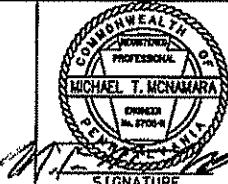


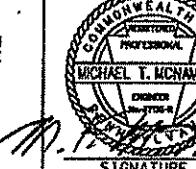
INDEX OF DRAWINGS

SHEET NO.	DRAWING NO.	DRAWING TITLE	SHEET NO.	DRAWING NO.	DRAWING TITLE
TRACK					
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
113A	TK131A	EXISTING PLINTH REPLACEMENT - DIRECT FIXATION DETAILS - TANGENT TRACK REPLACEMENT AREAS	139	TK215	TRACK PLAN STA. 6084+00 TO STA. 6088+15.48 LEFT TRACK
114	TK132	TYPICAL TRACK SECTIONS DIRECT FIXATION DETAILS CURVED TRACK	140	TK300	TRACK PROFILE STA. 6010+00 TO STA. 6012+00 LEFT TRACK
114A	TK132A	TYPICAL TRACK SECTIONS PLINTH ANCHOR DETAILS	141	TK301	TRACK PROFILE STA. 6012+00 TO STA. 6015+00 LEFT TRACK
114B	TK132B	EXISTING PLINTH REPLACEMENT - DIRECT FIXATION DETAILS - CURVED TRACK REPLACEMENT AREAS	142	TK302	TRACK PROFILE STA. 6015+00 TO STA. 6019+50 LEFT TRACK
115	TK133	TRACK DETAILS HOUSE TOP DETAILS (1 OF 3)	143	TK303	TRACK PROFILE STA. 6015+00 TO STA. 6019+50 LEFT TRACK
116	TK134	TRACK DETAILS HOUSE TOP DETAILS (2 OF 3)	144	TK304	TRACK PROFILE STA. 6019+50 TO STA. 6025+00 LEFT TRACK
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118	TK136	PLAN FLOATING HEEL BLOCK / MANGANESE SWITCH POINT INSERT DETAILS (1 OF 2)	146	TK306	TRACK PROFILE STA. 6025+00 TO STA. 6030+50 LEFT TRACK
119	TK137	PLAN FLOATING HEEL BLOCK / MANGANESE SWITCH POINT INSERT DETAILS (2 OF 2)	147	TK307	TRACK PROFILE STA. 6025+00 TO STA. 6030+50 LEFT TRACK
120	TK140	PLAN HYDRAULIC BUMPING POST	148	TK308	TRACK PROFILE STA. 6030+50 TO STA. 6036+00 LEFT TRACK
121	TK141	MISCELLANEOUS TRACK WORK SLIDING BUMPING POST AT WOOD STREET	149	TK309	TRACK PROFILE STA. 6030+50 TO STA. 6036+00 LEFT TRACK
122	TK145	PLAN INSULATED FIXED RAIL ANCHOR ASSEMBLY DETAILS	150	TK310	TRACK PROFILE STA. 6036+00 TO STA. 6040+50 LEFT TRACK
123	TK146	TABULATION SHEET TRACK TYPE LENGTHS BY STATION	151	TK311	TRACK PROFILE STA. 6040+50 TO STA. 6046+00 LEFT TRACK
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123B	TK148	RAIL LUBRICATORS - GATEWAY STATION	153	TK313	TRACK PROFILE STA. 6051+50 TO STA. 6074+00 LEFT TRACK
123C	TK149	RAIL LUBRICATORS - NORTHSIDE STATION	154	TK314	TRACK PROFILE STA. 6074+00 TO STA. 6079+50 LEFT TRACK
123D	TK150	RAIL LUBRICATORS - NORTHSIDE STATION	155	TK315	TRACK PROFILE STA. 6079+50 TO STA. 6084+00 LEFT TRACK
123E	TK151	RAIL LUBRICATORS LAYOUT - TYPICAL	156	TK316	TRACK PROFILE STA. 6084+00 TO STA. 6088+15.48 LEFT TRACK
(1) (2)					

 <p>Gannett Fleming Transit & Rail Systems</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; text-align: center; padding: 2px;">08/03/08</td> <td style="width: 50%; text-align: center; padding: 2px;">ADDENDUM 4 - DRAWING MODIFIED</td> </tr> <tr> <td style="text-align: center; padding: 2px;">08/20/08</td> <td style="text-align: center; padding: 2px;">ADDENDUM 3 - DRAWING MODIFIED</td> </tr> <tr> <td style="text-align: center; padding: 2px;">NO. DATE</td> <td style="text-align: center; padding: 2px;">DESCRIPTION</td> </tr> <tr> <td colspan="2" style="text-align: center; padding: 2px;">REVISIONS</td> </tr> </table>	08/03/08	ADDENDUM 4 - DRAWING MODIFIED	08/20/08	ADDENDUM 3 - DRAWING MODIFIED	NO. DATE	DESCRIPTION	REVISIONS		<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>	 <p style="margin: 0;">COMMONWEALTH OF PENNSYLVANIA PROFESSIONAL ENGINEERS MICHAEL T. McNAMARA P.E. Pittsburgh, PA 15222 9/3/08 Signature</p>	<p style="margin: 0;">JC TRAUM DRAWN JC TRAUM</p> <p style="margin: 0;">CHECKED -</p> <p style="margin: 0;">IN CHARGE CD JONES</p> <p style="margin: 0;">DATE APR. 28, 2008</p> <p style="margin: 0;">SCALE NTS</p> <p style="margin: 0;">APPROVED 9/3/08 Signature DATE</p>	<p style="margin: 0;">Port Authority</p>	<p style="margin: 0;">PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH</p> <p style="margin: 0;">NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM-WIDE) INDEX OF DRAWINGS (TRACK) SHEET 2 OF 8</p> <p style="margin: 0;">CONTRACT NO. NSC-009 DWG. NO. GN003 SHR. 9</p>
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INDEX OF DRAWINGS

