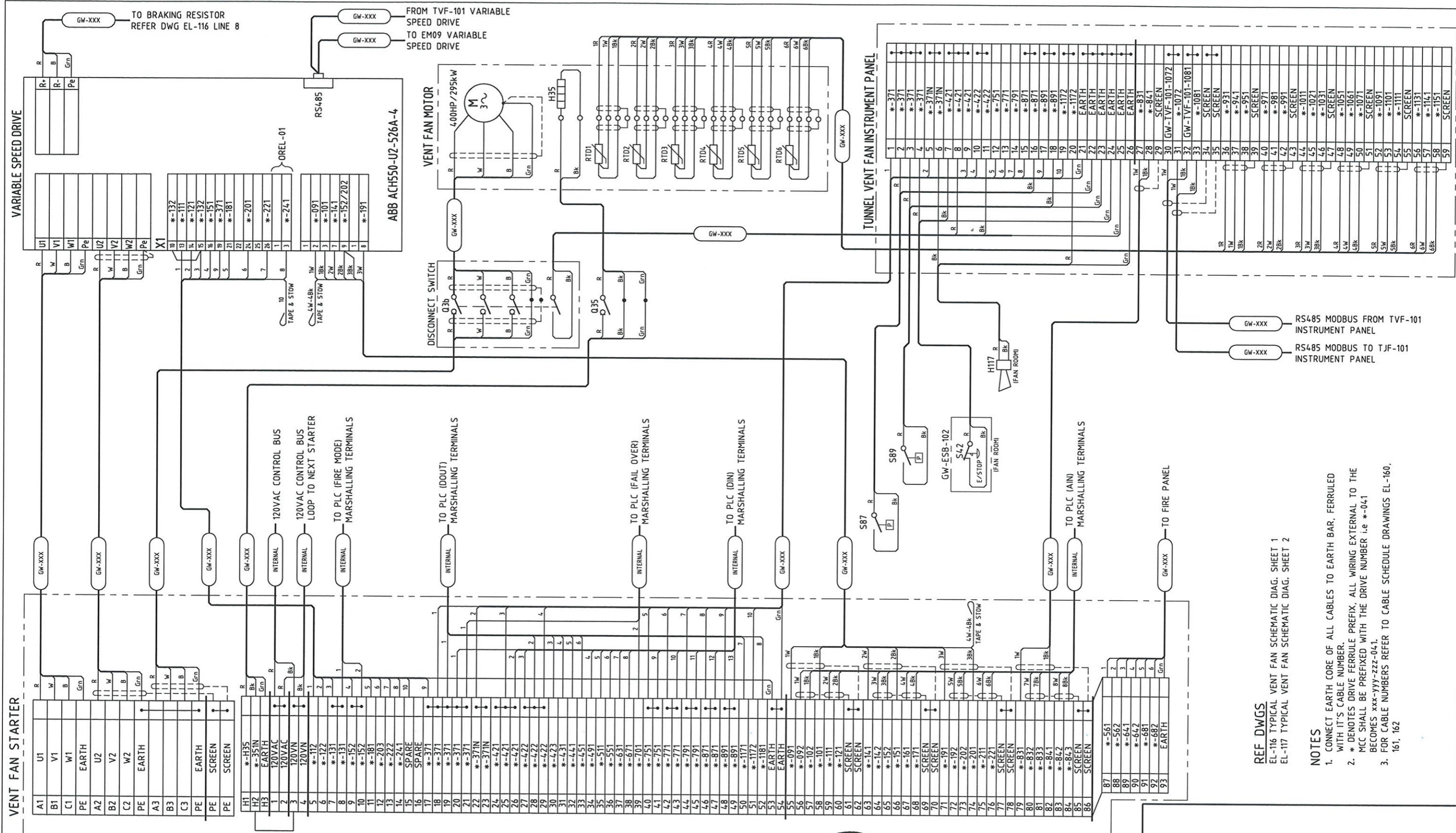
REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND CONRAD H.R. SENYOR RPEQ 5128 	DMJM HARRIS AECOM FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222
<hr/> SIGNATURE RPEQ #002190	<hr/> APPROVED _____ <hr/> DATE _____

PITTSBURGH

PENNSYLVANIA

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
GATEWAY STATION
TVF-102 TUNNEL VENT FAN ELECTRICAL SCHEMATIC DIA. SHT 2 OF 2

 Port Authority <small>connecting people to opportunity</small>	CONTRACT NO. NSC-009
DWG. NO. EL-117	SHT. 670



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Maunsell Australia Pty Ltd A.B.N. 20 093 846 925

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Signature

JUNE 27 08
DATE

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REGISTERED
PROFESSIONAL
ENGINEER OF
QUEENSLAND
CONRAD H.R. STAGG
R.P.E.Q. 5128
SIGNATURE
PATP #00219a

DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

APPROVED _____ DATE _____

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
PENNSYLVANIA

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
GATEWAY STATION
GW-TVF-102 TUNNEL VENT FAN ELECTRICAL CONNECTION DIAGRAM

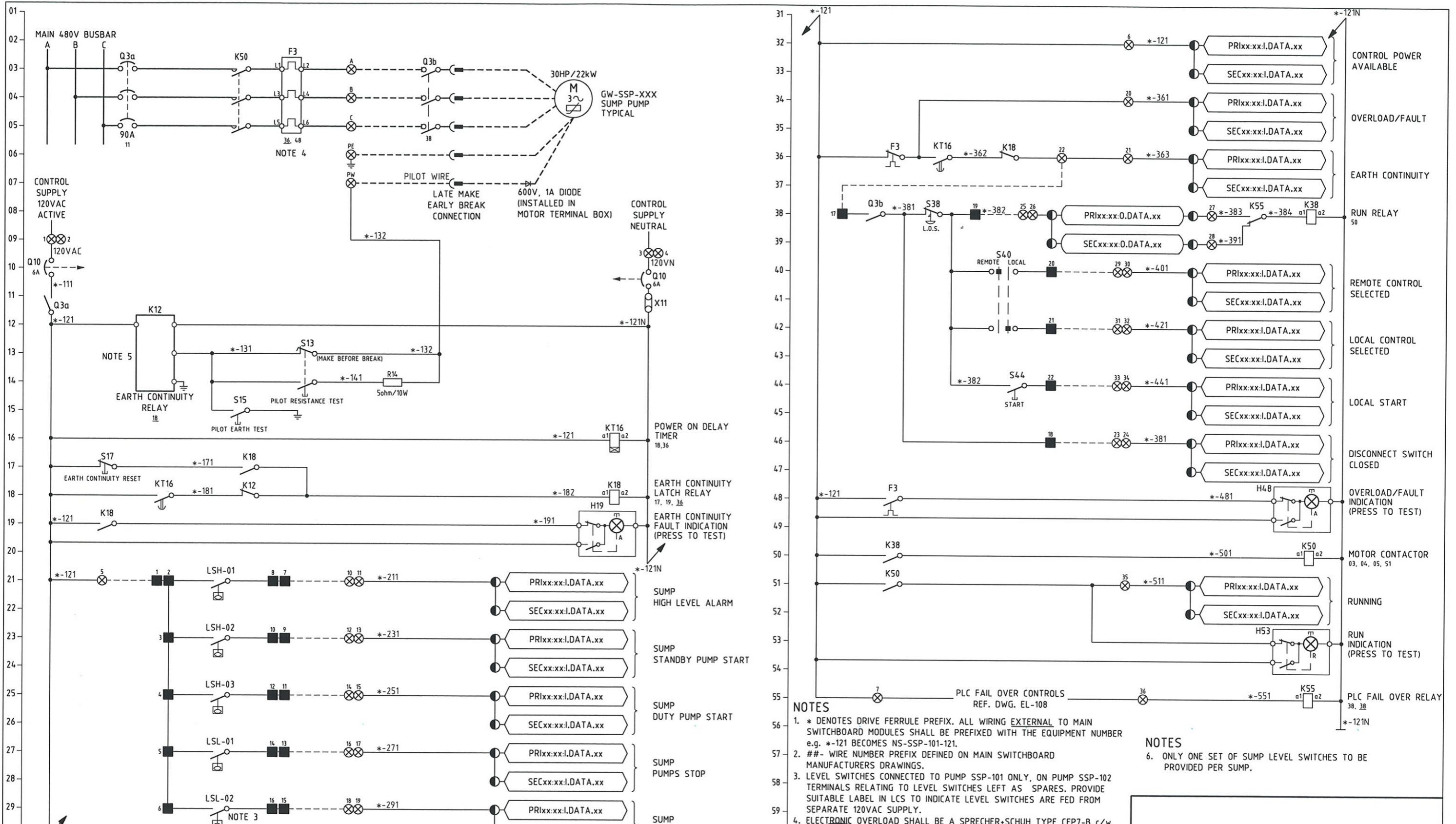
Port Authority
Contract No. NSC-009
DWG. No. EL-118 Sht. 671

- NOTES**
- CONNECT EARTH CORE OF ALL CABLES TO EARTH BAR, FERRULED WITH IT'S CABLE NUMBER.
 - * DENOTES DRIVE FERRULE PREFIX, ALL WIRING EXTERNAL TO THE MCC SHALL BE PREFIXED WITH THE DRIVE NUMBER i.e *-041
 - FOR CABLE NUMBERS REFER TO CABLE SCHEDULE DRAWINGS EL-160, 161, 162

REF DWGS

EL-116 TYPICAL VENT FAN SCHEMATIC DIAG. SHEET 1
EL-117 TYPICAL VENT FAN SCHEMATIC DIAG. SHEET 2

RS485 MODBUS FROM TVF-101 INSTRUMENT PANEL
RS485 MODBUS TO TJE-101 INSTRUMENT PANEL



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Maunsell Australia Pty Ltd A.B.N. 20 093 846 925

[Signature]

JUNE 27 08
DATE

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PROFESSIONAL
ENGINEER OF
QUEENSLAND
CONRAD H.B. STACEY
RPEQ 5128
[Signature]
PATP #002194

DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

APPROVED _____ DATE _____

DESIGNED TS
DRAWN GH

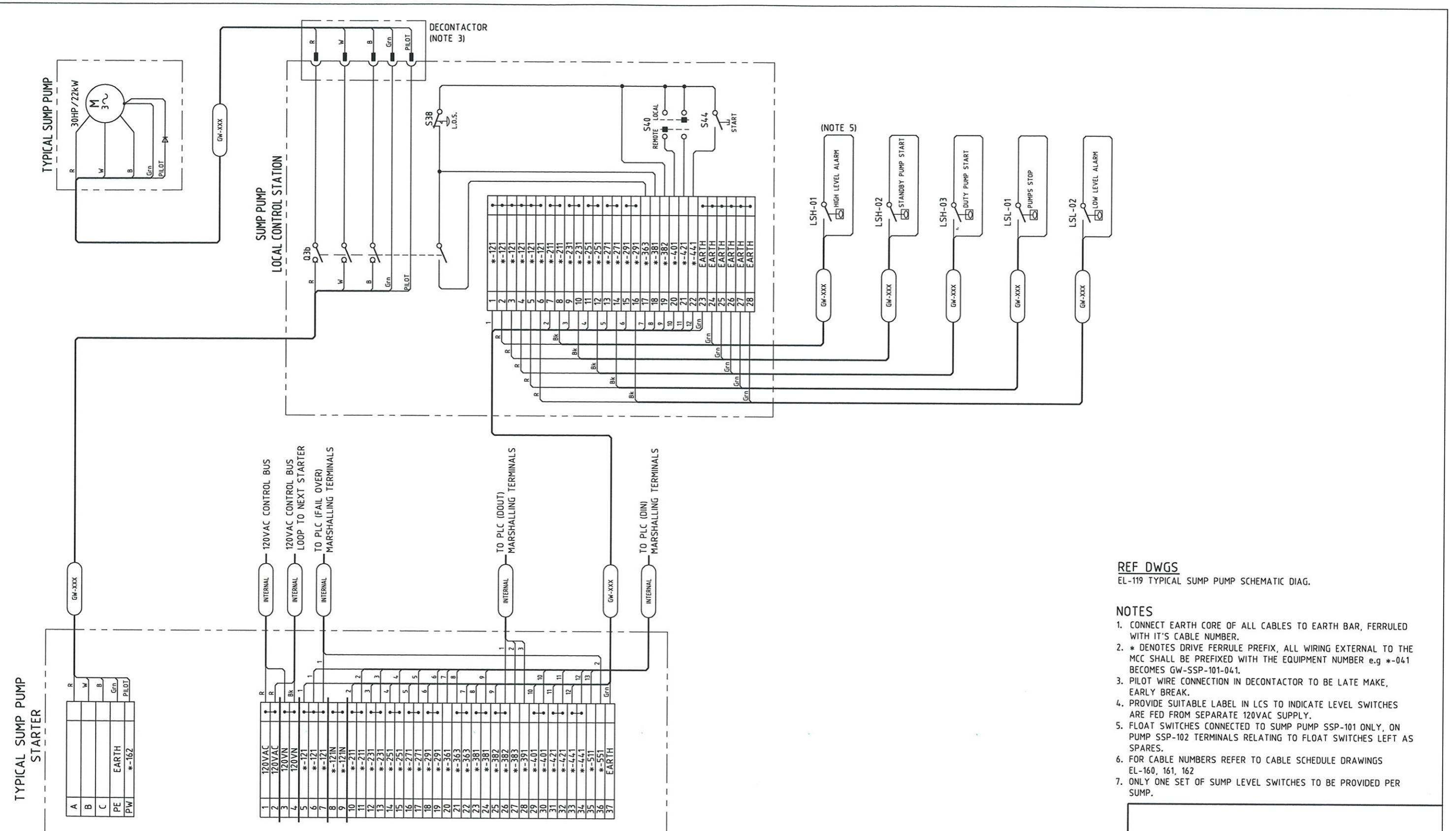
CHECKED MHS

IN CHARGE CS

DATE 06/27/08

SCALE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
GATEWAY STATION
GW-SSP-101 - 102 TUNNEL SUMP PUMP ELECTRICAL SCHEMATIC DIAGRAM
Port Authority
CONTRACT NO. NSC-009
DWG. NO. EL-119
SHT. 672



REF DWGS
EL-119 TYPICAL SUMP PUMP SCHEMATIC DIAG.

NOTES

- CONNECT EARTH CORE OF ALL CABLES TO EARTH BAR, FERRULED WITH IT'S CABLE NUMBER.
- * DENOTES DRIVE FERRULE PREFIX, ALL WIRING EXTERNAL TO THE MCC SHALL BE PREFIXED WITH THE EQUIPMENT NUMBER e.g *-041 BECOMES GW-SSP-101-041.
- PILOT WIRE CONNECTION IN DECONTACTOR TO BE LATE MAKE, EARLY BREAK.
- PROVIDE SUITABLE LABEL IN LCS TO INDICATE LEVEL SWITCHES ARE FED FROM SEPARATE 120VAC SUPPLY.
- FLOAT SWITCHES CONNECTED TO SUMP PUMP SSP-101 ONLY, ON PUMP SSP-102 TERMINALS RELATING TO FLOAT SWITCHES LEFT AS SPARES.
- FOR CABLE NUMBERS REFER TO CABLE SCHEDULE DRAWINGS EL-160, 161, 162
- ONLY ONE SET OF SUMP LEVEL SWITCHES TO BE PROVIDED PER SUMP.

MAUNSELL | AECOM

Maunsell Australia Pty Ltd A.B.N. 20 093 846 925

Gary J. Simon
APPROVED

JUNE 27 08
DATE

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REGISTERED
PROFESSIONAL
ENGINEER OF
QUEENSLAND
CONRAD H. STACEY
RPPQ 5128
PATP #002194

DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

APPROVED DATE

DESIGNED TS
DRAWN GH

CHECKED MHS

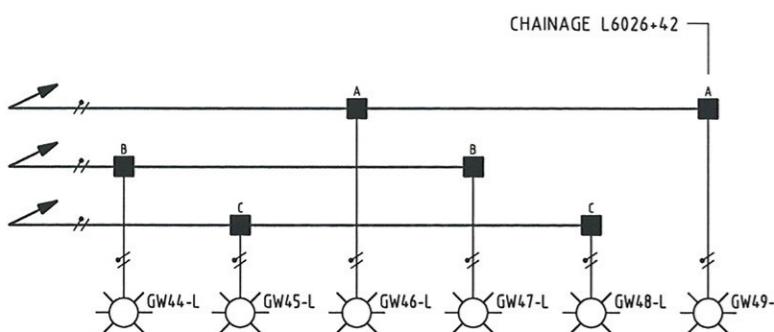
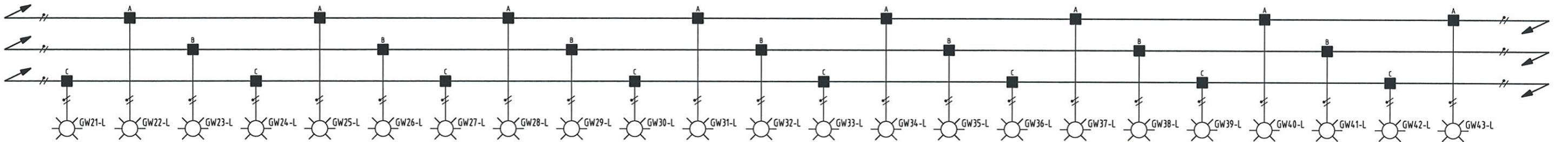
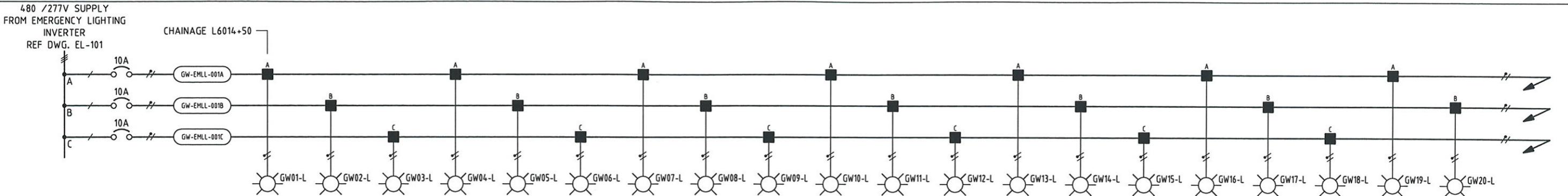
IN CHARGE CS

DATE 06/27/08

SCALE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
GATEWAY STATION
GW-SSP-101 - 102 TUNNEL SUMP PUMP ELECTRICAL CONNECTION DIAGRAM

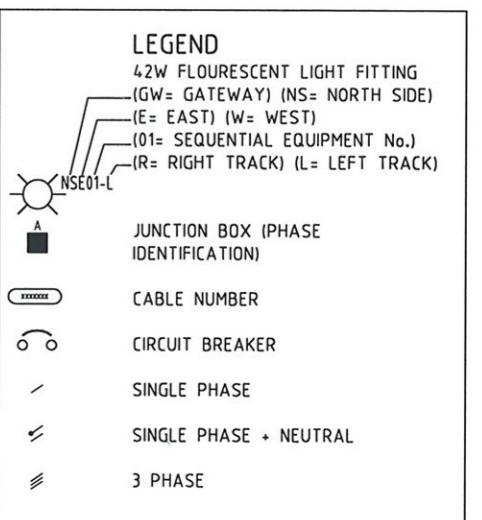
Port Authority	CONTRACT NO. NSC-009
DWG. NO. EL-120	SHT. 673



GATEWAY STATION TUNNEL LIGHTING CIRCUITS LEFT TRACK

NOTE

1. LUMINAIRE TO BE SCHREIDER MY2-PL42 c/w 42W FLOURESCENT LAMP AND SURFACE MOUNTING BRACKET.
2. FOR CABLE NUMBERS REFER TO CABLE SCHEDULE DRAWINGS EL-160, 161, 162.



MAUNSELL AECOM									PORT AUTHORITY OF ALLEGHENY COUNTY	
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925									PITTSBURGH PENNSYLVANIA	
<i>Signature</i>		JUNE 21 08							NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) GATEWAY STATION	
APPROVED		DATE			DESCRIPTION				TUNNEL LIGHTING ELECTRICAL SCHEMATIC SHEET 1 OF 2	
					NO. DATE					
					REVISIONS					
									Port Authority	
									CONTRACT NO. NSC-009	
									DWG. NO. EL-140 SHT. 674	

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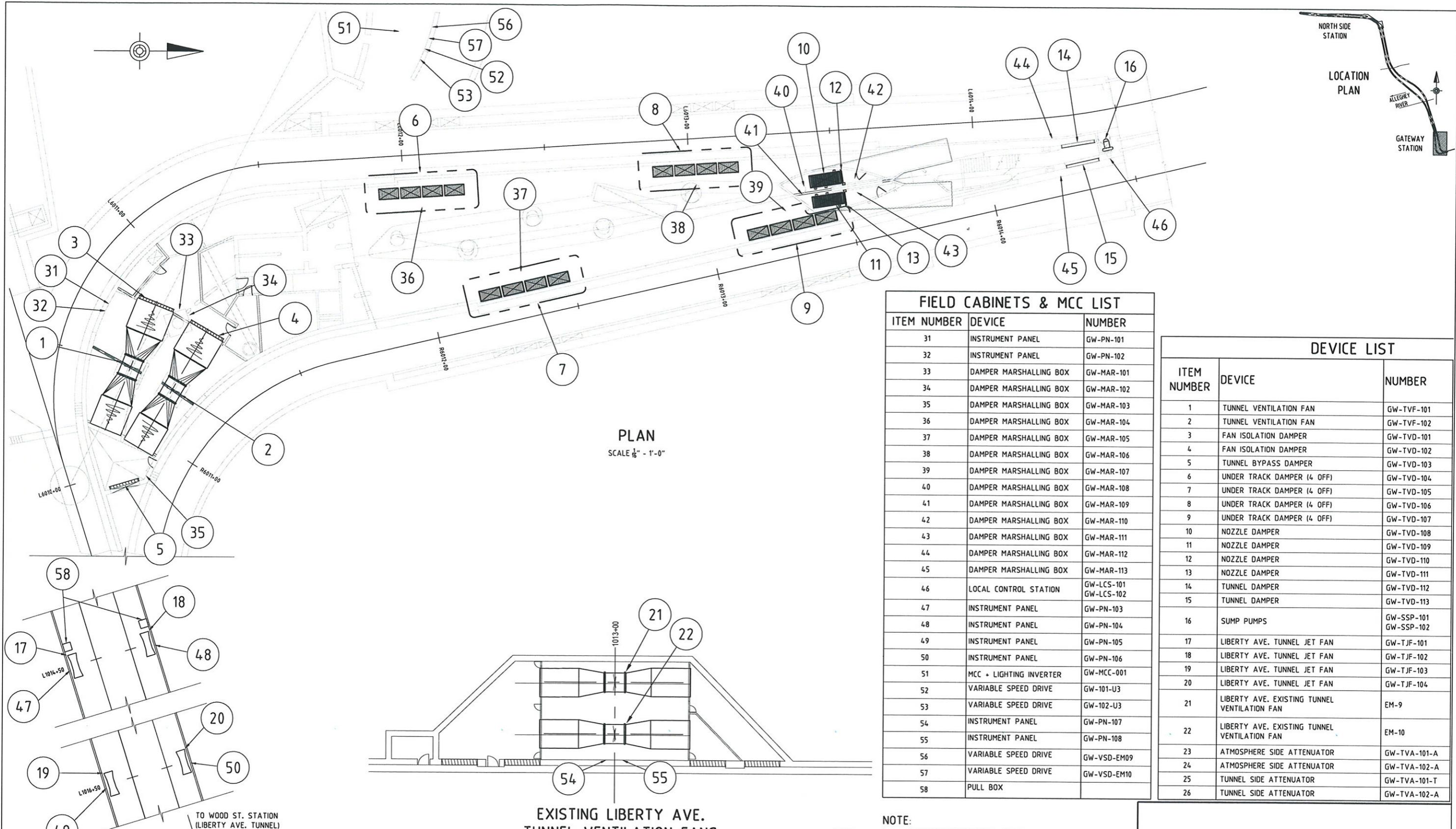
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CONRAD H.B. STACEY
RPEQ 5128
C. Stacey

PATP #002194

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Gary Johnson
APPROVED
JUNE 27 08
DATE

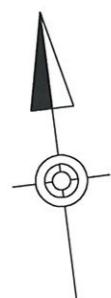
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REGISTERED
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QUEENSLAND
CONRAD H.R. STANLEY
RPEQ 5128
C. Stanley
PATP #002194

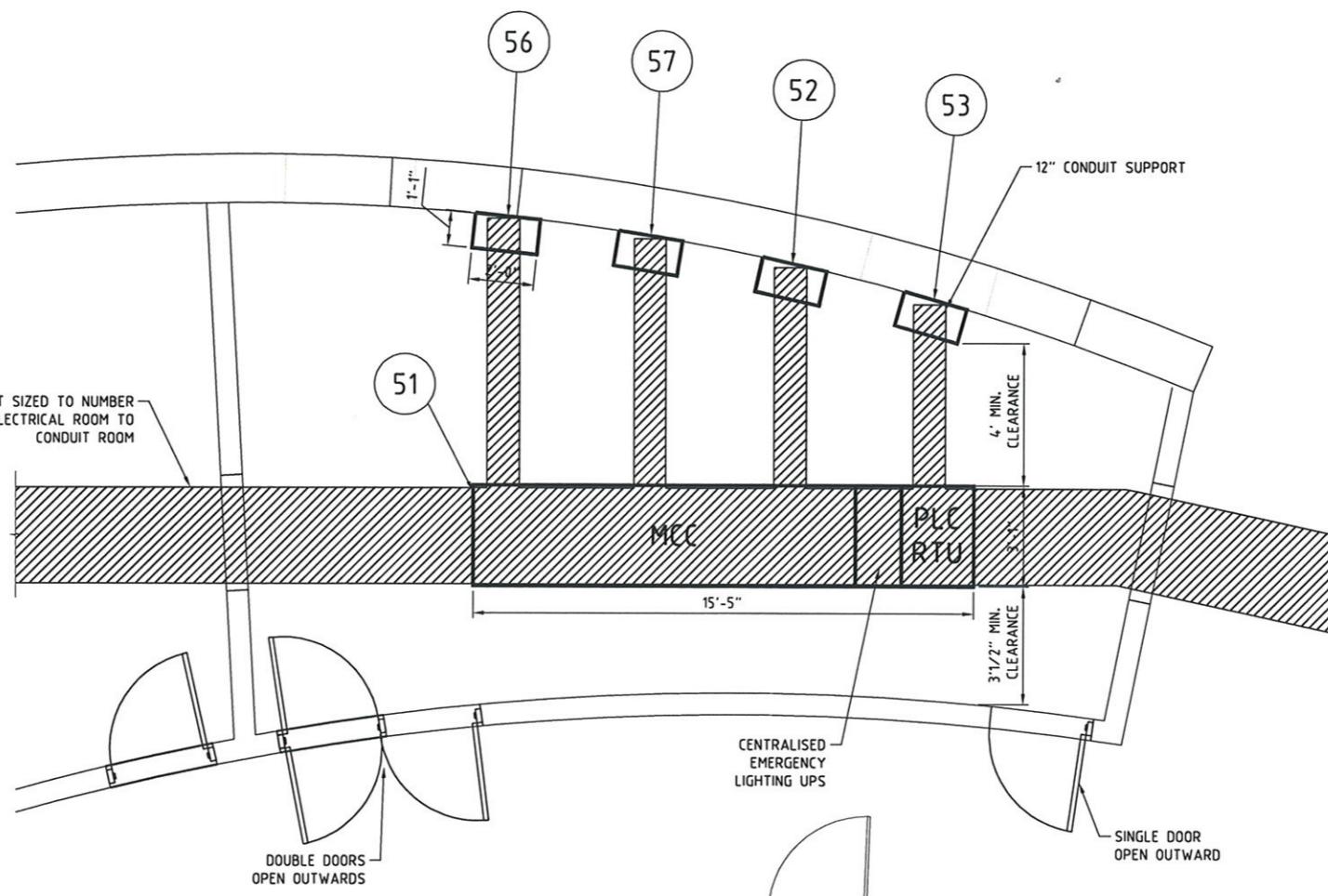
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PITTSBURGH, PA. 15222
APPROVED _____ DATE _____
DESIGNED TS
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DATE 06/27/08
SCALE 1/8" = 1'-0"

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
GATEWAY STATION
ELECTRICAL EQUIPMENT
Port Authority
CONTRACT NO. NSC-009
DWG. NO. EL-150 SHT. 676



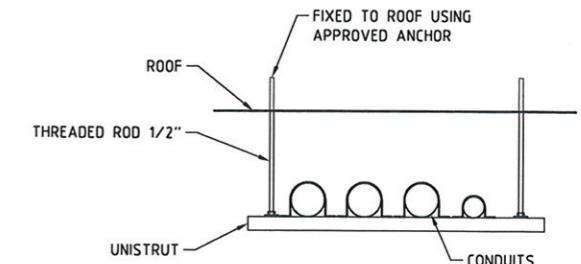
FIELD CABINETS & MCC LIST		
ITEM NUMBER	DEVICE	NUMBER
31	INSTRUMENT PANEL	GW-PN-101
32	INSTRUMENT PANEL	GW-PN-102
33	DAMPER MARSHALLING BOX	GW-MAR-101
34	DAMPER MARSHALLING BOX	GW-MAR-102
35	DAMPER MARSHALLING BOX	GW-MAR-103
36	DAMPER MARSHALLING BOX	GW-MAR-104
37	DAMPER MARSHALLING BOX	GW-MAR-105
38	DAMPER MARSHALLING BOX	GW-MAR-106
39	DAMPER MARSHALLING BOX	GW-MAR-107
40	DAMPER MARSHALLING BOX	GW-MAR-108
41	DAMPER MARSHALLING BOX	GW-MAR-109
42	DAMPER MARSHALLING BOX	GW-MAR-110
43	DAMPER MARSHALLING BOX	GW-MAR-111
44	DAMPER MARSHALLING BOX	GW-MAR-112
45	DAMPER MARSHALLING BOX	GW-MAR-113
46	LOCAL CONTROL STATION	GW-LCS-101 GW-LCS-102
47	INSTRUMENT PANEL	GW-PN-103
48	INSTRUMENT PANEL	GW-PN-104
49	INSTRUMENT PANEL	GW-PN-105
50	INSTRUMENT PANEL	GW-PN-106
51	MCC + LIGHTING INVERTER	GW-MCC-001
52	VARIABLE SPEED DRIVE	GW-101-U3
53	VARIABLE SPEED DRIVE	GW-102-U3
54	INSTRUMENT PANEL	GW-PN-107
55	INSTRUMENT PANEL	GW-PN-108
56	VARIABLE SPEED DRIVE	GW-VSD-EM09
57	VARIABLE SPEED DRIVE	GW-VSD-EM10

CONDUIT SUPPORT SIZED TO NUMBER
OF CABLES FROM ELECTRICAL ROOM TO
CONDUIT ROOM



MCC ROOM E114 PLAN

SCALE 3/8" = 1'0"



CONDUIT SUPPORT DETAIL
SCALE N.T.S.

