

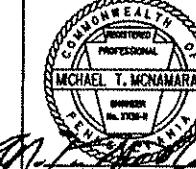
INDEX OF DRAWINGS

SHEET NO.	DRAWING NO.	DRAWING TITLE	SHEET NO.	DRAWING NO.	DRAWING TITLE
<b>TRACK</b>					
99	TK103	STANDARD 13'-0" CURVED SPLIT SWITCH	124	TK200	TRACK ABBREVIATION AND GENERAL NOTES
100	TK104	STANDARD 19'-6" CURVED SPLIT SWITCH	125	TK201	TRACK GEOMETRY LEFT TRACK
101	TK110	SPECIAL #4 CROSSOVER AT ALLEGHENY	126	TK202	TRACK GEOMETRY RIGHT TRACK AND CROSSOVER TRACK
102	TK112	GATEWAY CROSSOVER #6 DOUBLE CROSSOVER AT WOOD	127	TK203	TRACK PLAN STA. 6010+00 TO STA. 6015+50 LEFT TRACK
103	TK113	SPECIAL #8 CROSSOVER AT ALLEGHENY	128	TK204	EXISTING TRACK PLAN
104	TK120	STANDARD SWITCH POINT / GUARD DETAIL	129	TK205	TRACK PLAN STA. 6015+50 TO STA. 6021+50 LEFT TRACK
105	TK121	STANDARD 13'-0" SWITCH POINT DETAIL	130	TK206	TRACK PLAN STA. 6021+50 TO STA. 6025+00 LEFT TRACK
106	TK122	STANDARD HEEL BLOCK AREA AND SWITCH POINT DETAILS	131	TK207	TRACK PLAN STA. 6025+00 TO STA. 6030+50 LEFT TRACK
107	TK123	115 RE RAIL STRAP GUARD X-SECTION	132	TK208	TRACK PLAN STA. 6030+50 TO STA. 6036+00 LEFT TRACK
108	TK124	STRAP GUARD DRILLING AND FLARING DETAILS	133	TK209	TRACK PLAN STA. 6036+00 TO STA. 6040+50 LEFT TRACK
109	TK125	TRACK DETAILS #4 SOLID MANGANESE SELF GUARDED FROG (GENERAL DETAILS)	134	TK210	TRACK PLAN STA. 6040+50 TO STA. 6046+00 LEFT TRACK
110	TK126	TRACK DETAILS #6 FROG DETAIL	135	TK211	TRACK PLAN STA. 6046+00 TO STA. 6052+00 LEFT TRACK
111	TK127	TRACK DETAILS #8 FROG DETAIL	136	TK212	TRACK PLAN STA. 6052+00 TO STA. 6074+00 LEFT TRACK
112	TK128	EMERGENCY GUARD RAIL DETAILS	137	TK213	TRACK PLAN STA. 6074+00 TO STA. 6079+50 LEFT TRACK
113	TK131	TYPICAL TRACK DETAILS DIRECT FIXATION DETAILS TANGENT TRACK	138	TK214	TRACK PLAN STA. 6079+50 TO STA. 6084+00 LEFT TRACK
114	TK132	TYPICAL TRACK SECTIONS DIRECT FIXATION DETAILS CURVED TRACK	139	TK215	TRACK PLAN STA. 6084+00 TO STA. 6088+15.48 LEFT TRACK
114A	TK132A	TYPICAL TRACK SECTIONS PLINTH ANCHOR DETAILS	140	TK300	TRACK PROFILE STA. 6010+00 TO STA. 6012+00 LEFT TRACK
115	TK133	TRACK DETAILS HOUSE TOP DETAILS (1 OF 3)	141	TK301	TRACK PROFILE STA. 6012+00 TO STA. 6015+00 LEFT TRACK
116	TK134	TRACK DETAILS HOUSE TOP DETAILS (2 OF 3)	142	TK302	TRACK PROFILE STA. 6015+00 TO STA. 6019+50 LEFT TRACK
117	TK135	TRACK DETAILS HOUSE TOP DETAILS (3 OF 3)	143	TK303	TRACK PROFILE STA. 6015+00 TO STA. 6019+50 LEFT TRACK
118	TK136	PLAN FLOATING HEEL BLOCK / MANGANESE SWITCH POINT INSERT DETAILS (1 OF 2)	144	TK304	TRACK PROFILE STA. 6019+50 TO STA. 6025+00 LEFT TRACK
119	TK137	PLAN FLOATING HEEL BLOCK / MANGANESE SWITCH POINT INSERT DETAILS (2 OF 2)	145	TK305	TRACK PROFILE STA. 6019+50 TO STA. 6025+00 LEFT TRACK
120	TK140	PLAN HYDRAULIC BUMPING POST	146	TK306	TRACK PROFILE STA. 6025+00 TO STA. 6030+50 LEFT TRACK
121	TK141	MISCELLANEOUS TRACK WORK SLIDING BUMPING POST AT WOOD STREET	147	TK307	TRACK PROFILE STA. 6030+50 TO STA. 6036+00 LEFT TRACK
122	TK145	PLAN INSULATED FIXED RAIL ANCHOR ASSEMBLY DETAILS	148	TK308	TRACK PROFILE STA. 6030+50 TO STA. 6036+00 LEFT TRACK
123	TK146	TABULATION SHEET TRACK TYPE LENGTHS BY STATION	149	TK309	TRACK PROFILE STA. 6030+50 TO STA. 6036+00 LEFT TRACK
123A	TK147	RAIL LUBRICATORS - GATEWAY STATION	150	TK310	TRACK PROFILE STA. 6036+00 TO STA. 6040+50 LEFT TRACK
123B	TK148	RAIL LUBRICATORS - GATEWAY STATION	151	TK311	TRACK PROFILE STA. 6040+50 TO STA. 6046+00 LEFT TRACK
123C	TK149	RAIL LUBRICATORS - NORTHSIDE STATION	152	TK312	TRACK PROFILE STA. 6046+00 TO STA. 6051+50 LEFT TRACK
123D	TK150	RAIL LUBRICATORS - NORTHSIDE STATION	153	TK313	TRACK PROFILE STA. 6051+50 TO STA. 6074+00 LEFT TRACK
123E	TK151	RAIL LUBRICATORS LAYOUT - TYPICAL	154	TK314	TRACK PROFILE STA. 6074+00 TO STA. 6079+50 LEFT TRACK
			155	TK315	TRACK PROFILE STA. 6079+50 TO STA. 6084+00 LEFT TRACK
			156	TK316	TRACK PROFILE STA. 6084+00 TO STA. 6088+15.48 LEFT TRACK
			157	TK400	TRACK PROFILE STA. 6010+00 TO STA. 6012+00 RIGHT TRACK
			158	TK401	TRACK PROFILE STA. 6012+00 TO STA. 6015+00 RIGHT TRACK
			159	TK402	TRACK PROFILE STA. 6015+00 TO STA. 6019+50 RIGHT TRACK
			160	TK403	TRACK PROFILE STA. 6015+00 TO STA. 6019+50 RIGHT TRACK
			161	TK404	TRACK PROFILE STA. 6019+50 TO STA. 6025+00 RIGHT TRACK
			162	TK405	TRACK PROFILE STA. 6019+50 TO STA. 6025+00 RIGHT TRACK
			163	TK406	TRACK PROFILE STA. 6025+00 TO STA. 6030+50 RIGHT TRACK
			164	TK407	TRACK PROFILE STA. 6025+00 TO STA. 6030+50 RIGHT TRACK
			165	TK408	TRACK PROFILE STA. 6030+50 TO STA. 6036+00 RIGHT TRACK
			166	TK409	TRACK PROFILE STA. 6030+50 TO STA. 6036+00 RIGHT TRACK
			167	TK410	TRACK PROFILE STA. 6036+00 TO STA. 6040+50 RIGHT TRACK
			168	TK411	TRACK PROFILE STA. 6040+50 TO STA. 6046+00 RIGHT TRACK
			169	TK412	TRACK PROFILE STA. 6046+00 TO STA. 6051+00 RIGHT TRACK
			170	TK413	TRACK PROFILE STA. 6051+00 TO STA. 6073+50 RIGHT TRACK
			171	TK414	TRACK PROFILE STA. 6073+50 TO STA. 6079+00 RIGHT TRACK
			172	TK415	TRACK PROFILE STA. 6079+00 TO STA. 6083+50 RIGHT TRACK
			173	TK416	TRACK PROFILE STA. 6083+50 TO STA. 6088+06.37 RIGHT TRACK

 <p>Gannett Fleming Transit &amp; Rail Systems</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 25%;"></td> <td style="width: 25%;"></td> <td style="width: 25%;"></td> </tr> <tr> <td>08/20/08</td> <td>ADDENDUM 3 - DRAWING MODIFIED</td> <td></td> </tr> </table>						08/20/08	ADDENDUM 3 - DRAWING MODIFIED		 <p>COMMONWEALTH OF PENNSYLVANIA PROFESSIONAL ENGINEERING MICHAEL T. McNAMARA P.E. 08/20/08 SIGNATURE</p>		<p>DMJM HARRIS   AECOM</p> <p>FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222</p> <p>APPROVED <i>[Signature]</i> B-20-08 DATE</p>	<p>DESIGNED JC TRAUM DRAWN JC TRAUM</p> <p>CHECKED - IN CHARGE CD JONES</p> <p>DATE APR. 28, 2008</p> <p>SCALE NTS</p>	<p><b>PORT AUTHORITY OF ALLEGHENY COUNTY</b> PITTSBURGH</p> <p>NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM-WIDE) INDEX OF DRAWINGS (TRACK) SHEET 2 OF 9</p>
	08/20/08	ADDENDUM 3 - DRAWING MODIFIED												
	NO. DATE	DESCRIPTION	REVISIONS											

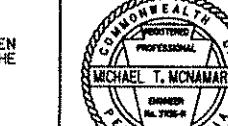
# INDEX OF DRAWINGS

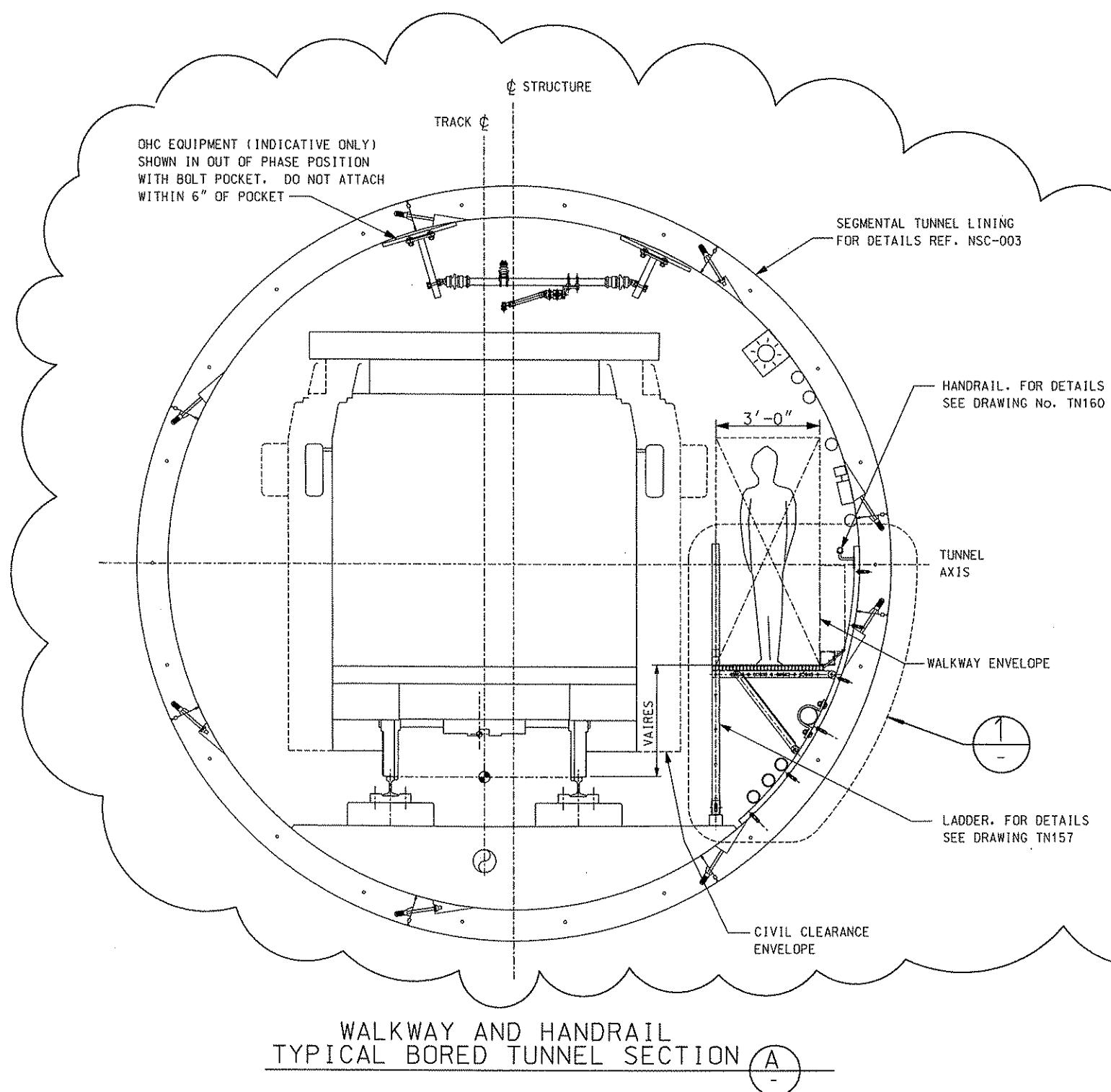
SHEET NO.	DRAWING NO.	DRAWING TITLE	SHEET NO.	DRAWING NO.	DRAWING TITLE
<u><b>SIGNALS</b></u>					
335	SG001	BLOCK PLAN AND CONTROL LINES - GENERAL NOTES	382	SG110	TYPICAL AUTO / ENTRANCE EXIT LOGIC - SWITCH SELECTION
336	SG002	BLOCK PLAN AND CONTROL LINES - SAMPLE BRAKING DISTANCE MODEL	383	SG112	TYPICAL AUTO / ENTRANCE EXIT LOGIC - ROUTE SELECTION
337	SG005	SIGNAL BLOCK PLAN AND CONTROL LINES (INBOUND) GATEWAY / WOOD STREET TO ALLEGHENY (1 OF 3)	384	SG116	TYPICAL OCC CONTROLS & INDICATIONS
338	SG006	SIGNAL BLOCK PLAN AND CONTROL LINES (INBOUND) GATEWAY / WOOD STREET TO ALLEGHENY (2 OF 3)	385	SG117	TYPICAL MISC. ALARMS CIRCUITS & CONTROLS LOGIC
339	SG007	SIGNAL BLOCK PLAN AND CONTROL LINES (INBOUND) GATEWAY / WOOD STREET TO ALLEGHENY (3 OF 3)	386	SG118	ALLEGHENY INTERLOCKING OCC CODE & FUNCTION ASSIGNMENT
340	SG010	SIGNAL BLOCK PLAN AND CONTROL LINES (OUTBOUND) ALLEGHENY TO GATEWAY / WOOD STREET (1 OF 4)	387	SG124	TYPICAL SIGNAL POWER DISTRIBUTION CIRCUITS
341	SG011	SIGNAL BLOCK PLAN AND CONTROL LINES (OUTBOUND) ALLEGHENY TO GATEWAY / WOOD STREET (2 OF 4)	388	SG125	TYPICAL SIGNAL POWER DISTRIBUTION CIRCUITS
342	SG012	SIGNAL BLOCK PLAN AND CONTROL LINES (OUTBOUND) ALLEGHENY TO GATEWAY / WOOD STREET (3 OF 4)	389	SG128	TYPICAL AC GROUND DETECTOR CIRCUITS
343	SG013	SIGNAL BLOCK PLAN AND CONTROL LINES (OUTBOUND) ALLEGHENY TO GATEWAY / WOOD STREET (4 OF 4)	390	SG129	TYPICAL DC GROUND DETECTOR CIRCUITS
344	SG015	BLOCK PLAN AND CONTROL LINES GT, ST. AND BLIND STOP TIMER SETTINGS	391	SG131	TYPICAL AC BLOWN FUSE CIRCUITS
345	SG019	GATEWAY TO ALLEGHENY DOUBLE LINE TRACK & SIGNAL CABLE PLAN	392	SG132	TYPICAL MAINTENANCE TELEPHONE CIRCUITS
346	SG020	GATEWAY TO ALLEGHENY DOUBLE LINE TRACK & SIGNAL CABLE PLAN	393	SG134	TYPICAL SWITCH HEATER CONTROL CIRCUITS
347	SG021	GATEWAY TO ALLEGHENY DOUBLE LINE TRACK & SIGNAL CABLE PLAN	394	SG135	TYPICAL SWITCH HEATER CASE DETAILS
348	SG022	GATEWAY TO ALLEGHENY DOUBLE LINE TRACK & SIGNAL CABLE PLAN	395	SG140	TRAINWAY PROTECTION STROBE LIGHT SYSTEM EQUIPMENT LOCATION AND CABLE PLAN
349	SG023	GATEWAY TO ALLEGHENY DOUBLE LINE TRACK & SIGNAL CABLE PLAN	396	SG141	TRAINWAY PROTECTION STROBE LIGHT SYSTEM EQUIPMENT LOCATION AND CABLE PLAN
350	SG024	GATEWAY TO ALLEGHENY DOUBLE LINE TRACK & SIGNAL CABLE PLAN	397	SG142	TRAINWAY PROTECTION STROBE LIGHT SYSTEM EQUIPMENT LOCATION AND CABLE PLAN
351	SG035	ALLEGHENY INTERLOCKING ROUTE & LOCKING CHART	398	SG143	TRAINWAY PROTECTION STROBE LIGHT SYSTEM EQUIPMENT LOCATION AND CABLE PLAN
352	SG036	ALLEGHENY INTERLOCKING ROUTE & LOCKING CHART	399	SG144	TRAINWAY PROTECTION STROBE LIGHT SYSTEM TYPICAL CIRCUITS
353	SG037	ALLEGHENY INTERLOCKING ROUTE & LOCKING CHART	400	SG145	TRAINWAY PROTECTION STROBE LIGHT SYSTEM STROBE LIGHT INSTALLATION DETAILS
354	SG052	TYPICAL INTERLOCKING SYSTEM BLOCK DIAGRAM	401	SG150	TYPICAL SIGNAL LAYOUT - MAST MOUNTED DETAILS
354A	SG052A	TYPICAL AUTOMATIC SIGNAL SYSTEM BLOCK DIAGRAM	402	SG151	TYPICAL SIGNAL LAYOUT - WALL MOUNTED INSTALLATIONS
355	SG053	TYPICAL TWC BLOCK DIAGRAM	403	SG152	TYPICAL SIGNAL LAYOUT - BORED TUNNEL WALL MOUNTED DETAILS
356	SG054	TYPICAL TWC LOOP CIRCUITS	404	SG153	TYPICAL SIGNAL LAYOUT - DWARF SIGNAL
357	SG055	TYPICAL TWC LOOP REQUESTS	405	SG154	TYPICAL SIGNAL TYPE
358	SG057	TYPICAL INTERLOCKING TRACK CIRCUIT	406	SG155	TYPICAL SIGNAL CONFIGURATIONS
359	SG059	TYPICAL APPROACH TRACK CIRCUIT	407	SG156	TYPICAL DUAL CONTROL POWER SWITCH LAYOUT - DIRECT FIXATION (1 OF 2)
360	SG061	TYPICAL TIMING SECTION OVERLAY CIRCUITS	408	SG158	TYPICAL DUAL CONTROL POWER SWITCH LAYOUT - DIRECT FIXATION (2 OF 2)
361	SG064	TYPICAL TRAFFIC & LINE CIRCUITS LOGIC - NORTHBOUND TRACK 2	409	SG160	WOOD STREET DOUBLE CROSSOVER TYPICAL M3 POWER SWITCH LAYOUT - DIRECT FIXATION (1 OF 2)
363	SG065	TYPICAL TRAFFIC & LINE CIRCUITS LOGIC - SOUTHBOUND TRACK 1	410	SG161	WOOD STREET DOUBLE CROSSOVER TYPICAL M3 POWER SWITCH LAYOUT - DIRECT FIXATION (2 OF 2)
364	SG068	TYPICAL ROUTE CHECK LOGIC	411	SG164	TYPICAL IMPEDIMENT BOND LAYOUT - DOUBLE
365	SG072	TYPICAL SIGNAL CONTROL LOGIC - SIGNAL 2N	412	SG166	TYPICAL IMPEDIMENT BOND LAYOUT - SINGLE
366	SG073	TYPICAL SIGNAL CONTROL LOGIC - SIGNAL 6S	413	SG168	ALLEGHENY INTERLOCKING SWITCH BONDING - DIAMOND CROSSOVER
367	SG074	TYPICAL APPROACH & TIME LOCKING LOGIC	414	SG169	WOOD STREET INTERLOCKING SWITCH BONDING - DIAMOND CROSSOVER
368	SG076	TYPICAL ROUTE & SWITCH LOCKING LOGIC	415	SG170	TYPICAL SWITCH BONDING - CROSSOVER
369	SG080	TYPICAL SWITCH REQUEST & CORRESPONDENCE LOGIC	416	SG171	TYPICAL POWER AND TRACK BONDING SCHEMATICS
370	SG082	TYPICAL SWITCH MACHINE OPERATING CIRCUIT	417	SG172	TYPICAL POWER AND TRACK BOND DETAILS
371	SG084	TYPICAL SWITCH MACHINE INDICATION CIRCUIT	418	SG174	TYPICAL SWITCH HEATER ARRANGEMENT
372	SG086	TYPICAL TRIP STOP LOGIC	419	SG176	TYPICAL TWC LOOP LAYOUT
373	SG088	TYPICAL 2N SIGNAL LIGHTING CIRCUITS	420	SG177	TYPICAL TWC LOOP LAYOUT
374	SG090	TYPICAL 6032N AUTOMATIC SIGNAL CONTROL WITHOUT TIMERS LOGIC	421	SG182	SIGNAL RELAY ROOM LAYOUT GATEWAY STATION
375	SG091	TYPICAL 6043N AUTOMATIC SIGNAL CONTROL WITH ONE SHOT GT LOGIC	422	SG184	SIGNAL RELAY ROOM LAYOUT NORTHSIDE STATION
376	SG092	TYPICAL 6018S AUTOMATIC SIGNAL CONTROL WITH ONE SHOT GT & ST LOGIC	423	SG186	SIGNAL RELAY ROOM LAYOUT ALLEGHENY STATION
377	SG100	TYPICAL LOCAL CONTROL PANEL FACEPLATE	424	SG190	TYPICAL SWITCH HEATER CASE INSTALLATION LAYOUT
378	SG101	TYPICAL LOCAL CONTROL PANEL NOMENCLATURE	425	SG200	TYPICAL POSITIVE AND NEGATIVE CABLE LAYOUT
379	SG104	TYPICAL LOCAL CONTROL PANEL CONTROLS & INDICATIONS	426	SG203	ALLEGHENY CONDUIT LAYOUT SHEET 1 OF 2
380	SG106	TYPICAL EXIT BLOCK LOGIC	427	SG204	ALLEGHENY CONDUIT LAYOUT SHEET 2 OF 2
381	SG107	TYPICAL SIGNAL REQUEST LOGIC	428	SG205	CATENARY FEED CONDUIT LAYOUT - PIER 11 STATION 6084+89.85

 <b>Gannett Fleming</b> Transit & Rail Systems	<table border="1" style="margin: auto;"> <tr> <td style="width: 30px; height: 30px;"></td> <td style="width: 30px; height: 30px;"></td> </tr> <tr> <td style="width: 30px; height: 30px;"></td> <td style="width: 30px; height: 30px;"></td> </tr> </table>						<p style="margin: 0;">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.</p>	 <b>PROFESSIONAL</b> ENGINEERING SOCIETY OF THE COMMONWEALTH OF PENNSYLVANIA MICHAEL T. McNAMARA OWNER P.E. #12345 T-12345 P.O. BOX 12345 12345 S. Broad Street Pittsburgh, PA 15222 (412) 555-1234 FAX: (412) 555-1234 E-mail: info@pene.org www.pene.org	<b>DMJM HARRIS   AECOM</b> FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222 APPROVED 8-26-08 DATE SIGNATURE	DESIGNED JC TRAUM DRAWN JC TRAUM	<b>PORT AUTHORITY OF ALLEGHENY COUNTY</b> PITTSBURGH  NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM-WIDE) INDEX OF DRAWINGS (SIGNALS) SHEET 6 OF 9	
CHECKED TA SHANTZ IN CHARGE CD JONES DATE APR. 28, 2008 SCALE NTS												
NO. DATE REVISIONS	REVISIONS	Port Authority CONNECTING PLACES	CONTRACT NO. NSC-009 DWG. NO. GN006 SHT. 6									

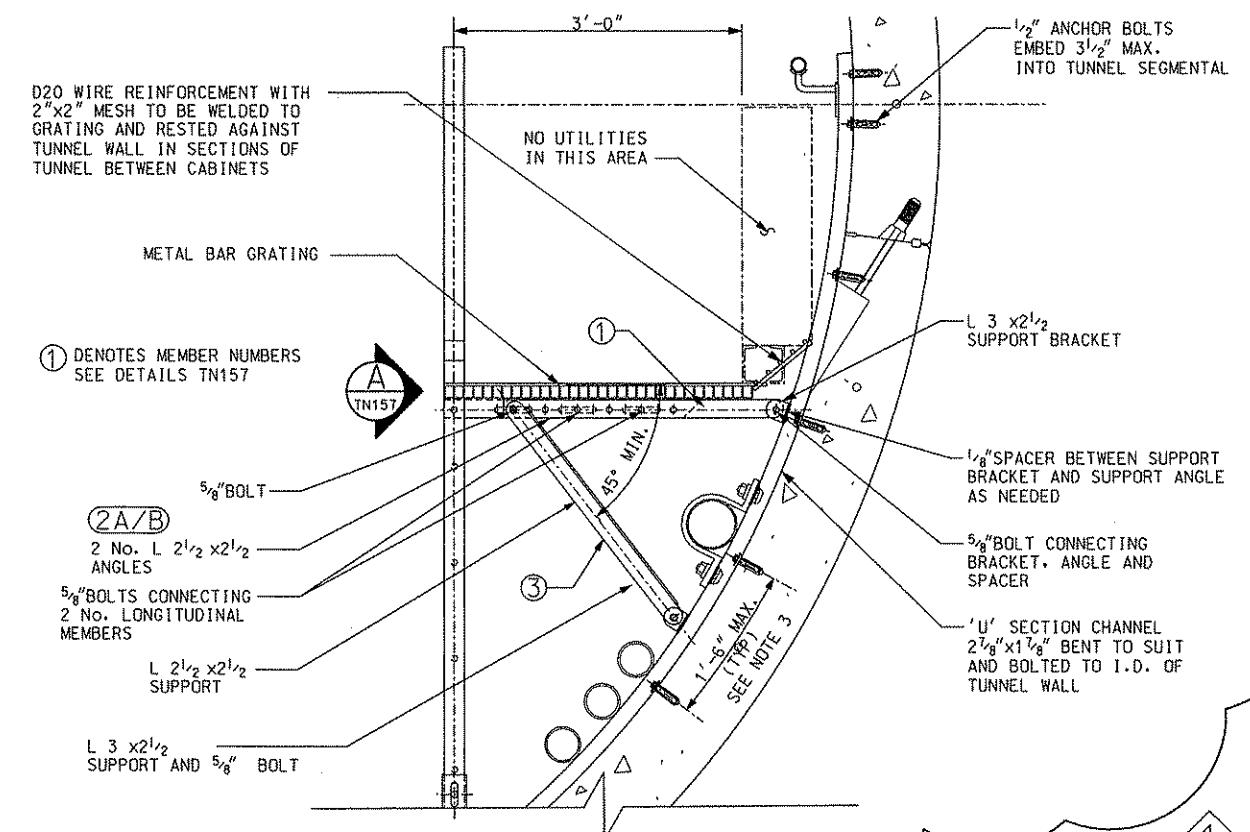
GENERAL NOTES

1. MAPPING FOR THE NORTH SHORE CONNECTOR PROJECT WAS FLOWN ON FEBRUARY 12, 2001 BY BAE SYSTEM ADR. THE HORIZONTAL DATUM USED IS THE NORTH AMERICAN DATUM OF 1983 (NAD 1983) AND THE VERTICAL DATUM IS THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 1988).
2. CONTROL SURVEY FOR THE NORTH SHORE CONNECTOR PROJECT WAS ESTABLISHED TO CONFORM TO A SECOND ORDER, CLASS II STANDARD OF CLOSURE. (I.E. 1:20,000)
3. PROJECT HORIZONTAL GEOMETRY IS BASED ON STATE PLANE COORDINATES AT SEA LEVEL ELEVATION. TO CONVERT GRID LENGTHS TO GROUND LENGTHS AT PROJECT ELEVATION, MULTIPLY THE GRID LENGTH BY 1.0000404 OR CONVERSELY TO CONVERT GROUND LENGTHS TO GRID LENGTHS, MULTIPLY THE GROUND LENGTH BY 0.9999596. THE PROJECT FIELD SURVEY STAKEOUT HAS USED THESE CONVERSIONS FOR PROJECT HORIZONTAL CONTROL DATA.
4. DO NOT INTERFERE WITH THE OPERATION OF ANY FIRE HYDRANT, FIRE CALL BOX OR POLICE CALL BOX, UNLESS DIRECTED BY THE CONTRACT DRAWINGS OR THE ENGINEER.
5. CONFINE OPERATIONS WITHIN THE AUTHORITY'S RIGHT-OF-WAY INCLUDING SURFACE, SUBSURFACE AND TEMPORARY CONSTRUCTION EASEMENTS. THE CONTRACTOR'S WORK WILL ENCROACH WITHIN CITY OF PITTSBURGH EXISTING LEGAL RIGHT-OF-WAY.
6. ALL DIMENSIONS ON CONTRACT DRAWINGS ARE MEASURED HORIZONTALLY, UNLESS OTHERWISE NOTED.
7. ALL CONCRETE SURFACE REPLACEMENTS SHALL BE CONSTRUCTED TO THE NEAREST EXISTING CONSTRUCTION JOINT AT OR BEYOND THE END OF CONSTRUCTION. CONCRETE PAVEMENT RECONSTRUCTION LIMITS HAVE BEEN ESTABLISHED TO THE NEAREST EXISTING PAVEMENT JOINT. SAW CUT CONCRETE PAVEMENT AS DIRECTED. PAVEMENT RECONSTRUCTION LIMITS TIEING INTO EXISTING BITUMINOUS SURFACES WILL BE SAW CUT AND SEALED AS PER THE CONTRACT DRAWINGS.
8. SLOPES DENOTED ON THESE DRAWINGS ARE SHOWN IN ENGLISH PROTOCOL AS 2:1. (TWO HORIZONTAL TO ONE VERTICAL.)
9. CONSTRUCT CURB TO MATCH EXISTING SIDE STREET CURB. CONSTRUCT SIDEWALKS FLUSH WITH TOP OF CURB UNLESS OTHERWISE DIRECTED BY THE ENGINEER.
10. ALWAYS ASSUME THE EXISTING UTILITY CONDUITS ARE ACTIVE. UTILITIES IDENTIFIED AS ABANDONED SHALL BE CONFIRMED WITH FACILITY OWNER BEFORE ANY WORK IS PERFORMED.
11. UTILITIES SHOWN ON THE DRAWINGS REPRESENT THE EXTENT OF UTILITIES WHICH MAY BE IMPACTED BY CONSTRUCTION, NOT THE TOTAL EXTENT OF THE RESPECTIVE UTILITIES.
12. THE CONTRACTOR SHALL BE AWARE THAT PORTIONS OF THE WORK ARE IN CLOSE PROXIMITY TO THE CUT AND COVER TUNNEL AND UTILITY STRUCTURES. IN THE EVENT THE LOCATION OF THE EXISTING TUNNEL IS WITHIN THE PROPOSED CONSTRUCTION OR THE PROPOSED CONSTRUCTION ADVERSELY AFFECTS THE UTILITY, CONTACT THE ENGINEER IMMEDIATELY FOR DIRECTION.
13. THE LIMITS OF WORK FOR THIS PROJECT INCLUDES WORKS IN THE EXISTING CENTRAL BUSINESS DISTRICT (CBD) FROM MIDTOWN TO GATEWAY INCLUDING THE GATEWAY LOOP AND WORK ON THE NEW ALIGNMENT FOR GATEWAY STATION TO ALLEGHENY STATION INCLUDING THE TAIL TRACK / YARD.
14. TEMPORARY CONSTRUCTION EASEMENT. AN AREA(S) REQUIRED UNTIL THE CONSTRUCTION OR WORK INDICATED BY THE PLAN IS COMPLETED, UNLESS SOONER REVERTED IN WRITING BY THE PORT AUTHORITY.
15. REQUIRED EASEMENT LINE. AN AREA(S) WHICH SHALL ALLOW AUTHORITY TO ENTER THE PROPERTY AS NECESSARY TO CONSTRUCT OR ALTER THE SUB-SURFACE TRANSIT TUNNEL, RETAINED EARTH WALL, BRIDGE STRUCTURE, TRANSIT STATION AND TO SUCH FUTURE REASONABLE ENTRIES TO MAINTAIN THE ABOVE REFERENCED ITEMS FOR THE PROTECTION OF THE TRANSIT FACILITY. IT SHALL PREVENT THE OWNER FROM HAVING USE OF THE SURFACE FOR PARKING OR SIMILAR PURPOSES UNLESS NOTED IN WRITING BY AUTHORITY.
16. PERMANENT EASEMENT. A SURFACE AREA(S) WHICH SHALL ALLOW AUTHORITY TO ENTER THE PROPERTY AS NECESSARY TO CONSTRUCT OR ALTER THE PEDESTRIAN PLAZA, EMERGENCY ACCESS LOCATIONS, AND TRANSIT STATION. IT SHALL PREVENT THE OWNER FROM HAVING USE OF THE SURFACE FOR PARKING OR SIMILAR PURPOSES WHICH SHALL DAMAGE OR REVISE THE USE OR INTENT OF THE PERMANENT EASEMENT.
17. AUTHORITY RIGHT-OF-WAY PLANS HAVE BEEN PROVIDED IN THE CONTRACT DOCUMENTS.
18. CONTRACT NSC-003/006 NORTH SHORE CONNECTOR, NORTH SIDE TUNNELS AND STATION SHELL CONSTRUCTION IS UNDER CONSTRUCTION AND AS A RESULT CERTAIN CHANGES TO THE NSC-003/006 CONTRACT DOCUMENTS HAVE OCCURRED AND CAN CONTINUE TO OCCUR IN THE FUTURE. KNOWN CHANGES INCLUDING, BUT NOT LIMITED TO, UTILITIES, TEMPORARY FACILITIES, SUPPORT OF EXCAVATION, AND MAINTENANCE AND PROTECTION OF TRAFFIC AND DETOURS. THE CONTRACTOR SHALL COORDINATE WITH THE NSC-003/006 CONTRACTOR AND THE ENGINEER TO OBTAIN CURRENT INFORMATION BEFORE CONTRACTOR BEGINS ITS WORK WHICH COULD BE AFFECTED BY THE NSC-003/006 CONSTRUCTION ACTIVITIES. SEE APPENDIX C-NORTH SHORE CONNECTOR, NORTH SIDE TUNNELS & STATION SHELL (NSC-003/006) CONSTRUCTION UPDATE FOR A LIST OF CHANGES TO THE NSC-003/006 CONTRACT DOCUMENTS INCLUDING A LIST OF SUBMITTALS WHICH DOCUMENT MAJOR CHANGES.
19. CONTRACT NSC-003/006, NSC-004 R, NSC-007, AND CONTRACT NO. 3002 ARE CURRENTLY UNDER CONSTRUCTION AND WILL INTERFACE WITH NSC-009 WORK. AS A RESULT OF THE NSC-003/006, NSC-004 R, NSC-007, AND CONTRACT NO. 3002 CONSTRUCTION ACTIVITIES, CHANGES TO THE NSC-003/006, NSC-004 R, NSC-007, AND CONTRACT NO. 3002 CONTRACT DOCUMENTS HAVE OCCURRED. KNOWN CHANGES INCLUDE, BUT ARE NOT LIMITED TO, UTILITY INSTALLATIONS, TEMPORARY FACILITY DESIGN AND INSTALLATION, CUT AND COVER AND BORED TUNNEL DESIGN AND CONSTRUCTION, MAINTENANCE AND PROTECTION OF TRAFFIC AND DETOUR INSTALLATION AND PHASING, AND DOUBLE CROSSOVER SHOP DRAWINGS AND SUBMITTALS. THE CONTRACTOR SHALL COORDINATE WITH THE NSC-003/006, NSC-004 R, NSC-007, AND CONTRACT NO. 3002 CONTRACTORS AND THE ENGINEER TO OBTAIN CURRENT INFORMATION BEFORE CONTRACTOR BEGINS WORK WHICH COULD BE AFFECTED BY THE NSC-003/006, NSC-004 R, NSC-007, AND CONTRACT NO. 3002 CONSTRUCTION ACTIVITIES.
20. THE CONTRACTOR SHALL BE ALLOWED A THREE (3) INCHES MAXIMUM EMBEDMENT DEPTH INTO THE TUNNEL SEGMENT AT A MINIMUM DISTANCE FROM SEGMENTAL JOINTS OF FOUR (4) INCHES, PRIOR TO ANY DRILLING CONTRACTOR NEEDS TO IDENTIFY LOCATION AND GET APPROVAL OF ENGINEER.

 <b>Gannett Fleming</b> Transit & Rail Systems			<p>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.</p>	 <b>COMMONWEALTH OF PENNSYLVANIA</b> PROFESSIONAL MICHAEL T. McNAMARA OWNER AL THOMPSON S. MCNAMARA APRIL 28, 2008 SIGNATURE	<b>DMJM HARRIS   AECOM</b> FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222  <i>[Handwritten signatures]</i> APPROVED 8-20-08 DATE	DESIGNED DRAWN JC TRAUM JC TRAUM	<b>PORT AUTHORITY OF ALLEGHENY COUNTY</b> PITTSBURGH  NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM-WIDE) GENERAL NOTES AND UTILITIES SHEET 1 OF 2
	08/20/08	ADDENDUM 3 - DRAWING MODIFIED				CHECKED TA SHANTZ	
	NO. DATE	DESCRIPTION				IN CHARGE CD JONES	
	REVISIONS					DATE APR. 28, 2008	



WALKWAY AND HANDRAIL  
TYPICAL BORED TUNNEL SECTION



DETAIL

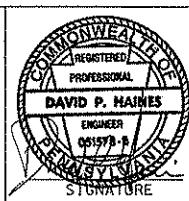
SCALE: 1" = 1-0'

NOTE: PROFESSIONAL ENGINEER SEAL APPLIES TO CHANGES TO  
THIS DRAWING SPECIFIC TO THIS ADDENDUM ONLY. FOR ORIGINAL  
ENGINEER OF RECORD SEE PREVIOUS VERSION OF THIS DRAWING.

\$TIME\$  
SOATES \$FILES

◇ 8/20/08 ADDENDUM 3 - DRAWING MODIFIED			
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.

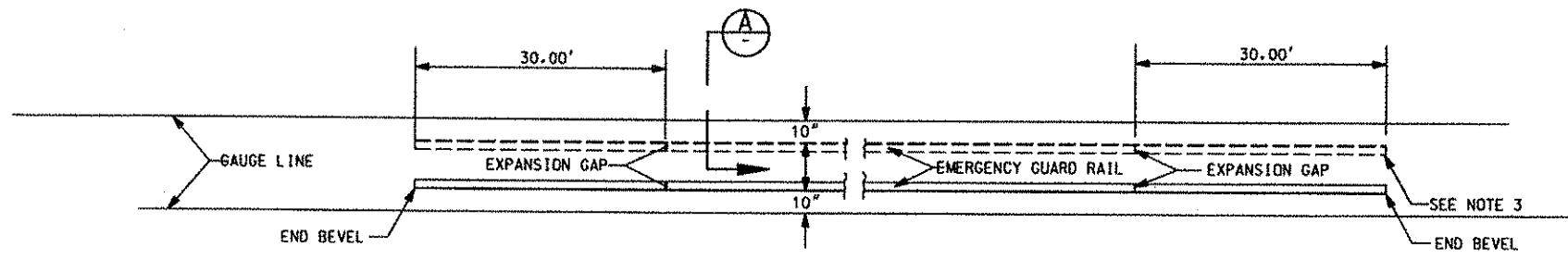


DMJM HARRIS | AECOM  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222  
APPROVED: *Paul R.* DATE: 8-20-08  
DESIGNED BY: RJS  
DRAWN BY: NPD  
CHECKED BY: WBT  
IN CHARGE: DPH  
DATE: APRIL 21, 2008  
SCALE: 1/2"=1'-0"  
2' 1' 0 2'

NOTES:  
1. FOR GENERAL NOTES, SEE DRAWING TN130.  
2. WALKWAY HEIGHT VARIES WITH SUPERELEVATION OF THE TRACK.  
3. DO NOT DRILL AND GROUT OR PLACE ANCHOR BOLTS WITHIN A DISTANCE EQUAL TO THE DEPTH OF ANCHOR EMBEDMENT UP TO A MAXIMUM DEPTH OF 6" ADJACENT TO ANY TUNNEL SEGMENT JOINT OR BOLT POCKET WITHOUT PRIOR WRITTEN PERMISSION FROM THE ENGINEER. ADDITIONAL U-SECTIONS SHALL BE USED WHERE NECESSARY TO STRADDLE TUNNEL SEGMENT JOINTS.

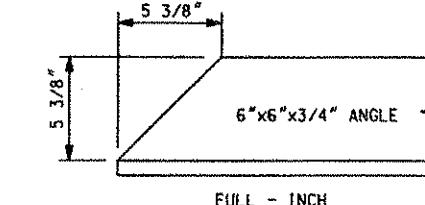
1

PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH  
PENNSYLVANIA  
NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEMS (SYSTEM WIDE)  
TUNNEL CROSS SECTION  
Port Authority  
CONTRACT NO. NSC-009  
DWG. NO. TN151 SHT. 69



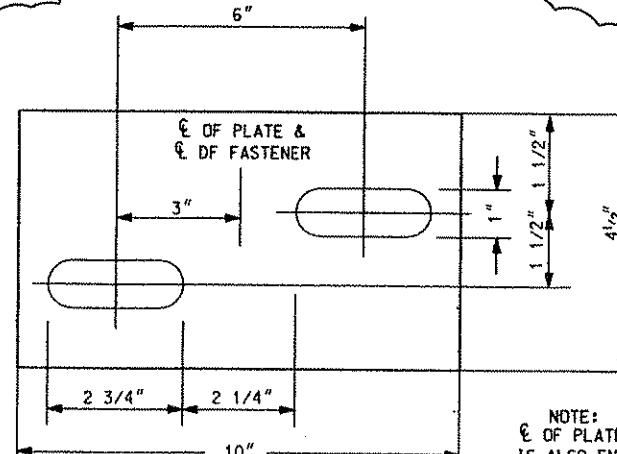
PLAN EMERGENCY GUARD RAIL

NOT TO SCALE



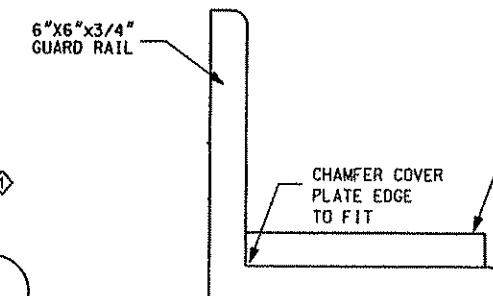
DETAIL  
BEVELLED END OF GUARD RAIL

3



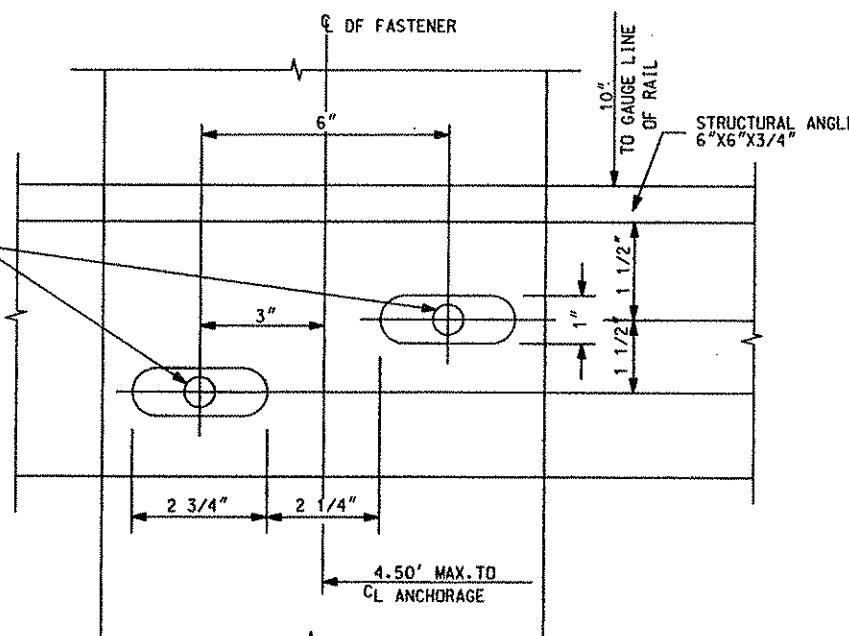
DETAIL  
COVER / JOINT PLATE

NOT TO SCALE



SECTION

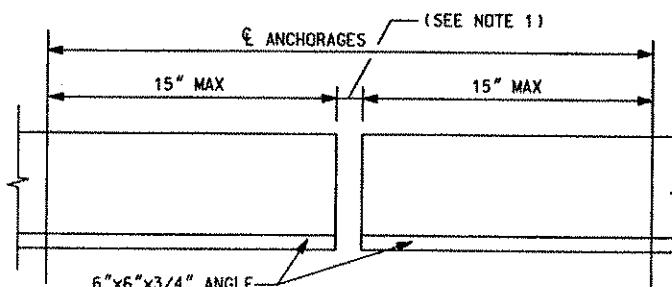
NOT TO SCALE



ANCHORAGE  
DIRECT FIXATION TRACK

NOT TO SCALE

6



DETAIL  
GUARD RAIL EXPANSION GAP

NOT TO SCALE

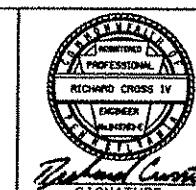
4

- NOTES:
1. ON DIRECT FIXATION TRACK, THE EXPANSION GAP SHALL BE 1 1/2" EXCEPT AT BRIDGE EXPANSION JOINTS WHERE THE GAP SHALL BE 2" @ 20°C. IN ADDITION TO THE LOCATIONS SHOWN ABOVE, GUARD ANGLE EXPANSION GAPS SHALL BE INSTALLED AT THE CENTER LINE OF EACH BRIDGE EXPANSION JOINT.
  2. THE MAXIMUM SPACING OF GUARD ANGLE ANCHORAGE SHALL BE 36" ON DIRECT FIXATION TRACK.
  3. THE EMERGENCY GUARD ANGLE SHOWN AS DASHED SHALL BE INSTALLED WHERE DUAL GUARD ANGLES ARE REQUIRED AS PER TK146.
  4. SEE DWG TK131 FOR ANCHORAGE DETAILS OF EMERGENCY GUARD ANGLE ON DIRECT FIXATION TRACK BRIDGES.
  5. SEE TK146 FOR LOCATIONS OF SINGLE OR DUAL STRAP GUARD RAIL, AS WELL AS EMERGENCY GUARD ANGLE.
  6. ALL EMERGENCY GUARD ANGLE INSTALLED ON CURVES SHALL BE SHOP BENT TO BE CONCENTRIC TO THE RUNNING RAIL.
  7. ALL EMERGENCY GUARD ANGLE, COVER/JOINT PLATES, AND ALL ATTACHING HARDWARE SHALL BE GALVANIZED.

Gannett Fleming  
Transit & Rail Systems

<input checked="" type="checkbox"/> 8/20/08 ADDENDUM 3 - DRAWING MODIFIED		
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

*Dale Pollan* 8-20-08  
APPROVED DATE

DESIGNED JF BARBIERE  
DRAWN JF BARBIERE

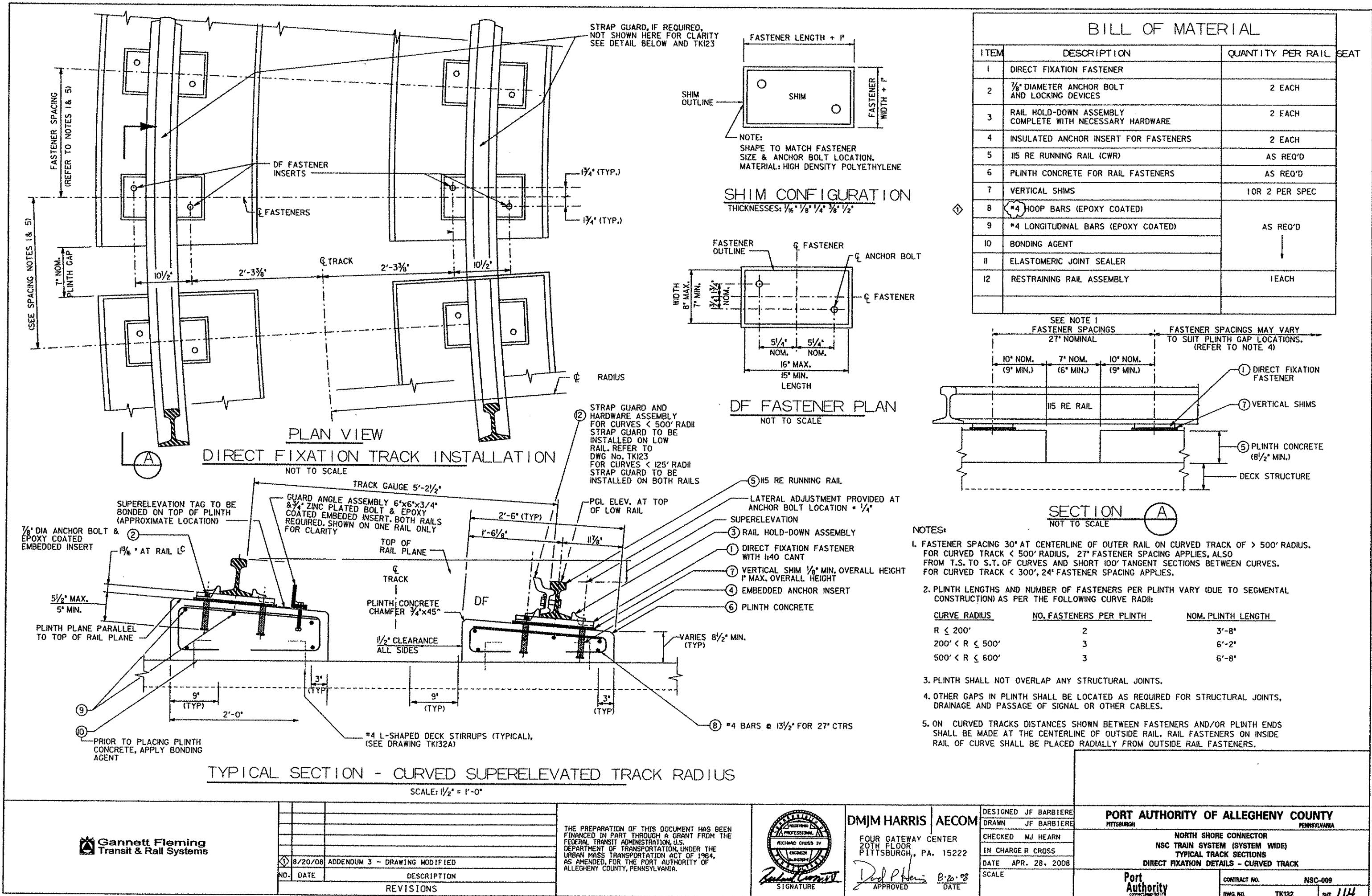
CHECKED MJ HEARN  
IN CHARGER CROSS  
DATE APR. 28, 2008

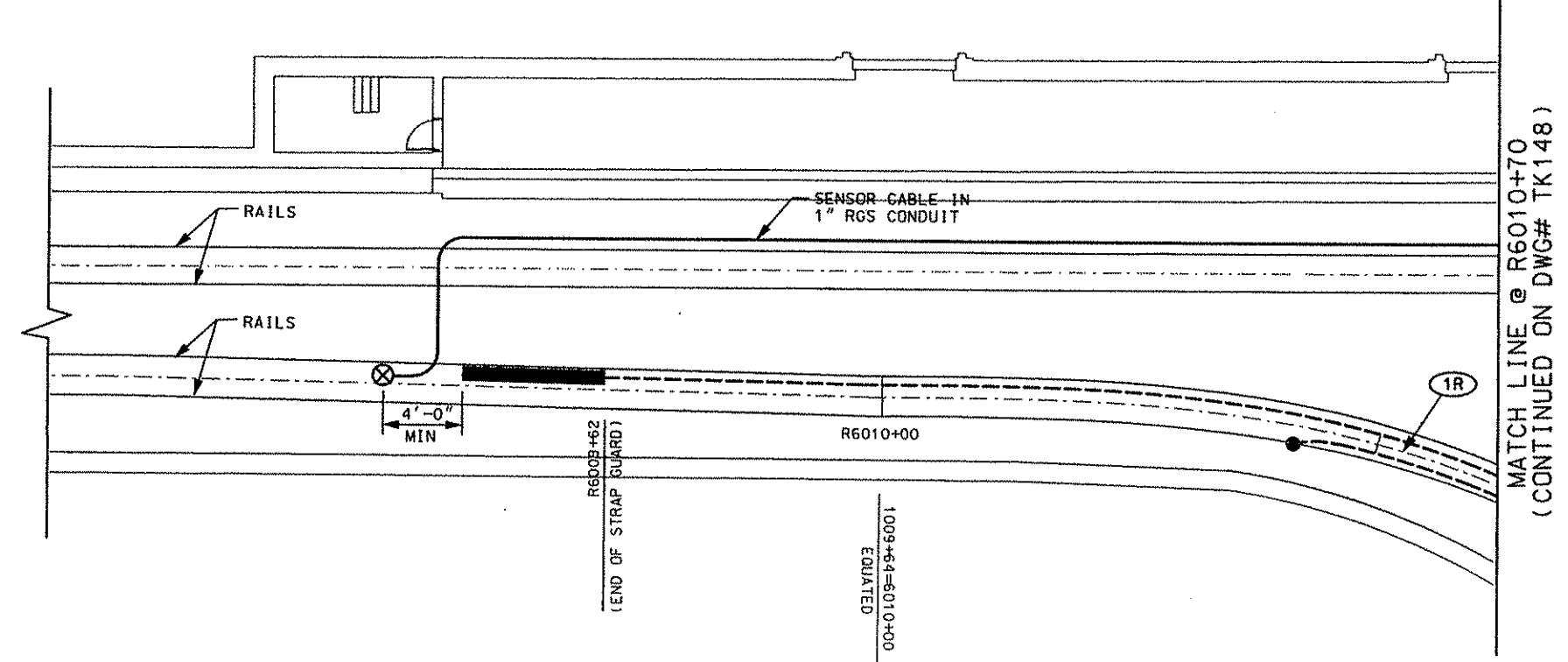
SCALE

PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH

NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
EMERGENCY GUARD RAIL  
DETAILS

Port Authority	CONTRACT NO.
TK128	NSC-008
DWG. NO.	SH. 112





MATCH LINE @ R6010+70  
(CONTINUED ON DWG# TK148)

LEGENDS:

- WIPER BAR (HIGH RAIL)
- PORT OPENING IN STRAP GUARD (LOW RAIL)
- — — FEEDER LINE FROM DISTRIBUTION BLOCK
- ⊗ WHEEL SENSOR
- ▨ DISTRIB BLOCK
- ▢ PUMP & OIL TANK
- 🕒 CURVE DESIGNATION

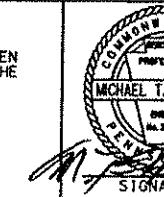
NOTES:

- ACTUAL LOCATIONS OF PORT OPENINGS IN STRAP GUARDS ON CURVES TO BE COORDINATED WITH PAAC AND FINAL LOCATIONS TO BE SHOWN ON "AS BUILT" DRAWINGS.

Gannett Fleming  
Transit & Rail Systems

08/20/08	ADDENDUM 3 - DRAWING ADDED
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.



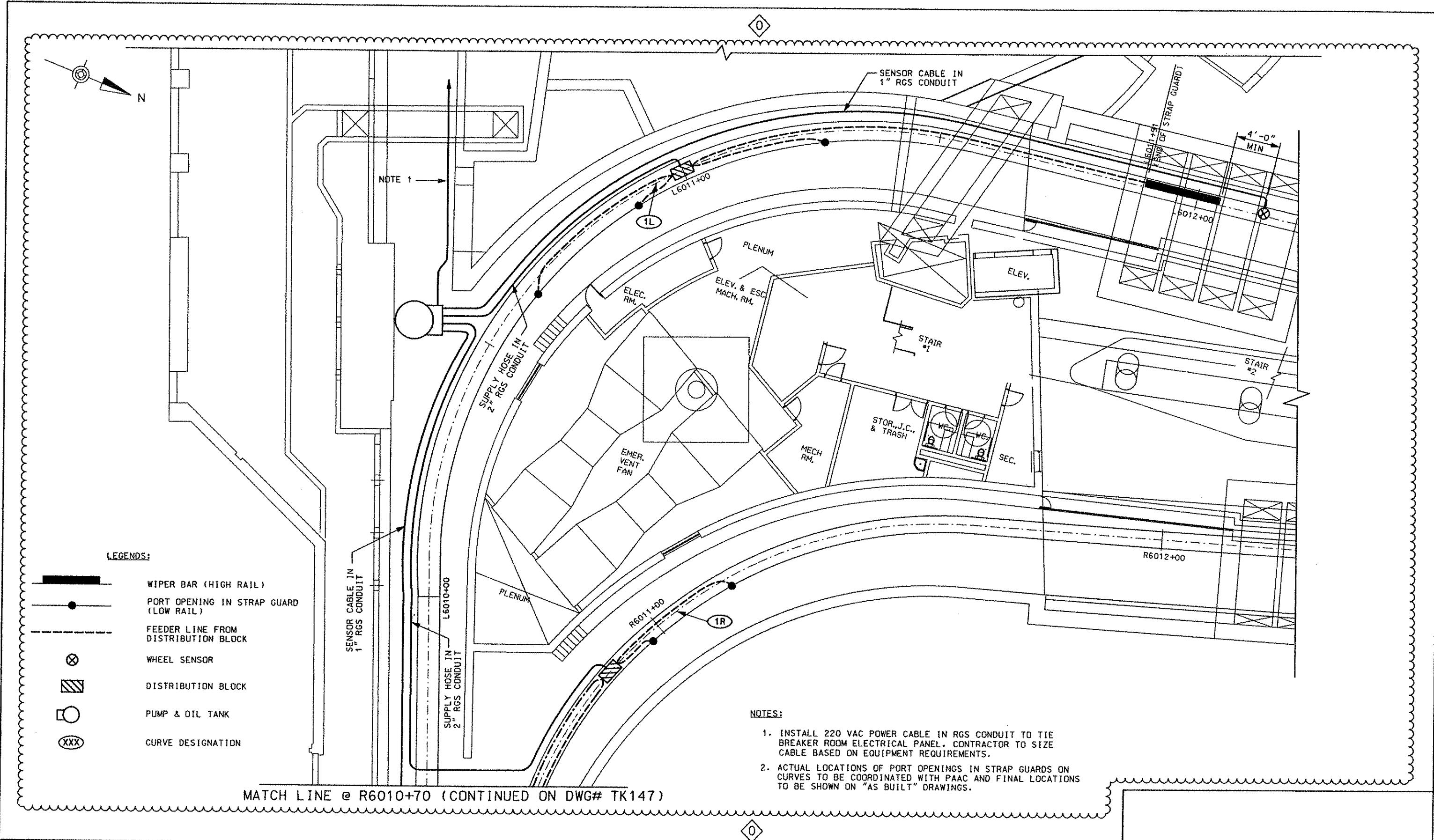
DMJM HARRIS | AECOM  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222  
MICHAEL T. MCNAMARA  
OWNER  
PRINCIPAL INVESTIGATOR  
SIGNATURE  
APPROVED  
8-20-08  
DATE

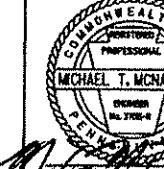
PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH  
PA, PENNSYLVANIA

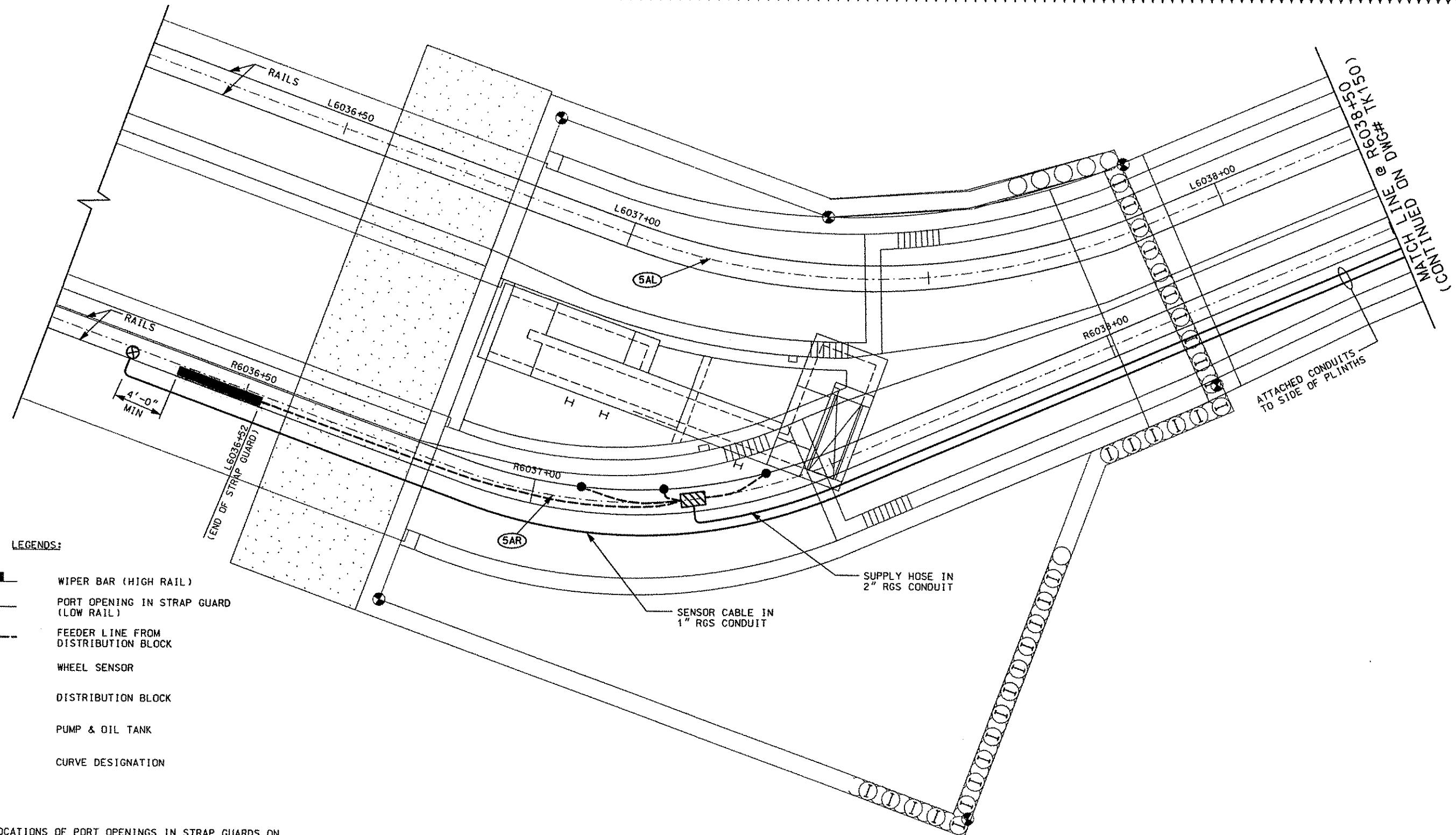
NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
RAIL LUBRICATORS  
GATEWAY STATION

Port Authority

CONTRACT NO. NSC-009  
DWG. NO. TK147 SHT. 123A



 Gannett Fleming Transit & Rail Systems			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 <i>[Signature]</i> 8-20-08 DATE MICHAEL T. McNAMARA OWNER P.E. #27044 SIGNATURE	DESIGNED BY H. LAY DRAWN BY H.T. TRAN	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH	
	08/20/08	ADDENDUM 3 - DRAWING ADDED				NO. DATE	DESCRIPTION

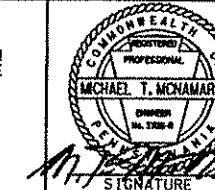


NOTES:

1. ACTUAL LOCATIONS OF PORT OPENINGS IN STRAP GUARDS ON CURVES TO BE COORDINATED WITH PAAC AND FINAL LOCATION TO BE SHOWN ON "AS BUILT" DRAWINGS.