SHEET NO.	DRAWING NO.	DRAWING TITLE	SHEET NO.	DRAWING NO.	DRAWING TITLE
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336	SG002	BLOCK PLAN AND CONTROL LINES - SAMPLE BRAKING DISTANCE MODEL	383	SG112	TYPICAL AUTO / ENTRANCE EXIT LOGIC - ROUTE SELECTION
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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
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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
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355	SG053	TYPICAL TWC BLOCK DIAGRAM	403	SG152	TYPICAL SIGNAL LAYOUT - BORED TUNNEL WALL MOUNTED DETAILS
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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)
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367	SG074	TYPICAL APPROACH & TIME LOCKING LOGIC	415	SG170	TYPICAL SWITCH BONDING - CROSSOVER
368	SG076	TYPICAL ROUTE & SWITCH LOCKING LOGIC	415A	SG170A	TYPICAL DOUBLE RAIL SWITCH BONDING - CROSSOVER
369	SG080	TYPICAL SWITCH REQUEST & CORRESPONDENCE LOGIC	416	SG171	2
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374	SG090	TYPICAL 6032N AUTOMATIC SIGNAL CONTROL WITHOUT TIMERS LOGIC	421	SG182	SIGNAL RELAY ROOM LAYOUT GATEWAY STATION
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377	SG093	TYPICAL AUTOMATIC SIGNAL LIGHTING CIRCUITS	424	SG190	TYPICAL SWITCH HEATER CASE INSTALLATION LAYOUT
378	SG100	TYPICAL LOCAL CONTROL PANEL FACEPLATE	425	SG200	TYPICAL POSITIVE AND NEGATIVE CABLE LAYOUT
379	SG101	TYPICAL LOCAL CONTROL PANEL NOMENCLATURE	426	SG203	ALLEGHENY CONDUIT LAYOUT SHEET 1 OF 2
380	SG104	TYPICAL LOCAL CONTROL PANEL CONTROLS & INDICATIONS	427	SG204	ALLEGHENY CONDUIT LAYOUT SHEET 2 OF 2
381	SG106	TYPICAL EXIT BLOCK LOGIC	428	SG205	CATENARY FEED CONDUIT LAYOUT - PIER 11 STATION 6084+89.85
(1)					
(2)					

 Gannett Fleming Transit & Rail Systems	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">09/03/08</td> <td style="width: 50%;">ADDENDUM 4 - DRAWING MODIFIED</td> </tr> <tr> <td>08/20/08</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>	09/03/08	ADDENDUM 4 - DRAWING MODIFIED	08/20/08	ADDENDUM 3 - DRAWING MODIFIED	NO. DATE	DESCRIPTION	REVISIONS		<small>THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.</small>	 MICHAEL T. McNAMARA CHIEF ENGINEER PENNSYLVANIA DEPARTMENT OF TRANSPORTATION APPROVED SIGNATURE	DMJM HARRIS AECOM FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222 APPROVED DATE 9/3/08	DESIGNED JC TRAUM DRAWN JC TRAUM CHECKED TA SHANTZ IN CHARGE CD JONES DATE APR. 28, 2008 SCALE NTS	PORT AUTHORITY OF ALLEGHENY COUNTY Pittsburgh NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM-WIDE) INDEX OF DRAWINGS (SIGNALS) SHEET 5 OF 8 Port Authority CONTRACT NO. NSC-008 DENO. NO. GN006 SHT. 5
		09/03/08	ADDENDUM 4 - DRAWING MODIFIED											
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INDEX OF DRAWINGS

SHEET No.	DRAWING No.	DRAWING TITLE
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- 608 FP-100 GATEWAY LINE - TUNNEL FIRE HYDRANT LAYOUT PLAN
 609 FP-101 GATEWAY LINE - TUNNEL FIRE HYDRANT PLAN, SHEET 1 OF 2
 610 FP-102 GATEWAY LINE - TUNNEL FIRE HYDRANT PLAN, SHEET 2 OF 2
 611 FP-103 GATEWAY LINE - TUNNEL FIRE HYDRANT LONG SECTIONS, SHEET 1 OF 3
 612 FP-104 GATEWAY LINE - TUNNEL FIRE HYDRANT LONG SECTIONS, SHEET 2 OF 3
 613 FP-105 GATEWAY LINE - TUNNEL FIRE HYDRANT LONG SECTIONS, SHEET 3 OF 3
 614 FP-106 GATEWAY LINE - TUNNEL FIRE HYDRANT AND EXTINGUISHER TYPICAL DETAILS, SHEET 1 OF 2
 615 FP-107 GATEWAY LINE - TUNNEL FIRE HYDRANT TYPICAL DETAILS, SHEET 2 OF 2