MAUN_ELL AECOM		
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925	JUNE 2708	
APPROVED	DATE	DESCRIPTION
REVISIONS		

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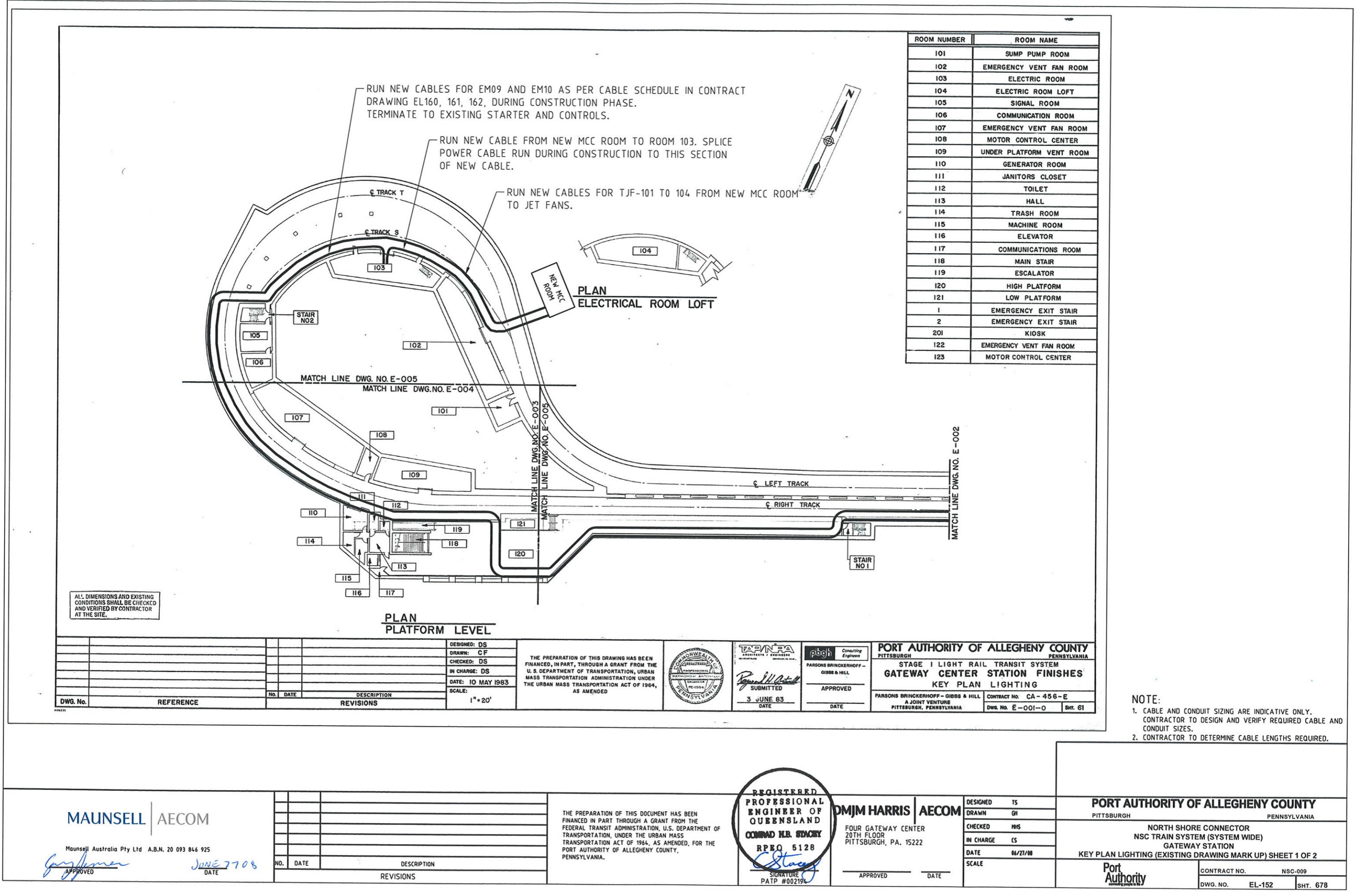


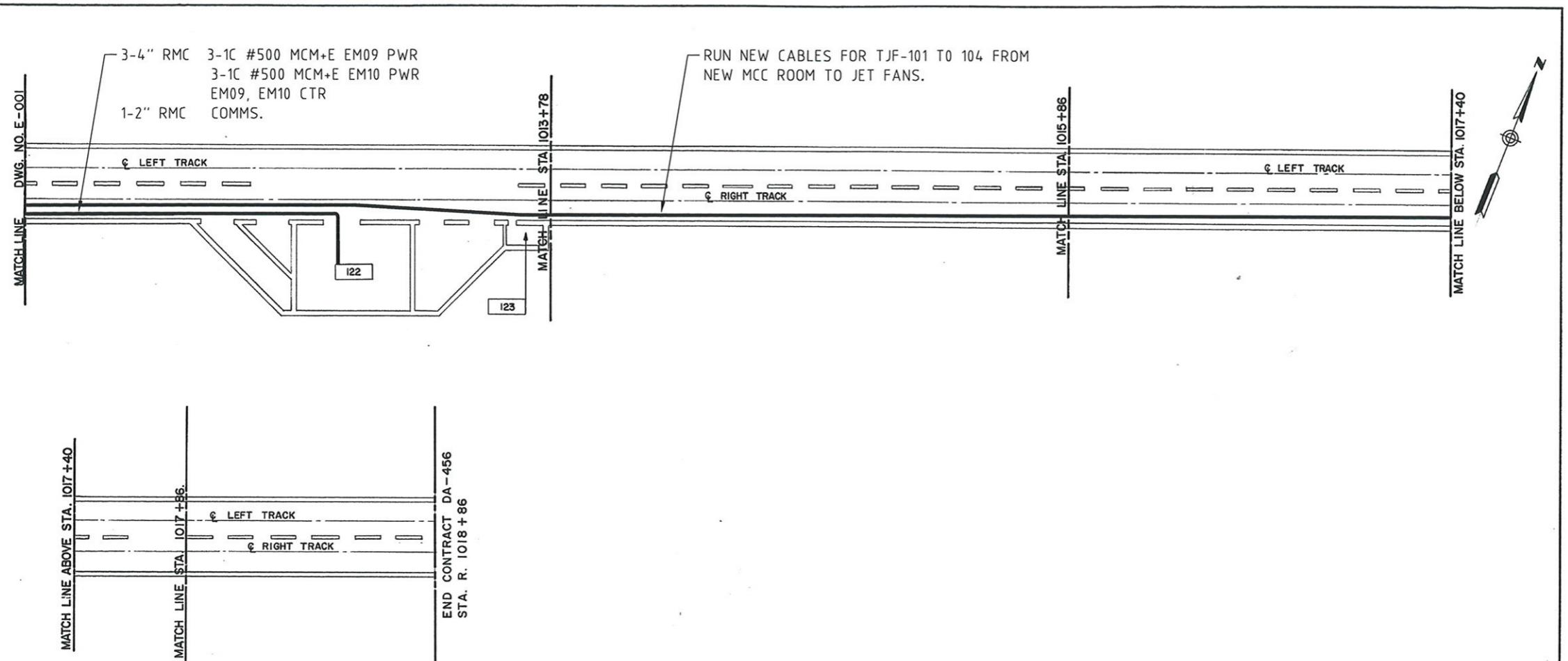
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PITTSBURGH, PA. 15222

APPROVED DATE

DESIGNED TS
DRAWN GH
CHECKED MHS
IN CHARGE CS
DATE 06/27/08
SCALE 3/8" = 1'-0"

PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH PENNSYLVANIA	PORT Authority
NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) GATEWAY STATION ELECTRICAL SWITCH ROOM LAYOUT	CONTRACT NO. NSC-009 DWG. NO. EL-151 SHT. 677





PLAN LIBERTY AVE.

ALL DIMENSIONS AND EXISTING
CONDITIONS SHALL BE CHECKED
AND VERIFIED BY CONTRACTOR
AT THE SITE.

DWG. No.	REFERENCE	NO. DATE	DESCRIPTION	REVISIONS	DESIGNED: DS	DRAWN: DEJ	CHECKED: DS	IN CHARGE: DS	DATE: 10 MAY 1983	SCALE: 1"=20'
MM33										

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MASS TRANSPORTATION ADMINISTRATION UNDER
THE URBAN MASS TRANSPORTATION ACT OF 1964,
AS AMENDED



PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA
STAGE I LIGHT RAIL TRANSIT SYSTEM
GATEWAY CENTER STATION FINISHES
KEY PLAN LIGHTING
PARSONS BRINCKERHOFF - GIBBS & HILL CONTRACT NO. CA-456-E
A JOINT VENTURE PITTSBURGH, PENNSYLVANIA DWG. NO. E-002-0 SHT. 62

- NOTE:**
1. CABLE AND CONDUIT SIZING ARE INDICATIVE ONLY.
CONTRACTOR TO DESIGN AND VERIFY REQUIRED CABLE AND CONDUIT SIZES.
 2. CONTRACTOR TO DETERMINE CABLE LENGTHS REQUIRED.

MAUNSELL | AECOM

Maunsell Australia Pty Ltd A.B.N. 20 093 846 925

Sandy Jensen
APPROVED

JUNE 27 08
DATE

NO. DATE	DESCRIPTION	REVISIONS

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PORT AUTHORITY OF ALLEGHENY COUNTY,
PENNSYLVANIA.

REGISTERED
PROFESSIONAL
ENGINEER OF
QUEENSLAND
CONRAD H.B. STACEY
RPEQ 5128
SIGNATURE
PATP #002194

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20TH FLOOR
PITTSBURGH, PA. 15222
APPROVED DATE

DESIGNED TS
DRAWN GH
CHECKED MHS
IN CHARGE CS
DATE 06/27/08
SCALE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
GATEWAY STATION
KEY PLAN LIGHTING (EXISTING DRAWING MARK UP) SHEET 2 OF 2
Port Authority
Contract No. NSC-009
DWG. NO. EL-153 SHT. 679

REV	Source	Destination	Cable Number	Cable Type	Voltage Rating	Cores	AWG/MCM	GND AWG	Conduit #
0	Gateway Station MCC	Left Track Lighting Maintenance Socket Phase A	GW-RECL-001A	Fire Rated	600V	2 - 1C+E	1/0	6	M18
0	Gateway Station MCC	Left Track Lighting Maintenance Socket Phase B	GW-RECL-001B	Fire Rated	600V	2 - 1C+E	1/0	6	M18
0	Gateway Station MCC	Left Track Lighting Maintenance Socket Phase C	GW-RECL-001C	Fire Rated	600V	2 - 1C+E	1/0	6	M18
0	Gateway Station MCC	Right Track Lighting Maintenance Socket Phase A	GW-RECR-001A	Fire Rated	600V	2 - 1C+E	1/0	6	M20
0	Gateway Station MCC	Right Track Lighting Maintenance Socket Phase B	GW-RECR-001B	Fire Rated	600V	2 - 1C+E	1/0	6	M20
0	Gateway Station MCC	Right Track Lighting Maintenance Socket Phase C	GW-RECR-001C	Fire Rated	600V	2 - 1C+E	1/0	6	M20
0	Gateway Station MCC	Disconnect Switch	GW-TJF-101-P01	Fire Rated	600V	Multicore 3C+E	2	8	M32
0	Disconnect Switch	TJF Fan GW-TJF-101	GW-TJF-101-P02	Fire Rated	600V	Multicore 3C+E	2	8	
0	Gateway Station MCC	Jet Fan Instrument Panel GW-PN-103 Ctr Digital	GW-TJF-101-C01	LSZH	600V	Multicore 12C+E	12	8	M33
0	Gateway Station MCC	Jet Fan Instrument Panel GW-PN-103 Ctr Analog Vibration	GW-TJF-101-I01	LSZH	600V	1 Pair shielded	14		M34
0	Jet Fan GW-TJF-101 RTD	Jet Fan Instrument Panel GW-PN-103 Ctr Analog	GW-TJF-101-R01	LSZH	600V	6 Triple Individually shielded	14		
0	Tunnel Vent Fan Instrument Panel GW-PN-102	Jet Fan Instrument Panel GW-PN-103	GW-TJF-101-L01	LSZH	600V	1 Pair shielded	14		M32, M34
0	Gateway Station MCC	TJF Fan GW-TJF-101 Htr	GW-TJF-101-S01	Fire Rated	600V	Multicore 2C+E	12	8	M33
0	Disconnect Switch	Jet Fan Instrument Panel GW-PN-103	GW-TJF-101-C02	Fire Rated	600V	Multicore 2C+E	12	8	
0	Gateway Station MCC	Disconnect Switch	GW-TJF-102-P01	Fire Rated	600V	Multicore 3C+E	2	8	M32, M38
0	Disconnect Switch	TJF Fan GW-TJF-102	GW-TJF-102-P02	Fire Rated	600V	Multicore 3C+E	2	8	
0	Gateway Station MCC	Jet Fan Instrument Panel GW-PN-104 Ctr Digital	GW-TJF-102-C01	LSZH	600V	Multicore 12C+E	12	8	M33, M39
0	Gateway Station MCC	Jet Fan Instrument Panel GW-PN-104 Ctr Analog Vibration	GW-TJF-102-I01	LSZH	600V	1 Pair shielded	14		M34, M40
0	Jet Fan GW-TJF-EM09 RTD	Jet Fan Instrument Panel GW-PN-104 Ctr Analog	GW-TJF-102-R01	LSZH	600V	6 Triple Individually shielded	14		
0	Jet Fan Instrument Panel GW-PN-105	Jet Fan Instrument Panel GW-PN-104	GW-TJF-102-L01	LSZH	600V	1 Pair shielded	14		M37, M40
0	Gateway Station MCC	TJF Fan GW-TJF-102 Htr	GW-TJF-102-S01	Fire Rated	600V	Multicore 2C+E	12	8	M33, M39
0	Disconnect Switch	Jet Fan Instrument Panel GW-PN-104	GW-TJF-102-C02	Fire Rated	600V	Multicore 2C+E	12	8	
0	Gateway Station MCC	Disconnect Switch	GW-TJF-103-P01	Fire Rated	600V	Multicore 3C+E	1/0	6	M32, M35
0	Disconnect Switch	TJF Fan GW-TJF-103	GW-TJF-103-P02	Fire Rated	600V	Multicore 3C+E	1/0	6	
0	Gateway Station MCC	Jet Fan Instrument Panel GW-PN-105 Ctr Digital	GW-TJF-103-C01	LSZH	600V	Multicore 12C+E	12	8	M33, M36
0	Gateway Station MCC	Jet Fan Instrument Panel GW-PN-105 Ctr Analog Vibration	GW-TJF-103-I01	LSZH	600V	1 Pair shielded	14		M34, M37
0	Jet Fan GW-TJF-103 RTD	Jet Fan Instrument Panel GW-PN-104 Ctr Analog	GW-TJF-103-R01	LSZH	600V	6 Triple Individually shielded	14		
0	Jet Fan Instrument Panel GW-PN-103	Jet Fan Instrument Panel GW-PN-105	GW-TJF-103-L01	LSZH	600V	1 Pair shielded	14		M37
0	Gateway Station MCC	TJF Fan GW-TJF-103 Htr	GW-TJF-103-S01	Fire Rated	600V	Multicore 2C+E	12	8	M33, M36
0	Disconnect Switch	Jet Fan Instrument Panel GW-PN-105	GW-TJF-103-C02	Fire Rated	600V	Multicore 2C+E	12	8	
0	Gateway Station MCC	Disconnect Switch	GW-TJF-104-P01	Fire Rated	600V	Multicore 3C+E	1/0	6	M32, M38, M41
0	Disconnect Switch	TJF Fan GW-TJF-104	GW-TJF-104-P02	Fire Rated	600V	Multicore 3C+E	1/0	6	
0	Gateway Station MCC	Jet Fan Instrument Panel GW-PN-106 Ctr Digital	GW-TJF-104-C01	LSZH	600V	Multicore 12C+E	12	8	M33, M39, M42
0	Gateway Station MCC	Jet Fan Instrument Panel GW-PN-106 Ctr Analog Vibration	GW-TJF-104-I01	LSZH	600V	1 Pair shielded	14		M34, M40, M43
0	Gateway Station MCC	Jet Fan GW-TJF-104 Heater	GW-TJF-104-S01	Fire Rated	600V	Multicore 2C+E	12	8	M33, M39, M42
0	Jet Fan GW-TJF-104 RTD	Jet Fan Instrument Panel GW-PN-106 Ctr Analog	GW-TJF-104-R01	LSZH	600V	6 Triple Individually shielded	14		
0	Jet Fan Instrument Panel GW-PN-104	Jet Fan Instrument Panel GW-PN-106	GW-TJF-104-L01	LSZH	600V	1 Pair shielded	14		M43
0	Disconnect Switch	Jet Fan Instrument Panel GW-PN-106	GW-TJF-104-C02	Fire Rated	600V	Multicore 2C+E	12	8	
0	Gateway Station MCC	Disconnect Switch	GW-TVF-101-P01	Fire Rated	600V	6 - 1C+ 2E	350	2	M22, M23
0	Disconnect Switch	Tunnel Vent Fan GW-TVF101	GW-TVF-101-P02	Fire Rated	600V	6 - 1C+ 2E	350	2	
0	Gateway Station MCC	VSD-101	GW-TVF-101-P02	Fire Rated	600V	6 - 1C+ 2E	350	2	
0	VSD-101	Gateway Station MCC	GW-TVF-101-P03	Fire Rated	600V	6 - 1C+ 2E	350	2	
0	Gateway Station MCC	Tunnel Vent Fan Instrument Panel GW-PN-101 Ctr Digital	GW-TVF-101-C01	LSZH	600V	Multicore 12C+E	12	8	M24
0	Gateway Station MCC	Tunnel Vent Fan Instrument Panel GW-PN-101 Ctr Analog	GW-TVF-101-L01	LSZH	600V	1 Pair shielded	14		M28
0	Gateway Station MCC	VSD-101 Ctr Analog	GW-TVF-101-I02	LSZH	600V	4 Pair Individually Shielded	14		
0	Gateway Station MCC	VSD-101 Ctr	GW-TVF-101-C02	LSZH	600V	Multicore 12C+E	12	8	
0	Gateway Station MCC	Tunnel Vent Fan GW-TVF101 Heater	GW-TVF-101-S01	Fire Rated	600V	Multicore 2C+E	12	8	M24
0	Tunnel Vent Fan GW-TVF101 RTD	Tunnel Vent Fan Instrument Panel GW-PN-101 Ctr Analog	GW-TVF-101-R01	LSZH	600V	6 Triple Individually shielded	14		
0	Tunnel Vent Fan Instrument Panel GW-PN-101	PLC MODBUS	GW-TVF-101-L01	LSZH	600V	1 Pair shielded	14		M28
0	VSD-101	PLC MODBUS	GW-TVF-101-L02	LSZH	600V	1 Pair shielded	14		
0	Tunnel Vent Fan Instrument Panel GW-PN-101	Forward Differential Pressure Switch	GW-TVF-101-C03	Fire Rated	600V	Multicore 2C+E	12	8	
0	Tunnel Vent Fan Instrument Panel GW-PN-101	Reverse Differential Pressure Switch	GW-TVF-101-C04	Fire Rated	600V	Multicore 2C+E	12	8	
0	Tunnel Vent Fan Instrument Panel GW-PN-101	Fan Room Emergency Stop	GW-TVF-101-C05	Fire Rated	600V	Multicore 2C+E	12	8	
0	VSD-101	Braking Resistor	GW-TVF-101-C06	Fire Rated	600V	Multicore 2C+E	12	8	
0	Disconnect Switch	Tunnel Vent Fan Instrument Panel GW-PN-101	GW-TVF-101-C07	Fire Rated	600V	Multicore 2C+E	12	8	
0	Gateway Station MCC	Disconnect Switch	GW-TVF-102-P01	Fire Rated	600V	6 - 1C+ 2E	350	2	M25, M26
0	Disconnect Switch	Tunnel Vent Fan GW-TVF-102	GW-TVF-102-P02	Fire Rated	600V	6 - 1C+ 2E	350	2	
0	Gateway Station MCC	VSD-102	GW-TVF-102-P02	Fire Rated	600V	6 - 1C+ 2E	350	2	
0	VSD-102	Gateway Station MCC	GW-TVF-102-P03	Fire Rated	600V	6 - 1C+ 2E	350	2	
0	Gateway Station MCC	Tunnel Vent Fan Instrument Panel GW-PN-102 Ctr Digital	GW-TVF-102-C01	LSZH	600V	Multicore 12C+E	12	8	M24
0	Gateway Station MCC	Tunnel Vent Fan Instrument Panel GW-PN-102 Ctr Analog	GW-TVF-102-L01	LSZH	600V	1 Pair shielded	14		M28
0	Gateway Station MCC	VSD-102 Ctr Analog	GW-TVF-102-I02	LSZH	600V	4 Pair Individually Shielded	14		
0	Gateway Station MCC	VSD-102 Ctr	GW-TVF-102-C02	LSZH	600V	Multicore 12C+E	12	8	
0	Gateway Station MCC	Tunnel Vent Fan GW-TVF102 Heater	GW-TVF-102-S01	Fire Rated	600V	Multicore 2C+E	12	8	M24
0	Tunnel Vent Fan GW-TVF102 RTD	Tunnel Vent Fan Instrument Panel GW-PN-102 Ctr Analog	GW-TVF-102-R01	LSZH	600V	6 Triple Individually shielded	14		
0	Tunnel Vent Fan Instrument Panel GW-PN-102	Tunnel Vent Fan Instrument Panel GW-PN-102	GW-TVF-102-L01	LSZH	600V	1 Pair shielded	14		
0	VSD-102	PLC MODBUS	GW-TVF-102-L02	LSZH	600V	1 Pair shielded	14		
0	Tunnel Vent Fan Instrument Panel GW-PN-102	Forward Differential Pressure Switch	GW-TVF-102-C03	Fire Rated	600V	Multicore 2C+E	12	8	
0	Tunnel Vent Fan Instrument Panel GW-PN-102	Reverse Differential Pressure Switch	GW-TVF-102-C04	Fire Rated	600V	Multicore 2C+E	12	8	
0	Tunnel Vent Fan Instrument Panel GW-PN-102	Fan Room Emergency Stop	GW-TVF-102-C05	Fire Rated	600V	Multicore 2C+E	12	8	
0	VSD-102	Braking Resistor	GW-TVF-102-C06	Fire Rated	600V	Multicore 2C+E	12	8	
0	Disconnect Switch	Tunnel Vent Fan Instrument Panel GW-PN-102	GW-TVF-102-C07	Fire Rated	600V	Multicore 2C+E	12	8	

CONTINUED ON DRAWING EL-161

MAUNSELL AECOM			
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925	JUNE 2708	DATE	
APPROVED	NO.	DATE	DESCRIPTION
			REVISIONS

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REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND CONRAD H. STACHY RPEQ 5128 SIGNATURE PATP #002194	DMJM HARRIS AECOM FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH,
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CONTINUED FROM DRAWING EL-160

REV	Source	Destination	Cable Number	Cable Type	Voltage Rating	Cores	AWG/MCM	GND AWG	Conduit #
0	Gateway Station Room 103	Disconnect Switch Existing Tunnel Vent Fan EM 09	GW-TVF-EM09-P01	Fire Rated	600V	3-1C+E	500	1/0	
0	Room 103 EM9 Str	Room 106 Supervisory Terminal Box Mode select	205	LSZH	600V	12C	12		
0	Room 103 EM9 Str	Room 106 Supervisory Terminal Box Htr, damper Ctr	206	LSZH	600V	9C	12		
0	Room 123 Terminal Box 1	Room 106 Supervisory Terminal Box Htr, damper Ctr	207	LSZH	600V	9C	12		
0	Room 123 Terminal Box 1	Room 106 Supervisory Terminal Box EM9 damper Ind	208	LSZH	600V	9C	12		
0	Room 106 Supervisory Relay Cabinet Horn Ctr	Room 103 EM9 Str	210	Fire Rated	600V	2C+E	12	8	
0	Room 106 Annunciator Panel	Room 103 EM9 Str	211	LSZH	600V	4C	12		
0	Room 123 Terminal Box 1	Room 103 EM9 Str Bypass damper Ctr, Ind	288	LSZH	600V	9C	12		
0	Gateway Station MCC	Gateway Station Room 103	GW-TVF-EM09-P02	Fire Rated	600V	3-1C+E	500	1/0	
0	Gateway Station MCC	VSD-EM09	GW-TVF-EM09-P01	Fire Rated	600V	6 - 1C+ 2E	350	2	
0	VSD-EM09	Gateway Station MCC	GW-TVF-EM09-P02	Fire Rated	600V	6 - 1C+ 2E	350	2	
0	Gateway Station MCC	Tunnel Vent Fan Instrument Panel GW-PN-107 Ctr Digital	GW-TVF-EM09-C01	LSZH	600V	Multicore 12C+E	12	8	
0	Gateway Station MCC	Tunnel Vent Fan Instrument Panel GW-PN-107 Ctr Analog	GW-TVF-EM09-I01	LSZH	600V	1 Pair shielded	14		
0	Gateway Station MCC	VSD-EM09 Ctr Analog	GW-TVF-EM09-I02	LSZH	600V	4 Pair Individually Shielded	14		
0	Gateway Station MCC	VSD-EM09 Ctr	GW-TVF-EM09-C02	LSZH	600V	Multicore 12C+E	12	8	
0	Gateway Station MCC	Tunnel Vent Fan GW-TVFEM09 Heater	GW-TVF-EM09-S01	Fire Rated	600V	Multicore 2C+E	12	8	
0	Tunnel Vent Fan GW-TVF-EM09 RTD	Tunnel Vent Fan Instrument Panel GW-PN-107 Ctr Analog	GW-TVF-EM09-R01	LSZH	600V	6 Triple Individual shielded	14		
0	Tunnel Vent Fan Instrument Panel GW-PN-107	PLC MODBUS	GW-TVF-EM09-L01	LSZH	600V	1 Pair shielded	14		
0	VSD-EM09	PLC MODBUS	GW-TVF-EM09-L02	LSZH	600V	1 Pair shielded	14		
0	Tunnel Vent Fan Instrument Panel GW-PN-107	Forward Differential Pressure Switch	GW-TVF-EM09-C03	Fire Rated	600V	Multicore 2C+E	12	8	
0	Tunnel Vent Fan Instrument Panel GW-PN-107	Reverse Differential Pressure Switch	GW-TVF-EM09-C04	Fire Rated	600V	Multicore 2C+E	12	8	
0	Tunnel Vent Fan Instrument Panel GW-PN-107	Fan Room Emergency Stop	GW-TVF-EM09-C05	Fire Rated	600V	Multicore 2C+E	12	8	
0	VSD-EM09	Braking Resistor	GW-TVF-EM09-C06	Fire Rated	600V	Multicore 2C+E	12	8	
0	Disconnect Switch	Tunnel Vent Fan Instrument Panel GW-PN-107	GW-TVF-EM09-C07	Fire Rated	600V	Multicore 2C+E	12	8	
0	Gateway Station Room 103	Disconnect Switch Existing Tunnel Vent Fan EM 10	GW-TVF-EM10-P01	Fire Rated	600V	3-1C+E	500	1/0	
0	Room 103 EM10 Str	Room 106 Supervisory Terminal Box Mode select	217	Fire Rated	600V	12C	12		
0	Room 103 EM10 Str	Room 106 Supervisory Terminal Box Htr, damper Ctr	218	Fire Rated	600V	9C	12		
0	Room 123 Terminal Box 1	Room 106 Supervisory Terminal Box Htr, damper Ctr	219	Fire Rated	600V	9C	12		
0	Room 123 Terminal Box 1	Room 106 Supervisory Terminal Box EM10 damper Ind	220	Fire Rated	600V	9C	12		
0	Room 106 Supervisory Relay Cabinet Horn Ctr	Room 103 EM10 Str	221	Fire Rated	600V	2C	12		
0	Room 106 Annunciator Panel	Room 103 EM10 Str	222	Fire Rated	600V	4C	12		
0	Room 123 Terminal Box 1	Room 103 EM10 Str Bypass damper Ctr, Ind	289	Fire Rated	600V	9C	12		
0	Gateway Station MCC	Gateway Station Room 103	GW-TVF-EM10-P02	Fire Rated	600V	3-1C+E	500	1/0	
0	Gateway Station MCC	VSD-EM10	GW-TVF-EM10-P01	Fire Rated	600V	6 - 1C+ 2E	350	2	
0	VSD-EM10	Gateway Station MCC	GW-TVF-EM10-P02	Fire Rated	600V	6 - 1C+ 2E	350	2	
0	Gateway Station MCC	Tunnel Vent Fan Instrument Panel GW-PN-108 Ctr Digital	GW-TVF-EM10-C01	LSZH	600V	Multicore 12C+E	12	8	
0	Gateway Station MCC	Tunnel Vent Fan Instrument Panel GW-PN-108 Ctr Analog	GW-TVF-EM10-I01	LSZH	600V	1 Pair shielded	14		
0	Gateway Station MCC	VSD-EM10 Ctr Analog	GW-TVF-EM10-I02	LSZH	600V	4 Pair Individually Shielded	14		
0	Gateway Station MCC	VSD-EM10 Ctr	GW-TVF-EM10-C02	LSZH	600V	Multicore 12C+E	12	8	
0	Gateway Station MCC	Tunnel Vent Fan GW-TVFEM09 Heater	GW-TVF-EM10-S01	Fire Rated	600V	Multicore 2C+E	12	8	
0	Tunnel Vent Fan GW-TVFEM09 RTD	Tunnel Vent Fan Instrument Panel GW-PN-108 Ctr Analog	GW-TVF-EM10-R01	LSZH	600V	6 Triple Individual shielded	14		
0	Tunnel Vent Fan Instrument Panel GW-PN-108	Tunnel Vent Fan Instrument Panel GW-PN-107	GW-TVF-EM10-L01	LSZH	600V	1 Pair shielded	14		
0	VSD-EM10	PLC MODBUS	GW-TVF-EM10-L02	LSZH	600V	1 Pair shielded	14		
0	Tunnel Vent Fan Instrument Panel GW-PN-108	Forward Differential Pressure Switch	GW-TVF-EM10-C03	Fire Rated	600V	Multicore 2C+E	12	8	
0	Tunnel Vent Fan Instrument Panel GW-PN-108	Reverse Differential Pressure Switch	GW-TVF-EM10-C04	Fire Rated	600V	Multicore 2C+E	12	8	
0	Tunnel Vent Fan Instrument Panel GW-PN-108	Fan Room Emergency Stop	GW-TVF-EM10-C05	Fire Rated	600V	Multicore 2C+E	12	8	
0	VSD-EM10	Braking Resistor	GW-TVF-EM10-C06	Fire Rated	600V	Multicore 2C+E	12	8	
0	Disconnect Switch	Tunnel Vent Fan Instrument Panel GW-PN-108	GW-TVF-EM10-C07	Fire Rated	600V	Multicore 2C+E	12	8	
0	Gateway Station MCC	Disconnect Switch	GW-SSP-101-P01	Fire Rated	600V	Multicore 3C+E	2	8	M14
0	Disconnect Switch	Sump Pump GW-SSP-101	GW-SSP-101-P02	Fire Rated	600V	Multicore 3C+E	2	8	
0	Gateway Station MCC	Sump Pump GW-SSP-101 Ctr	GW-SSP-101-C01	LSZH	600V	Multicore 12C+E	12	8	M16
0	Sump Pump 101 LCS	Level Switch 1	GW-SSP-101-I01	Fire Rated	600V	Multicore 2C+E	12	8	
0	Sump Pump 101 LCS	Level Switch 2	GW-SSP-101-I02	Fire Rated	600V	Multicore 2C+E	12	8	
0	Gateway Station MCC	Disconnect Switch	GW-SSP-102-P01	Fire Rated	600V	Multicore 3C+E	2	8	M14
0	Disconnect Switch	Sump Pump GW-SSP-102	GW-SSP-102-P02	Fire Rated	600V	Multicore 3C+E	2	8	
0	Gateway Station MCC	Sump Pump GW-SSP-102 Ctr	GW-SSP-102-C01	LSZH	600V	Multicore 12C+E	12	8	M16
0	Sump Pump 102 LCS	Level Switch 1	GW-SSP-102-I01	Fire Rated	600V	Multicore 2C+E	12	8	
0	Sump Pump 102 LCS	Level Switch 2	GW-SSP-102-I02	Fire Rated	600V	Multicore 2C+E	12	8	
0	Gateway Station MCC	Left Track Lighting UPS Phase A	GW-EMLL-001A	Fire Rated	600V	Multicore 2C+E	4	8	M19
0	Gateway Station MCC	Left Track Lighting UPS Phase B	GW-EMLL-001B	Fire Rated	600V	Multicore 2C+E	4	8	M19
0	Gateway Station MCC	Left Track Lighting UPS Phase C	GW-EMLL-001C	Fire Rated	600V	Multicore 2C+E	4	8	M19
0	Gateway Station MCC	Right Track Lighting UPS Phase A	GW-EMLR-001A	Fire Rated	600V	Multicore 2C+E	4	8	M21
0	Gateway Station MCC	Right Track Lighting UPS Phase B	GW-EMLR-001B	Fire Rated	600V	Multicore 2C+E	4	8	M21
0	Gateway Station MCC	Right Track Lighting UPS Phase C	GW-EMLR-001C	Fire Rated	600V	Multicore 2C+E	4	8	M21
0	Gateway Station MCC	TV Isolation Damper GW-MAR-101	GW-MAR-101-S01	Fire Rated	600V	Multicore 3C+E	6	8	M29
0	TV Isolation Damper GW-MAR-101	TV Isolation Damper GW-TVD-101A	GW-TVD-101A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-101	TV Isolation Damper GW-TVD-101B	GW-TVD-101B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-101	TV Isolation Damper GW-TVD-101C	GW-TVD-101C-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-101	TV Isolation Damper GW-TVD-101D	GW-TVD-101D-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	Gateway Station MCC	TV Isolation Damper GW-TVD-101 Ctr	GW-TVD-101-C01	LSZH	600V	Multicore 12C+E	12	8	M29

CONTINUED ON DRAWING EL-162

CABLE NUMBER FORMAT: AB-CDE-123-F45

AB: STATION ABBREVIATION

GW - GATEWAY STATION
NS - NORTH SIDE STATION

CDE: EQUIPMENT TYPE

TJF - TUNNEL JET FAN
TVA - TUNNEL VENTILATION ATTENUATOR
TVD - TUNNEL VENTILATION DAMPER
TVF - TUNNEL VENTILATION FAN
SSP - SUBMERSIBLE SUMP PUMP
PN - INSTRUMENT PANEL
EMLL - EMERGENCY EGGS LIGHT LEFT TRACK
EMLR - EMERGENCY EGGS LIGHT RIGHT TRACK
RECL - RECEPTACLE LEFT TRACK
RECR - RECEPTACLE RIGHT TRACK

123: EQUIPMENT NUMBER

- 1 - STATION NUMBER (THE FIRST TWO NUMBERS ARE REDUNDANT)
-
- 1 = GATEWAY, 2 = NORTH SIDE
-
- 2 - ZERO FOR DAMPERS ASSOCIATED WITH PARTICULAR FANS, ONE OR MORE FOR ADDITIONAL DAMPERS.
-
- 3 - SEQUENTIAL EQUIPMENT NUMBER.