 Gannett Fleming  
Transit & Rail Systems

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** | AECON  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222

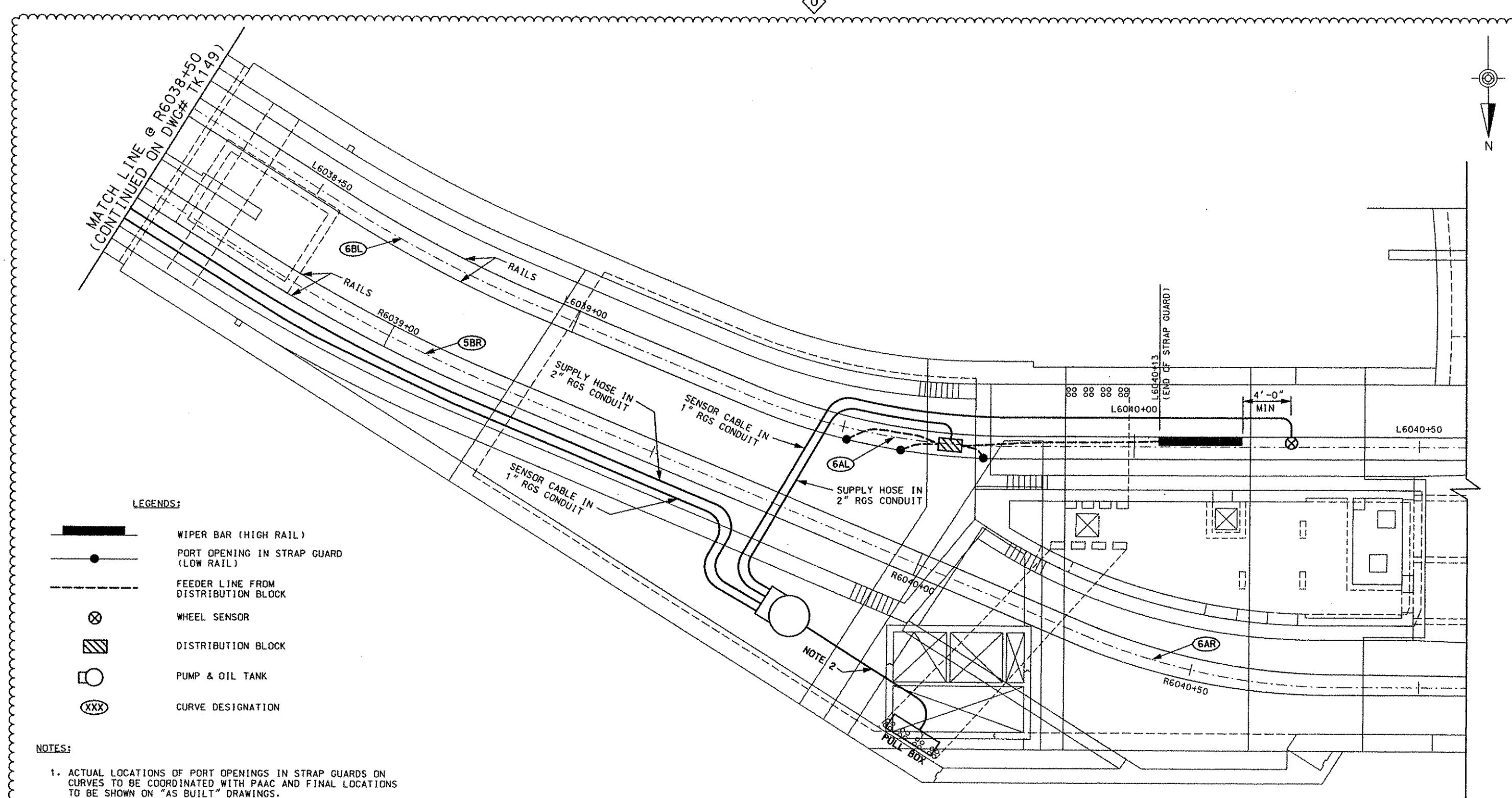
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222

**PORT AUTHORITY OF ALLEGHENY COUNTY**

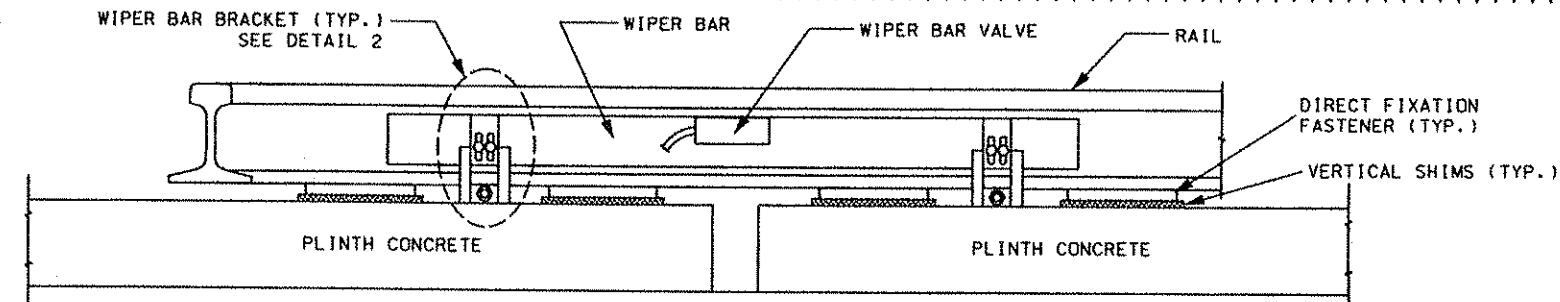
**NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
RAIL LUBRICATORS  
NORTH SIDE STATION**

<b>Port Authority</b> <small>CONNECTICUT HARBOUR</small>	CONTRACT NO. <b>NSC-008</b>		
	DWG. NO.	<b>TK148</b>	SHT. <b>123C</b>

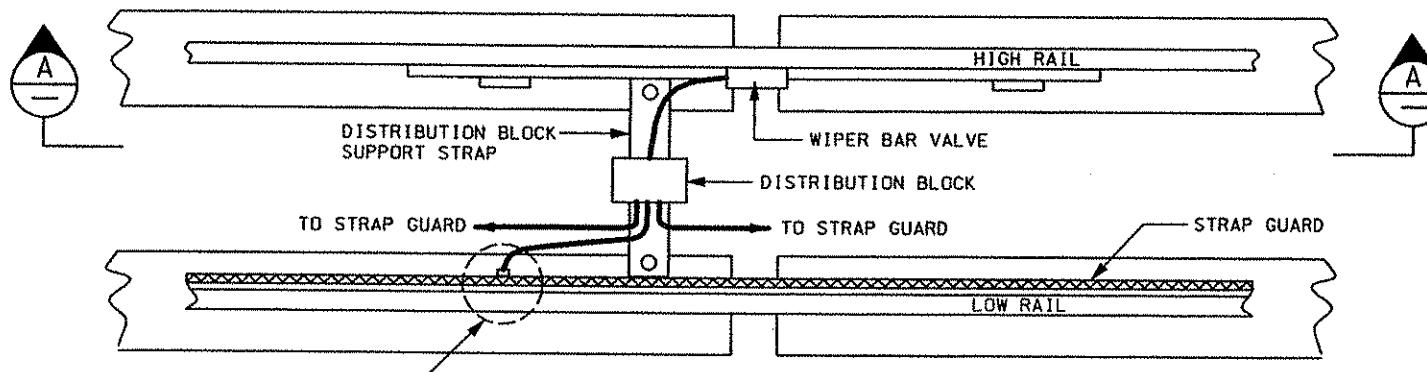
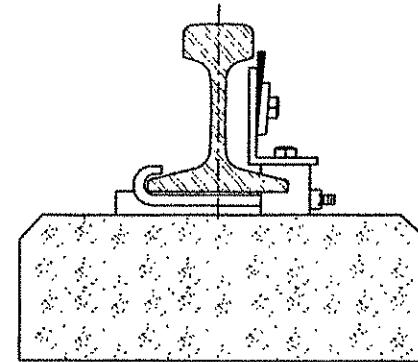
N



			<p>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.</p>		 MICHAEL T. McNAMARA PENNSYLVANIA PROFESSIONAL REGISTERED ENGINEER NO. 1784-A  Signature: Michael T. McNamara Date: 08/20/08 Approved by: [Signature] Date: 08/20/08 Signature: [Signature] Date: 08/20/08	DMJM HARRIS   AECOM	DESIGNED BY H. LAY DRAWN BY H.T. TRAN	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH	
08/20/08	ADDENDUM 3 - DRAWING ADDED	NO. DATE				DESCRIPTION	IN CHARGE C.D. JONES	DATE AUG. 20, 2008	SCALE NTS
			REVISIONS				DWG. NO. TK150		

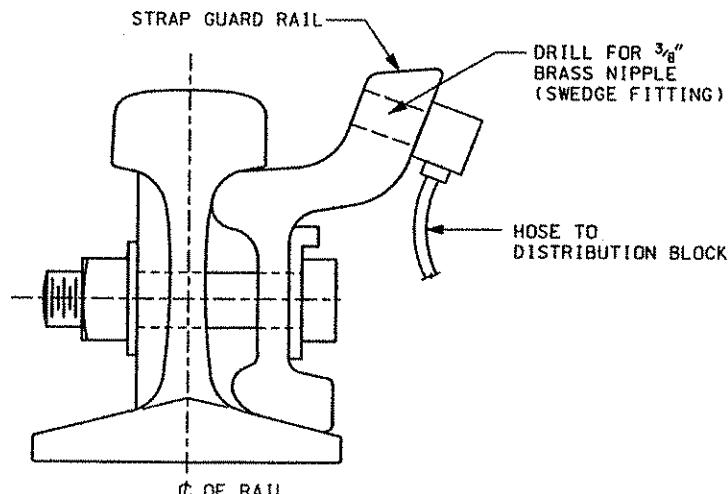
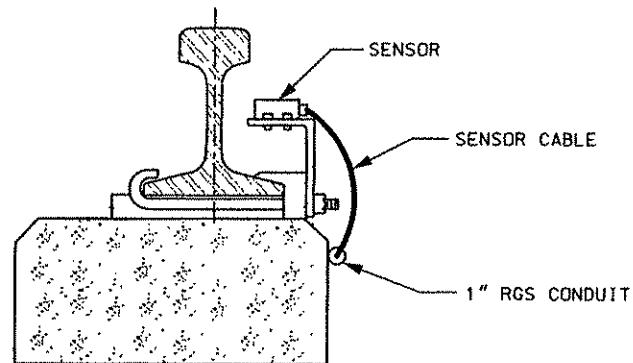


SECTION A



RAIL LUBRICATION LAYOUT

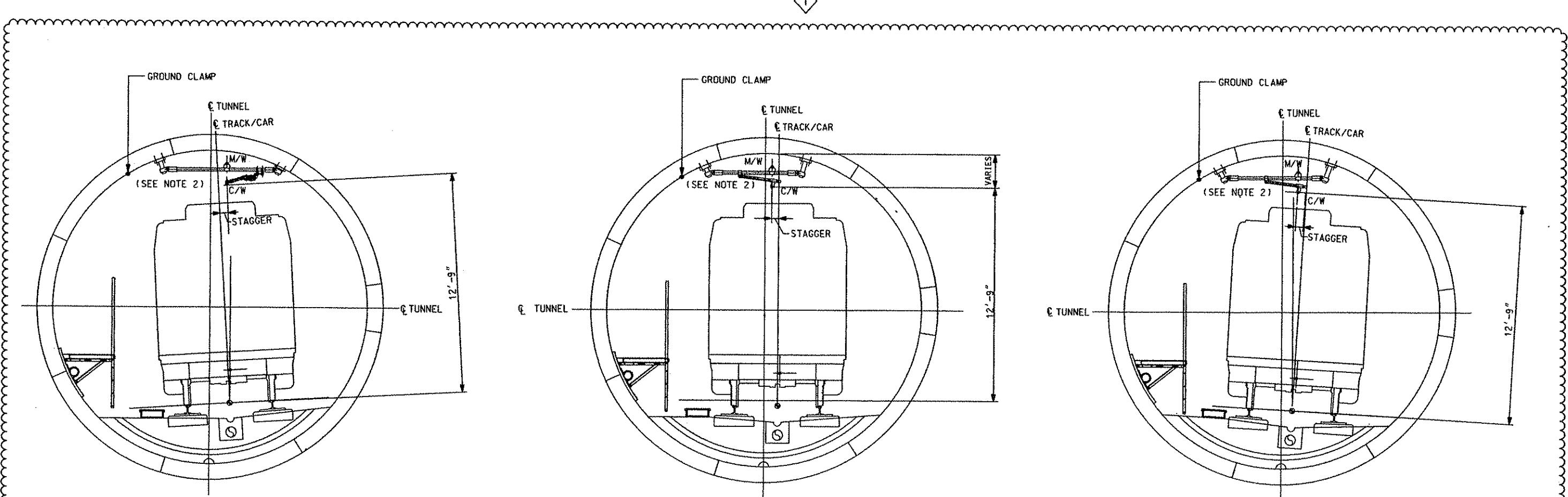
DETAIL 2  
WIPER BAR BRACKET MOUNTING ASSEMBLY  
(2 REQUIRED PER BAR)



DETAIL 1  
STRAP GUARD LUBRICATION POINT

SENSOR MOUNTING ASSEMBLY  
(LOCATED 4'-0" MINIMUM FROM EDGE OF WIPER BAR)

<b>Gannett Fleming</b> Transit & Rail Systems			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.	<b>DMJM HARRIS   AECOM</b> FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222  <b>SIGNATURE</b> <b>APPROVED</b> <i>D. P. Harris</i> <b>DATE</b> <i>8-20-08</i>	DESIGNED BY H. LAY DRAWN BY H. T. TRAN  CHECKED BY J. F. SAMEAN IN CHARGE C. D. JONES DATE AUG. 20, 2008  SCALE NTS	<b>PORT AUTHORITY OF ALLEGHENY COUNTY</b> MILLSBURGH  NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) RAIL LUBRICATION LAYOUT TYPICAL
	NO.	DATE				
		REVISIONS			CONTRACT NO. NSC-008	
					DWG. NO. TK151	
					6HT. 123E	



LEFT HAND CURVE, SUPERELEVATION

ZERO SUPERELEVATION

RIGHT HAND CURVE, SUPERELEVATION

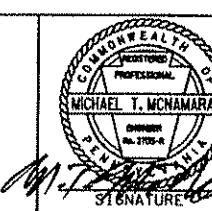
NOTES:

1. BORED TUNNEL SECTION STARTS AT 6014+50 AND ENDS AT 6036+85.
2. FOR TUNNEL ASSEMBLIES SEE DWG. OC193.
3. THE CONTRACTOR SHALL BE ALLOWED A SIX (6) INCH MAXIMUM EMBEDMENT DEPTH INTO THE BORED TUNNEL SEGMENT AT A MINIMUM DISTANCE FROM SEGMENTAL JOINTS OF FOUR (4) INCHES. PRIOR TO ANY DRILLING, CONTRACTOR NEEDS TO IDENTIFY LOCATION AND GET APPROVAL OF ENGINEER.



08/20/08	ADDENDUM 3 - DRAWING MODIFIED
NO. DATE	DESCRIPTION
	REVISIONS

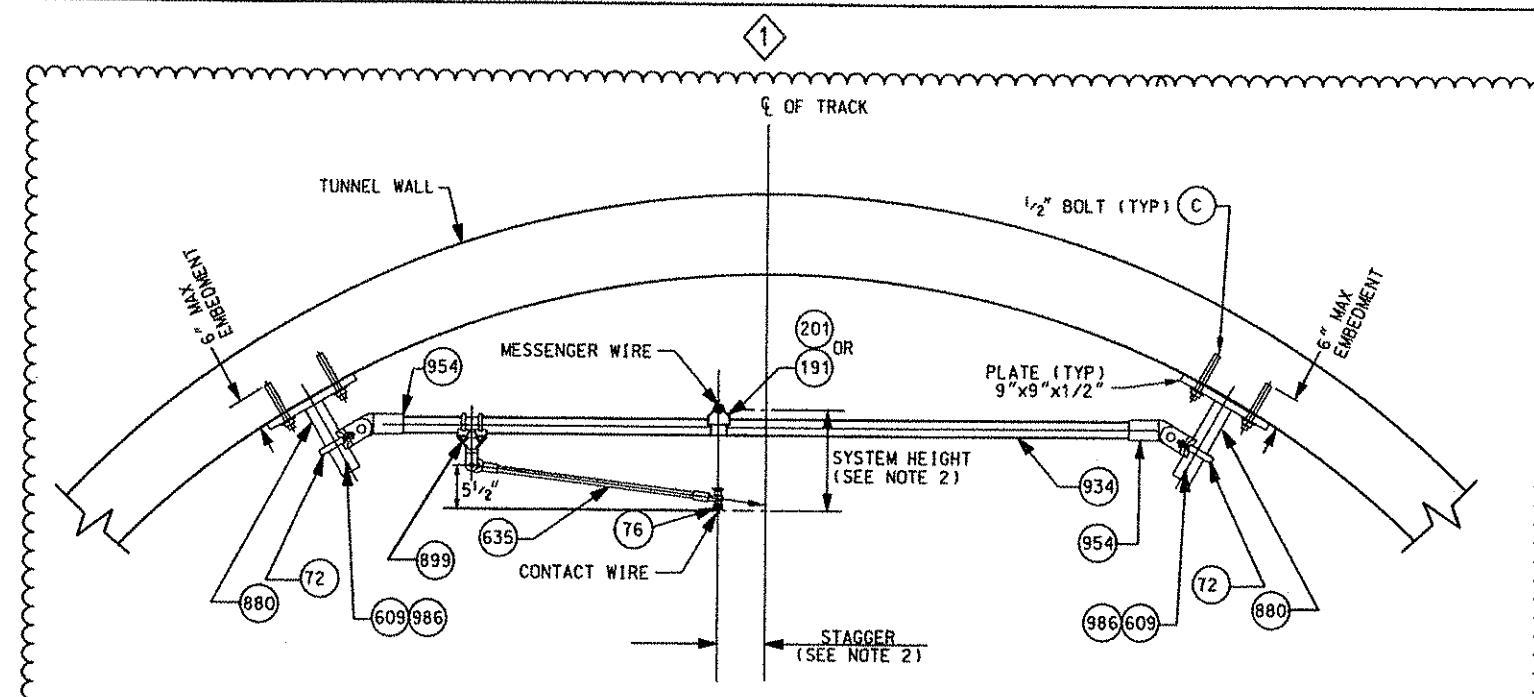
THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.



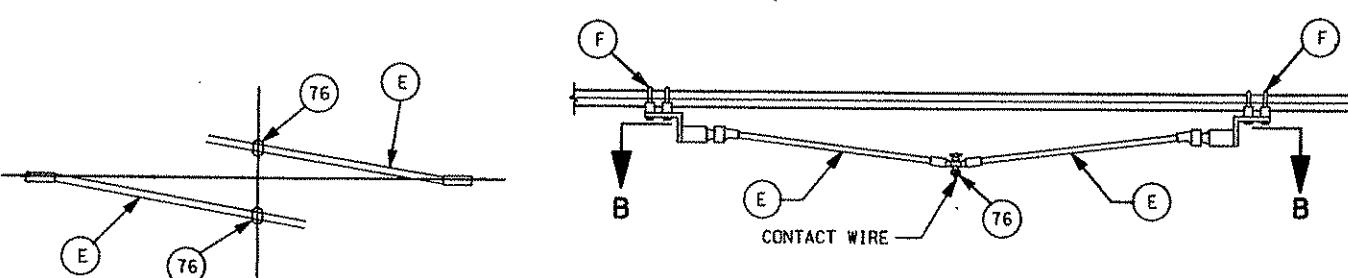
DMJM HARRIS | AECOM  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222  
APPROVED BY  
Michael T. McNamara  
DATE APR. 28, 2008  
Signature

DESIGNED BY SR. ADKINS  
DRAWN BY KA BRANDT  
CHECKED BY TA SHANTZ  
IN CHARGE BY CD JONES  
DATE APR. 28, 2008  
SCALE NTS

PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH		NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM-WIDE) BORED TUNNEL SECTION TYPICAL - OCS SUPPORT DETAILS	
Port Authority Contractor	CONTRACT NO. NSC-009	DATE 04/28/08	DWG. NO. OC192

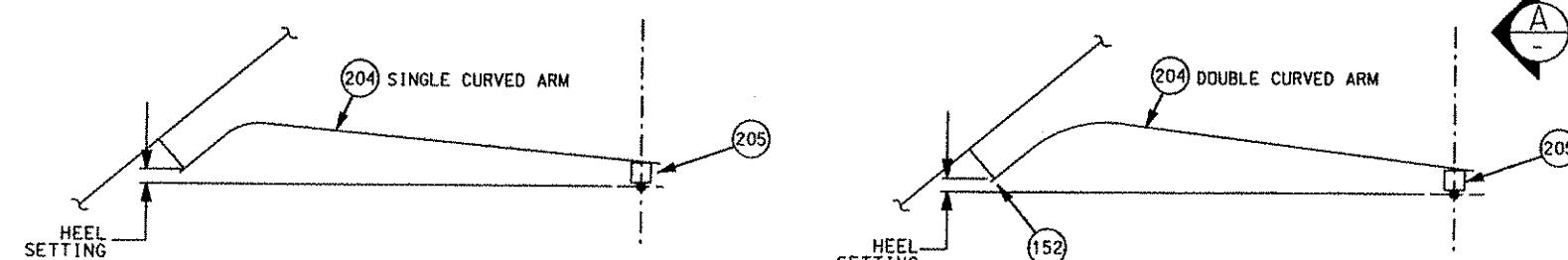


LIGHT PULL-OFF ASSEMBLY (TA-31L)



VIEW B-B

ELASTIC TUNNEL ASSEMBLY (UP-LIFT CONTROL) (TA-31E)

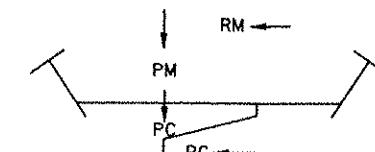


MEDIUM PULL-OFF ASSEMBLY (TA-31M)

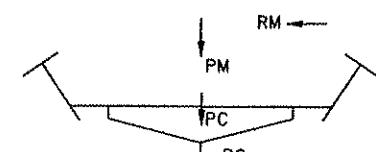
HEAVY PULL-OFF ASSEMBLY (TA-31H)

ITEM NO.	DESCRIPTION	MANUFACTURER	PART NO.	QTY.			
				TA-31L	TA-31M	TA-31H	TA-31E
C	KWIK BOLT 3, 304 STS STL, 1/2 DIA x 4 1/2	HILTI	00282559	8	8	8	8
E	ELASTIC ARM CONTACT WIRE, CLAMP 5/8" TO 2.0" PIPE	K & M	102177	-	-	-	2
F	PIPE CLAMP TO 2.0" PIPE	K & M	02336-01	-	-	-	2
72	CLAMP - CLEVIS 2" PIPE	IMPULSE NC	055375-3001	2	2	2	2
76	CLAMP - SWIVEL TROLLEY 0.63" STUD	IMPULSE NC	055755-3001	1	-	-	2
152	Y - CLEVIS EYE ASSEMBLY	IMPULSE NC	059687-3001	-	-	1	-
191	SADDLE INSULATOR - DBL. HORIZONTAL MESSANGER	IMPULSE NC	057217-3001	-	-	1	-
201	SADDLE - 2" HRZ MESSANGER	IMPULSE NC	057183-3003	1	1	-	1
204	ARM - UNINSULATED STEADY	IMPULSE NC	057823-8060	-	1	2	-
205	CLAMP - INSULATED SWIVEL	IMPULSE NC	0674999	-	1	2	-
609	COTTER	IMPULSE NC	315902-136	2	2	2	2
635	STEADY ARM, TRANSLITE 24.7"	IMPULSE NC	060756-6247	1	-	-	-
880	SUPPORT, DROP TUBE	IMPULSE NC		2	2	2	2
899	BRACKET, DROP 2" (6.00")	IMPULSE NC	060758-3001	1	1	1	-
934	PIPE - 2" SCHEDULE 80 (HDG) ASTM A500 STEEL, GRADE B			-	*	*	*
954	TRANSLITE STRUT, 2"/80 LONG EYE	IMPULSE NC	056909-3010	2	2	2	2
986	PIN, CLEVIS .375 X 2.5 STSL	IMPULSE NC	315920-127	2	2	2	2

\* = QUANTITY AS REQUIRED.



LOADING DIAGRAM



LOADING DIAGRAM

SUPPORT TYPE	MAXIMUM LOADING (LBS)		
	RC	RM	PM+PC
TA-31L	320	460	250
TA-31M	710	1040	250
TA-31H	1030	1520	250

MAXIMUM WORKING LOADS

SUPPORT TYPE	MAXIMUM LOADING (LBS)		
	RC	RM	PM+PC
TA-31E	650	1040	250

MAXIMUM WORKING LOADS

LOADING TABLE

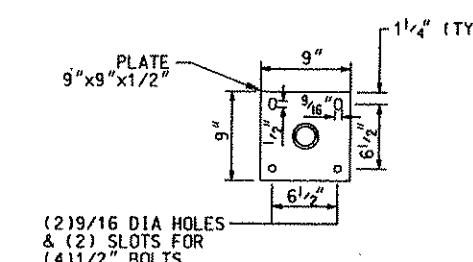
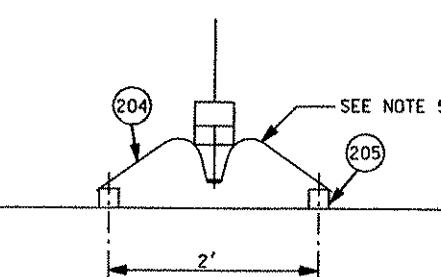


PLATE DETAIL

(2) 9/16 DIA HOLES  
& (2) SLOTS FOR  
(4) 1/2" BOLTS



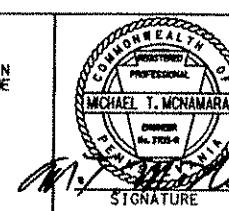
SECTION

- NOTES:
1. FOR ABBREVIATIONS, SYMBOLS AND GENERAL NOTES, SEE DRAWINGS GN203, GN310 AND OCO07
  2. FOR CONDUCTOR HEIGHTS AND SYSTEM HEIGHT REFER TO OCS PROFILE DRAWINGS. FOR STAGGER VALUES AND DIRECTION, REFER TO OCS LAYOUT DRAWINGS.
  3. TUNNEL SUPPORTS MUST ALLOW FOR 8" ADJUSTMENTS IN BOTH DIRECTIONS FOR MESSENGER AND CONTACT WIRES
  4. USE TWO INSULATED MESSENGER WIRE CLAMPS OR AN ALTERNATIVE ARRANGEMENT, AS APPROVED BY THE ENGINEER, FOR HEAVY CONDITION
  5. USE TWO STEADY ARMS FOR HEAVY LOAD CONDITIONS
  6. THE CONTRACTOR SHALL BE ALLOWED A SIX (6) INCH MAXIMUM EMBEDMENT DEPTH INTO THE BORED TUNNEL SEGMENT AT A MINIMUM DISTANCE FROM SEGMENTAL JOINTS OF FOUR (4) INCHES. PRIOR TO ANY DRILLING, CONTRACTOR NEEDS TO IDENTIFY LOCATION AND GET APPROVAL OF ENGINEER.

Gannett Fleming  
Transit & Rail Systems

06/20/08	ADDENDUM 3 - DRAWING MODIFIED
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.



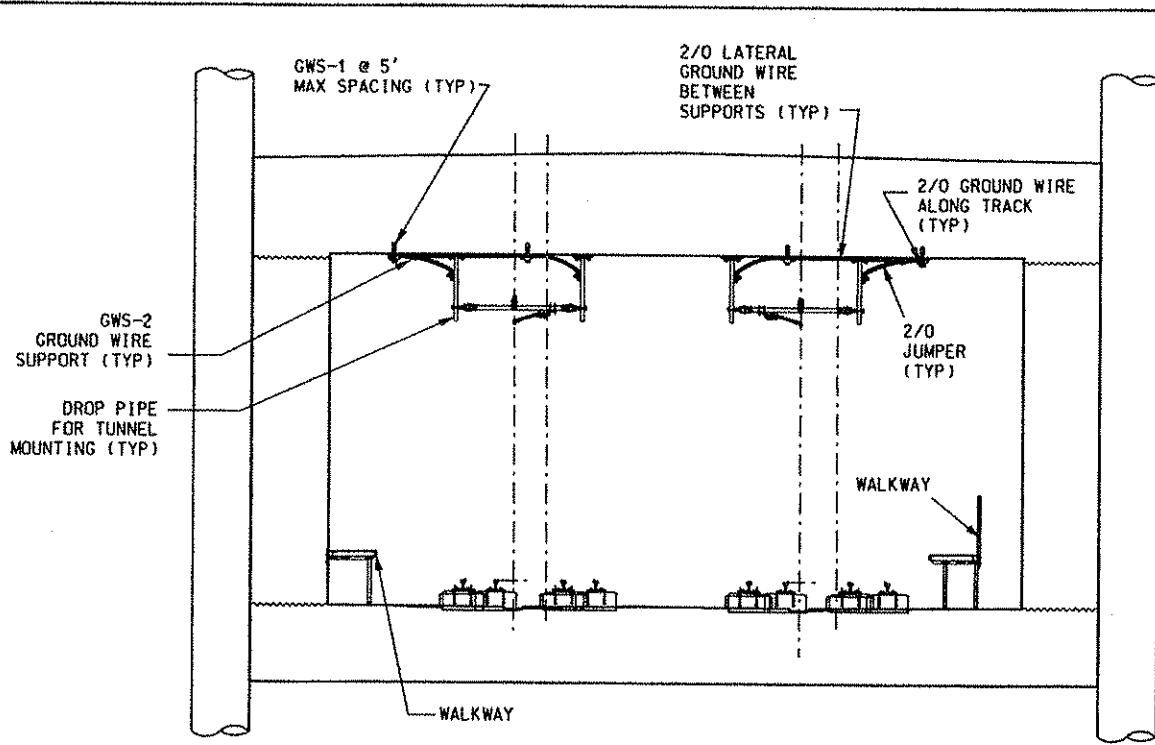
DMJM HARRIS | AECOM  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222  
APPROVED  
8.20.08  
DATE

SR ADKINS  
KA BRANDT  
CHECKED TA SHANTZ  
IN CHARGE CO JONES  
DATE APR. 28, 2008  
SCALE NTS

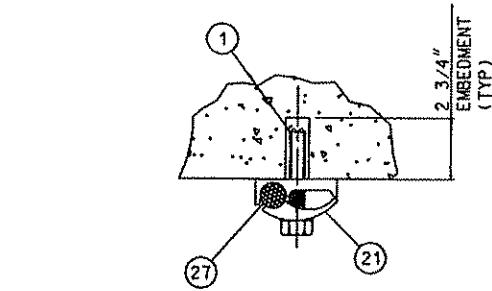
PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTTSBURGH, PENNSYLVANIA

NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM-WIDE)  
LIGHT, MEDIUM AND HEAVY BORED TUNNEL SUPPORT  
PULL-OFF

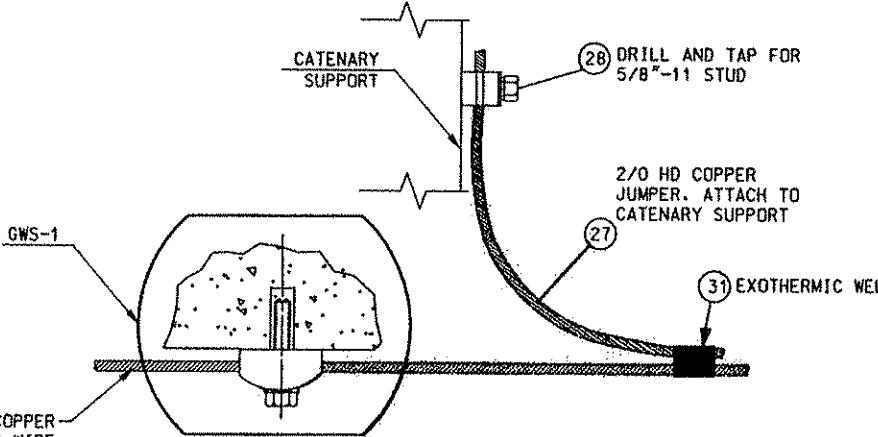
Port Authority  
Contract No. NSC-009  
Dwg. No. OC193 Sh. 207



TYPICAL GROUNDING CONNECTION AT NORTH SIDE TUNNELS  
NOT TO SCALE



GWS-1 GROUND WIRE SUPPORT ASSEMBLY  
NOT TO SCALE

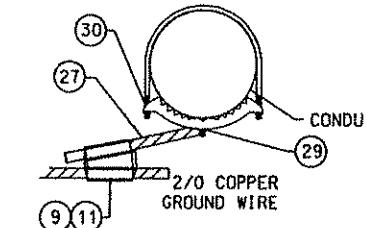


GWS-2 GROUND WIRE SUPPORT ASSEMBLY FOR CONCRETE BEAMS  
NOT TO SCALE

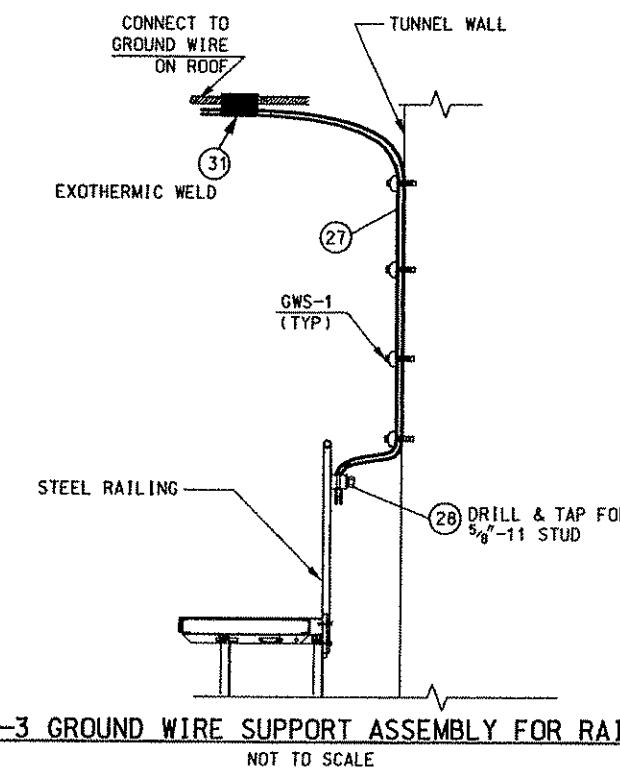
NOTES:

1. INSTALL GROUND WIRE ON THE SAME SIDE AS WALKWAY IN BORED TUNNEL.
2. USE GROUND WIRE SUPPORT, GWS-1, SPACED 5' APART TO SUPPORT GROUND WIRE ABOVE WALKWAY.
3. USE GROUND WIRE SUPPORT GWS-2 AT EACH CATENARY SUPPORT.
4. GROUND CONDUIT AND WALKWAY EVERY 500'.
5. THE CONTRACTOR SHALL BE ALLOWED A SIX (6) INCH MAXIMUM EMBEDMENT DEPTH INTO THE BORED TUNNEL SEGMENT AT A MINIMUM DISTANCE FROM SEGMENTAL JOINTS OF FOUR (4) INCHES, PRIOR TO ANY DRILLING. CONTRACTOR NEEDS TO IDENTIFY LOCATION AND GET APPROVAL OF ENGINEER.

①



GWS-4 CONDUIT BONDING  
NOT TO SCALE  
(MULTIPLE CONDUITS AT LOCATION)

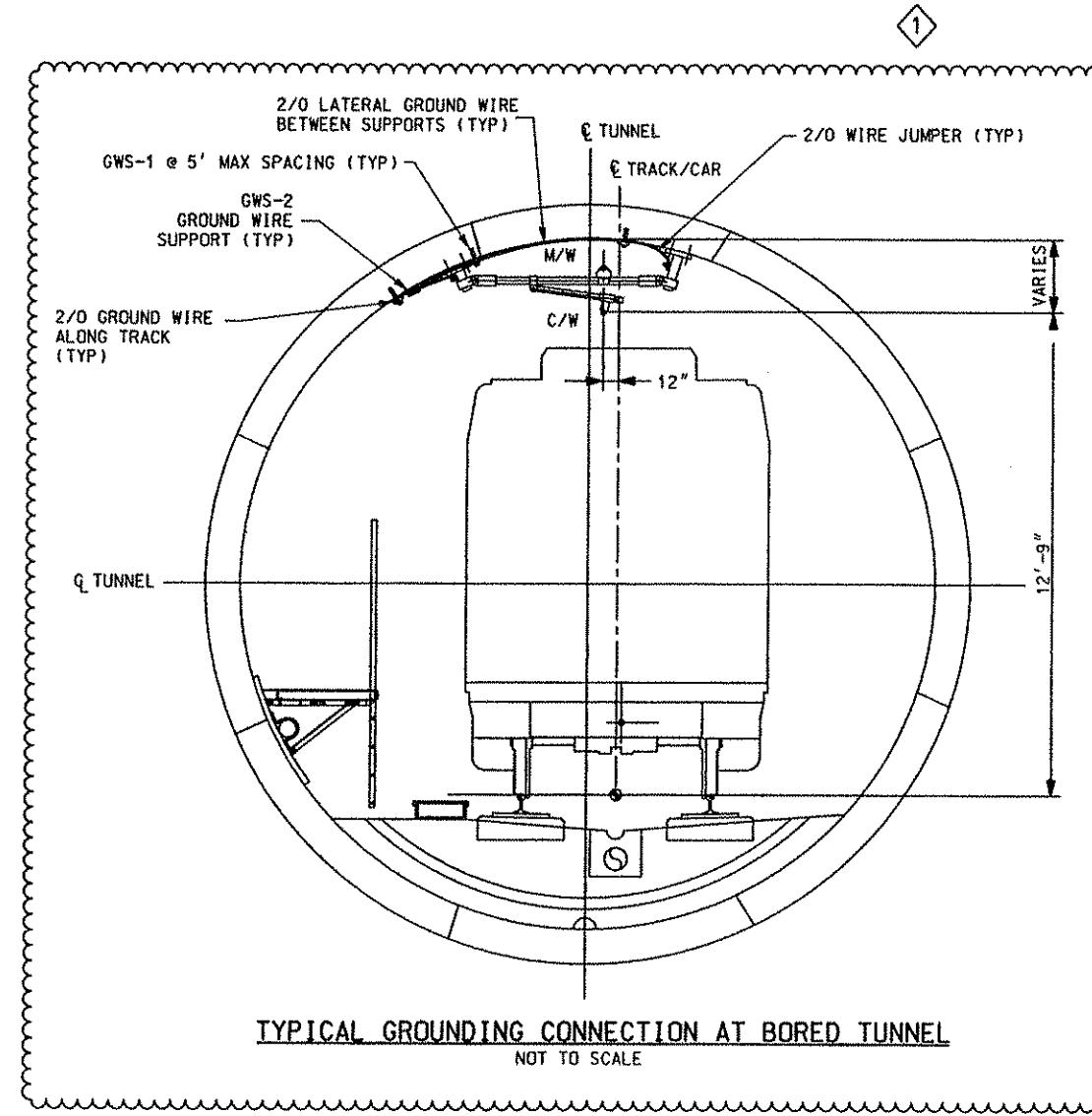


GWS-3 GROUND WIRE SUPPORT ASSEMBLY FOR RAILING  
NOT TO SCALE

(IN BORED TUNNEL, ROUTE GROUND WIRE DOWN TUNNEL WALL AND THROUGH UNDERSIDE OF RAILING)

ITEM NO.	DESCRIPTION	MANUFACTURER	PART NO.	QTY.			
				GWS-1	GWS-2	GWS-3	GWS-4
1	KWIK BOLT 3, STS STL, 1/2" x 3 3/4" LONG	HILTI	00282558	1	-	4	-
9	TAP, CABLE WEDGE, 2/0 TO 2/0	AMP	1-257187-5	-	-	-	1
11	CARTRIDGE AMPACT, WHITE	AMP	69338-5	-	-	-	1
21	GROUND CLAMP FOR CABLE TO FLAT SURFACE	ANDERSON	GC-141-07	1	-	4	-
27	SIZE 2/0 COPPER CABLE			*	*	*	*
28	SERVIT POST CONNECTOR, 5/8"-11 x 3/4" STUD	BURNDY	KC28	*	1	1	-
29	GROUND TERMINAL	OZ GEDNEY	GWD-25B	-	-	-	1
30	GROUND CLAMP FOR LARGE PIPE, BRONZE	OZ GEDNEY	TYPE G	-	-	-	1
31	PARALLEL HORIZONTAL WELD CONNECTION, 2/0 - 2/0	ERICO	PTC-2G2G	-	1	1	-

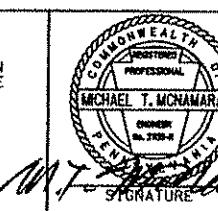
\* = QUANTITY AS REQUIRED.



TYPICAL GROUNDING CONNECTION AT BORED TUNNEL  
NOT TO SCALE

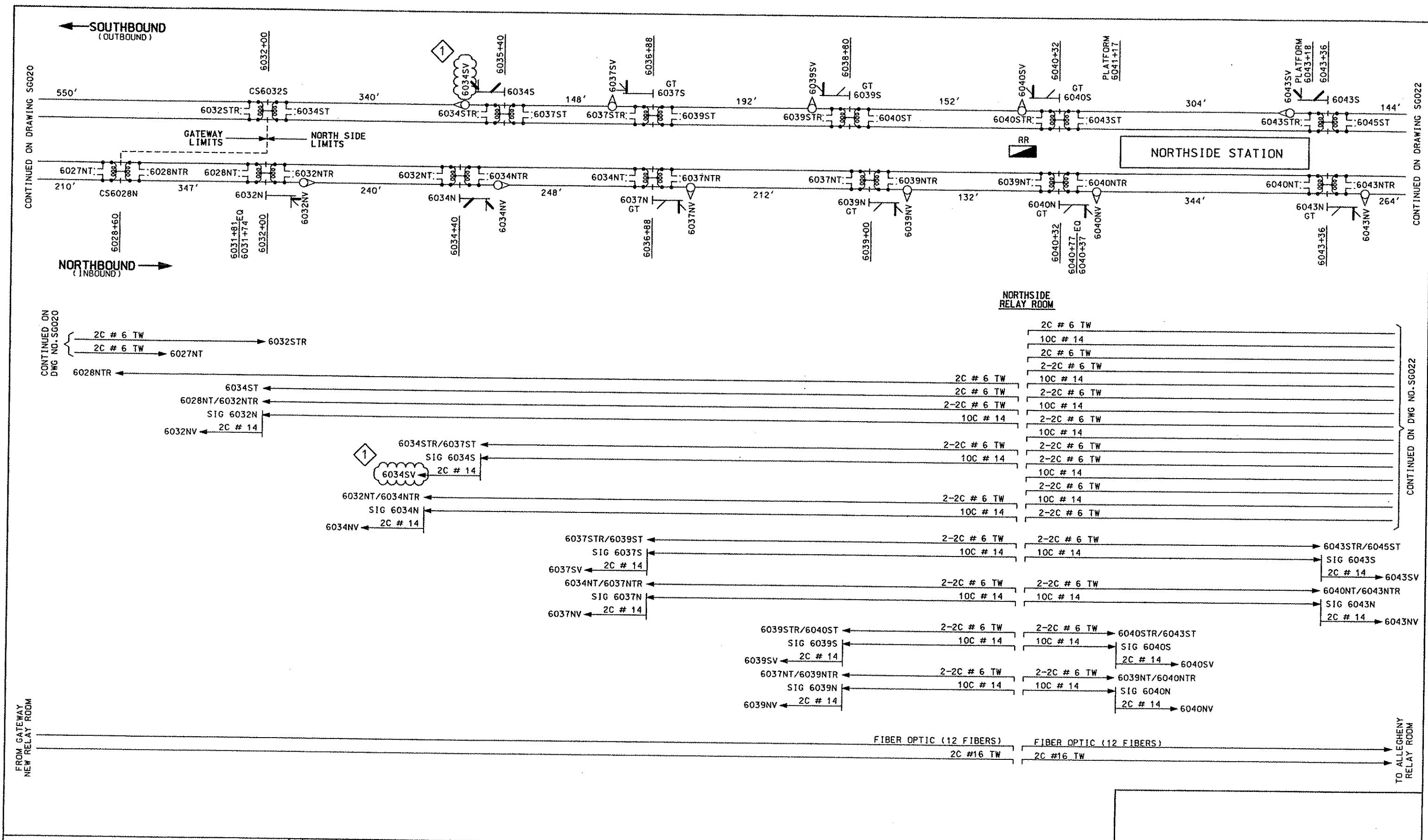
NO.	DATE	DESCRIPTION		REVISIONS
		08/20/08	ADDENDUM 3 - DRAWING MODIFIED	

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.

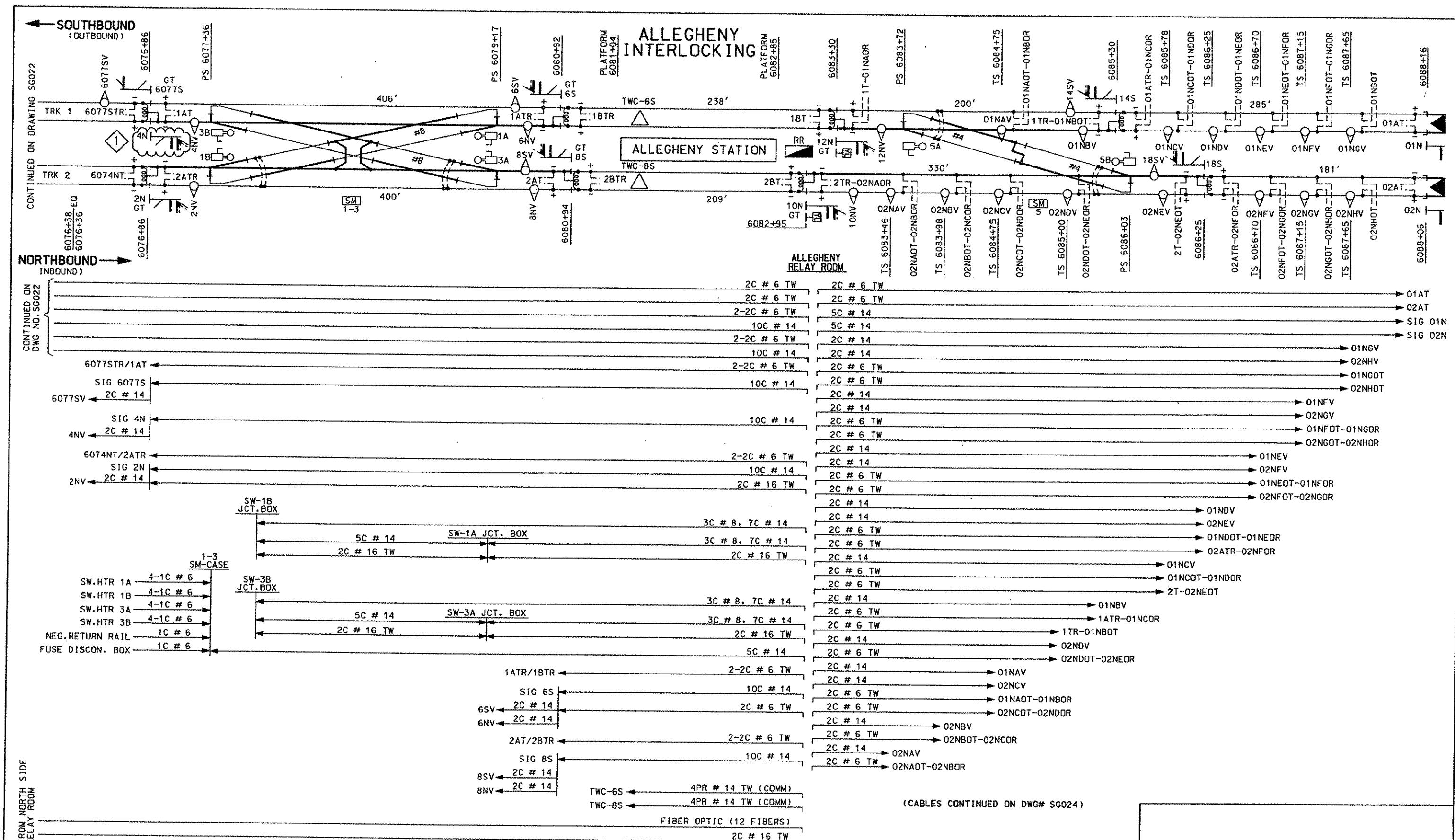


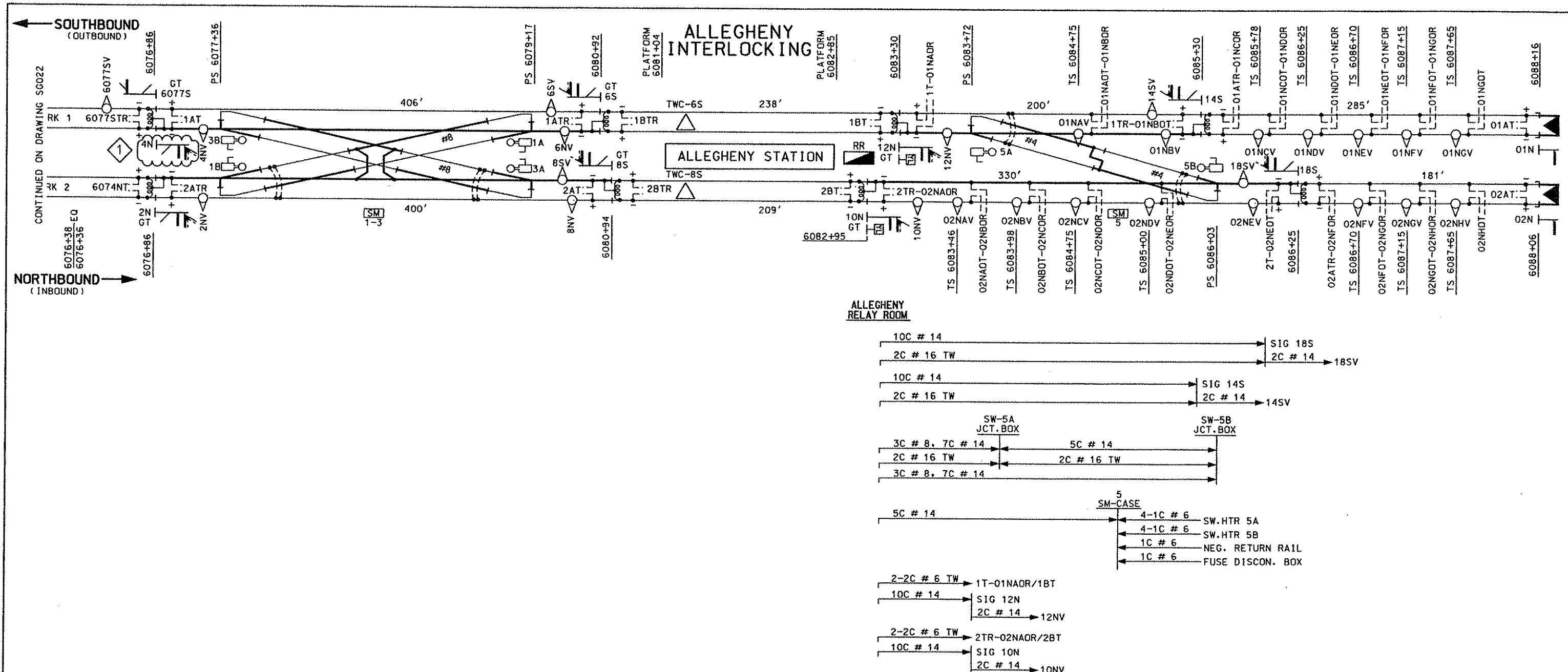
DMJM HARRIS | AECOM  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222  
IN CHARGE CD JONES  
DATE APR. 28, 2008  
SCALE NTS  
APPROVED 08-20-08  
DATE

**PORT AUTHORITY OF ALLEGHENY COUNTY**  
PITTSBURGH  
NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
BONDING AND GROUNDING DETAIL  
TUNNEL SECTION  
  
**Port Authority**  
CONTRACT NO. NSC-009  
DWG. NO. OC805 SHT. 269



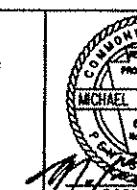
<b>Gannett Fleming</b> Transit & Rail Systems				<p>THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.</p>	<b>DMJM HARRIS   AECOM</b> FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222 MICHAEL T. McNAMARA OWNER GENERAL CONTRACTOR PRESIDENT PROFESSIONAL SIGNATURE D. D. O'Donnell APPROVED B-20-08 DATE	DESIGNED SM NARANG DRAWN HT TRAN CHECKED JF SAMEAN IN CHARGE CD JONES DATE APR. 28, 2008 SCALE NTS	<b>PORT AUTHORITY OF ALLEGHENY COUNTY</b> PITTSBURGH NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) GATEWAY TO ALLEGHENY DOUBLE LINE TRACK & SIGNAL CABLE PLAN	
		08/20/08	ADDENDUM 3 - DRAWING MODIFIED				NO. DATE	DESCRIPTION





	08/20/08	ADDENDUM 3 - DRAWING MODIFIED	
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  
ALLENTOWN, PENNSYLVANIA.



DMIM HARRIS | AECOM

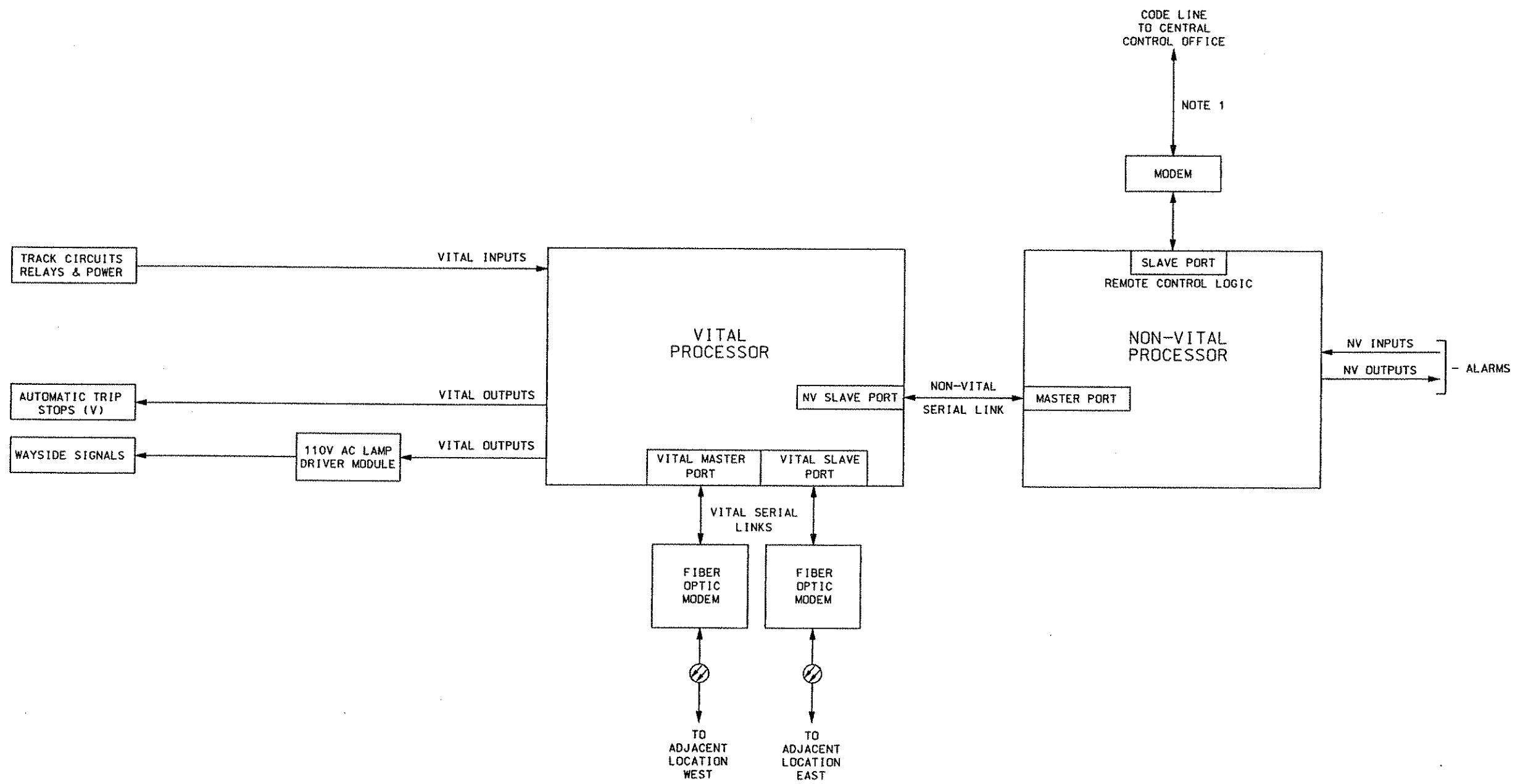
AMARA  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222

Narrated by L. Bui    8-20-08

**PITTSBURGH** **PENNSYLVANIA**

**NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
GATEWAY TO ALLEGHENY  
UBLE LINE TRACK & SIGNAL CABLE PLAN**

CONTRACT NO.	NSC-009		
DME NO.	SG024	SMT	360



**NOTE:**

1. REFER TO DRAWINGS CM005, CM011, CM012, CM013 & CM042 FOR INTERFACE OF CODE LINE WITH THE OPERATIONS CONTROL CENTRE



◆	8/20/08	ADDENDUM 3 - DRAWING ADDED
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** | AECON  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222

FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222

John D. Paine 8-20-08

**PITTSBURGH**

**PENNSYLVANIA**

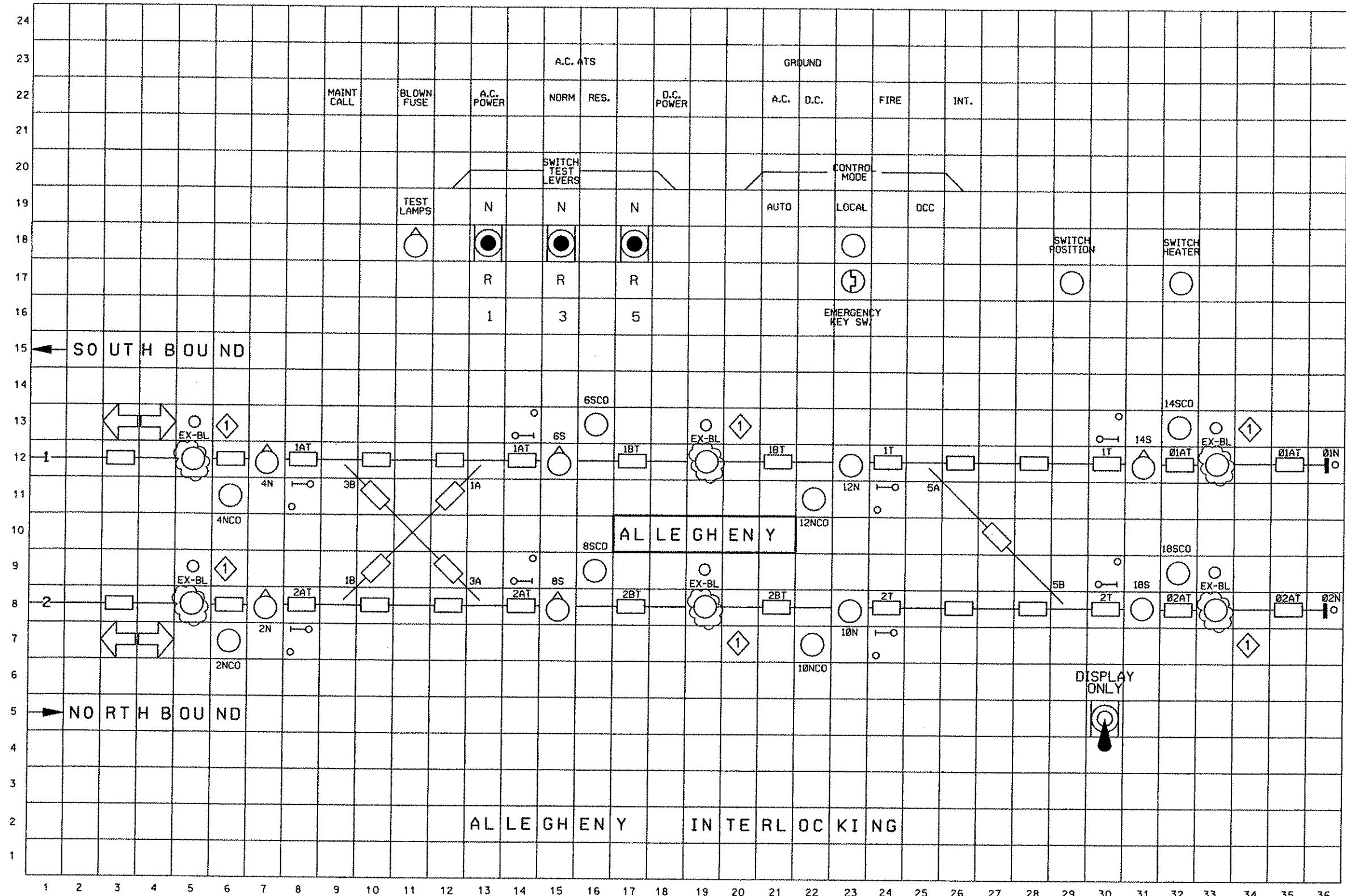
---

**POR T AUTHORITY OF ALLEGHENY COUNTY**

**NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
TYPICAL**

## AUTOMATIC SIGNAL SYSTEM BLOCK DIAGRAM

CONTRACT NO.	NSC-009
DMW BLD	SC06528
OUT	354A



Gannett Fleming  
Transit & Rail Systems

NO.	DATE	DESCRIPTION	REVISIONS
◇	08/19/08	ADDENDUM 3 - DRAWING MODIFIED	

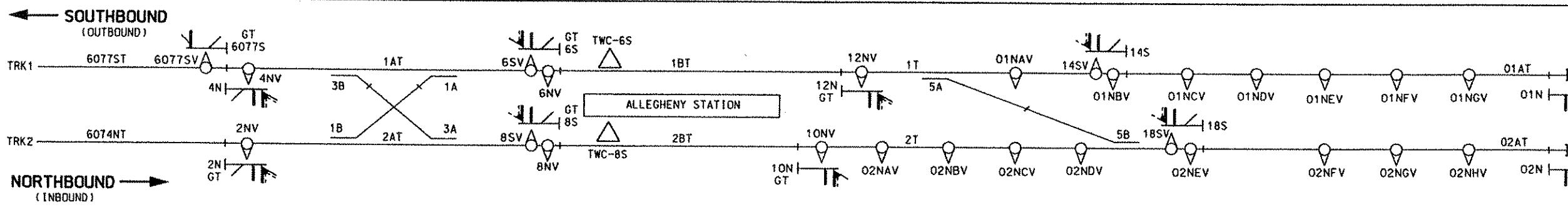
THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.