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- 616 MC-001 GENERAL ARRANGEMENT - MECHANICAL EQUIPMENT
 617 MC-100 GATEWAY LINE - BORED TUNNEL SUMP PUMP PLAN
 618 MC-101 GATEWAY LINE - TUNNEL SUMP PUMP PLAN & PIPING ROUTE
 619 MC-102 GATEWAY LINE - NORTH SIDE STATION TO PORTAL SUMP PUMP - PLAN
 620 MC-103 GATEWAY LINE - GATEWAY STATION SUMP PUMP - PLAN
 621 MC-104 GATEWAY LINE - VENTILATION SCHEMATIC
 622 MC-105 GATEWAY LINE - JET FAN SECTIONS - EXISTING TUNNEL TO WOOD ST. STATION
 623 MC-106 GATEWAY STATION - STATION TV FLOW SCHEMATIC
 624 MC-107 GATEWAY STATION - TV EXHAUST PLAN
 625 MC-108 GATEWAY STATION - MECHANICAL EQUIPMENT
 626 MC-109 GATEWAY STATION - TV FAN ROOM PLAN
 627 MC-110 GATEWAY STATION - TV FAN ROOM ELEVATIONS
 628 MC-111 GATEWAY STATION - NOZZLE PLAN & ELEVATIONS
 629 MC-112 GATEWAY STATION - NORTHERN TUNNEL DAMPERS
 630 MC-115 GATEWAY STATION - UNDER PLATFORM DAMPERS
 631 MC-200 NORTH SIDE STATION - STATION TV FLOW SCHEMATIC
 632 ML-201 NORTH SIDE STATION - MECHANICAL EQUIPMENT - SHEET 1 OF 2 (EAST)
 633 MC-202 NORTH SIDE STATION - MECHANICAL EQUIPMENT - SHEET 2 OF 2 (WEST)
 634 MC-210 NORTH SIDE STATION - TV EXHAUST DUCT PLAN
 635 MC-220 NORTH SIDE STATION - EASTERN END, TV FAN ROOM PLAN
 636 MC-221 NORTH SIDE STATION - EASTERN END, TV FAN ROOM ELEVATIONS
 637 MC-230 NORTH SIDE STATION - WESTERN END, TV FAN ROOM PLAN
 638 MC-231 NORTH SIDE STATION - WESTERN END, TV FAN ROOM ELEVATIONS
 639 MC-232 NORTH SIDE STATION - JET FAN SECTIONS - CUT AND COVER TUNNEL - SHEET 1 OF 2
 640 MC-233 NORTH SIDE STATION - JET FAN SECTIONS - CUT AND COVER TUNNEL - SHEET 2 OF 2
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 642 MC-301 GATEWAY STATION - TYPICAL PLATFORM LENGTH BALANCING DAMPERS - SHEET 1 OF 2
 643 MC-302 NORTH SIDE STATION - TYPICAL PLATFORM LENGTH BALANCING DAMPERS - SHEET 2 OF 2
 644 MC-400 TUNNEL VENTILATION SYSTEM - VENTILATION ZONES - SHEET 1 OF 2
 645 MC-401 TUNNEL VENTILATION SYSTEM - VENTILATION ZONES - SHEET 2 OF 2
 646 MC-402 TUNNEL VENTILATION SYSTEM - MODE TABLE - SHEET 1 OF 3
 647 MC-403 TUNNEL VENTILATION SYSTEM - MODE TABLE - SHEET 2 OF 3
 648 MC-404 TUNNEL VENTILATION SYSTEM - MODE TABLE - SHEET 3 OF 3

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 650 EL-003 TUNNEL LIGHTING - TYPICAL DETAILS
 651 EL-020 GATEWAY STATION - CONTROL SYSTEM BLOCK DIAGRAM
 652 EL-022 TUNNEL VENTILATION - TYPICAL NON-MODULATING DAMPER CONTROL SCHEMATICS SHEET 1 OF 2
 653 EL-023 TUNNEL VENTILATION - TYPICAL NON-MODULATING DAMPER CONTROL SCHEMATICS SHEET 2 OF 2
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 655 EL-025 TUNNEL VENTILATION - TYPICAL MODULATING DAMPER CONTROL SCHEMATICS SHEET 1 OF 2
 656 EL-026 TUNNEL VENTILATION - TYPICAL MODULATING DAMPER CONTROL SCHEMATICS SHEET 2 OF 2
 657 EL-027 TUNNEL VENTILATION - TYPICAL MODULATING DAMPER CONTROL CONNECTION DIAGRAM
 658 EL-104 GATEWAY STATION - OVERALL POWER SLD CONTRIBUTION
 1 658A EL-101A DISTRIBUTION PANELS SLD CONTRIBUTION
 659 EL-106 GATEWAY STATION - LV DISTRIBUTION CONTRIBUTION SHEET 1 OF 2
 660 EL-107 GATEWAY STATION - LV DISTRIBUTION CONTRIBUTION SHEET 2 OF 2
 661 EL-108 GATEWAY STATION - COMMON CONTROLS PLC FAIL OVER SHEET 1 OF 2
 662 EL-109 GATEWAY STATION - COMMON CONTROLS PLC FAIL OVER SHEET 2 OF 2
 663 EL-110 GATEWAY STATION - GW-TVF-101 - 104 TUNNEL JET FAN ELECTRICAL SCHEMATIC DIAGRAM SHEET 1 OF 2
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 665 EL-112 GATEWAY STATION - GW-TVF-101 - 104 TUNNEL JET FAN ELECTRICAL CONNECTION DIAGRAM
 1 666 EL-113 GATEWAY STATION - GW-TVF-101/EM09 TUNNEL VENT FAN TYPICAL ELECTRICAL SCHEMATIC DIAGRAM SHEET 1 OF 2
 667 EL-114 GATEWAY STATION - GW-TVF-101/EM09 TUNNEL VENT FAN TYPICAL ELECTRICAL SCHEMATIC DIAGRAM SHEET 2 OF 2

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AUGUST 15, 2008

DATE

APPROVED

REVISIONS:

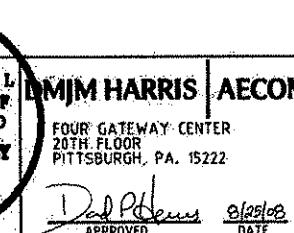
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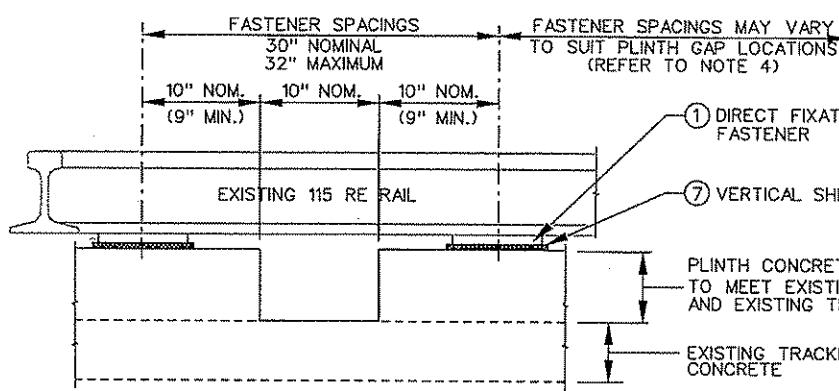
ELECTRICAL

- 668 EL-115 GATEWAY STATION - GW-TVF-101/EM09 TUNNEL VENT FAN TYPICAL ELECTRICAL CONNECTION DIAGRAM
 669 EL-116 GATEWAY STATION - GW-TVF-102/EM10 TUNNEL VENT FAN TYPICAL ELECTRICAL SCHEMATIC DIAGRAM SHEET 1 OF 2
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 1 671 EL-118 GATEWAY STATION - GW-TVF-102/EM10 TUNNEL VENT FAN TYPICAL ELECTRICAL CONNECTION DIAGRAM
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 672A EL-119A GATEWAY STATION - GW-SSP-101 - 102 TUNNEL SUMP PUMP SCHEMATIC DIAGRAM SHEET 2 OF 2
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 676 EL-150 GATEWAY STATION - ELECTRICAL EQUIPMENT
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 678 EL-152 GATEWAY STATION - KEY PLAN LIGHTING (EXISTING DRAWING MARK UP) SHEET 1 OF 2
 679 EL-153 GATEWAY STATION - KEY PLAN LIGHTING (EXISTING DRAWING MARK UP) SHEET 2 OF 2
 679A EL-153A LIB. AVE SUBWAY AND GATEWAY CTR. FINISHES - BLOCK DIAGRAM (EXISTING DRAWING MARK UP) SHEET 1 OF 2
 679B EL-153B LIB. AVE. SUBWAY AND GATEWAY CTR. FINISHES - BLOCK DIAGRAM (EXISTING DRAWING MARK UP) SHEET 2 OF 2
 679C EL-153C LIB. AVE. SUBWAY AND GATEWAY CTR. FINISHES - TERM BOX NO.1-2 WIRING DIAGRAM (EXISTING DRAWING MARK UP)
 679D EL-153D GATEWAY CENTER FINISHES - SUPERVISORY CONT. TERM. BOX WIRING DIA. (EXISTING DRAWING MARK UP)
 679E EL-153E LIB. AVE. SUBWAY AND GATEWAY CTR. FINISHES - FAN EM-10 SCHEMATIC (EXISTING DRAWING MARK UP)
 679F EL-153F LIB. AVE. SUBWAY AND GATEWAY CTR. FINISHES - FAN EM-10 SCHEMATIC (EXISTING DRAWING MARK UP)
 679G EL-153G GATEWAY CENTER FINISHES - LIGHTING PLAN & SECTIONS (EXISTING DRAWING MARK UP)
 680 EL-160 GATEWAY STATION - CABLE SCHEDULE SHEET 1 OF 4
 681 EL-161 GATEWAY STATION - CABLE SCHEDULE SHEET 2 OF 4
 682 EL-162 GATEWAY STATION - CABLE SCHEDULE SHEET 3 OF 4
 683 EL-163 GATEWAY STATION - CABLE SCHEDULE SHEET 4 OF 4
 684 EL-201 NORTH SIDE STATION - OVERALL POWER SLD CONTRIBUTION SHEET 1 OF 2
 1 684A EL-201A NORTH SIDE STATION - DISTRIBUTION PANELS SLD CONTRIBUTION
 685 EL-202 NORTH SIDE STATION - OVERALL POWER SLD CONTRIBUTION SHEET 2 OF 2
 1 685A EL-202A NORTH SIDE STATION - OVERALL POWER SLD CONTRIBUTION
 686 EL-203 NORTH SIDE STATION - LV DISTRIBUTION CONTRIBUTION SHEET 1 OF 3
 687 EL-207 NORTH SIDE STATION - LV DISTRIBUTION CONTRIBUTION SHEET 2 OF 3
 688 EL-208 NORTH SIDE STATION - LV DISTRIBUTION CONTRIBUTION SHEET 3 OF 3
 689 EL-209 NORTH SIDE STATION - COMMON CONTROLS PLC FAIL OVER
 690 EL-210 NORTH SIDE STATION - NS-TJF-201 - 210 TUNNEL JET FAN ELECTRICAL SCHEMATIC DIAGRAM SHEET 1 OF 2
 691 EL-211 NORTH SIDE STATION - NS-TJF-201 - 210 TUNNEL JET FAN ELECTRICAL SCHEMATIC DIAGRAM SHEET 2 OF 2
 692 EL-212 NORTH SIDE STATION - NS-TJF-201 - 210 TUNNEL JET FAN ELECTRICAL CONNECTION DIAGRAM
 693 EL-213 NORTH SIDE STATION - NS-TVF-201 & 203 TUNNEL VENT FAN ELECTRICAL SCHEMATIC DIAGRAM SHEET 1 OF 2
 694 EL-214 NORTH SIDE STATION - NS-TVF-201 & 203 TUNNEL VENT FAN ELECTRICAL SCHEMATIC DIAGRAM SHEET 2 OF 2
 695 EL-215 NORTH SIDE STATION - NS-TVF-201 & 203 TUNNEL VENT FAN ELECTRICAL CONNECTION DIAGRAM
 696 EL-216 NORTH SIDE STATION - NS-TVF-202 & 204 TUNNEL VENT FAN ELECTRICAL SCHEMATIC DIAGRAM SHEET 1 OF 2
 697 EL-217 NORTH SIDE STATION - NS-TVF-202 & 204 TUNNEL VENT FAN ELECTRICAL SCHEMATIC DIAGRAM SHEET 2 OF 2
 698 EL-218 NORTH SIDE STATION - NS-TVF-202 & 204 TUNNEL VENT FAN ELECTRICAL CONNECTION DIAGRAM
 699 EL-219 NORTH SIDE STATION - NS-SSP-201 - 208 TUNNEL SUMP PUMP ELECTRICAL SCHEMATIC DIAGRAM
 1 699A EL-219A NORTH SIDE STATION - NS-SSP-201 - 208 TUNNEL SUMP PUMP ELECTRICAL SCHEMATIC DIAGRAM
 700 EL-220 NORTH SIDE STATION - NS-SSP-201 - 208 TUNNEL SUMP PUMP ELECTRICAL CONNECTION DIAGRAM
 701 EL-221 NORTH SIDE STATION - IWESTI COMMON CONTROLS PLC FAIL OVER
 702 EL-230 NORTH SIDE STATION - CONTROL SYSTEM BLOCK DIAGRAM SHEET 1 OF 2
 703 EL-231 NORTH SIDE STATION - CONTROL SYSTEM BLOCK DIAGRAM SHEET 2 OF 2
 704 EL-240 NORTH SIDE STATION - TUNNEL LIGHTING ELECTRICAL SCHEMATIC SHEET 1 OF 3
 705 EL-241 NORTH SIDE STATION - TUNNEL LIGHTING ELECTRICAL SCHEMATIC SHEET 2 OF 3
 706 EL-242 NORTH SIDE STATION - TUNNEL LIGHTING ELECTRICAL SCHEMATIC SHEET 3 OF 3
 707 EL-250 GATEWAY LINE - ELECTRICAL EQUIPMENT
 708 EL-251 NORTH SIDE STATION - ELECTRICAL EQUIPMENT SHEET 1 OF 2 (EAST)
 709 EL-252 NORTH SIDE STATION - ELECTRICAL EQUIPMENT SHEET 2 OF 2 (WEST)
 710 EL-253 NORTH SIDE STATION - ELECTRICAL SWITCH ROOM LAYOUT (EAST)
 711 EL-254 NORTH SIDE STATION - ELECTRICAL SWITCH ROOM LAYOUT (WEST)
 712 EL-260 NORTH SIDE STATION - CABLE SCHEDULE SHEET 1 OF 5
 713 EL-261 NORTH SIDE STATION - CABLE SCHEDULE SHEET 2 OF 5
 714 EL-262 NORTH SIDE STATION - CABLE SCHEDULE SHEET 3 OF 5
 715 EL-263 NORTH SIDE STATION - CABLE SCHEDULE SHEET 4 OF 5
 716 EL-264 NORTH SIDE STATION - CABLE SCHEDULE SHEET 5 OF 5