F45: CABLE TYPE & SEQUENTIAL NUMBER

F - A = 1000V POWER
P = 480V POWER
D = 277V POWER
S = 120V POWER
F = 24VDC POWER
E = EARTH
C = 110V CONTROL
J = 24VDC CONTROL
L = NETWORK
I = 24VDC INSTRUMENT
R = RTD
T = THERMISTOR
45 - SEQUENTIAL CABLE NUMBER.

NOTE:

1. LSZH = LOW SMOKE ZERO HALOGEN.
-
2. CABLE AND CONDUIT SIZING ARE INDICATIVE ONLY. CONTRACTOR TO DESIGN AND VERIFY REQUIRED CABLE AND CONDUIT SIZES.
-
3. CONTRACTOR TO DETERMINE CABLE LENGTHS REQUIRED.

MAUNSELL | AECOM
Maunsell Australia Pty Ltd A.B.N. 20 093 846 92

CONTINUED FROM DRAWING EL-161

REV	Source	Destination	Cable Number	Cable Type	Voltage Rating	Cores	AWG/MCM	GND AWG	Conduit #
0	Gateway Station MCC	TV Isolation Damper GW-MAR-102	GW-MAR-102-S01	Fire Rated	600V	Multicore 3C+E	6	8	M29
0	TV Isolation Damper GW-MAR-102	TV Isolation Damper GW-TVD-102A	GW-TVD-102A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-102	TV Isolation Damper GW-TVD-102B	GW-TVD-102B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-102	TV Isolation Damper GW-TVD-102C	GW-TVD-102C-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-102	TV Isolation Damper GW-TVD-102D	GW-TVD-102D-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	Gateway Station MCC	TV Isolation Damper GW-TVD-102 Ctr	GW-TVD-102-C01	LSZH	600V	Multicore 12C+E	12	8	M29
0	Gateway Station MCC	TV Isolation Damper GW-MAR-103	GW-MAR-103-S01	Fire Rated	600V	Multicore 3C+E	6	8	M29
0	TV Isolation Damper GW-MAR-103	TV Isolation Damper GW-TVD-103A	GW-TVD-103A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-103	TV Isolation Damper GW-TVD-103B	GW-TVD-103B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-103	TV Isolation Damper GW-TVD-103C	GW-TVD-103C-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-103	TV Isolation Damper GW-TVD-103D	GW-TVD-103D-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	Gateway Station MCC	TV Isolation Damper GW-TVD-103 Ctr	GW-TVD-103-C01	LSZH	600V	Multicore 12C+E	12	8	M29
0	Gateway Station MCC	TV Isolation Damper GW-MAR-104	GW-MAR-104-S01	Fire Rated	600V	Multicore 3C+E	6	8	M7
0	TV Isolation Damper GW-MAR-104	TV Isolation Damper GW-TVD-104A	GW-TVD-104A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-104	TV Isolation Damper GW-TVD-104B	GW-TVD-104B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-104	TV Isolation Damper GW-TVD-104C	GW-TVD-104C-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-104	TV Isolation Damper GW-TVD-104D	GW-TVD-104D-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	Gateway Station MCC	TV Isolation Damper GW-TVD-104 Ctr	GW-TVD-104-C01	LSZH	600V	Multicore 12C+E	12	8	M7
0	Gateway Station MCC	TV Isolation Damper GW-MAR-105	GW-MAR-105-S01	Fire Rated	600V	Multicore 3C+E	6	8	M7
0	TV Isolation Damper GW-MAR-105	TV Isolation Damper GW-TVD-105A	GW-TVD-105A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-105	TV Isolation Damper GW-TVD-105B	GW-TVD-105B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-105	TV Isolation Damper GW-TVD-105C	GW-TVD-105C-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-105	TV Isolation Damper GW-TVD-105D	GW-TVD-105D-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	Gateway Station MCC	TV Isolation Damper GW-TVD-105 Ctr	GW-TVD-105-C01	LSZH	600V	Multicore 12C+E	12	8	M7
0	Gateway Station MCC	TV Isolation Damper GW-MAR-106	GW-MAR-106-S01	Fire Rated	600V	Multicore 3C+E	6	8	M8
0	TV Isolation Damper GW-MAR-106	TV Isolation Damper GW-TVD-106A	GW-TVD-106A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-106	TV Isolation Damper GW-TVD-106B	GW-TVD-106B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-106	TV Isolation Damper GW-TVD-106C	GW-TVD-106C-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-106	TV Isolation Damper GW-TVD-106D	GW-TVD-106D-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	Gateway Station MCC	TV Isolation Damper GW-TVD-106 Ctr	GW-TVD-106-C01	LSZH	600V	Multicore 12C+E	12	8	M8
0	Gateway Station MCC	TV Isolation Damper GW-MAR-107	GW-MAR-107-S01	Fire Rated	600V	Multicore 3C+E	6	8	M8
0	TV Isolation Damper GW-MAR-107	TV Isolation Damper GW-TVD-107A	GW-TVD-107A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-107	TV Isolation Damper GW-TVD-107B	GW-TVD-107B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-107	TV Isolation Damper GW-TVD-107C	GW-TVD-107C-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-107	TV Isolation Damper GW-TVD-107D	GW-TVD-107D-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	Gateway Station MCC	TV Isolation Damper GW-TVD-107 Ctr	GW-TVD-107-C01	LSZH	600V	Multicore 12C+E	12	8	M8
0	Gateway Station MCC	TV Isolation Damper GW-MAR-108	GW-MAR-108-S01	Fire Rated	600V	Multicore 3C+E	6	8	M10
0	TV Isolation Damper GW-MAR-108	Nozzle Damper GW-TVD-108A	GW-TVD-108A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-108	Nozzle Damper GW-TVD-108B	GW-TVD-108B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	Gateway Station MCC	Nozzle Damper GW-TVD-108 Ctr	GW-TVD-108-C01	LSZH	600V	Multicore 12C+E	12	8	M10
0	Gateway Station MCC	TV Isolation Damper GW-MAR-109	GW-MAR-109-S01	Fire Rated	600V	Multicore 3C+E	6	8	M10
0	TV Isolation Damper GW-MAR-109	Nozzle Damper GW-TVD-109A	GW-TVD-109A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-109	Nozzle Damper GW-TVD-109B	GW-TVD-109B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	Gateway Station MCC	Nozzle Damper GW-TVD-109 Ctr	GW-TVD-109-C01	LSZH	600V	Multicore 12C+E	12	8	M10
0	Gateway Station MCC	TV Isolation Damper GW-MAR-110	GW-MAR-110-S01	Fire Rated	600V	Multicore 3C+E	6	8	M11
0	TV Isolation Damper GW-MAR-110	Nozzle Damper GW-TVD-110A	GW-TVD-110A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-110	Nozzle Damper GW-TVD-110B	GW-TVD-110B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	Gateway Station MCC	Nozzle Damper GW-TVD-110 Ctr	GW-TVD-110-C01	LSZH	600V	Multicore 12C+E	12	8	M11
0	Gateway Station MCC	TV Isolation Damper GW-MAR-111	GW-MAR-111-S01	Fire Rated	600V	Multicore 3C+E	6	8	M11
0	TV Isolation Damper GW-MAR-111	Nozzle Damper GW-TVD-111A	GW-TVD-111A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-111	Nozzle Damper GW-TVD-111B	GW-TVD-111B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	Gateway Station MCC	Nozzle Damper GW-TVD-111 Ctr	GW-TVD-111-C01	LSZH	600V	Multicore 12C+E	12	8	M11
0	Gateway Station MCC	TV Isolation Damper GW-MAR-112	GW-MAR-112-S01	Fire Rated	600V	Multicore 3C+E	6	8	M15
0	TV Isolation Damper GW-MAR-112	TV Isolation Damper GW-TVD-112A	GW-TVD-112A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-112	TV Isolation Damper GW-TVD-112B	GW-TVD-112B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-112	TV Isolation Damper GW-TVD-112C	GW-TVD-112C-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-112	TV Isolation Damper GW-TVD-112D	GW-TVD-112D-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	Gateway Station MCC	TV Isolation Damper GW-TVD-112 Ctr	GW-TVD-112-C01	LSZH	600V	Multicore 12C+E	12	8	M16
0	Gateway Station MCC	TV Isolation Damper GW-MAR-113	GW-MAR-113-S01	Fire Rated	600V	Multicore 3C+E	6	8	M15
0	TV Isolation Damper GW-MAR-113	TV Isolation Damper GW-TVD-113A	GW-TVD-113A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-113	TV Isolation Damper GW-TVD-113B	GW-TVD-113B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-113	TV Isolation Damper GW-TVD-113C	GW-TVD-113C-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-113	TV Isolation Damper GW-TVD-113D	GW-TVD-113D-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	Gateway Station MCC	TV Isolation Damper GW-TVD-113 Ctr	GW-TVD-113-C01	LSZH	600V	Multicore 12C+E	12	8	M16

CABLE NUMBER FORMAT: AB-CDE-123-F45

AB: STATION ABBREVIATION

GW - GATEWAY STATION
NS - NORTH SIDE STATION

CDE: EQUIPMENT TYPE

TJF - TUNNEL JET FAN
 TVA - TUNNEL VENTILATION ATTENUATOR
 TVD - TUNNEL VENTILATION DAMPER
 TVF - TUNNEL VENTILATION FAN
 SSP - SUBMERSIBLE SUMP PUMP
 PN - INSTRUMENT PANEL
 EMLL - EMERGENCY EGGS ZERO HALOGEN
 EMLR - EMERGENCY EGGS LIGHT RIGHT TRACK
 RECL - RECEPTACLE LEFT TRACK
 RECR - RECEPTACLE RIGHT TRACK

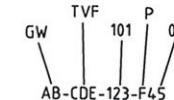
123: EQUIPMENT NUMBER

1 - STATION NUMBER (THE FIRST TWO NUMBERS ARE REDUNDANT)
 1 = GATEWAY, 2 = NORTH SIDE
 2 - ZERO FOR DAMPERS ASSOCIATED WITH PARTICULAR FANS,
 ONE OR MORE FOR ADDITIONAL DAMPERS.
 3 - SEQUENTIAL EQUIPMENT NUMBER.

F45: CABLE TYPE & SEQUENTIAL NUMBER

F - A = 1000V POWER
 P = 480V POWER
 D = 277V POWER
 S = 120V POWER
 F = 24VDC POWER
 E = EARTH
 C = 110V CONTROL
 J = 24VDC CONTROL
 L = NETWORK
 I = 24VDC INSTRUMENT
 R = RTD
 T = THERMISTOR

45 - SEQUENTIAL CABLE NUMBER.



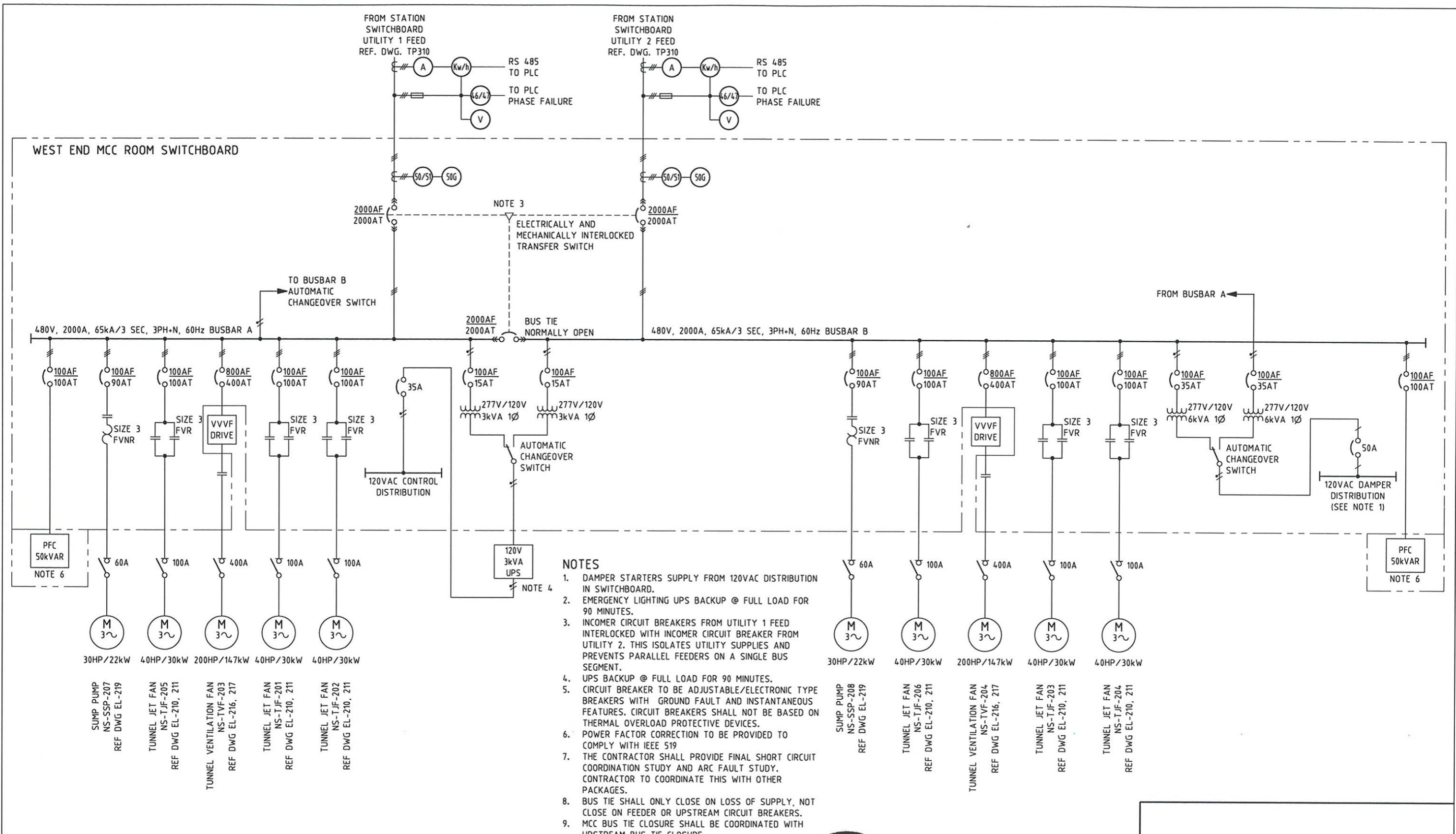
CONDUIT NUMBER	CONDUIT SIZE (IN)	CONDUIT TOTAL AREA	CABLE SIZE	AWG/MCM	NUMBER OF CABLES	SUB TOTAL X SECTIONAL AREA	TOTAL X SECTIONAL AREA	RMC % FILL	RMC FILL REQUIREMENT	Cables	
GATEWAY											
M7	4	12.882	Multicore 3C+E	6	2	0.91	1.84	14%	40%	TVD 104,105 PWR	
			Multicore 12C+E	12	2	0.93				TVD 104,105 CTR	
M8	4	12.882	Multicore 3C+E	6	2	0.91	1.84	14%	40%	TVD 106,107 PWR	
			Multicore 12C+E	12	2	0.93				TVD 106,107 CTR	
M9	4	12.882	Spare								
M10	4	12.882	Multicore 3C+E	6	2	0.91	1.84	14%	40%	TVD 108,109 PWR	
			Multicore 12C+E	12	2	0.93				TVD 108,109 CTR	
M11	4	12.882	Multicore 3C+E	6	2	0.91	1.84	14%	40%	TVD 110,111 PWR	
			Multicore 12C+E	12	2	0.93				TVD 110,111 CTR	
M12	4	12.882	Spare								
M13	4	12.882	Spare								
M14	4	12.882	Multicore 3C+E	2	2	1.90	1.90	15%	31%	SSP 101,102 PWR	
M15	4	12.882	Multicore 3C+E	6	2	0.91	0.91	7%	31%	TVD 112,113 PWR	
M16	4	12.882	Multicore 12C+E	12	4	1.86	1.86	14%	40%	SSP 101,102,TVD 112,113 CTR	
M17	4	12.882	Spare								
M18	3	7.499	2 - 1C+E	1/0	5	1.37	1.37	18%	40%	Left Track Receptacle	
M19	4	12.882	Multicore 2C+E	4	3	2.22	2.22	17%	40%	Left Track Emergency Light	
M20	3	7.499	2 - 1C+E	1/0	5	1.37	1.37	18%	40%	Right Track Receptacle	
M21	4	12.882	Multicore 2C+E	4	3	2.22	2.22	17%	40%	Right Track Emergency Light	
M22	4	12.882	3 - 1C+E	350	4	3.14	3.14	24%	40%	TVF 101 Power	
M23	4	12.882	3 - 1C+E	350	4	3.14	3.14	24%	40%	TVF 101 Power	
M24	4	12.882	Multicore 12C+E	12	2	0.93	1.21	9%	40%	TVF 101,102 CTR	
			Multicore 2C+E	12	2	0.28				TVF 101,102 HTR	
M25	4	12.882	3 - 1C+E	350	4	3.14	3.14	24%	40%	TVF 102 Power	
M26	4	12.882	3 - 1C+E	350	4	3.14	3.14	24%	40%	TVF 102 Power	
M27	4	12.882	Spare								
M28	4	12.882	1 Pair shielded	14	4	0.48	0.48	4%	40%	TVF 101,102 analog + RS485	
M29	4	12.882	Multicore 3C+E	6	3	1.36	2.76	21%	40%	TVD 101,102,103 PWR+CTR	
			Multicore 12C+E	12	3	1.40					
M30	4	12.882	Spare								
M31	4	12.882	Spare								
M32	4	12.882	Multicore 3C+E	2	2	1.90	4.81	37%	40%	TJF 101,102 PWR from MCC via same route as EM09 and EM10	
			Multicore 3C+E	1/0	2	2.91				TJF 103,104 PWR	
M33	4	12.882	Multicore 12C+E	12	4	1.86	2.42	19%	40%	TJF 101,102,103,104 CTR	
			Multicore 2C+E	12	4	0.55				TJF 101,102,103,104 HTR	
M34	2	3.408	1 Pair shielded	14	4	0.48	0.60	18%	40%	TJF 101,102,103,104 Analogy Vib	
			1 Pair shielded	14	1	0.12				TJF 101 RS485	
M35	2	3.408	Multicore 3C+E	1/0	1	1.45	1.45	43%	53%	TJF 103PWR	
M36	2	3.408	Multicore 12C+E	12	1	0.47	0.60	18%	31%	TJF 103 CTR	
			Multicore 2C+E	12	1	0.14				TJF 103 HTR	
M37	2	3.408	1 Pair shielded	14	1	0.45	0.91	27%	31%	TJF 103 Analogy Vib	
			1 Pair shielded	14	1	0.45				TJF 101 to 103 RS485	
M38	4	12.882	Multicore 3C+E	2	1	0.95	2.40	19%	31%	TJF 102 PWR across track to 102 and 104	
			Multicore 3C+E	1/0	1	1.45				TJF 104 PWR	
M39	3	7.499	Multicore 12C+E	12	2	0.93	1.21	16%	40%	TJF 102,104 CTR across track to 102 and 104	
			Multicore 2C+E	12	2	0.28				TJF 102,104 HTR	
M40	2	3.408	1 Pair shielded	14	2	0.24	0.36	11%	40%	TJF 102,104 Analogy Vib across track	
			1 Pair shielded	14	1	0.12				TJF 103 to 102 RS485	
M41	2	3.408	Multicore 3C+E	1/0	1	1.45	1.45	43%	53%	TJF 104PWR	
M42	2	3.408	Multicore 12C+E	12	1	0.47	0.60	18%	31%	TJF 104 CTR	
			Multicore 2C+E	12	1	0.14				TJF 104 HTR	
M43	2	3.408	1 Pair shielded	14	1	0.12	0.12	4%	31%	TJF 104 Analogy Vib,TJF 102 TO 104 RS485	
M44	4	12.882	3-1C+E	500	4	4.01	4.01	31%	40%	EM09 PWR	
M45	4	12.882	3-1C+E	500	4	4.01	4.01	31%	40%	EM 10 PWR	
M46	3	7.499	Multicore 12C+E	12	2	0.93	1.17	16%	40%	EM09.10 CTR, HTR	
			Multicore 2C+E	12	2	0.24					
M47	2	3.408	1 Pair shielded	14	2	0.54	0.54	16%	31%	EM09.10 COMMS	

NOTE:
 1. CABLE AND CONDUIT SIZING ARE INDICATIVE ONLY. CONTRACTOR TO DESIGN AND VERIFY REQUIRED CABLE AND CONDUIT SIZES.
 2. CONTRACTOR TO DETERMINE CABLE LENGTHS REQUIRED.

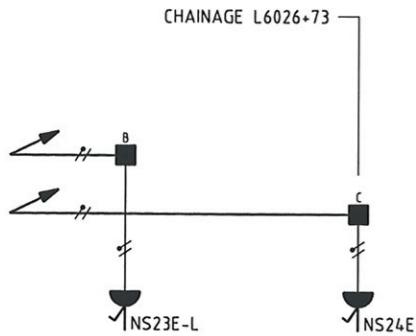
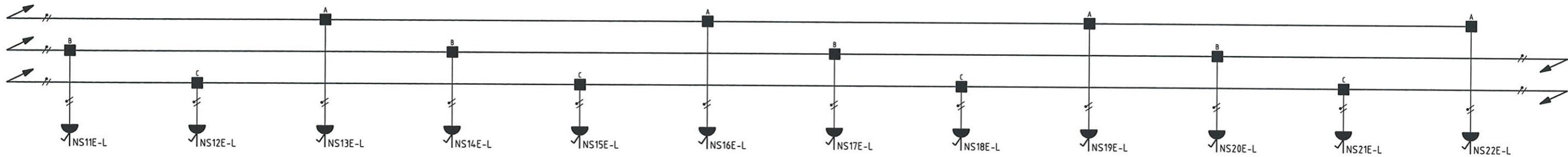
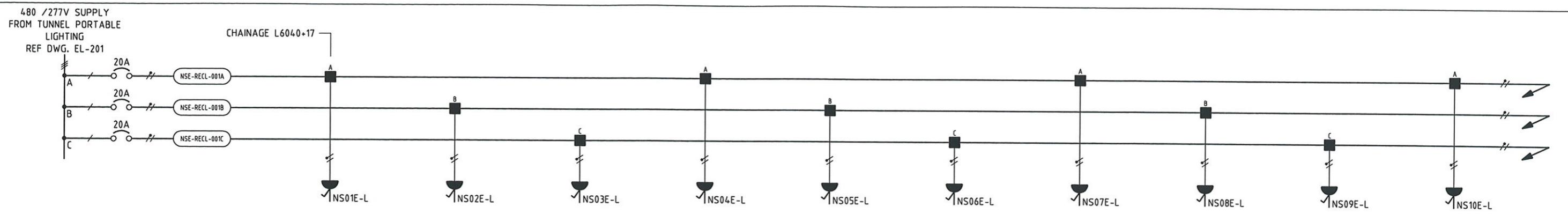
MAUNSELL AECOM												PORT AUTHORITY OF ALLEGHENY COUNTY	
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925												PITTSTON, PENNSYLVANIA	
APPROVED <i>[Signature]</i>		DATE JUNE 27 08		DESCRIPTION		REVISIONS						NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) GATEWAY STATION CABLE SCHEDULE SHEET 4 OF 4	
												Port Authority CONTRACT NO. NSC-009 DWG. NO. EL-163 SHT. 683	



CONRAD K.B. STACY
RPEQ 5128
APPROVED
DATE
SIGNATURE
PATP #002194



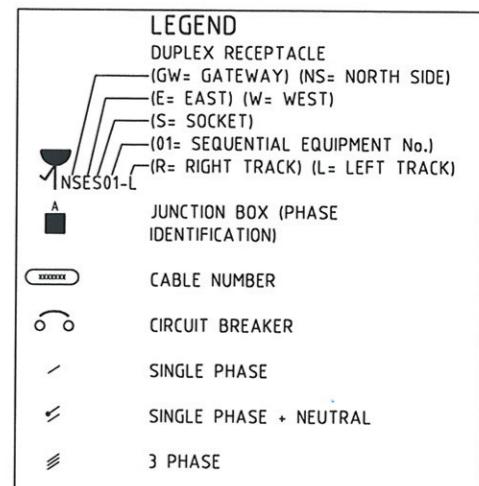
MAUNSELL AECOM <i>Signature</i> APPROVED	Maunsell Australia Pty Ltd A.B.N. 20 093 846 925	June 27 08 DATE	NO. DATE DESCRIPTION REVISONS	THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.	REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND CONRAD H.B. STACEY RPEQ 5128 <i>Signature</i> PATP #002194	DMJM HARRIS AECOM FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222 APPROVED DATE	DESIGNED TS
							DRAWN GH
CHECKED MHS	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH PENNSYLVANIA NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) NORTH SIDE STATION OVERALL POWER SLD CONTRIBUTION SHEET 2 OF 2						
IN CHARGE CS							
DATE 06/27/08							
SCALE							
Port Authority	CONTRACT NO. NSC-009						
DWG. NO. EL-202	SHT. 685						



NORTH SIDE STATION (EAST) TUNNEL SOCKET OUTLET CIRCUITS LEFT TRACK

NOTE

1. FOR CABLE NUMBERS REFER TO CABLE SCHEDULE DRAWINGS EL-260, 261, 262, 263.
2. DUPLEX RECEPTACLE TO BE 120VAC, 20A NEMA WD6-5-20R WITH GROUND FAULT CIRCUIT INTERRUPTER, NEMA 4X WITH COVER.



MAUNSELL | AECOM

Maunsell Australia Pty Ltd A.B.N. 20 093 846 925

APPROVED *[Signature]* JUNE 27 08 DATE

NO.	DATE	DESCRIPTION	REVISIONS
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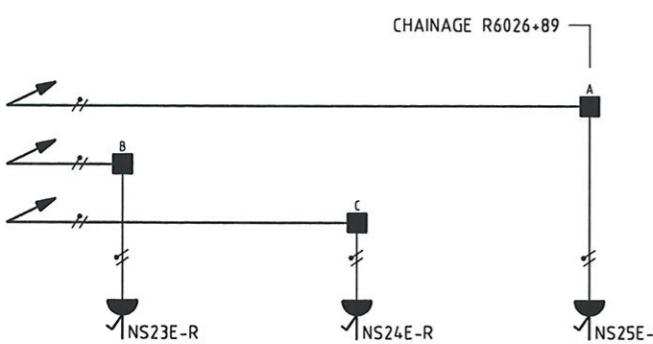
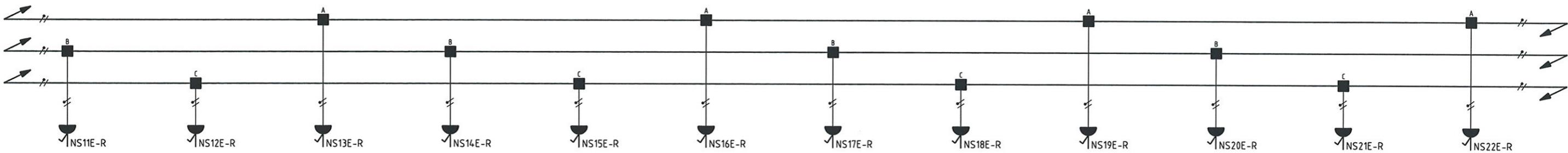
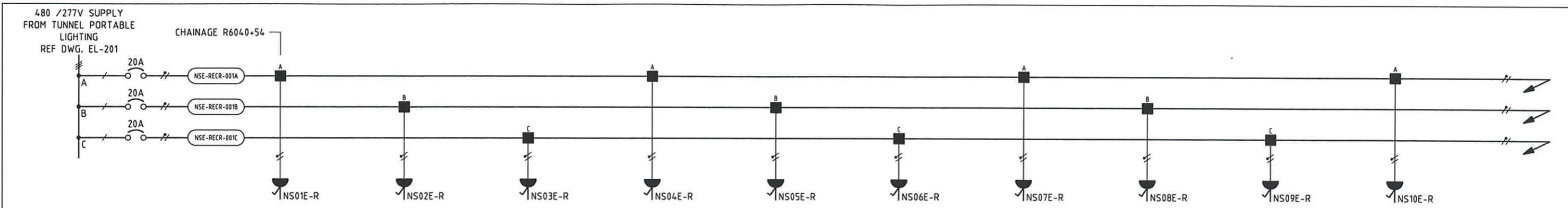
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DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

APPROVED _____ DATE _____

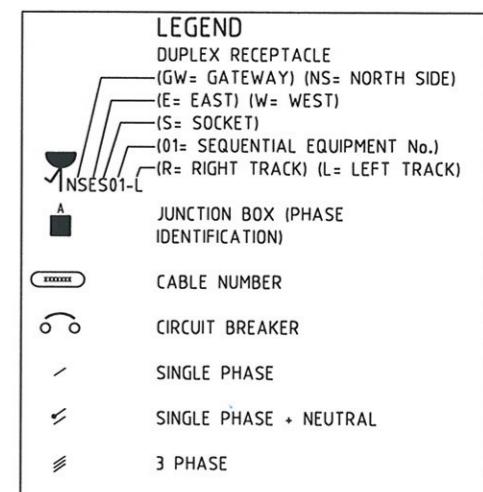
PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
NORTH SIDE STATION
LV DISTRIBUTION CONTRIBUTION SHEET 1 OF 3
Port Authority CONTRACT NO. NSC-009
DWG. NO. EL-206 SHT. 686



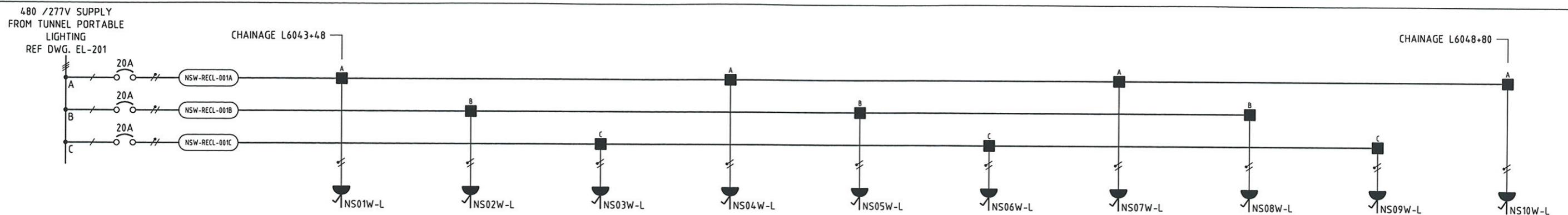
NORTH SIDE STATION (EAST) TUNNEL SOCKET OUTLET CIRCUITS RIGHT TRACK

NOTE

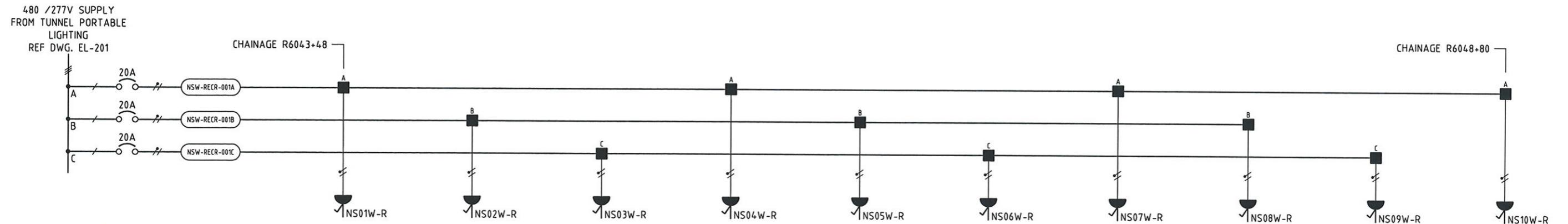
1. FOR CABLE NUMBERS REFER TO CABLE SCHEDULE DRAWINGS EL-260, 261, 262, 263.
2. DUPLEX RECEPTACLE TO BE 120VAC, 20A NEMA WD6-5-20R WITH GROUND FAULT CIRCUIT INTERRUPTER, NEMA 4X WITH COVER.