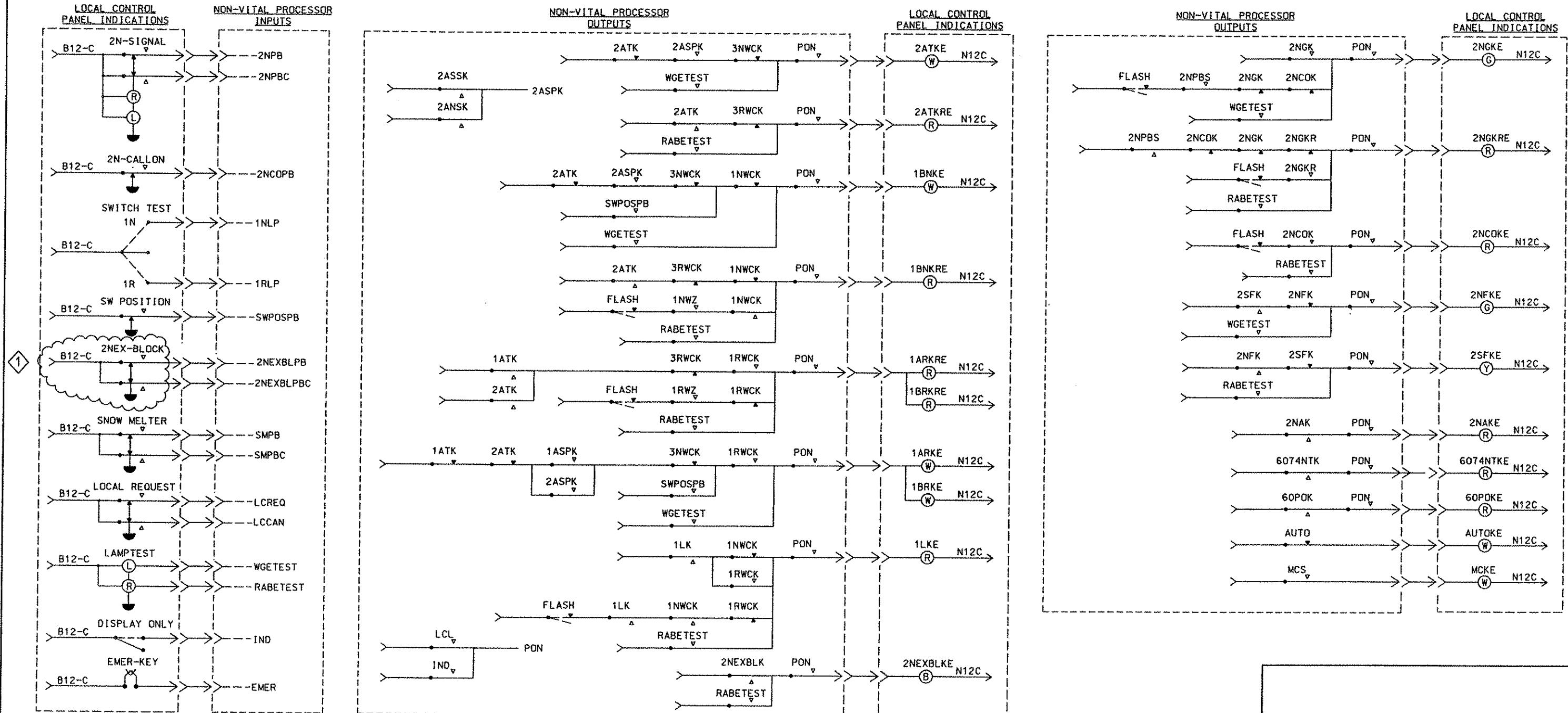
DMJM HARRIS | AECOM  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222  
MICHAEL T. McNAMARA  
PENNSYLVANIA  
PROFESSIONAL ENGINEER  
REGISTRATION NO. 3704-R  
SIGNATURE  
APPROVED  
3-20-08  
DATE

DESIGNED BY SM NARANG  
DRAWN BY HT TRAN  
CHECKED BY JF SAMEAN  
IN CHARGE BY CD JONES  
DATE APR. 28, 2008  
SCALE NTS

PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH  
NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
TYPICAL  
LOCAL CONTROL PANEL - FACEPLATE  
Contract No. NSC-009  
DWG. No. SG100 EHT. 377



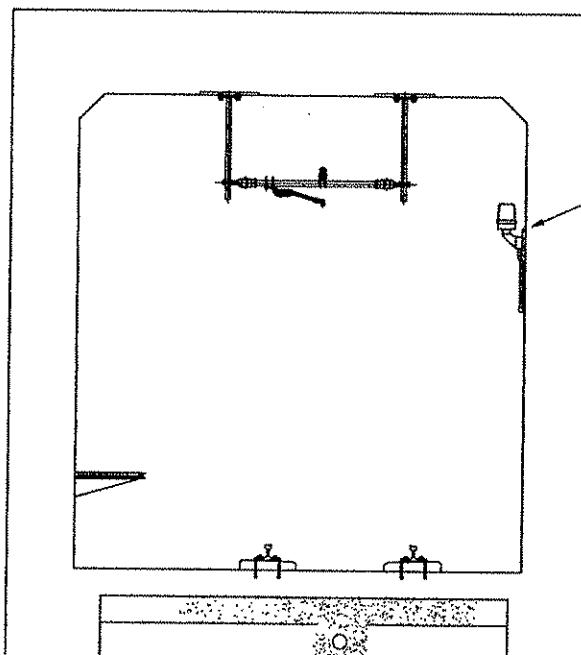
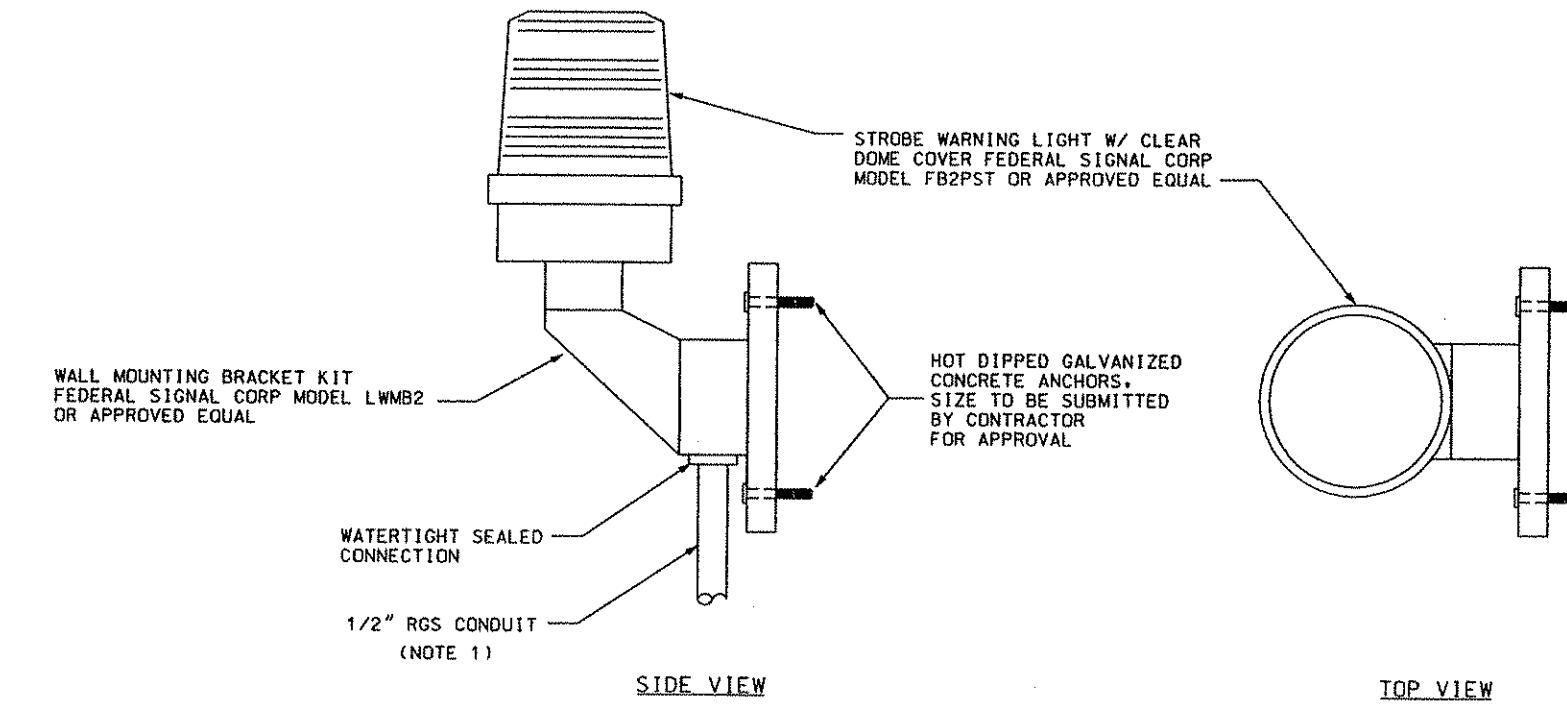
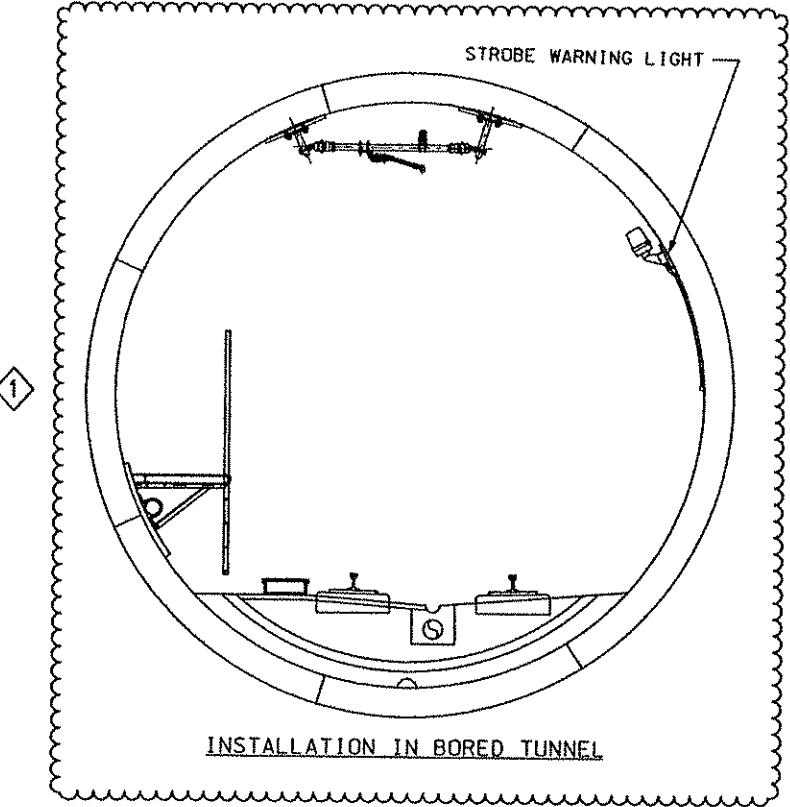
### ALLEGHENY INTERLOCKING LAYOUT



	Transit & Rail Systems	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.	CIVIL ENGINEER PROFESSIONAL MICHAEL T. McNAMARA Pittsburgh, PA 15222 APRIL 2008 SIGNATURE
08/19/08	ADDENDUM 3 - DRAWING MODIFIED	NO. DATE	DESCRIPTION
			REVISIONS

DMJM HARRIS | AECOM  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222  
APRIL 28, 2008  
APPROVED   
JF SAMEAN  
CD JONES  
DATE  
SIGNATURE  
APPROVED  
8-20-08  
DATE

DESIGNED BY SM NARANG  
DRAWN BY HT TRAN  
CHECKED BY JF SAMEAN  
IN CHARGE BY CD JONES  
DATE APR. 28, 2008  
SCALE NTS  
**PORT AUTHORITY OF ALLEGHENY COUNTY**  
PITTSBURGH  
NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
TYPICAL  
LOCAL CONTROL PANEL CONTROLS & INDICATIONS  
**Port Authority**  
CONTRACT NO. NSC-008  
DWG. NO. SG104  
SHT. 379



### STROBE LIGHT TUNNEL INSTALLATION

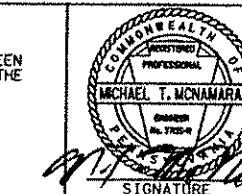
#### NOTES:

1. DETAILS SHOWN ARE TYPICAL. CONTRACTOR TO INSTALL STROBE LIGHTS IN ACCORDANCE WITH MANUFACTURER REQUIREMENTS AND SPECIFICATIONS.
2. CONTRACTOR TO VERIFY STROBE LIGHT INSTALLATION DOES NOT VIOLATE PAAC TRAIN CAR DYNAMIC MOVEMENT ENVELOPE.
3. CONDUIT TO BE INSTALLED FROM STROBE LIGHT MOUNTING DOWN ALONG WALL TO MEET THE EXPRESS CONDUITS.
4. THE CONTRACTOR SHALL BE ALLOWED A SIX (6) INCH MAXIMUM EMBEDMENT DEPTH INTO THE BORED TUNNEL SEGMENT AT A MINIMUM DISTANCE FROM SEGMENTAL JOINTS OF FOUR (4) INCHES, PRIOR TO ANY DRILLING. CONTRACTOR NEEDS TO IDENTIFY LOCATION AND GET APPROVAL OF ENGINEER.

Gannett Fleming  
Transit & Rail Systems

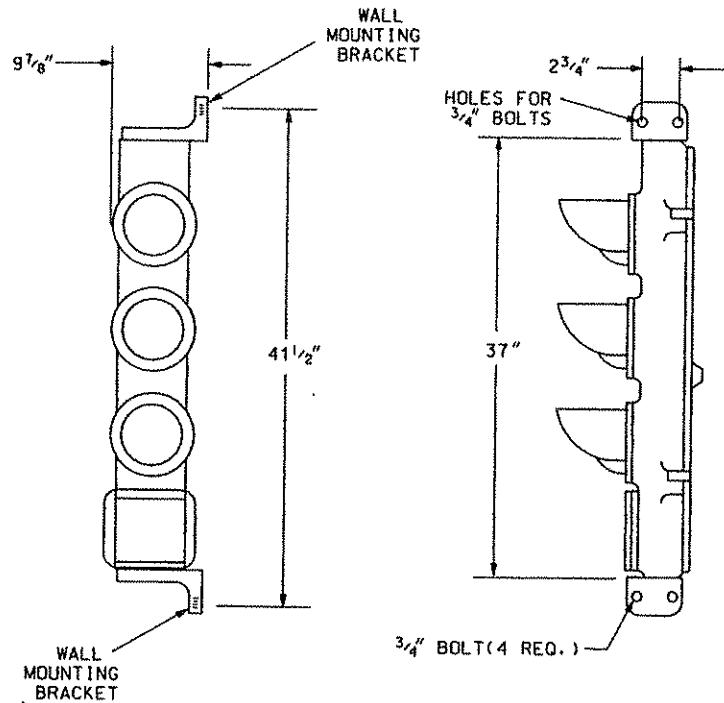
NO.	DATE	DESCRIPTION
1	08/20/08	ADDENDUM 3 - DRAWING MODIFIED
		REVISIONS

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  
*M.T. Traum*  
APPROVED  
8-20-08  
DATE

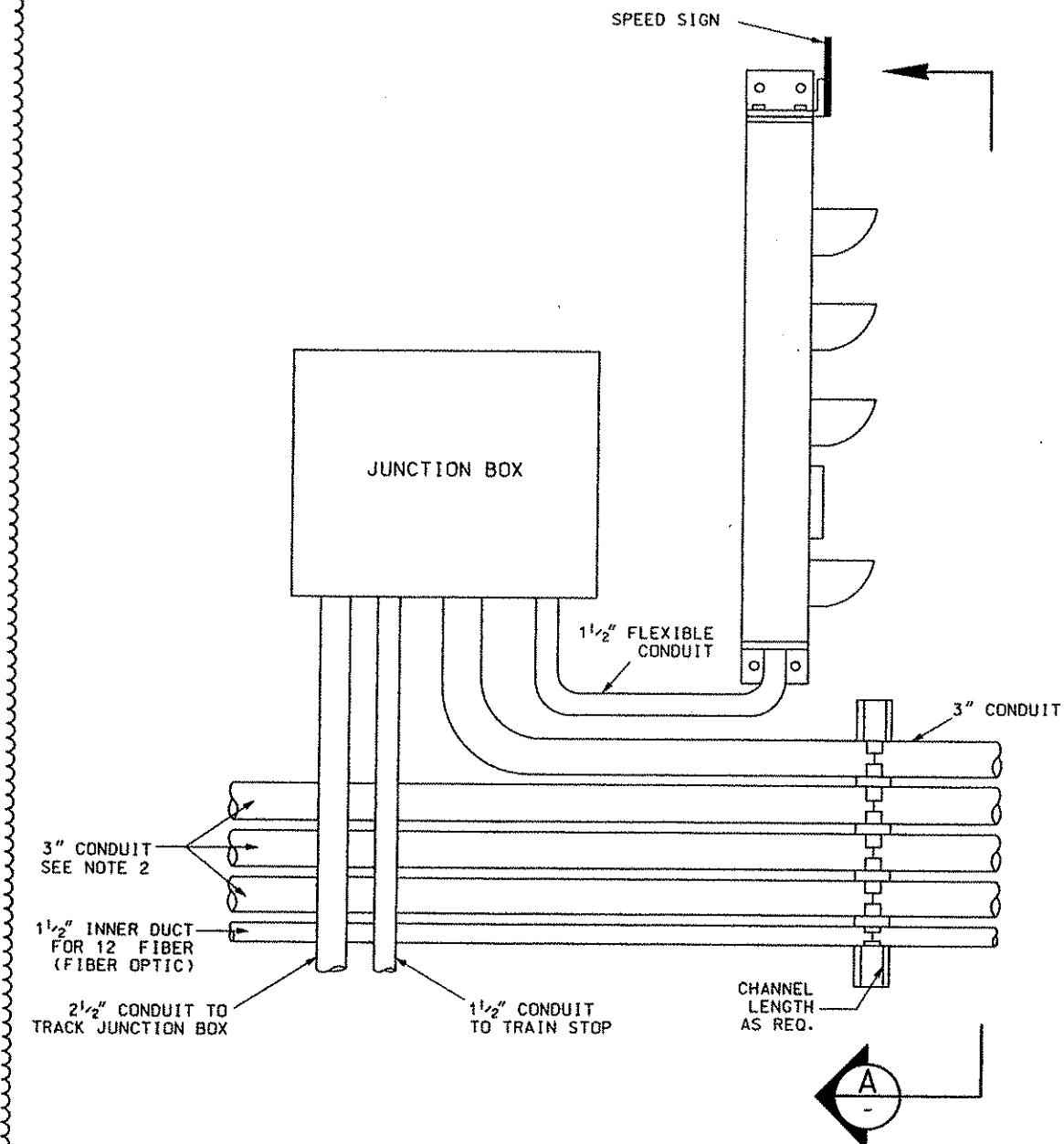
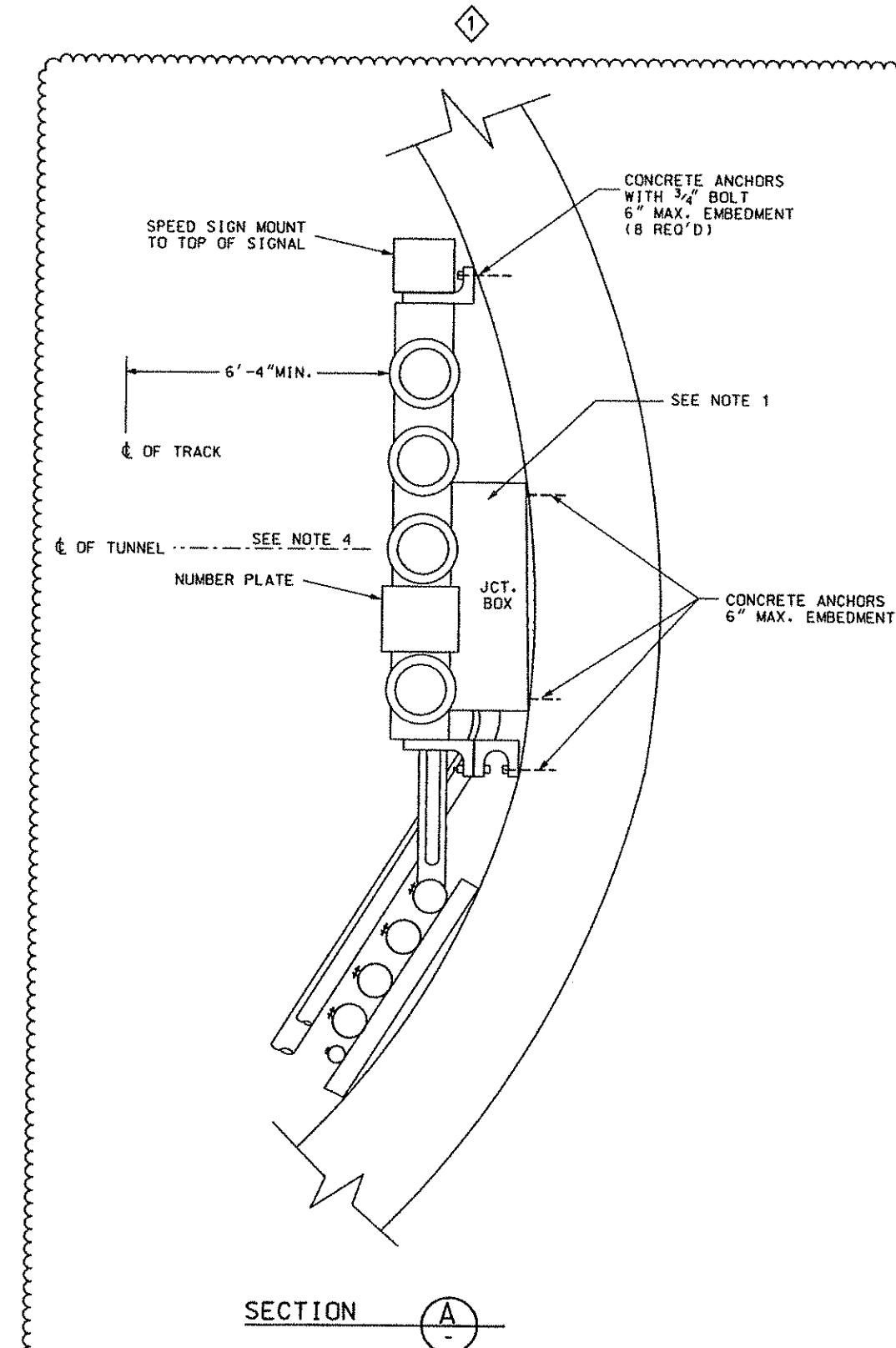
**PORT AUTHORITY OF ALLEGHENY COUNTY**  
PITTSBURGH  
NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
TRAINWAY PROTECTION STROBE LIGHT SYSTEM  
INSTALLATION DETAILS  
**Port Authority**  
CONTRACT NO. NSC-009  
DWG. NO. SG145 SHT. 400



TYPICAL TUNNEL WALL-MOUNTED SIGNAL

NOTES:

1. JUNCTION BOX SIZE TO BE DETERMINED BY EQUIPMENT REQUIREMENTS BUT SHALL NOT BE DEEPER THAN 8".
2. CONDUITS TO ADDITIONAL SIGNAL AND/OR CUT SECTIONS (CS) AS REQUIRED. NUMBER OF CONDUITS AND SIZE VARIES ACCORDING TO LOCATIONS.
3. CONTRACTOR TO VERIFY CONDUIT SIZES BASED ON CABLE USED.
4. SIGNAL TO BE CENTERED ON TUNNEL CENTER LINE.
5. DEPTH OF MOUNTING PENETRATION SHALL NOT EXCEED 7".
6. THE CONTRACTOR SHALL BE ALLOWED A SIX (6) INCH MAXIMUM EMBEDMENT DEPTH INTO THE BORED TUNNEL SEGMENT AT A MINIMUM DISTANCE FROM SEGMENTAL JOINTS OF FOUR (4) INCHES. PRIOR TO ANY DRILLING, CONTRACTOR NEEDS TO IDENTIFY LOCATION AND GET APPROVAL OF ENGINEER.



TYPICAL BORED TUNNEL WALL MOUNTING DETAILS

Gannett Fleming  
Transit & Rail Systems

NO.	DATE	DESCRIPTION	REVISIONS
1	08/20/08	ADDENDUM 3 - DRAWING MODIFIED	

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

DIDIER L. HARRIS  
APPROVED  
8-20-08  
DATE

DESIGNED  
DRAWN  
H. LAY  
HT. TRAN

CHECKED  
IN CHARGE  
ED SPOTTS  
CD JONES

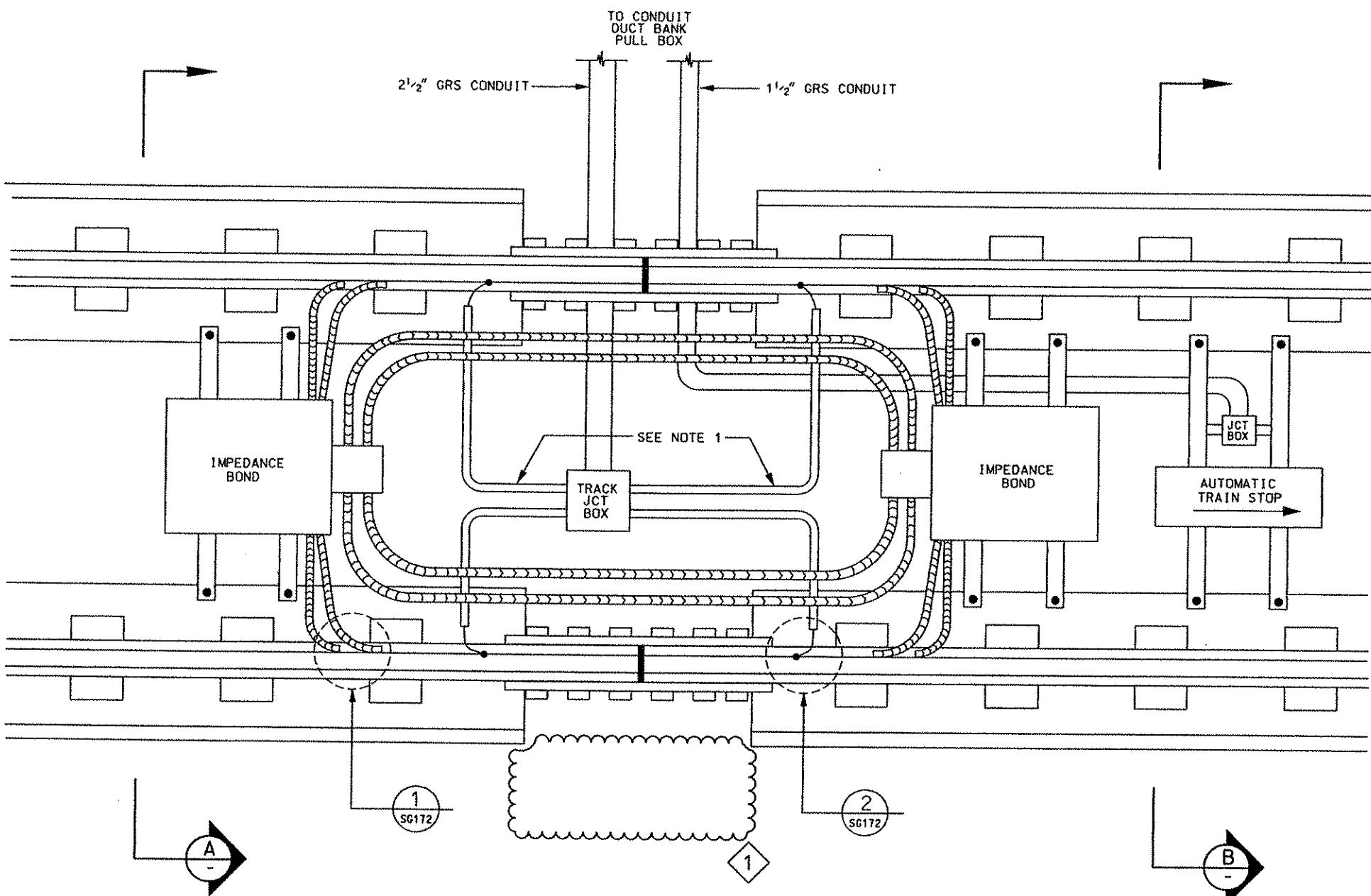
DATE APR. 28, 2008

SCALE NTS

PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH

NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
TYPICAL  
SIGNAL LAYOUT - BORED TUNNEL WALL MOUNTED DETAILS

Port Authority  
Contract No. NSC-008  
DWG. NO. SG162 Sht. 403

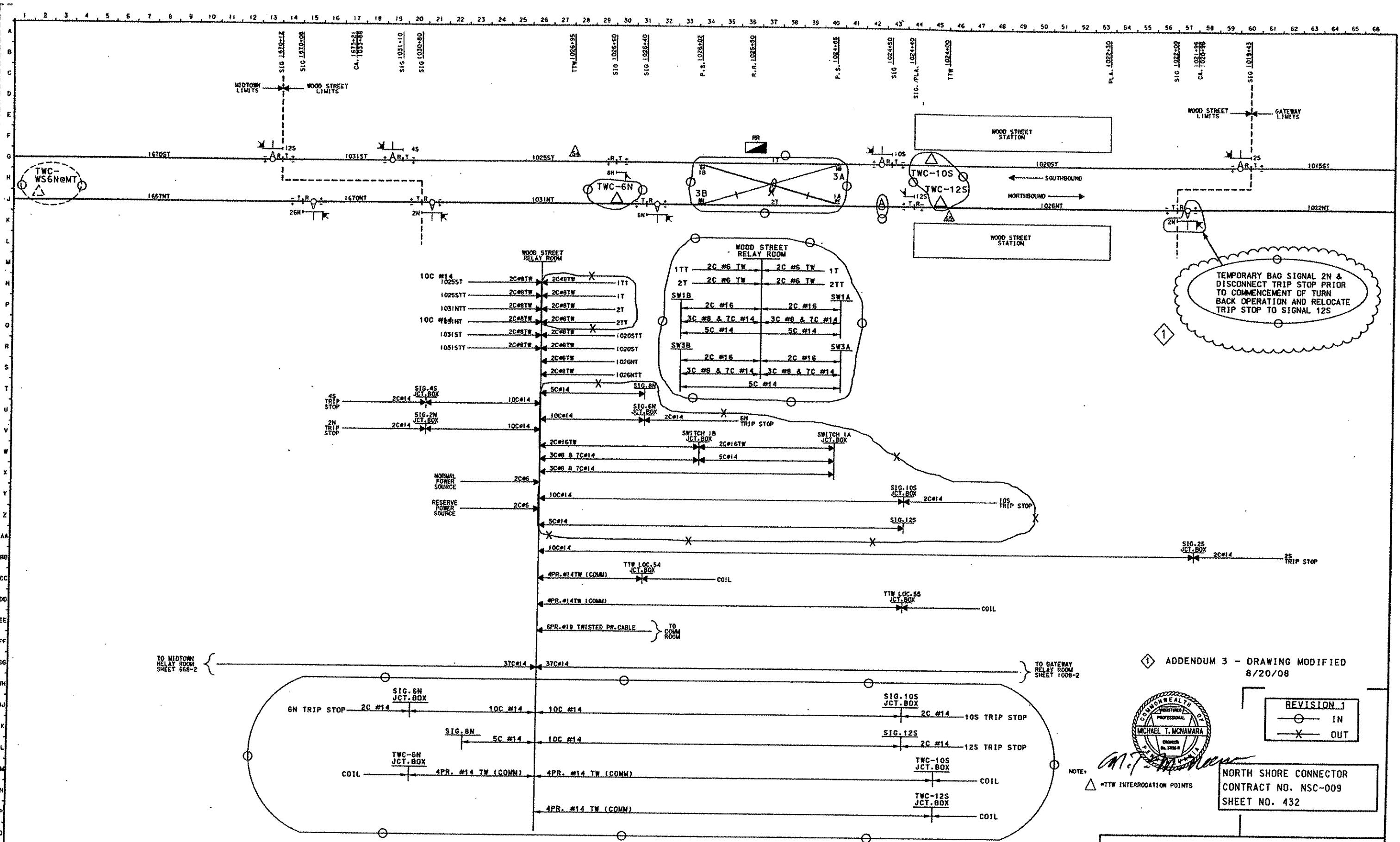


### DOUBLE BOND LAYOUT - DIRECT FIXATION

#### NOTES:

1. TRACK WIRES FROM JUNCTION BOX TO RAIL TO BE IN 1" GRS CONDUIT.
2. SEE DRAWING SG172 FOR IMPEDANCE BOND CABLE SIZES.
3. SEE DRAWING SG172 FOR TRACK BONDING DETAIL.

<b>Gannett Fleming</b> Transit & Rail Systems				<p>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.</p> <table border="1"> <tr> <td>06/20/08</td><td>ADDENDUM 3 - DRAWING MODIFIED</td></tr> <tr> <td>NO. DATE</td><td>DESCRIPTION</td></tr> <tr> <td colspan="2">REVISIONS</td></tr> </table>	06/20/08	ADDENDUM 3 - DRAWING MODIFIED	NO. DATE	DESCRIPTION	REVISIONS			<b>DMJM HARRIS AECOM</b> FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222  MICHAEL T. MCNAMARA PENNSYLVANIA PROFESSIONAL ENGINEER REG. NO. 10008  APPROVED 8-20-08 DATE	DESIGNED BY DRAWN BY H. LAY H. T. TRAN	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH
06/20/08	ADDENDUM 3 - DRAWING MODIFIED													
NO. DATE	DESCRIPTION													
REVISIONS														
							<b>NORTH SHORE CONNECTOR</b> <b>NSC TRAIN SYSTEM (SYSTEM WIDE)</b> <b>TYPICAL</b> <b>IMPEDANCE BOND LAYOUT - DOUBLE</b>							
<b>Port Authority</b> CONTRACT NO. NSC-008 Dwg. No. SG164 Sht. 4V1				CONTRACT NO. NSC-008 Dwg. No. SG164 Sht. 4V1										

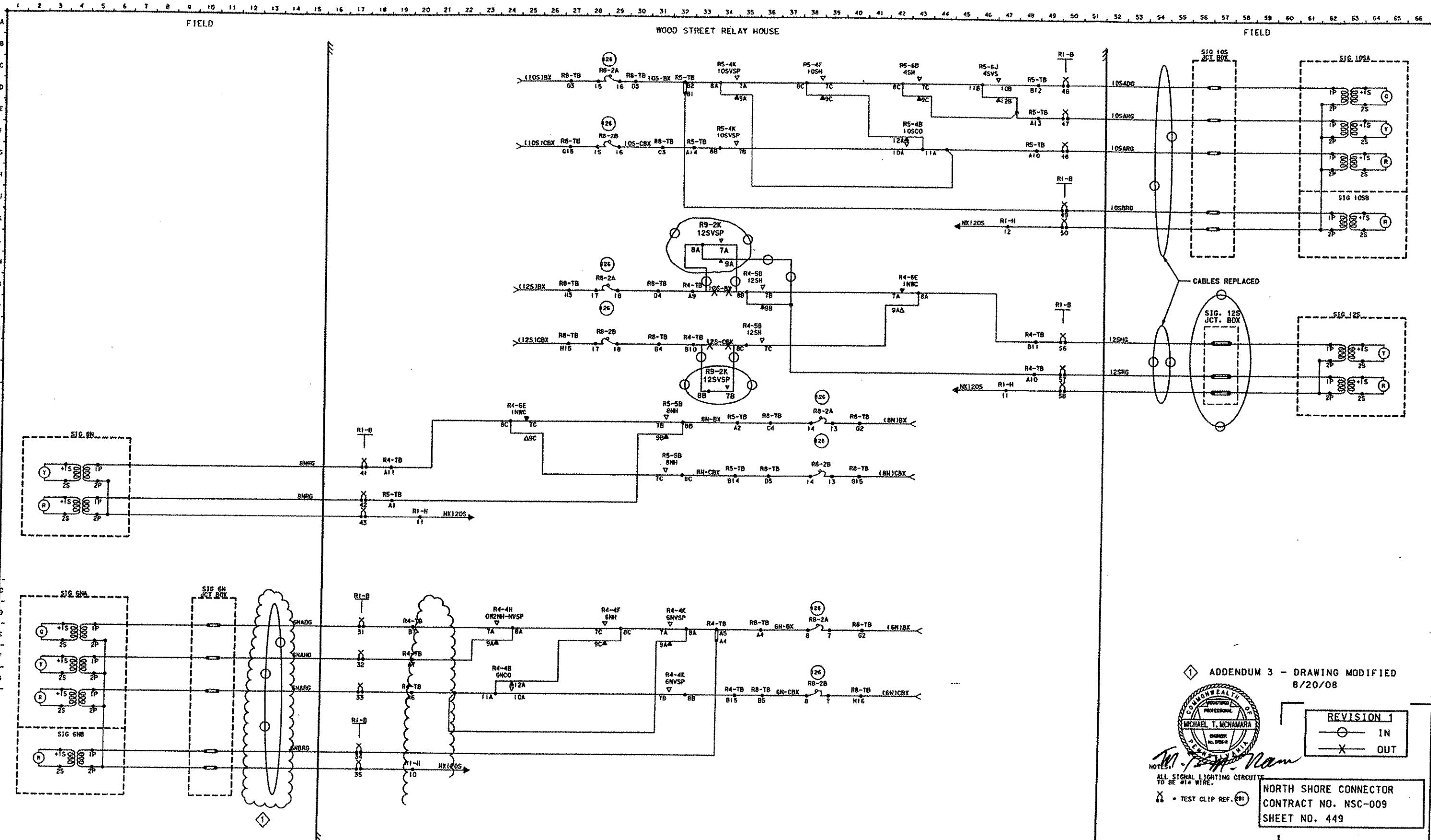


NORTH SHORE CONNECTOR  
CONTRACT NO. NSC-009  
SHEET NO. 432



NORTH SHORE CONNECTOR  
CONTRACT NO. NSC-009  
SHEET NO. 432

CABLE PLAN - REVISED IN		WOOD STREET	
PORT AUTHORITY OF ALLEGHENY COUNTY STAGE I LIGHT RAIL TRANSIT SYSTEM CONTRACT NUMBER CY-111 CIRCUITS		APPROVED	DATE
		SH 1022-2	06/22/93
	UNION SWITCH & SIGNAL DIVISION AMERICAN STANDARD INC. SWISSEY, PA 15218	T1373	



PRIOR TO BEING PLACED IN REGULAR SERVICE,  
THE OPERATION OF ANY CIRCUITS AND EQUIPMENT  
PRESENTED HEREIN MUST BE CHECKED BY CIRCUIT  
SELECTION (MANUFACTURER) AND SERVICE (OPERATOR)  
TESTS OF THE COMPLETE SYSTEM OR SECTION OF  
SUCH A SYSTEM INTO WHICH THEY ARE CONNECTED.

REF ID: A1111

SEARCHED		INDEXED
O.C. 80422D		DATE
DETONATED W/L		10-19-83
DRAWN W/L		10-19-83
TRACED		
CHECKED S/W/M		12-19-83
O		
K		
FOR WRITING		



ALL SIGNAL LIGHTING CIRCUITS  
TO BE #14 WIRE.

ERTH SHORE CONNECTOR  
NTRACT NO. NSC-009  
EET NO. 449

ERTH SHORE CONNECTOR  
NTRACT NO. NSC-009  
EET NO. 449

URTH SHORE CONNECTOR  
NTRACT NO. NSC-009  
EET NO. 449

www.wiley.com

ERTH SHORE CONNECTOR  
NTRACT NO. NSC-009  
EET NO. 449

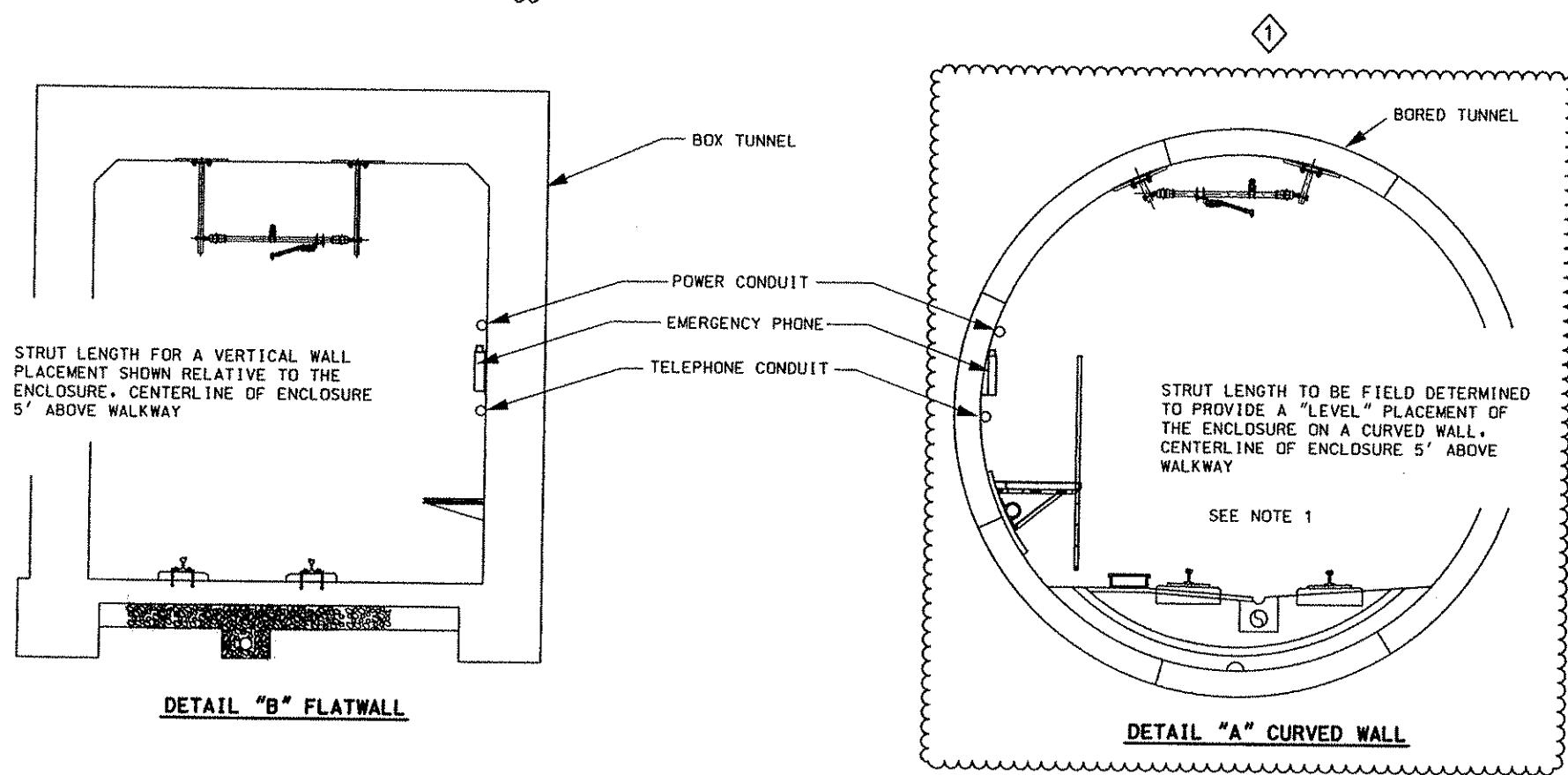
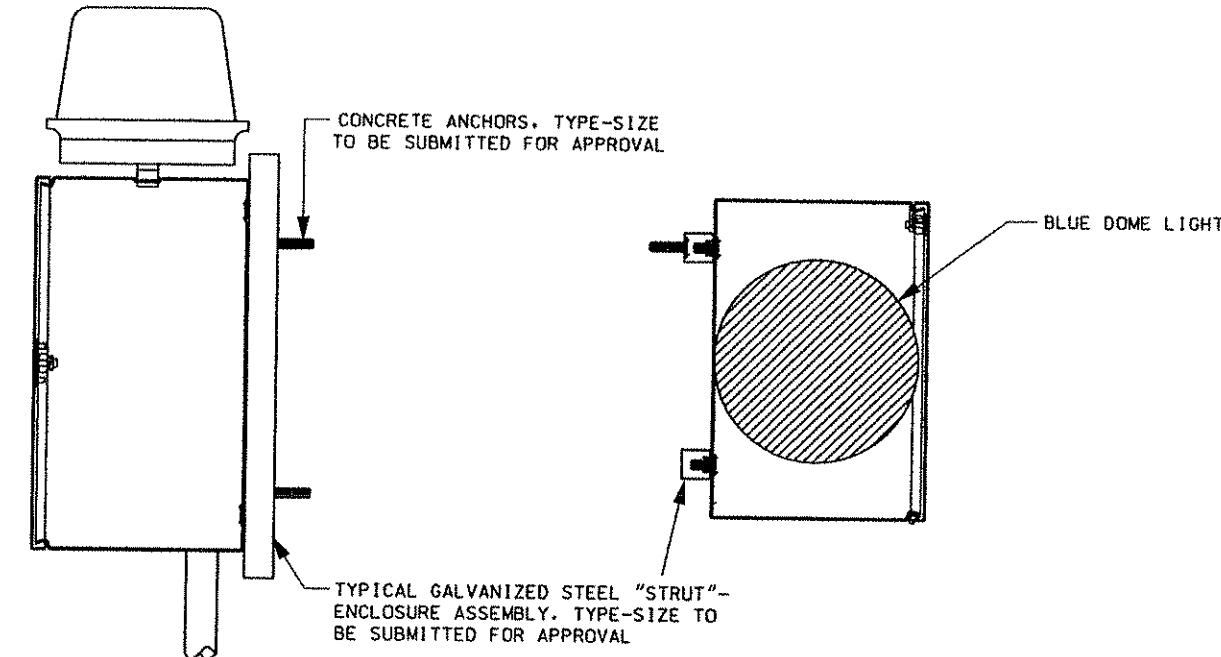
## SIGNAL LIGHTING CIRCUITS

WOOD STREET

PORT AUTHORITY OF ALLEGHENY COUNTY  
STAGE I LIGHT RAIL TRANSIT SYSTEM  
CONTRACT NUMBER CY-111  
CIRCUITS

UNION SWITCH & SIGNAL DIVISION  
AMERICAN STANDARD INC.

T1373



DETAIL "B" FLATWALL

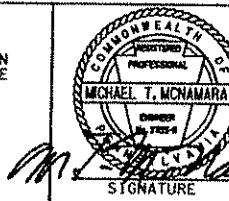
DETAIL "A" CURVED WALL

**BLUE LIGHT EMERGENCY PHONE - TUNNEL INSTALLATION**

Gannett Fleming  
Transit & Rail Systems

NO.	DATE	DESCRIPTION	REVISIONS
①	08/20/08	ADDENDUM 3 - DRAWING MODIFIED	

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  
*D. A. H.*  
APPROVED 8-20-08  
SIGNATURE DATE

**PORT AUTHORITY OF ALLEGHENY COUNTY**  
PITTSBURGH

NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
SYSTEM WIDE SIGNALS & COMMUNICATION SYSTEMS  
TYPICAL EMERGENCY PHONE - TUNNEL

**Port Authority**  
connecting people

CONTRACT NO. NSC-008  
DWG. NO. CMO41 SHT. 544

COMM DEVICE TO/FROM CABLE LIST - GATEWAY STATION						
COMM DEVICE	DEVICE CHARACTERISTICS	TO DEVICE LOCATION	FROM	CABLE TYPE	COMMENTS	NSC-010 DRAWING #
CCTV #1	PTZ	CONCOURSE ELEVATOR	COMM ROOM	F.O. - POWER	LINEAR CONDUITS - CEILING	AR208, EL017
CCTV #2	PTZ	CONCOURSE	COMM ROOM	F.O. - POWER	LINEAR CONDUITS - CEILING	AR208, EL017
CCTV #3	PTZ	CONCOURSE	COMM ROOM	F.O. - POWER	LINEAR CONDUITS - CEILING	AR208, EL017
CCTV #4	PTZ	PLATFORM RIGHT TRACK	COMM ROOM	F.O. - POWER	WALL MOUNT	AR202, EL011
CCTV #5	PTZ	PLATFORM ELEVATOR	COMM ROOM	F.O. - POWER	WALL MOUNT	AR202, EL011
CCTV #6	PTZ	PLATFORM ESCALATOR	COMM ROOM	F.O. - POWER	LIGHT POST #3	AR203, EL012
CCTV #7	PTZ	PLATFORM STAIRS	COMM ROOM	F.O. - POWER	LIGHT POST #5	AR203, EL012
CCTV #9	PTZ	PLATFORM LEFT TRACK	COMM ROOM	F.O. - POWER	CEILING MOUNT	AR204, EL013
CCTV #12	PTZ	TRACK AREA RIGHT TRACK	COMM ROOM	F.O. - POWER	DOWNSPAN MOUNTING	AR202, EL011
CCTV #13	PTZ	TRACK AREA LEFT TRACK	COMM ROOM	F.O. - POWER	DOWNSPAN MOUNTING	AR204, EL013
VMS #1	DOUBLE SIDED	PLATFORM RIGHT TRACK	COMM ROOM	RS-422 (DATA)	DOWNSPAN MOUNTING	AR203
VMS #2	DOUBLE SIDED	PLATFORM LEFT TRACK	COMM ROOM	RS-422 (DATA)	DOWNSPAN MOUNTING	AR203
FIRE ALARM PANEL	ALARM CIRCUIT	SEC. ROOM 111	COMM ROOM	2 PAIR, #22 AWG SHIELDED	WALL MOUNT	AR202, EL011
AMBIENT NOISE SENSOR	1	PLATFORM AREA	COMM ROOM	2C - #22 AWG SHIELDED	LIGHT POST #4	AR203, EL012
AMBIENT NOISE SENSOR	2	CONCOURSE LEVEL	COMM ROOM	2C - #22 AWG SHIELDED	LINEAR CONDUITS	AR208, EL017
SPEAKERS 1 - 6	BI-DIRECTIONAL	PLATFORM AREA	COMM ROOM	2 PAIR #14 AWG	COLUMN & CEILING MOUNTED DAISY CHAINED INTO ONE ZONE	AR203, AR204, AR756
SPEAKERS 7 - 10	BI-DIRECTIONAL	CONCOURSE AREA	COMM ROOM	2 PAIR #14 AWG	LINEAR CONDUIT DAISY CHAINED INTO ONE ZONE	AR208, EL017
PASSENGER (PATRON) PHONE #1	AUTOMATIC RING DOWN	PLATFORM AREA	COMM ROOM	2 PAIR, #22 AWG SHIELDED	COLUMN MOUNT - POLE #1	AR203
PASSENGER (PATRON) PHONE #2	AUTOMATIC RING DOWN	PLATFORM AREA	COMM ROOM	2 PAIR, #22 AWG SHIELDED	COLUMN MOUNT - POLE #5	AR203
PASSENGER (PATRON) PHONE #3	AUTOMATIC RING DOWN	CONCOURSE ENTRANCE AREA	COMM ROOM	2 PAIR, #22 AWG SHIELDED	MOUNT AT ENTRANCE LEVEL	AR208
PASSENGER (PATRON) PHONE #4	AUTOMATIC RING DOWN	EGRESS ROOM 109	COMM ROOM	2 PAIR, #22 AWG SHIELDED	COLUMN MOUNT	AR201
PASSENGER (PATRON) PHONE #5	AUTOMATIC RING DOWN	EGRESS ROOM 117	COMM ROOM	2 PAIR, #22 AWG SHIELDED	COLUMN MOUNT	AR204
MICROPHONE	-	FIRE CONTROL PANEL	COMM ROOM	XLR-F AUDIO CABLE SHIELDED	TERMINATE AT FIRE ALARM, ANNUNCIATOR PANEL, OUTSIDE OF SECURITY GATE	AR208
TELEPHONE	TOUCH-TONE DIAL-UP	FIRE CONTROL PANEL	COMM ROOM	2 PAIR, #22 AWG SHIELDED	TERMINATE AT FIRE ALARM, ANNUNCIATOR PANEL, OUTSIDE OF SECURITY GATE	AR208
ELEVATOR PHONE #1 (SUPPORT) PHONE BY OTHERS	AUTOMATIC RING DOWN	ELEVATOR N1	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO ELEVATOR SHAFT	AR202
ELEVATOR PHONE #2 (SUPPORT) PHONE BY OTHERS	AUTOMATIC RING DOWN	ELEVATOR N2	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO ELEVATOR SHAFT	AR202
PAAC PHONE #1	TOUCH-TONE DIAL-UP	MECHANICAL ROOM M10	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	AR202, EL011
PAAC PHONE #2	TOUCH-TONE DIAL-UP	ELEVATOR MECHANICAL ROOM	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	AR202, EL011
PAAC PHONE #3	TOUCH-TONE DIAL-UP	ELECTRICAL ROOM	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	AR202, EL011
PAAC PHONE #4	TOUCH-TONE DIAL-UP	MCC ROOM	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	AR206, EL015
PAAC PHONE #5	TOUCH-TONE DIAL-UP	NEW ELECTRICAL ROOM	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	AR206, EL015
PAAC PHONE #6	TOUCH-TONE DIAL-UP	EMERGENCY GENERATOR ROOM	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	AR207, EL016
PAAC PHONE #7	TOUCH-TONE DIAL-UP	NEW TIE BREAKER ROOM	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	AR205, EL014
PAAC PHONE #8	TOUCH-TONE DIAL-UP	NEW STORAGE ROOM	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	AR202, EL011
PAAC PHONE #9	TOUCH-TONE DIAL-UP	NEW COMMUNICATION ROOM	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	AR207, EL016
PAAC PHONE #10	TOUCH-TONE DIAL-UP	STORAGE CUSTODIAL ROOM	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	AR202, EL011
PAAC PHONE #11	TOUCH-TONE DIAL-UP	NEW SIGNAL ROOM	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	AR207, EL016
RTU #1	-	MCC ROOM	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	AR207, EL015
RTU #2	-	NEW TIE BREAKER ROOM	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	AR205, EL014
CER RTU	-	COMM ROOM	-	-	-	-
CCTV #14	PTZ	CONCOURSE ENTRANCE STAIRS	COMM ROOM	FO & POWER	LINEAR CONDUITS - CEILING	AR208
CCTV #15	PTZ	CONCOURSE ENTRANCE ESCALATOR	COMM ROOM	FO & POWER	LINEAR CONDUITS - CEILING	AR208
BLUE LIGHT EMERGENCY PHONES (14 REQ'D)	AUTOMATIC RING DOWN	SEE NOTE 5	COMM ROOM	18 PAIR, #22 AWG SHIELDED		

## NOTES:

- WHERE POWER WIRING SIZE IS NOT INDICATED:  
WIRE #12 AWG MINIMUM SHALL BE USED FOR CIRCUITS LESS THAN 100 FEET IN LENGTH.  
WIRE #10 AWG SHALL BE USED FOR CIRCUITS FROM 100 FEET TO 150 FEET IN LENGTH.  
WIRE #8 AWG SHALL BE USED FOR CIRCUITS FROM 150 FEET TO 250 FEET IN LENGTH.
- CONDUIT SHALL TERMINATE IN A FLUSH MOUNTED BOX AT THE LOCATION SHOWN ON THE DRAWINGS.  
THE VERTICAL CENTER OF THE BOX SHALL BE LOCATED 54" ABOVE THE FINISHED FLOOR.
- ALL CONDUITS FURNISHED AND INSTALL BY NSC-010.
- SEE NSC-010. "ALSO" DRAWINGS FOR CONDUIT NUMBERS, LOCATIONS & MOUNTING  
OF COMMUNICATION DEVICES.

5. SEE CR300 SERIES DRAWINGS FOR PHONE LOCATIONS.

08/20/08	ADDENDUM 3 - DRAWING MODIFIED
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  
MICHAEL T. McNAMARA  
OWNER  
PROFESSIONAL  
SERVICES  
INC.  
APPROVED  
B. 20.08  
DATE  
SIGNATURE

DESIGNED H. LAY  
DRAWN H. TRAN  
CHECKED R. WEIDNER  
IN CHARGE C. J. JONES  
DATE APR. 26, 2008  
SCALE NTS  
DATE  
APPROVED  
B. 20.08  
DATE  
SIGNATURE

PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH  
NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
SYSTEMWIDE SIGNALS & COMMUNICATION SYSTEMS  
GATEWAY STATION - COMMUNICATION DEVICE TO /FROM CABLE LIST  
Port Authority  
Contract No. NSC-008  
DWG. NO. CM076 SHT. 559A

## COMM DEVICE TO/FROM CABLE LIST - NORTH SIDE STATION

COMM DEVICE	DEVICE CHARACTERISTICS	TO DEVICE LOCATION	FROM	CABLE TYPE	COMMENTS	NSC-011 DRAWING #
CCTV #1	PTZ	ELEVATOR CONCOURSE LEVEL	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	NAR909, NAR109
CCTV #2	PTZ	CONCOURSE LEVEL CENTER ON STAIRS	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	NAR909, NAR109
CCTV #3	PTZ	CONCOURSE LEVEL CENTER ON ESCALATOR	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	NAR909, NAR109
CCTV #4	PTZ	ELEVATOR CONCOURSE LEVEL	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	NAR909, NAR109
CCTV #5	PTZ	CONCOURSE LEVEL	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	NAR911
CCTV #6	PTZ	PLATFORM ELEVATOR VESTIBULE	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	NAR911
CCTV #7	PTZ	PLATFORM	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	NAR913, NAR113
CCTV #8	PTZ	PLATFORM	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	NAR913, NAR113
CCTV #9	PTZ	PLATFORM	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	NAR913, NAR113
CCTV #10	PTZ	PLATFORM	COMM ROOM	F.O. - POWER	DOME - WALL MOUNT	NAR910, NAR407
VMS #1	DOUBLE SIDED	PLATFORM INBOUND	COMM ROOM	F.O. - POWER	DOME - WALL MOUNT	NAR910, NAR407
VMS #2	DOUBLE SIDED	PLATFORM OUTBOUND	COMM ROOM	RS-422 (DATA)	COLUMN MOUNT	NAR113, 710
FIRE ALARM PANEL	ALARM CIRCUIT	PAAC POLICE ROOM	COMM ROOM	RS-422 (DATA)	COLUMN MOUNT	NAR113, 114, 710
AMBIENT NOISE SENSOR	1 & 2	PLATFORM AREA	COMM ROOM	2 PAIR, #22 AWG SHIELDED	FIRE ALARM AND FIRE TROUBLE	NAR109
AMBIENT NOISE SENSOR	3 & 4	CONCOURSE LEVEL	COMM ROOM	2C - #22 AWG SHIELDED	FLUSH MOUNT IN WALL 8 FEET ABOVE FLOOR	NAR113, 114
SPEAKERS 1 - 4	BI-DIRECTIONAL	PLATFORM AREA	COMM ROOM	2C - #22 AWG SHIELDED	COLUMN MOUNTED SPEAKERS DAISY CHAINED INTO ONE ZONE	NAR109
SPEAKERS 5 - 8	BI-DIRECTIONAL	CONCOURSE AREA	COMM ROOM	2 PAIR #14 AWG	CEILING MOUNTED SPEAKERS DAISY CHAINED INTO ONE ZONE	NAR113, 114, 710
PASSENGER (PATRON) PHONE #1	AUTOMATIC RING DOWN	PLATFORM AREA	COMM ROOM	2 PAIR #14 AWG	COLUMN MOUNT	NAR909, NAR911
PASSENGER (PATRON) PHONE #2	AUTOMATIC RING DOWN	PLATFORM AREA	COMM ROOM	2 PAIR, #22 AWG SHIELDED	COLUMN MOUNT	NAR113
PASSENGER (PATRON) PHONE #3	AUTOMATIC RING DOWN	PLATFORM STAIR "A"	COMM ROOM	2 PAIR, #22 AWG SHIELDED	FLUSH MOUNT IN WALL REFUGE AREA	NAR114
PASSENGER (PATRON) PHONE #4	AUTOMATIC RING DOWN	PLATFORM LEVEL ELEVATOR VESTIBULE	COMM ROOM	2 PAIR, #22 AWG SHIELDED	FLUSH MOUNT IN WALL IN ELEVATOR VESTIBULE	NAR114
PASSENGER (PATRON) PHONE #5	AUTOMATIC RING DOWN	CONCOURSE LEVEL	COMM ROOM	2 PAIR, #22 AWG SHIELDED	FLUSH MOUNT IN WALL IN CONCOURSE AREA	NAR113
PASSENGER (PATRON) PHONE #6	AUTOMATIC RING DOWN	PLATFORM LEVEL STAIR C	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO ELEVATOR SHAFT	NAR109
PASSENGER (PATRON) PHONE #7	AUTOMATIC RING DOWN	CONCOURSE LEVEL CORRIDOR M13	COMM ROOM	2 PAIR, #22 AWG SHIELDED	FLUSH MOUNT IN WALL IN	NAR113
PASSENGER (PATRON) PHONE #14	AUTOMATIC RING DOWN	FIRE CONTROL PANEL	COMM ROOM	2 PAIR, #22 AWG SHIELDED	FLUSH MOUNT IN WALL IN	NAR109
MICROPHONE	-	FIRE CONTROL PANEL	COMM ROOM	XLR-F AUDIO CABLE SHIELDED	MOUNTED IN PANEL	NAR107
ELEVATOR PHONE #1 (SUPPORT) PHONE BY OTHERS	AUTOMATIC RING DOWN	ELEVATOR N1	COMM ROOM	2 PAIR, #22 AWG SHIELDED	MOUNTED IN PANEL	NAR107
ELEVATOR PHONE #2 (SUPPORT) PHONE BY OTHERS	AUTOMATIC RING DOWN	ELEVATOR N2	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO ELEVATOR SHAFT	NAR109
ELEVATOR PHONE #3 (SUPPORT) PHONE BY OTHERS	AUTOMATIC RING DOWN	ELEVATOR N3 (MACHINE ROOM)	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO ELEVATOR SHAFT	NAR109
ELEVATOR PHONE #4 (SUPPORT) PHONE BY OTHERS	AUTOMATIC RING DOWN	ELEVATOR N4 (MACHINE ROOM)	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO ELEVATOR SHAFT	NAR111, NEL119
PAAC PHONE #1	TOUCH-TONE DIAL-UP	MCC ROOM M05	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	NAR111, NEL119
PAAC PHONE #2	TOUCH-TONE DIAL-UP	MECHANICAL ROOM M10	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	NAR108
PAAC PHONE #3	TOUCH-TONE DIAL-UP	CUSTODIAL ROOM M07	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	NAR109
PAAC PHONE #4	TOUCH-TONE DIAL-UP	SIGNAL ROOM P02	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	NAR109
PAAC PHONE #5	TOUCH-TONE DIAL-UP	MAINTENANCE ROOM M09	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	NAR113
PAAC PHONE #6	TOUCH-TONE DIAL-UP	POLICE ROOM M14	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	NAR109
PAAC PHONE #7	TOUCH-TONE DIAL-UP	ELECTRICAL ROOM P07	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	NAR109
PAAC PHONE #8	TOUCH-TONE DIAL-UP	ELECTRICAL ROOM P09	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	NAR114
PAAC PHONE #9	-	MCC ROOM P08	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	NAR114
PAAC PHONE #10	TOUCH-TONE DIAL-UP	GENERATOR ROOM P11	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	NAR114
PAAC PHONE #11	TOUCH-TONE DIAL-UP	TRANSFORMER ROOM M17	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	NAR114
PAAC PHONE #12	TOUCH-TONE DIAL-UP	TUNNEL VENT ROOM M16B	COMM ROOM	3 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	NAR110
PAAC PHONE #13	TOUCH-TONE DIAL-UP	COMM ROOM	COMM ROOM	4 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	NAR110
RTU #1	-	MCC ROOM (EE)	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 3)	NAR109
RTU #2	-	MCC ROOM (ME)	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL IN MCC ROOM	NAR108
CER RTU	-	COMM ROOM	COMM ROOM	-	RUN CONDUIT TO WALL IN MCC ROOM	NAR114
BLUE LIGHT EMERGENCY PHONES (28 REO'D)	AUTOMATIC RING DOWN	SEE NOTE 5	COMM ROOM	18 PAIR, #22 AWG SHIELDED	-	-

## NOTES:

- WHERE POWER WIRING SIZE IS NOT INDICATED:  
WIRE #12 AWG MINIMUM SHALL BE USED FOR CIRCUITS LESS THAN 100 FEET IN LENGTH.  
WIRE #10 AWG SHALL BE USED FOR CIRCUITS FROM 100 FEET TO 150 FEET IN LENGTH.  
WIRE #8 AWG SHALL BE USED FOR CIRCUITS FROM 150 FEET TO 250 FEET IN LENGTH.
- CONDUIT SHALL TERMINATE IN A FLUSH MOUNTED BOX AT THE LOCATION SHOWN ON THE DRAWINGS.  
THE VERTICAL CENTER OF THE BOX SHALL BE LOCATED 54" ABOVE THE FINISHED FLOOR.
- ALL CONDUITS FURNISHED AND INSTALL BY NSC-011.
- SEE NSC-011, "ALSO" DRAWINGS FOR CONDUIT NUMBERS, LOCATIONS & MOUNTING  
OF COMMUNICATION DEVICES.
- SEE CR300 SERIES DRAWINGS FOR PHONE LOCATIONS.