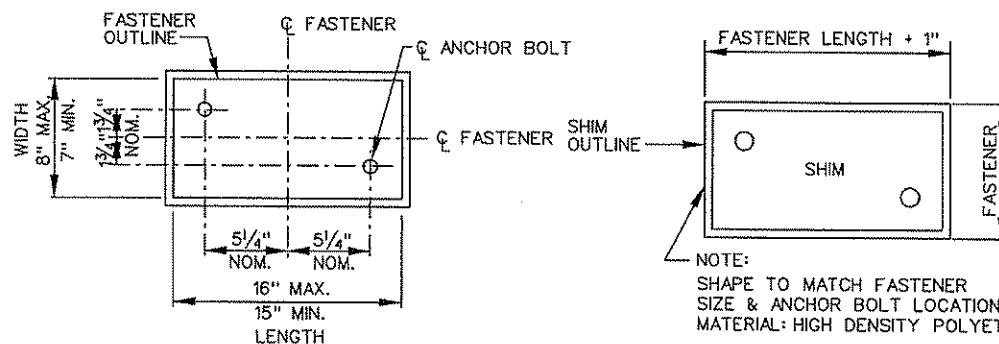
REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND	JIM HARRIS AECOM
CONRAD H. STACEY	FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222
RPEQ 5128	REVISIONS
Signature: 	
PATP #00204	

DESIGNED AP	
DRAWN K	
CHECKED PG	
IN CHARGE CS	
DATE 08/27/08	
SCALE WTS	
Signature: 	
DATE 08/25/08	

PORT AUTHORITY OF ALLEGHENY COUNTY	
PITTSBURGH PENNSYLVANIA	
NORTH SHORE CONNECTOR	
NSC TRAIN SYSTEM (SYSTEM WIDE)	
INDEX OF DRAWINGS (SUBWAY TUNNEL FACILITY SYSTEMS)	
SHEET 9 OF 9	
Port Authority	CONTRACT NO. NSC-009
DWG. NO. GN-010	SH. 18