MAUNSELL AECOM Maunsell Australia Pty Ltd A.B.N. 20 093 846 925 <i>Signature</i> APPROVED	JUNE 27 08 DATE	NO. DATE DESCRIPTION REVISIONS	THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.	CONRAD M.B. STACEY RPEQ 5128 PATP #002194	DPMJ HARRIS AECOM FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222 <i>Signature</i>	DESIGNED TS DRAWN GH CHECKED MHS IN CHARGE CS DATE 06/27/08 SCALE	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH PENNSYLVANIA NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) NORTH SIDE STATION LV DISTRIBUTION CONTRIBUTION SHEET 2 OF 3
						Port Authority	
						CONTRACT NO. NSC-009	
						DWG. NO. EL-207	SHT. 687



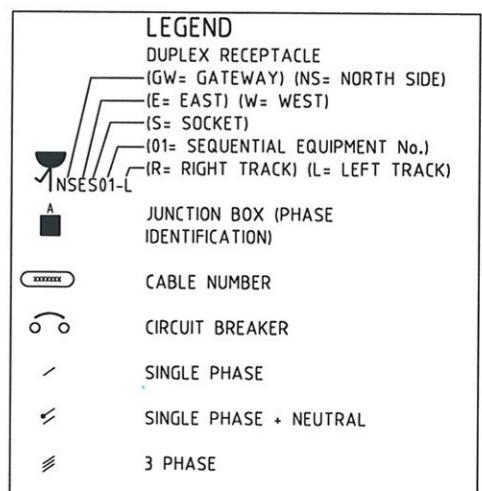
NORTH SIDE STATION (WEST) TUNNEL SOCKET OUTLET CIRCUITS LEFT TRACK



NORTH SIDE STATION (WEST) TUNNEL SOCKET OUTLET CIRCUITS RIGHT TRACK

NOTE

1. FOR CABLE NUMBERS REFER TO CABLE SCHEDULE DRAWINGS EL-260, 261, 262, 263.
 2. DUPLEX RECEPTACLE TO BE 120VAC, 20A NEMA WD6-5-20R WITH GROUND FAULT CIRCUIT INTERRUPTER, NEMA 4X WITH COVER.



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JUNE 27 09
DATE

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REGISTER
PROFESSIONAL
ENGINEER
QUEENSLAND
CONRAD H. ST
RPEQ 51

**AL
OP
ID
Y** DMJM HARRIS AE
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

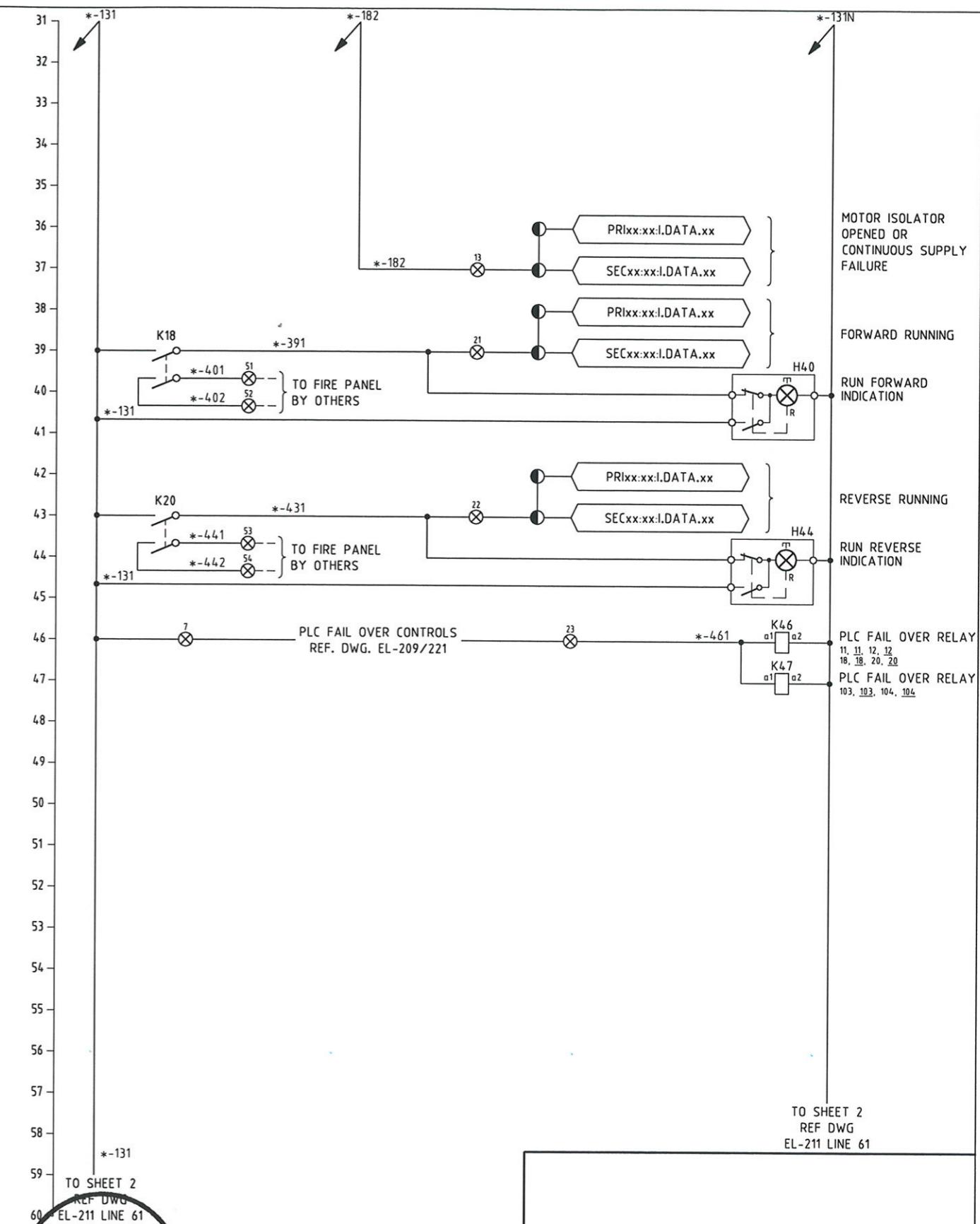
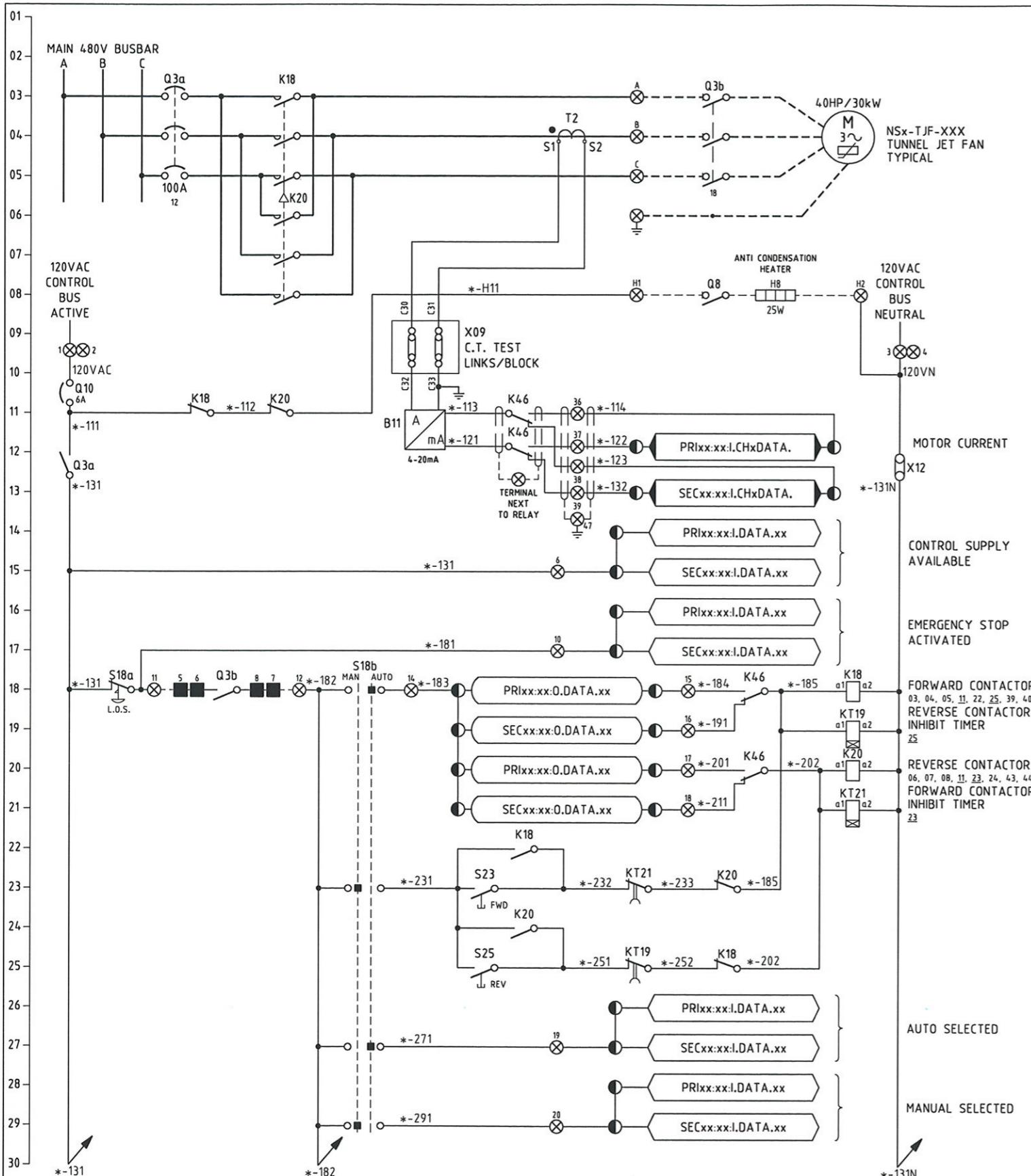
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PITTSBURGH **PENNSYLVANIA**

PITTSBURGH PENNSYLVANIA
NORTH SHORE CONNECTOR

**NORTH SHORE CONNECTOR
C TRAIN SYSTEM (SYSTEM WIDE)
NORTH SIDE STATION**

NORTH SIDE STATION
DISTRIBUTION CONTRIBUTION SHEET 4 OF 4



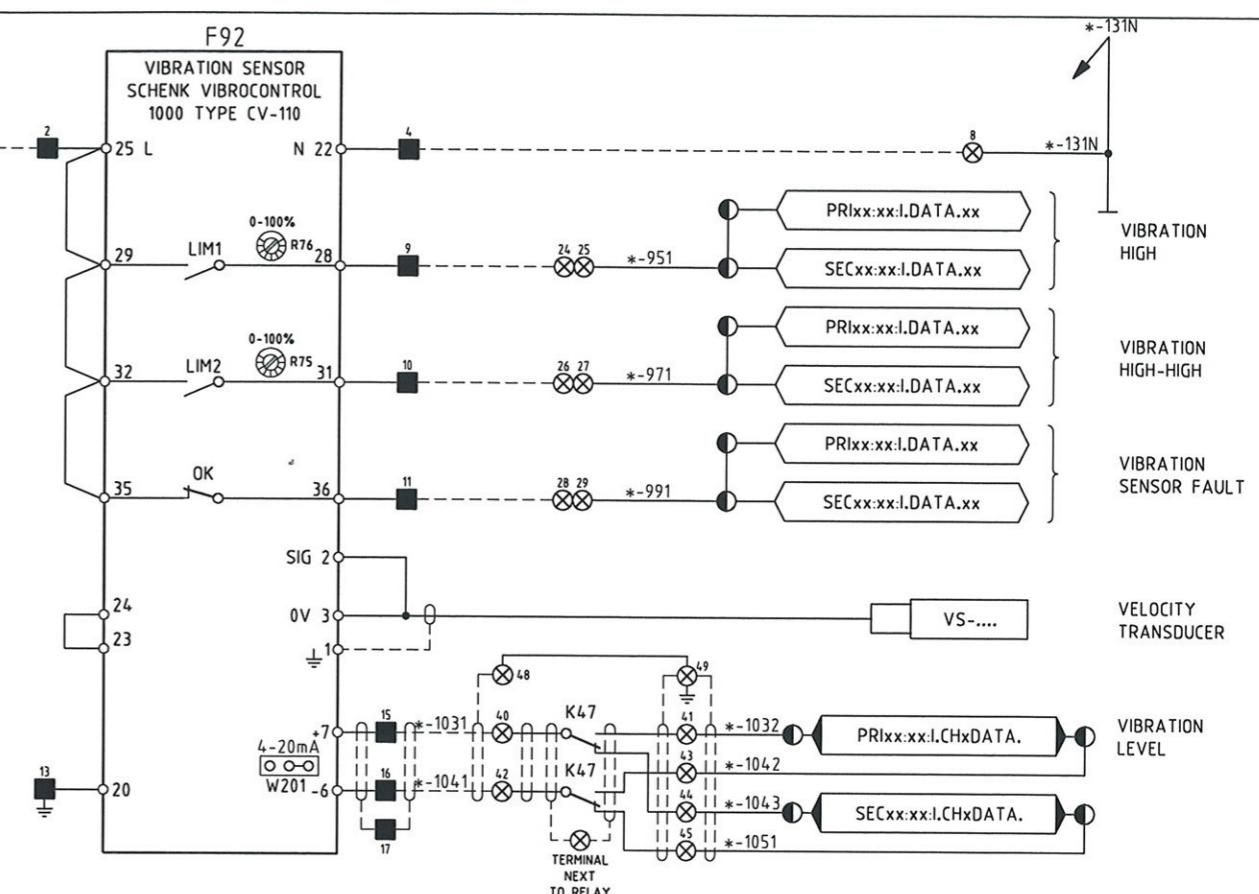
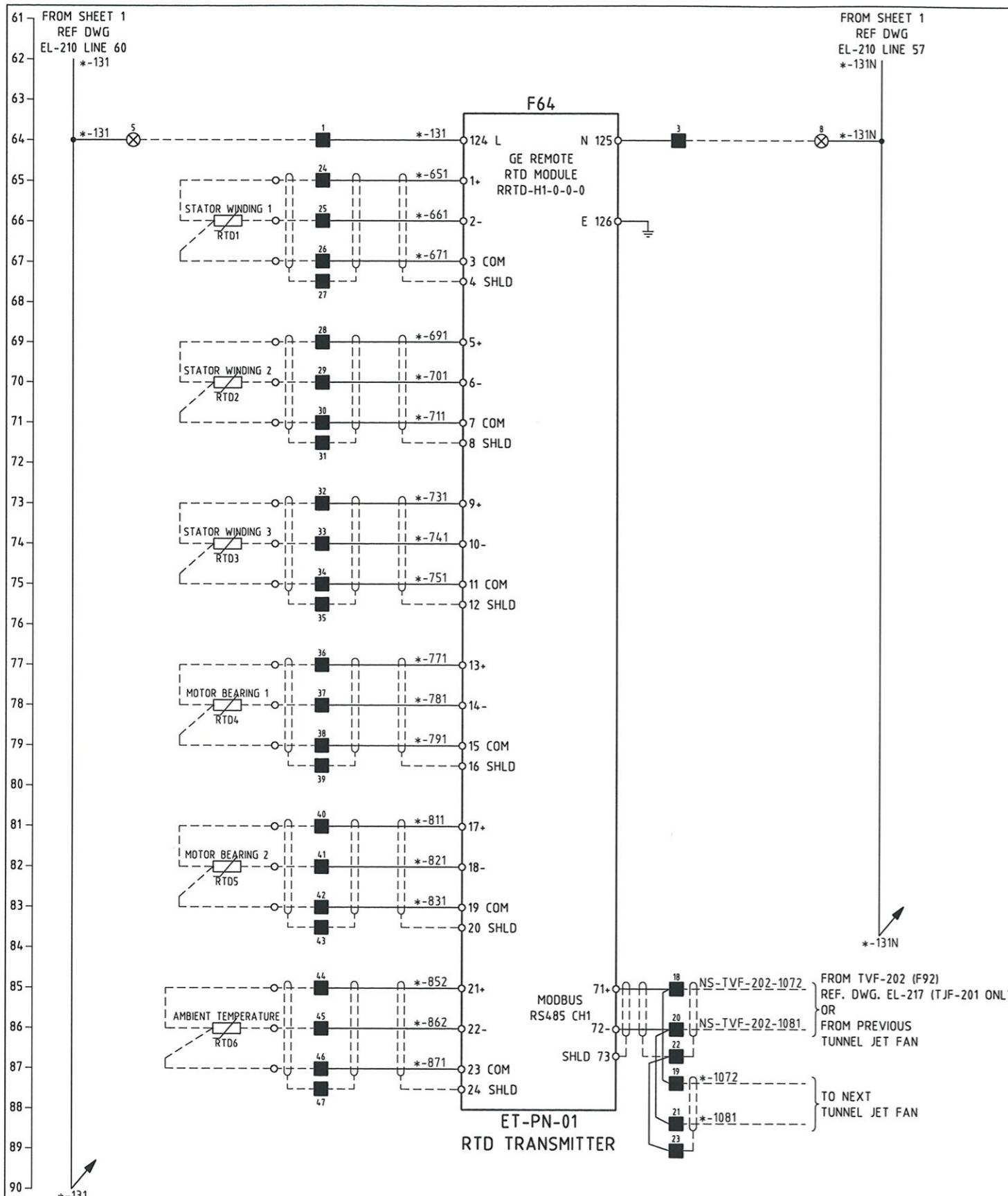
MAUNSELL AECOM		
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925		
<i>[Signature]</i>	JUNE 27 08	
APPROVED	DATE	
NO.	DATE	DESCRIPTION
		REVISIONS

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DMJM HARRIS AECOM	
PROFESSIONAL ENGINEER OF QUEENSLAND CONRAD H.B. STACEY RPEQ 5128	
REGISTERED	
FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222	
SIGNATURE PAP# 002194	
APPROVED	DATE

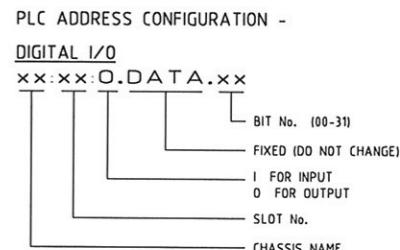
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CHECKED MHS	
IN CHARGE CS	
DATE 06/27/08	
SCALE	
Port Authority	CONTRACT NO. NSC-009
DWG. NO. EL-210	SHT. 690

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
NORTH SIDE STATION
NS-TJF-201 - 210 TUNNEL JET FAN ELECTRICAL SCHEMATIC DIA. SHT 1 OF 2



LEGEND

- xx:xx:I.DATA.xx PLC DIGITAL INPUT
- xx:xx:O.DATA.xx PLC DIGITAL OUTPUT
- xx:xx:I.CHxDATA PLC ANALOG INPUT
- xx:xx:O.CHxDATA PLC ANALOG OUTPUT



- PLC MARSHALLING CABINET TERMINAL
- ⊗ MCC TERMINAL
- LOCAL CONTROL STATION (LCS) TERMINAL

NOTES

1. * DENOTES DRIVE FERRULE PREFIX. ALL WIRING EXTERNAL TO MCC MODULES SHALL BE PREFIXED WITH THE DRIVE NUMBER e.g. *-121 BECOMES xxx-yyy-zzz-121.
2. L.O.S. = LOCK OUT STOP
3. CONTRACTOR TO ASSIGN ADDRESS FOR PLC I/O.



DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

DESIGNED TS
DRAWN GH
CHECKED MHS
IN CHARGE CS
DATE 06/27/08
SCALE

APPROVED DATE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
NORTH SIDE STATION

NS-TJF-201 - 210 TUNNEL JET FAN ELECTRICAL SCHEMATIC DIAG.SHT 2 OF 2

Port Authority CONTRACT NO. NSC-009
DWG. NO. EL-211 SHT. 691

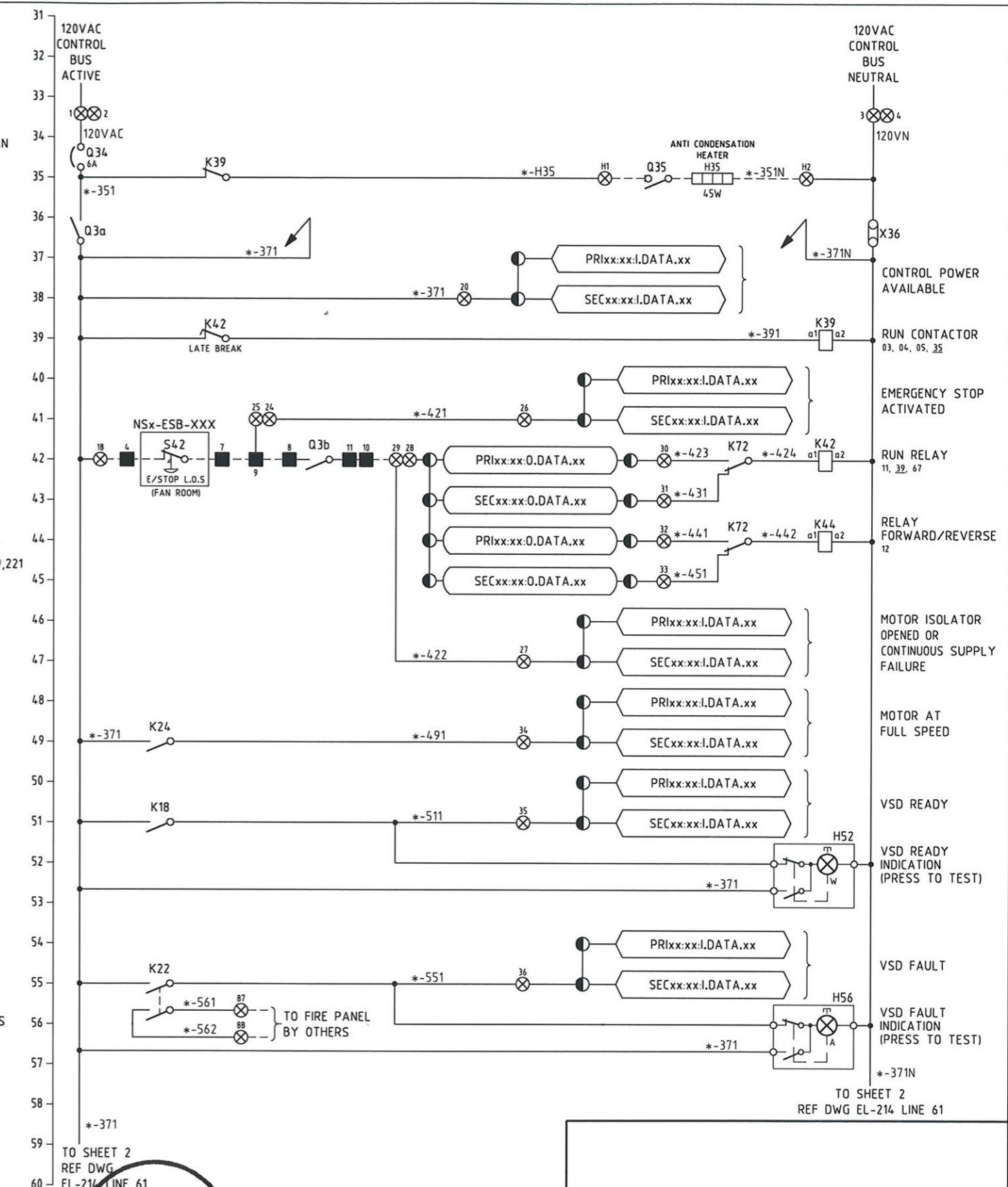
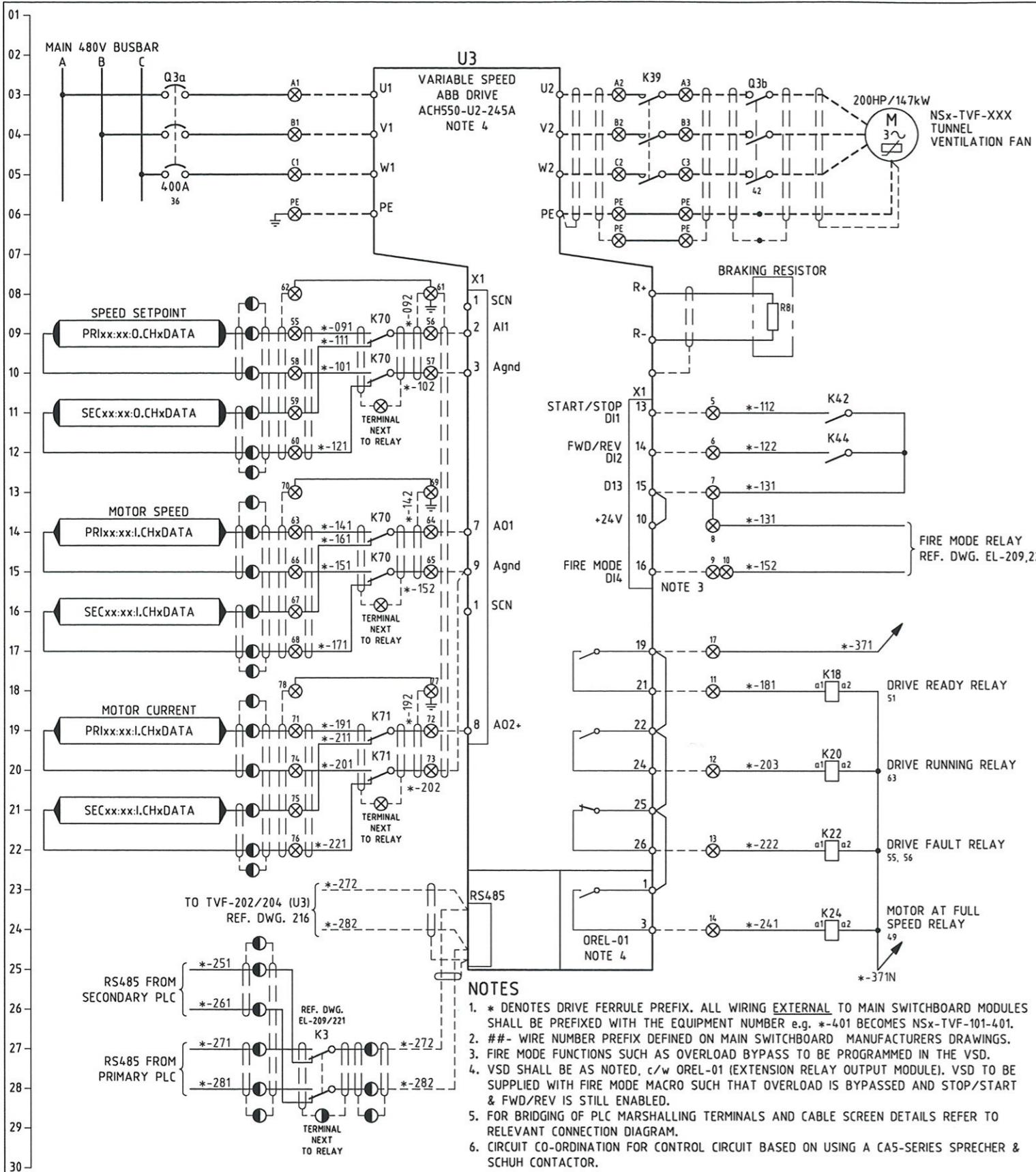
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APPROVED *George Jensen* DATE *June 27 08*

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		REVISIONS

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[Signature] APPROVED JUNE 27 08 DATE

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CONRAD H.B. STACEY
RPEQ 5128
[Signature] PATP #00219A

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20TH FLOOR
PITTSBURGH, PA. 15222

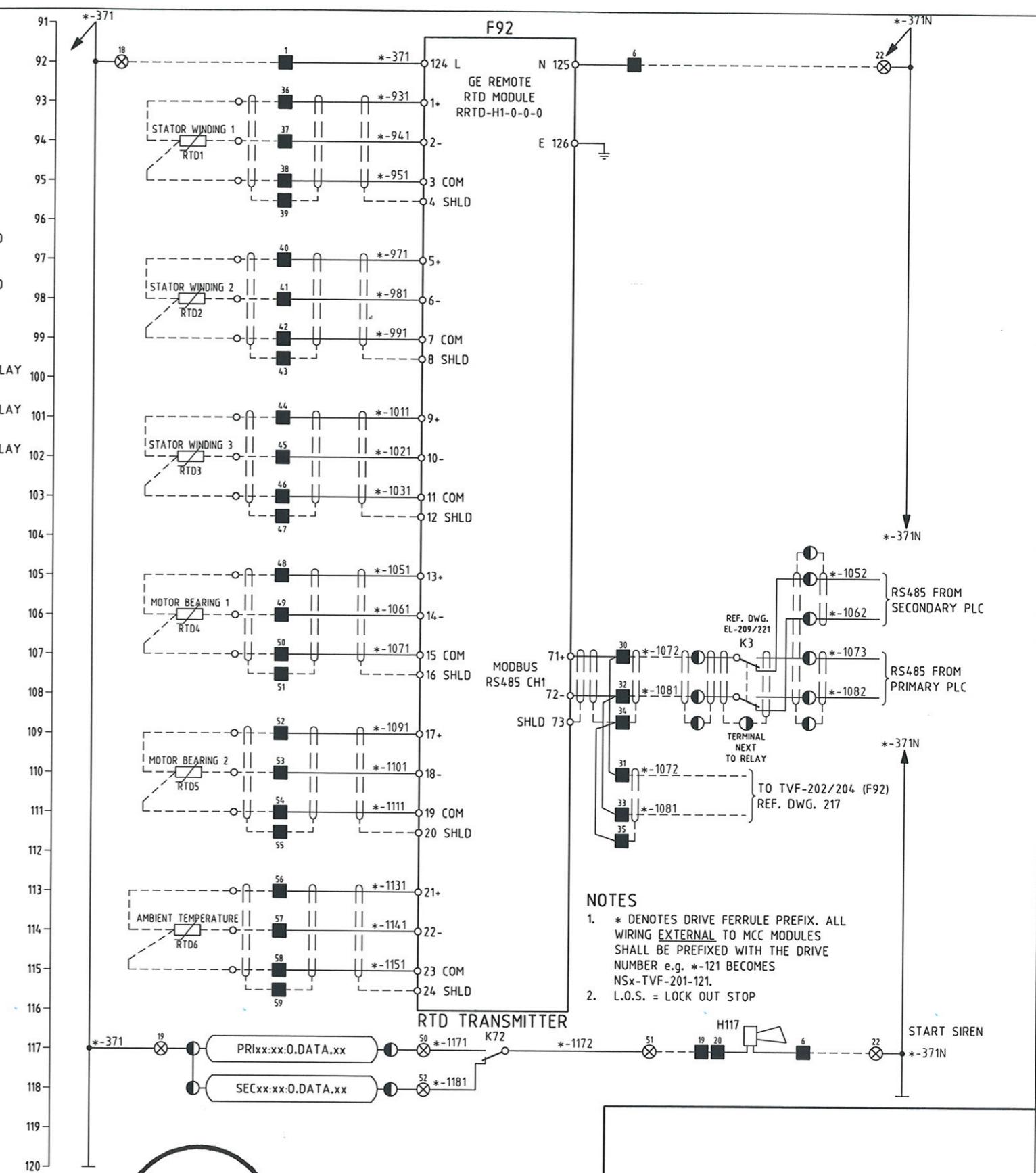
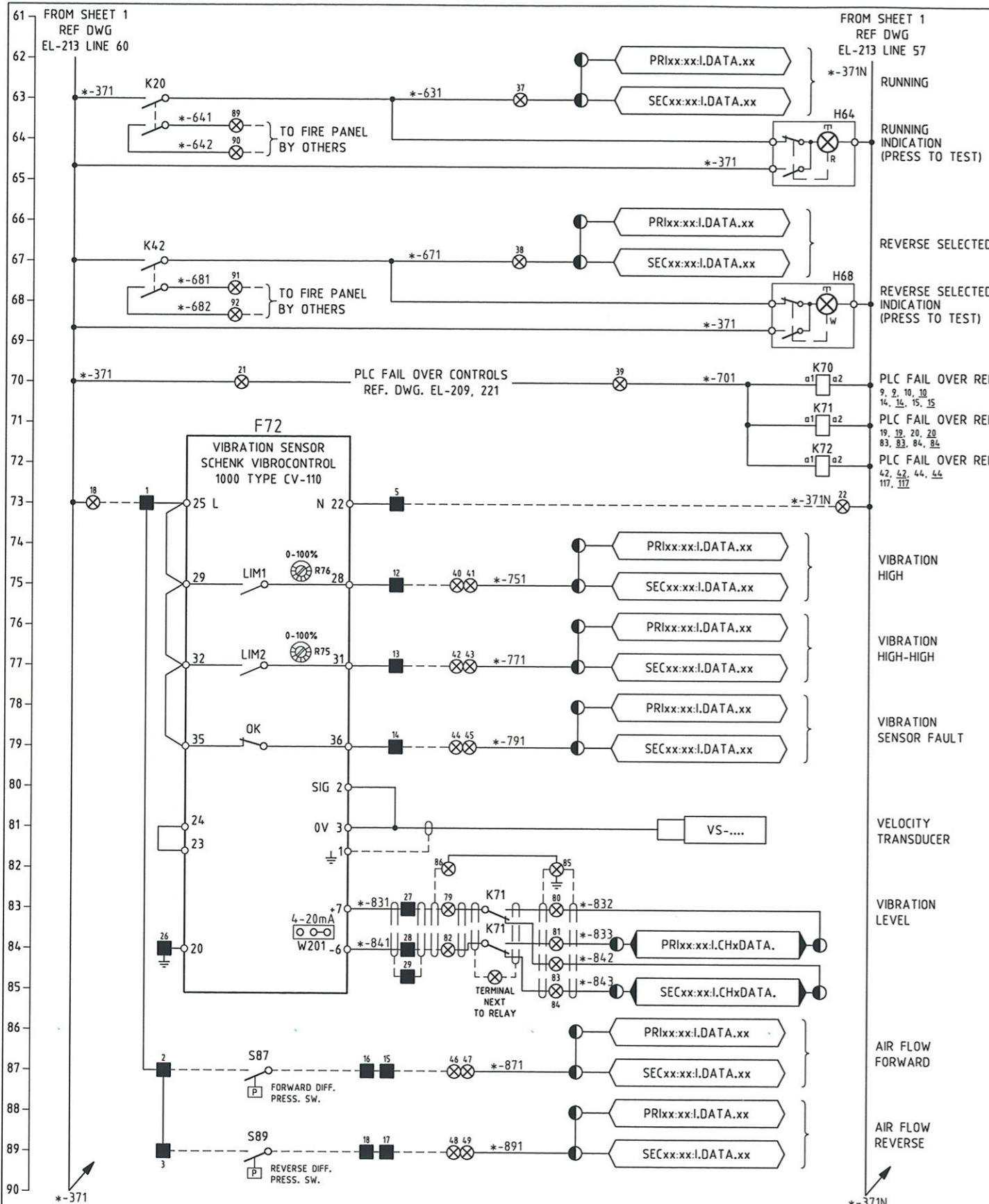
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DRAWN	GH
CHECKED	HHS
IN CHARGE	CS
DATE	06/27/08
SCALE	
APPROVED	
DATE	