							PORT AUTHORITY OF ALLEGHENY COUNTY	
							PITTSTON	
08/20/08 ADDENDUM 3 - DRAWING MODIFIED		REVISIONS		MICHAEL T. McNAMARA		DESIGNED H. LAY	NORTH SHORE CONNECTOR	
NO. DATE	DESCRIPTION	APPROVED	HT TRAN	IN CHARGE	CD JONES	CHECKED	R. WEIDNER	
REVISIONS		DRAFTED		DATE APR. 28, 2008		IN	SYSTEMWIDE SIGNALS & COMMUNICATION SYSTEMS	
REVISIONS		SIGNED		SCALE NTS		DATE	NORTH SIDE STATION - COMMUNICATION DEVICE TO / FROM CABLE LIST	
REVISIONS		INITIALED		APPROVED		8-20-08	Port Authority	
REVISIONS		STAMPED		DATE		DATE	CONTRACT NO. NSC-009	
REVISIONS		SIGNED		DRAWN NO. CM076		DATE	DWG. NO. CM076	
REVISIONS		INITIALED		SHEET NO. SHT. 569B		DATE		

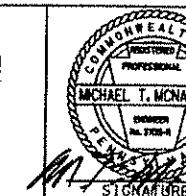
COMM DEVICE TO/FROM CABLE LIST - ALLEGHENY STATION						
COMM DEVICE	DEVICE CHARACTERISTICS	TO DEVICE LOCATION	FROM	CABLE TYPE	COMMENTS	NSC-012 DRAWING #
CCTV #1	PTZ	STREET LEVEL ELEVATOR	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	EL012
CCTV #2	PTZ	STREET LEVEL ELEVATOR	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	EL012
CCTV #3	PTZ	STREET LEVEL ENTRANCE	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	EL012
CCTV #4	PTZ	MEZZANINE STAIRS	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	EL013
CCTV #5	PTZ	MEZZANINE ESCALATOR	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	EL013
CCTV #6	PTZ	MEZZANINE ELEVATOR	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	EL013
CCTV #7	PTZ	MEZZANINE ESCALATOR	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	EL013
CCTV #8	PTZ	MEZZANINE STAIRS	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	EL013
CCTV #9	PTZ	PLATFORM ELEVATOR	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	EL013
CCTV #10	PTZ	PLATFORM ELEVATOR	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	EL015
CCTV #11	PTZ	PLATFORM ESCALATOR	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	EL015
CCTV #12	PTZ	PLATFORM STAIRS	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	EL015
CCTV #13	PTZ	PLATFORM OUTBOUND	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	EL015
CCTV #14	PTZ	PLATFORM INBOUND	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	EL015
CCTV #15	PTZ	PLATFORM EMERGENCY EXIT	COMM ROOM	F.O. - POWER	DOME - CEILING MOUNT	EL014
VMS #1	DOUBLE SIDED	PLATFORM INBOUND	COMM ROOM	RS-422 (DATA)	COLUMN MOUNT	EL014
VMS #2	DOUBLE SIDED	PLATFORM OUTBOUND	COMM ROOM	RS-422 (DATA)	COLUMN MOUNT	EL014
FIRE ALARM PANEL	ALARM CIRCUIT	PAAC POLICE ROOM	COMM ROOM	2 PAIR, #22 AWG SHIELDED	FIRE ALARM AND FIRE TROUBLE	EL012
AMBIENT NOISE SENSOR	1 & 2	PLATFORM AREA	COMM ROOM	2C - #22 AWG SHIELDED	FLUSH MOUNT IN COLUMN 8 FEET ABOVE PLATFORM	EL014
AMBIENT NOISE SENSOR	3 & 4	LOBBY AREA	COMM ROOM	2C - #22 AWG SHIELDED	FLUSH MOUNT IN WALL 8 FEET ABOVE FLOOR	EL012
SPEAKERS 1 - 4	BI-DIRECTIONAL	PLATFORM AREA	COMM ROOM	2 PAIR #14 AWG	COLUMN & WALL MOUNTED SPEAKERS DAISY CHAINED INTO ONE ZONE	EL014, EL015
SPEAKERS LOBBY/MEZZANINE	BI-DIRECTIONAL	LOBBY AND MEZZANINE	COMM ROOM	2 PAIR #14 AWG	CEILING MOUNTED SPEAKERS DAISY CHAINED INTO ONE ZONE	EL014, EL015
PASSENGER (PATRON) PHONE #1	AUTOMATIC RING DOWN	PLATFORM AREA	COMM ROOM	2 PAIR, #22 AWG SHIELDED	COLUMN MOUNT	EL012
PASSENGER (PATRON) PHONE #2	AUTOMATIC RING DOWN	PLATFORM AREA	COMM ROOM	2 PAIR, #22 AWG SHIELDED	FLUSH MOUNT IN WALL	EL014
PASSENGER (PATRON) PHONE #3	AUTOMATIC RING DOWN	LOBBY AREA	COMM ROOM	2 PAIR, #22 AWG SHIELDED	FLUSH MOUNT IN WALL	EL015
PASSENGER (PATRON) PHONE #4	AUTOMATIC RING DOWN	MEZZANINE LEVEL	COMM ROOM	2 PAIR, #22 AWG SHIELDED	FLUSH MOUNT IN WALL	EL012
PASSENGER (PATRON) PHONE #5	AUTOMATIC RING DOWN	FIRE CONTROL PANEL	COMM ROOM	2 PAIR, #22 AWG SHIELDED	FLUSH MOUNT IN WALL	EL013
MICROPHONE	-	FIRE CONTROL PANEL	COMM ROOM	2 PAIR, #22 AWG SHIELDED	MOUNTED IN FIRE CONTROL PANEL	EL012
ELEVATOR PHONE #1 (SUPPORT) PHONE BY OTHERS	AUTOMATIC RING DOWN	ELEVATOR N1	COMM ROOM	XLR-F AUDIO CABLE SHIELDED	MOUNTED IN FIRE CONTROL PANEL	EL012
ELEVATOR PHONE #2 (SUPPORT) PHONE BY OTHERS	AUTOMATIC RING DOWN	ELEVATOR N2	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO ELEVATOR SHAFT	EL012
PAAC PHONE #1	TOUCH-TONE DIAL-UP	SIGNAL ROOM P02	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO ELEVATOR SHAFT	EL012
PAAC PHONE #2	TOUCH-TONE DIAL-UP	FIBER OPTICS ROOM	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	EL012
PAAC PHONE #3	TOUCH-TONE DIAL-UP	MECHANICAL ROOM M10	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	EL012
PAAC PHONE #4	TOUCH-TONE DIAL-UP	BREAKER ROOM	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	EL012
PAAC PHONE #5	TOUCH-TONE DIAL-UP	ELECTRICAL ROOM	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	EL012
PAAC PHONE #6	TOUCH-TONE DIAL-UP	OPERATORS LOUNGE AREA	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	EL012
PAAC PHONE #7	TOUCH-TONE DIAL-UP	POLICE ROOM M14	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	EL012
PAAC PHONE #8	TOUCH-TONE DIAL-UP	CUSTODIAL ROOM M07	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	EL012
RTU #1	-	BREAKER ROOM	COMM ROOM	2 PAIR, #22 AWG SHIELDED	RUN CONDUIT TO WALL (NOTE 2)	EL012
CER RTU	-	COMM ROOM	-	-	-	EL012
BLUE LIGHT EMERGENCY PHONES (18 REQ'D)	AUTOMATIC RING DOWN	SEE NOTE 5	COMM ROOM	18 PAIR, #22 AWG SHIELDED	-	-

NOTES:

- WHERE POWER WIRING SIZE IS NOT INDICATED:  
WIRE #12 AWG MINIMUM SHALL BE USED FOR CIRCUITS LESS THAN 100 FEET IN LENGTH.  
WIRE #10 AWG SHALL BE USED FOR CIRCUITS FROM 100 FEET TO 150 FEET IN LENGTH.  
WIRE #8 AWG SHALL BE USED FOR CIRCUITS FROM 150 FEET TO 250 FEET IN LENGTH.
- CONDUIT SHALL TERMINATE IN A FLUSH MOUNTED BOX AT THE LOCATION SHOWN ON THE DRAWINGS.  
THE VERTICAL CENTER OF THE BOX SHALL BE LOCATED 54" ABOVE THE FINISHED FLOOR.
- ALL CONDUITS FURNISHED AND INSTALL BY NSC-012.
- SEE NSC-012, "ALSO" DRAWINGS FOR CONDUIT NUMBERS, LOCATIONS & MOUNTING  
OF COMMUNICATION DEVICES.

5. SEE CR300 SERIES DRAWINGS FOR PHONE LOCATIONS.

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

DESIGNED H LAY  
DRAWN HT TRAN

CHECKED R WEIDNER

IN CHARGE CD JONES

DATE APR. 28, 2008

SCALE NTS

SIGNATURE APPROVED DATE

PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH

NORTH SHORE CONNECTOR

NSC TRAIN SYSTEM (SYSTEM WIDE)

SYSTEMWIDE SIGNALS & COMMUNICATION SYSTEMS

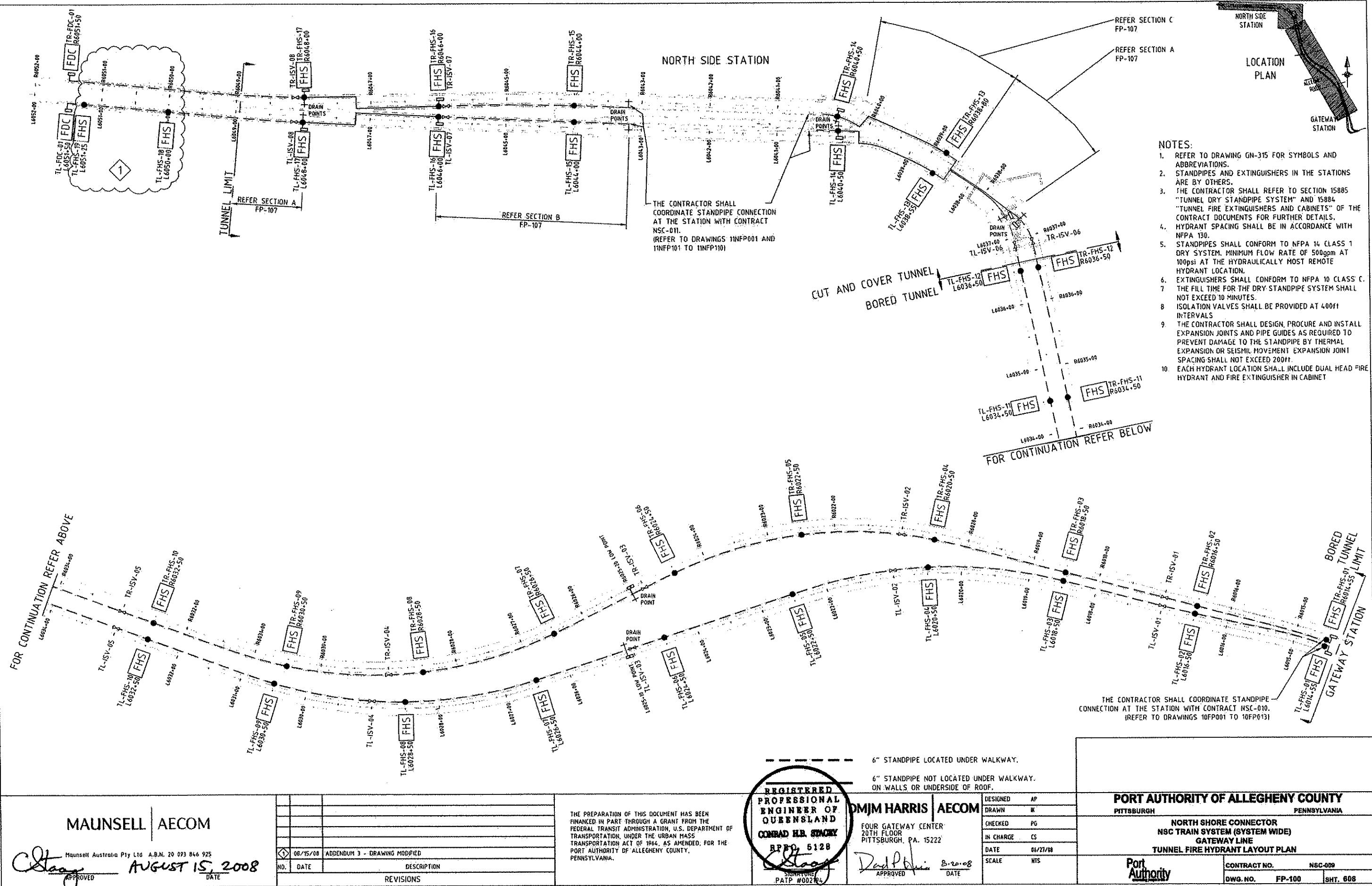
ALLEGHENY STATION - COMMUNICATION DEVICE TO /FROM CABLE LIST

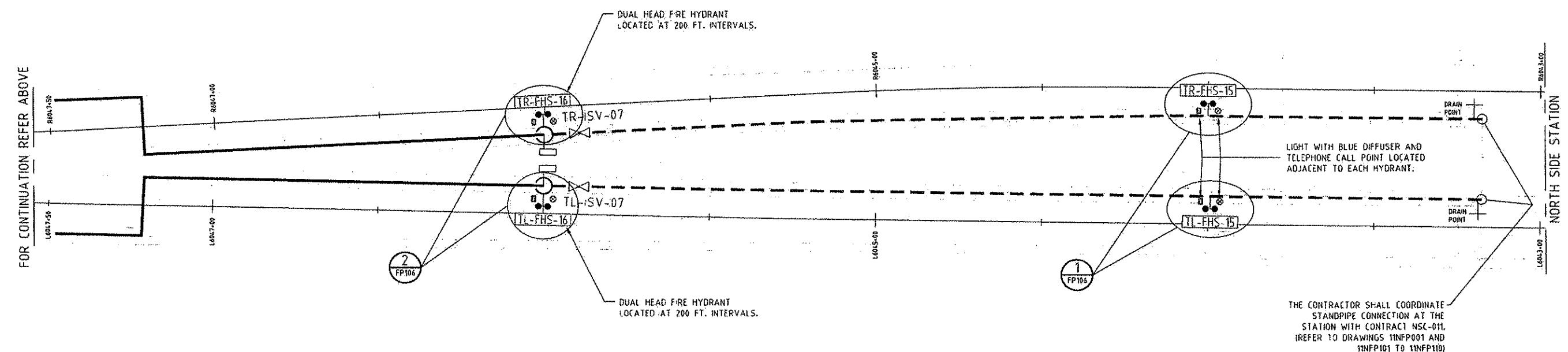
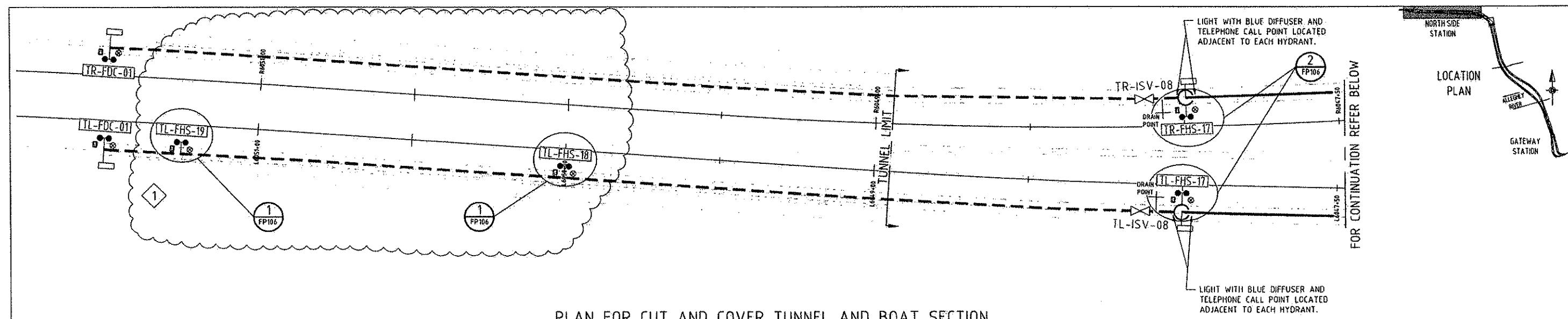
Port Authority

Contract No. NSC-008

Dwg. No. CM077 Sht. 659C

NO. DATE	DESCRIPTION	REVISIONS
08/20/08	ADDENDUM 3 - DRAWING MODIFIED	





**NOTES:**

1. THE CONTRACTOR SHALL REFER TO SECTION 15885 "TUNNEL DRY STANDPIPE SYSTEM" AND 15884 "TUNNEL FIRE EXTINGUISHERS AND CABINETS" OF THE CONTRACT DOCUMENTS FOR FURTHER DETAILS.
2. STANDPIPES SHALL CONFORM TO NFPA 14 CLASS 1 DRY SYSTEM. MINIMUM FLOW RATE OF 500gpm AT 100psi AT THE HYDRAULICALLY MOST REMOTE HYDRANT LOCATION.
3. EXTINGUISHERS SHALL CONFORM TO NFPA 10 CLASS C.
4. REFER TO TYPICAL DETAILS (DRAWING FP-106) FOR FURTHER INFORMATION.
5. THE FILL TIME FOR THE DRY STANDPIPE SYSTEM SHALL NOT EXCEED 10 MINUTES.

**PLAN FOR CUT AND COVER TUNNEL**

CHAINAGE - L6047+50 TO NORTH SIDE STATION

6" STANDPIPE LOCATED UNDER WALKWAY.

6" STANDPIPE NOT LOCATED UNDER WALKWAY.  
ON WALLS OR UNDERSIDE OF ROOF.

RISER / DROPPER

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. STACEY**  
RPEQ 5128  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222  
APPROVED  
DATE 08/20/08  
PATP #000198

**PORT AUTHORITY OF ALLEGHENY COUNTY**

PITTSBURGH PENNSYLVANIA

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

TUNNEL FIRE HYDRANT PLAN, SHEET 1 OF 2

<b>Port Authority</b>	CONTRACT NO.	NSC-009
DWG. NO.	FP-101	SHT. 609

**MAUNSELL | AECOM**

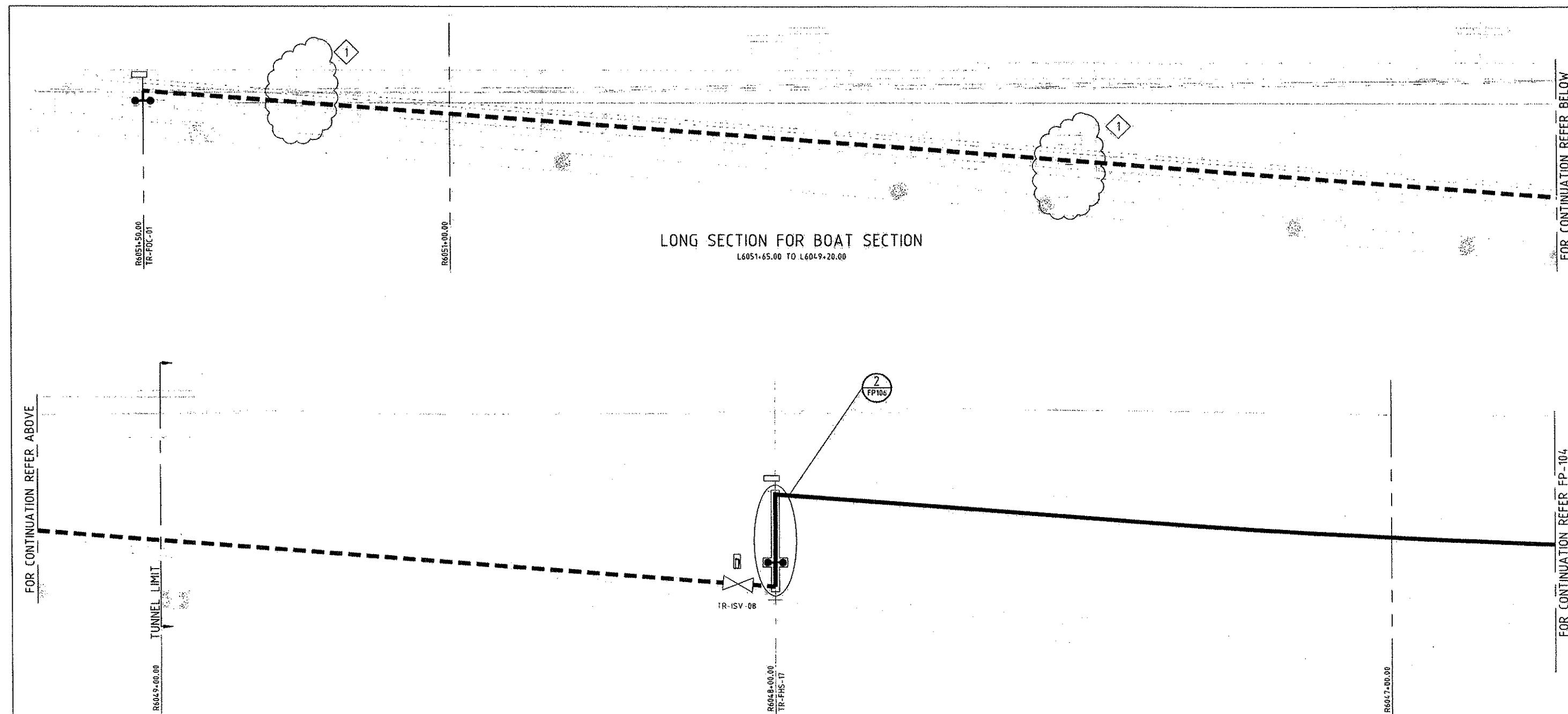
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925

AUGUST 15, 2008

*C. Stacey*  
APPROVED  
DATE

AUGUST 15, 2008

NO.	DATE	DESCRIPTION	REVISIONS
	08/15/08	ADDENDUM 3 - DRAWING MODIFIED	



FOR CONTINUATION REFER ABOVE

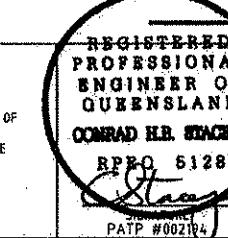
NOTES:

- THE CONTRACTOR SHALL REFER TO SECTION 15885 "TUNNEL DRY STANDPIPE SYSTEM" AND 15884 "TUNNEL FIRE EXTINGUISHERS AND CABINETS" OF THE CONTRACT DOCUMENTS FOR FURTHER DETAILS.
- STANDPIPES SHALL CONFORM TO NFPA 14 CLASS 1 DRY SYSTEM, MINIMUM FLOW RATE OF 500gpm AT 100ps; AT THE HYDRAULICALLY MOST REMOTE HYDRANT LOCATION.
- EXTINGUISHERS SHALL CONFORM TO NFPA 10 CLASS C.
- REFER TO TYPICAL DETAILS (DRAWING FP-106) FOR FURTHER INFORMATION.
- THE FILL TIME FOR THE DRY STANDPIPE SYSTEM SHALL NOT EXCEED 10 MINUTES.

**MAUNSELL | AECOM**  
*C. Stacey*  
 Maunsell Australia Pty Ltd A.B.N. 20 093 846 925  
 APPROVED  
 AUGUST 15, 2008  
 DATE

08/15/08	ADDENDUM 3 - DRAWING MODIFIED
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.



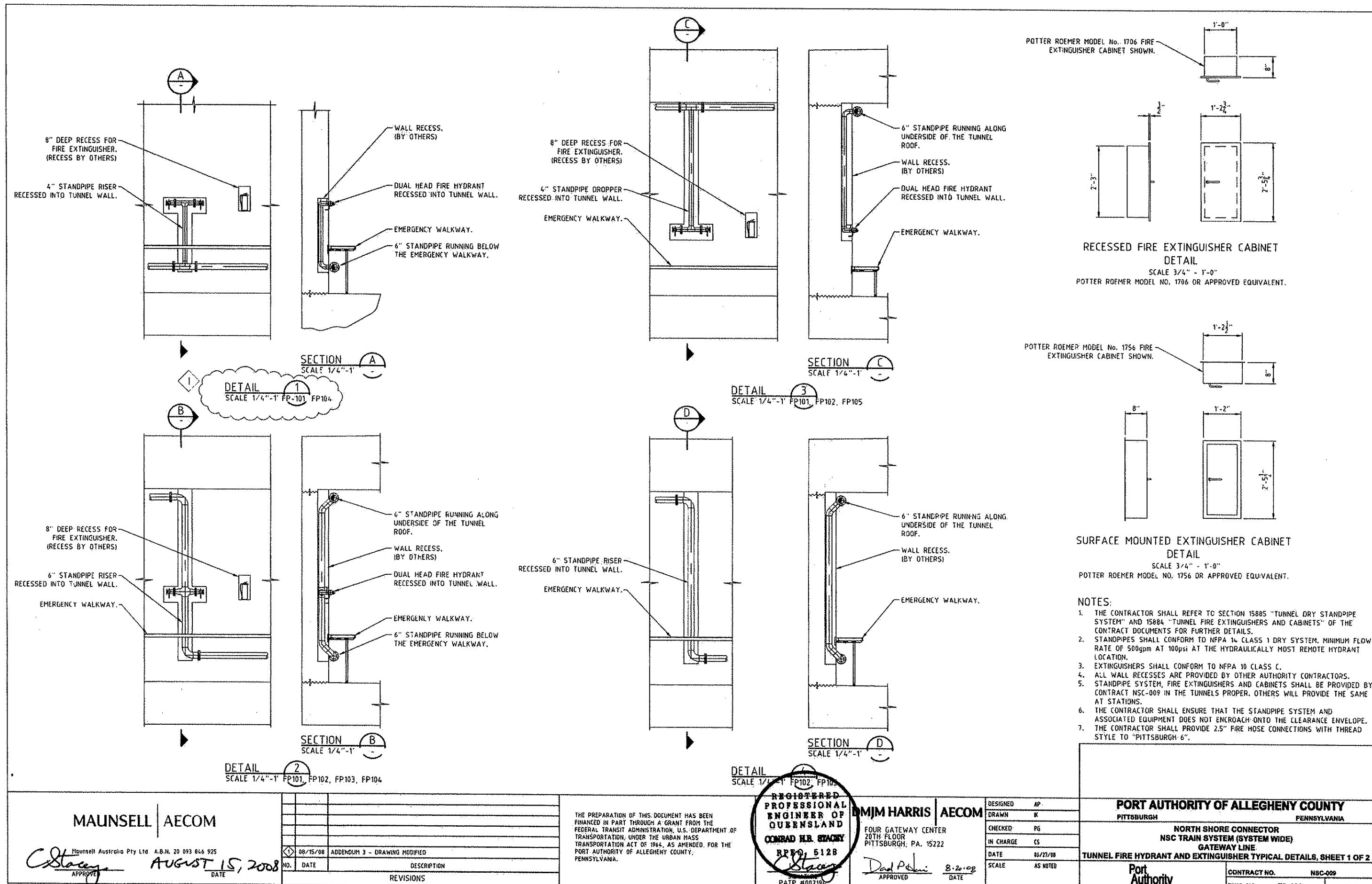
**DMJ HARRIS | AECOM**  
*David Harris*  
 REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND  
 CONRAD H. HANLEY  
 RPQ# 6128  
 PATP #002104

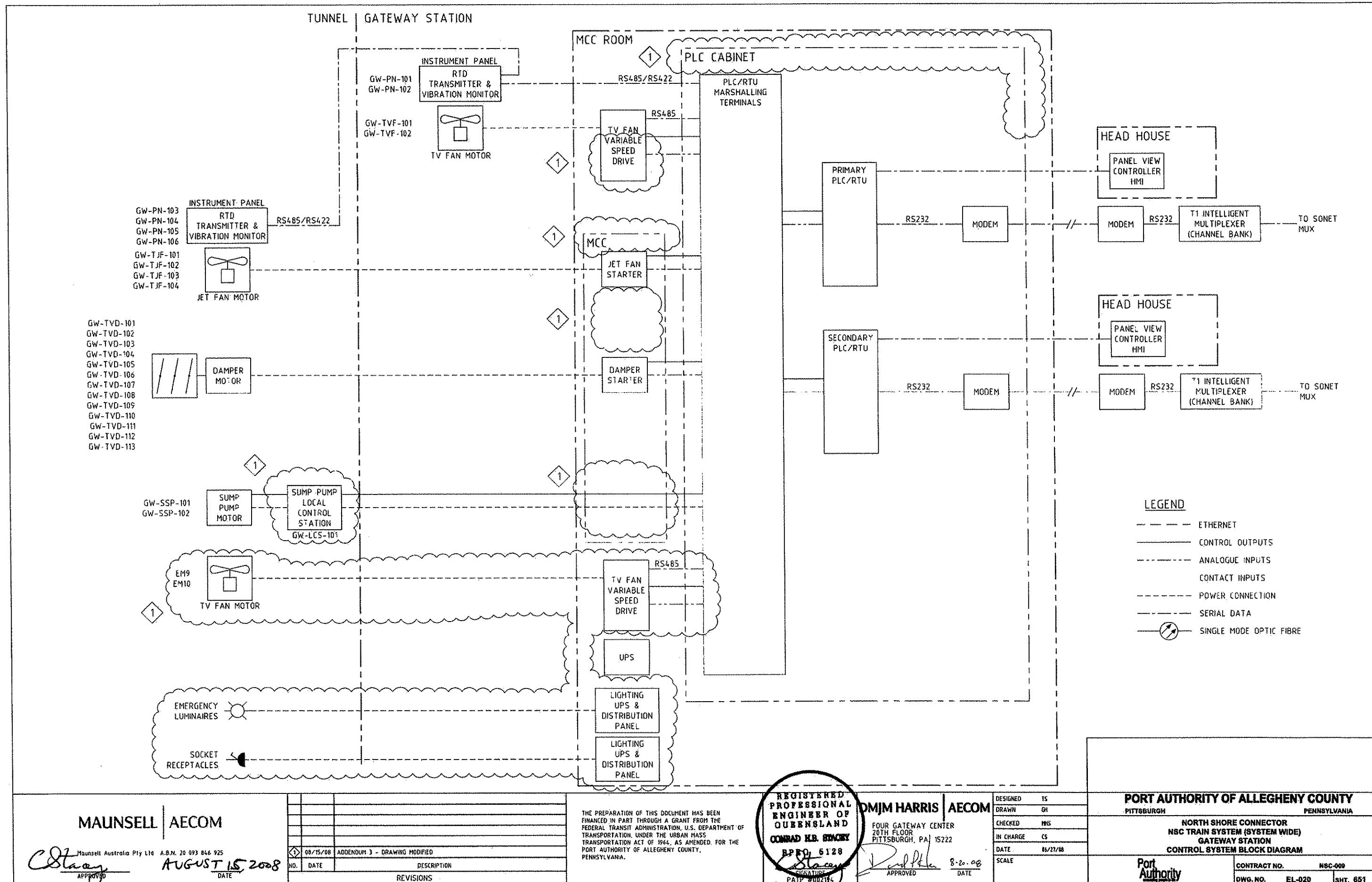
DESIGNED AP  
 DRAWN IX  
 CHECKED PG  
 IN CHARGE LS  
 DATE 08/27/08  
 SCALE 1/8" - 1'-0"

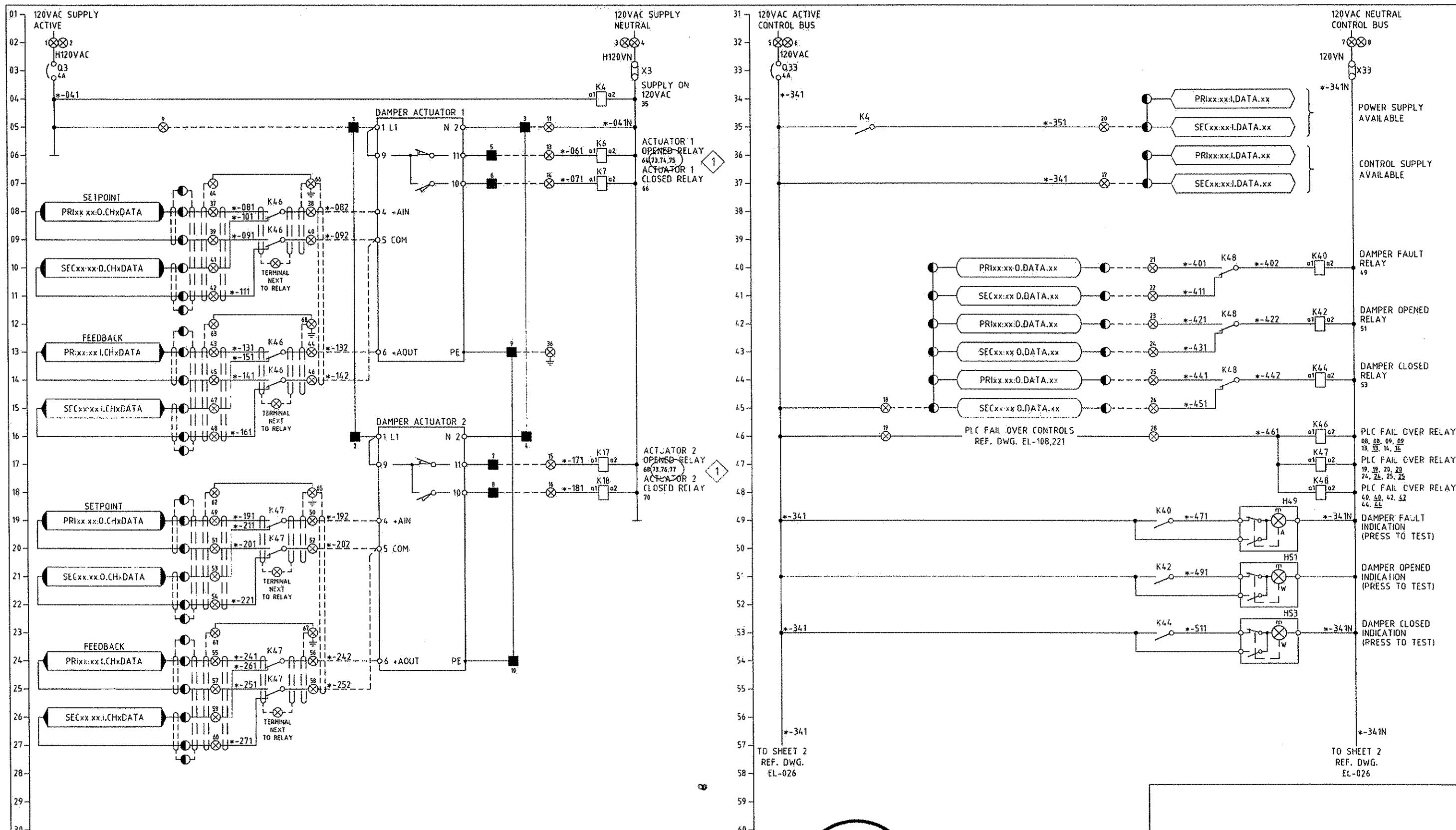
**PORT AUTHORITY OF ALLEGHENY COUNTY**  
 PITTSBURGH  
 PENNSYLVANIA  
 NORTH SHORE CONNECTOR  
 NSC TRAIN SYSTEM (SYSTEM WIDE)  
 GATEWAY LINE  
 TUNNEL FIRE HYDRANT LONG SECTIONS, SHEET 1 OF 3  
**Port Authority**  
 CONTRACT NO. NSC-009  
 DWG. NO. FP-103  
 SHT. 611

FOR CONTINUATION REFER BELOW

FOR CONTINUATION REFER FP-104







MAUNSELL | AECON

*C. Stay* AUGUST 15, 2000  
APPROVED DATE

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.

**RED  
ONAL  
R. OF  
LAND  
STACEY**

**OMJM HARRIS | AECON**

FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222

*Dolf P. Stacey*

APPROVED

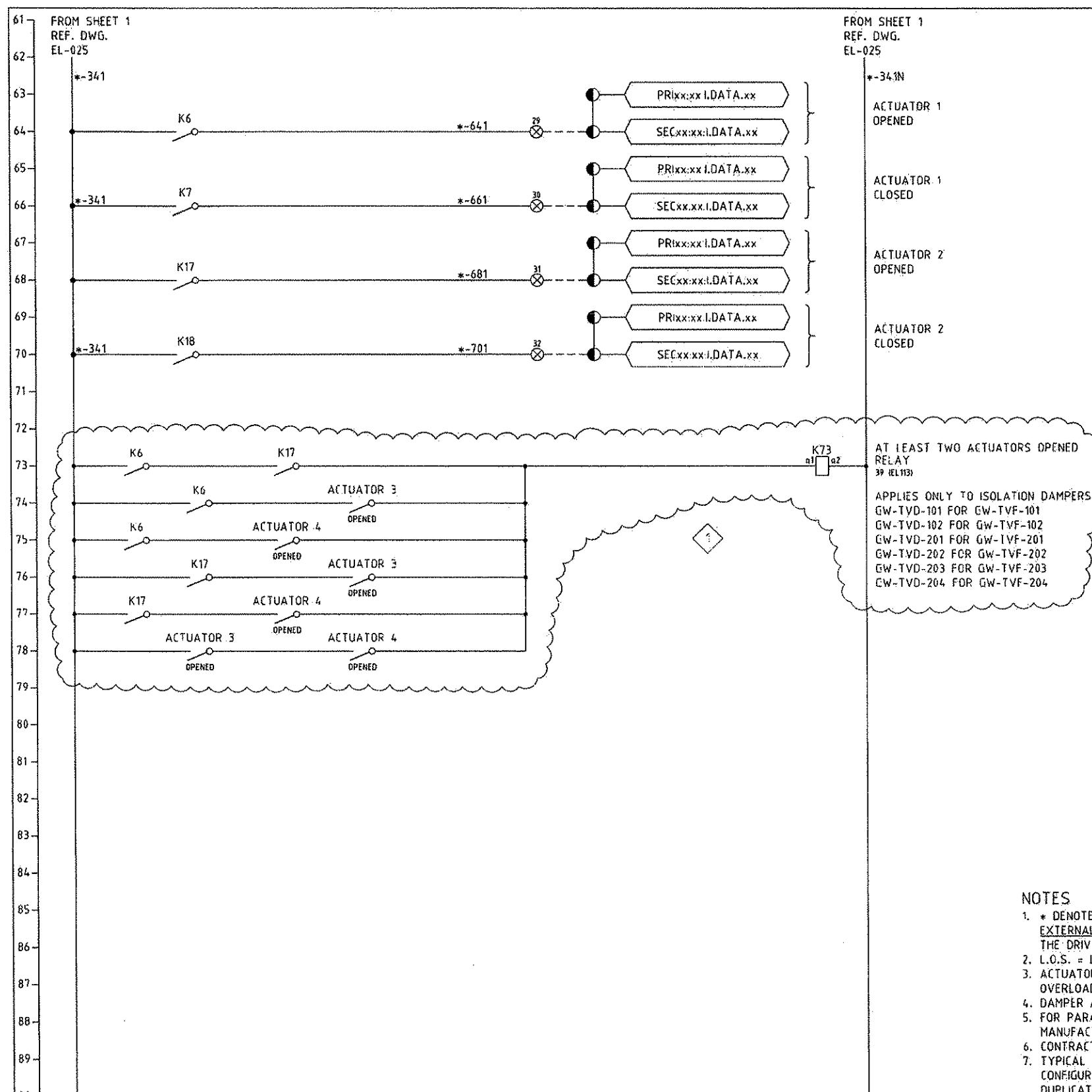
8-20-02  
DATE

**PORT AUTHORITY OF ALLEGHENY COUNTY**  
 PITTSBURGH PENNSYLVANIA

---

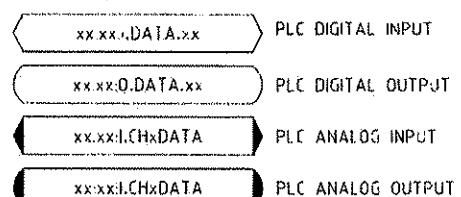
**NORTH SHORE CONNECTOR  
 NSC TRAIN SYSTEM (SYSTEM WIDE)  
 TUNNEL VENTILATION**

**TYPICAL MODULATING DAMPER CONTROL SCHEMATICS SHEET 1 OF 1**



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



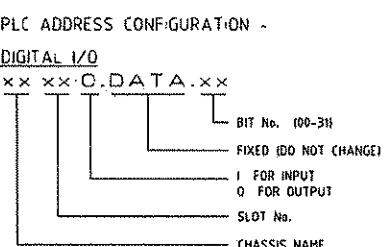
- PLC MARSHALLING CABINET TERMINAL
- ⊗ MCC TERMINAL

■ LOCAL CONTROL STATION (LCS) TERMINAL

## NOTES

- NOTES

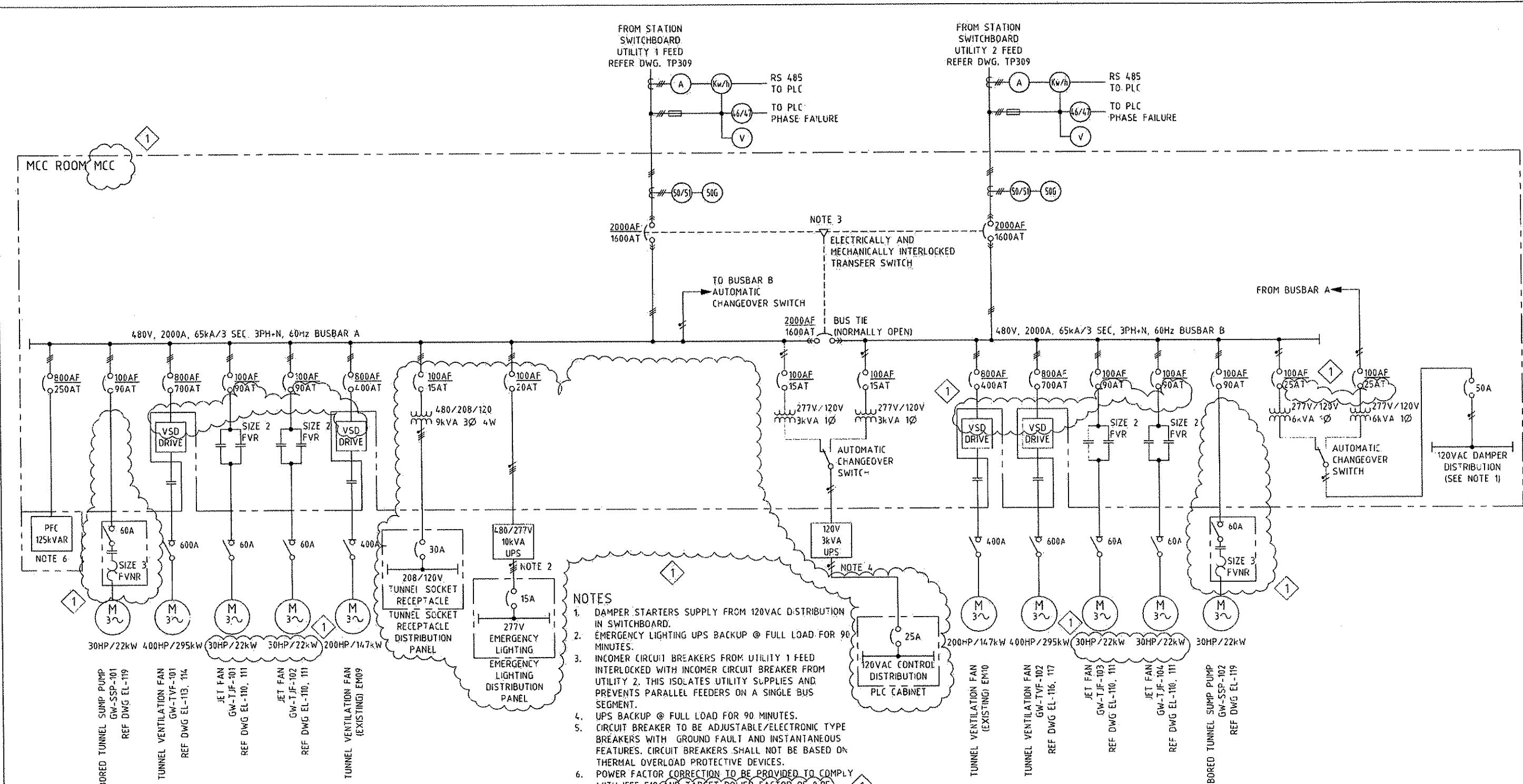
  - \* DENOTES DRIVE FERRULE PREFIX. ALL WIRING EXTERNAL TO MCC MODULES SHALL BE PREFIXED WITH THE DRIVE NUMBER e.g. \*-121 BECOMES xxx-yyy-zzz-121.
  - L.O.S. = LOCK OUT STOP
  - ACTUATOR TO COMPLY WITH NFPA130 - THERMAL OVERLOAD BYPASSED.
  - DAMPER ACTUATOR TO BE RCS SURE 100-10
  - FOR PARALLELLING 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 ~~SCHEMATIC~~ STATE 2 ACTUATOR CONFIGURATION



**PORT AUTHORITY OF ALLEGHENY COUNTY**  
PITTSBURGH, PENNSYLVANIA

**NORTH SHORE CONNECTOR  
RAIN SYSTEM (SYSTEM WIDE)  
TUNNEL VENTILATION**

TUNNEL VENTILATION  
VAL MODULATING DAMPER CONTROL SCHEMATICS SHEET 2 OF 2



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.

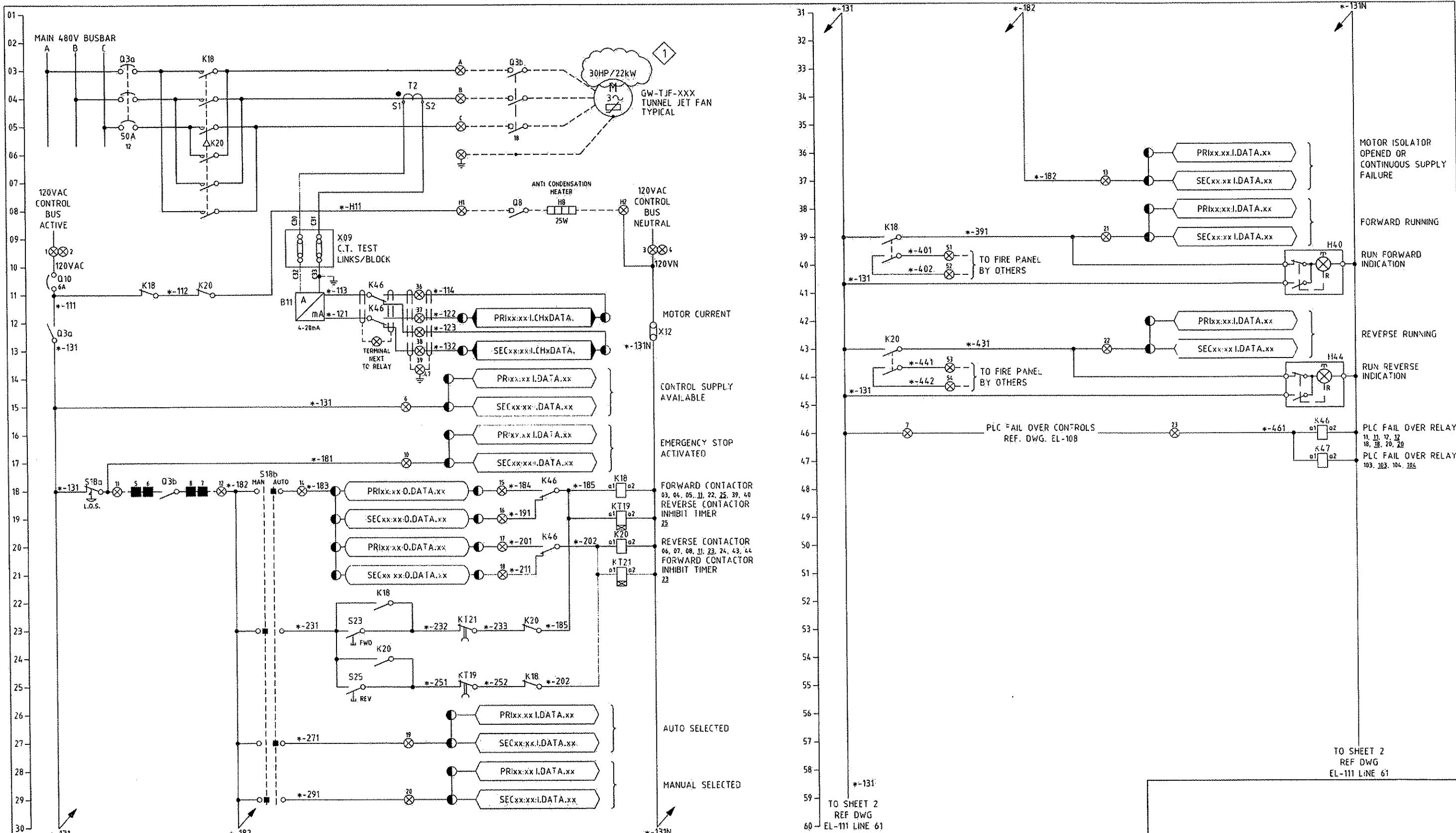
**AECOM**  
TER  
222  
8-20-08  
DATE

**PORT AUTHORITY OF ALLEGHENY COUNTY**  
**PITTSBURGH** **PENNSYLVANIA**

---

**NORTH SHORE CONNECTOR  
 NSC TRAIN SYSTEM (SYSTEM WIDE)  
 GATEWAY STATION  
 OVERALL POWER SLD CONTRIBUTION**

			
 Maunsell Australia Pty Ltd A.B.N. 20 093 846 925		<input checked="" type="checkbox"/> 08/15/08 ADDENDUM 3 - DRAWING MODIFIED	
<b>AUGUST 15, 2008</b> <small>DATE</small>		NO.      DATE	DESCRIPTION
		REVISIONS	



MAUNSELL | AECOM

Mounsell Australia Pty Ltd A.B.N. 20 093 846 921

NO.	DATE	DESCRIPTION	REVISIONS
1	08/15/08	ADDENDUM 3 - DRAWING MODIFIED	

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

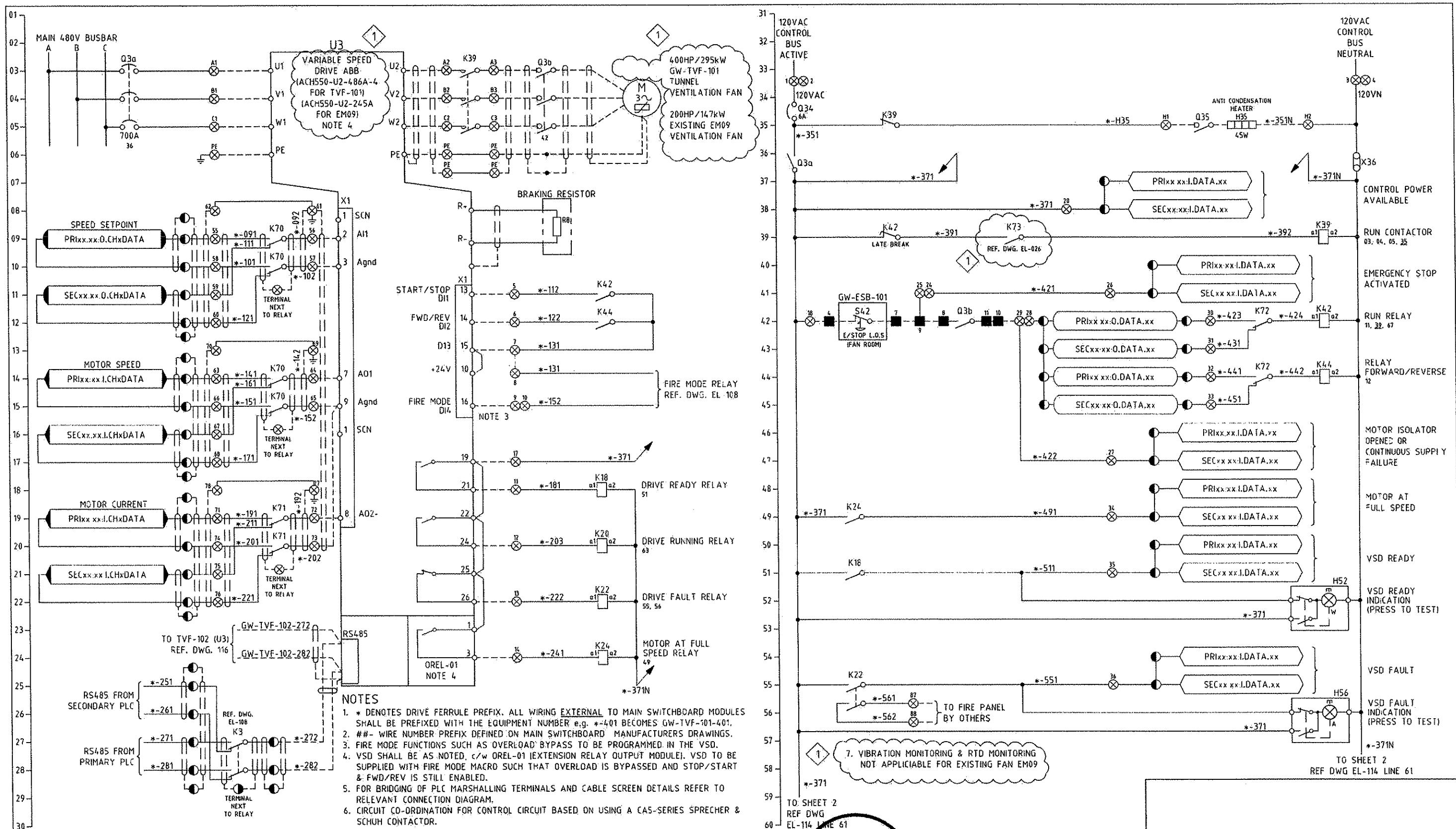
**PORT AUTHORITY OF ALLEGHENY COUNTY**  
 PITTSBURGH PENNSYLVANIA

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

**GW-T8-101 - 104 TUNNEL ET FAN ELECTRICAL SCHEMATIC DIA. SHT 1 OF 2**

<b>Port Authority</b> <small>TRANSPORTATION &amp; CONSTRUCTION</small>	<b>CONTRACT NO.</b> <b>NSC-009</b>
<b>DWG. NO.</b>	<b>EL-110</b>
	<b>SHT. 663</b>





MAUNSELL | AECOM

*C. Stacey* AUGUST 15, 2008  
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925  
APPROVED DATE

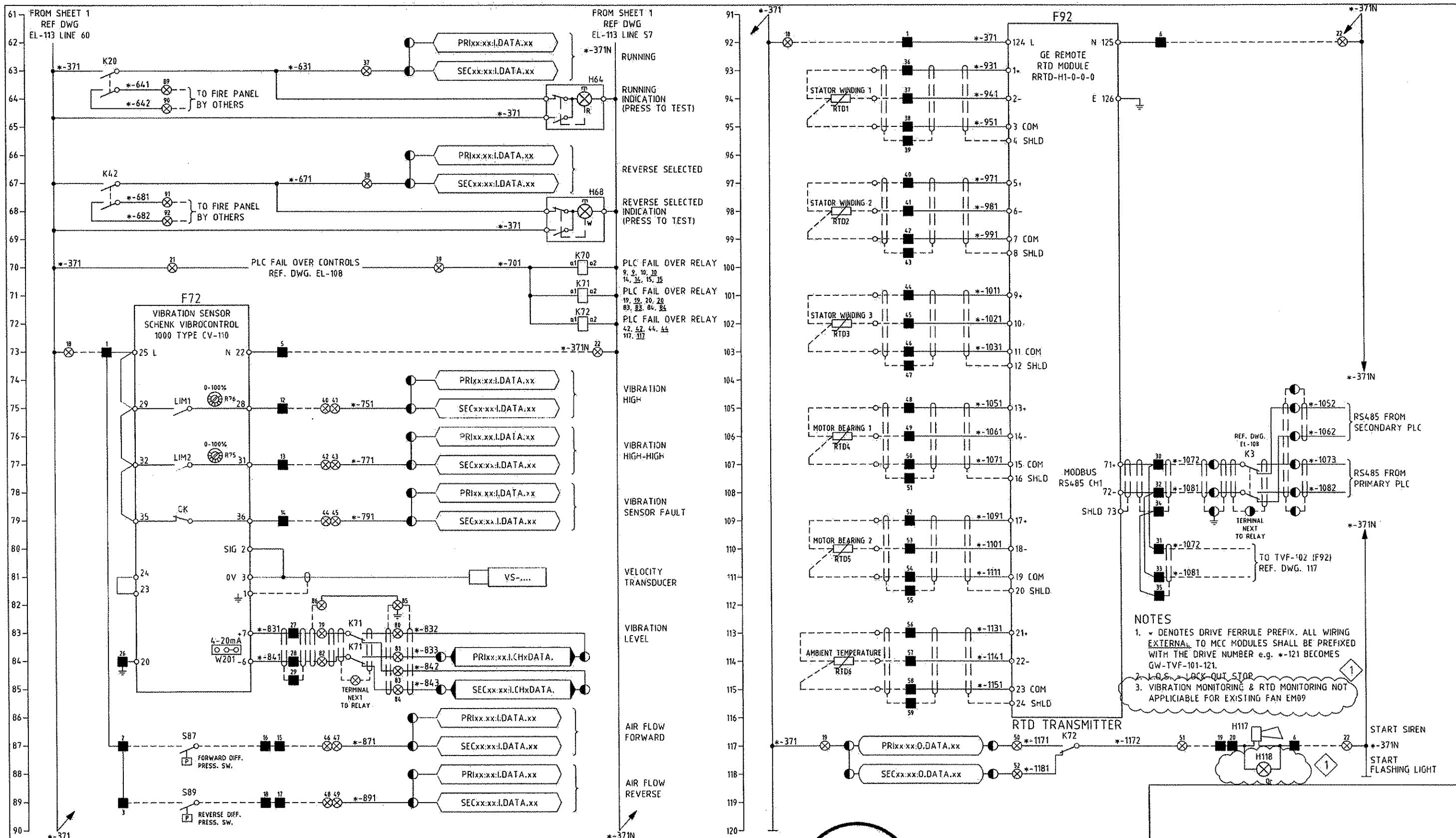
08/15/08 ADDENDUM 3 - DRAWING MODIFIED  
NO. DATE DESCRIPTION  
REVISIONS

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.

REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND CONRAD H.B. STACEY E.P.E.O. 5128  
*C. Stacey* APPROVED DATE  
PATP #002194

DMJM HARRIS | AECOM  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222  
*D. D. Harris* APPROVED DATE  
8/20/08  
SIGNATURE  
PATP #002194

PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH PENNSYLVANIA  
NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
GATEWAY STATION  
GW-TVF-101/EM09 TUNNEL VENT FAN TYPICAL ELEC. SCH. DIA. SHT 1 OF 2  
Port Authority CONTRACT NO. NSC-009  
DWG. NO. EL-113 BHT. 666



MAUNSELL | AECOM

Stacey APPROVED

AUGUST 15, 2008

DATE

REVISIONS

08/15/08 ADDENDUM 3 - DRAWING MODIFIED

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.

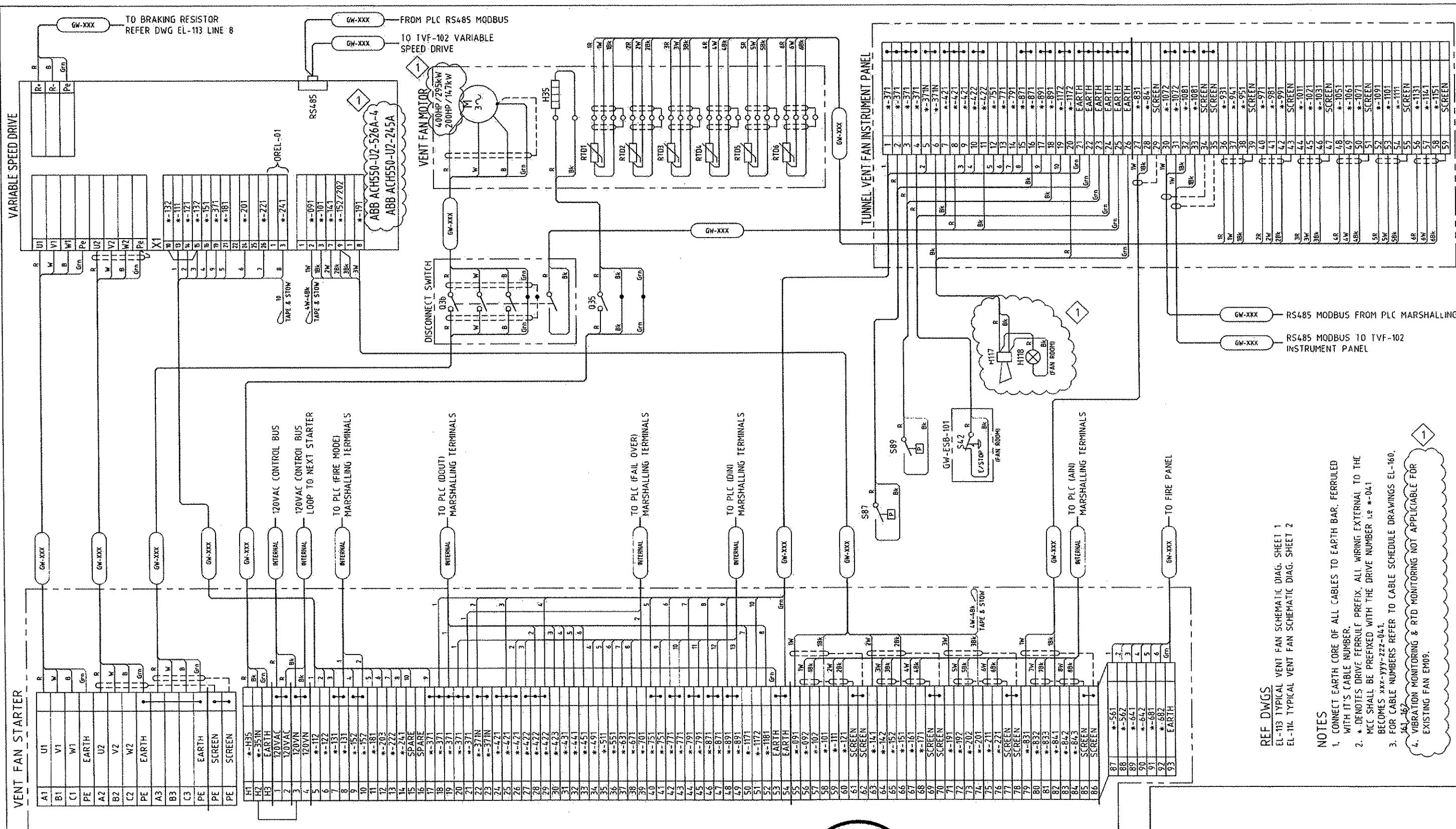
REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND CONRAD H.B. STACEY RPQG 5128

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

Dad P. APPROVED 8-19-08 DATE

PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH PENNSYLVANIA NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) GATEWAY STATION GW-TVF-101/EM09 TUNNEL VENT FAN TYPICAL ELEC. SCH. DIA. SHT 2 OF 2

Port Authority CONTRACT NO. NSC-009 DWG. NO. EL-114 SHT. 667



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.

<b>REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND</b>  <b>DAD H.B. STACEY</b>  <u>LPEO 5128</u>  <u>Stacey</u> <small>Signature</small> <u>PATP #00194</u>		<b>DMJM HARRIS</b>   <b>AECOM</b>  FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222  <u>Dad Stacey</u> APPROVED <span style="float: right;">8-20-08</span> <span style="float: right;">DATE</span>
--	--	---

<b>PORT AUTHORITY OF ALLEGHENY COUNTY</b>	
<b>PITTSBURGH</b>	<b>PENNSYLVANIA</b>
<b>NORTH SHORE CONNECTOR</b> <b>NSC TRAIN SYSTEM (SYSTEM WIDE)</b> <b>GATEWAY STATION</b>	
GW-TVF-101/EM09 TUNNEL VENT FAN TYPICAL ELEC. CONNECTION DIAGRAM	
<b>Port</b>	CONTRACT NO. NSC-009

MAUNSELL AECOM

C. Stacey Maunsell Australia Pty Ltd A.B.N. 20 092 846 925  
APPROVED AUGUST 11 D.

	08/15/08	ADDENDUM 3
NO.	DATE	

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.

	<b>DMJ HARRIS</b>   <b>AECOM</b> FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222
<i>Stacey</i> APPROVAL SIGNATURE DATE	<u>Daryl A. Stacey</u> APPROVED 8-20-08 DATE

<b>PORT AUTHORITY OF ALLEGHENY COUNTY</b>	
<b>PITTSBURGH</b>	<b>PENNSYLVANIA</b>
<b>NORTH SHORE CONNECTOR</b> <b>NSC TRAIN SYSTEM (SYSTEM WIDE)</b> <b>GATEWAY STATION</b>	
GW-TVF-101/EM09 TUNNEL VENT FAN TYPICAL ELEC. CONNECTION DIAGRAM	
<b>Port</b>	CONTRACT NO. NSC-009

MAUNSELL AECOM

C. Stacey Maunsell Australia Pty Ltd A.B.N. 20 092 846 925  
APPROVED AUGUST 11 D.

	08/15/08	ADDENDUM 3
NO.	DATE	

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.

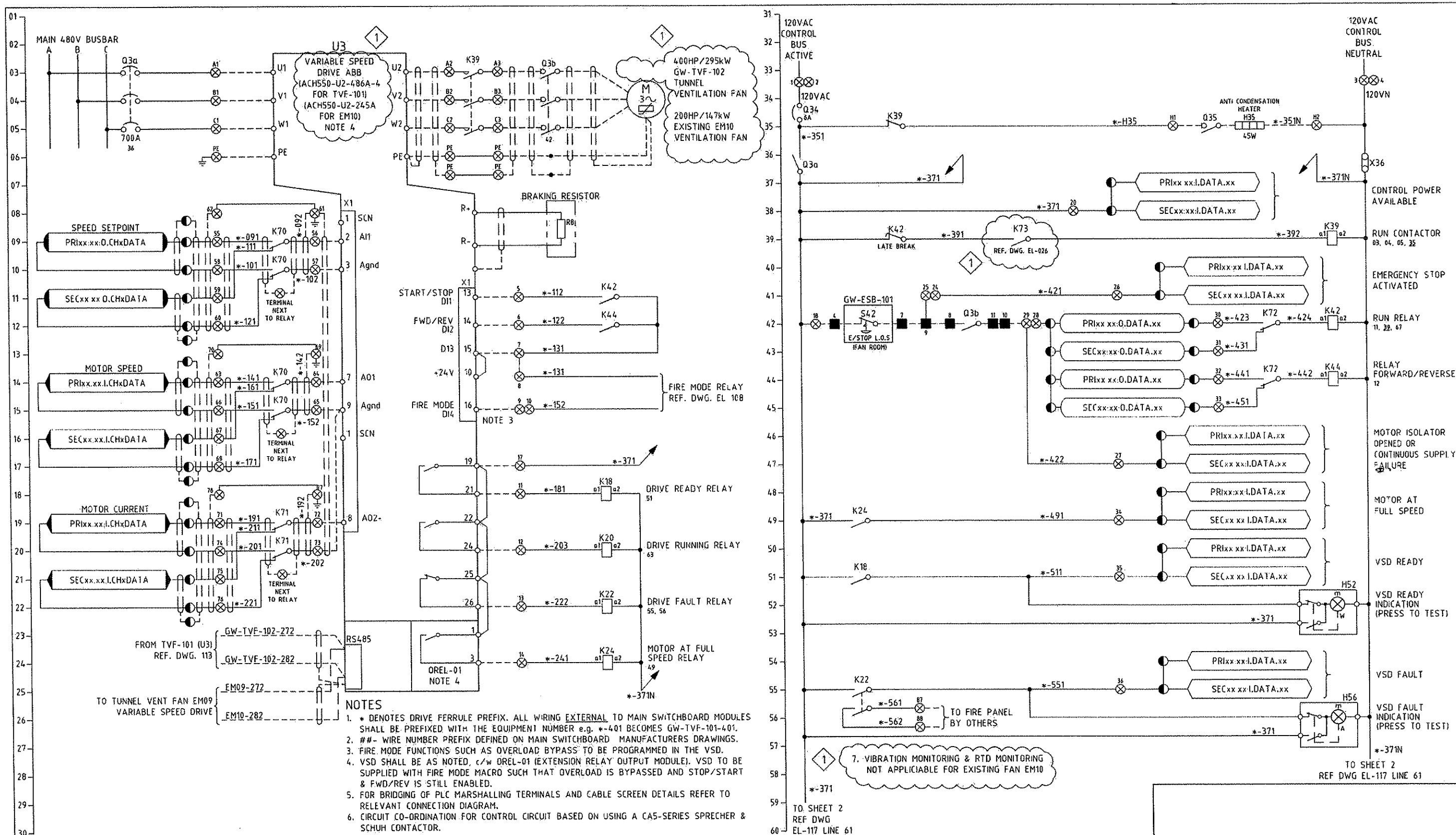
	<b>REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND</b>  <b>DAD H.B. STACEY</b>  <u>LPQ 5128</u> <i>Stacey</i> <small>NOTIFICATION PATP #00194</small>	<b>DMJM HARRIS   AECOM</b>  FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222
---	--	--

<b>PORT AUTHORITY OF ALLEGHENY COUNTY</b>	
<b>PITTSBURGH</b>	<b>PENNSYLVANIA</b>
<b>NORTH SHORE CONNECTOR</b> <b>NSC TRAIN SYSTEM (SYSTEM WIDE)</b> <b>GATEWAY STATION</b>	
GW-TVF-101/EM09 TUNNEL VENT FAN TYPICAL ELEC. CONNECTION DIAGRAM	
<b>Port</b>	CONTRACT NO. NSC-009

MAUNSELL AECOM

C. Stacey Maunsell Australia Pty Ltd A.B.N. 20 092 846 925  
APPROVED AUGUST 11 D.

	08/15/08	ADDENDUM 3
NO.	DATE	



MAUNSELL | AECOM

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

AUGUST 15, 2008

DATE

08/15/08 ADDENDUM 3 - DRAWING MODIFIED

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.