SECTION
SCALE: $1\frac{1}{2}'' = 1'-0''$

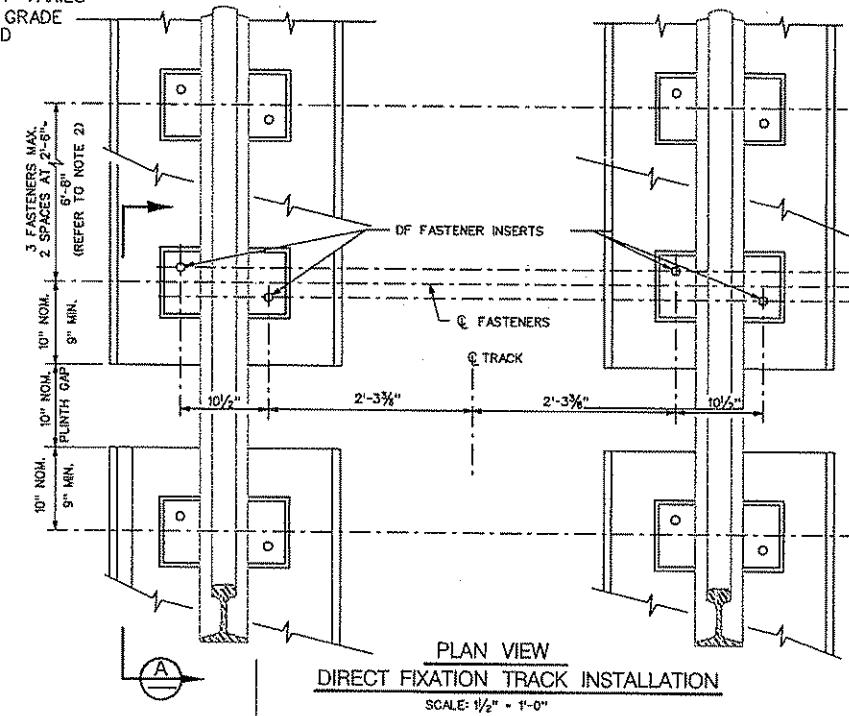


DF FASTENER PLAN

SCALE: 2" = 1'-0"

SHIM CONFIGURATION

THICKNESSES: $\frac{1}{16}$ " $\frac{1}{8}$ " $\frac{1}{4}$ " $\frac{3}{8}$ " $\frac{1}{2}$ "

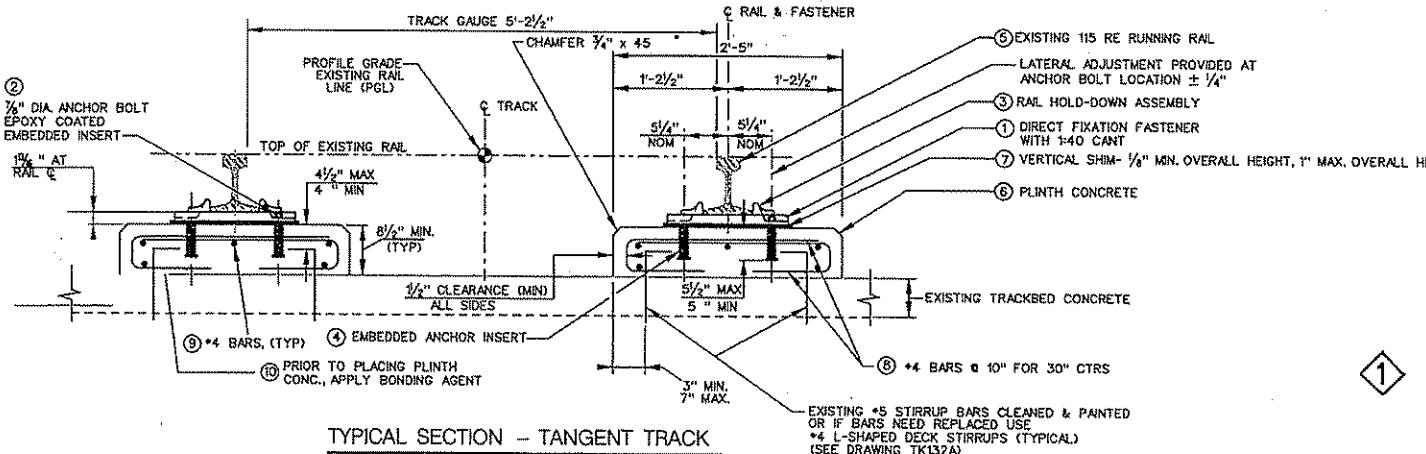


PLAN VIEW
DIRECT FIXATION TRACK INSTALLATION

BILL OF MATERIAL		
ITEM	DESCRIPTION	QUANTITY PER RAIL SEAT
1	DIRECT FIXATION FASTENER	1 EACH
2	7/16" DIAMETER ANCHOR BOLT AND LOCKING DEVICES FOR FASTENER	2 EACH
3	RAIL HOLD-DOWN ASSEMBLY COMPLETE WITH NECESSARY HARDWARE	2 EACH
4	INSULATED ANCHOR INSERT FOR FASTENERS	2 EACH
5	EXISTING 115 RE RUNNING RAIL (CWR)	AS REQ'D
6	PLINTH CONCRETE FOR RAIL FASTENERS	N/A
7	VERTICAL SHIMS - 1/8" NOMINAL DESIGN (MIN) - 1/2" MAX. THICKNESS	PER SPEC AS REQ'D
8	*4 HOOP BARS (EPOXY COATED)	
9	5--4 LONGITUDINAL BARS (EPOXY COATED)	
10	BONDING AGENT	

NOTES:

1. FASTENER SPACING 30" NOMINAL ON TANGENT TRACK.
FOR CURVED TRACK SEE DWG. NO. TK132
 2. PLINTH CONCRETE SHALL BE PLACED IN SEGMENTS.
SEGMENTS SHALL BE IN 2 OR 3 FASTENER LENGTHS.
 3. PLINTH SHALL NOT OVERLAP ANY STRUCTURAL JOINTS.
 4. OTHER GAPS IN PLINTH SHALL BE LOCATED AS REQUIRED
FOR DRAINAGE AND PASSAGE OF SIGNAL OR OTHER CABLES.