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
NORTH SIDE STATION

NS-TVF-201 & 203 TUNNEL VENT FAN ELECTRICAL SCHEMATIC DIA SHT 1 OF 2

Port Authority	CONTRACT NO. NSC-009
DWG. NO. EL-213	SHT. 693



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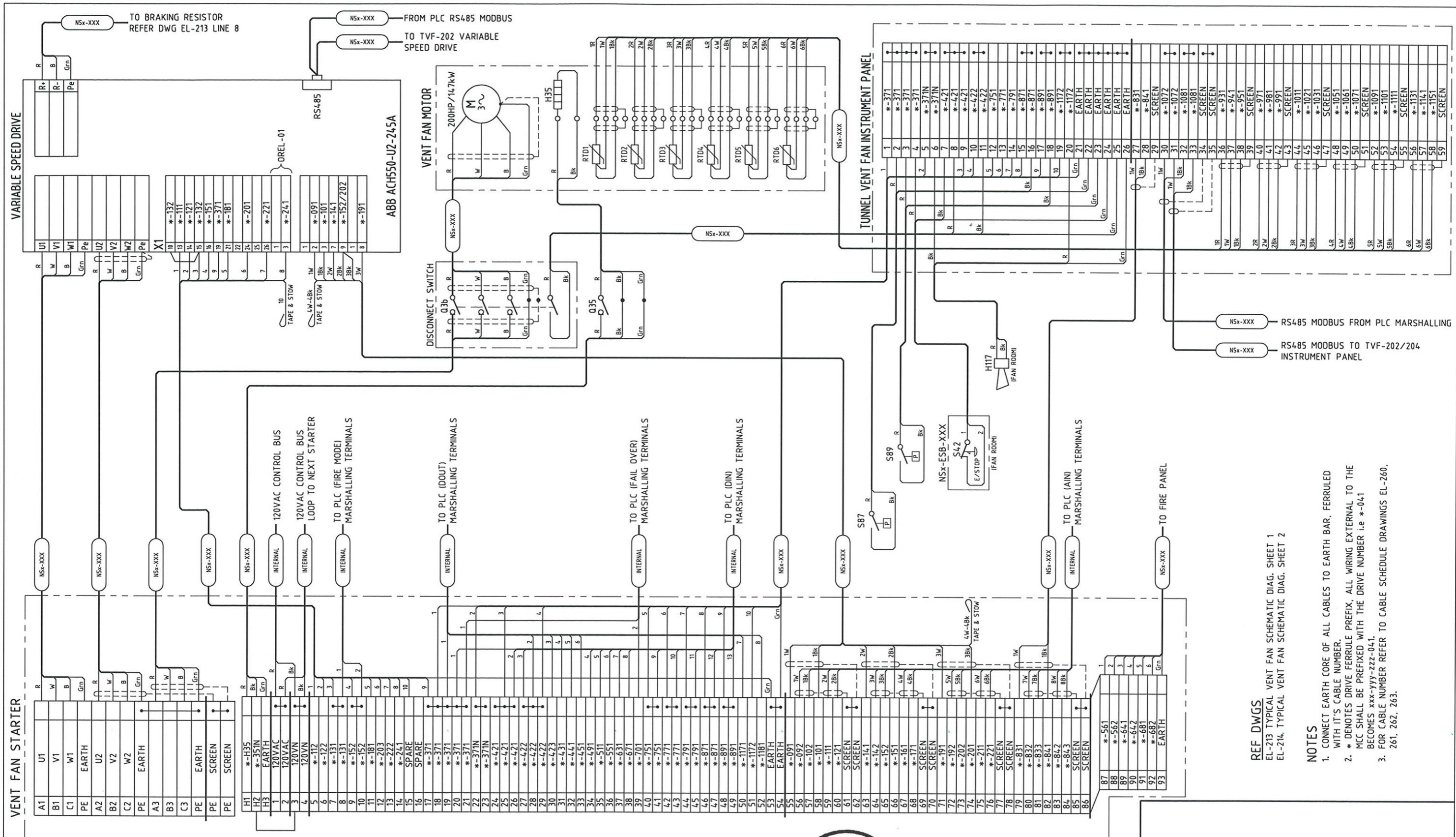
AL
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Y DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

PITTSBURGH **PENNSYLVANIA**

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
NORTH SIDE STATION

201 & 203 TUNNEL VENT FAN ELECTRICAL SCHEMATIC DIA SHT 2 OF 2

*-574N



REF DWGS

EL-213 TYPICAL VENT FAN SCHEMATIC DIAG. SHEET 1
EL-214 TYPICAL VENT FAN SCHEMATIC DIAG. SHEET 2

NOTES

1. CONNECT EARTH CORE OF ALL CABLES TO EARTH BAR, FERRULE WITH ITS CABLE NUMBER.
2. * DENOTES DRIVE FERRULE PREFIX. ALL WIRING EXTERNAL TO THE MCC SHALL BE PREFIXED WITH THE DRIVE NUMBER i.e. *-041 BECOMES xxx-yyyy-zzz-041.
3. FOR CABLE NUMBER REFER TO CABLE SCHEDULE DRAWINGS EL-260, 261, 262, 263.

MAUNSELL | AECOM

Maunsell Australia Pty Ltd A.B.N. 20 093 846 925

George J. Stacey
APPROVED

JUNE 27 08
DATE

NO.	DATE	DESCRIPTION	REVISIONS

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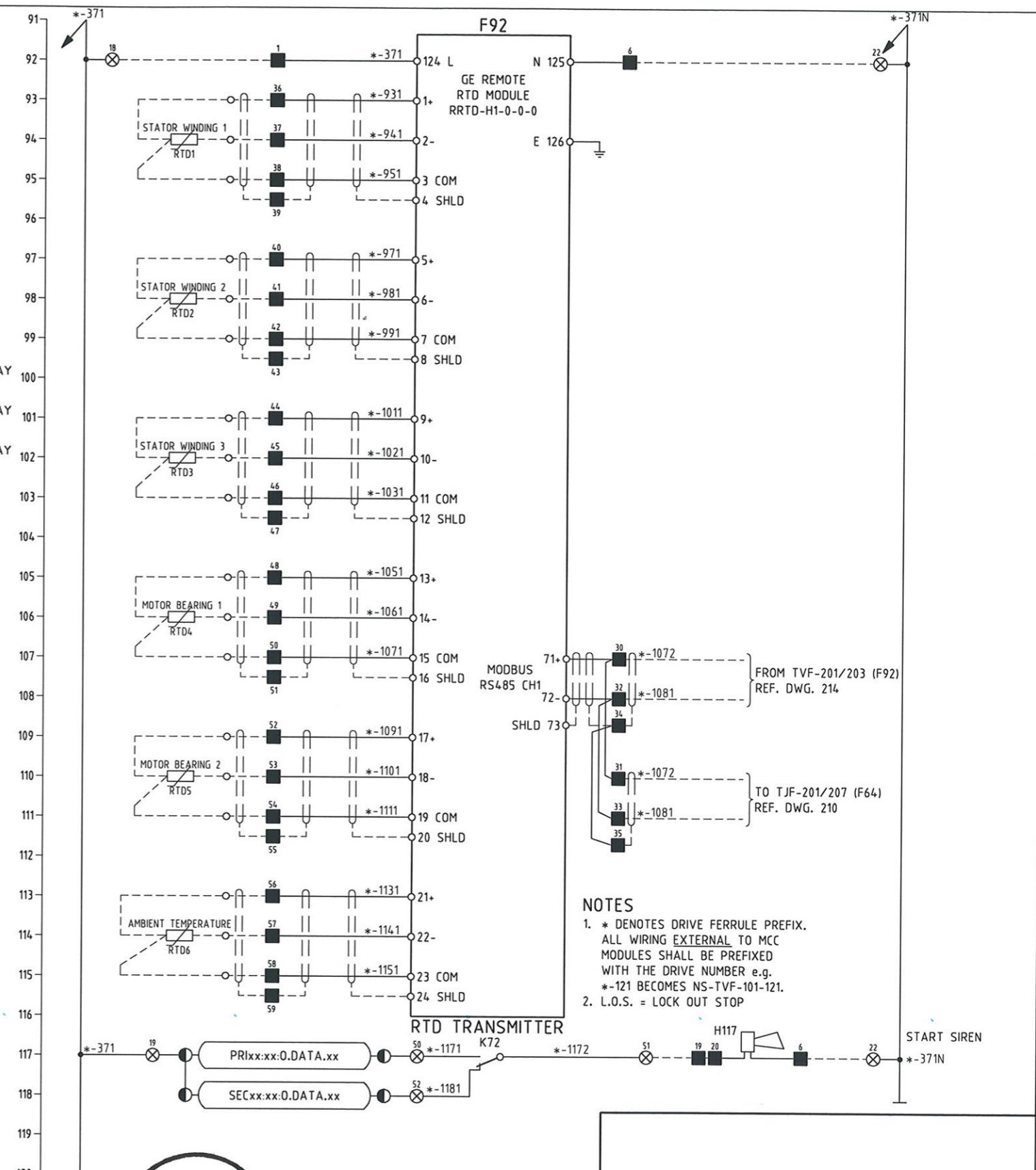
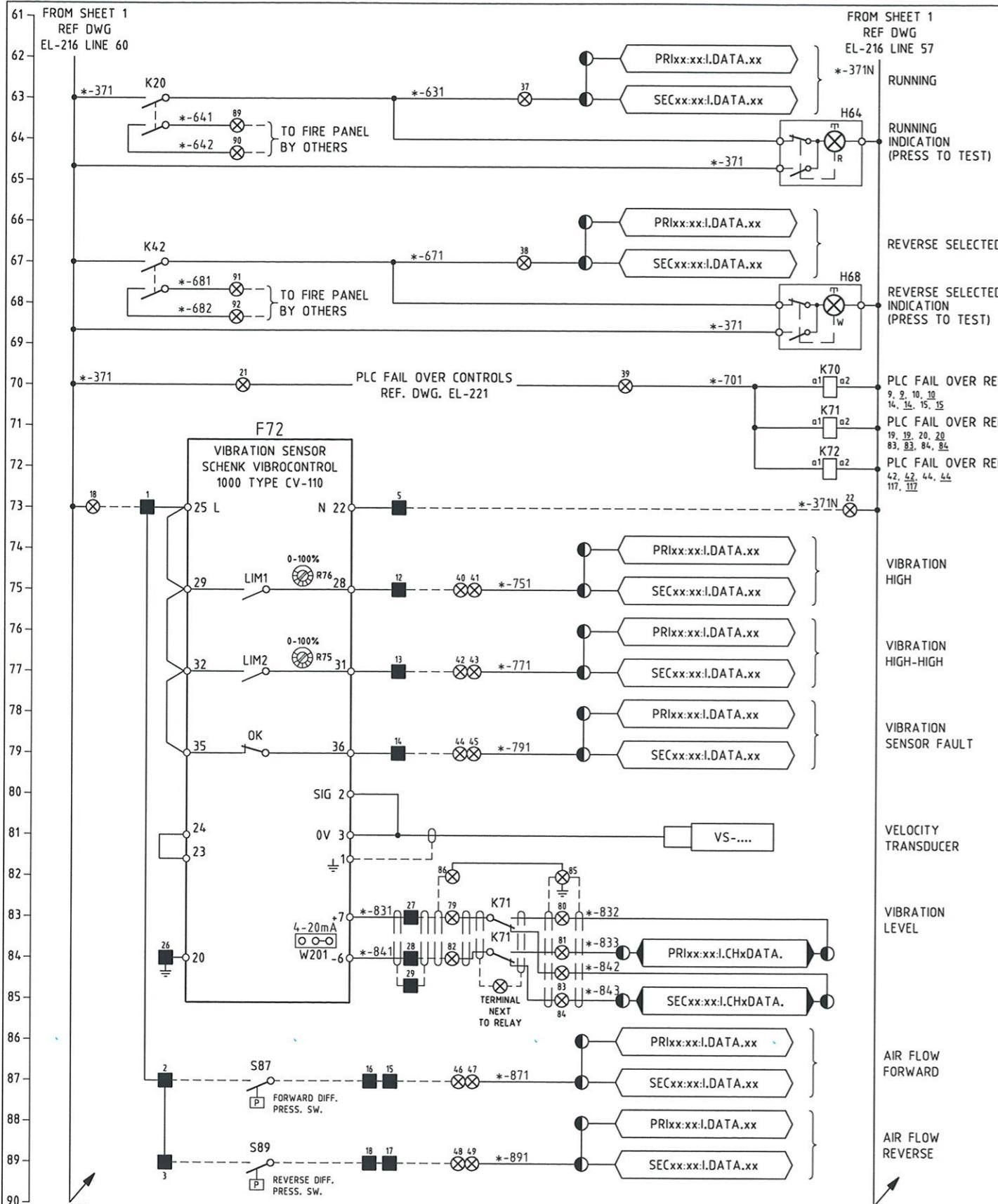
REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND
CONRAD H.R. STACEY
RPEQ 5128
SIGNATURE PATP #002194

DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

APPROVED DATE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
NORTH SIDE STATION
NS-TVF-201 & 203 TUNNEL VENT FAN ELECTRICAL CONNECTION DIAGRAM

Port Authority CONTRACT NO. NSC-009
DWG. NO. EL-215 SHT. 695



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REGISTERED
PROFESSIONAL
ENGINEER OF
QUEENSLAND
CONRAD H.B. STACEY
RPEQ 5128

PITTSBURGH PORT AUTHORITY OF ALLEGHENY COUNTY PENNSYLVANIA

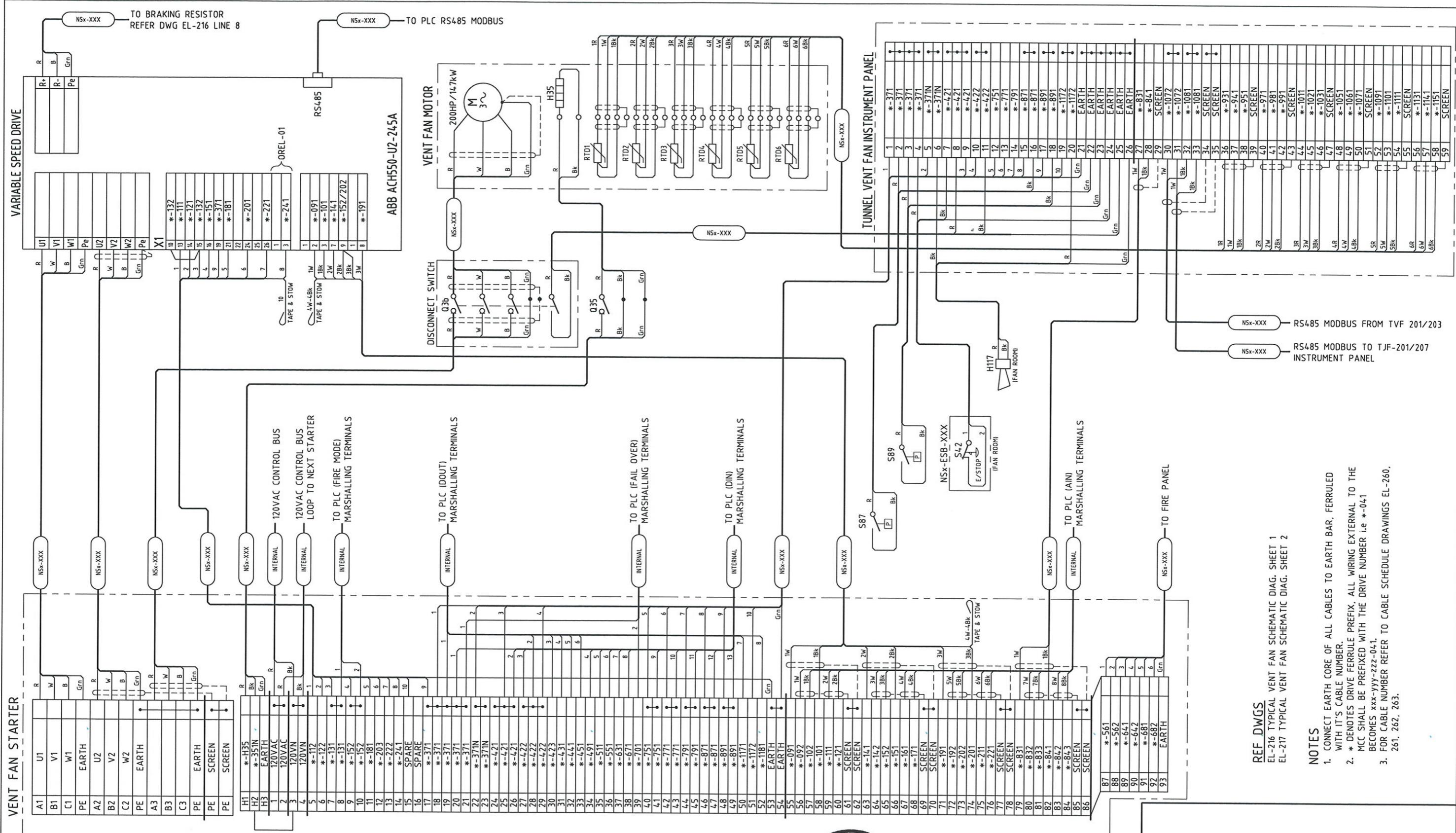
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
NORTH SIDE STATION
202 & 204 TUNNEL VENT FAN ELECTRICAL SCHEMATIC DIA SHT 2 OF 2

Port Authority <small>connecting people to opportunity</small>	CONTRACT NO. NSC-009
	DWG. NO. EL-217 SHT. 697

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JUN 27 08
DATE



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APPROVED *[Signature]* JUNE 27 08 DATE

NO.	DATE	DESCRIPTION	REVISIONS

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REGISTERED
PROFESSIONAL
ENGINEER OF
QUEENSLAND
CONRAD H.B. STACEY
RPEQ 5128
SIGNATURE
PATP #002194

DMJM HARRIS | AECOM

FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

APPROVED DATE

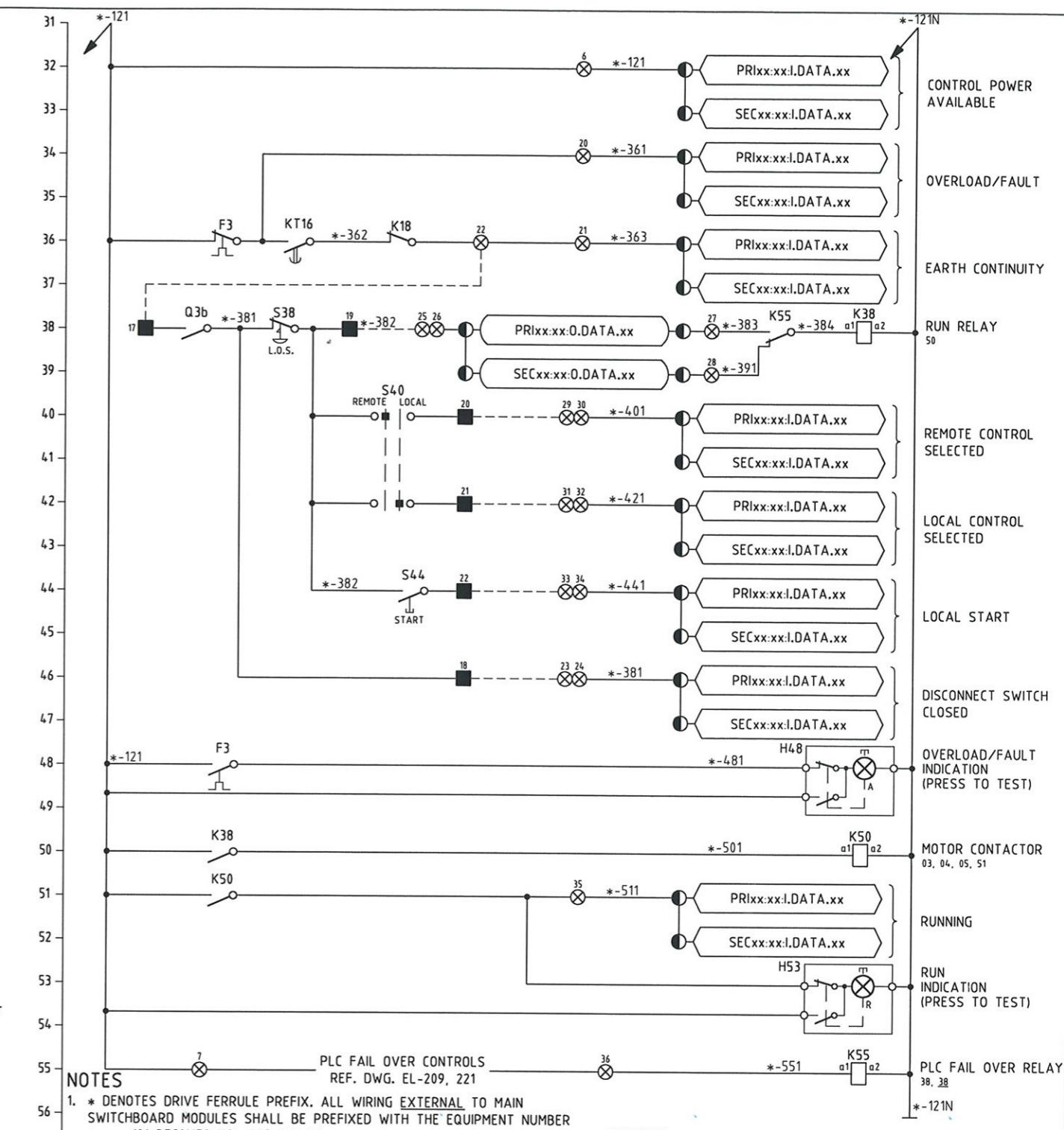
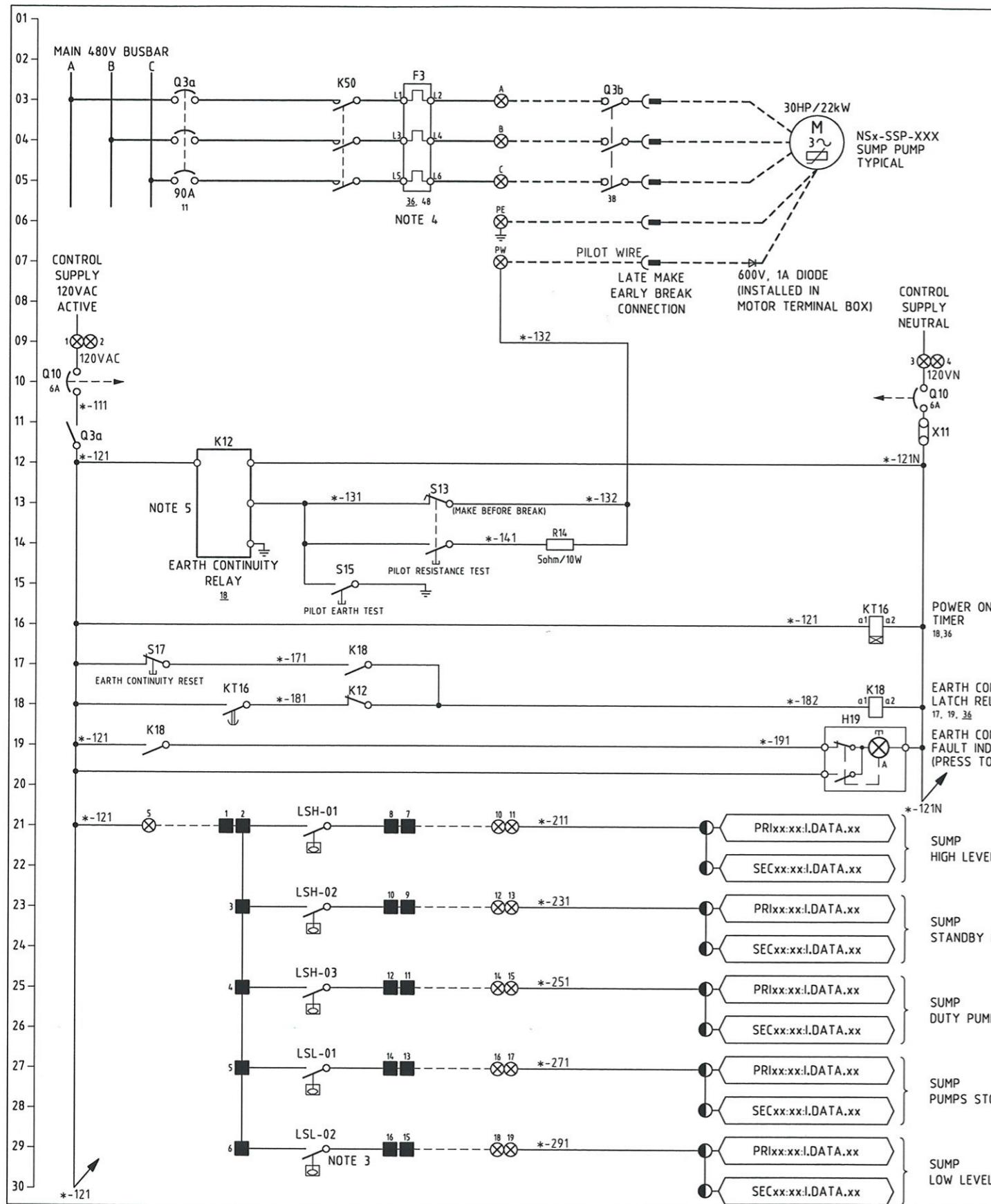
PORT AUTHORITY OF ALLEGHENY COUNTY

PITTSBURGH PENNSYLVANIA

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
NORTH SIDE STATION

NS-TVF-202 & 204 TUNNEL VENT FAN ELECTRICAL CONNECTION DIAGRAM

Port Authority CONTRACT NO. NSC-009
DWG. NO. EL-218 SHT. 698



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REGISTERED
PROFESSIONAL
ENGINEER OF
QUEENSLAND
CONRAD H.B. STACEY
RPEQ 5128