*C. Stacy*  
REGISTERED  
PROFESSIONAL  
ENGINEER OF  
QUEENSLAND  
CONRAD H.R. STACY  
R.P. ENGRATES 28  
PATP #002194

DMJM HARRIS | AECOM

FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222

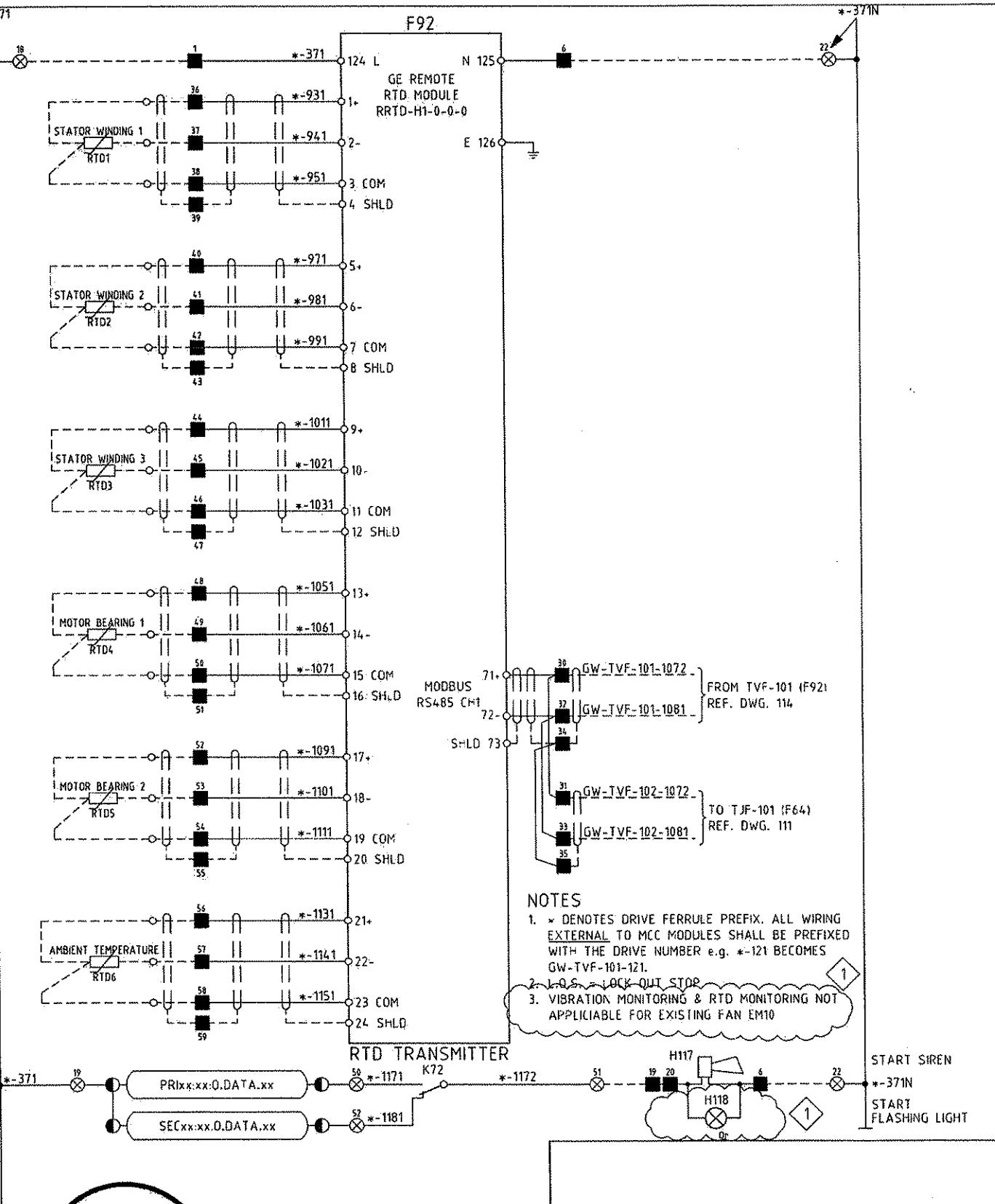
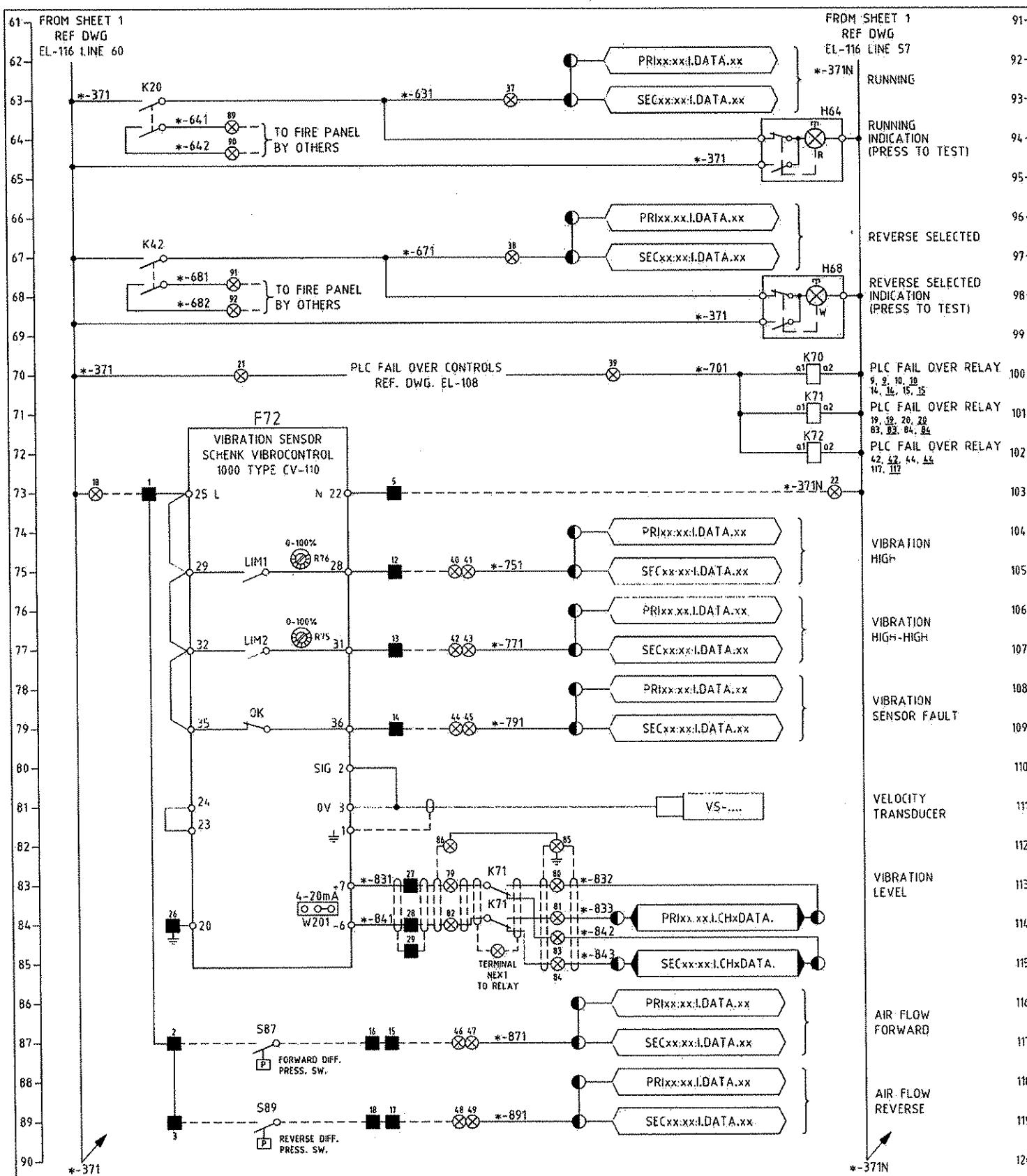
APPROVED  
B. Z. DIA  
DATE  
08/27/08

PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH  
PENNSYLVANIA

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

GW-TVF-102/EM10 TUNNEL VENT FAN TYPICAL ELEC. SCH. DIA. SHT 1 OF 2

Port Authority  
CONTRACT NO. NSC-009  
DWG. NO. EL-116  
SHT. 689



MAUNSELL | AECOM

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

AUGUST 15, 2008

APPROVED

DATE

08/15/08	ADDENDUM 3 - DRAWING MODIFIED
NO. DATE	DESCRIPTION
	REVISIONS

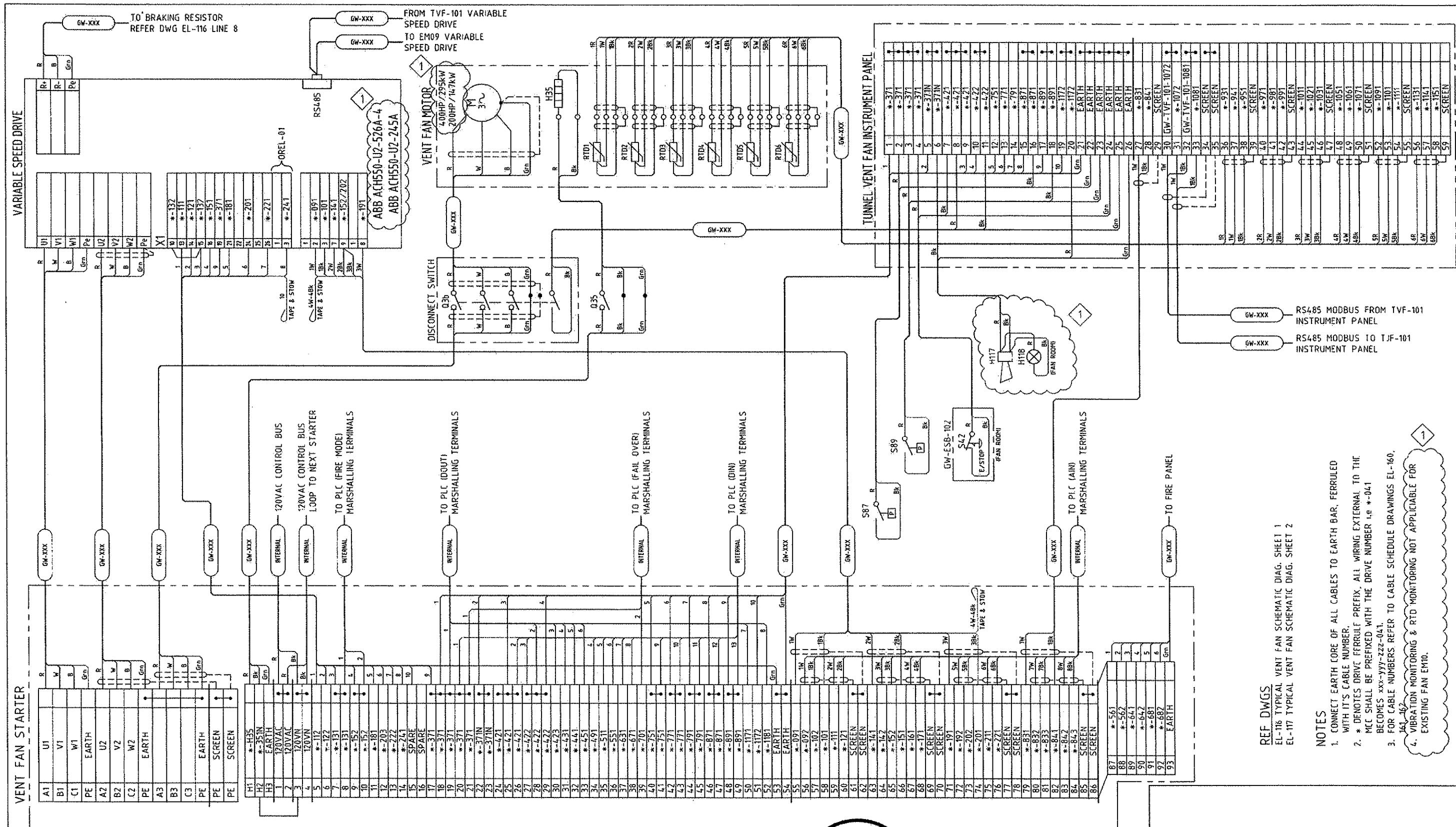
THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED. FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.

REGISTERED  
PROFESSIONAL  
ENGINEER OF  
QUEENSLAND  
CONRAD H.B. STACEY  
RPEQ 5128  
*C. Stacey*  
SIGNATURE  
PATP #00219

MJM HARRIS | AECOM  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222  
*D. P. Stacey*  
SIGNATURE  
PATP #00219

DESIGNED TS  
DRAWN GS  
CHECKED NMS  
IN CHARGE CS  
DATE 08/21/08  
SCALE

PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH  
PENNSYLVANIA  
NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
GATEWAY STATION  
GW-TVF-102/EM10 TUNNEL VENT FAN TYPICAL ELEC. SCH. DIA. SHT 2 OF 2  
Port Authority  
CONTRACT NO. NSC-009  
DWG. NO. EL-117  
SHT. 670



MAUNSELL | AECOM

Mounsell Australia Pty Ltd A.B.N. 20 093 846 9

ltd A.B.N. 20 093 846 925  
AUGUST 15, 20

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.

<p>REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND</p> <p><b>CONRAD H.B. STACEY</b></p> <p>BPB# 5128</p> <p><i>Stacey</i></p> <p>SIGNATURE</p> <p>PAIP #002194</p>	<p><b>DMJM HARRIS   AEC</b></p> <p>FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222</p> <p><i>Daniel Dohle</i></p> <p>APPROVED</p> <p>8-20 DAT</p>
---	--

**PORT AUTHORITY OF ALLEGHENY COUNTY**  
PITTSBURGH PENNSYLVANIA  
**NORTH SHORE CONNECTOR**  
**NSC TRAIN SYSTEM (SYSTEM WIDE)**  
**GATEWAY STATION**  
**GW-TVF-102/EM10 TUNNEL VENT FAN TYPICAL ELEC. CONNECTION DIA.**

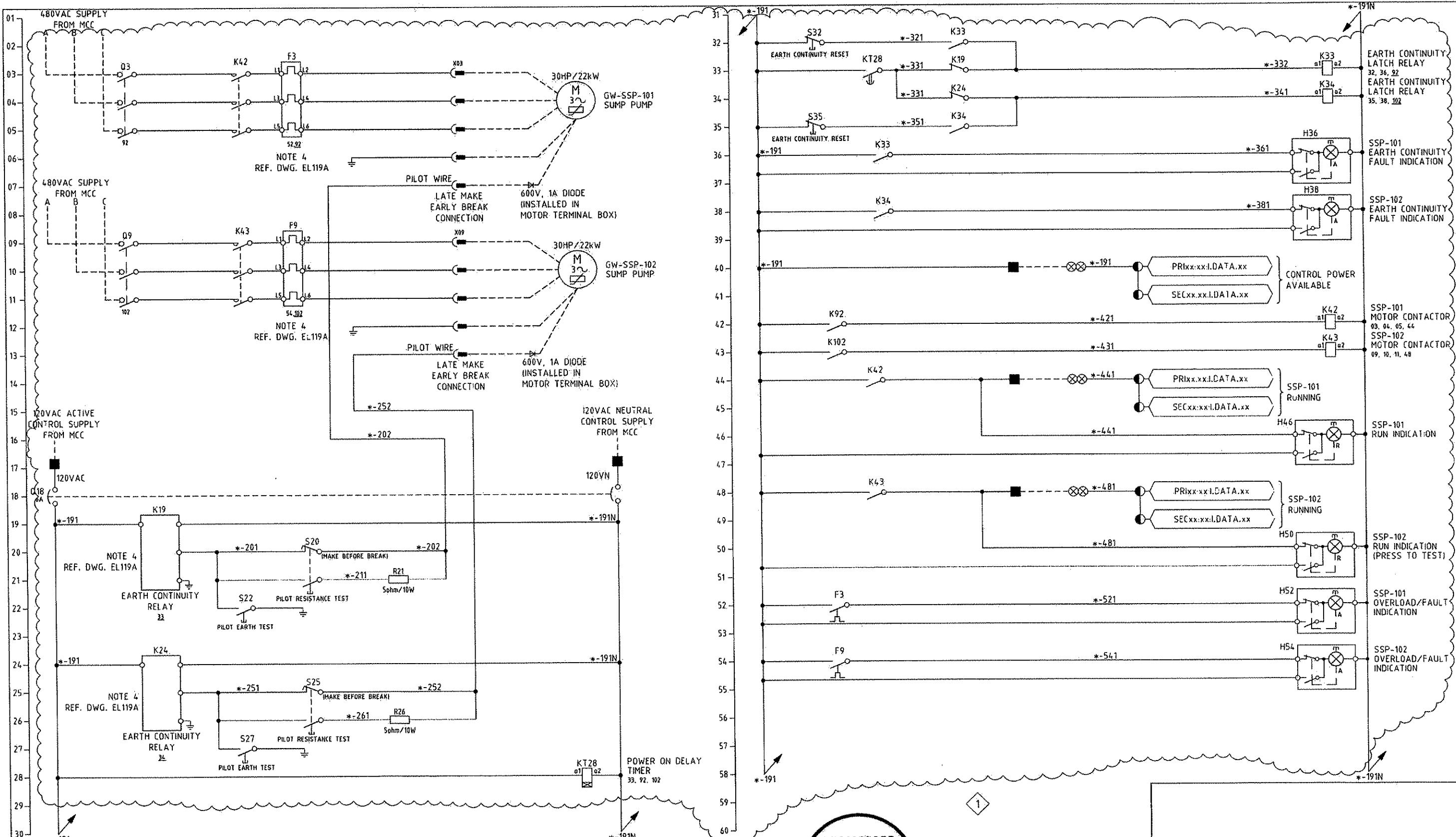
- NOTES**

CONNECT EARTH CORE OF ALL CABLES TO EARTH BAR, FERRULED WITH ITS CABLE NUMBER.

\* DENOTES DRIVE FERRULE PREFIX. ALL WIRING EXTERNAL TO THE MCU SHALL BE PREPARED WITH THE DRIVE NUMBER 1.e \*-041 BECOMES XXX-YYY-ZZZZ-041.

FOR CABLE NUMBERS REFER TO CABLE SCHEDULE DRAWINGS EL-160 161, 162

VIBRATION MONITORING & RTD MONITORING NOT APPLICABLE FOR EVICTING FAN FAN



MAUNSELL | AECOM

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

AUGUST 15, 2008

APPROVED

DATE

08/15/08 ADDENDUM 3 - DRAWING MODIFIED

NO. DATE DESCRIPTION

REVISIONS

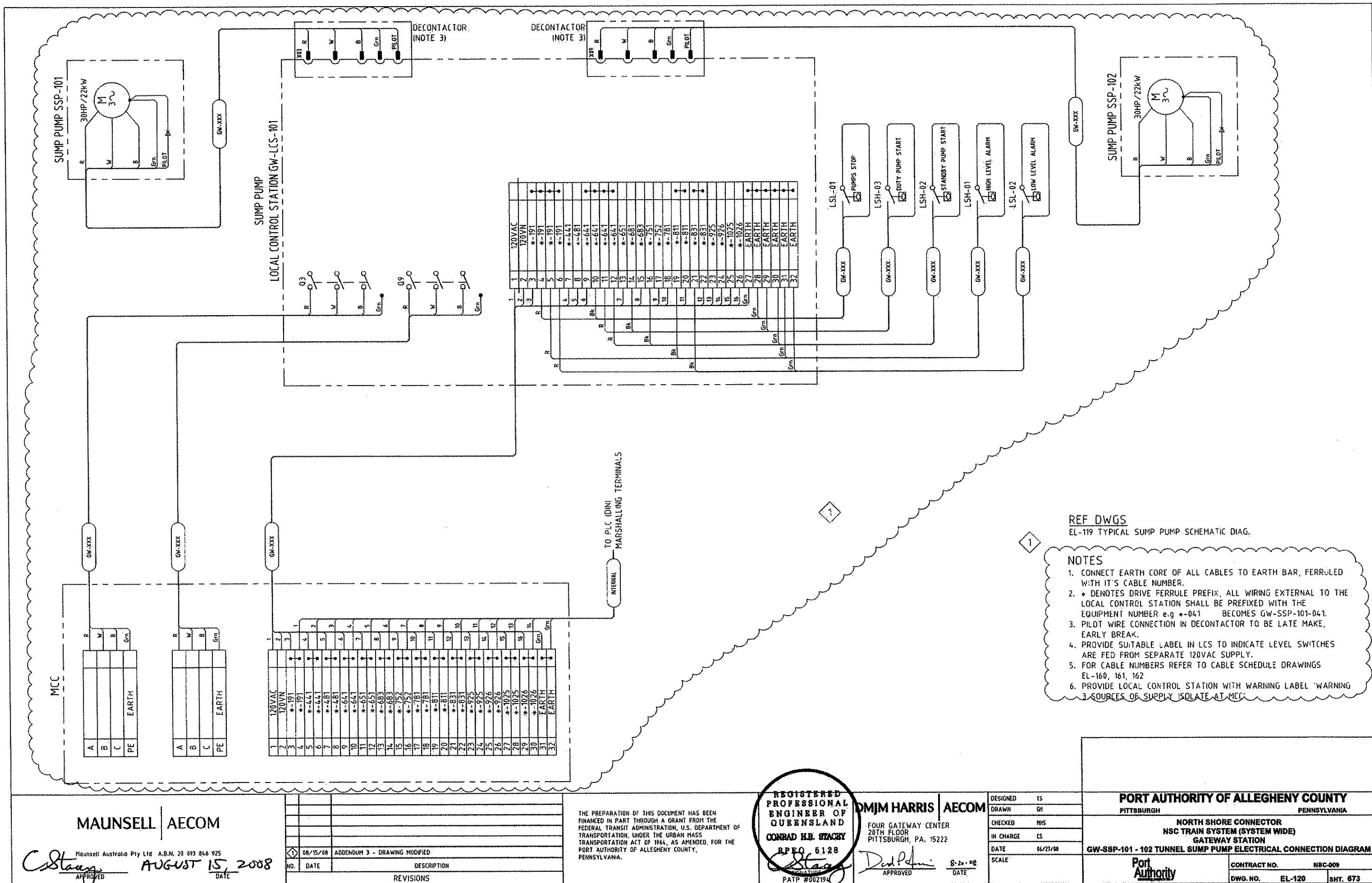
THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.

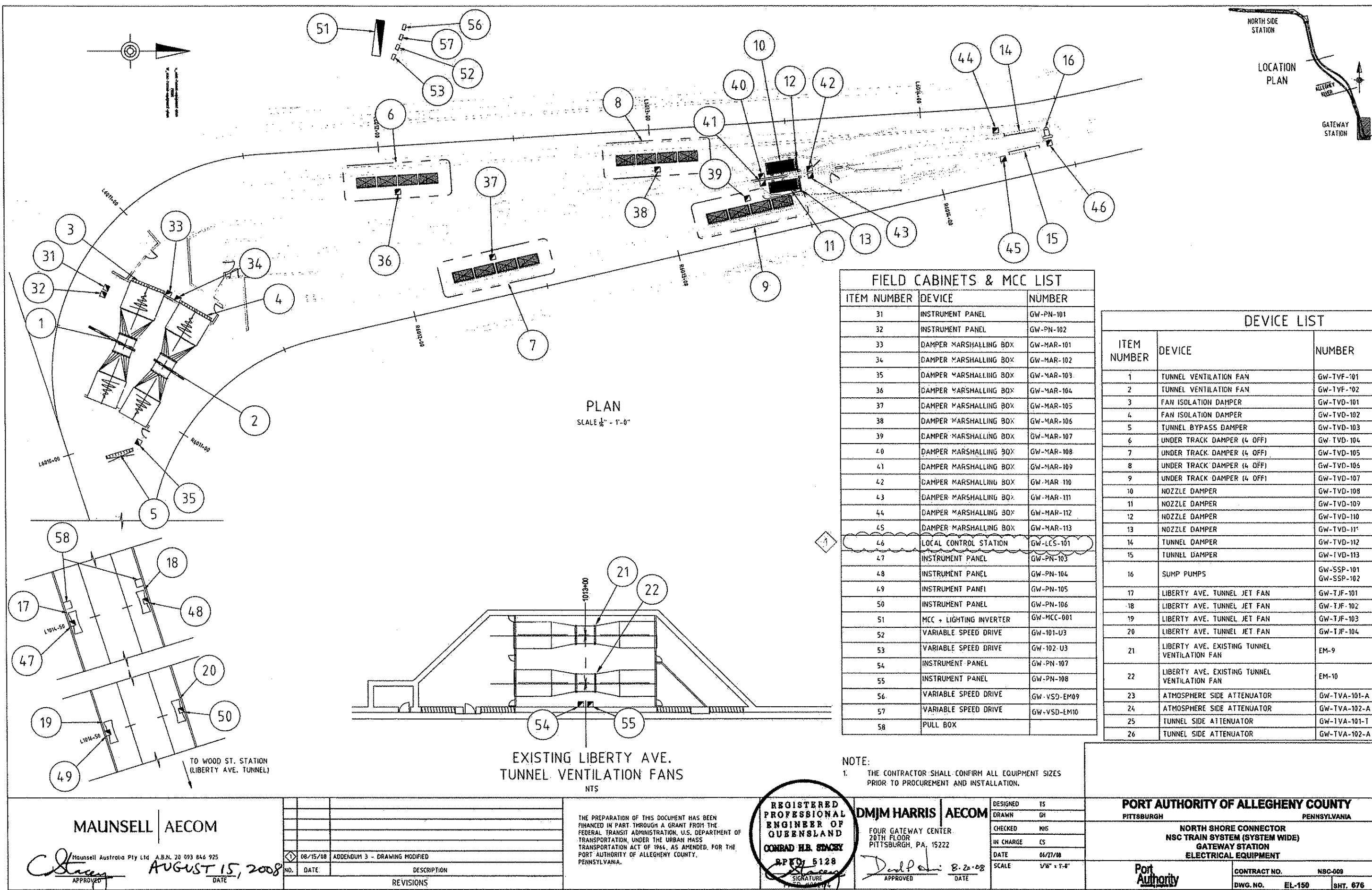
REGISTERED  
PROFESSIONAL  
ENGINEER OF  
QUEENSLAND  
CONRAD H. STACEY  
RPEQ 5128  
C. Stacey  
SIGNATURE  
PATP #002196

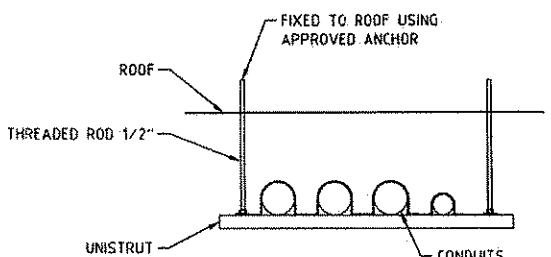
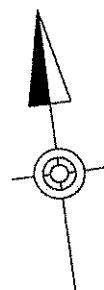
DMJM HARRIS | AECOM  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222  
D. D. O'Brien  
SIGNATURE  
APPROVED  
B-20-08  
DATE

PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH  
NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
GATEWAY STATION  
GW-SSP-101 - 102 TUNNEL SUMP PUMP SCHEMATIC DIAGRAM SHEET 1 OF 2

Port Authority  
CONTRACT NO. N8C-009  
DWG. NO. EL-119 SHT. 672



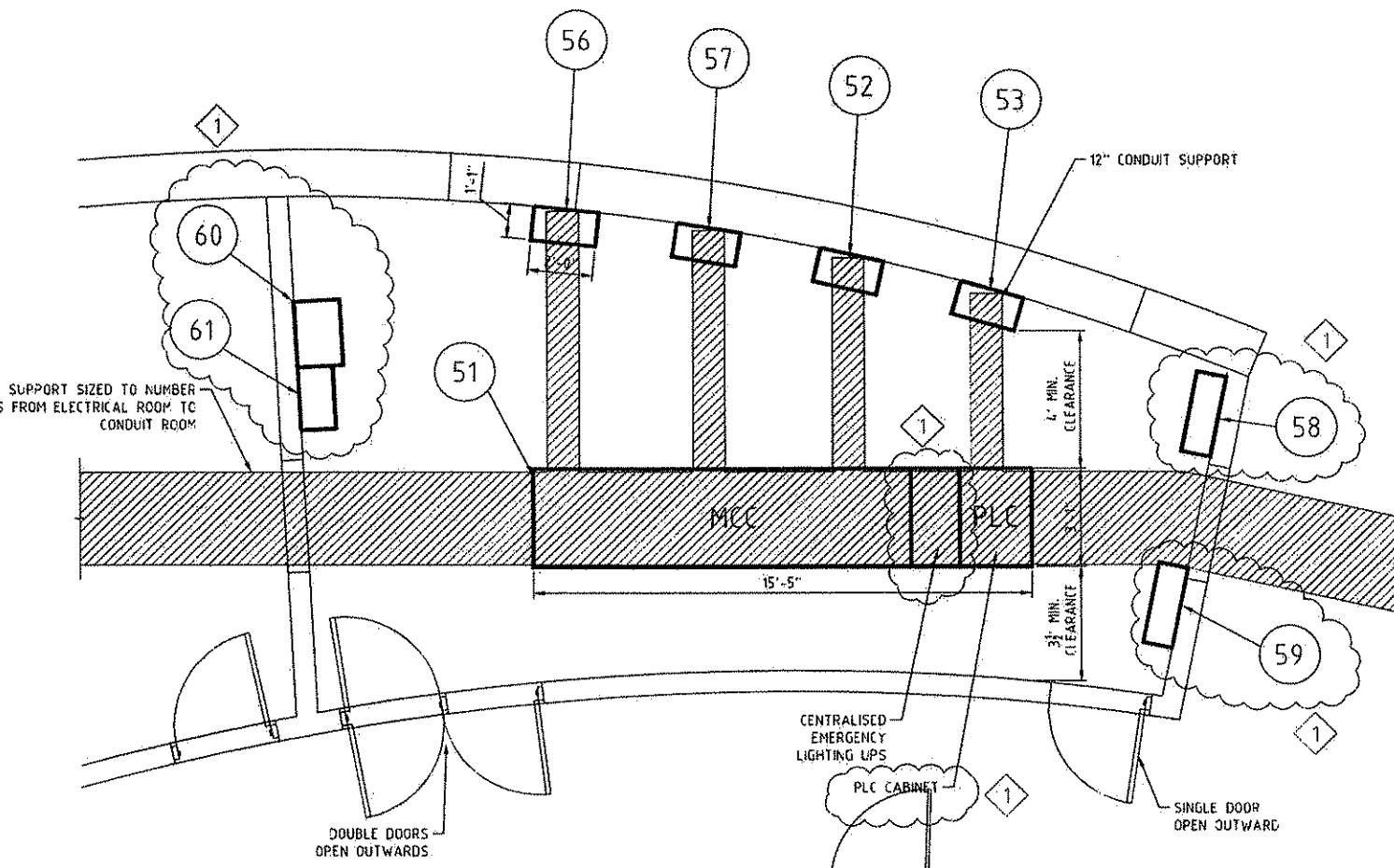




CONDUIT SUPPORT DETAIL  
SCALE N.T.S.

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
58	EMERGENCY LIGHTING DISTRIBUTION PANEL	GW-ELDP-100
59	TUNNEL SOCKET RECEPTACLE DISTRIBUTION PANEL	GW-DP-100
60	CONTROL UPS	GW-UPS-100
61	BATTERY CABINET	GW-UPS-101



MCC ROOM E114 PLAN

SCALE 3/8" = 1'-0"

MAUNSELL | AECOM

C. Stacey  
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925  
AUGUST 15, 2008  
APPROVED  
DATE

08/15/08	ADDENDUM 3 - DRAWING MODIFIED
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.

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

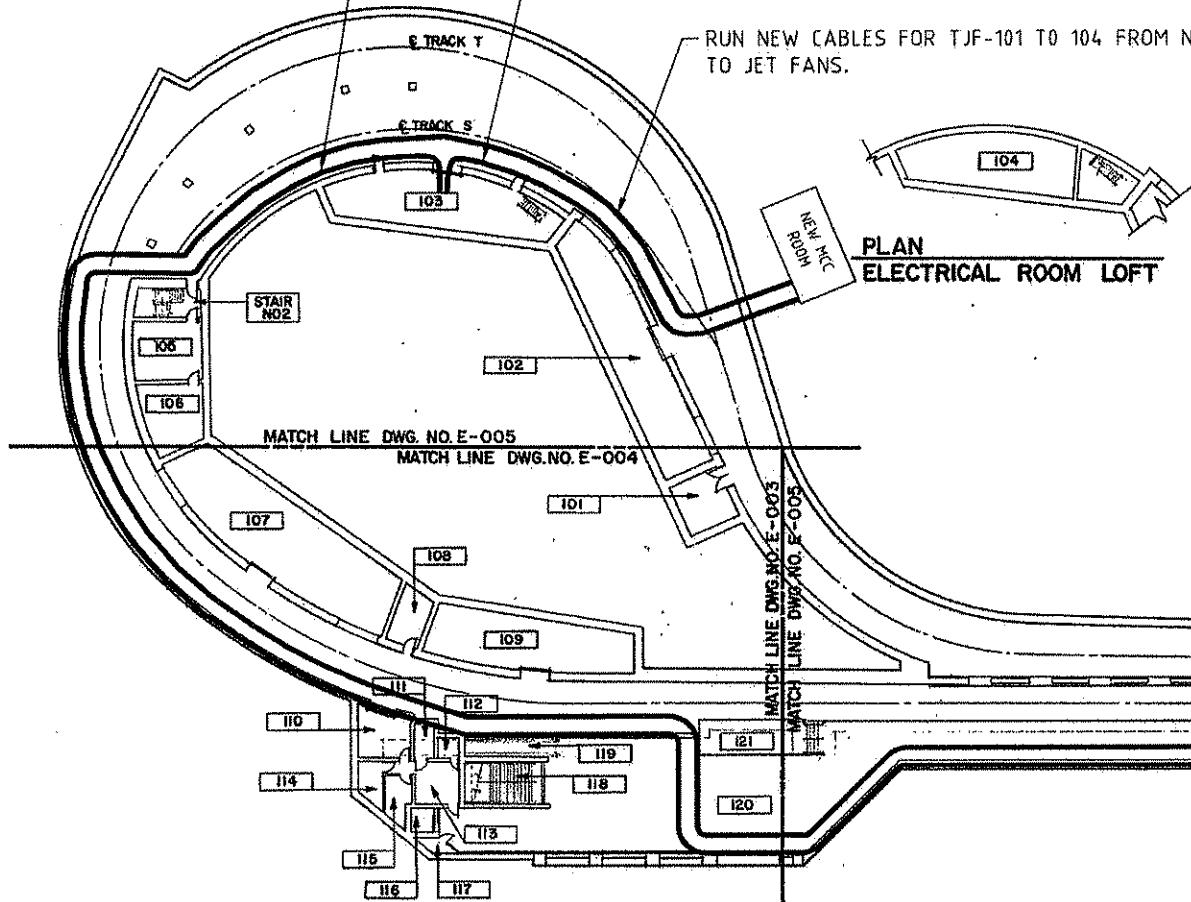
DMJM HARRIS | AECOM  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222  
DRAFTED BY  
APPROVED  
DATE  
8-20-08  
SIGNATURE  
PATP #002194

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

✓ RUN NEW CABLES FOR EM09 AND EM10 AS PER CABLE SCHEDULE IN CONTRACT DRAWING EL160, 161, 162, DURING CONSTRUCTION PHASE.  
TERMINATE TO EXISTING STARTER AND CONTROLS.

RUN NEW CABLE FROM NEW MCC ROOM TO ROOM 103. SPLIC POWER CABLE RUN DURING CONSTRUCTION TO THIS SECTION OF NEW CABLE.

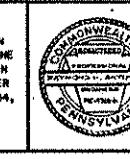
RUN NEW CABLES FOR TJF-101 TO 104 FROM NEW MCC ROOM TO JET FANS.



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

## PLAN PLATFORM LEVEL

THE PREPARATION OF THIS DRAWING HAS BEEN  
FINANCED, IN PART, THROUGH A GRANT FROM  
U.S. DEPARTMENT OF TRANSPORTATION, URGED  
MASS TRANSPORTATION ADMINISTRATION UN-  
DER THE URBAN MASS TRANSPORTATION ACT OF 19  
AS AMENDED



The stamp features the text "TAP/NRA" in large letters, with "ARCHITECTS ENGINEERS" and "MANAGERS" below it, all enclosed in a rectangular border.

pbgh	Dowling Englehart	<b>PORT AUTHORITY OF ALLEGHENY COUNTY</b> <b>PITTSBURGH</b> <b>PENNSYLVANIA</b>		
PARSONS BRINCKERHOFF - GROSS & HILL		<b>STAGE I LIGHT RAIL TRANSIT SYSTEM</b> <b>GATEWAY CENTER STATION FINISHES</b> <b>KEY PLAN LIGHTING</b>		
APPROVED		CONTRACT NO. CA-456-E		
DATE		DRAW. NO. E-001-O      SHEET 61		
A JOINT VENTURE		PARSONS BRINCKERHOFF - GROSS & HILL PITTSBURGH, PENNSYLVANIA		

MAUNSELL | AECOM

Scoular Australia Pty Ltd A.B.N. 20 093 846 923

Blacey APPROVED AUGUST 15, 200 DATE

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.

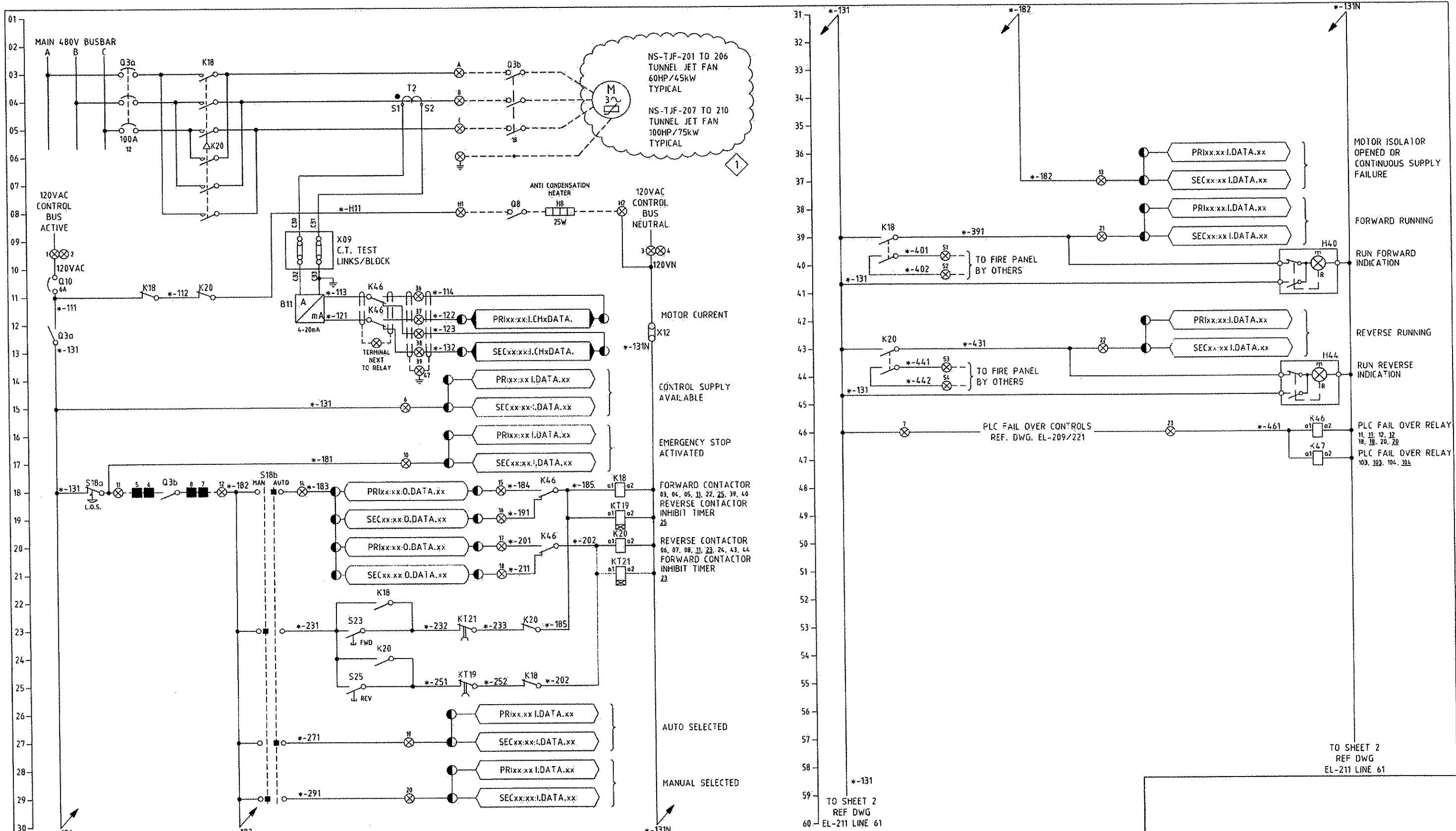
<p><b>REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND</b></p> <p><b>CONRAD H.B. STANLEY</b></p> <p>RPEQ 5128</p> <p><i>Conrad H.B. Stanley</i></p> <p>SIGNATURE: PATP #002194</p>	<p><b>DMJM HARRIS   AECON</b></p> <p>FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222</p> <p><i>Dad Perri</i></p> <p>APPROVED</p> <p>8-20-08</p> <p>DATE</p>
--	--

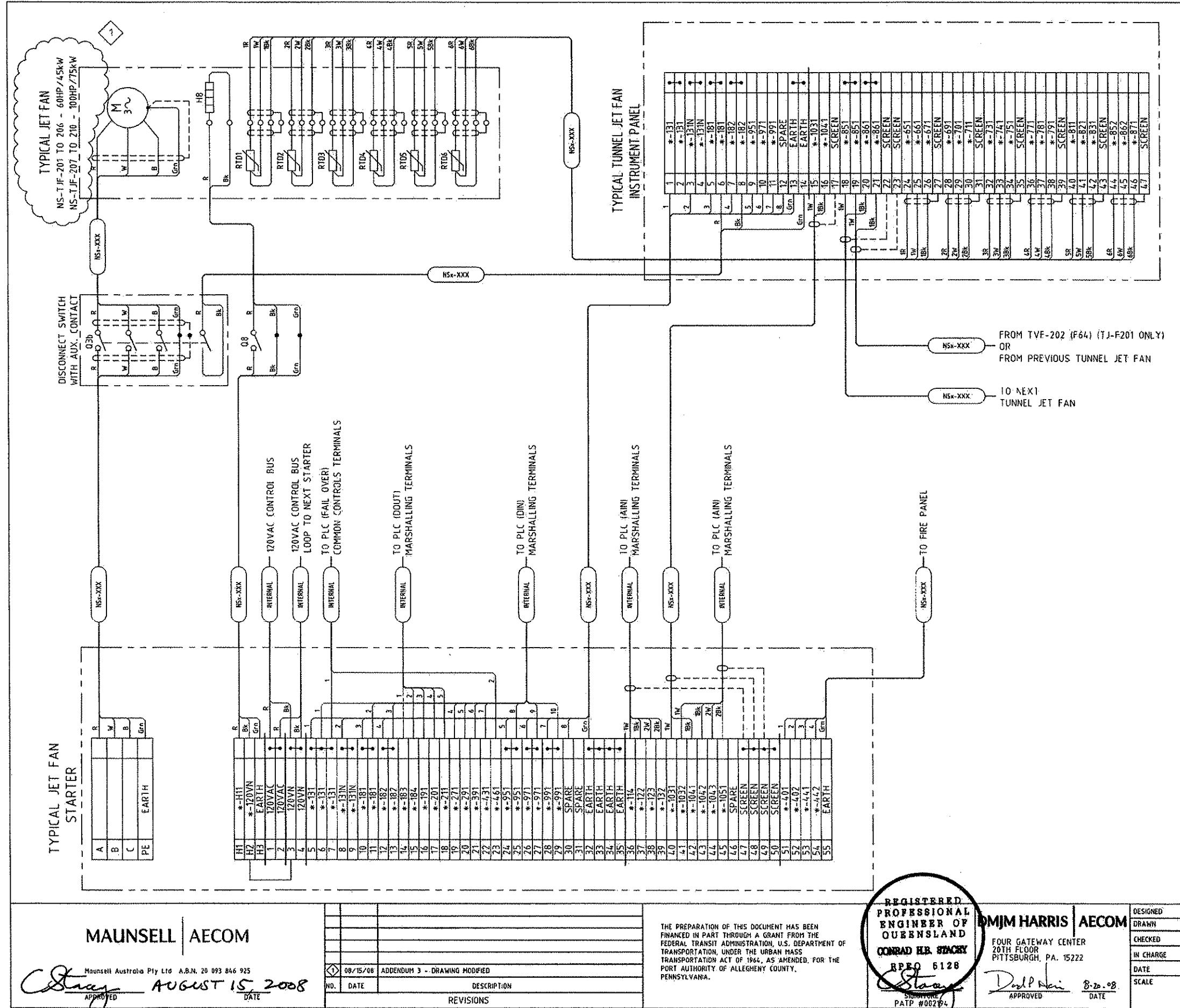
**RT AUTHORITY OF ALLEGHENY COUNTY**  
**SBURGH** **PENNSYLVANIA**

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

**AN LIGHTING (EXISTING DRAWING MARK UP) SHEET 1 OF 2**

<b>Port Authority</b> <small>GOING GLOBAL</small>	CONTRACT NO. NSC-009
DWG. NO.	EL-152
	SHT. 67





MAUNSELL | AECOM

Mansell Australia Pty Ltd A.B.N. 20 093 846 1

008	(1) 08/15/08	ADDENDUM 3 - DRAWING MODIFIED
NO.	DATE	DESCRIPTION
REVISIONS		

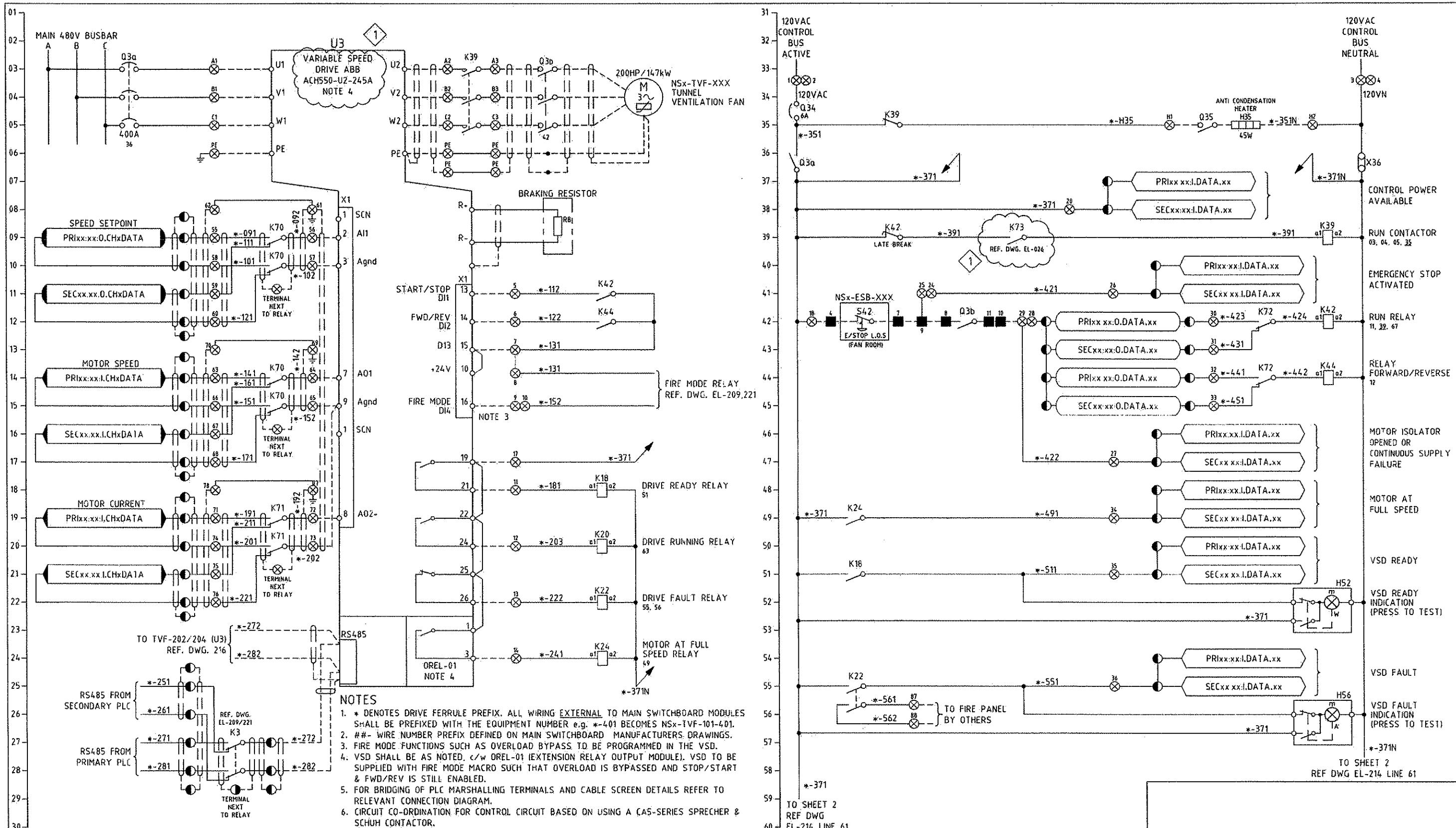
THE PREPARATION OF THIS DOCUMENT HAS BEEN  
FINANCED IN PART THROUGH A GRANT FROM THE  
FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF  
TRANSPORTATION, UNDER THE URBAN MASS  
TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE  
PORT AUTHORITY OF ALLEGHENY COUNTY,  
PENNSYLVANIA.

  <b>CONRAD H.B. STANLEY</b> RPEQ 6128	<b>DMJM HARRIS   AECON</b> FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222
 SIGNATURES RPEQ #6128	 APPROVED DATE 8-20-08

**PORT AUTHORITY OF ALLEGHENY COUNTY**  
 PITTSBURGH PENNSYLVANIA

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

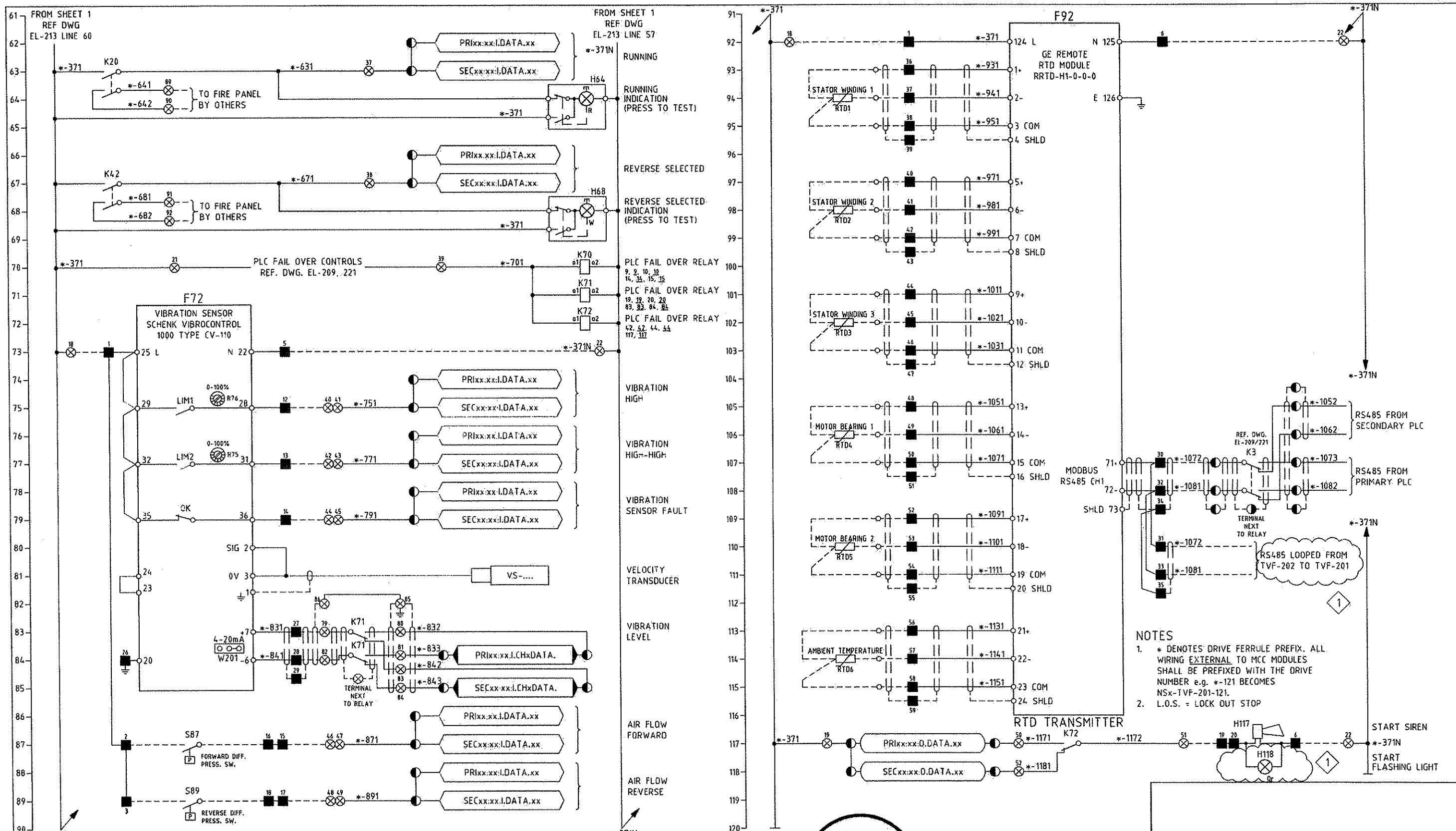
**NS-TB-201 - 210 TUNNEL ET FAN ELECTRICAL CONNECTION DIAGRAM**



MAUNSELL   AECOM		
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925		
08/15/08	ADDENDUM 3 - DRAWING MODIFIED	
NO. DATE	DESCRIPTION	
	REVISIONS	

*Conrad H. Stacey*  
APPROVED  
AUGUST 15, 2008  
DATE

<b>PORT AUTHORITY OF ALLEGHENY COUNTY</b>	
PITTSBURGH PENNSYLVANIA	
1 NORTH SHORE CONNECTOR	
NSC TRAIN SYSTEM (SYSTEM WIDE)	
NORTH SIDE STATION	
NS-TVF-201 & 02 TUNNEL VENT FAN ELECTRICAL SCHEMATIC DIA SHT 1 OF 2	
CONRAD H. STACEY	APPROVED
RPEQ 6128	DATE
SIGNATURE PATP #002194	DATE
Port Authority	CONTRACT NO. NSC-009
DWG. NO. EL-213	GNT. 603



MAUNSELL | AECOM

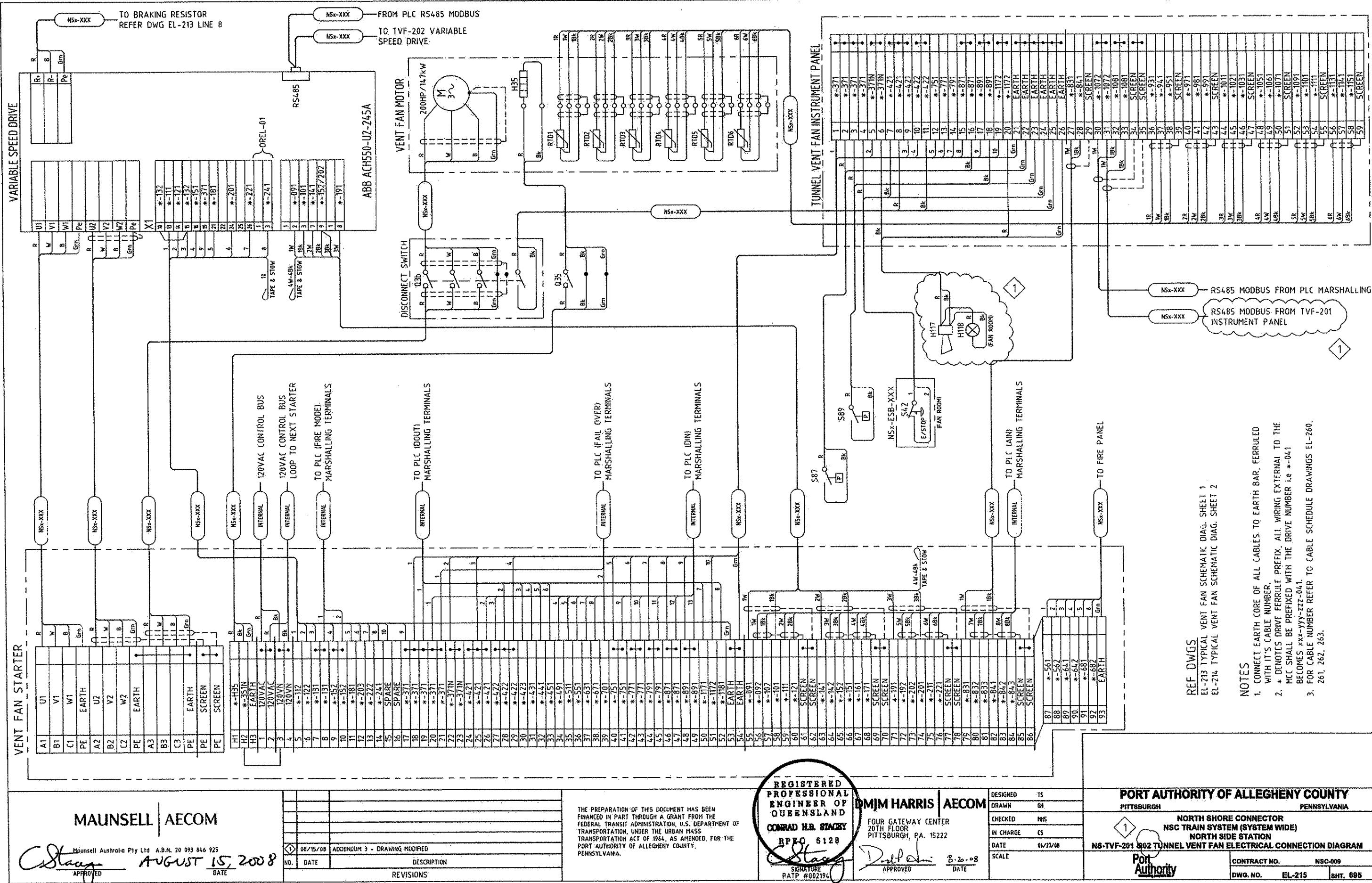
Maunsell Australia Pty Ltd A.B.N. 20 093 846 923  
acay AUGUST 1  
APPROVED D

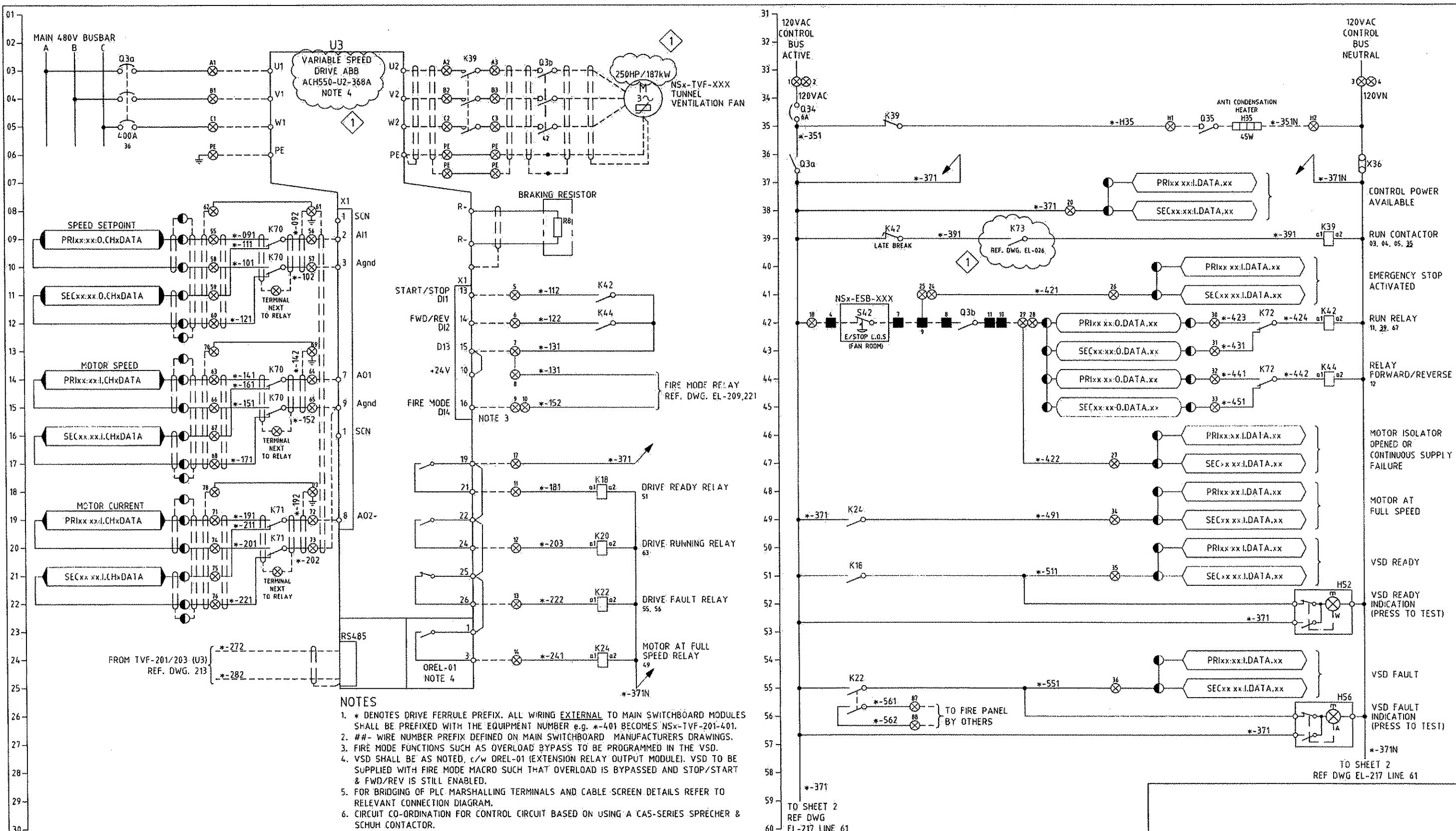
THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.

**DMJM HARRIS | AECOM**  
FOUR GATEWAY CENTER

**STACKY** 20TH FLOOR  
5128 PITTSBURGH, PA. 15222  
*Stacky* *David Peckin* 8-20-08  
APPROVED DATE

	<b>PORT AUTHORITY OF ALLEGHENY COUNTY</b>	
	PITTSBURGH	PENNSYLVANIA
1/08	<b>NORTH SHORE CONNECTOR</b> <b>NSC TRAIN SYSTEM (SYSTEM WIDE)</b> <b>NORTH SIDE STATION</b> <b>NS-TVF-201 202 TUNNEL VENT FAN ELECTRICAL SCHEMATIC DIA SHT 2 OF 2</b>	
	 <b>Port Authority</b> <small>TRANSPORTATION</small>	CONTRACT NO. <b>NBC-009</b> DWG. NO. <b>EL-214</b> SHT. <b>694</b>





MAUNSELL | AECOM

Maunsell Australia Pty Ltd A.B.N. 20 093 816 925

AUGUST 15, 2008

APPROVED

DATE

08/15/08 ADDENDUM 3 - DRAWING MODIFIED

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.

REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND CONRAD H.B. STACEY

BPEO 5128  
PATP #002194

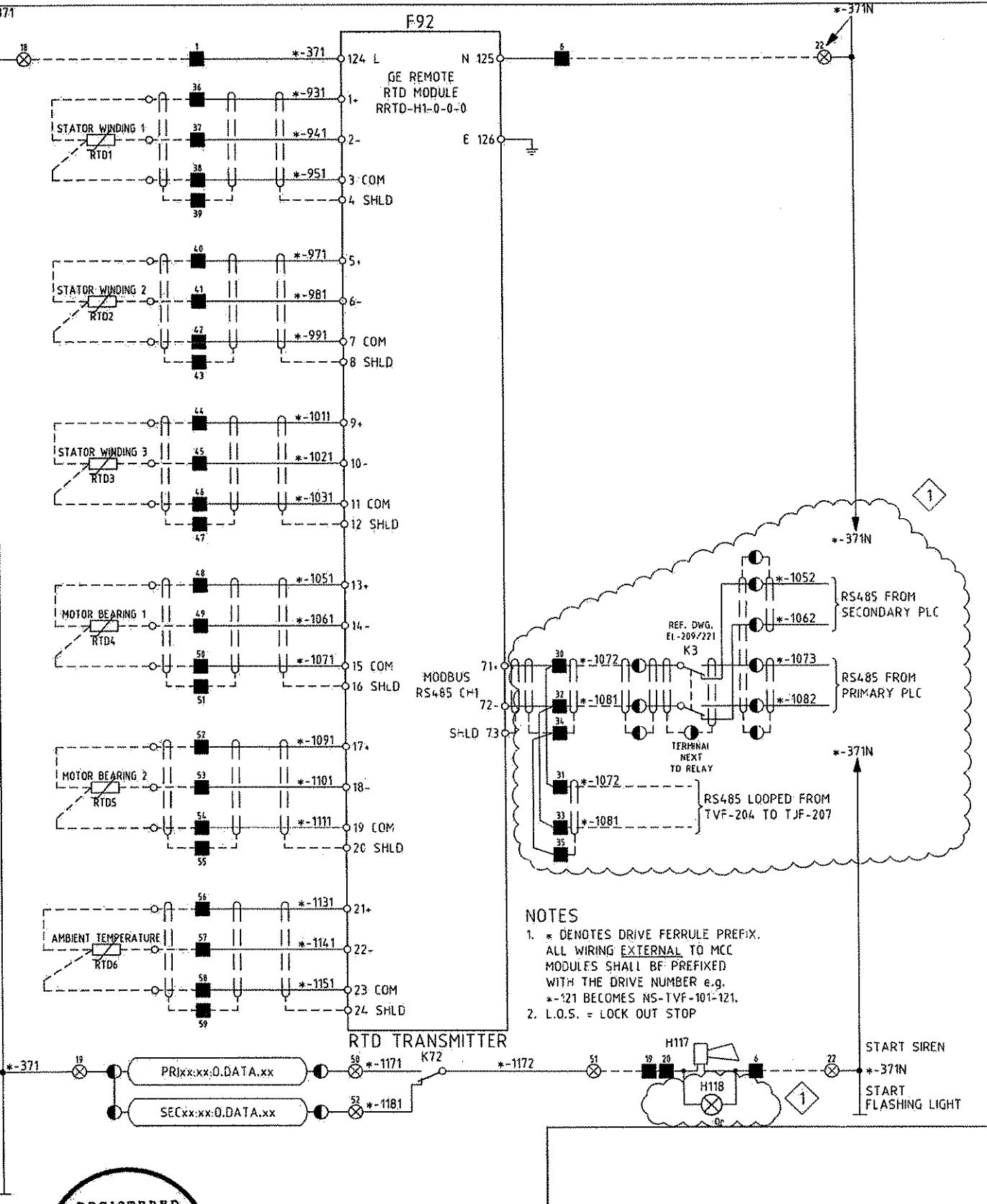
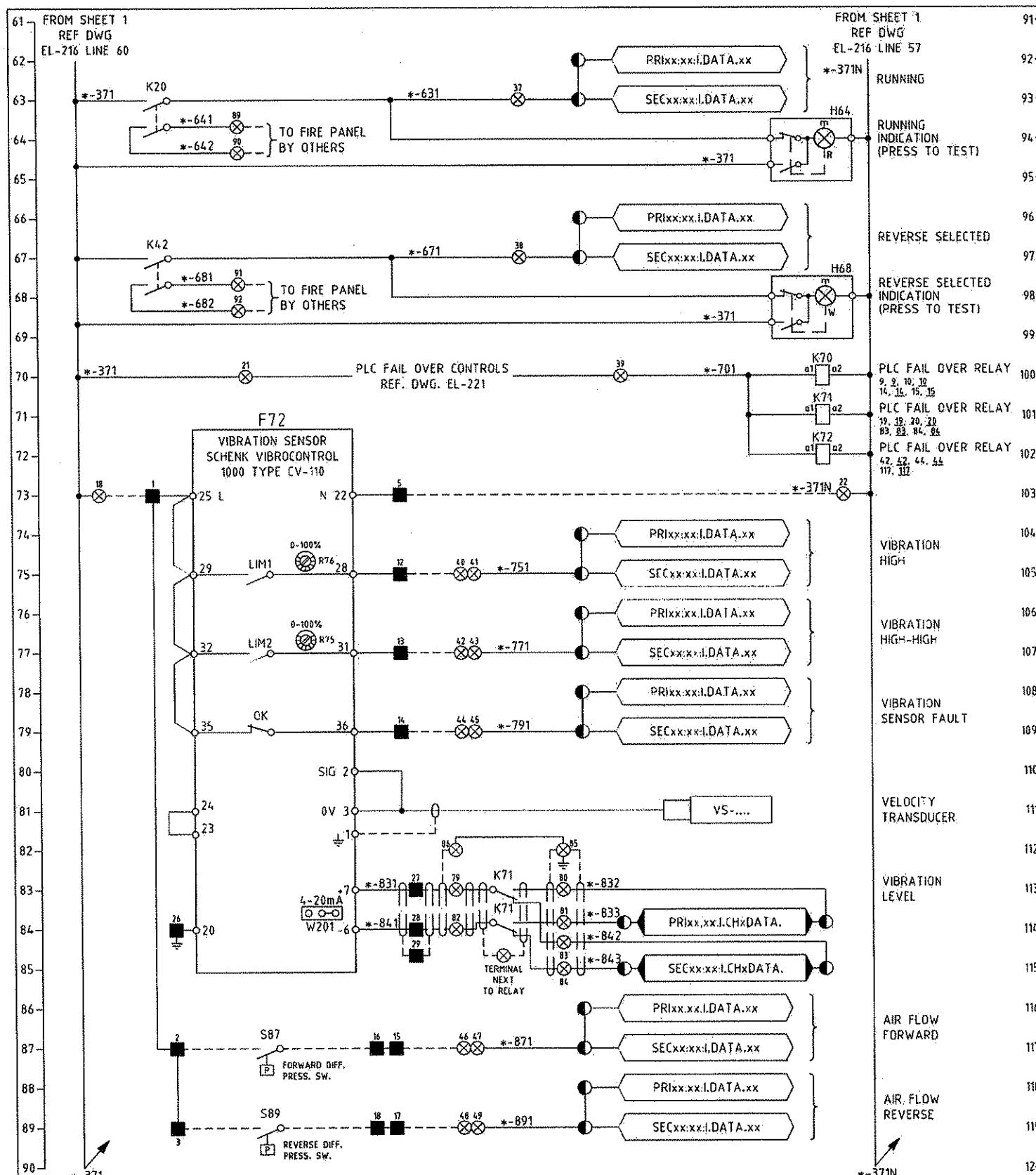
DMJM HARRIS | AECOM  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222  
CONRAD H.B. STACEY  
BPEO 5128  
PATP #002194

APPROVED 8/20/08  
DATE  
SCALE

PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH  
PENNSYLVANIA

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

NS-TVF-203&04 TUNNEL VENT FAN ELECTRICAL SCHEMATIC DIA SHT 1 OF 2  
Port Authority  
CONTRACT NO. NBC-009  
DWG. NO. EL-216 SHT. 696



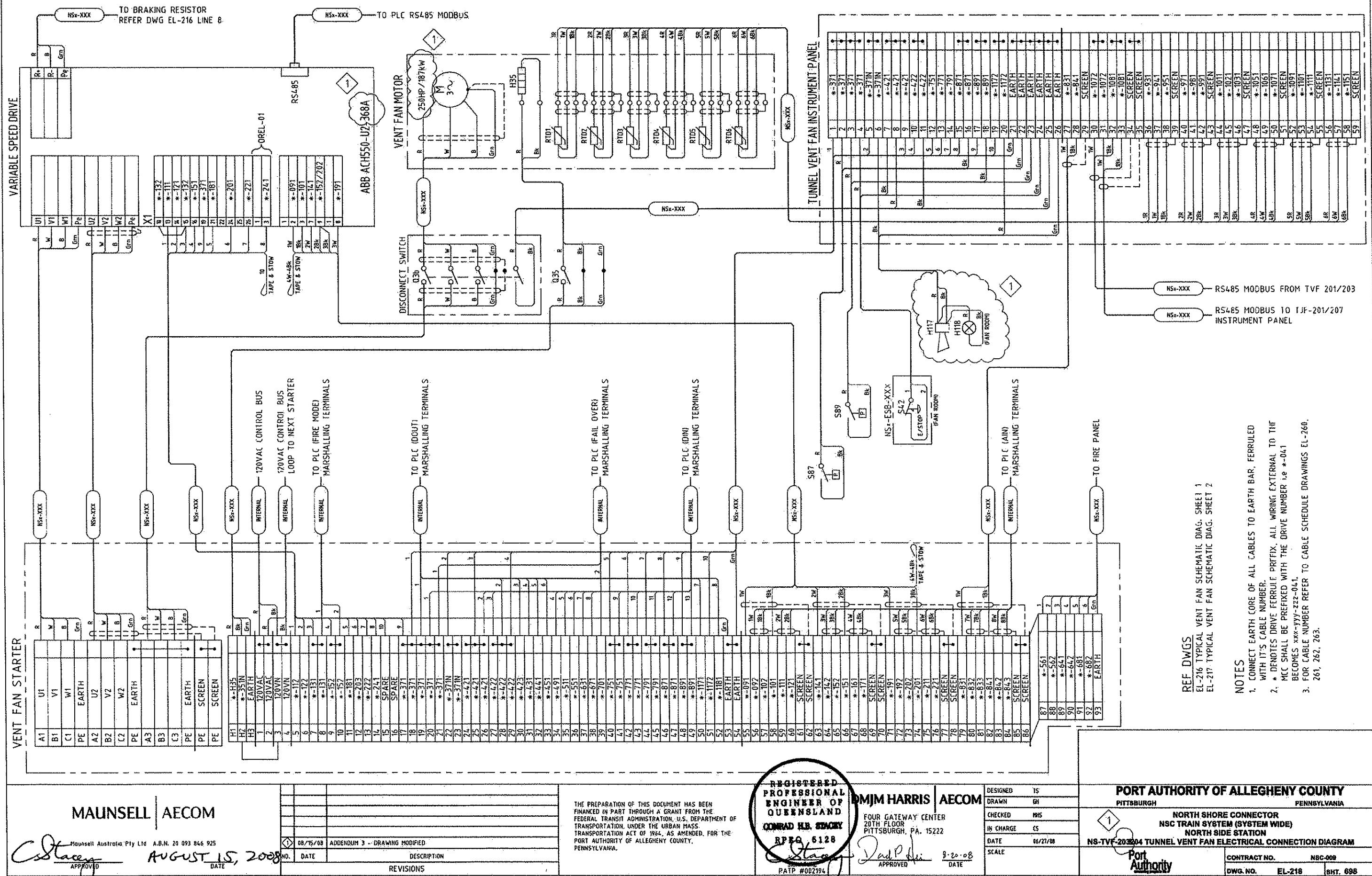
THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.

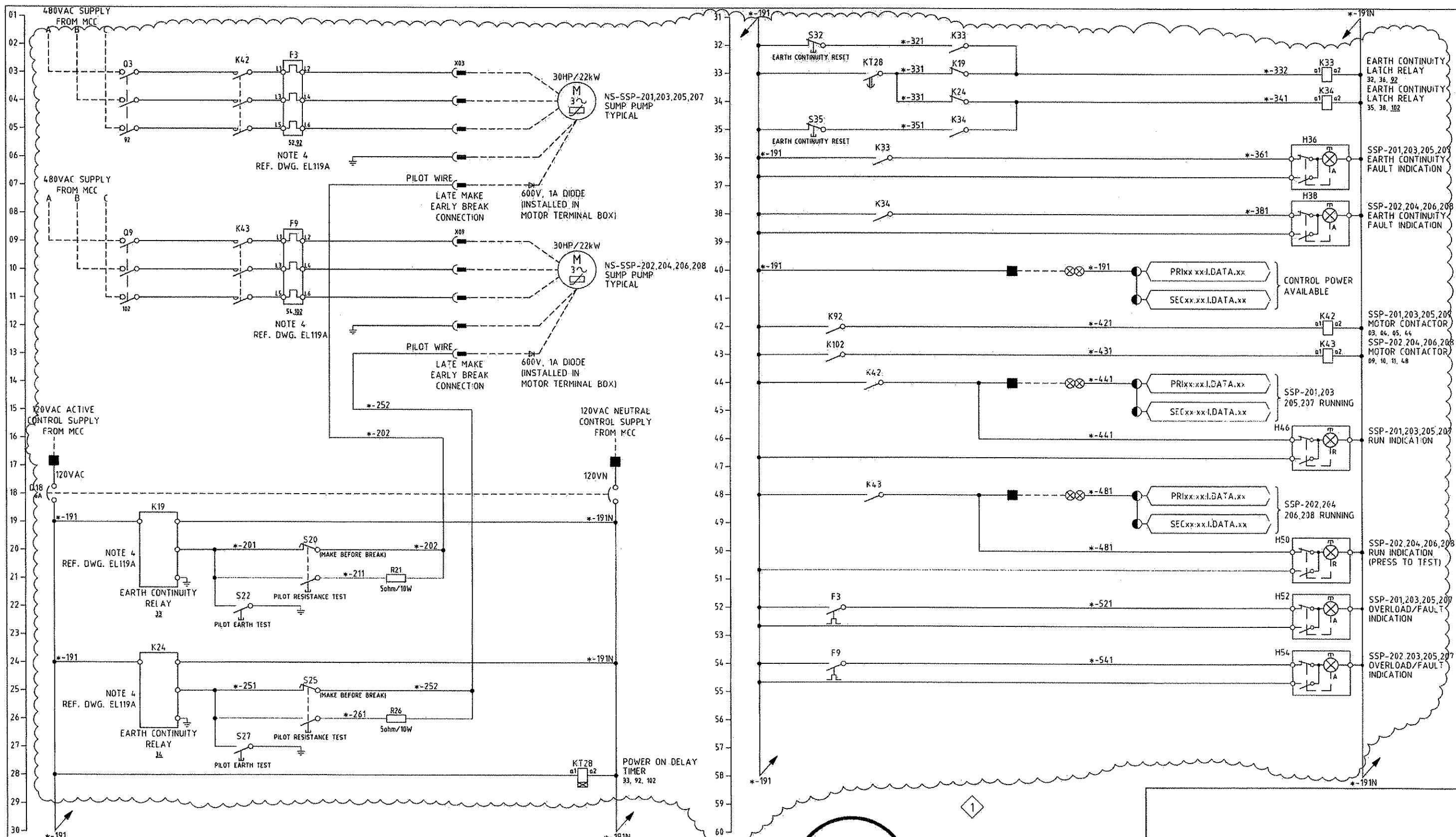
<p><b>REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND</b></p> <p><b>CONRAD H.B. STACY</b></p> <p>RPEQ 5128</p> <p><i>Stacy</i></p> <p>SIGNATURE PATP #002194</p>	<p><b>DMJM HARRIS   AECOM</b></p> <p>FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222</p> <p><i>Doug D. Stacey</i></p> <p>APPROVED</p> <p>9-20-08</p> <p>DATE</p>
---	---

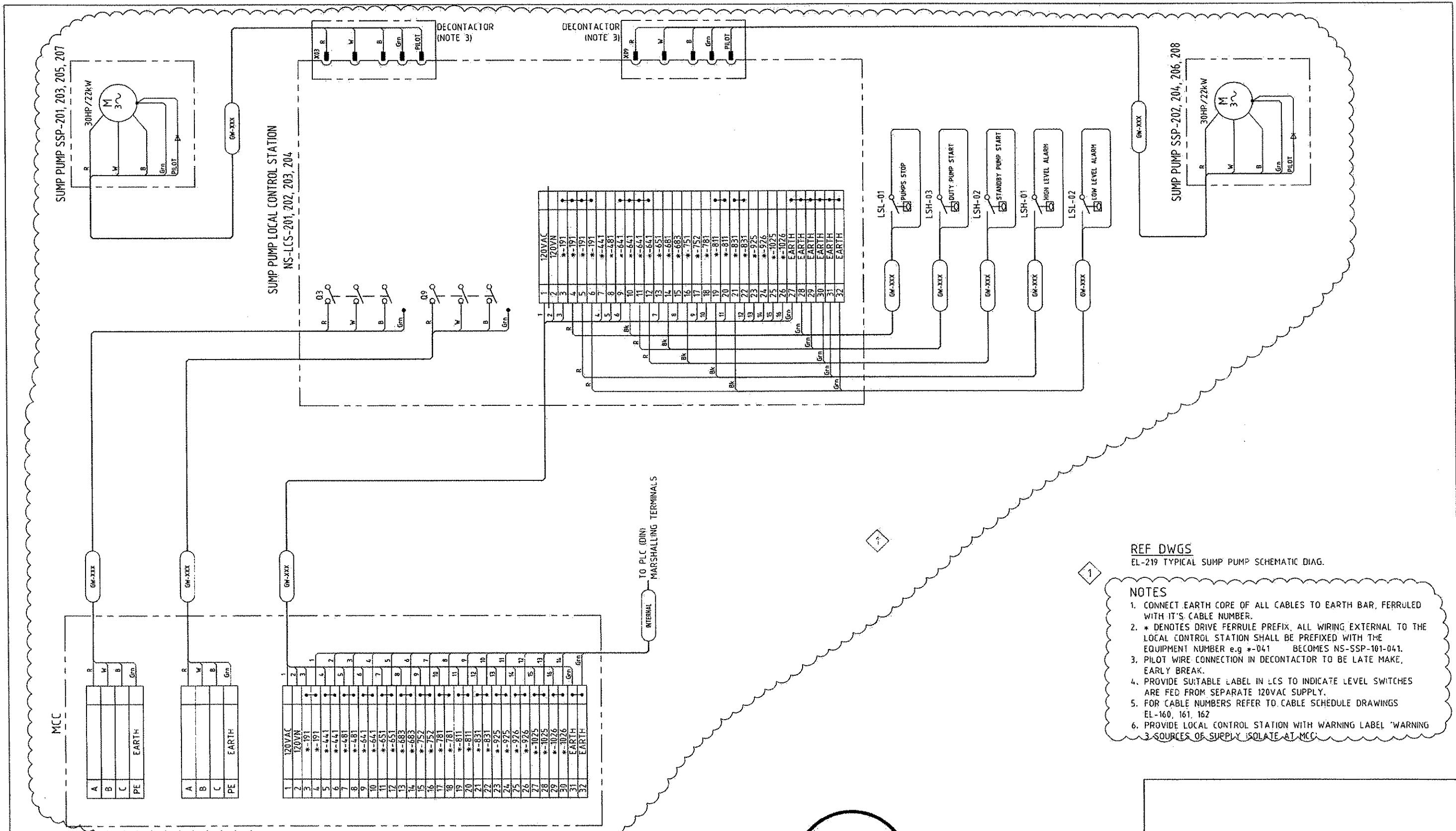
**PORT AUTHORITY OF ALLEGHENY COUNTY**  
 PITTSBURGH PENNSYLVANIA

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

**NS-TVE-203204 TUNNEL VENT FAN ELECTRICAL SCHEMATIC DIA SHT 2 OF 2**







MAUNSELL | AECOM

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

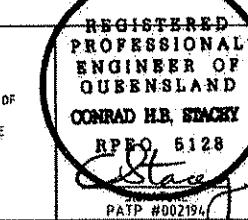
AUGUST 15, 2008

APPROVED

DATE

NO.	DATE	DESCRIPTION	REVISIONS
08/15/08	ADDENDUM 3 - DRAWING MODIFIED		

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 H.B. STACEY

FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222

DMJM HARRIS | AECOM

DESIGNED TS  
DRAWN GH  
CHECKED MHS  
IN CHARGE CS  
DATE 08/21/08  
SCALE

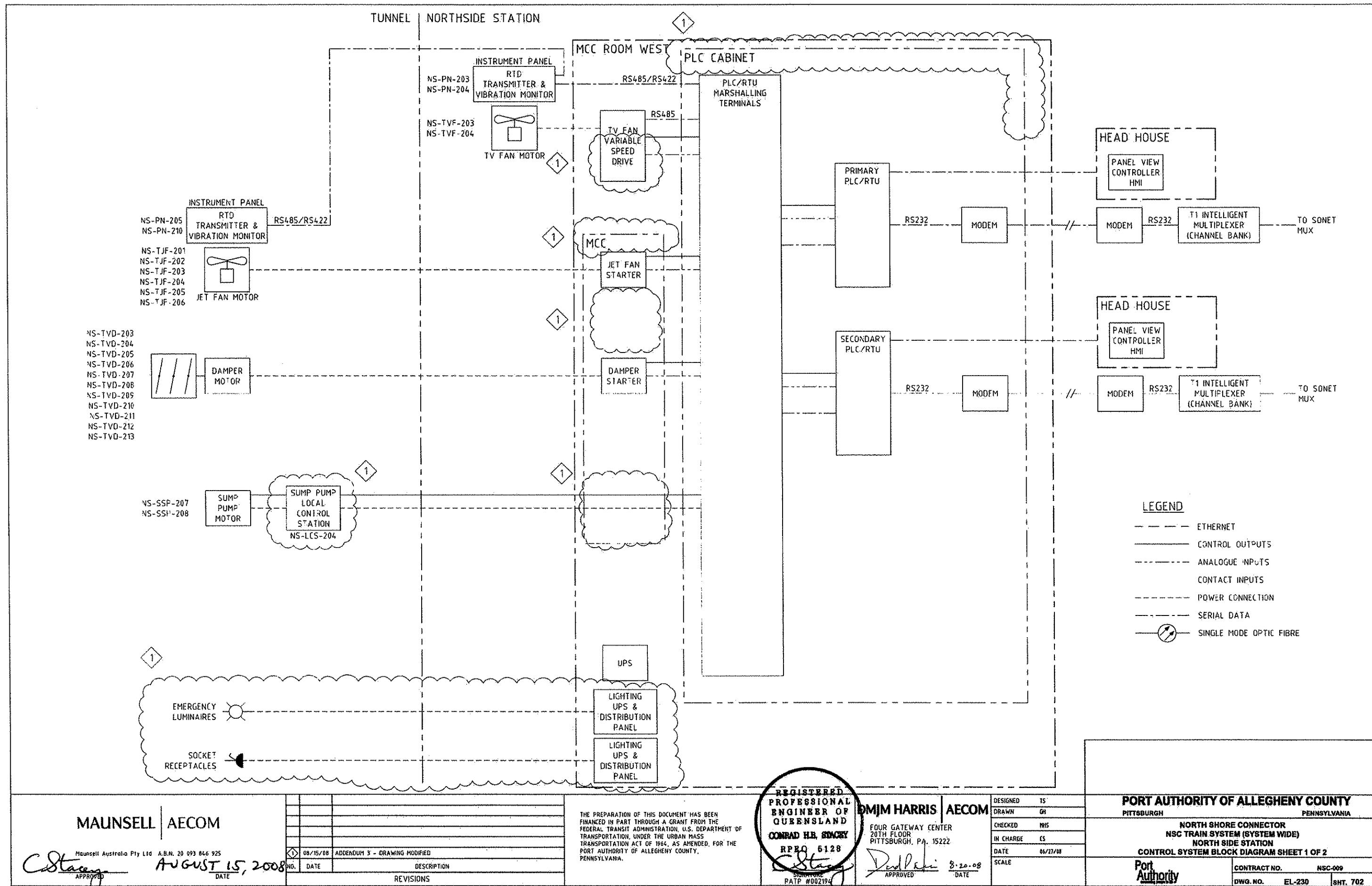
DID P. STACEY  
APPROVED 8-15-08  
DATE  
PAPB #002194

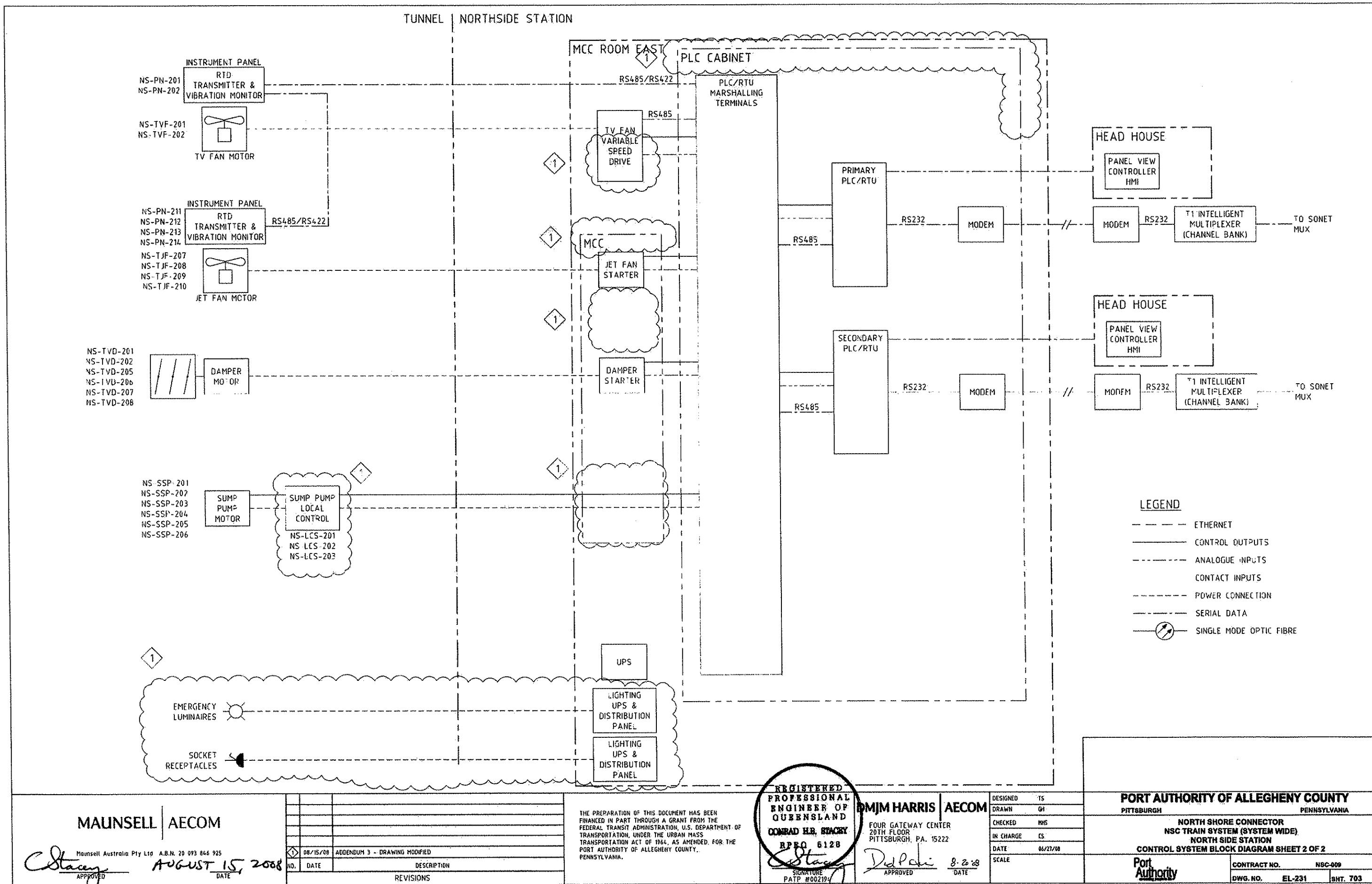
PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH  
PENNSYLVANIA

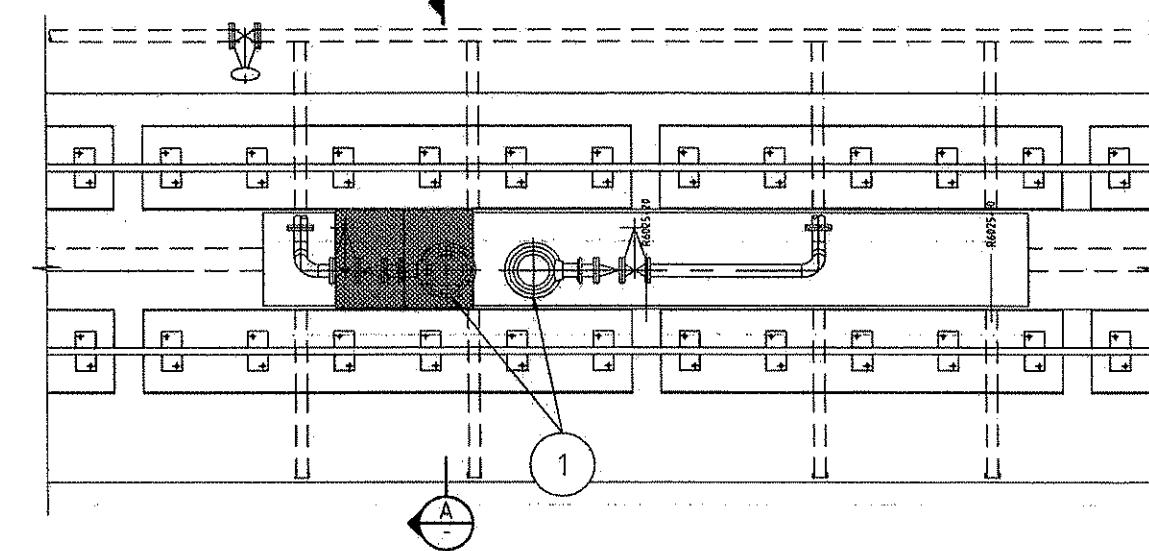
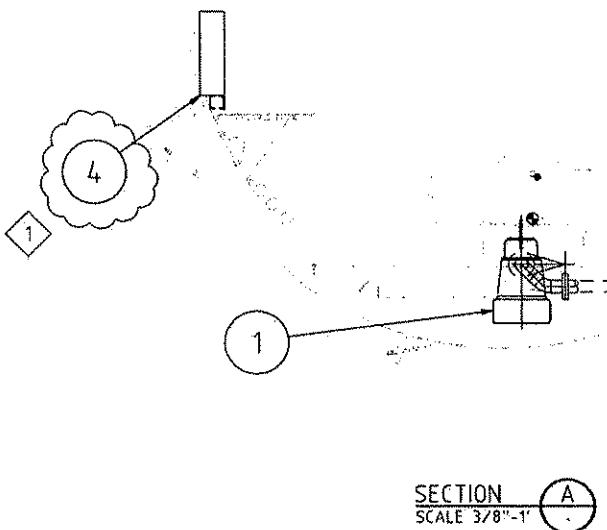
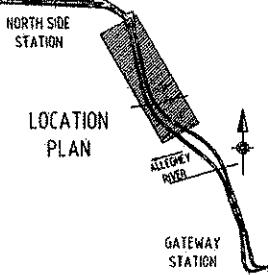
NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
NORTH SIDE STATION

NB-SSP-201 - 208 TUNNEL SUMP PUMP ELECTRICAL CONNECTION DIAGRAM

Port Authority  
CONTRACT NO. NBC-009  
DWG. NO. EL-220 BHT. 700

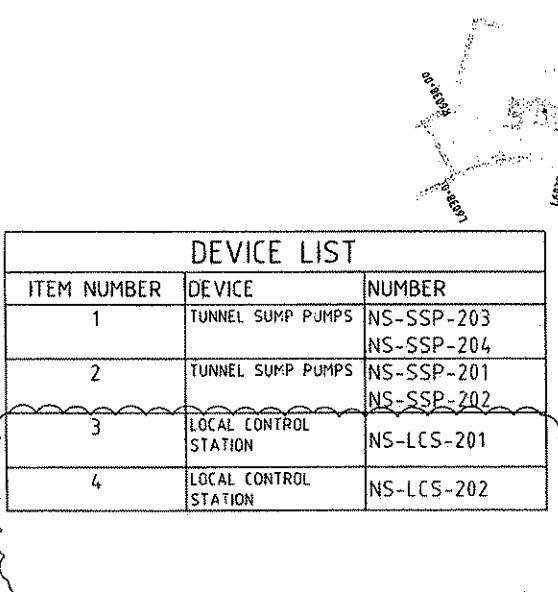






TYPICAL PLAN OF LOW POINT  
SUMP PIT

SCALE 3/8" - 1'-0"



NO.	DATE	DESCRIPTION
1	08/15/08	ADDENDUM 3 - DRAWING MODIFIED
		REVISIONS

MAUNSELL | AECOM

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

AUGUST 15, 2008

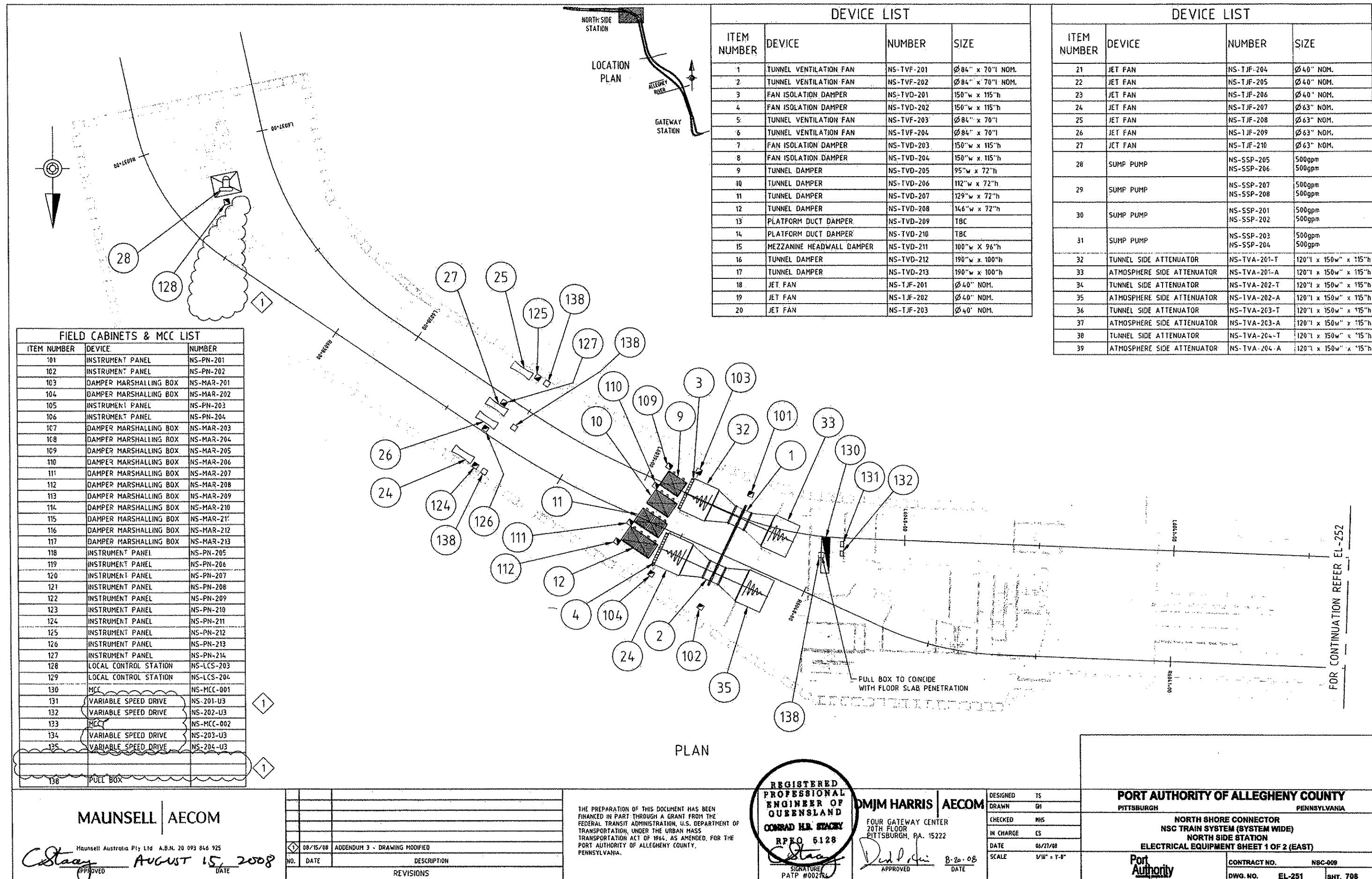
*Stacey*  
APPROVED  
DATE

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.

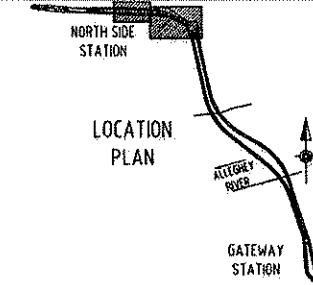
REGISTERED  
PROFESSIONAL  
ENGINEER OF  
QUEENSLAND  
CONRAD H. STACEY  
RPEQ #6128  
*Stacey*  
SKINNATURE  
PATP #002194

MMJ HARRIS | AECOM  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA 15222  
APPROVED 8-20-08  
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



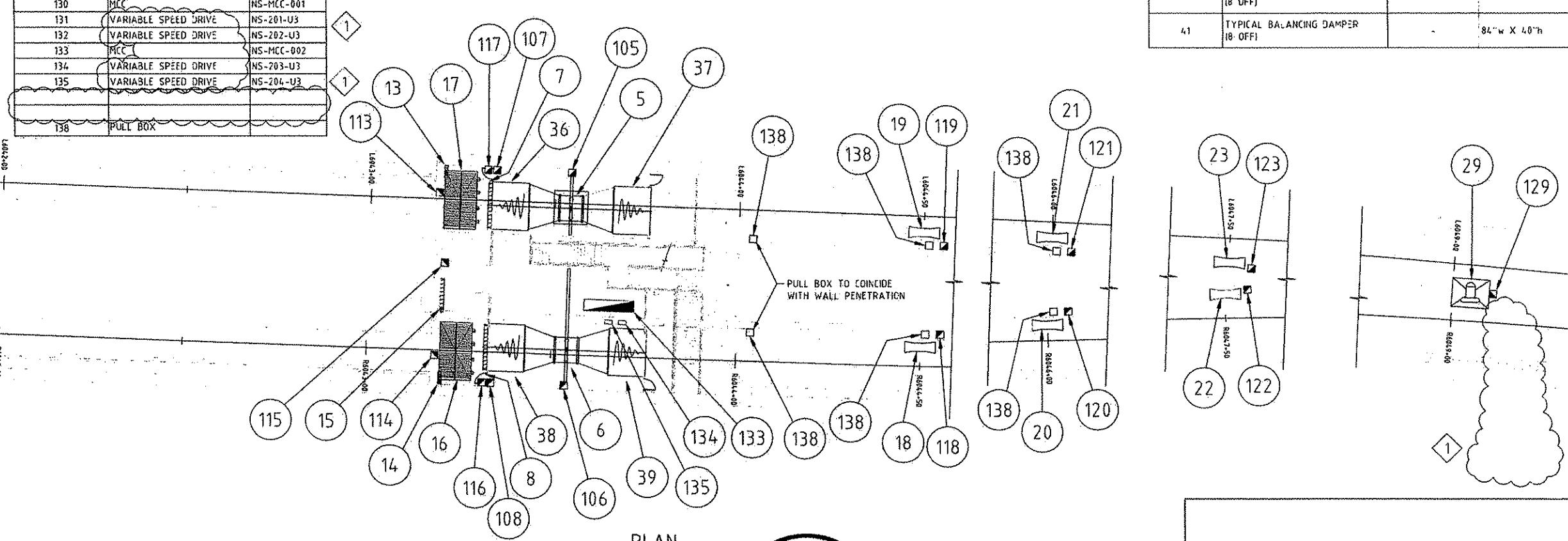
ITEM NUMBER	DEVICE	NUMBER
101	INSTRUMENT PANEL	NS-PN-21
102	INSTRUMENT PANEL	NS-PN-21
103	DAMPER MARSHALLING BOX	NS-MAR-
104	DAMPER MARSHALLING BOX	NS-MAR-
105	INSTRUMENT PANEL	NS-PN-21
106	INSTRUMENT PANEL	NS-PN-21
107	DAMPER MARSHALLING BOX	NS-MAR-
108	DAMPER MARSHALLING BOX	NS-MAR-
109	DAMPER MARSHALLING BOX	NS-MAR-
110	DAMPER MARSHALLING BOX	NS-MAR-
111	DAMPER MARSHALLING BOX	NS-MAR-
112	DAMPER MARSHALLING BOX	NS-MAR-
113	DAMPER MARSHALLING BOX	NS-MAR-
114	DAMPER MARSHALLING BOX	NS-MAR-
115	DAMPER MARSHALLING BOX	NS-MAR-
116	DAMPER MARSHALLING BOX	NS-MAR-
117	DAMPER MARSHALLING BOX	NS-MAR-
118	INSTRUMENT PANEL	NS-PN-2
119	INSTRUMENT PANEL	NS-PN-2
120	INSTRUMENT PANEL	NS-PN-2
121	INSTRUMENT PANEL	NS-PN-2
122	INSTRUMENT PANEL	NS-PN-2
123	INSTRUMENT PANEL	NS-PN-2
124	INSTRUMENT PANEL	NS-PN-2
125	INSTRUMENT PANEL	NS-PN-2
126	INSTRUMENT PANEL	NS-PN-2
127	INSTRUMENT PANEL	NS-PN-2
128	LOCAL CONTROL STATION	NS-LCS-
129	LOCAL CONTROL STATION	NS-LCS-
130	MCC	NS-MCC-
131	VARIABLE SPEED DRIVE	NS-201-
132	VARIABLE SPEED DRIVE	NS-202-
133	MCC	NS-MCC-
134	VARIABLE SPEED DRIVE	NS-203-
135	VARIABLE SPEED DRIVE	NS-204-
138	PULL BOX	



DEVICE LIST			
ITEM NUMBER	DEVICE	NUMBER	SIZE
1	TUNNEL VENTILATION FAN	NS-TVF-201	Ø 84" x 70"l NOM.
2	TUNNEL VENTILATION FAN	NS-TVF-202	Ø 84" x 70"l NOM.
3	FAN ISOLATION DAMPER	NS-TVD-201	150" w x 115" h
4	FAN ISOLATION DAMPER	NS-TVD-202	150" w x 115" h
5	TUNNEL VENTILATION FAN	NS-TVF-203	Ø 84" x 70"l
6	TUNNEL VENTILATION FAN	NS-TVF-204	Ø 84" x 70"l
7	FAN ISOLATION DAMPER	NS-TVD-203	150" w x 115" h
8	FAN ISOLATION DAMPER	NS-TVD-204	150" w x 115" h
9	TUNNEL DAMPER	NS-TVD-205	95" w x 72" h
10	TUNNEL DAMPER	NS-TVD-206	112" w x 72" h
11	TUNNEL DAMPER	NS-TVD-207	129" w x 72" h
12	TUNNEL DAMPER	NS-TVD-208	146" w x 72" h
13	PLATFORM DUCT DAMPER	NS-TVD-209	TBC
14	PLATFORM DUCT DAMPER	NS-TVD-210	TBC
15	MEZZANINE HEADWALL DAMPER	NS-TVD-211	100" w X 96" h
16	TUNNEL DAMPER	NS-TVD-212	190" w x 100" h
17	TUNNEL DAMPER	NS-TVD-213	190" w x 100" h
18	JET FAN	NS-TJF-201	Ø 40" NOM.
19	JET FAN	NS-TJF-202	Ø 40" NOM.
20	JET FAN	NS-TJF-203	Ø 40" NOM.

DEVICE LIST			
ITEM NUMBER	DEVICE	NUMBER	SIZE
21	JET FAN	NS-TJF-204	Ø 40" NOM.
22	JET FAN	NS-TJF-205	Ø 40" NOM.
23	JET FAN	NS-TJF-206	Ø 40" NOM.
24	JET FAN	NS-TJF-207	Ø 63" NOM.
25	JET FAN	NS-TJF-208	Ø 63" NOM.
26	JET FAN	NS-TJF-209	Ø 63" NOM.
27	JET FAN	NS-TJF-210	Ø 63" NOM.
28	SUMP PUMPS	NS-SSP-205 NS-SSP-206	500gpm 500gpm
29	SUMP PUMPS	NS-SSP-207 NS-SSP-208	500gpm 500gpm
30	SUMP PUMPS	NS-SSP-201 NS-SSP-202	500gpm 500gpm
31	SUMP PUMPS	NS-SSP-203 NS-SSP-204	500gpm 500gpm
32	TUNNEL SIDE ATTENUATOR	NS-TVA-201-T	120'L x 150W" x 115'h
33	ATMOSPHERE SIDE ATTENUATOR	NS-TVA-201-A	120'L x 150W" x 115'h
34	TUNNEL SIDE ATTENUATOR	NS-TVA-202-T	120'L x 150W" x 115'h
35	ATMOSPHERE SIDE ATTENUATOR	NS-TVA-202-A	120'L x 150W" x 115'h
36	TUNNEL SIDE ATTENUATOR	NS-TVA-203-T	120'L x 150W" x 115'h
37	ATMOSPHERE SIDE ATTENUATOR	NS-TVA-203-A	120'L x 150W" x 115'h
38	TUNNEL SIDE ATTENUATOR	NS-TVA-204-T	120'L x 150W" x 115'h
39	ATMOSPHERE SIDE ATTENUATOR	NS-TVA-204-A	120'L x 150W" x 115'h
40	TYPICAL BALANCING DAMPER (B OFF)	-	84"W x 40"h
41	TYPICAL BALANCING DAMPER (B OFF)	-	84"W x 40"h

FOR CONTINUATION REFER E1 251



MAUNSELL | AECOM

Mounsey Australia Pty Ltd A.B.N. 20 093 846 921

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

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.

**DMJM HARRIS | AECC**

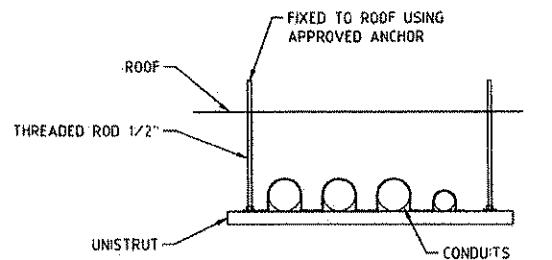
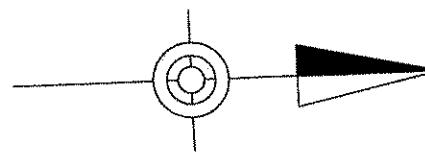
*David L. Gruen*  
APPROVED  
8-20-01  
DATE

**PITTSBURGH** **PENNSYLVANIA**

---

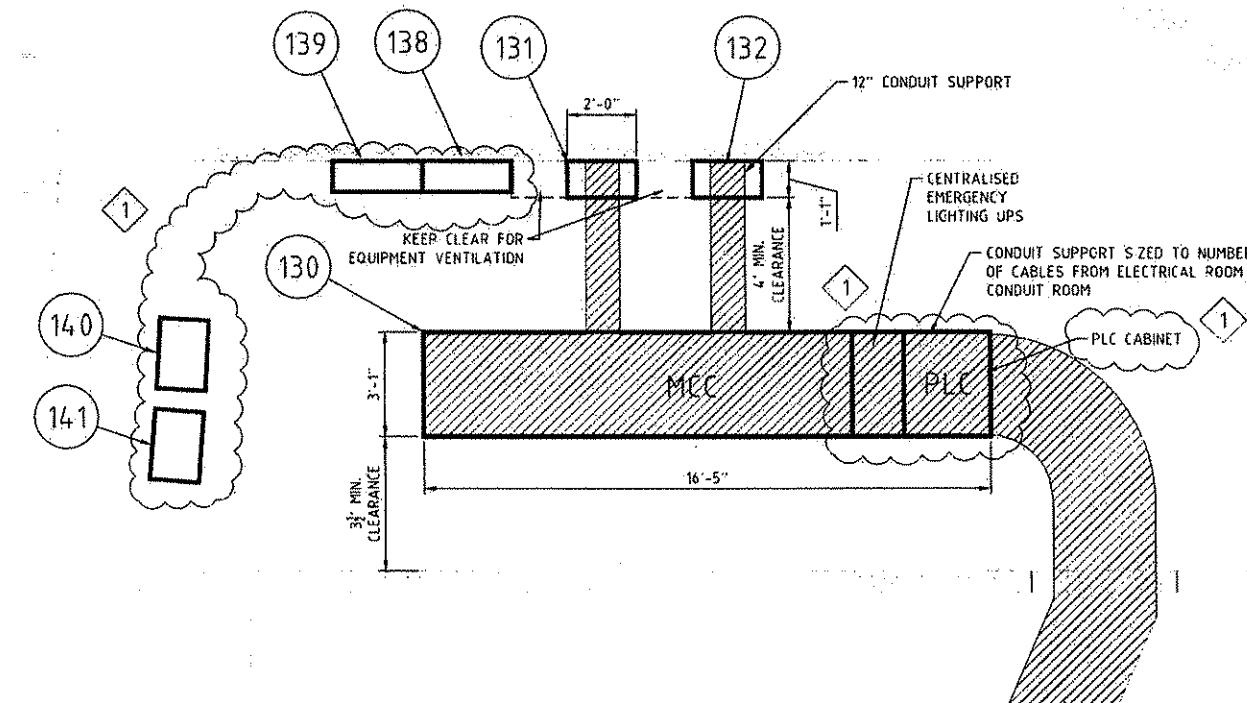
**NORTH SHORE CONNECTOR**  
**NSC TRAIN SYSTEM (SYSTEM WIDE)**  
**NORTH SIDE STATION**  
**ELECTRICAL EQUIPMENT SHEET 2 OF 2 (WEST)**

**Port Authority** CONTRACT NO. NSC-009  
DWG. NO. EL-252 SHT. 70



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	VARIABLE SPEED DRIVE	NS-201-U3
132	VARIABLE SPEED DRIVE	NS-202-U3
133	MCC	NS-MCC-002
134	VARIABLE SPEED DRIVE	NS-203-U3
135	VARIABLE SPEED DRIVE	NS-204-U3
136	LOCAL CONTROL STATION	NS-LCS-205
137	LOCAL CONTROL STATION	NS-LCS-206
138	EMERGENCY LIGHTING DISTRIBUTION PANEL	NS-ELDP-200
139	TUNNEL SOCKET RECEPTACLE DISTRIBUTION PANEL	NS-DR-200
140	CONTROL UPS	NS-UPS-200
141	BATTERY CABINET	NS-UPS-201



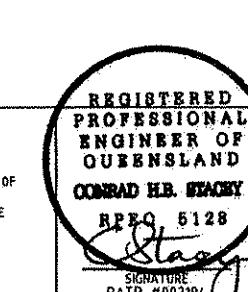
MCC ROOM NORTH SIDE (EASTERN END) PLAN

SCALE 3/8" = 1'-0"

MAUNSELL | AECOM  
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925  
C. Stacey AUGUST 15 2008 APPROVED DATE

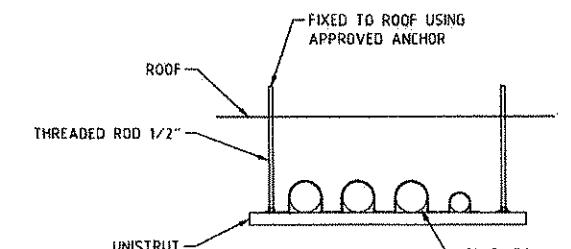
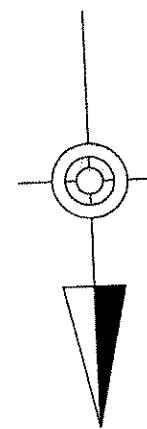
08/15/08	ADDENDUM 3 - DRAWING MODIFIED
NO. DATE	DESCRIPTION
	REVISIONS

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.



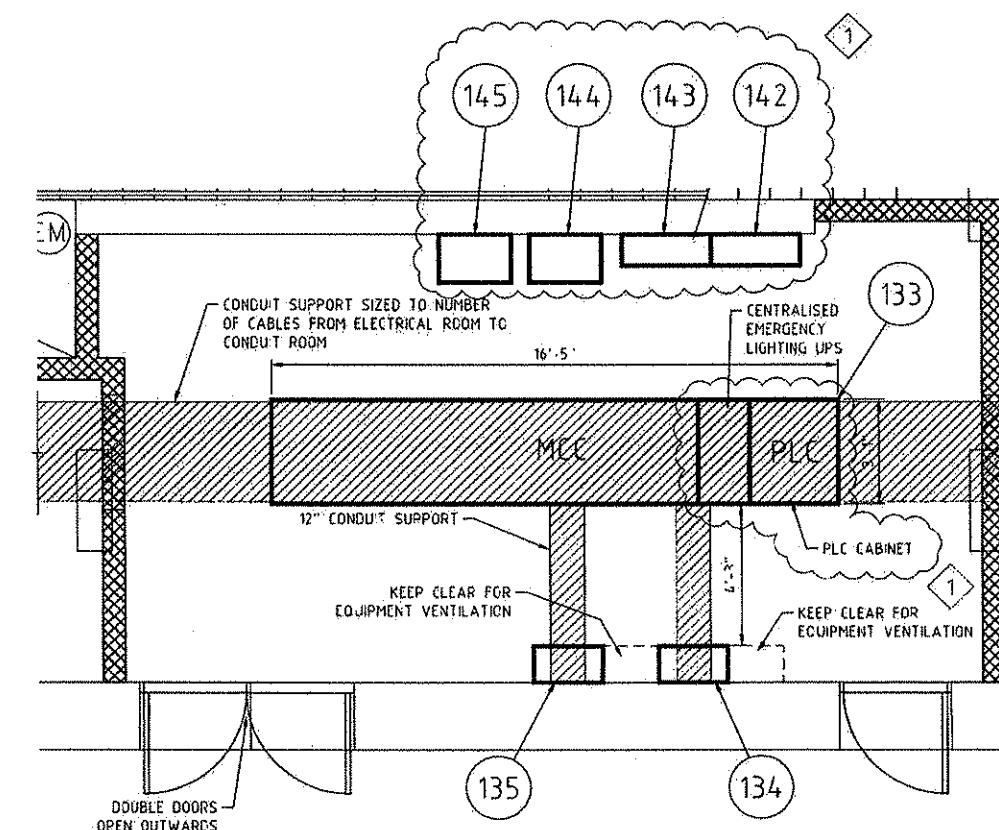
CONRAD H.B. STACEY  
R.P.EQ. 5128  
D.J.M. HARRIS | AECOM  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA 15222  
APPROVED BY: D.J.M. HARRIS  
DATE: 08-20-08  
SIGNATURE: P.A.T.P. #002194

PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH PENNSYLVANIA  
NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
NORTH SIDE STATION  
ELECTRICAL SWITCH ROOM LAYOUT (EAST)  
Port Authority CONTRACT NO. NSC-009  
DWG. NO. EL-253 SHT. 710



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 BDX	NS-MAR-206
111	DAMPER MARSHALLING BDX	NS-MAR-207
112	DAMPER MARSHALLING BDX	NS-MAR-208
113	DAMPER MARSHALLING BDX	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	VARIABLE SPEED DRIVE	NS-201-U3
132	VARIABLE SPEED DRIVE	NS-202-U3
133	MCC	NS-MCC-002
134	VARIABLE SPEED DRIVE	NS-203-U3
135	VARIABLE SPEED DRIVE	NS-204-U3
136	LOCAL CONTROL STATION	NS-LCS-205
137	LOCAL CONTROL STATION	NS-LCS-206
142	EMERGENCY LIGHTING DISTRIBUTION PANEL	NS-ELDP-201
143	TUNNEL SOCKET RECEPTACLE DISTRIBUTION PANEL	NS-DP-201
144	CONTROL UPS	NS-UPS-202
145	BATTERY CABINET	NS-UPS-203



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

*C. Stacey* APPROVED AUGUST 15, 2008 DATE

08/15/08	ADDENDUM 3 - DRAWING MODIFIED
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.

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

DMJM HARRIS | AECOM

FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222

*C. Stacey* APPROVED 8-20-08  
SIGNATURE PATP #002194 DATE

DESIGNED TS  
DRAWN GH  
CHECKED HIS  
IN CHARGE LS  
DATE 08/27/08  
SCALE 3/8" = 1'0"

PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH  
PA  
NORTH SHORE CONNECTOR  
NSC TRAIN SYSTEM (SYSTEM WIDE)  
NORTH SIDE STATION  
ELECTRICAL SWITCH ROOM LAYOUT (WEST)

Port Authority CONTRACT NO. NSC-009  
DWG. NO. EL-254 SHT. 711

REV	S/N	Detail	Cable Number	Cable Type	Voltage Rating	Cores	AWG/MCM	GND AWG	Cd-N
0	North Side Station East MCC	Disconnect Switch	NSE-TJF-207-P01	Fire Rated	600V	Multicore 3C+E	4/0	2	M201, M247
0	Disconnect Switch	TJF Fan NS-TJF-207	NSE-TJF-207-P02	Fire Rated	600V	Multicore 3C+E	4/0	2	
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, M216
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, M216
0	Jet Fan NS-TJF-207 RTD	Jet Fan Instrument Panel NS-PN-211 Ctr Analog	NSE-TJF-207-R01	LSZH	600V	6 Triple Individually 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	4/0	2	M201a, M223
0	Disconnect Switch	TJF Fan NS-TJF-208	NSE-TJF-208-P02	Fire Rated	600V	Multicore 3C+E	4/0	2	
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 Individually shielded	14		
0	Jet Fan Instrument Panel NS-PN-212	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	4/0	2	M200, M230
0	Disconnect Switch	TJF Fan NS-TJF-209	NSE-TJF-209-P02	Fire Rated	600V	Multicore 3C+E	4/0	2	
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 Individually shielded	14		
0	Jet Fan Instrument Panel NS-PN-213	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	4/0	2	M200a, M226
0	Disconnect Switch	TJF Fan NS-TJF-210	NSE-TJF-210-P02	Fire Rated	600V	Multicore 3C+E	4/0	2	
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 Individually shielded	14		
0	Jet Fan Instrument Panel NS-PN-214	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	Shielded VSD	600V	1 - 3C+ 3E	500	1/0	M229
0	Disconnect Switch	Tunnel Vent Fan NS-TVF-201	NSE-TVF-201-P02	Shielded VSD	600V	1 - 3C+ 3E	500	1/0	
0	North Side Station East MCC	VSD-201	NSE-TVF-201-P02	Fire Rated	600V	1 - 3C+E	500	1/0	
0	VSD-201	North Side Station East MCC	NSE-TVF-201-P03	Shielded VSD	600V	1 - 3C+ 3E	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-A02	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 Individually 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-A02	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	Shielded VSD	600V	1 - 3C+ 3E	500	1/0	M230
0	Disconnect Switch	Tunnel Vent Fan NS-TVF-202	NSE-TVF-202-P02	Shielded VSD	600V	1 - 3C+ 3E	500	1/0	
0	North Side Station East MCC	VSD202	NSE-TVF-202-P02	Fire Rated	600V	1 - 3C+E	500	1/0	
0	VSD-202	North Side Station East MCC	NSE-TVF-202-P03	Shielded VSD	600V	1 - 3C+ 3E	500	1/0	
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-A02	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 Individually shielded	14		
0	Tunnel Vent Fan Instrument Panel NS-PN-202	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-A02	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-TV-201A	NSE-TV-201A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSE-MAR-201	TV Isolation Damper NSE-TV-201B	NSE-TV-201B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSE-MAR-201	TV Isolation Damper NSE-TV-201C	NSE-TV-201C-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSE-MAR-201	TV Isolation Damper NSE-TV-201D	NSE-TV-201D-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	North Side Station East MCC	TV Isolation Damper NSE-TV-201Ctr	NSE-TV-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-TV-202A	NSE-TV-202A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSE-MAR-202	TV Isolation Damper NSE-TV-202B	NSE-TV-202B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSE-MAR-202	TV Isolation Damper NSE-TV-202C	NSE-TV-202C-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper NSE-MAR-202	TV Isolation Damper NSE-TV-202D	NSE-TV-202D-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	North Side Station East								

## CONTINUED FROM DRAWING EL-260

REV	S/N	Detail	Cable Number	Cable Type	Voltage Rating	Cores	AWG/MCM	GND AWG	Cd #
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-I01	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-I01	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-I01	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

CABLE NUMBER FORMAT: AB-CDE-123-F45

## AB: STATION ABBREVIATION

GW - GATEWAY STATION  
 NS - NORTH SIDE STATION

## CDE: EQUIPMENT TYPE

JF - 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)
- 2 - G = GATEWAY, 1 = NORTH SIDE
- 3 - ZERO FOR DAMPERS, ONE OR MORE FOR ADDITIONAL DAMPERS.
- 4 - SEQUENTIAL EQUIPMENT NUMBER.

## F45: CABLE TYPE &amp; 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 = RID  
 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.