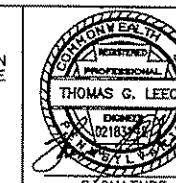
TYPICAL SECTION - TANGENT TRACK



GANNETT FLEMING, INC.
601 Holliday Drive
Foster Plaza III
Suite 200
Pittsburgh, PA. 15220

④	8/03/08	ADDENDUM 4 - DRAWING ADDED
NO.	DATE	DESCRIPTION
		REVISIONS

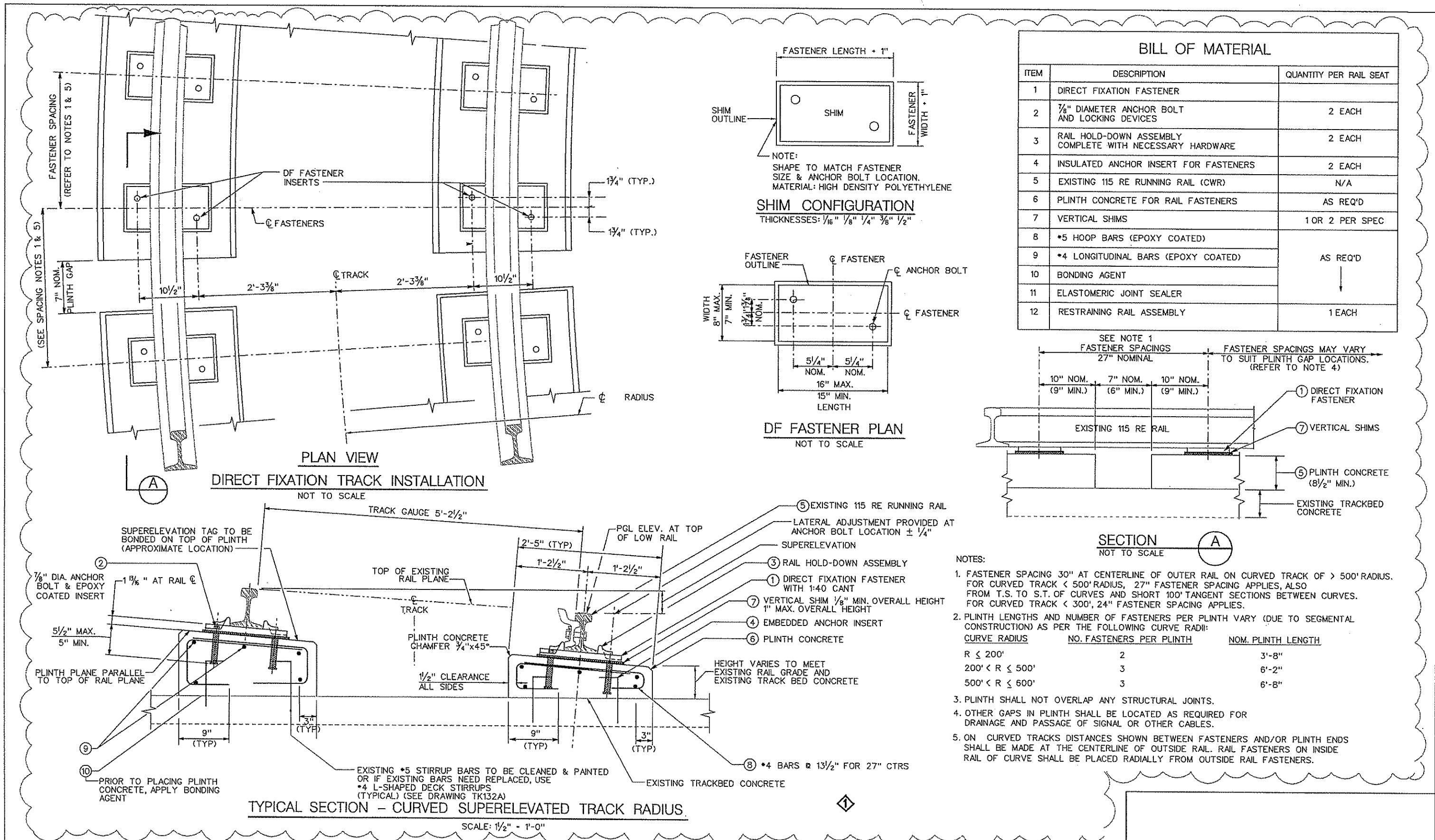
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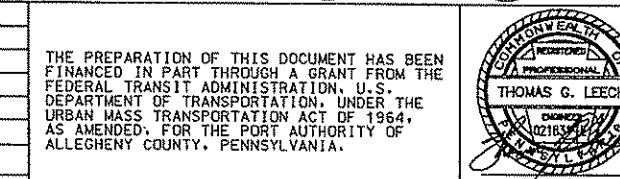
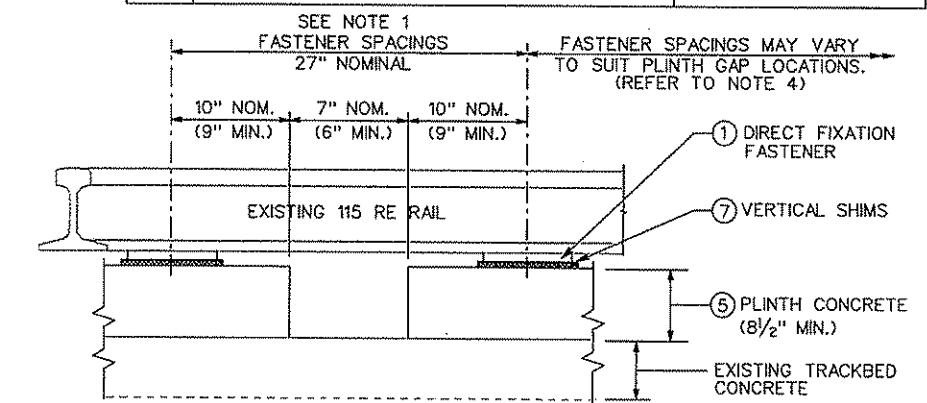
APPROVED DATE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH **PENNSYLVANIA**