DMJM HARRIS | AECOM

PITTSBURGH **PENNSYLVANIA**

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
NORTH SIDE STATION

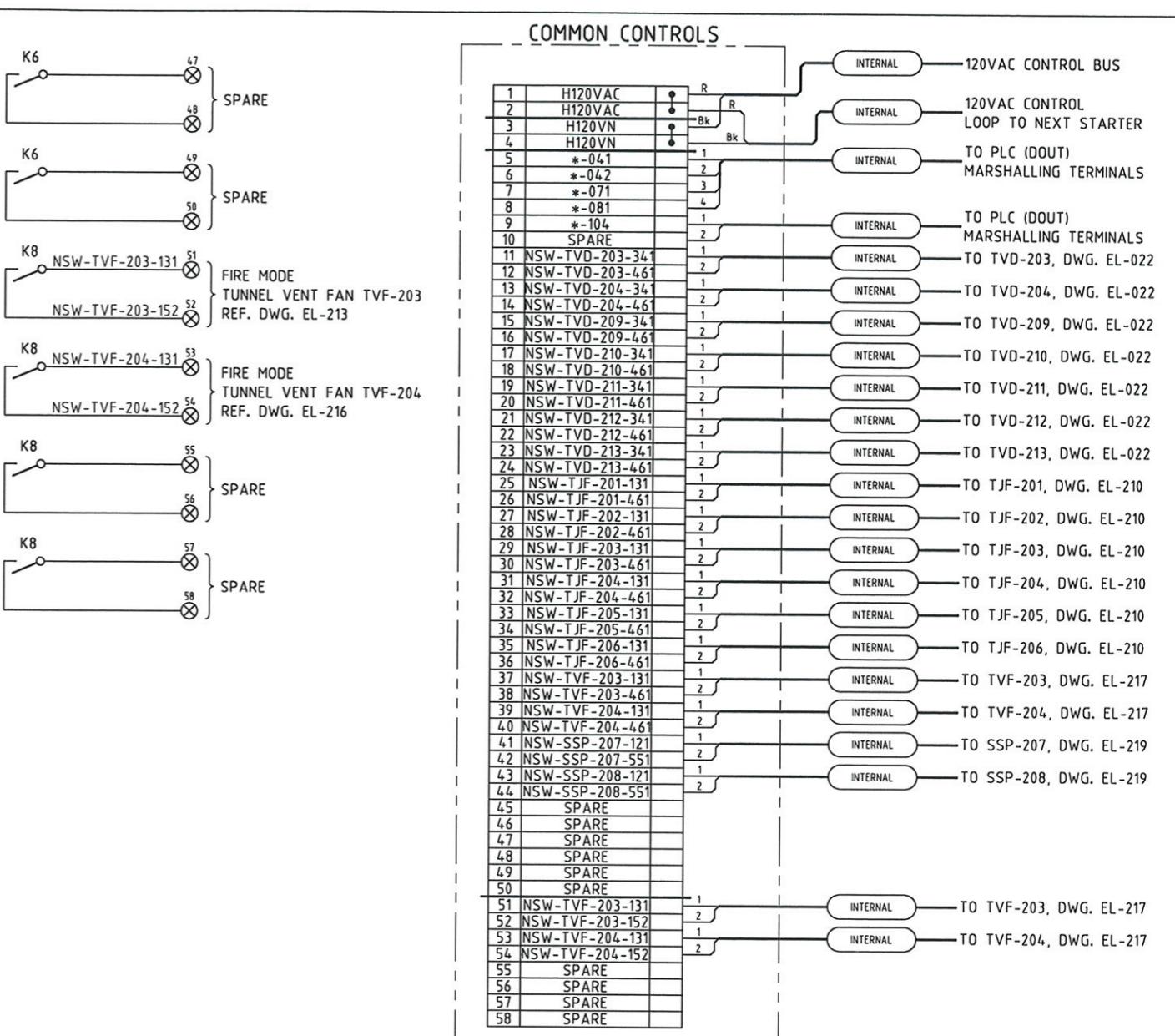
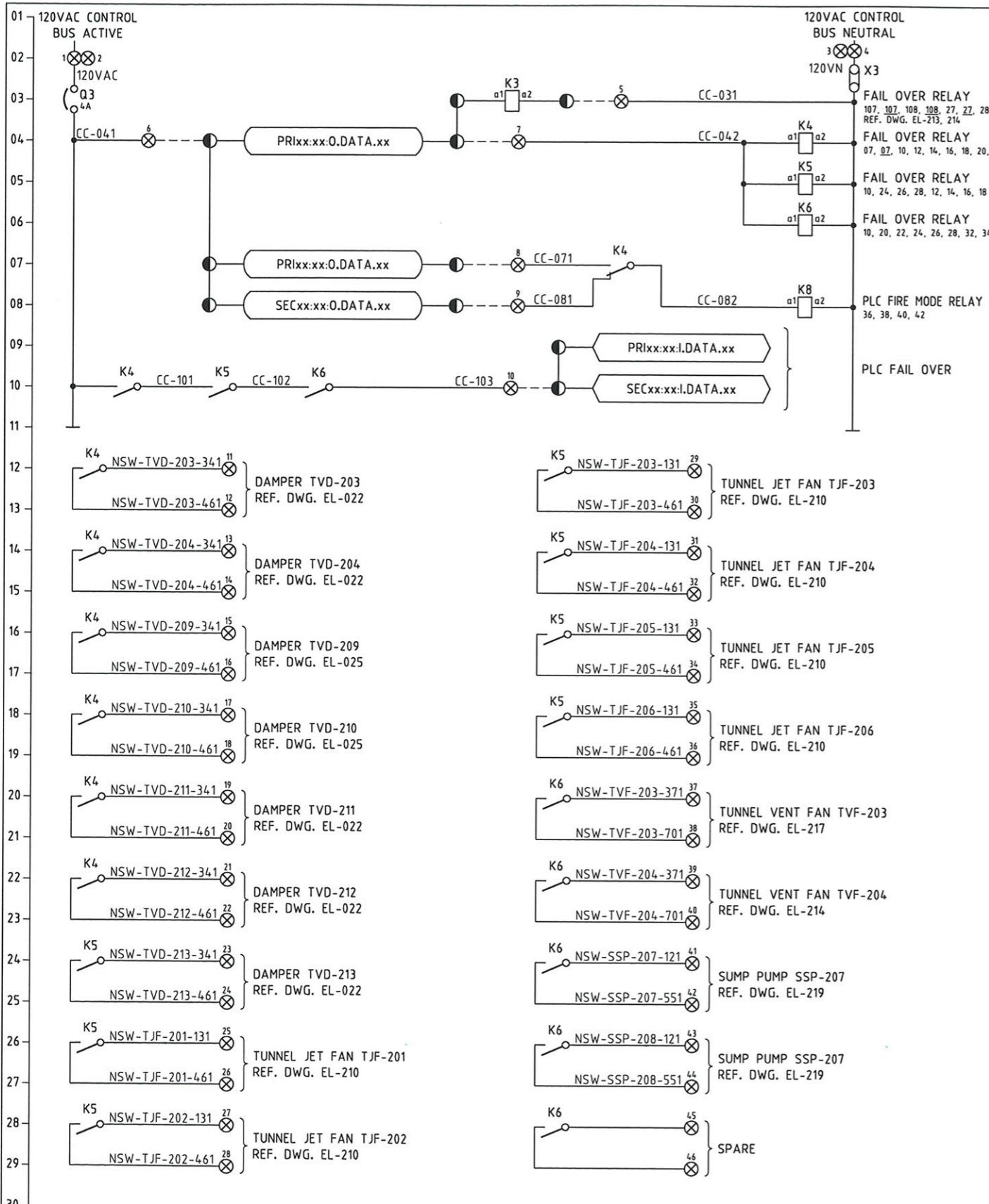
NS-SSP-201 - 208 TUNNEL SUMP PUMP ELECTRICAL SCHEMATIC DIAGRAM

PITTSBURGH **PENNSYLVANIA**

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
NORTH SIDE STATION

NS-SSP-201 - 208 TUNNEL SUMP PUMP ELECTRICAL SCHEMATIC DIAGRAM

Port Authority	CONTRACT NO.	NSC-009
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Maunsell Australia Pty Ltd A.B.N. 20 093 846 925

APPROVED
Signature

JUNE 27 08
DATE

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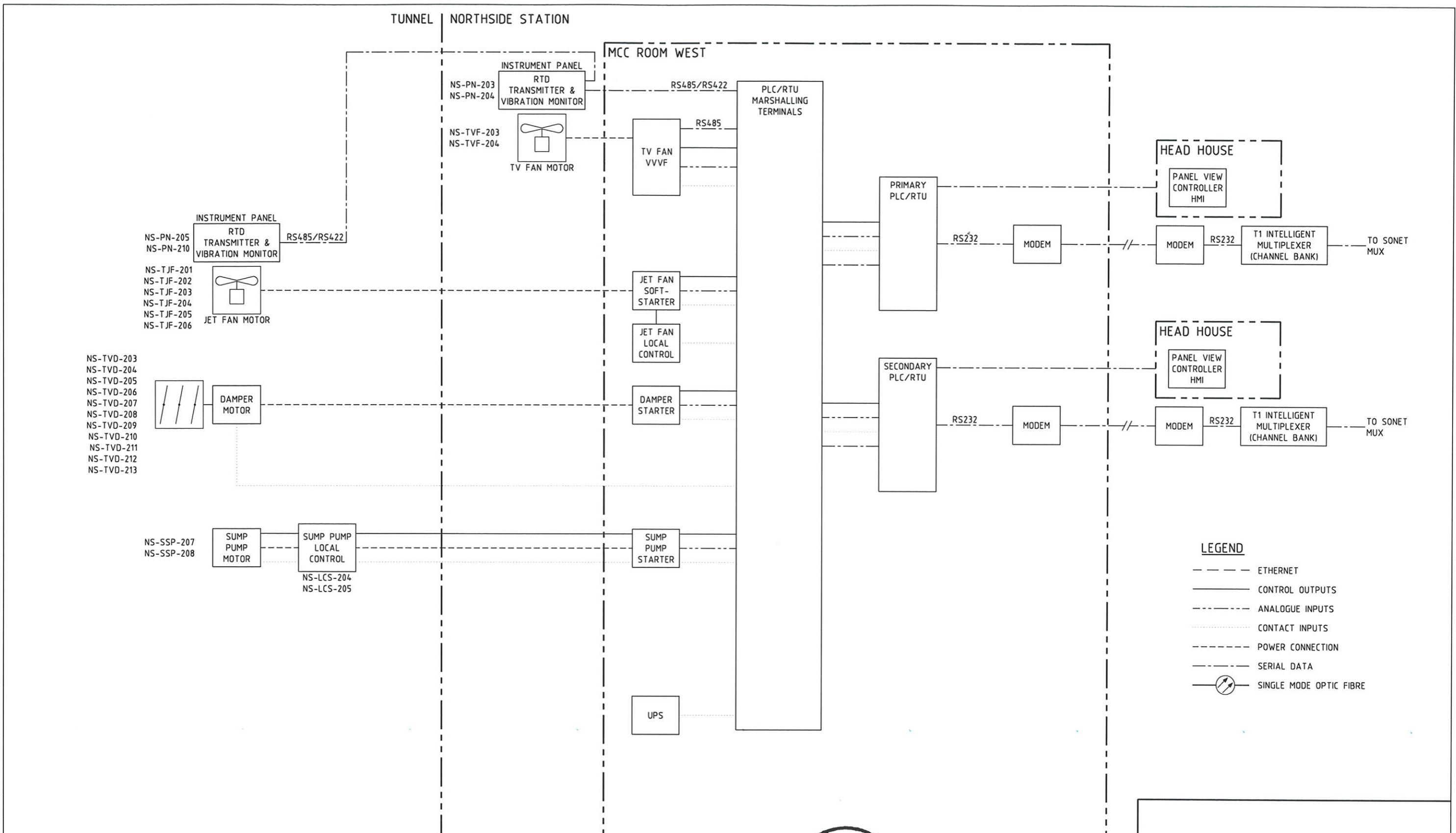
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PROFESSIONAL
ENGINEER OF
QUEENSLAND
CONRAD H.B. STACEY
RPEQ 5128
PATP #002194

DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
APPROVED
DATE

DESIGNED TS
DRAWN GH
CHECKED MHS
IN CHARGE CS
DATE 06/27/08
SCALE

Port Authority
Contract No. NSC-009
DWG. NO. EL-221
SHT. 701

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
NORTH SIDE STATION (WEST)
COMMON CONTROLS PLC FAIL OVER



MAUNSELL | AECOM
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925
Gary J. Stacey
APPROVED
JUNE 27 08
DATE

NO.	DATE	DESCRIPTION
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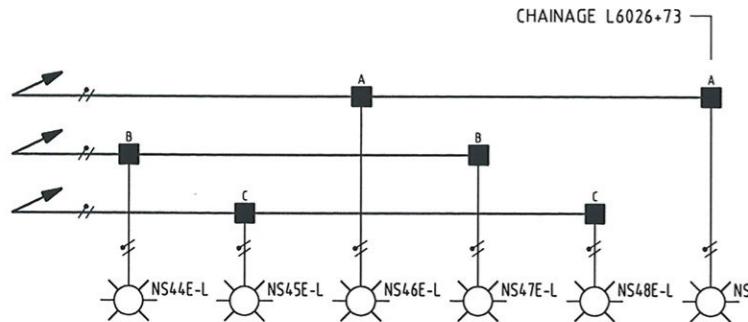
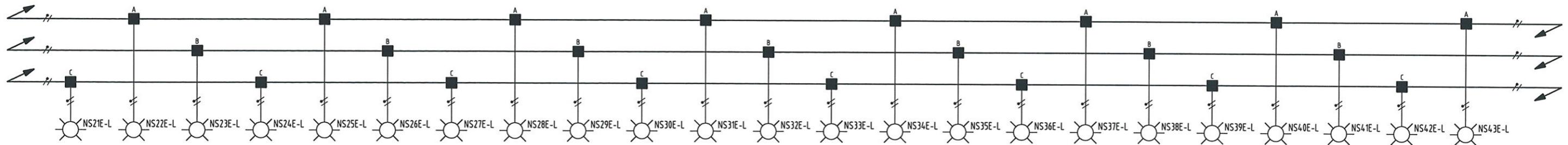
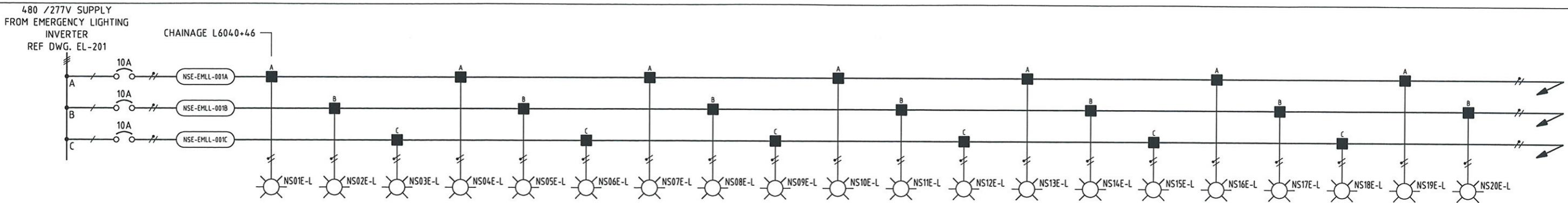
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REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND
CONRAD H.B. STACEY
RPEQ 5128
C. Stacey
SIGNATURE PATP #002194
APPROVED DATE

FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

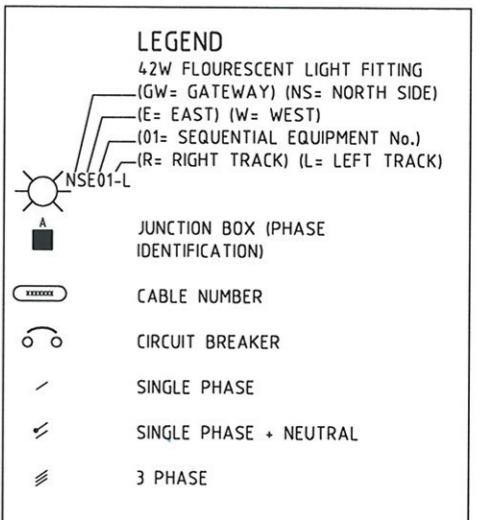
PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
NORTH SIDE STATION
CONTROL SYSTEM BLOCK DIAGRAM SHEET 1 OF 2

Port Authority	CONTRACT NO. NSC-009
DWG. NO. EL-230	SHT. 702



NOTE

1. LUMINAIRE TO BE SCHREIDER MY2-PL42 c/w 42W FLOURESCENT LAMP AND SURFACE MOUNTING BRACKET.
2. FOR CABLE NUMBERS REFER TO CABLE SCHEDULE DRAWINGS EL-260, 261, 262, 263.



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APPROVED *[Signature]* DATE JUNE 27 08

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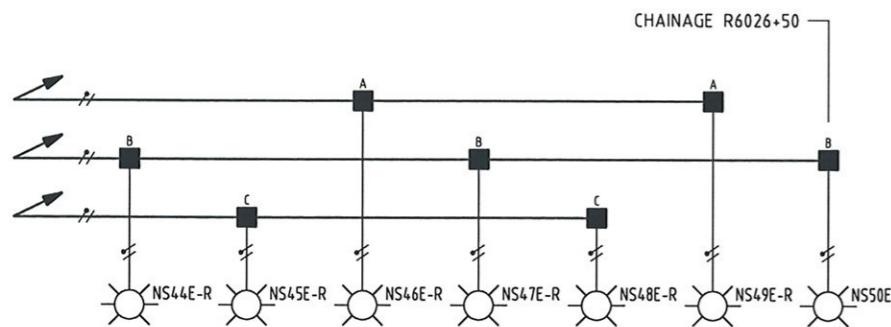
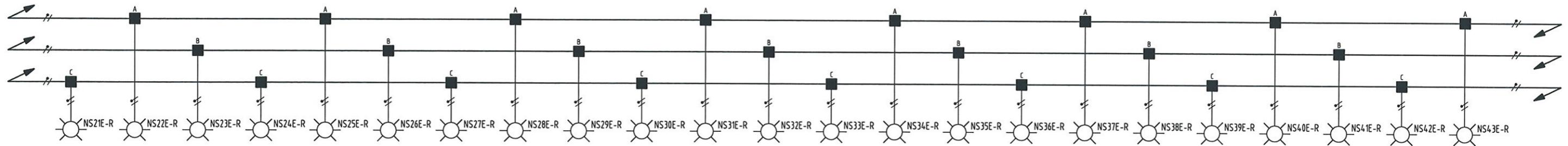
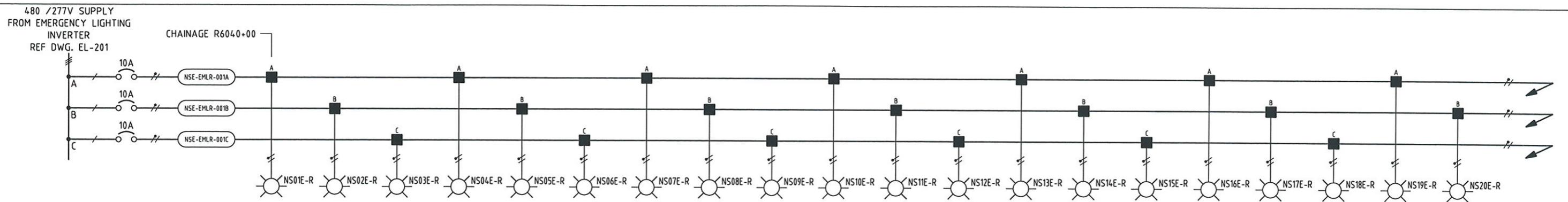
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PROFESSIONAL
ENGINEER OF
QUEENSLAND
CONRAD H.R. STACY
RPEQ 5128
[Signature]
PATP #00294

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FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

DESIGNED TS
DRAWN GH
CHECKED MHS
IN CHARGE CS
DATE 06/27/08
SCALE

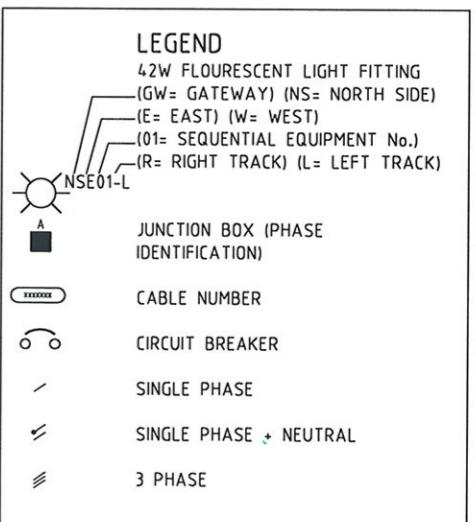
PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
NORTH SIDE STATION
TUNNEL LIGHTING ELECTRICAL SCHEMATIC SHEET 1 OF 3

Port Authority CONTRACT NO. NSC-009
DWG. NO. EL-240 SHT. 704



NOTE

1. LUMINAIRE TO BE SCHREADER MY2-PL42 c/w 42W FLOURESCENT LAMP AND SURFACE MOUNTING BRACKET.
 2. FOR CABLE NUMBERS REFER TO CABLE SCHEDULE DRAWINGS EL-260, 261, 262, 263.



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JUNE 27 0⁹
DATE

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PORT AUTHORITY OF ALLEGHENY COUNTY

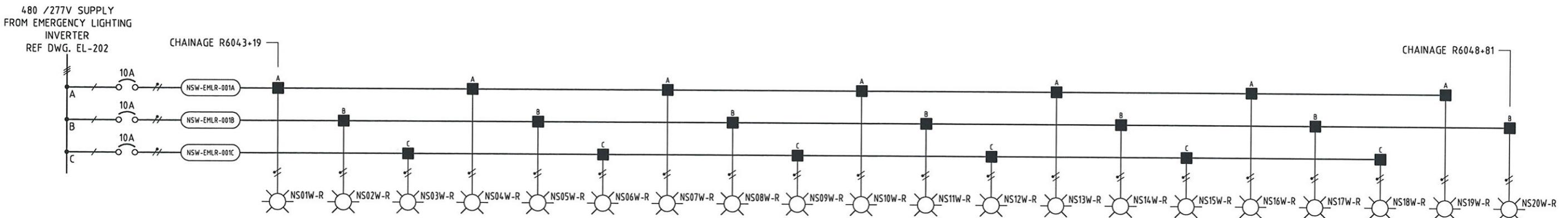
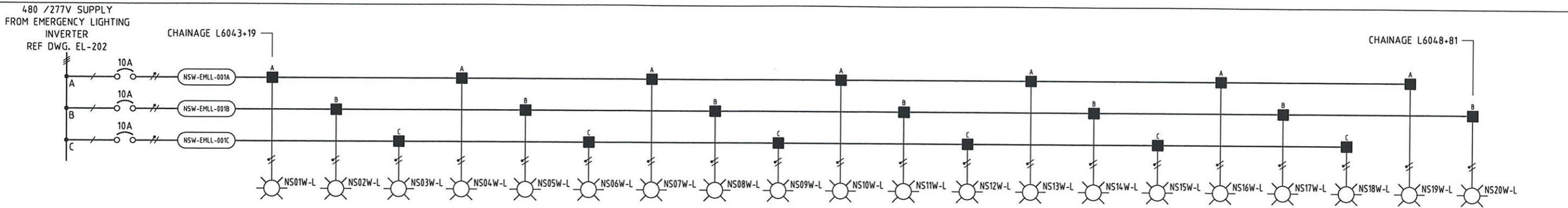
PITTSBURGH PENNSYLVANIA

**NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
NORTH SIDE STATION**

NORTH SIDE STATION
TUNNEL LIGHTING ELECTRICAL SCHEMATIC SHEET 2 OF 3

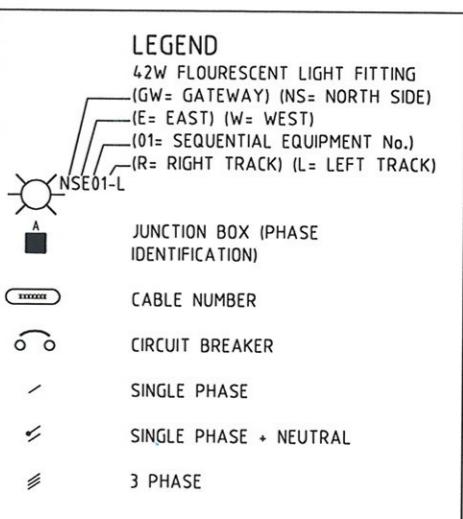
WILSON LIGHTING ELECTRICAL SCHEMATIC SHEET 2 OF 3

Port Authority CONTRACT NO. NSC-009



NOTE

1. LUMINAIRE TO BE SCHREIDER MY2-PL42 c/w 42W FLOURESCENT LAMP AND SURFACE MOUNTING BRACKET.
2. FOR CABLE NUMBERS REFER TO CABLE SCHEDULE DRAWINGS EL-260, 261, 262, 263.



MAUNSELL | AECOM

Maunsell Australia Pty Ltd A.B.N. 20 093 846 925

APPROVED *George Jameson* DATE *JUNE 27 08*

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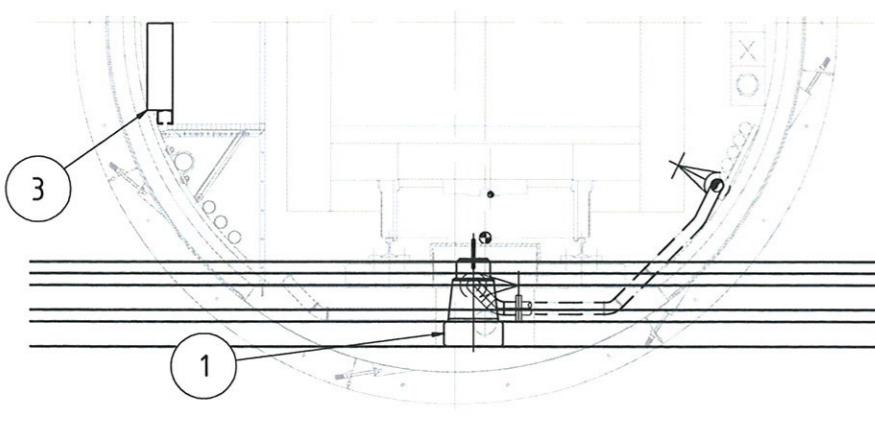


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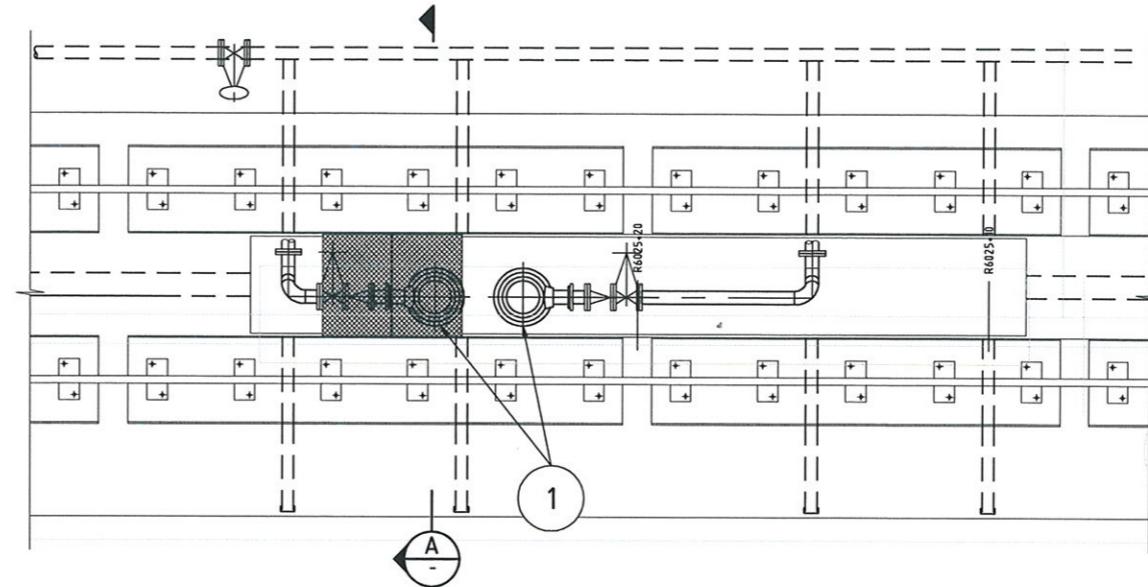
APPROVED _____ DATE _____

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
NORTH SIDE STATION
TUNNEL LIGHTING ELECTRICAL SCHEMATIC SHEET 3 OF 3

Port Authority CONTRACT NO. NSC-009
DWG. NO. EL-242 SHT. 706

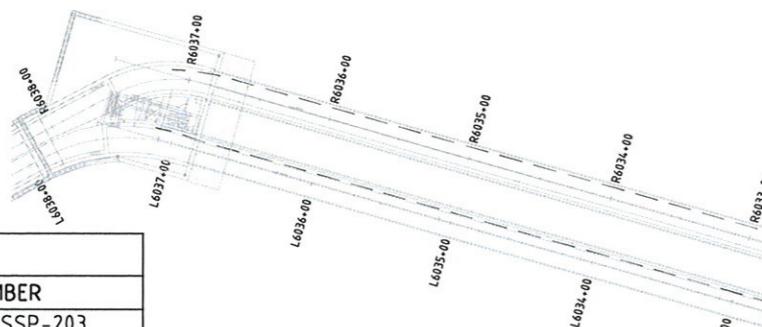


SECTION
SCALE 3/8"-1"



TYPICAL PLAN OF LOW POINT
SUMP PIT

SCALE 3/8" - 1'-0"



LOCATION PLAN

SCALE 3/8" - 1'-0"

DEVICE LIST		
ITEM NUMBER	DEVICE	NUMBER
1	TUNNEL SUMP PUMPS	NS-SSP-203 NS-SSP-204
2	TUNNEL SUMP PUMPS	NS-SSP-201 NS-SSP-202
3	LOCAL CONTROL STATION	NS-LCS-201
4	LOCAL CONTROL STATION	NS-LCS-202
5	LOCAL CONTROL STATION	NS-LCS-207
6	LOCAL CONTROL STATION	NS-LCS-208

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Maunsell Australia Pty Ltd A.B.N. 20 093 846 925	JUNE 27 08	
APPROVED	DATE	DESCRIPTION
Gary Hansen		REVISIONS

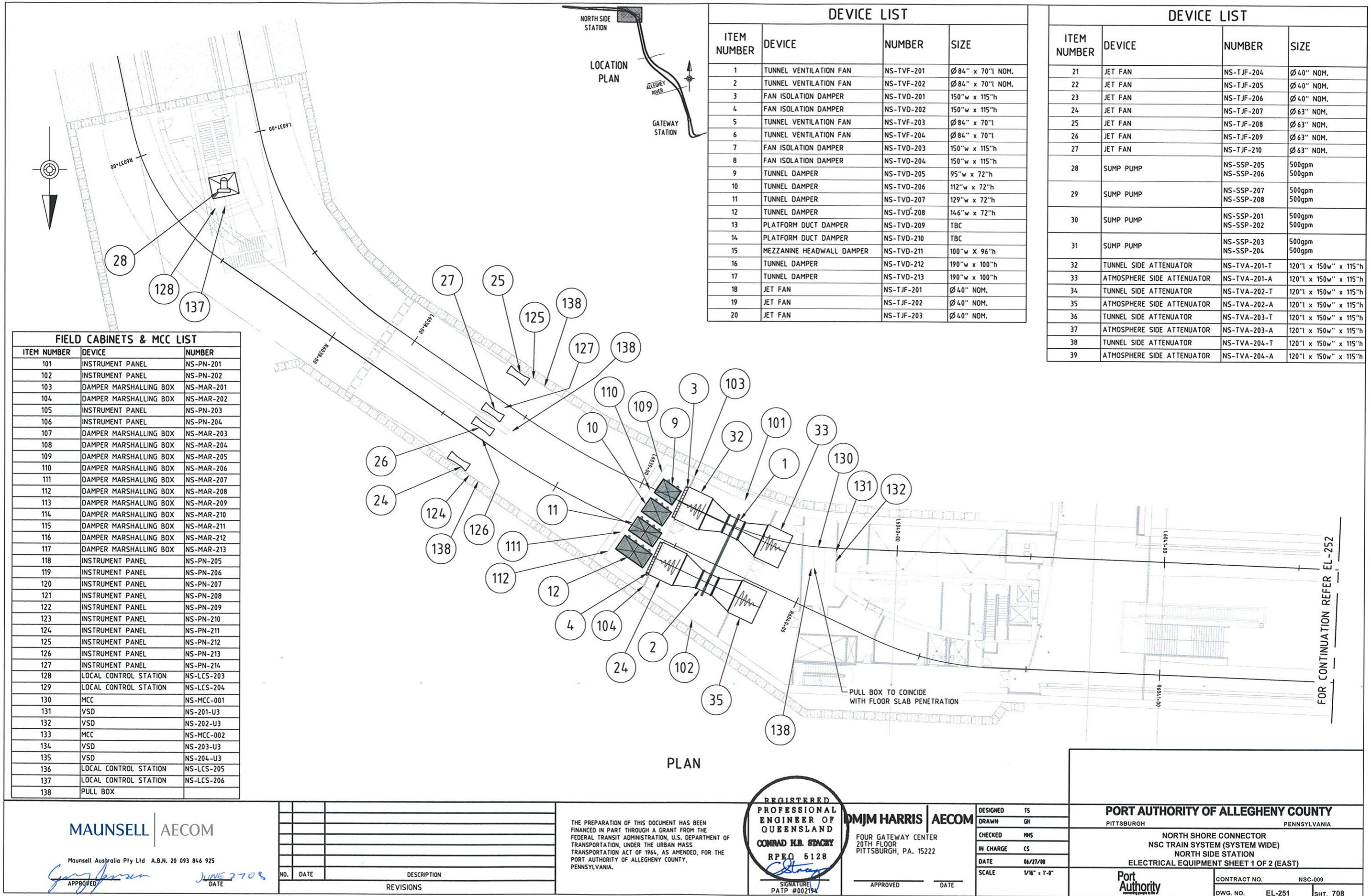
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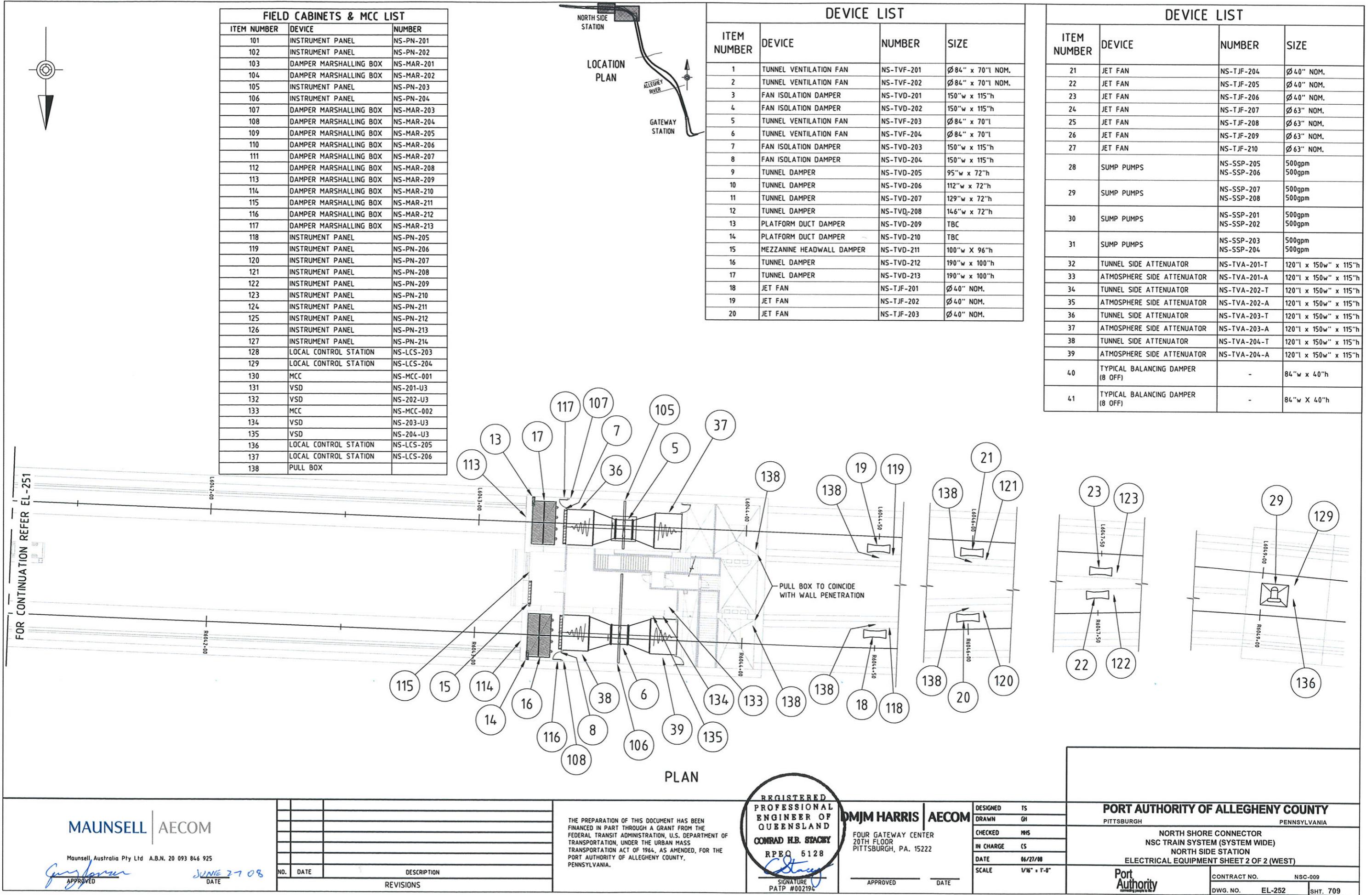
REGISTERED
PROFESSIONAL
ENGINEER OF
QUEENSLAND
CONRAD H.B. STACEY
RPEQ 5128
C. Stacey
PATP #002194