GW TVF 101 P 01  
 AB-CDE-123-F45

MAUNSELL | AECOM  
 Maunsell Australia Pty Ltd A.B.N. 20 093 846 925  
 APPROVED  
 AUGUST 15, 2008  
 DATE

## CONTINUED FROM DRAWING EL-261

REV	Sys	Detail	Cable Num	Cable Type	Voltage	Cas	AWG/MCM	GND AWG	Cd #
0	North Side Station West MCC	Disconnect Switch	NSW-TJF-201-P01	Fire Rated	600V	Multicore 3C+E	1/0	8	M269
0	Disconnect Switch	TJF Fan NS-TJF-201	NSW-TJF-201-P02	Fire Rated	600V	Multicore 3C+E	1/0	8	
0	North Side Station West MCC	Jet Fan Instrument Panel NS-PN-206 Ctr Digital	NSW-TJF-201-C01	LSZH	600V	Multicore 12C+E	12	8	M270
0	North Side Station West MCC	Jet Fan Instrument Panel NS-PN-206 Ctr Analog Vibration	NSW-TJF-201-J01	LSZH	600V	1 Pair shielded	14		M271
0	North Side Station West MCC	Jet Fan NS-TJF-201 Heater	NSW-TJF-201-S01	Fire Rated	600V	Multicore 2C+E	12	8	M270
0	Jet Fan NS-TJF-201 RTD	Jet Fan Instrument Panel NS-PN-206 Ctr Analog	NSW-TJF-201-R01	LSZH	600V	6 Triple Individually 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	1/0	8	M260
0	Disconnect Switch	TJF Fan NS-TJF-202	NSW-TJF-202-P02	Fire Rated	600V	Multicore 3C+E	1/0	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	M261
0	North Side Station West MCC	Jet Fan Instrument Panel NS-PN-206 Ctr Analog Vibration	NSW-TJF-202-J01	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	M261
0	Jet Fan NS-TJF-202 RTD	Jet Fan Instrument Panel NS-PN-206 Ctr Analog	NSW-TJF-202-R01	LSZH	600V	6 Triple Individually 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	1/0	8	M268, M272
0	Disconnect Switch	TJF Fan NS-TJF-203	NSW-TJF-203-P02	Fire Rated	600V	Multicore 3C+E	1/0	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	8	M270, M273
0	North Side Station West MCC	Jet Fan Instrument Panel NS-PN-207 Ctr Analog Vibration	NSW-TJF-203-J01	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	M270, M273
0	Jet Fan NS-TJF-203 RTD	Jet Fan Instrument Panel NS-PN-207 Ctr Analog	NSW-TJF-203-R01	LSZH	600V	6 Triple Individually 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	1/0	8	M280, M283
0	Disconnect Switch	TJF Fan NS-TJF-204	NSW-TJF-204-P02	Fire Rated	600V	Multicore 3C+E	1/0	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	8	M261, M284
0	North Side Station West MCC	Jet Fan Instrument Panel NS-PN-208 Ctr Analog Vibration	NSW-TJF-204-J01	LSZH	600V	1 Pair shielded	14		M282, M285
0	North Side Station West MCC	Jet Fan NS-TJF-204 Heater	NSW-TJF-204-S01	Fire Rated	600V	Multicore 2C+E	12	8	M261, M284
0	Jet Fan NS-TJF-204 RTD	Jet Fan Instrument Panel NS-PN-208 Ctr Analog	NSW-TJF-204-R01	LSZH	600V	6 Triple Individually 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	1/0	8	M269, M272, M275
0	Disconnect Switch	TJF Fan NS-TJF-205	NSW-TJF-205-P02	Fire Rated	600V	Multicore 3C+E	1/0	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	8	M270, M273, M276
0	North Side Station West MCC	Jet Fan Instrument Panel NS-PN-209 Ctr Analog Vibration	NSW-TJF-205-J01	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	M270, M273
0	Jet Fan NS-TJF-205 RTD	Jet Fan Instrument Panel NS-PN-209 Ctr Analog	NSW-TJF-205-R01	LSZH	600V	6 Triple Individually shielded	14		
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	1/0	8	M260, M263, M266
0	Disconnect Switch	TJF Fan NS-TJF-206	NSW-TJF-206-P02	Fire Rated	600V	Multicore 3C+E	1/0	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	8	M261, M264, M267
0	North Side Station West MCC	Jet Fan Instrument Panel NS-PN-210 Ctr Analog Vibration	NSW-TJF-206-J01	LSZH	600V	1 Pair shielded	14		M262, M265, M265
0	North Side Station West MCC	Jet Fan NS-TJF-206 Heater	NSW-TJF-206-S01	Fire Rated	600V	Multicore 2C+E	12	8	M261, M264, M267
0	Jet Fan NS-TJF-206 RTD	Jet Fan Instrument Panel NS-PN-210 Ctr Analog	NSW-TJF-206-R01	LSZH	600V	6 Triple Individually 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	Shielded VSD	600V	1 - 3C+ 3E	500	1/0	M260
0	Disconnect Switch	Tunnel Vent Fan NS-TVF203	NSW-TVF-203-P02	Shielded VSD	600V	1 - 3C+ 3E	500	1/0	
0	North Side Station West MCC	VSD-203	NSW-TVF-203-P02	Fire Rated	600V	1 - 3C+ E	600	1/0	
0	VSD-203	North Side Station West MCC	NSW-TVF-203-P03	Shielded VSD	600V	1 - 3C+ 3E	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	8	M252, M284
0	North Side Station West MCC	Tunnel Vent Fan Instrument Panel NS-PN-203 Ctr Analog	NSW-TVF-203-A01	LSZH	600V	1 Pair shielded	14		M254, M285
0	North Side Station West MCC	VSD-203 Ctr Analog	NSW-TVF-203-A02	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 Individually 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	Shielded VSD	600V	1 - 3C+ 3E	500	1/0	M251
0	Disconnect switch	Tunnel Vent Fan NS-TVF204	NSW-TVF-204-P02	Shielded VSD	600V	1 - 3C+ 3E	500	1/0	
0	North Side Station West MCC	VSD-204	NSW-TVF-204-P02	Fire Rated	600V	1 - 3C+ E	600	1/0	
0	VSD-204	North Side Station West MCC	NSW-TVF-204-P03	Shielded VSD	600V	1 - 3C+ 3E	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	8	M252
0	North Side Station West MCC	Tunnel Vent Fan Instrument Panel NS-PN-204 Ctr Analog	NSW-TVF-204-A01	LSZH	600V	1 Pair shielded	14		M254
0	North Side Station West MCC	VSD-204 Ctr Analog	NSW-TVF-204-A02	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 NSW-PN-204 Ctr Analog	NSW-TVF-204-R01	LSZH	600V	6 Triple Individually shielded	14		
0	Tunnel Vent Fan Instrument Panel NSW-PN-203	Tunnel Vent Fan Instrument Panel NSW-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

CABLE NUMBER FORMAT: AB-CDE-123-F45

## CONTINUED FROM DRAWING EL-262

REV	S/N	Description	Cable Num	Cable Typ	Voltage	Cores	AWG/MCM	GND AWG	Cd #
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-RECR-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-RECR-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-RECR-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-207-401	Fire Rated	600V	Multicore 2C+E	12	8	
0	Sump Pump 207 LCS	Level Switch 2	NSW-SSP-207-402	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-208-401	Fire Rated	600V	Multicore 2C+E	12	8	
0	Sump Pump 208 LCS	Level Switch 2	NSW-SSP-208-402	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	M265
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	M265
0	North Side Station West MCC	TV Isolation Damper NSW-MAR-204	NSW-MAR-204-S01	Fire Rated	600V	Multicore 3C+E	6	8	M266
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	M266
0	North Side Station West MCC	TV Isolation Damper NSW-MAR-209	NSW-MAR-209-S01	Fire Rated	600V	Multicore 3C+E	6	8	M268
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	M268
0	North Side Station West MCC	TV Isolation Damper NSW-MAR-210	NSW-MAR-210-S01	Fire Rated	600V	Multicore 3C+E	6	8	M267
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	M267
0	North Side Station West MCC	TV Isolation Damper NSW-MAR-211	NSW-MAR-211-S01	Fire Rated	600V	Multicore 3C+E	6	8	M269
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	M269
0	North Side Station West MCC	TV Isolation Damper NSW-MAR-212	NSW-MAR-212-S01	Fire Rated	600V	Multicore 3C+E	2	8	M267
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	M267
0	North Side Station West MCC	TV Isolation Damper NSW-MAR-213	NSW-MAR-213-S01	Fire Rated	600V	Multicore 3C+E	2	8	M268
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	M268

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 &amp; SEQUENTIAL NUMBER

- F - A = 1000V POWER
- 
- P = 480V POWER
- 
- D = 277V POWER
- 
- S = 120V POWER
- 
- F = 24VDC POWER
- 
- E = EARTH
- 
- C = 110V CONTROL
- 
- J = 24V

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
<b>NORTHSIDE EAST</b>										
M200	4	12.882	Multicore 3C+E	4/0	1	2.48	2.48	19%	53% TIF 209, 209 PWR	
M200a	4	12.882	Multicore 3C+E	4/0	1	2.48	2.48	19%	53% TIF 210 PWR	
M201	4	12.882	Multicore 3C+E	4/0	1	2.48	2.48	19%	53% TIF 206, 207 PWR	
M201a	4	12.882	Multicore 3C+E	4/0	1	2.48	2.48	19%	53% TIF 206 PWR	
M202	3	7.499	Multicore 12C+E	12	4	1.06	2.02	32%	40% TIF 207, 209, 208, 210 CTR	
			Multicore 2C+E	12	4	0.58			TIF 207, 209, 208, 210 HTR	
M203	2	3.408	1 Pair shielded	14	4	0.48	0.60	18%	40% TIF 207, 209, 208, 210 Analog Vib	
			1 Pair shielded	14	1	0.12			TIF 207 RS485	
M204	3	7.499	SPARE					0%		
M205	3	7.499	Multicore 3C+E	2	2	1.90	1.90	26%	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	2.48	2.48	33%	53% SSP 201 PWR	
M208	3	7.499	Multicore 3C+E	4/0	1	2.48	2.48	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	2.48	2.48	33%	53% SSP 203 PWR	
M211	3	7.499	Multicore 3C+E	4/0	1	2.48	2.48	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	6	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	
M218	2	3.408	Multicore 12C+E	12	1	0.47	0.60	18%	31% TIF 207 CTR	
			Multicore 2C+E	12	1	0.14			TIF 207 HTR	
M219	2	3.408	1 Pair shielded	14	2	0.24	0.24	7%	31% TIF 207 Comms	
M221	2	3.408	Multicore 12C+E	12	1	0.47	0.60	18%	31% TIF 209 CTR	
			Multicore 2C+E	12	1	0.14			TIF 209 HTR	
M222	2	3.408	1 Pair shielded	14	2	0.24	0.24	7%	31% TIF 209 Comms	
M224	2	3.408	Multicore 12C+E	12	1	0.47	0.60	18%	31% TIF 208 CTR	
			Multicore 2C+E	12	1	0.14			TIF 208 HTR	
M225	2	3.408	1 Pair shielded	14	2	0.24	0.24	7%	31% TIF 208 Comms	
M227	2	3.408	Multicore 12C+E	12	1	0.47	0.60	18%	31% TIF 210 CTR	
			Multicore 2C+E	12	1	0.14			TIF 210 HTR	
M228	2	3.408	1 Pair shielded	14	2	0.24	0.24	7%	31% TIF 210 Comms	
M229	4	12.882	1 - 3C+E	500	1	6.47	6.47	42%	53% TIF 201 Power	
M230	4	12.882	1 - 3C+E	500	1	6.47	6.47	42%	53% TIF 202 Power	
M231	2	3.408	Multicore 12C+E	12	2	0.63	0.63	20%	31% TIF 201, 202 CTR	
M232	2	3.408	Multicore 2C+E	12	2	0.28	0.28	8%	31% TIF 201, 202 HTR	
M233	2	3.408	1 Pair shielded	14	4	0.48	0.48	14%	40% TIF 201, 202 analog + RS485	
M234	2	3.408	Multicore 3C+E	6	1	0.48	0.62	27%	31% TIF 201 PWR	
			Multicore 12C+E	12	1	0.47			TIF 201 CTR	
M235	2	3.408	Multicore 3C+E	6	1	0.45	0.62	27%	31% TIF 202 PWR	
			Multicore 12C+E	12	1	0.47			TIF 202 CTR	
M236	3	7.499	Multicore 3C+E	6	2	0.91	1.84	25%	40% TIF 205, 206 PWR	
			Multicore 12C+E	12	2	0.93			TIF 205, 206 CTR	
M237	3	7.499	Multicore 3C+E	6	2	0.91	1.84	25%	40% TIF 207, 208 PWR	
			Multicore 12C+E	12	2	0.93			TIF 207, 208 CTR	
M238	2	3.408	Multicore 12C+E	12	1	0.47	0.60	18%	31% TIF 201 CTR	
			Multicore 2C+E	12	1	0.14			TIF 201 HTR	
M239	2	3.408	1 Pair shielded	14	2	0.24	0.24	7%	31% TIF 201 COMMS	

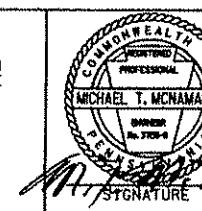
CONDUIT NUMBER	CONDUIT SIZE (IN)	CONDUIT TOTAL AREA	CABLE SIZE	AWG/MCM	NUMBER OF CABLES	SUB TOTAL X SECTIONAL AREA	TOTAL X SECTIONAL AREA	RMC % FILL	RMC FILL REQUIREMENT	Cables
<b>NORTHSIDE WEST</b>										
M250	4	12.882	1 - 3C+E	500	1	5.47	5.47	42%	53% TIF 203 Power	
M251	4	12.882	1 - 3C+E	500	1	5.47	5.47	42%	53% TIF 204 Power	
M252	2	3.408	Multicore 12C+E	12	2	0.93	0.93	20%	53% TIF 203, 204 CTR	
M253	2	3.408	Multicore 2C+E	12	2	0.28	0.28	8%	53% TIF 203, 204 HTR	
M254	2	3.408	1 Pair shielded	14	4	0.48	0.48	14%	40% TIF 203, 204 analog + RS485	
M255	2	3.408	Multicore 3C+E	6	1	0.45	0.52	27%	31% TIF 203 CTR	
M256	2	3.408	Multicore 12C+E	6	1	0.45	0.45	27%	31% TIF 204 CTR	
M257	3	7.499	Multicore 3C+E	6	1	0.45	0.45	27%	31% TIF 204 PWR	
M258	3	7.499	Multicore 12C+E	12	2	0.93	0.93	24%	53% TIF 210, 212 CTR	
M259	2	3.408	Multicore 3C+E	6	1	0.45	0.52	27%	31% TIF 211 PWR	
M260	4	12.882	Multicore 3C+E	1/0	3	4.36	4.36	34%	40% TIF 202, 204, 206 PWR	
M261	3	7.499	Multicore 12C+E	12	3	1.40	1.41	24%	40% TIF 202, 204, 206 CTR	
M262	2	3.408	1 Pair shielded	14	3	0.36	0.60	18%	40% TIF 202, 204, 206 Analog Vib	
M263	4	12.882	Multicore 3C+E	1/0	2	2.91	2.91	23%	31% TIF 204, 206 PWR	
M264	2	3.408	Multicore 2C+E	12	2	0.93	0.93	21%	40% TIF 204, 206 CTR	
M265	2	3.408	1 Pair shielded	14	2	0.24	0.48	14%	40% TIF 204, 206 Analog Vib	
M266	2	3.408	Multicore 3C+E	1/0	1	1.45	1.45	43%	53% TIF 206 PWR	
M267	2	3.408	Multicore 12C+E	12	1	0.47	0.60	18%	53% TIF 206 CTR	
M268	2	3.408	1 Pair shielded	14	1	0.12	0.58	11%	53% TIF 206 Analog Vib	
M269	4	12.882	Multicore 3C+E	1/0	3	4.36	4.36	34%	40% TIF 201, 203, 205 PWR	

## INDEX OF ALSO DRAWINGS

CONTRACT NO.	DRAWING NO.	DRAWING TITLE	CONTRACT NO.	DRAWING NO.	DRAWING TITLE
		<u>NORTHSIDE STATION FINISHES</u>			<u>NORTHSIDE STATION FINISHES</u>
NSC-011	NGN017	STANDARD SYMBOLS 9 OF 10	NSC-011	NEL501	PANEL SCHEDULE
NSC-011	NGN018	STANDARD SYMBOLS 10 OF 10	NSC-011	NEL606	SINGLE LINE DIAGRAM
NSC-011	NAR104	PARTIAL STREET LEVEL PLAN A VENTILATION BULKHEAD AT STAIR 'D'	NSC-011	NFP001	FIRE PROTECTION GENERAL INFORMATION
NSC-011	NAR106	PARTIAL STREET LEVEL PLAN C VENTILATION BULKHEAD AT STAIR 'A'	NSC-011	NFP105	FIRE PROTECTION PARTIAL CONCOURSE LEVEL PLAN A
NSC-011	NAR107A	PARTIAL STREET LEVEL PLAN D ALTERNATE	NSC-011	NFP106	FIRE PROTECTION PARTIAL CONCOURSE LEVEL PLAN B
NSC-011	NAR108	PARTIAL CONCOURSE LEVEL PLAN A	NSC-011	NFP107	FIRE PROTECTION PARTIAL CONCOURSE LEVEL PLAN C
NSC-011	NAR109	PARTIAL CONCOURSE LEVEL PLAN B	NSC-011	NFP108	FIRE PROTECTION PARTIAL CONCOURSE LEVEL PLAN D
NSC-011	NAR110	PARTIAL CONCOURSE LEVEL PLAN C	NSC-011	NFP109	FIRE PROTECTION PARTIAL PLATFORM LEVEL PLAN B
NSC-011	NAR111	PARTIAL CONCOURSE LEVEL PLAN D	NSC-011	NFP110	FIRE PROTECTION PARTIAL PLATFORM LEVEL PLAN C
NSC-011	NAR113	PARTIAL PLATFORM LEVEL PLAN B			<u>ALLEGHENY STATION</u>
NSC-011	NAR114	PARTIAL PLATFORM LEVEL PLAN C	NSC-012-G	AR102	PARTIAL STREET LEVEL CONSTRUCTION PLAN - WEST
NSC-011	NAR315	PARTIAL ELEVATION SLOPED METAL PANEL WALL	NSC-012-G	AR104	PARTIAL MEZZANINE LEVEL CONSTRUCTION PLAN - WEST
NSC-011	NAR316	PARTIAL ELEVATION SLOPED METAL PANEL WALL	NSC-012-G	AR300	NORTH AND SOUTH EXTERIOR ELEVATIONS
NSC-011	NAR400	BUILDING SECTION CENTER OF PLATFORM - C	NSC-012-G	AR303	EAST AND WEST STATION AND STAIR "C" ELEVATIONS
NSC-011	NAR402	BUILDING SECTION CENTER OF PLATFORM - A	NSC-012-G	AR400	LONGITUDINAL BUILDING SECTION - NORTH AND SOUTH
NSC-011	NAR403	BUILDING SECTION EAST STA 6040+70.00	NSC-012-G	AR401	PARTIAL LONGITUDINAL BUILDING SECTION - NORTH
NSC-011	NAR406	BUILDING SECTION WEST STA 6040+85.00	NSC-012-G	AR402	PARTIAL LONGITUDINAL BUILDING SECTION - SOUTH
NSC-011	NAR407	BUILDING SECTIONS TUNNEL STA 6042+00 & 6043+00	NSC-012-G	AR403	TRANSVERSE BUILDING SECTIONS
NSC-011	NAR515	WALL SECTIONS SLOPED METAL PANEL WALL	NSC-012-G	AR404	TRANSVERSE BUILDING SECTIONS
NSC-011	NAR516	SECTION DETAILS SLOPED METAL PANEL WALL	NSC-012-G	AR500	WALL SECTION AND DETAILS
NSC-011	NAR525	WALL SECTIONS & ELEVATION WEST WALL: PERFORATED METAL PANEL	NSC-012-G	AR508	ROOF AND PARAPET DETAILS
NSC-011	NAR600	STAIR 'A' PLANS	NSC-012-G	AR514	ELEVATOR "A", NORTH - SOUTH SECTION
NSC-011	NAR601	STAIR 'A' SECTION	NSC-012-G	AR608	DEVICE INTEGRATION DETAILS
NSC-011	NAR602	STAIR 'A' SECTION	NSC-012-G	AR609	DEVICE INTEGRATION DETAILS
NSC-011	NAR604	STAIR 'C' PLANS & SECTION	NSC-012-H	MC102	PARTIAL STREET LEVEL HVAC PLAN - WEST
NSC-011	NAR605	STAIR 'D' PLANS & SECTION	NSC-012	EL001	ELECTRICAL NOTES AND LEGENDS
NSC-011	NAR700	ENTRANCE SIGNAGE POLE PLANS & ELEVATIONS	NSC-012	EL002	ELECTRICAL SITE PLAN
NSC-011	NAR710	PLATFORM SIGNAGE POLE PLANS & ELEVATIONS	NSC-012	EL004	STREET LEVEL LIGHTING PLAN - WEST
NSC-011	NAR711	PLATFORM SIGNAGE POLE DETAILS	NSC-012	EL009	STREET LEVEL POWER PLAN - WEST
NSC-011	NAR720	SIGNAGE FRAME STRUCTURES PLANS & ELEVATIONS	NSC-012	EL012	STREET LEVEL COMMUNICATIONS PLAN - WEST
NSC-011	NAR909	PARTIAL CONCOURSE LEVEL REFLECTED CEILING PLAN PLAN B	NSC-012	EL013	MEZZANINE LEVEL COMMUNICATIONS PLAN - WEST
NSC-011	NAR910	PARTIAL CONCOURSE LEVEL REFLECTED CEILING PLAN PLAN C	NSC-012	EL014	PLATFORM LEVEL COMMUNICATIONS PLAN - EAST
NSC-011	NAR911	PARTIAL CONCOURSE LEVEL REFLECTED CEILING PLAN PLAN D	NSC-012	EL015	PLATFORM LEVEL COMMUNICATIONS PLAN - WEST
NSC-011	NAR913	PARTIAL PLATFORM LEVEL REFLECTED CEILING PLAN PLAN B	NSC-012	EL016	ELECTRICAL DIAGRAMS AND SCHEDULES
NSC-011	NAR914	PARTIAL PLATFORM LEVEL REFLECTED CEILING PLAN PLAN C	NSC-012	EL017	ELECTRICAL DIAGRAMS AND SCHEDULES
NSC-011	NAR920	CEILING DETAILS PERFORATED METAL SUSPENDED CEILING	NSC-012	EL018	ELECTRICAL DETAILS
NSC-011	NSN102	PARTIAL CONCOURSE LEVEL PLAN A	NSC-012	EL019	ELECTRICAL DETAILS
NSC-011	NSN103	PARTIAL CONCOURSE LEVEL PLAN B	NSC-012	EL020	ELECTRICAL DETAILS
NSC-011	NSN104	PARTIAL CONCOURSE LEVEL PLAN C	NSC-012	EL021	GROUNDING/LIGHTING PROTECTION PLAN
NSC-011	NSN105	PARTIAL CONCOURSE LEVEL PLAN D	NSC-012	EL024	CONDUIT-RUN PLAN
NSC-011	NSN106	PARTIAL PLATFORM LEVEL PLAN B	NSC-012-C	SG107	PARTIAL PLATFORM LEVEL SIGN LOCATION PLAN
NSC-011	NSN107	PARTIAL PLATFORM LEVEL PLAN C	NSC-012-C	SG204	SIGN TYPES B+G - ELEVATION
NSC-011	NSN701	(SIGN TYPE G)	NSC-012-C	SG301	SIGN DETAILS
NSC-011	NSN702	PLATFORM SIGNAGE POLE PLANS AND ELEVATIONS	NSC-012-C	SG302	SIGNAGE DETAILS
NSC-011	NSN711	(SIGN TYPE E1)	NSC-012-P	FP102	PARTIAL STREET LEVEL FIRE PROTECTION PLAN - WEST
NSC-011	NEL107	PARTIAL CONCOURSE LEVEL LIGHTING PLAN A	NSC-012-P	PL102	PARTIAL STREET LEVEL PLUMBING PLAN - WEST
NSC-011	NEL108	PARTIAL CONCOURSE LEVEL LIGHTING PLAN B			<u>STAGE 1 - GATEWAY CENTER STATION FINISH</u>
NSC-011	NEL109	PARTIAL CONCOURSE LEVEL LIGHTING PLAN C	CA-456P	M-027-0	PLATFORM LEVEL - WEST - FIRE SUPPRESSION
NSC-011	NEL110	PARTIAL CONCOURSE LEVEL LIGHTING PLAN D	CA-456P	M-028-0	PLATFORM LEVEL - EAST - FIRE SUPPRESSION
NSC-011	NEL111	PARTIAL PLATFORM LEVEL LIGHTING PLAN B	CA-456P	M-029-0	PLATFORM LEVEL - NORTH - FIRE SUPPRESSION
NSC-011	NEL112	PARTIAL PLATFORM LEVEL LIGHTING PLAN C	CA-456-E	E-009-2	LIGHTING PLAN & SECTIONS
NSC-011	NEL113	PARTIAL STREET LEVEL POWER PLAN A	CA-456-E	E-	LIGHTING PLAN
NSC-011	NEL116	PARTIAL CONCOURSE LEVEL POWER PLAN A	CA-456-E	E-007-5	LIGHTING PLAN
NSC-011	NEL117	PARTIAL CONCOURSE LEVEL POWER PLAN B	CA-456-E	E-006-5	LIGHTING PLAN
NSC-011	NEL118	PARTIAL CONCOURSE LEVEL POWER PLAN C	CA-456-E	E-010-2	LIGHTING PLAN & SECTIONS
NSC-011	NEL119	PARTIAL CONCOURSE LEVEL POWER PLAN B	CA-456-E	E-003-2	LIGHTING PLAN
NSC-011	NEL120	PARTIAL PLATFORM LEVEL POWER PLAN B	CA-456-E	E-004-6	LIGHTING PLAN
NSC-011	NEL121	PARTIAL PLATFORM LEVEL POWER PLAN C	CA-456-E	E-005-4	LIGHTING PLAN
NSC-011	NEL402	COMMUNICATION DEVICE SCHEDULE AND SYMBOL LIST			



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  
ALLENTOWN, PENNSYLVANIA.



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

FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222  
*David P. Price*  
APPROVED  
8-20-08  
DATE

DESIGNED	JC TRAUM
DRAWN	JC TRAUM
CHECKED	CD JONES
IN CHARGE	CD JONES
DATE	APR. 28, 2008
SCALE	NTS

**PORT AUTHORITY OF ALLEGHENY COUNTY**  
 PITTSBURGH PENNSYLVANIA

**NORTH SHORE CONNECTOR**  
**NSC TRAIN SYSTEM (SYSTEM-WIDE)**

**INDEX OF ALSO DRAWINGS FOR NSC CONTRACT INTERFACES**

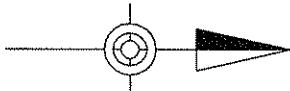
**SHEET 4 OF 4**

# INDEX OF ALSO DRAWINGS

CONTRACT NO.	DRAWING NO.	DRAWING TITLE	CONTRACT NO.	DRAWING NO.	SHEET NO.	DRAWING TITLE
<b>OPERATION CONTROL CENTER (OCC)</b>						
LRS-98-05	CC0010	OCC Block Diagram	CY-111	T1373	668-2	CABLE PLAN
LRS-98-05-R	CC0208	PAAC OCC Network Diagram, Rack 4 Terminal Server Connections	CY-111	T1373	668-76	TRAIN TO WAYSIDE COILS #47, #48
LRS-98-05-R	CC0209	PAAC OCC Network Diagram, Rack 5 Terminal Server Connections	CY-111	T1373	668-W3	RACK 1 TERMINAL BOARDS A, B, & C
LRS-98-05	CC321	IDF 1st Floor to 2nd Floor Wiring (1 of 8)				
LRS-98-05	CC322	IDF 1st Floor to 2nd Floor Wiring (2 of 8)				
LRS-98-05	CC323	IDF 1st Floor to 2nd Floor Wiring (3 of 8)				
LRS-98-05	CC324	IDF 1st Floor to 2nd Floor Wiring (4 of 8)				
LRS-98-05	CC325	IDF 1st Floor to 2nd Floor Wiring (5 of 8)				
LRS-98-05	CC326	IDF 1st Floor to 2nd Floor Wiring (6 of 8)				
LRS-98-05	CC327	IDF 1st Floor to 2nd Floor Wiring (7 of 8)				
LRS-98-05	CC328	IDF 1st Floor to 2nd Floor Wiring (8 of 8)				
LRS-98-05	CC330	Terminal Server Wiring (1 of 4)				
LRS-98-05	CC331	Terminal Server Wiring (2 of 4)				
LRS-98-05	CC332	Terminal Server Wiring (3 of 4)				
LRS-98-05	CC333	Terminal Server Wiring (4 of 4)				
LRS-98-05	CC340	Modem IDF Wiring (1 of 6)				
LRS-98-05	CC341	Modem IDF Wiring (2 of 6)				
LRS-98-05	CC342	Modem IDF Wiring (3 of 6)				
LRS-98-05	CC343	Modem IDF Wiring (4 of 6)				
LRS-98-05	CC344	Modem IDF Wiring (5 of 6)				
LRS-98-05	CC345	Modem IDF Wiring (6 of 6)				
LRS-98-05	CC350	Data IDF Wiring (1 of 7)				
LRS-98-05	CC351	Data IDF Wiring (2 of 7)				
LRS-98-05	CC352	Data IDF Wiring (3 of 7)				
LRS-98-05	CC353	Data IDF Wiring (4 of 7)				
LRS-98-05	CC354	Data IDF Wiring (5 of 7)				
LRS-98-05	CC355	Data IDF Wiring (6 of 7)				
LRS-98-05	CC356	Data IDF Wiring (7 of 7)				
LRS-98-05	CC360	VCS IDF Wiring (1 of 8)				
LRS-98-05	CC361	VCS IDF Wiring (2 of 8)				
LRS-98-05	CC362	VCS IDF Wiring (3 of 8)				
LRS-98-05	CC363	VCS IDF Wiring (4 of 8)				
LRS-98-05	CC364	VCS IDF Wiring (5 of 8)				
LRS-98-05	CC365	VCS IDF Wiring (6 of 8)				
LRS-98-05	CC366	VCS IDF Wiring (7 of 8)				
LRS-98-05	CC367	VCS IDF Wiring (8 of 8)				
LRS-98-02-E	EL901	Ground Floor Power/Systems & Lighting Plan				
LRS-98-02-E	EL902	Second Floor Power/Systems & Lighting Plan				
LRS-98-02-E	EL903	Third Floor Power/Systems & Lighting Plan				
LRS-98-02-E	EL905	Enlarged Plans & Details				
LRS-98-02-E	EL906	Enlarged Plans & Details				
LRS-98-02-E	EL907	Riser Diagrams, Notes and Schedules				
LRS-98-02-E	EL908	Panelboard Schedules				
LRS-98-02-E	EL909	Panelboard Schedules				
LRS-98-02-E	EL910	Existing Panelboard Schedules				
<b>STAGE 2 LIGHT RAIL TRANSIT SYSTEM FIBER NODES</b>						
LRT-006	FM-06-EC-119	System Design (Fiber Optic) By Node Locations.				

 <b>Gannett Fleming</b> Transit & Rail Systems			<p>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 1984, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.</p> <p>08/20/08 ADDENDUM 3 - DRAWING MODIFIED</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">NO.</td> <td style="width: 10%;">DATE</td> <td style="width: 80%;">DESCRIPTION</td> </tr> <tr> <td></td> <td></td> <td>REVISIONS</td> </tr> </table>	NO.	DATE	DESCRIPTION			REVISIONS	 <b>COMMONWEALTH OF PENNSYLVANIA PROFESSIONAL ENGINEERING BOARD PENNSYLVANIA</b>	<b>DMJM HARRIS   AECOM</b> FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222	JC TRAUM DRAWN JC TRAUM CHECKED CD JONES IN CHARGE CD JONES DATE APR. 28, 2008 SCALE NTS APPROVED <i>Del P. Jones</i> 8-20-08 DATE <i>M. T. McNamara</i>	<b>PORT AUTHORITY OF ALLEGHENY COUNTY</b> PITTSBURGH PA. NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM-WIDE) INDEX OF ALSO DRAWINGS FOR NSC CONTRACT INTERFACES SHEET 1 OF 6
	NO.	DATE		DESCRIPTION									
		REVISIONS											





This architectural cross-section diagram illustrates the building's interior and exterior structure, featuring multiple levels, stairs, and various lighting fixtures. Key components labeled include:

- STAINLESS STEEL CLADDING-SEE CONTRACT NSC-015**: Located at the top level.
- EXPOSED PRECAST CONCRETE STAIR**: A staircase on the left side.
- LIGHT S-01**: Multiple light fixtures labeled S-01 are shown.
- LIGHT L-01B**: Light fixtures labeled L-01B are located along the upper and lower levels.
- LIGHT L-03**: A light fixture labeled L-03 is shown.
- OPEN TO HEAD HOUSE ABOVE**: An opening leading to an upper level.
- LIGHT G-02**: Light fixtures labeled G-02 are distributed throughout the space.
- SP#1**, **SP#2**, **SP#3**, **SP#4**, **SP#5**: Various points labeled SP#1 through SP#5 are marked.
- PLATFROM 101**: A platform labeled 101.
- STATION SHELL, CONTRACT NSC-004**: A station shell labeled NSC-004.
- EDGE OF SLOPED CEILING**: The edge of a sloped ceiling.
- LIGHT POST #1**, **LIGHT POST #2**, **LIGHT POST #3**, **LIGHT POST #4**, **LIGHT POST #5**: Light posts labeled #1 through #5.
- LIGHT W-02**: A light fixture labeled W-02.
- ILLUMINATED SIGN (TYP.)-SEE SHEET AR761 FOR ADDITIONAL INFORMATION**: Labels for illuminated signs at the top and bottom levels.
- WATER CURTAIN PIPING-SEE FP-004 FOR ADDITIONAL INFORMATION**: Label for water curtain piping.
- ILLUMINATED SIGN (TYP.)-SEE SHEET AR761 FOR ADDITIONAL INFORMATION**: Label for illuminated signs at the bottom level.
- CONCRETE SLOPED CEILING SPRING POINT EL. 12'-0" A.F. PLAT.**: A concrete sloped ceiling spring point labeled NSC-015.
- AR401**, **AR402**, **AR403**, **AR404**: Reference callouts labeled AR401 through AR404.
- EL. 16'-4" A.F. PLAT**, **EL. 11'-9 3/4" A.F. PLAT**: Elevation levels labeled 16'-4" and 11'-9 3/4".
- R6012+50**, **R6013+00**: Reference levels labeled R6012+50 and R6013+00.
- 24'-0"**, **32'-0"**, **24'-0"**: Horizontal dimensions labeled 24'-0", 32'-0", and 24'-0".
- X.64**, **X.86**, **X.112**, **X.144**: Vertical dimensions labeled X.64, X.86, X.112, and X.144.
- VMS#1**, **VMS#2**: Variable message signs labeled VMS#1 and VMS#2.

**NOTE: DOWNSTANDS REMOVED FOR  
CLARITY, SEE DWG AR730 FOR  
DOWNSTAND DETAILS**

#### PARTIAL PLATFORM | FVEI | BCI



LINETYPE	NOTE	
	STATION SHELL CUT LINE - IN CONTRACT NSC-004	
	CMU WALLS	
<b>DMJM HARRIS AECOM</b> FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222  <i>Daniel J. Harris 4/29/08</i> APPROVED DATE		
DESIGNED	LMC	
DRAWN	CFB	
CHECKED	MGF	
IN CHARGE	RSP	
DATE APRIL 29, 2008		
SCALE	1/8"=1'-0"	
<b>PORT AUTHORITY OF ALLEGHENY COUNTY</b> PITTSBURGH  <b>NORTH SHORE CONNECTOR</b> <b>GATEWAY STATION FINISHES</b> PLATFORM RCP PARTIAL 2 cut el. +708'-0"		
Port Authority	CONTRACT NO.	NSC-010G
ENG NO.	AP203	REV. 7B

UNLESS NOTED OTHERWISE ALL  
CEILING FINISHES ARE EXISTING  
CONCRETE PROVIDED BY THE 004  
CONTRACT AND ARE TO REMAIN

**DMJM HARRIS | AECOM**  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222  
*Daniel F. Harrington* 4/29/08  
APPROVED DATE

**PITTSBURGH PORT AUTHORITY OF ALLEGHENY COUNTY**

**NORTH SHORE CONNECTOR  
GATEWAY STATION FINISHES**

Port Authority

TRACT NO. NSC-0109

The light / motion Collaborative  
EDGE studio and Pfeiffer & Associates

EDGE Studio  
5411 Penn Avenue  
Pittsburgh, PA 15206

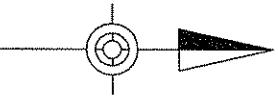
Platinum & Associates  
210 Fourth Avenue  
Pittsburgh, PA 15222

① B120-18 Addendum 3 - Drawing Mod. f.

NO.	DATE	DESCRIPTION
-----	------	-------------

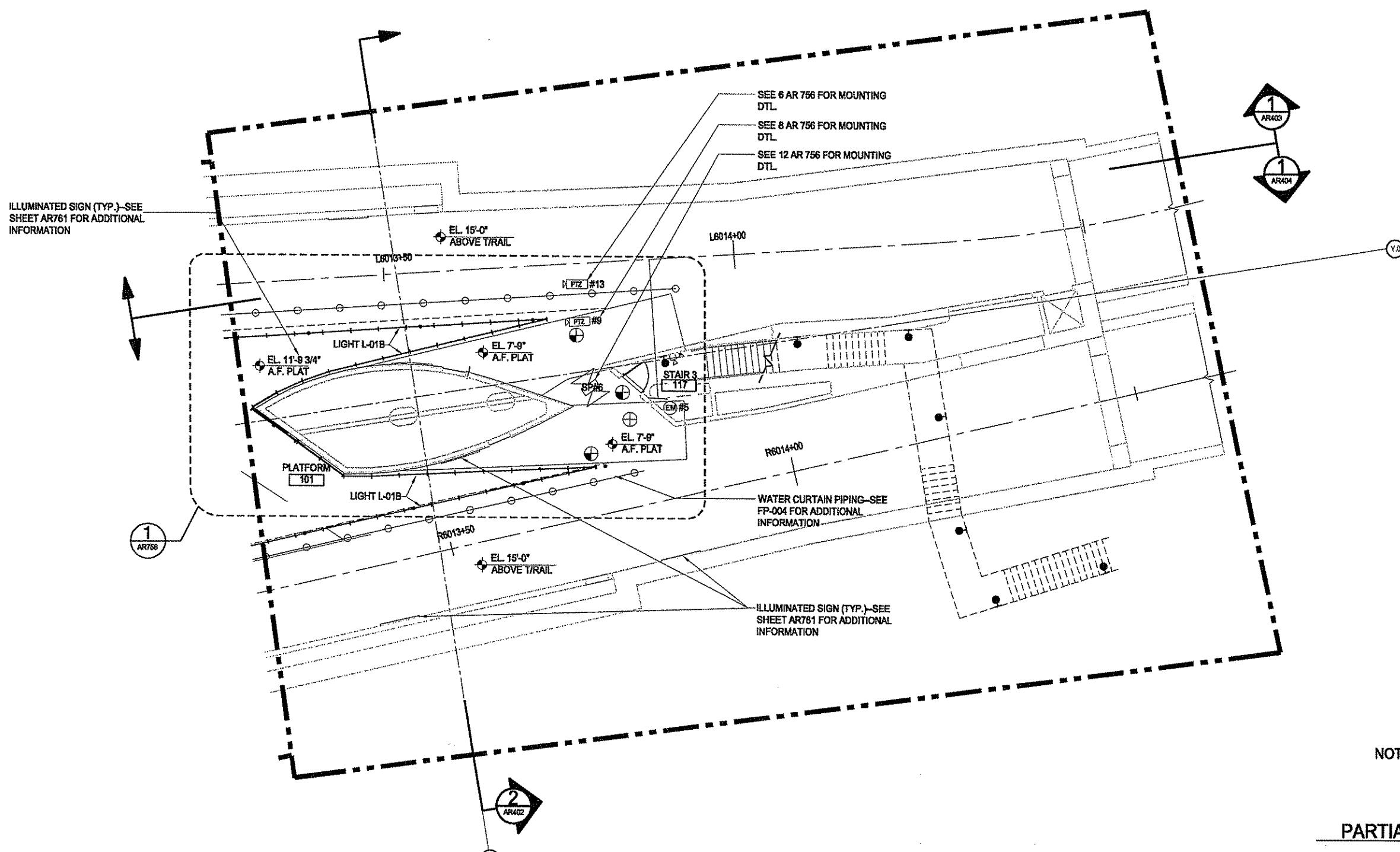
REV

THE PREPARATION OF THIS DRAWING HAS BEEN FINANCED, IN PART, THROUGH A GRANT FROM THE U. S. DEPARTMENT OF TRANSPORTATION, FEDERAL TRANSIT ADMINISTRATION UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED.



KEY

	CCTV CAMERA (PAN TILT ZOOM)
	SPEAKER (BI-DIRECTIONAL)
	AMBIENT NOISE MICROPHONE
	PASSENGER EMERGENCY PHONE
	CHEMICAL DETECTION
	VARIABLE MESSAGE SIGN
	AUDIO / VISUAL STROBE
	PAAC PHONE
	ELEVATOR PHONE



KEY

LINETYPE	NOTE
---	STATION SHELL CUT LINE - IN CONTRACT NSC-004
=====	CMU WALLS
DESIGNED	LMC
DRAWN	CFB
CHECKED	MGF
IN CHARGE	RSP
DATE	APRIL 29, 2008
SCALE	1/8=1'-0"
3' 4' 0 6'	

PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH, PENNSYLVANIA

NORTH SHORE CONNECTOR  
GATEWAY STATION FINISHES  
PLATFORM RCP PARTIAL 3 cut el. +708'-0"

Port Authority

CONTRACT NO. NSC-010G

DWG. NO. AR204 SHT. 79

The light / motion Collaborative  
EDGE Studio of Planners & Associates

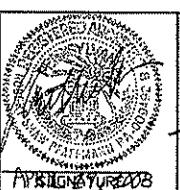
EDGE studio  
5411 Penn Avenue  
Pittsburgh, PA 15208  
tel: 412/435-5005  
fax: 412/435-5004

Platinum G Associates  
220 Fourth Avenue  
Pittsburgh, PA 15222  
tel: 412/471-2470  
fax: 412/471-2472

NO.	DATE	DESCRIPTION
REVISIONS		

10/29/08 Addendum 3 - Drawing modified

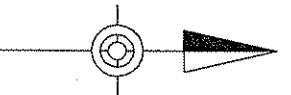
THE PREPARATION OF THIS DRAWING HAS BEEN FINANCED, IN PART, THROUGH A GRANT FROM THE U. S. DEPARTMENT OF TRANSPORTATION, FEDERAL TRANSIT ADMINISTRATION UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED.



DMJM HARRIS | AECOM

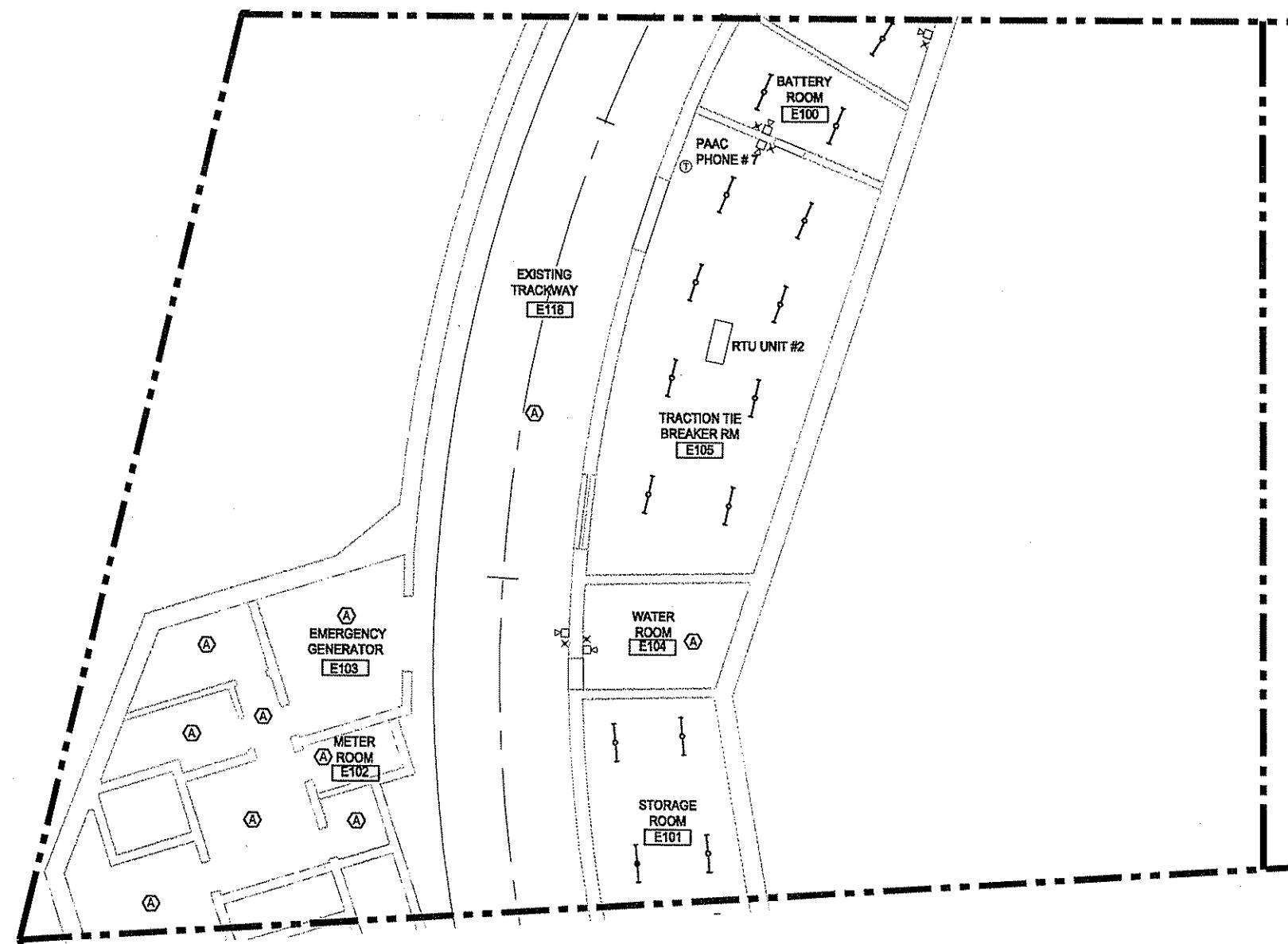
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA 15222

APPROVED DATE  
David J. Harris 4/29/08  
APRIL 29, 2008



KEY

	CCTV CAMERA (PAN TILT ZOOM)
	SPEAKER (BI-DIRECTIONAL)
	AMBIENT NOISE MICROPHONE
	PASSENGER EMERGENCY PHONE
	CHEMICAL DETECTION
	VARIABLE MESSAGE SIGN
	AUDIO / VISUAL STROBE
	PAAC PHONE
	ELEVATOR PHONE



PARTIAL PLATFORM LEVEL RCP

1  
1/8"=1'-0"

KEY

	EXISTING LIGHTING (TO REMAIN)
---	UNLESS NOTED OTHERWISE ALL CEILING FINISHES ARE EXISTING AND ARE TO REMAIN
=====	CMU WALLS

LINETYPE	NOTE
---	STATION SHELL CUT LINE - IN CONTRACT NSC-004
=====	CMU WALLS

The light / motion Collaborative

2000 Made and Performer & Associates

EGG studio  
6411 Penn Avenue  
Pittsburgh, PA 15208  
tel: 412/243-5005  
fax: 412/243-5006

President & Associates  
225 North Avenue  
Pittsburgh, PA 15222  
tel: 412/212-2470  
fax: 412/212-2472

5/26/08 Addendum 3 - Drawing Modified

NO. DATE DESCRIPTION

REVISIONS

THE PREPARATION OF THIS DRAWING HAS BEEN FINANCED, IN PART, THROUGH A GRANT FROM THE U. S. DEPARTMENT OF TRANSPORTATION, FEDERAL TRANSIT ADMINISTRATION UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED.



DMJM HARRIS | AECOM

FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222

DATED APRIL 29, 2008

SCALE 1/8"=1'-0"

APPROVED DATE

B' 4' 0" B'

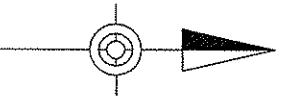
PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH  
PENNSYLVANIA

NORTH SHORE CONNECTOR  
GATEWAY STATION FINISHES  
PLATFORM RCP PARTIAL 4 cut el. +708-0"

Contract No. NSC-010G

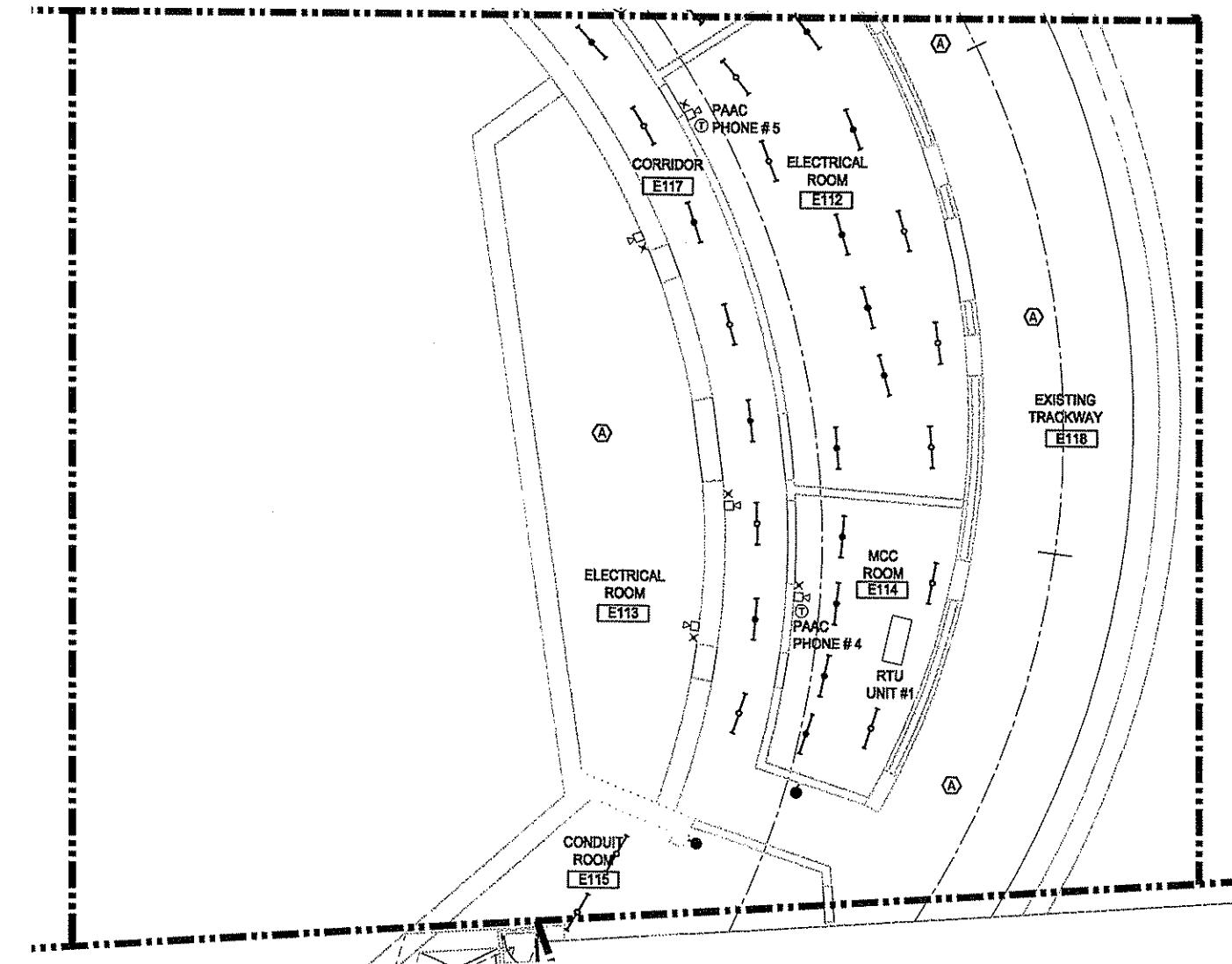
Drawn No. AR205 Sheet 80

Port Authority  
correcting page 10



KEY

	CCTV CAMERA (PAN TILT ZOOM)
	SPEAKER (BI-DIRECTIONAL)
	AMBIENT NOISE MICROPHONE
	PASSENGER EMERGENCY PHONE
	CHEMICAL DETECTION
	VARIABLE MESSAGE SIGN
	AUDIO / VISUAL STROBE
	PAAC PHONE
	ELEVATOR PHONE



PARTIAL PLATFORM LEVEL RCP 1

1/8"=1'-0"

KEY

	EXISTING LIGHTING (TO REMAIN)
	UNLESS NOTED OTHERWISE ALL CEILING FINISHES ARE EXISTING AND ARE TO REMAIN

LINETYPE	NOTE
—	STATION SHELL CUT LINE - IN CONTRACT NSC-004
—	CMU WALLS

The light / motion Collaborative  
EPIC Studio and Platform & Associates

EPIC Studio  
5411 Penn Avenue  
Pittsburgh, PA 15222  
Tel: 412/255-5200  
Fax: 412/255-5200

Platform & Associates  
220 Fourth Avenue  
Pittsburgh, PA 15222  
Tel: 412/471-2470  
Fax: 412/471-2472

Addendum 3 - Drawing Modified

NO.

DATE

DESCRIPTION

REVISIONS

THE PREPARATION OF THIS DRAWING HAS BEEN FINANCED, IN PART, THROUGH A GRANT FROM THE U. S. DEPARTMENT OF TRANSPORTATION, FEDERAL TRANSIT ADMINISTRATION UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED.



DMJM HARRIS | AECOM

FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA 15222

APPROVED DATE APRIL 29, 2008

SCALE 1/8"=1'-0"

3' 4' 0' 9'

PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH PENNSYLVANIA

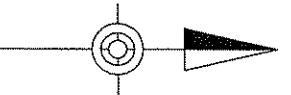
NORTH SHORE CONNECTOR  
GATEWAY STATION FINISHES

PLATFORM RCP PARTIAL 5 cut el. +708'-0"

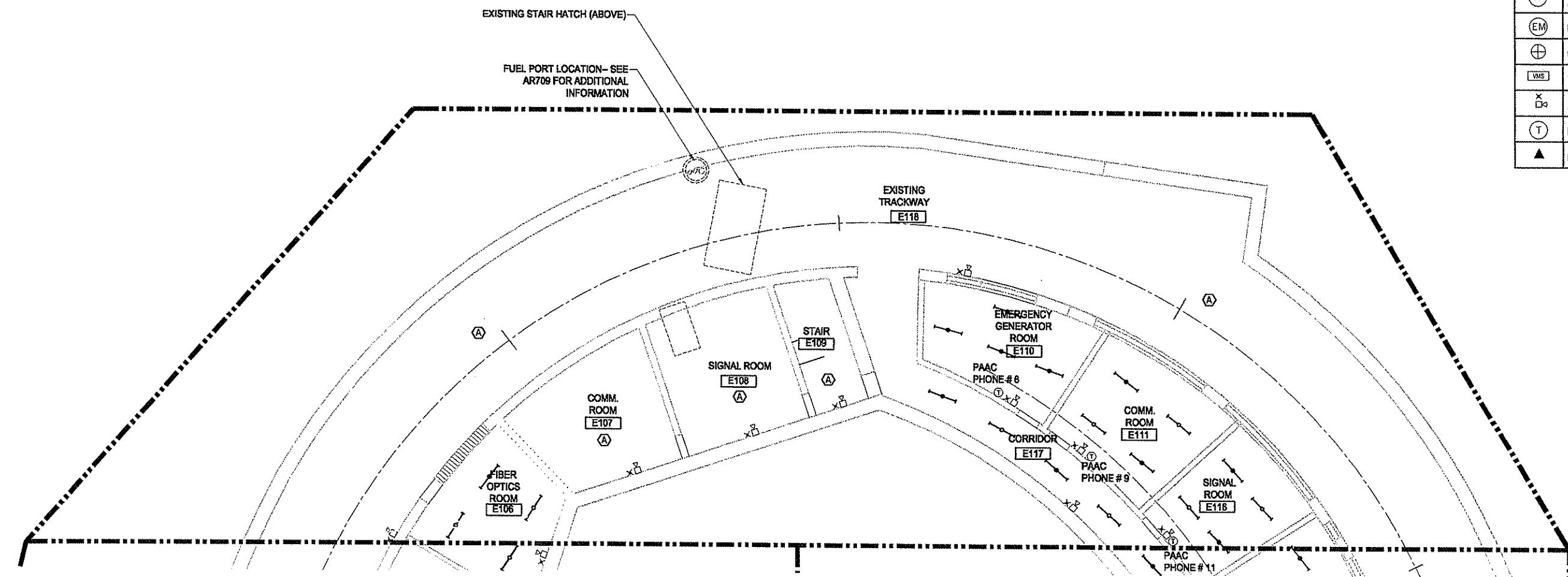
Port Authority

CONTRACT NO. NSC-010G

DWG. NO. AR206 SHT. 81


**KEY**

	CCTV CAMERA (PAN TILT ZOOM)
	SPEAKER (BI-DIRECTIONAL)
	AMBIENT NOISE MICROPHONE
	PASSENGER EMERGENCY PHONE
	CHEMICAL DETECTION
	VARIABLE MESSAGE SIGN
	AUDIO / VISUAL STROBE
	PAAC PHONE
	ELEVATOR PHONE


**PARTIAL PLATFORM LEVEL RCP**

1

1/8"=1'-0"

**KEY**

	NOTE
UNLESS NOTED OTHERWISE ALL CEILING ARE EXISTING (TO REMAIN)	STATION SHELL CUT LINE - IN CONTRACT NSC-004
	CMU WALLS

The light / motion Collaborative  
EDGE Studio and Partners & Associates

DOE studio  
5411 Penn Avenue  
Pittsburgh, PA 15208  
Tel: 412/245-5005  
Fax: 412/245-5006

Philips & Associates  
220 Fourth Avenue  
Pittsburgh, PA 15222  
Tel: 412/612-0700  
Fax: 412/612-1112

1/29/08 Addendum 3 - Drawing Modified

NO. DATE DESCRIPTION

REVISIONS

THE PREPARATION OF THIS DRAWING HAS BEEN FINANCED, IN PART, THROUGH A GRANT FROM THE U. S. DEPARTMENT OF TRANSPORTATION, FEDERAL TRANSIT ADMINISTRATION UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED.



DMJM HARRIS | AECOM

FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222

DATE APRIL 29, 2008

SCALE 1/8"=1'-0"

APPROVED DATE

B' 4' 0" 8'

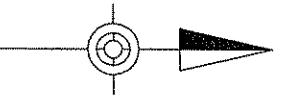
PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH PENNSYLVANIA

NORTH SHORE CONNECTOR  
GATEWAY STATION FINISHES  
PLATFORM RCP PARTIAL 6 cut el. +708'-0"

Port Authority

CONTRACT NO. NSC-010G

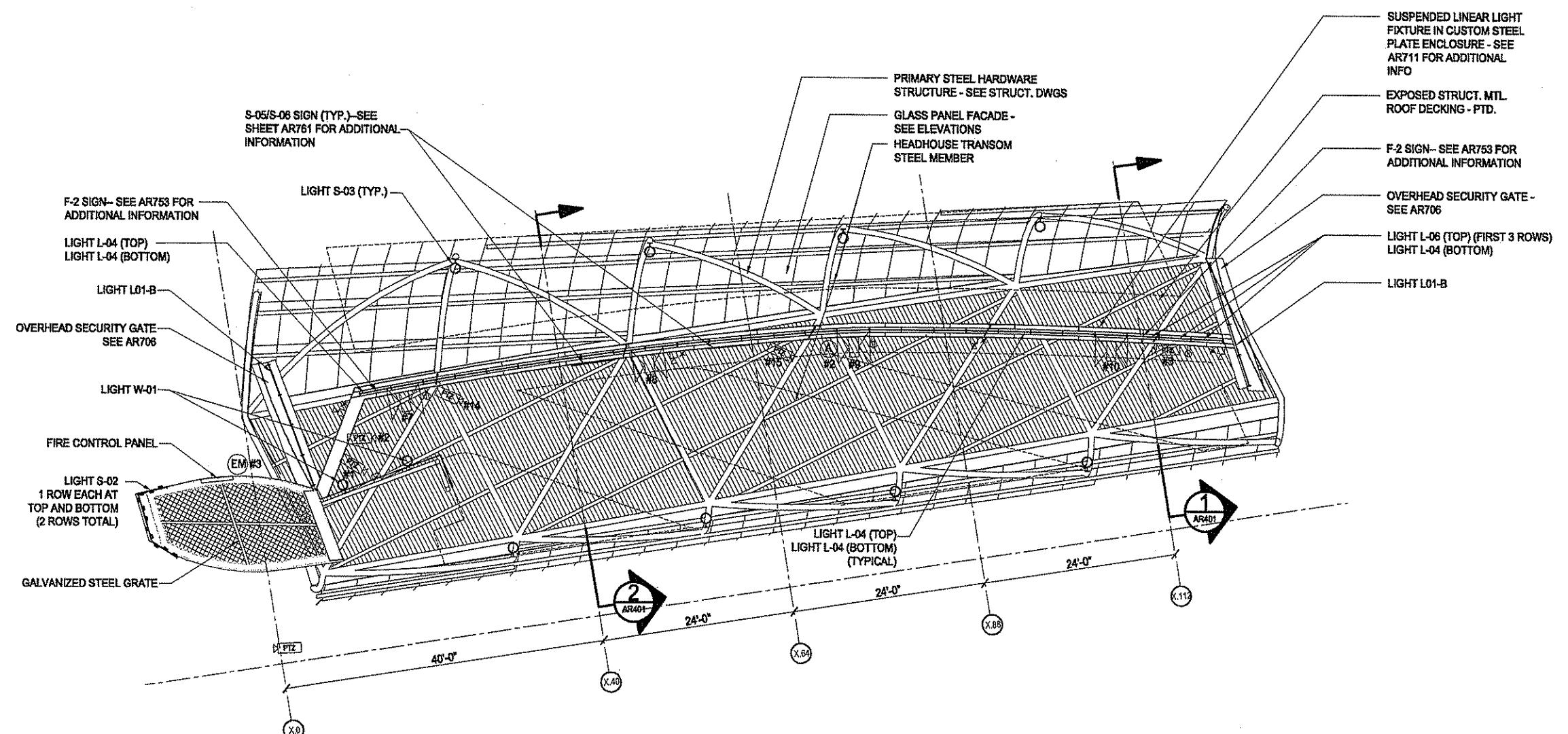
DWG. NO. AR207 SHT. 82



KEY

	CCTV CAMERA (PAN TILT ZOOM)
	SPEAKER (BI-DIRECTIONAL)
	AMBIENT NOISE MICROPHONE
	PASSENGER EMERGENCY PHONE
	CHEMICAL DETECTION
	VARIABLE MESSAGE SIGN
	AUDIO / VISUAL STROBE
	PAAC PHONE
	ELEVATOR PHONE

NOTE: DEVICES SHOWN FOR REFERENCE:  
REFER TO SHEET AR711 FOR DEVICE LOCATIONS



CONCOURSE LEVEL RCP

1

1/8=1'-0"

NOTE: LIGHT L-05 TO BE  
PROTECTED FROM WATER  
AT TOP AND SIDES OF  
FIXTURE

NOTE: PROVIDE WATER  
STOP BETWEEN L-04 AND  
L-06 LIGHT FIXTURES

The light / motion Collaborative  
EDGE Studio and Phillips & Associates

EDGE Studio  
5411 Penn Avenue  
Pittsburgh, PA 15208  
Tel: 412/471-5000  
Fax: 412/471-2470

Phillips & Associates  
220 Fourth Avenue  
Pittsburgh, PA 15222  
Tel: 412/471-2470  
Fax: 412/471-2470

10/20/08 Addendum 3 - Drawing modified

NO. DATE DESCRIPTION

REVISIONS

THE PREPARATION OF THIS DRAWING HAS BEEN FINANCED, IN PART, THROUGH A GRANT FROM THE U. S. DEPARTMENT OF TRANSPORTATION, FEDERAL TRANSIT ADMINISTRATION UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED.



DMJM HARRIS | AECOM

FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222

DATE APRIL 29, 2008

SCALE 1/8=1'-0"

APPROVED DATE

PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH  
PENNSYLVANIA

NORTH SHORE CONNECTOR  
GATEWAY STATION FINISHES  
CONCOURSE RCP cut el. +734'-0"

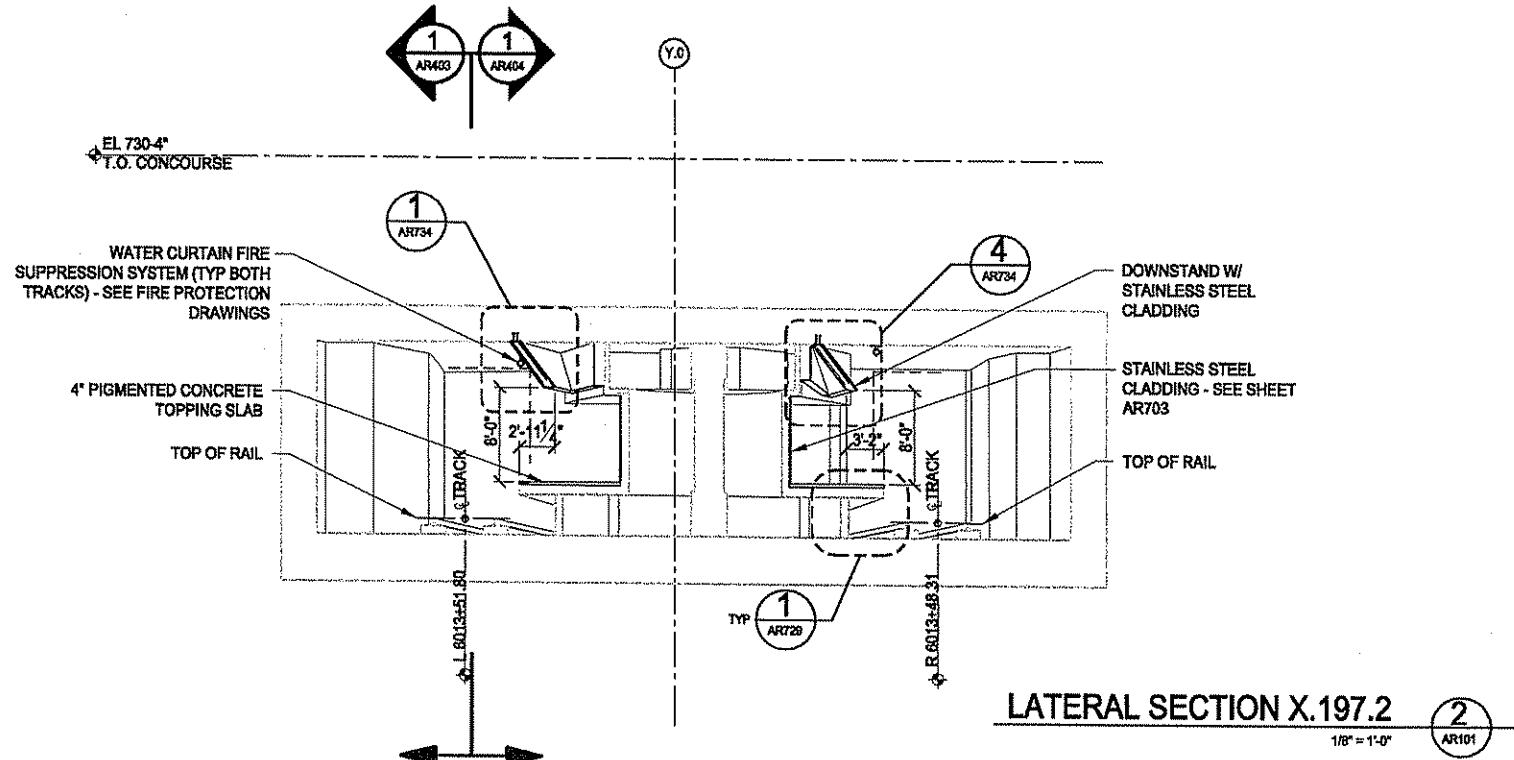
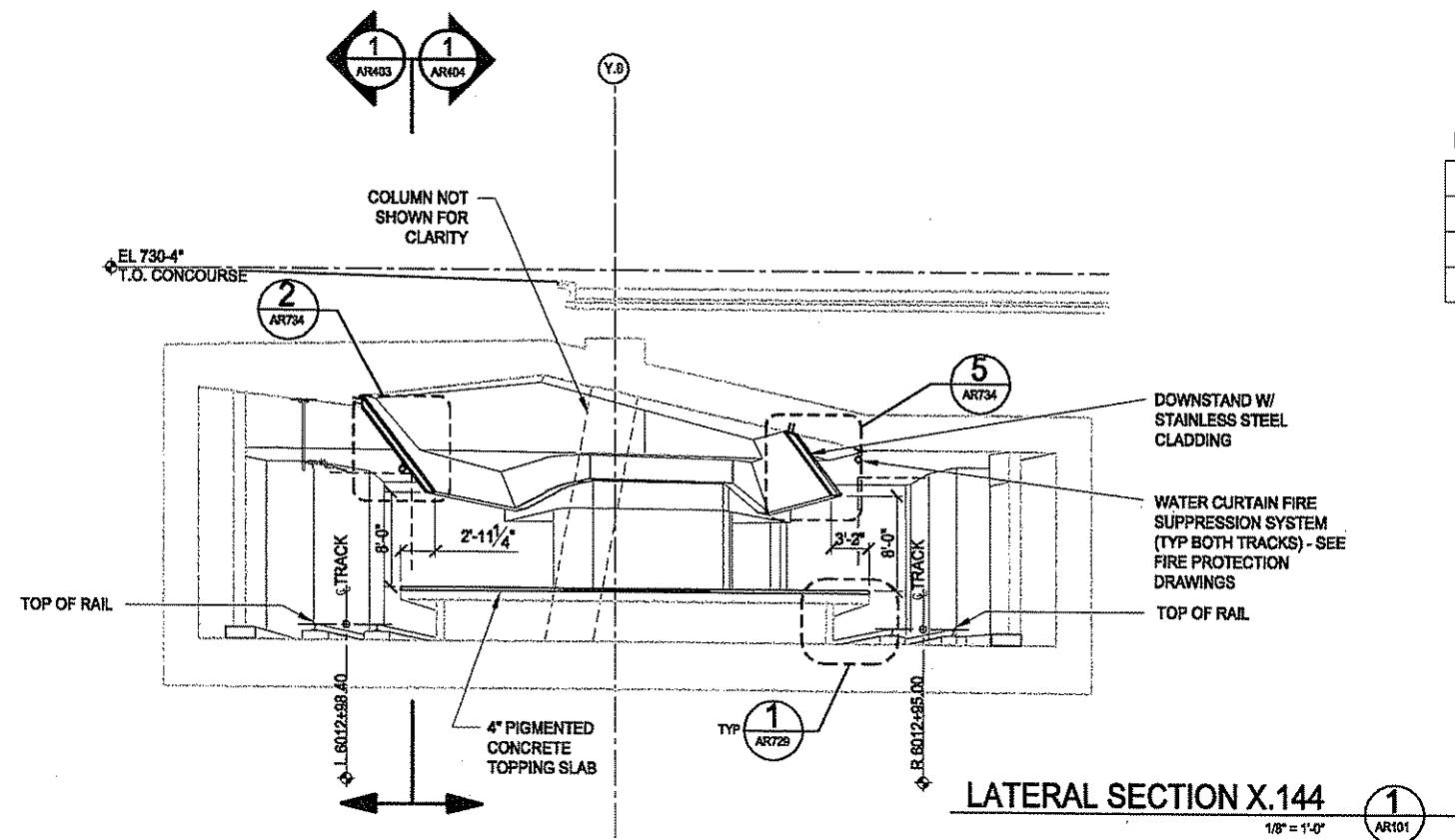
Port Authority

CONTRACT NO. NSC-010G

DWG. NO. AR208 SHT. 83

## KEY

LINETYPE	NOTE
====	STATION SHELL CUT LINE - IN CONTRACT NSC-004
=====	STATION SHELL BEYOND - IN CONTRACT NSC-004



The light / motion Collaborative  
DDG Studio and Platnum & Associates

DDG Studio  
5411 Penn Avenue  
Pittsburgh, PA 15208  
Tel: 412/943-5000  
Fax: 412/943-5005

Platinum & Associates  
223 Fourth Avenue  
Pittsburgh, PA 15222  
Tel: 412/227-1210  
Fax: 412/227-1215

10/20/08 Addendum 3 - Drawing modified

NO. DATE DESCRIPTION

REVISIONS

THE PREPARATION OF THIS DRAWING HAS BEEN FINANCED, IN PART, THROUGH A GRANT FROM THE U. S. DEPARTMENT OF TRANSPORTATION, FEDERAL TRANSIT ADMINISTRATION UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED.