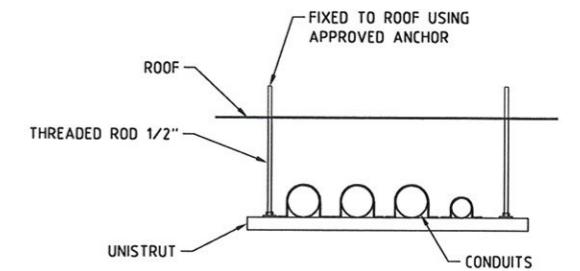
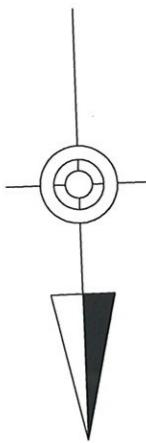
DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

APPROVED DATE
Signature: _____
PATP #002194

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
GATEWAY LINE
ELECTRICAL EQUIPMENT
Port Authority
CONTRACT NO. NSC-009
DWG. NO. EL-250
SHT. 707

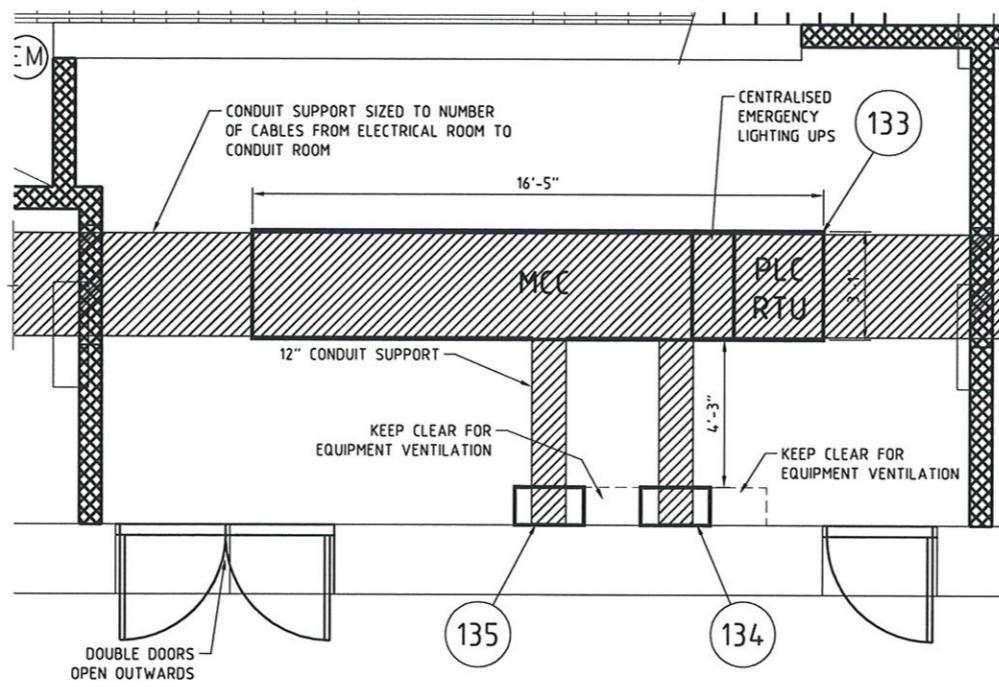






CONDUIT SUPPORT DETAIL
SCALE N.T.S.

FIELD CABINETS & MCC LIST		
ITEM NUMBER	DEVICE	NUMBER
101	INSTRUMENT PANEL	NS-PN-201
102	INSTRUMENT PANEL	NS-PN-202
103	DAMPER MARSHALLING BOX	NS-MAR-201
104	DAMPER MARSHALLING BOX	NS-MAR-202
105	INSTRUMENT PANEL	NS-PN-203
106	INSTRUMENT PANEL	NS-PN-204
107	DAMPER MARSHALLING BOX	NS-MAR-203
108	DAMPER MARSHALLING BOX	NS-MAR-204
109	DAMPER MARSHALLING BOX	NS-MAR-205
110	DAMPER MARSHALLING BOX	NS-MAR-206
111	DAMPER MARSHALLING BOX	NS-MAR-207
112	DAMPER MARSHALLING BOX	NS-MAR-208
113	DAMPER MARSHALLING BOX	NS-MAR-209
114	DAMPER MARSHALLING BOX	NS-MAR-210
115	DAMPER MARSHALLING BOX	NS-MAR-211
116	DAMPER MARSHALLING BOX	NS-MAR-212
117	DAMPER MARSHALLING BOX	NS-MAR-213
118	INSTRUMENT PANEL	NS-PN-205
119	INSTRUMENT PANEL	NS-PN-206
120	INSTRUMENT PANEL	NS-PN-207
121	INSTRUMENT PANEL	NS-PN-208
122	INSTRUMENT PANEL	NS-PN-209
123	INSTRUMENT PANEL	NS-PN-210
124	INSTRUMENT PANEL	NS-PN-211
125	INSTRUMENT PANEL	NS-PN-212
126	INSTRUMENT PANEL	NS-PN-213
127	INSTRUMENT PANEL	NS-PN-214
128	LOCAL CONTROL STATION	NS-LCS-203
129	LOCAL CONTROL STATION	NS-LCS-204
130	MCC	NS-MCC-001
131	VSD	NS-201-U3
132	VSD	NS-202-U3
133	MCC	NS-MCC-002
134	VSD	NS-203-U3
135	VSD	NS-204-U3
136	LOCAL CONTROL STATION	NS-LCS-205
137	LOCAL CONTROL STATION	NS-LCS-206



MCC ROOM NORTH SIDE (WESTERN END) PLAN

SCALE 3/8" = 1'0"

MAUNSELL AECOM									
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925		APPROVED		DATE		JUNE 27 08			
NO.	DATE	DESCRIPTION		REVISIONS					
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						PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH PENNSYLVANIA NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) NORTH SIDE STATION ELECTRICAL SWITCH ROOM LAYOUT (WEST)		Port Authority CONTRACT NO. NSC-009 DWG. NO. SHT. 711	

REV	Source	Destination	Cable Number	Cable Type	Voltage Rating	Cores	AWG/MCM	Conduit #
0	North Side Station East MCC	Disconnect Switch	NSE-TJF-207-P01	Fire Rated	600V	Multicore 3C+E	1/0	6 M201, M217
0	Disconnect Switch	TJF Fan NS-TJF-207	NSE-TJF-207-P02	Fire Rated	600V	Multicore 3C+E	1/0	6
0	North Side Station East MCC	Jet Fan Instrument Panel NS-PN-211 Ctr Digital	NSE-TJF-207-C01	Fire Rated	600V	Multicore 12C+E	12	8 M202, M218
0	North Side Station East MCC	Jet Fan Instrument Panel NS-PN-211 Ctr Analog Vibration	NSE-TJF-207-I01	LSZH	600V	1 Pair shielded	14	M203, M219
0	North Side Station East MCC	Jet Fan NS-TJF-207 Heater	NSE-TJF-207-S01	Fire Rated	600V	Multicore 2C+E	12	8 M202, M218
0	Jet Fan NS-TJF-207 RTD	Jet Fan Instrument Panel NS-PN-211 Ctr Analog	NSE-TJF-207-R01	LSZH	600V	6 Triple Individual shielded	14	
0	Tunnel Vent Fan Instrument Panel NS-PN-202	Jet Fan Instrument Panel NS-PN-211	NSE-TJF-207-L01	LSZH	600V	1 Pair shielded	14	M239, M233, M203, M219
0	North Side Station East MCC	Disconnect Switch	NSE-TJF-208-P01	Fire Rated	600V	Multicore 3C+E	1/0	6 M201, M223
0	Disconnect Switch	TJF Fan NS-TJF-208	NSE-TJF-208-P02	Fire Rated	600V	Multicore 3C+E	1/0	6
0	North Side Station East MCC	Jet Fan Instrument Panel NS-PN-212 Ctr Digital	NSE-TJF-208-C01	LSZH	600V	Multicore 12C+E	12	8 M202, M224
0	North Side Station East MCC	Jet Fan Instrument Panel NS-PN-212 Ctr Analog Vibration	NSE-TJF-208-I01	LSZH	600V	1 Pair shielded	14	M203, M225
0	North Side Station East MCC	Jet Fan NS-TJF-208 Heater	NSE-TJF-208-S01	Fire Rated	600V	Multicore 2C+E	12	8 M202, M224
0	Jet Fan NS-TJF-208 RTD	Jet Fan Instrument Panel NS-PN-212 Ctr Analog	NSE-TJF-208-R01	LSZH	600V	6 Triple Individual shielded	14	
0	Jet Fan Instrument Panel NS-PN-214	Jet Fan Instrument Panel NS-PN-212	NSE-TJF-208-L01	LSZH	600V	1 Pair shielded	14	M228, M225
0	North Side Station East MCC	Disconnect Switch	NSE-TJF-209-P01	Fire Rated	600V	Multicore 3C+E	1/0	6 M200, M220
0	Disconnect Switch	TJF Fan NS-TJF-209	NSE-TJF-209-P02	Fire Rated	600V	Multicore 3C+E	1/0	6
0	North Side Station East MCC	Jet Fan Instrument Panel NS-PN-213 Ctr Digital	NSE-TJF-209-C01	LSZH	600V	Multicore 12C+E	12	8 M202, M221
0	North Side Station East MCC	Jet Fan Instrument Panel NS-PN-213 Ctr Analog Vibration	NSE-TJF-209-I01	LSZH	600V	1 Pair shielded	14	M203, M222
0	North Side Station East MCC	Jet Fan NS-TJF-209 Heater	NSE-TJF-209-S01	Fire Rated	600V	Multicore 2C+E	12	8 M202, M221
0	Jet Fan NS-TJF-209 RTD	Jet Fan Instrument Panel NS-PN-213 Ctr Analog	NSE-TJF-209-R01	LSZH	600V	6 Triple Individual shielded	14	
0	Jet Fan Instrument Panel NS-PN-211	Jet Fan Instrument Panel NS-PN-213	NSE-TJF-209-L01	LSZH	600V	1 Pair shielded	14	M219, M222
0	North Side Station East MCC	Disconnect Switch	NSE-TJF-210-P01	Fire Rated	600V	Multicore 3C+E	1/0	6 M200, M226
0	Disconnect Switch	TJF Fan NS-TJF-210	NSE-TJF-210-P02	Fire Rated	600V	Multicore 3C+E	1/0	6
0	North Side Station East MCC	Jet Fan Instrument Panel NS-PN-214 Ctr Digital	NSE-TJF-210-C01	LSZH	600V	Multicore 12C+E	12	8 M202, M227
0	North Side Station East MCC	Jet Fan Instrument Panel NS-PN-214 Ctr Analog Vibration	NSE-TJF-210-I01	LSZH	600V	1 Pair shielded	14	M203, M228
0	North Side Station East MCC	Jet Fan NS-TJF-210 Heater	NSE-TJF-210-S01	Fire Rated	600V	Multicore 2C+E	12	8 M202, M227
0	Jet Fan NS-TJF-210 RTD	Jet Fan Instrument Panel NS-PN-214 Ctr Analog	NSE-TJF-210-R01	LSZH	600V	6 Triple Individual shielded	14	
0	Jet Fan Instrument Panel NS-PN-213	Jet Fan Instrument Panel NS-PN-214	NSE-TJF-210-L01	LSZH	600V	1 Pair shielded	14	M222, M228
0	North Side Station East MCC	Disconnect Switch	NSE-TVF-201-P01	Fire Rated	600V	3 - 1C+ 2E	500	1/0 M229
0	Disconnect Switch	Tunnel Vent Fan NS-TVF-201	NSE-TVF-201-P02	Fire Rated	600V	3 - 1C+ 2E	500	1/0
0	North Side Station East MCC	VSD-201	NSE-TVF-201-P02	Fire Rated	600V	3 - 1C+ 2E	500	1/0
0	VSD-201	North Side Station East MCC	NSE-TVF-201-P03	Fire Rated	600V	3 - 1C+ 2E	500	1/0
0	North Side Station East MCC	Tunnel Vent Fan Instrument Panel NS-PN-201 Ctr Digital	NSE-TVF-201-C01	LSZH	600V	Multicore 12C+E	12	8 M231, M238
0	North Side Station East MCC	Tunnel Vent Fan Instrument Panel NS-PN-201 Ctr Analog	NSE-TVF-201-I01	LSZH	600V	1 Pair shielded	14	M233, M239
0	North Side Station East MCC	VSD-201 Ctr Analog	NSE-TVF-201-I02	LSZH	600V	4 Pair Individually Shielded	14	
0	North Side Station East MCC	VSD-201 Ctr	NSE-TVF-201-C02	LSZH	600V	Multicore 12C+E	12	8
0	North Side Station East MCC	Tunnel Vent Fan NS-TVF201 Heater	NSE-TVF-201-S01	Fire Rated	600V	Multicore 2C+E	12	8 M232, M238
0	Tunnel Vent Fan NS-TVF-201 RTD	Tunnel Vent Fan Instrument Panel NS-PN-201 Ctr Analog	NSE-TVF-201-R01	LSZH	600V	6 Triple Individual shielded	14	
0	PLC MODBUS	Tunnel Vent Fan Instrument Panel NS-PN-201	NSE-TVF-201-L01	LSZH	600V	1 Pair shielded	14	M233
0	VSD-201	PLC MODBUS	NSE-TVF-201-L02	LSZH	600V	1 Pair shielded	14	
0	Tunnel Vent Fan Instrument Panel NSE-PN-201	Forward Differential Pressure Switch	NSE-TVF-201-C03	Fire Rated	600V	Multicore 2C+E	12	8
0	Tunnel Vent Fan Instrument Panel NSE-PN-201	Reverse Differential Pressure Switch	NSE-TVF-201-C04	Fire Rated	600V	Multicore 2C+E	12	8
0	Tunnel Vent Fan Instrument Panel NSE-PN-201	Fan Room Emergency Stop	NSE-TVF-201-C05	Fire Rated	600V	Multicore 2C+E	12	8
0	VSD-201	Braking Resistor	NSE-TVF-201-C06	Fire Rated	600V	Multicore 2C+E	12	8
0	Disconnect Switch	Tunnel Vent Fan Instrument Panel NSE-PN-201	NSE-TVF-201-C07	Fire Rated	600V	Multicore 2C+E	12	8
0	North Side Station East MCC	Disconnect Switch	NSE-TVF-202-P01	Fire Rated	600V	3 - 1C+ 2E	500	1/0 M230
0	Disconnect Switch	Tunnel Vent Fan NS-TVF-202	NSE-TVF-202-P02	Fire Rated	600V	3 - 1C+ 2E	500	1/1
0	North Side Station East MCC	VSD202	NSE-TVF-202-P02	Fire Rated	600V	3 - 1C+ 2E	500	1/2
0	VSD-202	North Side Station East MCC	NSE-TVF-202-P03	Fire Rated	600V	3 - 1C+ 2E	500	1/3
0	North Side Station East MCC	Tunnel Vent Fan Instrument Panel NS-PN-202 Ctr Digital	NSE-TVF-202-C01	LSZH	600V	Multicore 12C+E	12	8 M231
0	North Side Station East MCC	Tunnel Vent Fan Instrument Panel NS-PN-202 Ctr Analog	NSE-TVF-202-I01	LSZH	600V	1 Pair shielded	14	M233
0	North Side Station East MCC	VSD-202 Ctr Analog	NSE-TVF-202-I02	LSZH	600V	4 Pair Individually Shielded	14	
0	North Side Station East MCC	VSD-202 Ctr	NSE-TVF-202-C02	LSZH	600V	Multicore 12C+E	12	8
0	North Side Station East MCC	Tunnel Vent Fan NS-TVF202 Heater	NSE-TVF-202-S01	Fire Rated	600V	Multicore 2C+E	12	8 M232
0	Tunnel Vent Fan NS-TVF-202 RTD	Tunnel Vent Fan Instrument Panel NS-PN-202 Ctr Analog	NSE-TVF-202-R01	LSZH	600V	6 Triple Individual shielded	14	
0	Tunnel Vent Fan Instrument Panel NS-PN-201	Tunnel Vent Fan Instrument Panel NS-PN-202	NSE-TVF-202-L01	LSZH	600V	1 Pair shielded	14	M239
0	VSD-202	PLC MODBUS	NSE-TVF-202-L02	LSZH	600V	1 Pair shielded	14	
0	Tunnel Vent Fan Instrument Panel NSE-PN-202	Forward Differential Pressure Switch	NSE-TVF-202-C03	Fire Rated	600V	Multicore 2C+E	12	8
0	Tunnel Vent Fan Instrument Panel NSE-PN-202	Reverse Differential Pressure Switch	NSE-TVF-202-C04	Fire Rated	600V	Multicore 2C+E	12	8
0	Tunnel Vent Fan Instrument Panel NSE-PN-202	Fan Room Emergency Stop	NSE-TVF-202-C05	Fire Rated	600V	Multicore 2C+E	12	8
0	VSD-202	Braking Resistor	NSE-TVF-202-C06	Fire Rated	600V	Multicore 2C+E	12	8
0	Disconnect Switch	Tunnel Vent Fan Instrument Panel NSE-PN-202	NSE-TVF-202-C07	Fire Rated	600V	Multicore 2C+E	12	8
0	North Side Station East MCC	TV Isolation Damper NSE-MAR-201	NSE-MAR-201-S01	Fire Rated	600V	Multicore 3C+E	6	8 M234
0	TV Isolation Damper NSE-MAR-201	TV Isolation Damper NSE-TVD-201A	NSE-TVD-201A-S01	Fire Rated	600V	Multicore 3C+E	12	8
0	TV Isolation Damper NSE-MAR-201	TV Isolation Damper NSE-TVD-201B	NSE-TVD-201B-S01	Fire Rated	600V	Multicore 3C+E	12	8
0	TV Isolation Damper NSE-MAR-201	TV Isolation Damper NSE-TVD-201C	NSE-TVD-201C-S01	Fire Rated	600V	Multicore 3C+E	12	8
0	TV Isolation Damper NSE-MAR-201	TV Isolation Damper NSE-TVD-201D	NSE-TVD-201D-S01	Fire Rated	600V	Multicore 3C+E	12	8
0	North Side Station East MCC	TV Isolation Damper NSE-TVD-201 Ctr	NSE-TVD-201-C01	LSZH	600V	Multicore 12C+E	12	8 M234
0	North Side Station East MCC	TV Isolation Damper NSE-MAR-202	NSE-MAR-202-S01	Fire Rated	600V	Multicore 3C+E	6	8 M235
0	TV Isolation Damper NSE-MAR-202	TV Isolation Damper NSE-TVD-202A	NSE-TVD-202A-S01	Fire Rated	600V	Multicore 3C+E	12	8
0	TV Isolation Damper NSE-MAR-202	TV Isolation Damper NSE-TVD-202B	NSE-TVD-202B-S01	Fire Rated	600V	Multicore 3C+E	12	8
0	TV Isolation Damper NSE-MAR-202	TV Isolation Damper NSE-TVD-202C	NSE-TVD-202C-S01	Fire Rated	600V	Multicore 3C+E	12	8
0	TV Isolation Damper NSE-MAR-202	TV Isolation Damper NSE-TVD-202D	NSE-TVD-202D-S01	Fire Rated	600V	Multicore 3C+E	12	8
0	North Side Station East MCC	TV Isolation Damper NSE-TVD-202 Ctr	NSE-TVD-202-C01	LSZH	600V	Multicore 12C+E	12	8 M235

CABLE NUMBER FORMAT: AB-CDE-123-F45

AB: STATION ABBREVIATION

GW - GATEWAY STATION
NS - NORTH SIDE STATION

CDE: EQUIPMENT TYPE

TJF - TUNNEL JET FAN
TVA - TUNNEL VENTILATION ATTENUATOR
TVD - TUNNEL VENTILATION DAMPER
TVF - TUNNEL VENTILATION FAN
SSP - SUBMERSIBLE SUMP PUMP
PN - INSTRUMENT PANEL

CONTINUED FROM DRAWING EL-260

REV	Source	Destination	Cable Number	Cable Type	Voltage Rating	Cores	AWG/MCM	GND AWG	Conduit #
0	North Side Station East MCC	TV Isolation Damper NSE-MAR-205	NSE-MAR-205-S01	Fire Rated	600V	Multicore 3C+E	6	8	M236
0	TV Isolation Damper NSE-MAR-205	Nozzle Damper NSE-TVD-205A	NSE-TVD-205A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSE-MAR-205	Nozzle Damper NSE-TVD-205B	NSE-TVD-205B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	North Side Station East MCC	Nozzle Damper NSE-TVD-205 Ctr	NSE-TVD-205-C01	LSZH	600V	Multicore 12C+E	12	8	M236
0	North Side Station East MCC	TV Isolation Damper NSE-MAR-206	NSE-MAR-206-S01	Fire Rated	600V	Multicore 3C+E	6	8	M236
0	TV Isolation Damper NSE-MAR-206	Nozzle Damper NSE-TVD-206A	NSE-TVD-206A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSE-MAR-206	Nozzle Damper NSE-TVD-206B	NSE-TVD-206B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	North Side Station East MCC	Nozzle Damper NSE-TVD-206 Ctr	NSE-TVD-206-C01	LSZH	600V	Multicore 12C+E	12	8	M236
0	North Side Station East MCC	TV Isolation Damper NSE-MAR-207	NSE-MAR-207-S01	Fire Rated	600V	Multicore 3C+E	6	8	M237
0	TV Isolation Damper NSE-MAR-207	TV Isolation Damper NSE-TVD-207A	NSE-TVD-207A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSE-MAR-207	TV Isolation Damper NSE-TVD-207B	NSE-TVD-207B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSE-MAR-207	TV Isolation Damper NSE-TVD-207C	NSE-TVD-207C-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSE-MAR-207	TV Isolation Damper NSE-TVD-207D	NSE-TVD-207D-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	North Side Station East MCC	TV Isolation Damper NSE-TVD-207 Ctr	NSE-TVD-207-C01	LSZH	600V	Multicore 12C+E	12	8	M237
0	North Side Station East MCC	TV Isolation Damper NSE-MAR-208	NSE-MAR-208-S01	Fire Rated	600V	Multicore 3C+E	6	8	M237
0	TV Isolation Damper NSE-MAR-208	TV Isolation Damper NSE-TVD-208A	NSE-TVD-208A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSE-MAR-208	TV Isolation Damper NSE-TVD-208B	NSE-TVD-208B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSE-MAR-208	TV Isolation Damper NSE-TVD-208C	NSE-TVD-208C-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSE-MAR-208	TV Isolation Damper NSE-TVD-208D	NSE-TVD-208D-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	North Side Station East MCC	TV Isolation Damper NSE-TVD-208 Ctr	NSE-TVD-208-C01	LSZH	600V	Multicore 12C+E	12	8	M237
0	North Side Station East MCC	Disconnect Switch	NSE-SSP-201-P01	Fire Rated	600V	Multicore 3C+E	4/0	2	M207
0	Disconnect Switch	Sump Pump NS-SSP-201	NSE-SSP-201-P02	Fire Rated	600V	Multicore 3C+E	4/0	2	
0	North Side Station East MCC	Sump Pump NS-SSP-201 Ctr	NSE-SSP-201-C01	LSZH	600V	Multicore 12C+E	12	8	M209
0	Sump Pump 201 LCS	Level Switch 1	NSE-SSP-201-J01	Fire Rated	600V	Multicore 2C+E	12	8	
0	Sump Pump 201 LCS	Level Switch 2	NSE-SSP-201-I02	Fire Rated	600V	Multicore 2C+E	12	8	
0	Sump Pump 201 LCS	Level Switch 3	NSE-SSP-201-I03	Fire Rated	600V	Multicore 2C+E	12	8	
0	Sump Pump 201 LCS	Level Switch 4	NSE-SSP-201-I04	Fire Rated	600V	Multicore 2C+E	12	8	
0	Sump Pump 201 LCS	Level Switch 5	NSE-SSP-201-I05	Fire Rated	600V	Multicore 2C+E	12	8	
0	North Side Station East MCC	Disconnect Switch	NSE-SSP-202-P01	Fire Rated	600V	Multicore 3C+E	4/0	2	M208
0	Disconnect Switch	Sump Pump NS-SSP-202	NSE-SSP-202-P02	Fire Rated	600V	Multicore 3C+E	4/0	2	
0	North Side Station East MCC	Sump Pump NS-SSP-202 Ctr	NSE-SSP-202-C01	LSZH	600V	Multicore 12C+E	12	8	M209
0	North Side Station East MCC	Disconnect Switch	NSE-SSP-203-P01	Fire Rated	600V	Multicore 3C+E	4/0	2	M210
0	Disconnect Switch	Sump Pump NS-SSP-203	NSE-SSP-203-P02	Fire Rated	600V	Multicore 3C+E	4/0	2	
0	North Side Station East MCC	Sump Pump NS-SSP-203 Ctr	NSE-SSP-203-C01	LSZH	600V	Multicore 12C+E	12	8	M212
0	Sump Pump 203 LCS	Level Switch 1	NSE-SSP-203-J01	Fire Rated	600V	Multicore 2C+E	12	8	
0	Sump Pump 203 LCS	Level Switch 2	NSE-SSP-203-I02	Fire Rated	600V	Multicore 2C+E	12	8	
0	Sump Pump 203 LCS	Level Switch 3	NSE-SSP-203-I03	Fire Rated	600V	Multicore 2C+E	12	8	
0	Sump Pump 203 LCS	Level Switch 4	NSE-SSP-203-I04	Fire Rated	600V	Multicore 2C+E	12	8	
0	Sump Pump 203 LCS	Level Switch 5	NSE-SSP-203-I05	Fire Rated	600V	Multicore 2C+E	12	8	
0	North Side Station East MCC	Disconnect Switch	NSE-SSP-204-P01	Fire Rated	600V	Multicore 3C+E	4/0	2	M211
0	Disconnect Switch	Sump Pump NS-SSP-204	NSE-SSP-204-P02	Fire Rated	600V	Multicore 3C+E	4/0	2	
0	North Side Station East MCC	Sump Pump NS-SSP-204 Ctr	NSE-SSP-204-C01	LSZH	600V	Multicore 12C+E	12	8	M212
0	North Side Station East MCC	Disconnect Switch	NSE-SSP-205-P01	Fire Rated	600V	Multicore 3C+E	2	8	M205
0	Disconnect Switch	Sump Pump NS-SSP-205	NSE-SSP-205-P02	Fire Rated	600V	Multicore 3C+E	2	8	
0	North Side Station East MCC	Sump Pump NS-SSP-205 Ctr	NSE-SSP-205-C01	LSZH	600V	Multicore 12C+E	12	8	M206
0	Sump Pump 205 LCS	Level Switch 1	NSE-SSP-205-J01	Fire Rated	600V	Multicore 2C+E	12	8	
0	Sump Pump 205 LCS	Level Switch 2	NSE-SSP-205-I02	Fire Rated	600V	Multicore 2C+E	12	8	
0	Sump Pump 205 LCS	Level Switch 3	NSE-SSP-205-I03	Fire Rated	600V	Multicore 2C+E	12	8	
0	Sump Pump 205 LCS	Level Switch 4	NSE-SSP-205-I04	Fire Rated	600V	Multicore 2C+E	12	8	
0	Sump Pump 205 LCS	Level Switch 5	NSE-SSP-205-I05	Fire Rated	600V	Multicore 2C+E	12	8	
0	North Side Station East MCC	Disconnect Switch	NSE-SSP-206-P01	Fire Rated	600V	Multicore 3C+E	2	8	M205
0	Disconnect Switch	Sump Pump NS-SSP-206	NSE-SSP-206-P02	Fire Rated	600V	Multicore 3C+E	2	8	
0	North Side Station East MCC	Sump Pump NS-SSP-206 Ctr	NSE-SSP-206-C01	LSZH	600V	Multicore 12C+E	12	8	M206
0	North Side Station East MCC	Left Track Lighting Maintenance Socket Phase A	NSE-RECL-001A	Fire Rated	600V	2 - 1C+E	1/0	8	M213
0	North Side Station East MCC	Left Track Lighting Maintenance Socket Phase B	NSE-RECL-001B	Fire Rated	600V	2 - 1C+E	1/0	8	M213
0	North Side Station East MCC	Left Track Lighting Maintenance Socket Phase C	NSE-RECL-001C	Fire Rated	600V	2 - 1C+E	1/0	8	M213
0	North Side Station East MCC	Right Track Lighting Maintenance Socket Phase A	NSE-RECR-001A	Fire Rated	600V	2 - 1C+E	1/0	8	M215
0	North Side Station East MCC	Right Track Lighting Maintenance Socket Phase B	NSE-RECR-001B	Fire Rated	600V	2 - 1C+E	1/0	8	M215
0	North Side Station East MCC	Right Track Lighting Maintenance Socket Phase C	NSE-RECR-001C	Fire Rated	600V	2 - 1C+E	1/0	8	M215
0	North Side Station East MCC	Left Track Lighting UPS Phase A	NSE-EMLL-001A	Fire Rated	600V	Multicore 2C+E	4	8	M214
0	North Side Station East MCC	Left Track Lighting UPS Phase B	NSE-EMLL-001B	Fire Rated	600V	Multicore 2C+E	4	8	M214
0	North Side Station East MCC	Left Track Lighting UPS Phase C	NSE-EMLL-001C	Fire Rated	600V	Multicore 2C+E	4	8	M214
0	North Side Station East MCC	Right Track Lighting UPS Phase A	NSE-EMLR-001A	Fire Rated	600V	Multicore 2C+E	4	8	M216
0	North Side Station East MCC	Right Track Lighting UPS Phase B	NSE-EMLR-001B	Fire Rated	600V	Multicore 2C+E	4	8	M216
0	North Side Station East MCC	Right Track Lighting UPS Phase C	NSE-EMLR-001C	Fire Rated	600V	Multicore 2C+E	4	8	M216

CONTINUED ON DRAWING EL-262

MAUNSELL AECOM	APPROVED	JUNE 27 08	NO. DATE	DESCRIPTION	REVISIONS
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THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.



DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
APPROVED _____ DATE _____

Port Authority
CONTRACT NO. NSC-009
DWG. NO. EL-261 SHT. 713

CABLE NUMBER FORMAT: AB-CDE-123-F45

AB: STATION ABBREVIATION

GW - GATEWAY STATION

NS - NORTH SIDE STATION

CDE: EQUIPMENT TYPE

TJF - TUNNEL JET FAN

TVA - TUNNEL VENTILATION ATTENUATOR

TVD - TUNNEL VENTILATION DAMPER

TVF - TUNNEL VENTILATION FAN

SSP - SUBMERSIBLE SUMP PUMP

PN - INSTRUMENT PANEL

123: EQUIPMENT NUMBER

1 - STATION NUMBER (THE FIRST TWO NUMBERS ARE REDUNDANT)

1 = GATEWAY, 2 = NORTH SIDE

CONTINUED FROM DRAWING EL-261

REV	Source	Destination	Cable Number	Cable Type	Voltage Rating	Cores	AWG/MCM	Conduit #
0	North Side Station West MCC	Disconnect Switch	NSW-TJF-201-P01	Fire Rated	600V	Multicore 3C+E	2	8
0	Disconnect Switch	TJF Fan NS-TJF-201	NSW-TJF-201-P02	Fire Rated	600V	Multicore 3C+E	2	8
0	North Side Station West MCC	Jet Fan Instrument Panel NS-PN-205 Ctr Digital	NSW-TJF-201-C01	LSZH	600V	Multicore 12C+E	12	8
0	North Side Station West MCC	Jet Fan Instrument Panel NS-PN-205 Ctr Analog Vibration	NSW-TJF-201-I01	LSZH	600V	1 Pair shielded	14	
0	North Side Station West MCC	Jet Fan NS-TJF-201 Heater	NSW-TJF-201-S01	Fire Rated	600V	Multicore 2C+E	12	8
0	Jet Fan NS-TJF-201 RTD	Jet Fan Instrument Panel NS-PN-205 Ctr Analog	NSW-TJF-201-R01	LSZH	600V	6 Triple Individual shielded	14	
0	Tunnel Vent Fan Instrument Panel NS-PN-204	Jet Fan Instrument Panel NS-PN-205	NSW-TJF-201-L01	LSZH	600V	1 Pair shielded	14	M285, M254, M271
0	North Side Station West MCC	Disconnect Switch	NSW-TJF-202-P01	Fire Rated	600V	Multicore 3C+E	2	8
0	Disconnect Switch	TJF Fan NS-TJF-202	NSW-TJF-202-P02	Fire Rated	600V	Multicore 3C+E	2	8
0	North Side Station West MCC	Jet Fan Instrument Panel NS-PN-206 Ctr Digital	NSW-TJF-202-C01	LSZH	600V	Multicore 12C+E	12	8
0	North Side Station West MCC	Jet Fan Instrument Panel NS-PN-206 Ctr Analog Vibration	NSW-TJF-202-I01	LSZH	600V	1 Pair shielded	14	M262
0	North Side Station West MCC	Jet Fan NS-TJF-202 Heater	NSW-TJF-202-S01	Fire Rated	600V	Multicore 2C+E	12	8
0	Jet Fan NS-TJF-202 RTD	Jet Fan Instrument Panel NS-PN-206 Ctr Analog	NSW-TJF-202-R01	LSZH	600V	6 Triple Individual shielded	14	
0	Jet Fan Instrument Panel NS-PN-209	Jet Fan Instrument Panel NS-PN-206	NSW-TJF-202-L01	LSZH	600V	1 Pair shielded	14	M277, M274, M271, M262
0	North Side Station West MCC	Disconnect Switch	NSW-TJF-203-P01	Fire Rated	600V	Multicore 3C+E	2	8
0	Disconnect Switch	TJF Fan NS-TJF-203	NSW-TJF-203-P02	Fire Rated	600V	Multicore 3C+E	2	8
0	North Side Station West MCC	Jet Fan Instrument Panel NS-PN-207 Ctr Digital	NSW-TJF-203-C01	LSZH	600V	Multicore 12C+E	12	M270, M273
0	North Side Station West MCC	Jet Fan Instrument Panel NS-PN-207 Ctr Analog Vibration	NSW-TJF-203-I01	LSZH	600V	1 Pair shielded	14	M271, M274
0	North Side Station West MCC	Jet Fan NS-TJF-203 Heater	NSW-TJF-203-S01	Fire Rated	600V	Multicore 2C+E	12	8
0	Jet Fan NS-TJF-203 RTD	Jet Fan Instrument Panel NS-PN-207 Ctr Analog	NSW-TJF-203-R01	LSZH	600V	6 Triple Individual shielded	14	
0	Jet Fan Instrument Panel NS-PN-205	Jet Fan Instrument Panel NS-PN-207	NSW-TJF-203-L01	LSZH	600V	1 Pair shielded	14	M274
0	North Side Station West MCC	Disconnect Switch	NSW-TJF-204-P01	Fire Rated	600V	Multicore 3C+E	2	8
0	Disconnect Switch	TJF Fan NS-TJF-204	NSW-TJF-204-P02	Fire Rated	600V	Multicore 3C+E	2	8
0	North Side Station West MCC	Jet Fan Instrument Panel NS-PN-208 Ctr Digital	NSW-TJF-204-C01	LSZH	600V	Multicore 12C+E	12	M261, M264
0	North Side Station West MCC	Jet Fan Instrument Panel NS-PN-208 Ctr Analog Vibration	NSW-TJF-204-I01	LSZH	600V	1 Pair shielded	14	M262, M265
0	North Side Station West MCC	Jet Fan NS-TJF-204 Heater	NSW-TJF-204-S01	Fire Rated	600V	Multicore 2C+E	12	8
0	Jet Fan NS-TJF-204 RTD	Jet Fan Instrument Panel NS-PN-208 Ctr Analog	NSW-TJF-204-R01	LSZH	600V	6 Triple Individual shielded	14	
0	Jet Fan Instrument Panel NS-PN-206	Jet Fan Instrument Panel NS-PN-208	NSW-TJF-204-L01	LSZH	600V	1 Pair shielded	14	M265
0	North Side Station West MCC	Disconnect Switch	NSW-TJF-205-P01	Fire Rated	600V	Multicore 3C+E	2	8
0	Disconnect Switch	TJF Fan NS-TJF-205	NSW-TJF-205-P02	Fire Rated	600V	Multicore 3C+E	2	8
0	North Side Station West MCC	Jet Fan Instrument Panel NS-PN-209 Ctr Digital	NSW-TJF-205-C01	LSZH	600V	Multicore 12C+E	12	M270, M273, M276
0	North Side Station West MCC	Jet Fan Instrument Panel NS-PN-209 Ctr Analog Vibration	NSW-TJF-205-I01	LSZH	600V	1 Pair shielded	14	M271, M274, M277
0	North Side Station West MCC	Jet Fan NS-TJF-205 Heater	NSW-TJF-205-S01	Fire Rated	600V	Multicore 2C+E	12	8
0	Jet Fan NS-TJF-205 RTD	Jet Fan Instrument Panel NS-PN-209 Ctr Analog	NSW-TJF-205-R01	LSZH	600V	6 Triple Individual shielded	14	M270, M273
0	Jet Fan Instrument Panel NS-PN-207	Jet Fan Instrument Panel NS-PN-209	NSW-TJF-205-L01	LSZH	600V	1 Pair shielded	14	M277
0	North Side Station West MCC	Disconnect Switch	NSW-TJF-206-P01	Fire Rated	600V	Multicore 3C+E	2	8
0	Disconnect Switch	TJF Fan NS-TJF-206	NSW-TJF-206-P02	Fire Rated	600V	Multicore 3C+E	2	8
0	North Side Station West MCC	Jet Fan Instrument Panel NS-PN-210 Ctr Digital	NSW-TJF-206-C01	LSZH	600V	Multicore 12C+E	12	M261, M264, M267
0	North Side Station West MCC	Jet Fan Instrument Panel NS-PN-210 Ctr Analog Vibration	NSW-TJF-206-I01	LSZH	600V	1 Pair shielded	14	M262, M265, M268
0	North Side Station West MCC	Jet Fan NS-TJF-206 Heater	NSW-TJF-206-S01	Fire Rated	600V	Multicore 2C+E	12	8
0	Jet Fan NS-TJF-206 RTD	Jet Fan Instrument Panel NS-PN-210 Ctr Analog	NSW-TJF-206-R01	LSZH	600V	6 Triple Individual shielded	14	
0	Jet Fan Instrument Panel NS-PN-208	Jet Fan Instrument Panel NS-PN-210	NSW-TJF-206-L01	LSZH	600V	1 Pair shielded	14	M268
0	North Side Station West MCC	Disconnect Switch	NSW-TVF-203-P01	Fire Rated	600V	3 - 1C+ 2E	500	1/0
0	Disconnect Switch	Tunnel Vent Fan NS-TVF203	NSW-TVF-203-P02	Fire Rated	600V	3 - 1C+ 2E	500	1/0
0	North Side Station West MCC	VSD-203	NSW-TVF-203-P02	Fire Rated	600V	3 - 1C+ 2E	500	1/0
0	North Side Station West MCC	Tunnel Vent Fan Instrument Panel NS-PN-203 Ctr Digital	NSW-TVF-203-C01	LSZH	600V	Multicore 12C+E	12	M252, M284
0	North Side Station West MCC	Tunnel Vent Fan Instrument Panel NS-PN-203 Ctr Analog	NSW-TVF-203-I01	LSZH	600V	1 Pair shielded	14	M254, M285
0	North Side Station West MCC	VSD-203 Ctr Analog	NSW-TVF-203-I02	LSZH	600V	4 Pair Individually Shielded	14	
0	North Side Station West MCC	VSD-203 Ctr	NSW-TVF-203-C02	LSZH	600V	Multicore 12C+E	12	8
0	North Side Station West MCC	Tunnel Vent Fan NS-TVF203 Heater	NSW-TVF-203-S01	Fire Rated	600V	Multicore 2C+E	12	8
0	Tunnel Vent Fan NS-TVF-203 RTD	Tunnel Vent Fan Instrument Panel NS-PN-203 Ctr Analog	NSW-TVF-203-R01	LSZH	600V	6 Triple Individual shielded	14	
0	PLC MODBUS	Tunnel Vent Fan Instrument Panel NS-PN-203	NSW-TVF-203-L01	LSZH	600V	1 Pair shielded	14	M254
0	VSD-203	PLC MODBUS	NSW-TVF-203-L02	LSZH	600V	1 Pair shielded	14	
0	Tunnel Vent Fan Instrument Panel NSW-PN-203	Forward Differential Pressure Switch	NSW-TVF-203-C03	Fire Rated	600V	Multicore 2C+E	12	8
0	Tunnel Vent Fan Instrument Panel NSW-PN-203	Reverse Differential Pressure Switch	NSW-TVF-203-C04	Fire Rated	600V	Multicore 2C+E	12	8
0	Tunnel Vent Fan Instrument Panel NSW-PN-203	Fan Room Emergency Stop	NSW-TVF-203-C05	Fire Rated	600V	Multicore 2C+E	12	8
0	VSD-203	Braking Resistor	NSW-TVF-203-C06	Fire Rated	600V	Multicore 2C+E	12	8
0	Disconnect Switch	Tunnel Vent Fan Instrument Panel NSW-PN-203	NSW-TVF-203-C07	Fire Rated	600V	Multicore 2C+E	12	8
0	North Side Station West MCC	Disconnect Switch	NSW-TVF-204-P01	Fire Rated	600V	3 - 1C+ 2E	500	1/0
0	Disconnect switch	Tunnel Vent Fan NS-TVF204	NSW-TVF-204-P02	Fire Rated	600V	3 - 1C+ 2E	500	1/0
0	North Side Station West MCC	VSD-204	NSW-TVF-204-P02	Fire Rated	600V	3 - 1C+ 2E	500	1/0
0	VSD-204	North Side Station West MCC	NSW-TVF-204-P03	Fire Rated	600V	3 - 1C+ 2E	500	1/0
0	North Side Station West MCC	Tunnel Vent Fan Instrument Panel NS-PN-204 Ctr Digital	NSW-TVF-204-C01	LSZH	600V	Multicore 12C+E	12	M252
0	North Side Station West MCC	Tunnel Vent Fan Instrument Panel NS-PN-204 Ctr Analog	NSW-TVF-204-I01	LSZH	600V	1 Pair shielded	14	M254
0	North Side Station West MCC	VSD-204 Ctr Analog	NSW-TVF-204-K02	LSZH	600V	4 Pair Individually Shielded	14	
0	North Side Station West MCC	VSD-204 Ctr	NSW-TVF-204-C02	LSZH	600V	Multicore 12C+E	12	8
0	North Side Station West MCC	Tunnel Vent Fan NS-TVF204 Heater	NSW-TVF-204-S01	Fire Rated	600V	Multicore 2C+E	12	8
0	Tunnel Vent Fan NS-TVF-204 RTD	Tunnel Vent Fan Instrument Panel NS-PN-204 Ctr Analog	NSW-TVF-204-R01	LSZH	600V	6 Triple Individual shielded	14	
0	Tunnel Vent Fan Instrument Panel NS-PN-203	Tunnel Vent Fan Instrument Panel NS-PN-204	NSW-TVF-204-L01	LSZH	600V	1 Pair shielded	14	M254, M285
0	VSD-204	PLC MODBUS	NSW-TVF-204-L02	LSZH	600V	1 Pair shielded	14	

CONTINUED ON DRAWING EL-263

MAUNSELL AECOM	
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925	
Gary J. Lerner	JUNE 27 08
APPROVED	DATE
NO. DATE	DESCRIPTION
REVISIONS	

THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.



DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
APPROVED _____ DATE _____

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
Pennsylvania
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
NORTH SIDE STATION
CABLE SCHEDULE SHEET 3 OF 5
Port Authority
connecting people to life
CONTRACT NO. NSC-009
DWG. NO. EL-262
SHT. 714

CABLE NUMBER FORMAT: AB-CDE-123-F45

AB: STATION

CONTINUED FROM DRAWING EL-262

REV	Source	Destination	Cable Number	Cable Type	Voltage Rating	Cores	AWG/MCM	GND AWG	Conduit #
0	Tunnel Vent Fan Instrument Panel NSW-PN-204	Forward Differential Pressure Switch	NSW-TVF-204-C03	Fire Rated	600V	Multicore 2C+E	12	8	
0	Tunnel Vent Fan Instrument Panel NSW-PN-204	Reverse Differential Pressure Switch	NSW-TVF-204-C04	Fire Rated	600V	Multicore 2C+E	12	8	
0	Tunnel Vent Fan Instrument Panel NSW-PN-204	Fan Room Emergency Stop	NSW-TVF-204-C05	Fire Rated	600V	Multicore 2C+E	12	8	
0	VSD-204	Braking Resistor	NSW-TVF-204-C06	Fire Rated	600V	Multicore 2C+E	12	8	
0	Disconnect Switch	Tunnel Vent Fan Instrument Panel NSW-PN-204	NSW-TVF-204-C07	Fire Rated	600V	Multicore 2C+E	12	8	
0	North Side Station East MCC	Left Track Lighting Maintenance Socket Phase A	NSW-RECL-001A	Fire Rated	600V	2 - 1C+E	1/0	6	M280
0	North Side Station East MCC	Left Track Lighting Maintenance Socket Phase B	NSW-RECL-001B	Fire Rated	600V	2 - 1C+E	1/0	6	M280
0	North Side Station East MCC	Left Track Lighting Maintenance Socket Phase C	NSW-RECL-001C	Fire Rated	600V	2 - 1C+E	1/0	6	M280
0	North Side Station East MCC	Right Track Lighting Maintenance Socket Phase A	NSW-REC-001A	Fire Rated	600V	2 - 1C+E	1/0	6	M282
0	North Side Station East MCC	Right Track Lighting Maintenance Socket Phase B	NSW-REC-001B	Fire Rated	600V	2 - 1C+E	1/0	6	M282
0	North Side Station East MCC	Right Track Lighting Maintenance Socket Phase C	NSW-REC-001C	Fire Rated	600V	2 - 1C+E	1/0	6	M282
0	North Side Station East MCC	Left Track Lighting UPS Phase A	NSW-EMLL-001A	Fire Rated	600V	Multicore 2C+E	4	8	M281
0	North Side Station East MCC	Left Track Lighting UPS Phase B	NSW-EMLL-001B	Fire Rated	600V	Multicore 2C+E	4	8	M281
0	North Side Station East MCC	Left Track Lighting UPS Phase C	NSW-EMLL-001C	Fire Rated	600V	Multicore 2C+E	4	8	M281
0	North Side Station East MCC	Right Track Lighting UPS Phase A	NSW-EMLR-001A	Fire Rated	600V	Multicore 2C+E	4	8	M283
0	North Side Station East MCC	Right Track Lighting UPS Phase B	NSW-EMLR-001B	Fire Rated	600V	Multicore 2C+E	4	8	M283
0	North Side Station East MCC	Right Track Lighting UPS Phase C	NSW-EMLR-001C	Fire Rated	600V	Multicore 2C+E	4	8	M283
0	North Side Station West MCC	Disconnect Switch	NSW-SSP-207-P01	Fire Rated	600V	Multicore 3C+E	1/0	6	M278
0	Disconnect Switch	Sump Pump NS-SSP-207	NSW-SSP-207-P02	Fire Rated	600V	Multicore 3C+E	1/0	6	
0	North Side Station West MCC	Sump Pump NS-SSP-207 Ctr	NSW-SSP-207-C01	LSZH	600V	Multicore 12C+E	12	8	M279
0	Sump Pump 207 LCS	Level Switch 1	NSW-SSP-207-I01	Fire Rated	600V	Multicore 2C+E	12	8	
0	Sump Pump 207 LCS	Level Switch 2	NSW-SSP-207-I02	Fire Rated	600V	Multicore 2C+E	12	8	
0	North Side Station West MCC	Disconnect Switch	NSW-SSP-208-P01	Fire Rated	600V	Multicore 3C+E	1/0	6	M278
0	Disconnect Switch	Sump Pump NS-SSP-208	NSW-SSP-208-P02	Fire Rated	600V	Multicore 3C+E	1/0	6	
0	North Side Station West MCC	Sump Pump NS-SSP-208 Ctr	NSW-SSP-208-C01	LSZH	600V	Multicore 12C+E	12	8	M279
0	Sump Pump 208 LCS	Level Switch 1	NSW-SSP-208-I01	Fire Rated	600V	Multicore 2C+E	12	8	
0	Sump Pump 208 LCS	Level Switch 2	NSW-SSP-208-I02	Fire Rated	600V	Multicore 2C+E	12	8	
0	North Side Station West MCC	TV Isolation Damper NSW-MAR-203	NSW-MAR-203-S01	Fire Rated	600V	Multicore 3C+E	6	8	M255
0	TV Isolation Damper NSW-MAR-203	TV Isolation Damper NSW-TVD-203A	NSW-TVD-203A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSW-MAR-203	TV Isolation Damper NSW-TVD-203B	NSW-TVD-203B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSW-MAR-203	TV Isolation Damper NSW-TVD-203C	NSW-TVD-203C-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSW-MAR-203	TV Isolation Damper NSW-TVD-203D	NSW-TVD-203D-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	North Side Station West MCC	TV Isolation Damper NSW-TVD-203 Ctr	NSW-TVD-203-C01	LSZH	600V	Multicore 12C+E	12	8	M255
0	North Side Station West MCC	TV Isolation Damper NSW-MAR-204	NSW-MAR-204-S01	Fire Rated	600V	Multicore 3C+E	6	8	M256
0	TV Isolation Damper NSW-MAR-204	TV Isolation Damper NSW-TVD-204A	NSW-TVD-204A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSW-MAR-204	TV Isolation Damper NSW-TVD-204B	NSW-TVD-204B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSW-MAR-204	TV Isolation Damper NSW-TVD-204C	NSW-TVD-204C-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSW-MAR-204	TV Isolation Damper NSW-TVD-204D	NSW-TVD-204D-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	North Side Station West MCC	TV Isolation Damper NSW-TVD-204 Ctr	NSW-TVD-204-C01	LSZH	600V	Multicore 12C+E	12	8	M256
0	North Side Station West MCC	TV Isolation Damper NSW-MAR-209	NSW-MAR-209-S01	Fire Rated	600V	Multicore 3C+E	6	8	M258
0	TV Isolation Damper NSW-MAR-209	Nozzle Damper NSW-TVD-209A	NSW-TVD-209A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSW-MAR-209	Nozzle Damper NSW-TVD-209B	NSW-TVD-209B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	North Side Station West MCC	Nozzle Damper NSW-TVD-209 Ctr	NSW-TVD-209-C01	LSZH	600V	Multicore 12C+E	12	8	M258
0	North Side Station West MCC	TV Isolation Damper NSW-MAR-210	NSW-MAR-210-S01	Fire Rated	600V	Multicore 3C+E	6	8	M257
0	TV Isolation Damper NSW-MAR-210	Nozzle Damper NSW-TVD-210A	NSW-TVD-210A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSW-MAR-210	Nozzle Damper NSW-TVD-210B	NSW-TVD-210B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	North Side Station West MCC	Nozzle Damper NSW-TVD-210 Ctr	NSW-TVD-210-C01	LSZH	600V	Multicore 12C+E	12	8	M257
0	North Side Station West MCC	TV Isolation Damper NSW-MAR-211	NSW-MAR-211-S01	Fire Rated	600V	Multicore 3C+E	6	8	M259
0	TV Isolation Damper NSW-MAR-211	Nozzle Damper NSW-TVD-211A	NSW-TVD-211A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSW-MAR-211	Nozzle Damper NSW-TVD-211B	NSW-TVD-211B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	North Side Station West MCC	Nozzle Damper NSW-TVD-211 Ctr	NSW-TVD-211-C01	LSZH	600V	Multicore 12C+E	12	8	M259
0	North Side Station West MCC	TV Isolation Damper NSW-MAR-212	NSW-MAR-212-S01	Fire Rated	600V	Multicore 3C+E	2	8	M257
0	TV Isolation Damper NSW-MAR-212	TV Isolation Damper NSW-TVD-212A	NSW-TVD-212A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSW-MAR-212	TV Isolation Damper NSW-TVD-212B	NSW-TVD-212B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSW-MAR-212	TV Isolation Damper NSW-TVD-212C	NSW-TVD-212C-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSW-MAR-212	TV Isolation Damper NSW-TVD-212D	NSW-TVD-212D-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSW-MAR-212	TV Isolation Damper NSW-TVD-212E	NSW-TVD-212E-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSW-MAR-212	TV Isolation Damper NSW-TVD-212F	NSW-TVD-212F-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	North Side Station West MCC	TV Isolation Damper NSW-TVD-212 Ctr	NSW-TVD-212-C01	LSZH	600V	Multicore 12C+E	12	8	M257
0	North Side Station West MCC	TV Isolation Damper NSW-MAR-213	NSW-MAR-213-S01	Fire Rated	600V	Multicore 3C+E	2	8	M258
0	TV Isolation Damper NSW-MAR-213	TV Isolation Damper NSW-TVD-213A	NSW-TVD-213A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSW-MAR-213	TV Isolation Damper NSW-TVD-213B	NSW-TVD-213B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSW-MAR-213	TV Isolation Damper NSW-TVD-213C	NSW-TVD-213C-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSW-MAR-213	TV Isolation Damper NSW-TVD-213D	NSW-TVD-213D-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSW-MAR-213	TV Isolation Damper NSW-TVD-213E	NSW-TVD-213E-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSW-MAR-213	TV Isolation Damper NSW-TVD-213F	NSW-TVD-213F-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	North Side Station West MCC	TV Isolation Damper NSW-TVD-213 Ctr	NSW-TVD-213-C01	LSZH	600V	Multicore 12C+E	12	8	M258

CABLE NUMBER FORMAT: AB-CDE-123-F45

AB: STATION ABBREVIATION

GW - GATEWAY STATION
NS - NORTH SIDE STATION

CDE: EQUIPMENT TYPE

TJF - TUNNEL JET FAN
TVA - TUNNEL VENTILATION ATTENUATOR
TVD - TUNNEL VENTILATION DAMPER
TVF - TUNNEL VENTILATION FAN
SSP - SUBMERSIBLE SUMP PUMP
PN - INSTRUMENT PANEL

123: EQUIPMENT NUMBER

1 - STATION NUMBER (THE FIRST TWO NUMBERS ARE REDUNDANT)
1 = GATEWAY, 2 = NORTH SIDE
2 - ZERO FOR DAMPERS ASSOCIATED WITH PARTICULAR FANS,
ONE OR MORE FOR ADDITIONAL DAMPERS.
3 - SEQUENTIAL EQUIPMENT NUMBER.

F45: CABLE TYPE & SEQUENTIAL NUMBER

F - A = 1000V POWER
P = 480V POWER
D = 277V POWER
S = 120V POWER
F = 24VDC POWER
E = EARTH
C = 110V CONTROL
J = 24VDC CONTROL
L = NETWORK
I = 24VDC INSTRUMENT
R = RTD
T = THERMISTOR
45 - SEQUENTIAL CABLE NUMBER

CONDUIT NUMBER	CONDUIT SIZE (IN)	CONDUIT TOTAL AREA	CABLE SIZE	AWG/MCM	NUMBER OF CABLES	SUB TOTAL X SECTIONAL AREA	TOTAL X SECTIONAL AREA	RMC % FILL	RMC REQUIREMENT	Cables
NORTHSIDE EAST										
M200	4	12.882	Multicore 3C+E	1/0	2	2.91	2.91	23%	31%	TJF 209, 210 PWR
M201	4	12.882	Multicore 3C+E	1/0	2	2.91	2.91	23%	31%	TJF 208, 207 PWR
M202	3	7.499	Multicore 12C+E	12	4	1.86	2.42	32%	40%	TJF 207, 209, 208, 210 CTR
			Multicore 2C+E	12	4	0.55				TJF 207, 209, 208, 210 HTR
M203	2	3.408	1 Pair shielded	14	4	0.48	0.60	18%	40%	TJF 207, 209, 208, 210 Analogy Vib
			1 Pair shielded	14	1	0.12				TJF 207 RS485
M204	3	7.499	SPARE			0%				
M205	3	7.499	Multicore 3C+E	2	2	1.90	1.90	25%	31%	SSP 205, 206 PWR
M206	2	3.408	Multicore 12C+E	12	2	0.93	0.93	27%	31%	SSP 205, 206 CTR
M207	3	7.499	Multicore 3C+E	4/0	1	2.46	2.46	33%	53%	SSP 201 PWR
M208	3	7.499	Multicore 3C+E	4/0	1	2.46	2.46	33%	53%	SSP 202 PWR
M209	2	3.408	Multicore 12C+E	12	2	0.93	0.93	27%	31%	SSP 201, 202 CTR
M210	3	7.499	Multicore 3C+E	4/0	1	2.46	2.46	33%	53%	SSP 203 PWR
M211	3	7.499	Multicore 3C+E	4/0	1	2.46	2.46	33%	53%	SSP 204 PWR
M212	2	3.408	Multicore 12C+E	12	2	0.93	0.93	27%	31%	SSP 203, 204 CTR
M213	3	7.499	2 - 1C+E	1/0	5	1.37	1.37	18%	40%	Left Track Receptacle
M214	3	7.499	Multicore 2C+E	4	3	2.22	2.22	30%	40%	Left Track Emergency Light
M215	3	7.499	2 - 1C+E	1/0	5	1.37	1.37	18%	40%	Right Track Receptacle
M216	3	7.499	Multicore 2C+E	4	3	2.22	2.22	30%	40%	Right Track Emergency Light
M217	3	7.499	Multicore 3C+E	1/0	1	1.45	1.45	19%	53%	TJF 207 Pwr
M218	2	3.408	Multicore 12C+E	12	1	0.47	0.60	18%	31%	TJF 207 CTR
			Multicore 2C+E	12	1	0.14				TJF 207 HTR
M219	2	3.408	1 Pair shielded	14	2	0.24	1.69	50%	31%	TJF 207 Comms
M220	3	7.499	Multicore 3C+E	1/0	1	1.45	1.45	19%	53%	TJF 209 Pwr
M221	2	3.408	Multicore 12C+E	12	1	0.47	0.60	18%	31%	TJF 209 CTR
			Multicore 2C+E	12	1	0.14				TJF 209 HTR
M222	2	3.408	1 Pair shielded	14	2	0.24	0.24	7%	31%	TJF 209 Comms
M223	3	7.499	Multicore 3C+E	1/0	1	1.45	1.45	19%	53%	TJF 208 Pwr
M224	2	3.408	Multicore 12C+E	12	1	0.47	0.60	18%	31%	TJF 208 CTR
			Multicore 2C+E	12	1	0.14				TJF 208 HTR
M225	2	3.408	1 Pair shielded	14	2	0.24	0.24	7%	31%	TJF 208 Comms
M226	3	7.499	Multicore 3C+E	1/0	1	1.45	1.45	19%	53%	TJF 210 Pwr
M227	2	3.408	Multicore 12C+E	12	1	0.47	0.60	18%	31%	TJF 210 CTR
			Multicore 2C+E	12	1	0.14				TJF 210 HTR
M228	2	3.408	1 Pair shielded	14	2	0.24	0.24	7%	31%	TJF 210 Comms
M229	4	12.882	3 - 1C+E	500	4	4.01	4.01	31%	40%	TJF 201 Power
M230	4	12.882	3 - 1C+E	500	4	4.01	4.01	31%	40%	TJF 202 Power
M231	2	3.408	Multicore 12C+E	12	2	0.93	0.93	27%	31%	TJF 201, 202 CTR
M232	2	3.408	Multicore 2C+E	12	2	0.28	0.28	8%	31%	TJF 201, 202 HTR
M233	2	3.408	1 Pair shielded	14	4	0.48	0.48	14%	40%	TJF 201, 202 analog + RS485
M234	2	3.408	Multicore 3C+E	6	1	0.45	0.92	27%	31%	TJF 201 PWR
			Multicore 12C+E	12	1	0.47				TJF 201 CTR
M235	2	3.408	Multicore 3C+E	6	1	0.45	0.92	27%	31%	TJF 202 PWR
			Multicore 12C+E	12	1	0.47				TJF 202 CTR
M236	3	7.499	Multicore 3C+E	6	2	0.91	1.84	25%	40%	TJF 205, 206 PWR
			Multicore 12C+E	12	2	0.93				TJF 205, 206 CTR
M237	3	7.499	Multicore 3C+E	6	2	0.91	1.84	25%	40%	TJF 207, 208 PWR
			Multicore 12C+E	12	2	0.93				TJF 207, 208 CTR
M238	2	3.408	Multicore 12C+E	12	1	0.47	0.60	18%	31%	TJF 201 CTR
			Multicore 2C+E	12	1	0.14				TJF 201 HTR
M239	2	3.408	1 Pair shielded	14	2	0.24	0.24	7%	31%	TJF 201 COMMS

CONDUIT NUMBER	CONDUIT SIZE (IN)	CONDUIT TOTAL AREA	CABLE SIZE	AWG/MCM	NUMBER OF CABLES	SUB TOTAL X SECTIONAL AREA	TOTAL X SECTIONAL AREA	RMC % FILL	RMC REQUIREMENT	Cables
NORTHSIDE WEST										
M250	4	12.882	3 - 1C+ 2E		500	4	4.01	4.01	31%	40% TVF 203 Power
M251	4	12.882	3 - 1C+ 2E		500	4	4.01	4.01	31%	40% TVF 204 Power
M252	2	3.408	Multicore 12C+E	12	2	0.93	0.93	27%	31%	TJF 203, 204 CTR
M253	2	3.408	Multicore 2C+E	12	2	0.28	0.28	8%	31%	TJF 203, 204 HTR
M254	2	3.408	1 Pair shielded	14	4	0.48	0.48	14%	40%	TJF 203, 204 analog + RS485
M255	2	3.408	Multicore 3C+E	6	1	0.45	0.92	27%	31%	TJF 203 PWR
			Multicore 12C+E	12	1	0.47				TJF 203 CTR
M256	2	3.408	Multicore 3C+E	6	1	0.45	0.92	27%	31%	TJF 204 PWR
			Multicore 12C+E	12	1	0.47				TJF 204 CTR
M257	3	7.499	Multicore 3C+E	6	1	0.45	2.34	31%	40%	TJF 210 PWR
			Multicore 2C+E	12	1	0.95				TJF 212 PWR
			Multicore 12C+E	12	2	0.93				TJF 210, 212 CTR
M258	3	7.499	Multicore 3C+E	6	1	0.45	2.34	31%	40%	TJF 209 PWR
			Multicore 3C+E	2	1	0.95				TJF 213 PWR
			Multicore 12C+E	12	2	0.93				TJF 209, 213 CTR
M259	2	3.408	Multicore 3C+E	6	1	0.45	0.92	27%	31%	TJF 211 PWR
			Multicore 12C+E	12	1	0.47				TJF 211 CTR
M260	4	12.882	Multicore 12C+E	2	3	2.85	2.85	22%	40%	TJF 202, 204, 206 PWR
M261	3	7.499	Multicore 12C+E	12	3	1.40	1.81	24%	40%	TJF 202, 204, 206 CTR
			Multicore 2C+E	12	3	0.42				TJF 202, 204, 206 HTR
M262	2	3.408	1 Pair shielded							