DMJM HARRIS | AECOM

FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA. 15222

APPROVED DATE

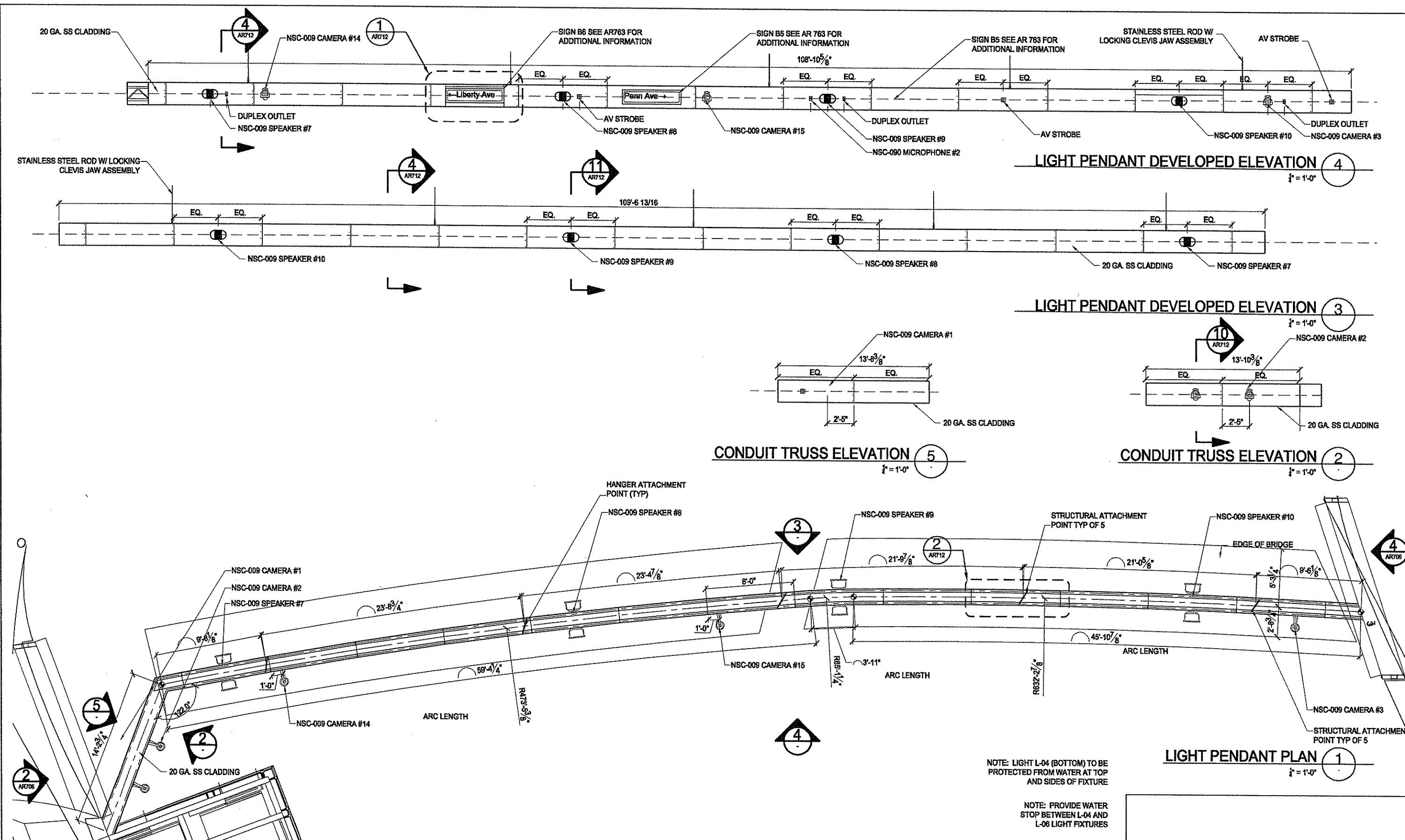
DESIGNED	LMC
DRAWN	JMG
CHECKED	MGF
IN CHARGE	RSP
DATE	APRIL 29, 2008
SCALE	1/8"=1'-0"
B'	4'
4'	0
8'	8

PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH, PENNSYLVANIA

NORTH SHORE CONNECTOR  
GATEWAY STATION FINISHES  
LATERAL SECTIONS X.144 & X.197.2

Port Authority  
connecting people to life

CONTRACT NO. NSC-010G  
DWG. NO. AR402 SHT. 86



The light / motion Collaborative  
ETHE and McPherson & Associates

**EDOE studio**  
5411 Penn Avenue  
Pittsburgh, PA 15205  
tel. #423-34066  
fax 423-340664  
**Pfeilmann & Associates**  
223 South Avenue  
Pittsburgh, PA 15222  
tel. 412-471-2470  
fax 412-471-2471

THE PREPARATION OF THIS DRAWING HAS BEEN FINANCED, IN PART, THROUGH A GRANT FROM THE U. S. DEPARTMENT OF TRANSPORTATION, FEDERAL TRANSIT ADMINISTRATION UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED.

## L-06 LIGHT FIXTURES

**NOTE: PROVIDE WATER  
STOP BETWEEN L-04 AND  
L-06 LIGHT FIXTURES**

DESIGNED BY LMD  
BRAWN CFB

CHECKED MGR

IN CHARGE RSP

DATE APRIL 29, 2

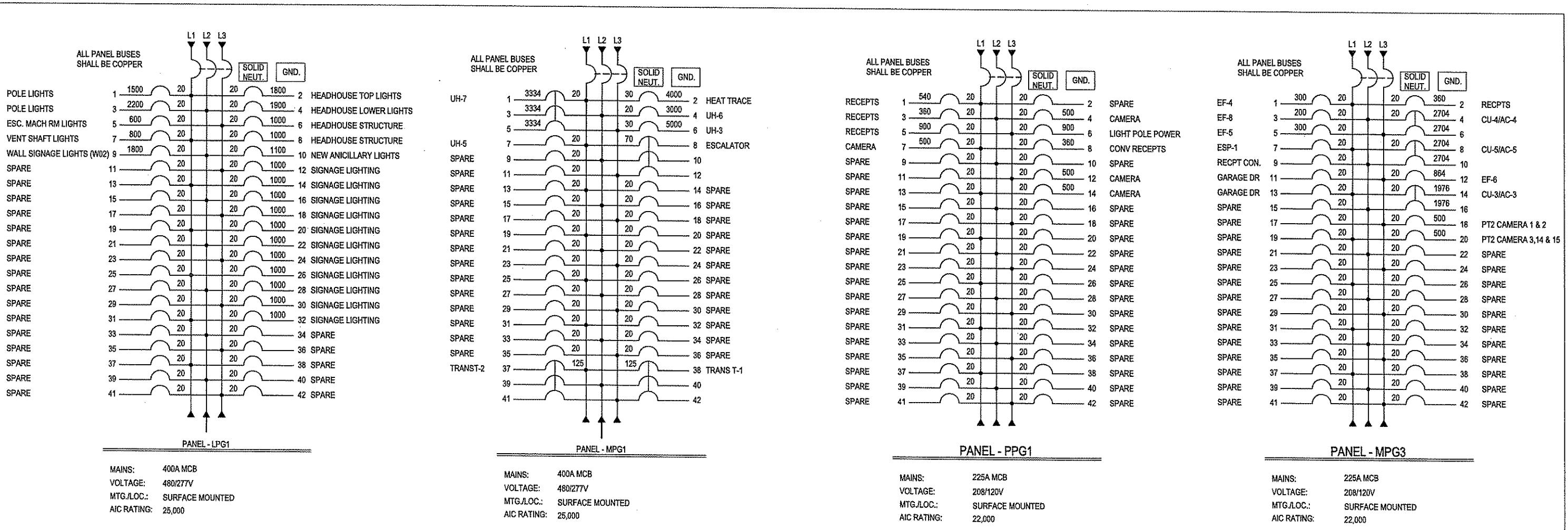
SCALE 1/4"=1'-0"

Page 10

**PORT AUTHORITY OF ALLEGHENY COUNTY**  
**PITTSBURGH** **PENNSYLVANIA**

**NORTH SHORE CONNECTOR  
GATEWAY STATION FINISHES**

Port Authority



#### GENERAL NOTES:

1. THE ELECTRICAL CONTRACTOR SHALL VERIFY THE AVAILABLE FAULT CURRENT WITH THE UTILITY COMPANY PRIOR TO BIDDING AND PROVIDE EQUIPMENT RATED ACCORDINGLY. SUBMIT FAULT CURRENT CALCULATIONS WITH SHOP DRAWING SUBMITTAL. INITIAL DESIGN IS BASED ON A UTILITY FAULT CURRENT OF 110,000 AMPS AT THE COLLECTOR BUS PROVIDED BY JOE BRESNEI OF DUESNE LIGHT COMPANY.

2. ALL BUSSING SHALL BE COPPER. PROVIDE FULL LENGTH VERTICAL AND FULL SIZE HORIZONTAL BUSSING IN ALL SWITCHBOARDS, DISTRIBUTION PANELS, & PANELBOARDS AS APPLICABLE.

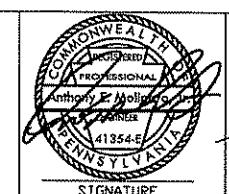
3. ALL CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE.

4. REFER TO ELECTRICAL SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

5. THE ELECTRICAL CONTRACTOR SHALL PROVIDE FINAL SETTINGS REQUIRED FOR ALL ADJUSTABLE/ELECTRONIC TYPE CIRCUIT BREAKERS WITH LONG TIME, SHORT TIME, GF, INSTANTANEOUS, ETC. THE ELECTRICAL CONTRACTOR SHALL PROVIDE FINAL SHORT CIRCUIT COORDINATION STUDY AND AN ARC FAULT STUDY.

6. THE ELECTRICAL CONTRACTOR SHALL COMPLY WITH NEC ARTICLE 110.16 FOR LABELING OF PANELS FOR ARC FLASH HAZARD WARNING AS WELL AS FOLLOWING REQUIRED SAFETY PRECAUTIONS WHEN SERVICING OR MAINTAINING ELECTRICAL EQUIPMENT.

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

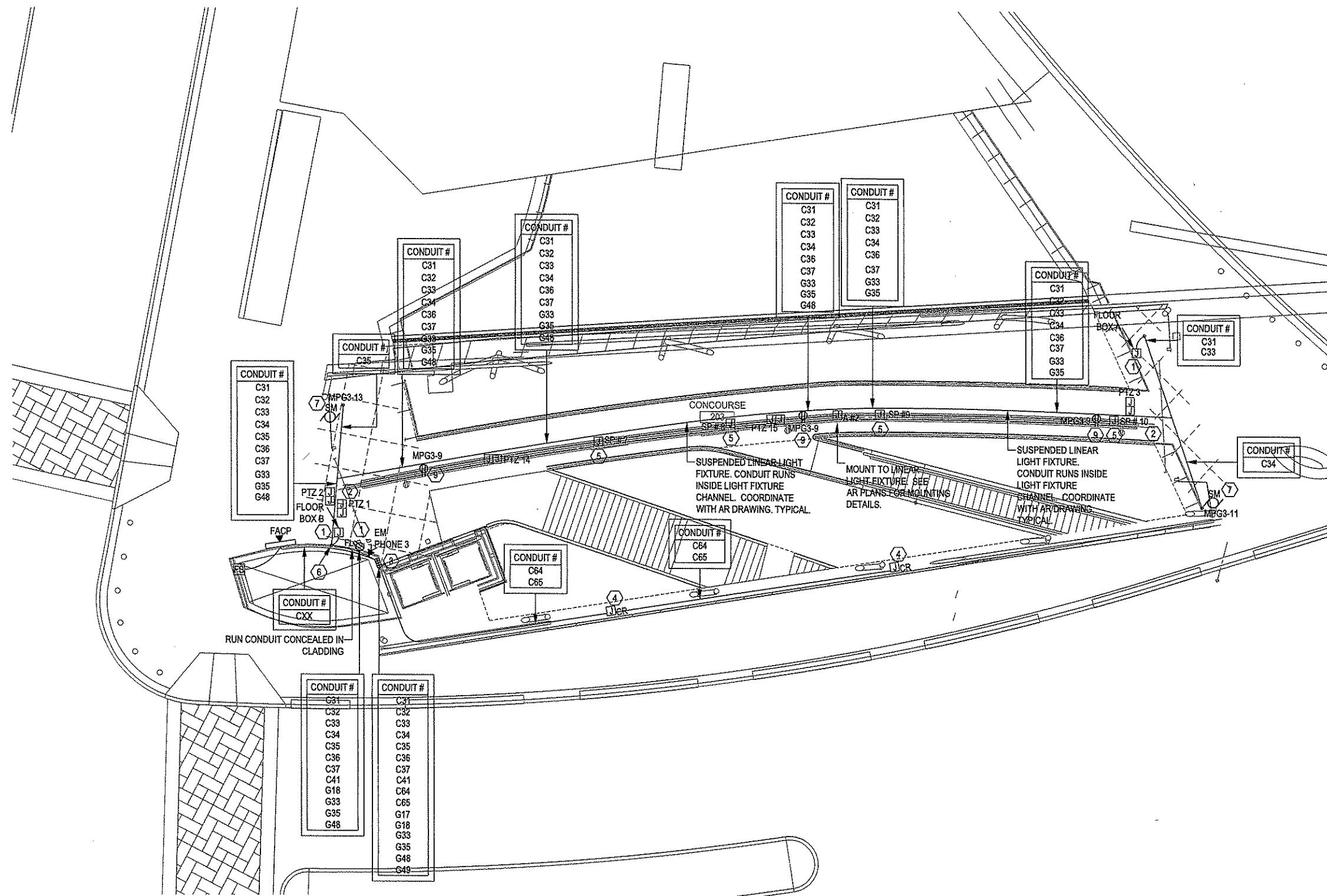
412-232-9280  
Fax: 412-232-9281

412-23

MECHANICAL EQUIPMENT SCHEDULE						
ITEM NUMBER	VOLTAGE AND PHASE	AMPACITY (A)	CONNECTION	WIRE SIZE	CONDUT	
EF-1	120V-1Ø	9.8 AMPS	BO	2#12, 1#12 (G)	3/4"	C.
EF-2	120V-1Ø	7.2 AMPS	BO	2#12, 1#12 (G)	3/4"	C.
EF-3	120V-1Ø	9.8 AMPS	BO	2#12, 1#12 (G)	3/4"	C.
EF-4	120V-1Ø	4.4 AMPS	BO	2#12, 1#12 (G)	3/4"	C.
EF-5	120V-1Ø	4.4 AMPS	BO	2#12, 1#12 (G)	3/4"	C.
EF-6	120V-1Ø	7.2 AMPS	BO	2#12, 1#12 (G)	3/4"	C.
EF-7	120V-1Ø	9.8 AMPS	BO	2#12, 1#12 (G)	3/4"	C.
EF-8	120V-1Ø	1.0 AMPS	BO	2#12, 1#12 (G)	3/4"	C.
AC-1	208V-1Ø	1.0 AMPS	BO	3#12, 1#12 (G)	3/4"	C.
AC-2	208V-1Ø	1.0 AMPS	BO	3#12, 1#12 (G)	3/4"	C.
AC-3	208V-1Ø	1.0 AMPS	BO	3#12, 1#12 (G)	3/4"	C.
AC-4	208V-1Ø	1.0 AMPS	BO	3#12, 1#12 (G)	3/4"	C.
AC-5	208V-1Ø	1.0 AMPS	BO	3#12, 1#12 (G)	3/4"	C.
AC-6	208V-1Ø	1.0 AMPS	BO	3#12, 1#12 (G)	3/4"	C.
AC-7	208V-1Ø	1.0 AMPS	BO	3#12, 1#12 (G)	3/4"	C.
AC-8	208V-1Ø	1.0 AMPS	BO	3#12, 1#12 (G)	3/4"	C.
CU-1	208V-1Ø	13 AMPS	BO	3#12, 1#12 (G)	3/4"	C.
CU-2	208V-1Ø	13 AMPS	BO	3#12, 1#12 (G)	3/4"	C.
CU-3	208V-1Ø	18 AMPS	BO	3#10, 1#10 (G)	1"	C.
CU-4	208V-1Ø	25 AMPS	BO	3#8, 1#10 (G)	1"	C.
CU-5	208V-1Ø	25 AMPS	BO	3#8, 1#10 (G)	1"	C.
CU-6	208V-1Ø	13 AMPS	BO	3#12, 1#12 (G)	3/4"	C.
CU-7	208V-1Ø	18 AMPS	BO	3#10, 1#10 (G)	1"	C.
CU-8	208V-1Ø	18 AMPS	BO	3#10, 1#10 (G)	1"	C.
UH-1	120V-1Ø	12.5 AMPS	MMS	2#12, 1#12 (G)	3/4"	C.
UH-2	120V-1Ø	12.5 AMPS	MMS	2#12, 1#12 (G)	3/4"	C.
UH-3	277V-1Ø	18.0 AMPS	MMS	2#10, 1#10 (G)	1"	C.
UH-4	277V-1Ø	18.0 AMPS	MMS	2#10, 1#10 (G)	1"	C.
UH-5	277V-1Ø	18.0 AMPS	MMS	2#10, 1#10 (G)	1"	C.
UH-6	277V-1Ø	11.0 AMPS	MMS	2#12, 1#12 (G)	3/4"	C.
UH-7	480V-3Ø	12.0 AMPS	DISC	3#12, 1#12 (G)	3/4"	C.
UH-8	277V-1Ø	27 AMPS	MMS	2#8, 1#10 (G)	1"	C.
UH-9	277V-1Ø	18.0 AMPS	MMS	2#10, 1#10 (G)	1"	C.
UH-10	480V-3Ø	12.0 AMPS	DISC	3#12, 1#12 (G)	3/4"	C.
UH-11	480V-3Ø	12.0 AMPS	DISC	3#12, 1#12 (G)	3/4"	C.
UH-12	480V-3Ø	12.0 AMPS	DISC	3#12, 1#12 (G)	3/4"	C.
SF-1	120V-1Ø	9.8 AMPS	MMS	2#12, 1#12 (G)	1"	C.
DH-1	480V-3Ø	22.0 AMPS	BO	3#10, 1#10 (G)	1"	C.
ESP-1	120V-1Ø	8.0 AMPS	MMS	2#12, 1#12 (G)	3/4"	C.
ESP-2	120V-1Ø	8.0 AMPS	MMS	2#12, 1#12 (G)	3/4"	C.
SP-1 PANEL	208V-1Ø	18.6 AMPS	DISC	3#12, 1#12 (G)	3/4"	C.
SP-2 PANEL	120V-1Ø	9.7 AMPS	MMS	2#12, 1#12 (G)	3/4"	C.
SP-3 PANEL	120V-1Ø	24.0 AMPS	MMS	2#12, 1#12 (G)	3/4"	C.
SP-1 ALARM	120V-1Ø	5.0 AMPS	MMS	2#12, 1#12 (G)	3/4"	C.
SP-3 ALARM	120V-1Ø	5.0 AMPS	MMS	2#12, 1#12 (G)	3/4"	C.
TP-1	120V-1Ø	1.0 AMPS	MMS	2#12, 1#12 (G)	3/4"	C.
WH-1	208V-1Ø	4.5 KW	30/3/20	3#12, 1#12 (G)	3/4"	C.
WH-2	480V-3Ø	126 KW	200/3/200	4#3/0, #6(G)	2-1/2"	C.
HEAT TRACE	277V-1Ø	1500 W	MMS	2#12, 1#12 (G)	3/4"	C.

"C" SERIES CONDUIT SCHEDULE						
CONDUIT	SIZE	FEEDS	VOLTAGE	WIRES	CIRCUIT	
C1	1"	EF-4/ EF-5	120V-1Ø	3 #8S & #10G - 1°C	MPG4-1	
C2	1"	UH-8	277V-1Ø	-	MPG2-14	
C3	1"	UH-10	480V-3Ø	-	MPG2-38,40,42	
C4	1"	UH-13	480V-3Ø	4#10 + #10G	MPG2-13	
C5	2"	COMM FEED	208V-3Ø	SEE RISER DIAGRAM	MAIN SWGR	
C6	1-1/2"	SIG RM FEED	208V-3Ø	SEE RISER DIAGRAM	MAIN SWGR	
C7	1"	EF-8	120V-1Ø	3#12 + #12G	-	
C8	1"	AC6/ CU6	208V-1Ø	2#12 + #12G	-	
C9	1"	FS DAMPER	120V-1Ø	2#12 + #12G	-	
C10	(10) 4"	MCC	480V-3Ø	SEE RISER DIAGRAM	MAIN SWGR	
C11	4"	SPARE	-	PULLWIRE	-	
C12	2-1/2"	SPARE	-	PULLWIRE	-	
C13	2-1/2"	SPARE	-	PULLWIRE	-	
C14	2-1/2"	HPG1	480V-3Ø	SEE RISER DIAGRAM	MAIN SWGR	
C15	2-1/2"	HPG2	480V-3Ø	SEE RISER DIAGRAM	MAIN SWGR	
C16	2-1/2"	MPG1	480V-3Ø	SEE RISER DIAGRAM	MAIN SWGR	
C17	4"	SPARE	-	PULLWIRE	-	
C18	2-1/2"	UH-9	-	PULLWIRE	-	
C19	2-1/2"	SPARE	-	PULLWIRE	-	
C20	4"	LPG1	480V-3Ø	SEE RISER DIAGRAM	MAIN SWGR	
C21	1"	RECEPTS	120V-1Ø	-	MPG2-14	
C22	1"	HEAT TRACE	277V-1Ø	-	MPG2-15	
C23	1"	PRE-ACTION	-	-	EM	
C24	1-1/2"	SIGN FEED	208V-3Ø	SEE RISER DIAGRAM	MAIN SWGR	
C25	1"	HEAT TRACE	208V-1Ø	-	-	
C26	-	CU4/AC4	208V-1Ø	-	MPG4-	
C27	1"	CU5/AC5	208V-1Ø	-	MPG4-4,6	
C28	1"	CU7/AC7	208V-1Ø	3#12 + #12G	MPG4-8,10	
C29	1"	UH-11	208V-1Ø	3#10 + #10G	MPG2-32,34,36	
C30	1"	CU3/AC3	208V-1Ø	2#10 + #10G	MPG4-14,16	
C31	1"	FLOORBOX A	120V-1Ø	2#10 + #10G	-	
C32	1"	PT2 3,14,15	120V-1Ø	2#10 + #10G	MPG3-20	
C33	1"	SPARE	-	-	-	
C34	1"	MOTOR DOOR	-	-	-	
C35	1"	MOTOR DOOR	-	-	MPG3-13	
C36	1"	RECEPT	120V-1Ø	2#10 + #10G	MPG3-9	
C37	1"	-	SPARE	-	-	
C38	1"	VMS	120V-1Ø	2 #10S & #10G	-	
C39	1"	CCTV 9 & 13	120V-1Ø	2 #10S & #10G	-	
C40	1"	EF7	-	PULL WIRE	-	
C41	1"	PT2 1,2	120V-1Ø	2#10 + #10G	MPG3-18	
C42	1"	HEAT TRACE	277V-1Ø	2 #10S & #10G	MPG2-19	
C43	-	SP3 CTL	-	-	NOT USED	
C44	-	EPG1	-	-	NOT USED	
C45	1"	UH-12	-	-	MPG2-26,28,30	
C46	2"	PREACTION	-	PULL WIRE	-	
C47	1"	FIRE ALARM	-	PULL WIRE	-	
C48	1"	FIRE ALARM	-	PULL WIRE	-	
C49	1"	FIRE ALARM	-	PULL WIRE	-	

"C" SERIES CONDUIT SCHEDULE						
CONDUIT	SIZE	FEEDS	VOLTAGE	WIRES	CIRCUIT	
C50	1"	FIRE ALARM	-	PULL WIRE	-	
C51	1"	FIRE ALARM	-	PULL WIRE	-	
C52	1"	FIRE ALARM	-	PULL WIRE	-	
C53	1"	FIRE ALARM	-	PULL WIRE	-	
C54	1"	FIRE ALARM	-	PULL		

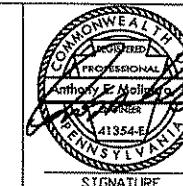


POWER PLAN - CONCOURSE LEVEL - PARTIAL 7

1

<b>Allen &amp; Shariff</b>	
<i>The light / motion collaborative</i>	
EDGE Studio and Partners & Associates	
6411 Penn Avenue Pittsburgh, PA 15206 Tel: 412.322.9280 Fax: 412.322.9281	
700 River Avenue, Suite 333 Pittsburgh, PA 15212 Tel: 412.322.9280 Fax: 412.322.9281	
8/20/08 Addendum 3 - Drawing modified	
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

Anthony P. Mollica, PE  
P.A.T. #141354-E  
APPROVED  
DATE 4/29/08  
SIGNATURE  
APPROVED  
DATE  
4/29/08

PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH  
PENNSYLVANIA

NORTH SHORE CONNECTOR  
GATEWAY STATION SHELL  
POWER PLAN - CONCOURSE LEVEL  
PARTIAL 7

Port Authority	CONTRACT NO.	NSC-010E
connecting people to places	DWG. NO.	EL 017
	SHT.	218

#### GENERAL NOTES:

- WHERE WIRE SIZE IS NOT INDICATED, #12 AWG MINIMUM SHALL BE USED FOR CIRCUITS LESS THAN 100 FEET IN LENGTH, #10 AWG SHALL BE USED FOR CIRCUITS FROM 100 TO 150 FEET IN LENGTH AND #8 AWG SHALL BE USED FOR CIRCUITS FROM 150 TO 250 IN LENGTH.
- FIRE STOP ALL FLOOR AND WALL PENETRATIONS AS REQUIRED BY CODE.
- THIS CONTRACTOR IS RESPONSIBLE FOR ALL CONDUIT AND JUNCTION BOXES FOR ALL COMMUNICATIONS DEVICES, FIRE ALARM DEVICES AND SECURITY DEVICES.
- SEE MECHANICAL SCHEDULE FOR EQUIPMENT CONNECTIONS AND WIRE SIZES. THE EC SHALL VERIFY ALL MECHANICAL EQUIPMENT SPECIFICATIONS (VOLTAGE, HORSEPOWER, KILOWATTS, CONNECTION, ETC) PRIOR TO ROUGH-IN OR PLACING FINAL PURCHASE ORDERS FOR ANY ELECTRICAL DEVICES.

#### CODED NOTES:

- PROVIDE DOUBLE GANG FLUSH FLOOR MOUNTED JUNCTION BOX FOR TURNSTILE POWER. CONDUIT SHALL BE ROUTED DOWN FROM SUSPENDED LINEAR LIGHT FIXTURE/CONDUIT.
- PROVIDE (2) JUNCTION BOXES FOR SECURITY CAMERA MOUNTED TO LINEAR CONDUIT.
- CONDUIT DROP POINT TO LOWER LEVEL.
- ELECTRICAL CONTRACTOR SHALL PROVIDE DOUBLE GANG FLUSH MOUNTED JUNCTION BOX FOR FUTURE CARD READER. MOUNT JUNCTION BOX AT LOCATION SHOWN ON ARCHITECTURAL PLANS. SHOWN 1" CONDUIT IN J BOX.
- PROVIDE DOUBLE GANG JUNCTION BOX MOUNTED TO LINEAR CONDUIT FOR SPEAKER BACKBOX.
- CONDUIT FEEDS UP AND INTO LINEAR CONDUIT.
- OVERHEAD ROLLING DOOR.
- ATTACH DEVICE TO LIGHT FIXTURE FRAME. ELECTRICAL CONTRACTOR SHALL RUN CONDUIT THROUGH LIGHT FIXTURE CHANNEL. COORDINATE MOUNTING REQUIREMENTS WITH "AR" DRAWINGS.
- RECEPTACLE MOUNTED TO LINEAR LIGHT FIXTURE.

## ADDITIONAL ELECTRICAL LEGEND ITEMS

	UTILITY KWH METER. PROVIDE 11 #14-1 1/2" C FROM C.T. COMPARTMENT TO METER	REPRESENTS DEMOLITION PHASE REPRESENTS WORK NOTE
	DISCONNECT SWITCH, NONFUSED	REPRESENTS NEW CONST. PHASE REPRESENTS WORK NOTE
	DISCONNECT SWITCH, FUSED	FUSED DISCONNECT SWITCH
	SURFACE MOUNTED PLUG MOLD	WALL BRACKET OUTLET & LIGHTING FIXTURE
	DUPLEX RECEPTACLE, 20 AMPERE, 120 VOLTS, 2 POLE, 3 WIRE GROUNDING TYPE, NEMA 5-20R, MOUNTED 18" A.F.F. U.N.O.	SMOKE DETECTOR (DASHED INDICATES UNDER FLOOR)
	GFI DUPLEX RECEPTACLE, 20 AMPERE, 120 VOLTS, 2 POLE, 3 WIRE GROUNDING TYPE, NEMA 5-20R, MOUNTED 42" A.F.F. U.N.O.	SMOKE DETECTOR IN DUCT
	SINGLE POLE TOGGLE SWITCH, 20 AMP, 120/227 VOLTS, WITH COVER PLATE, 48" A.F.F. U.N.O.	FLOW DETECTOR SWITCH
	GROUND ROD	VALVE WITH TAMPER DETECTOR/SWITCH (BY DIV. 15)
	GROUND CONNECTION	SMOKE DETECTOR
	PHOTOELECTRIC CELL	
	RECESSED FIXTURE, SLASH INDICATES FIXTURE WITH SELF CONTAINED EMERGENCY BALLAST.	
	FIRE ALARM ANNUNCIATOR PANEL	
	END OF LINE RESISTOR	
	COMBINATION FIRE ALARM AUDIO/ VISUAL DEVICE	
	MASTER STATION (FIRE ALARM SYSTEM)	
	LIGHT (LAMP, SIGNAL LIGHT, INDICATOR LAMP, STROBE)	
	TRANSFORMER	
	WIRING (CONNECTION IN FLOOR & BELOW GRADE)	
	GROUND CIRCUIT	
	CADWELD (CABLE TO CABLE)	
	CADWELD	
	EMERGENCY OFF SWITCH	

## ADDITIONAL MECHANICAL LEGEND ITEMS

	REDUCED PRESSURE BACK FLOW PREVENTER	PA	PREACTION SYSTEM
	DUCTWORK INTERNALLY INSULATED OR ACOUSTIC LINED - SINGLE LINE	D	DRY SYSTEM
	FLOW DIRECTION		PRESSURE REGULATOR
	GAS PIPE		FIRE DAMPER
	REVERSE ACTING THERMOSTAT		VOLUME DAMPER
	TEMPERATURE SENSOR		EXHAUST FAN
	BLANKED OFF OR 3-WAY SUPPLY DIFFUSER		ROOF TOP AC UNIT
	POINT OF CONNECTION OF NEW TO EXISTING		CONDENSING UNIT
	DRY SPRINKLER PIPE		CABINET UNIT HEATER
	WET SPRINKLER PIPE		MAKE UP AIR UNIT
	EXISTING SPRINKLER PIPE		TRANSFER GRILLE
	PREACTION SPRINKLER PIPE		
	EXISTING PREACTION SPRINKLER PIPE		
	PIPING TAKE OFF (TOP)		
	PIPING RISE OR DROP		
	PIPING TAKE OFF (BOTTOM)		
	DRY PENDANT SPRINKLER		
	EXISTING WET ALARM VALVE		
	EXISTING MULTIMATIC DELUGE ALARM VALVE		
	WET ALARM VALVE		
	MULTIMATIC DELUGE ALARM VALVE		
	DRY ALARM VALVE		
	REMOVE PIPING		

100% SUBMISSION

NO.	DATE	DESCRIPTION	REVISIONS
<i>08/20/08 Addendum 3 - Drawing Added</i>			

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

SIGNATURE

APPROVED

DATE

PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH, PENNSYLVANIA

NORTH SHORE CONNECTOR  
NORTH SIDE STATION FINISHES  
STANDARD SYMBOLS  
9 OF 10

Port Authority

CONTRACT NO. NSC-011

DWG. NO. NGN017

SHT. 16

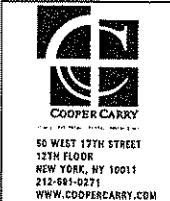
## LIGHTING SYMBOLS

- A FIXTURE TYPE 'A'  
UPLIGHT POLE MOUNT
- B FIXTURE TYPE 'B'  
BOLLARD LIGHT
- D1 FIXTURE TYPE 'D1'  
DOWNLIGHT
- D2 FIXTURE TYPE 'D3'  
DOWNLIGHT MOUNTED ON CORRUGATED  
METAL CEILING PANEL - CONCOURSE
- E FIXTURE TYPE 'E'  
FLOOR FLUSH LIGHT STRIP
- F FIXTURE TYPE 'F'  
FLOOR FLUSH UPLIGHT
- G FIXTURE TYPE 'G'  
LED STRIP FIXTURE
- L FIXTURE TYPE 'L'  
CEILING DOWNLIGHT  
IN ELEVATOR VESTIBULE
- H FIXTURE TYPE 'H'  
ACCENT FLOODLIGHT
- W FIXTURE TYPE 'W'  
SURFACE MOUNTED WALL WASHER

## COMMUNICATIONS SYMBOLS (NIC) - SUPPLIED AND INSTALLED UNDER SEPARATE CONTRACT

- SP VOICE CONTROL LOUD SPEAKER
- CCTV CLOSED CIRCUIT SECURITY CAMERA
- INCOMING/OUTGOING TRAIN SIGNAL
- EM SURFACE MOUNTED EMERGENCY ASSISTANCE TELEPHONE
- AM AMBIENT MICROPHONE
- VMS VARIABLE MESSAGE SIGN -  
PA ADA VISUAL SIGNAGE DOUBLE SIDED
- RTU DATA TRANSMISSION SYSTEM  
REMOTE TERMINAL UNIT
- T TELEPHONE
- ANTENNA

\*NOTE: REFER TO SPECIFICATIONS FOR DETAILED FIXTURE INFORMATION



NO.	DATE	DESCRIPTION
<b>8/20/08 Addendum 3 - Drawing Added</b>		

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	DESIGNED	JBW
		DRAWN	AW, BM, CF
	FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA 15222	CHECKED	LC
		IN CHARGE	CR
		DATE	APR. 03, 2008
		SCALE	NTS
	Port Authority	CONTRACT NO.	NSC-011
		DWG. NO.	NGN018
SHT. 17			

**100% SUBMISSION**

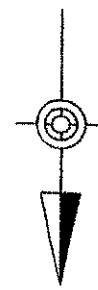
PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH, PENNSYLVANIA

NORTH SHORE CONNECTOR  
NORTH SIDE STATION FINISHES  
STANDARD SYMBOLS  
10 OF 10



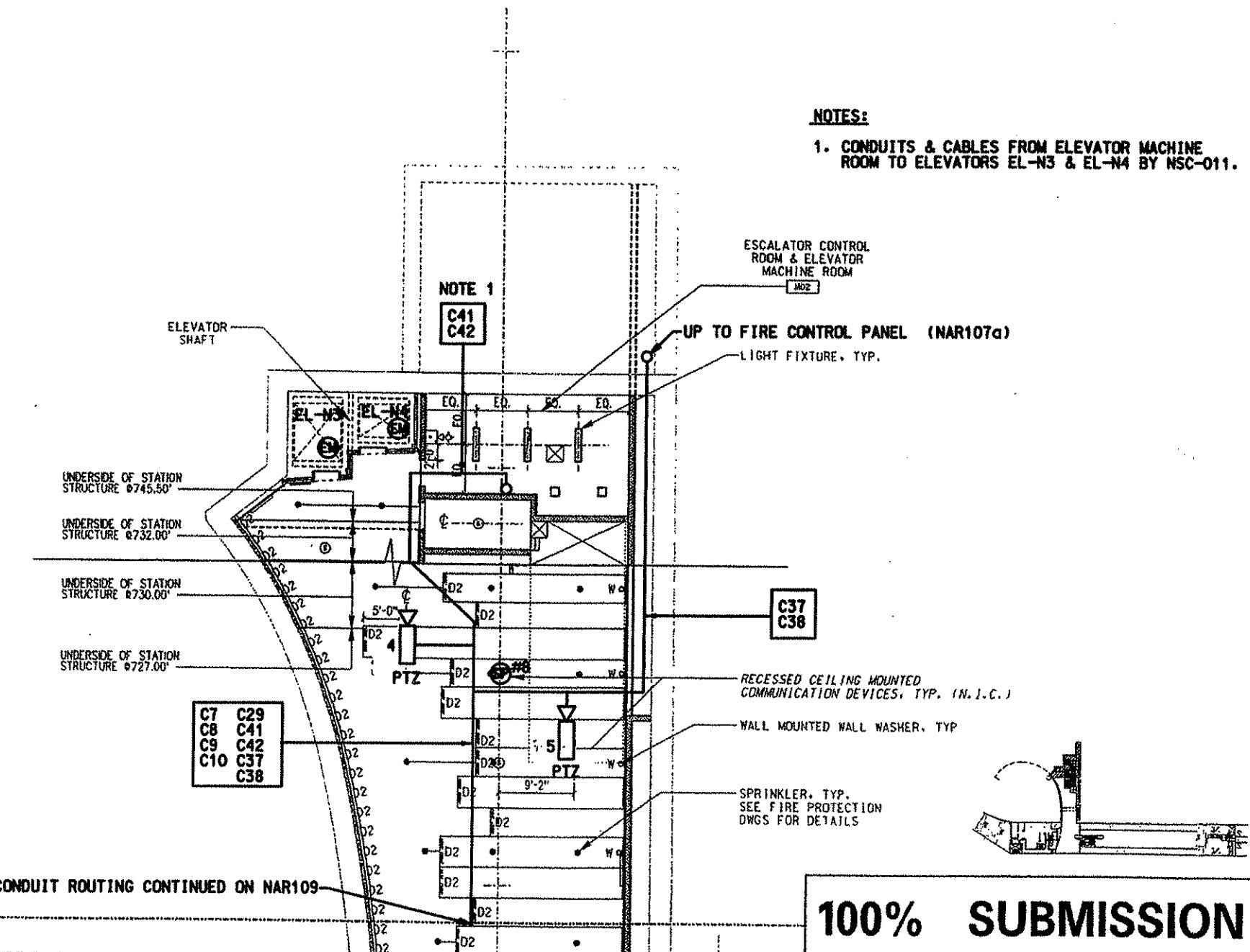






**NOTES:**

1. CONDUITS & CABLES FROM ELEVATOR MACHINE ROOM TO ELEVATORS EL-N3 & EL-N4 BY NSC-011.



**100% SUBMISSION**

47485.2515 PROJECTS\206825\0\dwgs\NAR903.DWT

NO.	DATE	DESCRIPTION	REVISONS
	8/20/08	Addendum 3 - Drawing Modified	

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  
SIGNATURE  
APPROVED  
DATE

DESIGNED JBW  
DRAWN AH, BM, CF  
CHECKED LC  
IN CHARGE CR  
DATE APR. 03, 2008  
SCALE 0 4' 8' 16'  
Port Authority

PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH  
NORTH SHORE CONNECTOR  
NORTH SIDE STATION FINISHES  
PARTIAL CONCOURSE LEVEL REFLECTED CEILING PLAN  
PLAN D  
Contract No. NSC-011  
DWG. NO. NAR903  
Sheet 27



LEGEND

► #	PAAC TELEPHONE (POTS)
(PEM)	PASSENGER EMERGENCY TELEPHONE (AUTOMATIC RINGDOWN)
(RTU)	REMOTE TERMINAL UNIT
(CCTV #16)	CCTV CAMERA (PAN-TILT-ZOOM)
(SPEAKER)	SPEAKER (WALL MOUNT)

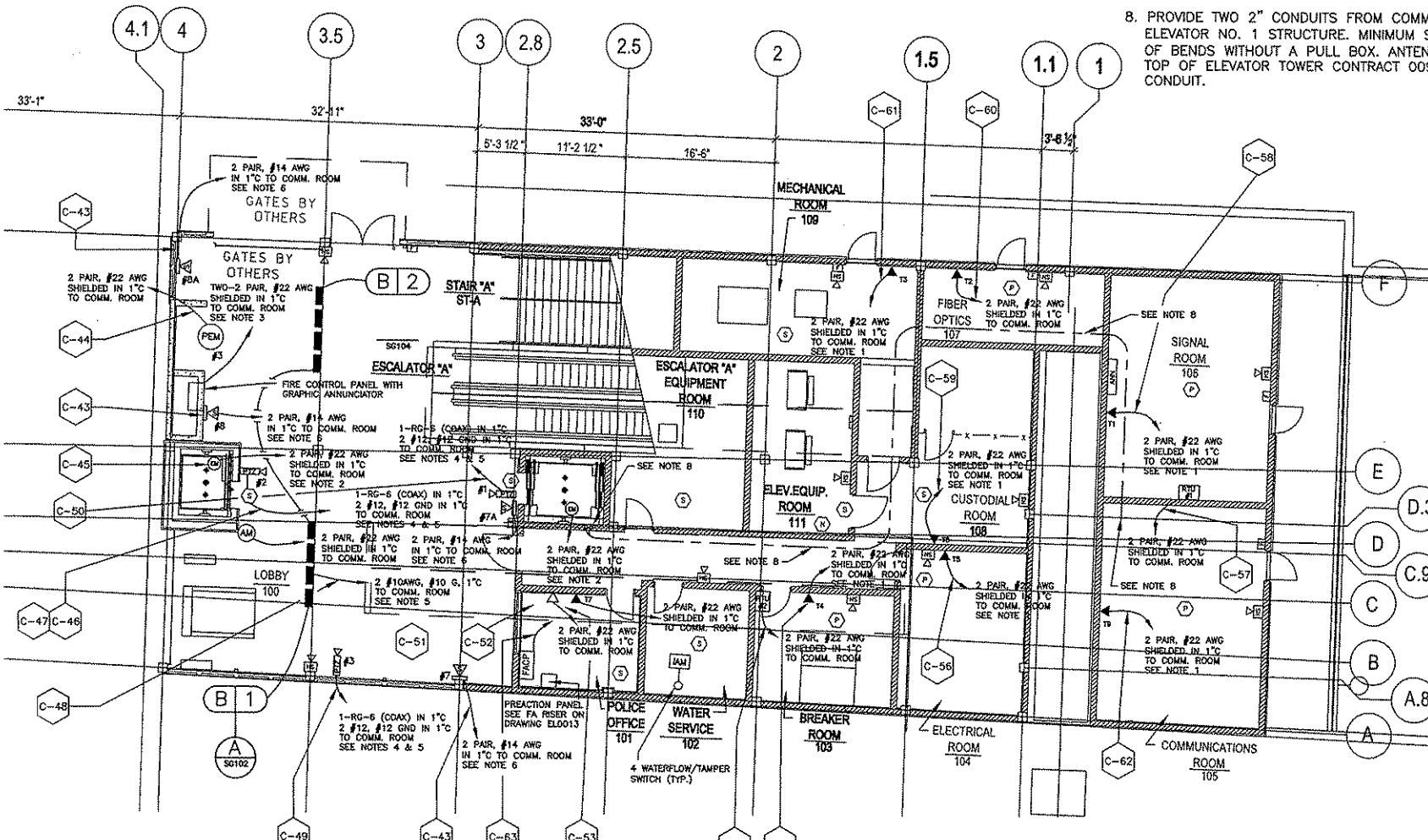
(SPEAKER)	SPEAKER (BI-DIRECTIONAL)
(AMBIENT NOISE SENSOR)	FIRE ALARM CONTROL PANEL
(VMS)	HEAT DETECTOR
(ELEVATOR EMER. PHONE)	HORN-STROBE
(SMOKE DETECTOR)	STROBE
(ANNUNCIATOR PANEL)	FIRE ALARM PULLSTATION
	PRACTION SYSTEM SMOKE DETECTOR

NOTES:

1. CONDUIT SHALL TERMINATE IN A FLUSH MOUNTED BOX AT THE LOCATION SHOWN ON THE DRAWINGS. THE VERTICAL CENTER OF THE BOX SHALL BE LOCATED 54" ABOVE THE FINISHED FLOOR.
2. RUN CONDUIT FOR ELEVATOR PHONES TO ELEVATOR SHAFT.
3. TERMINATE CONDUIT AT FIRE ALARM ANNUNCIATOR PANEL ADJACENT TO EAST ELEVATOR.
4. A SEPARATE 1" POWER CONDUIT IS REQUIRED FOR ALL CCTV CAMERAS.
5. SIZING FOR POWER WIRING SHALL BE:
  - WIRE #12 AWG MINIMUM FOR CIRCUITS LESS THAN 100 FEET IN LENGTH.
  - WIRE #10 AWG MINIMUM FOR CIRCUITS FROM 100 FEET TO 150 FEET IN LENGTH.
  - WIRE #8 AWG MINIMUM FOR CIRCUITS FROM 150 FEET TO 250 FEET IN LENGTH.
6. DAISY CHAIN COLUMN AND WALL MOUNTED SPEAKERS INTO ONE ZONE.
7. SEE ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF COMMUNICATION EQUIPMENT AND FOR MOUNTING DETAILS.
8. PROVIDE TWO 2" CONDUITS FROM COMMUNICATIONS ROOM TO LANTERN AT TOP OF ELEVATOR NO. 1 STRUCTURE. MINIMUM SWEEP RADIUS WILL BE 24". MAXIMUM OF 360° OF BENDS WITHOUT A PULL BOX. ANTENNA WILL BE MOUNTED OVER THE "LANTERN" AT TOP OF ELEVATOR TOWER CONTRACT 009. PROVIDE 200 POUND PULL ROPE IN EACH CONDUIT.

TO/FROM CONDUIT LIST FOR STREET LEVEL (COMMUNICATIONS)

CONDUITS	LOAD	# OF CONDUITS	CONDUIT SIZE	DESTINATION	ORIGIN
C-43	SPEAKERS 7, 7A 8, 8A	1	1 INCH	LOBBY 100	COMMUNICATION ROOM
C-44	PASSENGER EMER. PHONE #3	1	1 INCH	LOBBY 100	COMMUNICATION ROOM
C-45	ELEVATOR EMER. PHONE	1	1 INCH	LOBBY 100	COMMUNICATION ROOM
C-45 & C-47	CCTV #2	2	1 INCH	LOBBY 100	COMMUNICATION ROOM
C-48	SIGNS B-1, B-2	1	1 INCH	LOBBY 100	COMMUNICATION ROOM
C-49	CCTV #9	2	1 INCH	LOBBY 100	COMMUNICATION ROOM
C-50	CCTV #1	2	1 INCH	LOBBY 100	COMMUNICATION ROOM
C-51	ELEV. EMER. PHONE	1	1 INCH	LOBBY 100	COMMUNICATION ROOM
C-52	PUBLIC ADDRESS INPUT JACK	1	1 INCH	LOBBY 100	COMMUNICATION ROOM
C-53	PAAC PHONE (POTS) T7	1	1 INCH	LOBBY 100	COMMUNICATION ROOM
C-54	RTU #2	1	1 INCH	LOBBY 100	COMMUNICATION ROOM
C-55	PAAC PHONE (POTS) T4	1	1 INCH	LOBBY 100	COMMUNICATION ROOM
C-56	PAAC PHONE T5	1	1 INCH	LOBBY 100	COMMUNICATION ROOM
C-57	RTU #1	1	1 INCH	LOBBY 100	COMMUNICATION ROOM
C-58	PAAC PHONE T1	1	1 INCH	LOBBY 100	COMMUNICATION ROOM
C-59	PAAC PHONE TB	1	1 INCH	LOBBY 100	COMMUNICATION ROOM
C-60	PAAC PHONE T2	1	1 INCH	LOBBY 100	COMMUNICATION ROOM
C-61	PAAC PHONE T3	1	1 INCH	LOBBY 100	COMMUNICATION ROOM
C-62	PAAC PHONE T9	1	1 INCH	LOBBY 100	COMMUNICATION ROOM
C-63	PAAC PANEL	1	1 INCH	POLICE OFFICE 101	COMMUNICATION ROOM



BURT, HILL SANTANGELO & LINDSAY, INC.  
CONSULTING ENGINEERS

650 Shadfield Street Suite 2400 Pittsburgh PA 15222  
tel: 412.394.7000 fax: 412.394.7860 www.burthill.com  
©2006 Burthill

307 EIGHTH STREET  
NEW BRITTON, PA 15056  
PHONE: (724) 847-0407  
FAX: (724) 847-0673

Additional Addendum 3 - Drawing modified  
NO. DATE DESCRIPTION REVISIONS

THE PREPARATION OF THIS DRAWING HAS BEEN FINANCED, IN PART, THROUGH A GRANT FROM THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL TRANSIT ADMINISTRATION UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED.

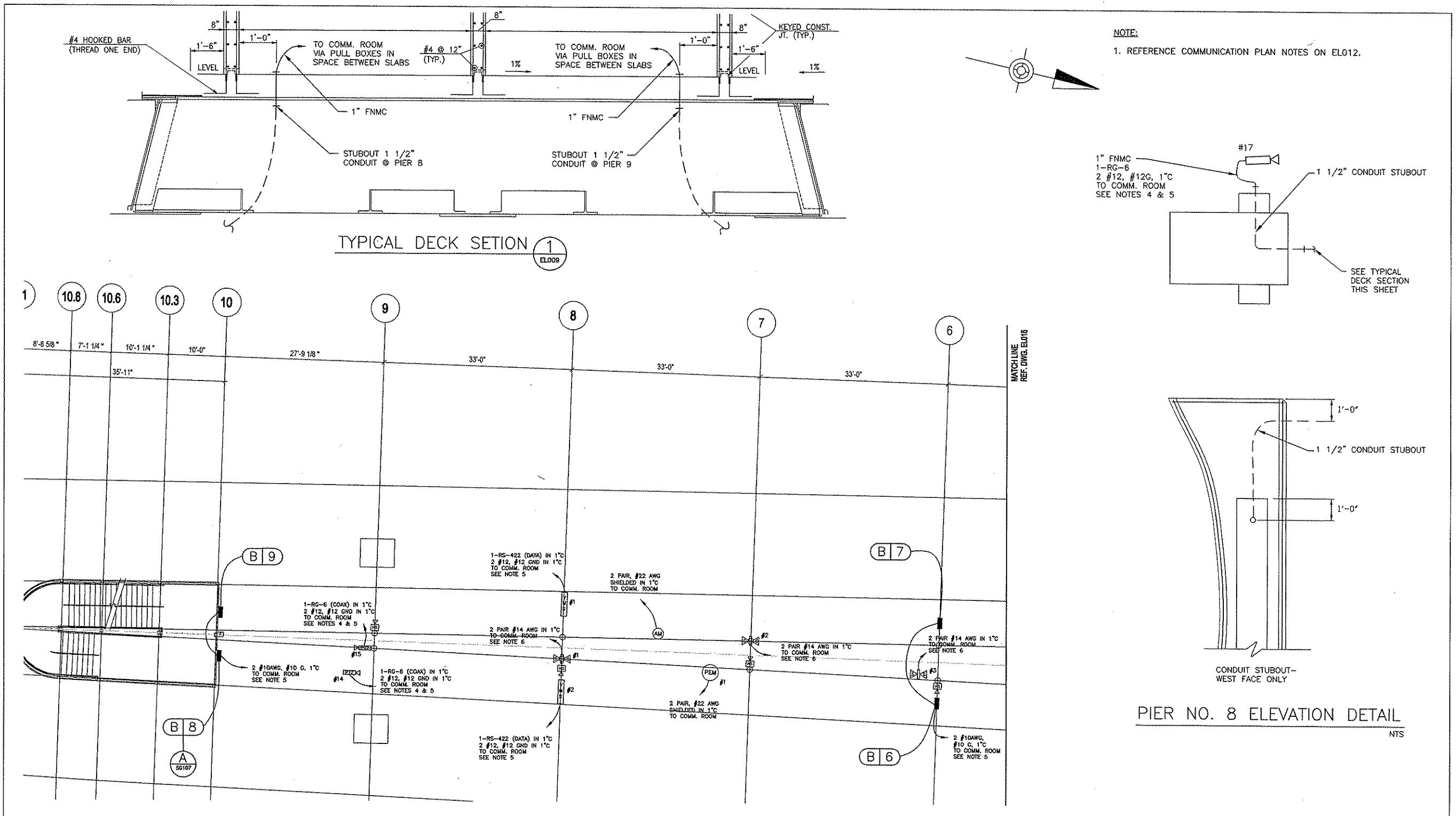


DMJM HARRIS | AECOM  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA 15222  
APPROVED *[Signature]* DATE *09/01/08*

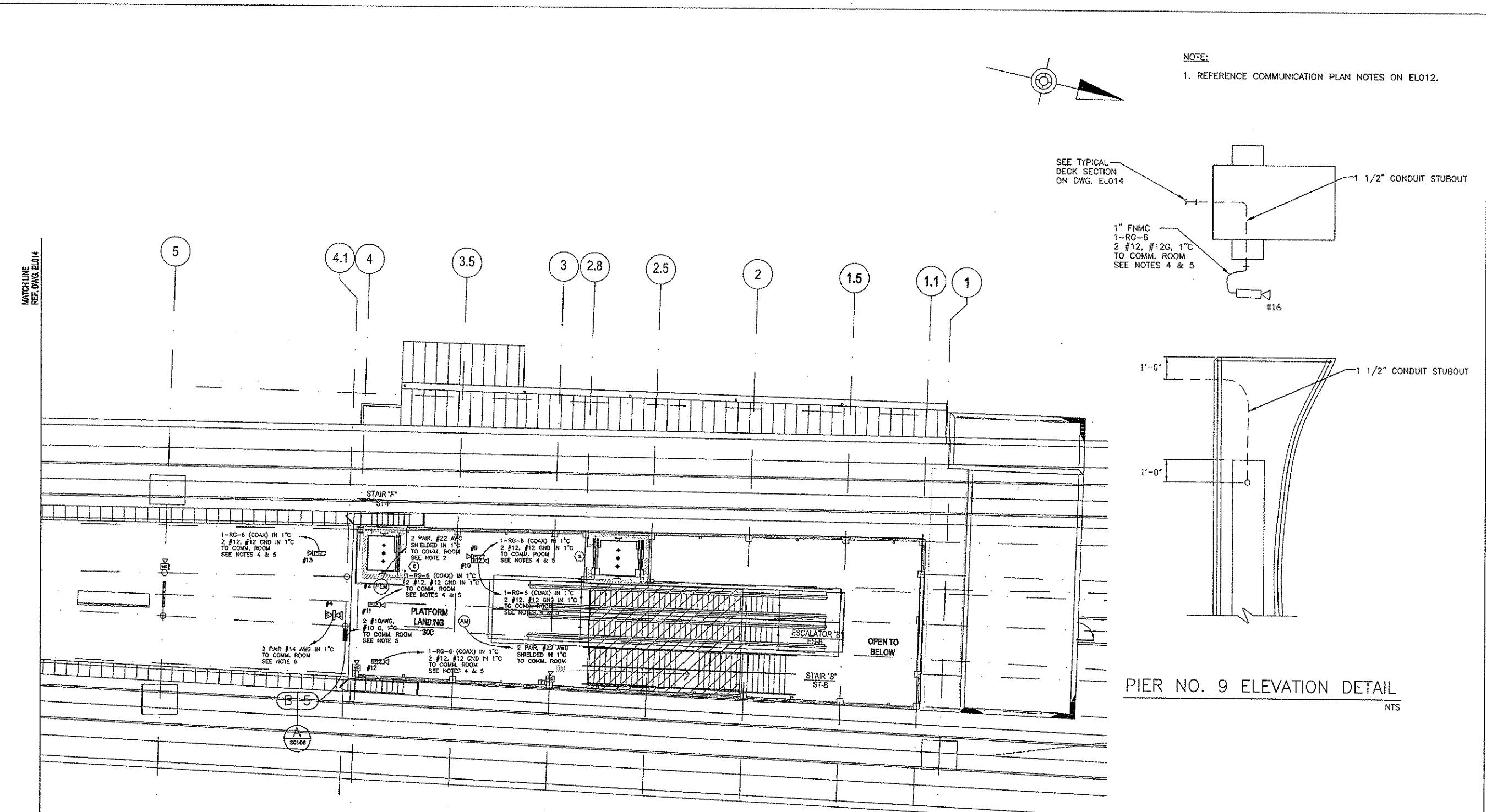
DESIGNED GMF  
DRAWN JEM  
CHECKED JVS  
IN CHARGE CML  
DATE 4/04/08  
SCALE 0 4 8  
FEET 1/8"-1'-0"  
Port Authority

PORT AUTHORITY OF ALLEGHENY COUNTY  
PITTSBURGH PENNSYLVANIA  
NORTH SHORE CONNECTOR  
ALLEGHENY STATION  
STREET LEVEL  
COMMUNICATIONS PLAN - WEST  
CONTRACT NO. NSC-012  
DRAWING NO. EL012 SHEET 177





BURT, HILL SANTANGELO & LINDSAY, INC. CONSULTING ENGINEERS				THE PREPARATION OF THIS DRAWING HAS BEEN FINANCED, IN PART, THROUGH A GRANT FROM THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL TRANSIT ADMINISTRATION UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED.		DMJM HARRIS   AECOM	DESIGNED GMF DRAWN JEM CHECKED JVS IN CHARGE CML DATE 4/04/08 SCALE 0 4 8 FEET 1/8"=1'-0"	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH PENNSYLVANIA	
307 EIGHTH STREET NEW BRIGHTON, PA 15066 PHONE: (724) 847-0407 FAX: (724) 847-0673		<i>(S) 8/20/08 Addendum 3 - Drawing Modified</i>		NO. DATE DESCRIPTION		SIGNATURE <i>David P. Harris</i> APPROVED 09/09/08 DATE	NORTH SHORE CONNECTOR ALLEGHENY STATION PLATFORM LEVEL COMMUNICATIONS PLAN - EAST		
REVISIONS						Port Authority CONTRACT NO. NSC-012 DRAWING NO. EL014 SHEET 179			



**BURT, HILL SANTANGELO & LINDSAY, INC.**  
CONSULTING ENGINEERS  
450 Smithfield Street Suite 2600 Pittsburgh PA 15222  
tel: 412.394.7000 fax: 412.394.7880 www.burthill.com  
©2005 Burt Hill

307 EIGHTH STREET  
NEW BRIGHTON, PA 15066  
PHONE: (724) 647-0407  
FAX: (724) 647-0673

(08/20/08) Addendum 3 - Drawing Modified  
NO. DATE DESCRIPTION  
REVISIONS

THE PREPARATION OF THIS DRAWING HAS BEEN  
FINANCED, IN PART, THROUGH A GRANT FROM  
THE U. S. DEPARTMENT OF TRANSPORTATION,  
FEDERAL TRANSIT ADMINISTRATION UNDER THE  
URBAN MASS TRANSPORTATION ACT OF 1964,  
AS AMENDED.

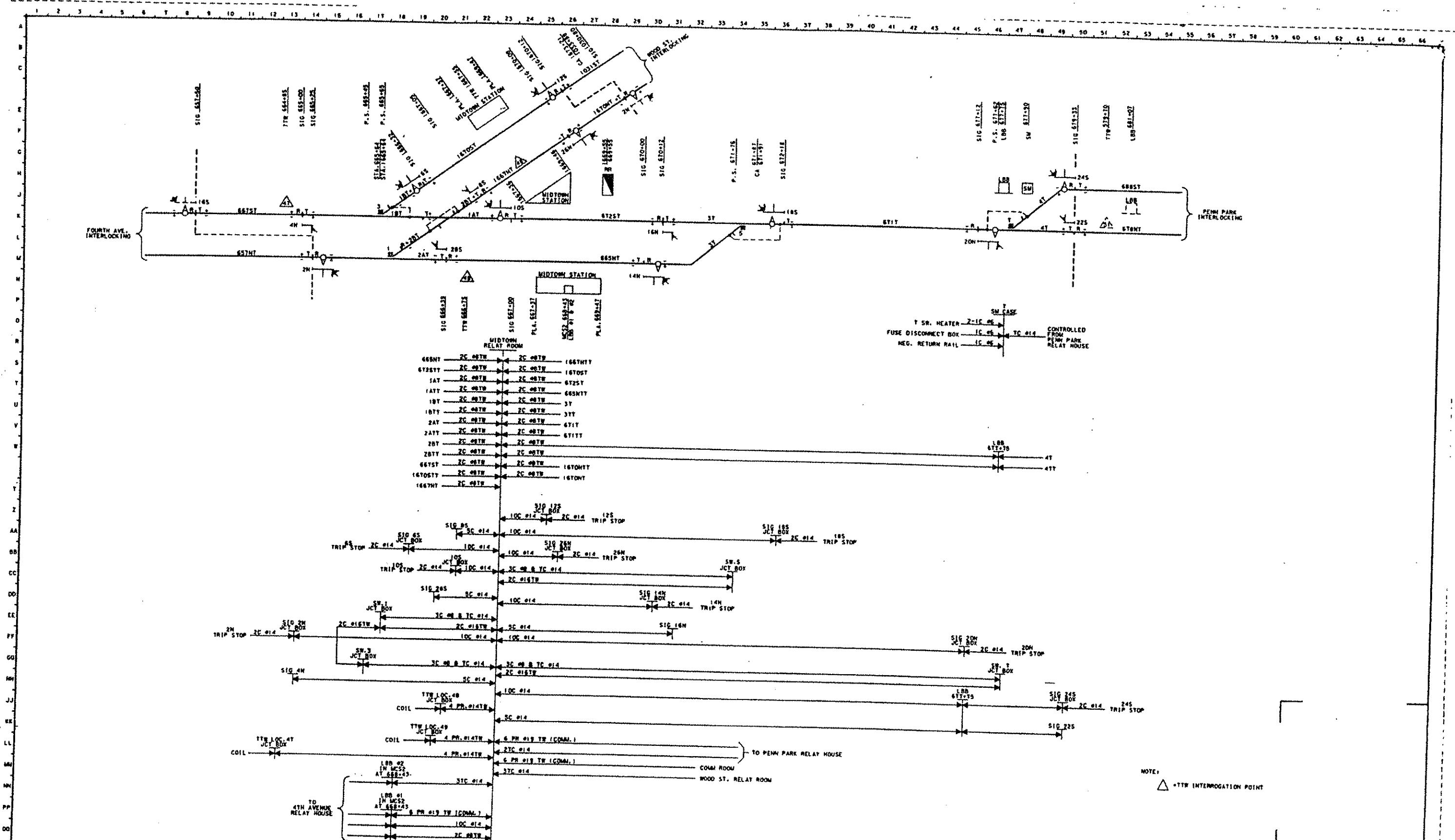


**DMJM HARRIS | AECOM**  
FOUR GATEWAY CENTER  
20TH FLOOR  
PITTSBURGH, PA 15222  
SIGNATURE  
*David P. Harris* 08/01/08  
APPROVED DATE  
SCALE 0 4 8  
FEET 1/8"-1'-0"

**PORT AUTHORITY OF ALLEGHENY COUNTY**  
PITTSBURGH PENNSYLVANIA

NORTH SHORE CONNECTOR  
ALLEGHENY STATION  
PLATFORM LEVEL  
COMMUNICATIONS PLAN - WEST

CONTRACT NO. NSC-012  
DWG. NO. EL015 SHEET 180



四百三

PRIOR TO BEING PLACED IN REGULAR SERVICE,  
THE OPERATION OF ANY CIRCUITS AND EQUIPMENT  
PREVIOUSLY UNKNOWN MUST BE CHECKED BY CIRCUIT  
INSPECTION (INSURANCE) AND SERVICE OPERATION  
DEPARTMENT OF THE COMPANY SYSTEM IN ACCORDANCE  
WITH THE SYSTEM (WHO UNLESS THEY ARE CONNECTED).

四

<u>ENCES</u>	<u>SCALE</u>
	<u>6.0</u>
	<u>5.0</u>
	<u>4.0</u>
	<u>3.0</u>
	<u>2.0</u>
	<u>1.0</u>
	<u>0</u>
	<u>X</u>

NOTE: △ = TTF INTERROGATION POINT

CABLE PL.

AN MDT  
ALLEHENY COUNTY TRANSIT SYSTEM  
FEB CY-III

#### **TOWN INTERVIEWING**

**JOHN INTERLOCKING**

T1373