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
EXISTING PLINTH REPLACEMENT
DIRECT FIXATION DETAILS – TANGENT TRACK REPLACEMENT AREAS



BILL OF MATERIAL		
ITEM	DESCRIPTION	QUANTITY PER RAIL SEAT
1	DIRECT FIXATION FASTENER	2 EACH
2	7/8" DIAMETER ANCHOR BOLT AND LOCKING DEVICES	2 EACH
3	RAIL HOLD-DOWN ASSEMBLY COMPLETE WITH NECESSARY HARDWARE	2 EACH
4	INSULATED ANCHOR INSERT FOR FASTENERS	2 EACH
5	EXISTING 115 RE RUNNING RAIL (CWR)	N/A
6	PLINTH CONCRETE FOR RAIL FASTENERS	AS REQ'D
7	VERTICAL SHIMS	1 OR 2 PER SPEC
8	*5 HOOP BARS (EPOXY COATED)	AS REQ'D
9	*4 LONGITUDINAL BARS (EPOXY COATED)	
10	BONDING AGENT	
11	ELASTOMERIC JOINT SEALER	
12	RESTRAINING RAIL ASSEMBLY	1 EACH



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Gannett Fleming

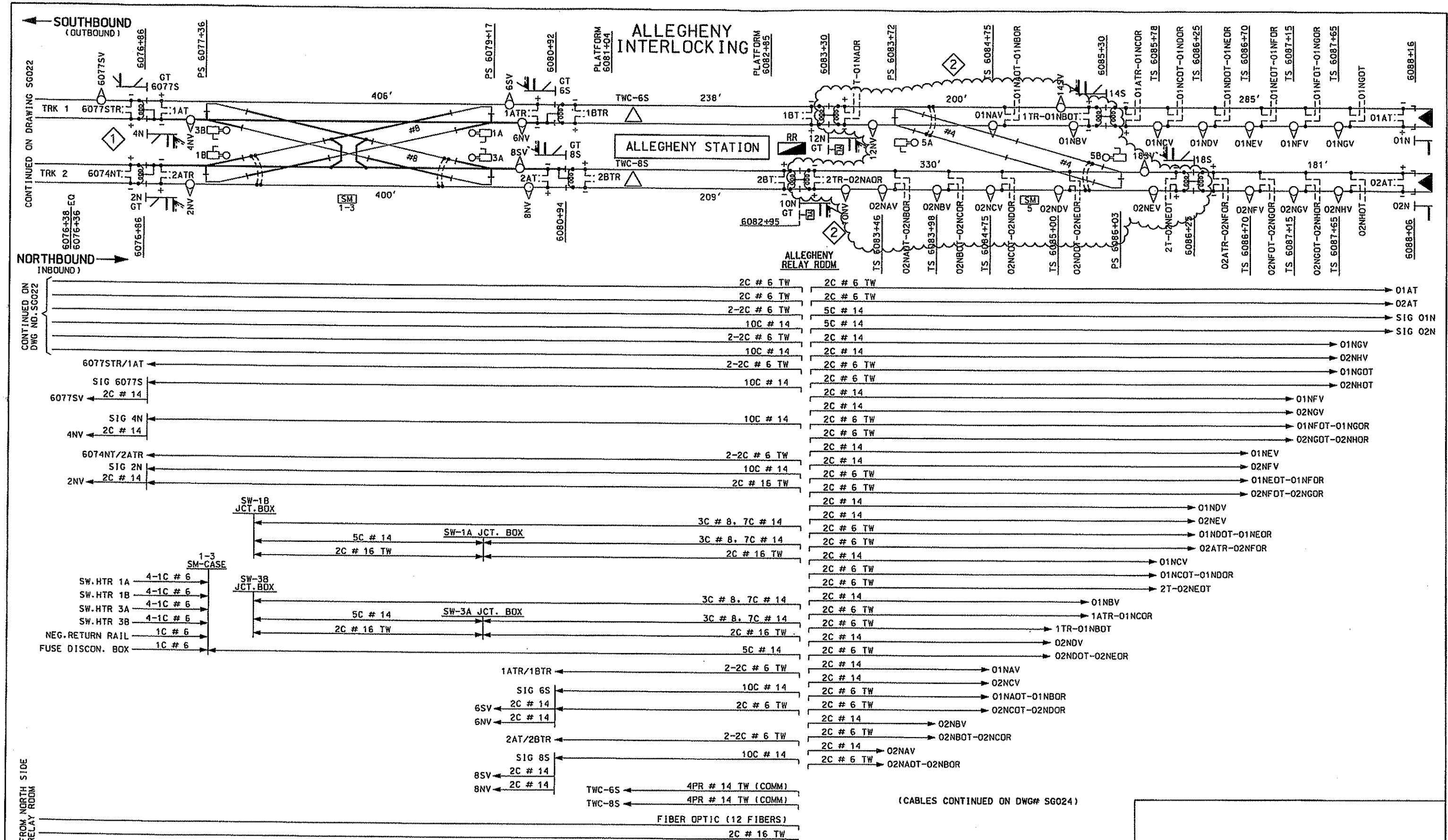
GANNETT FLEMING, INC.
601 Holiday Drive
Foster Plaza III
Suite 200
Pittsburgh, PA. 15220

9/03/08 ADDENDUM 4 - DRAWING ADDED
NO. DATE DESCRIPTION
REVISIONS

DESIGNED R. MORGAN
DRAWN J. NIESER
CHECKED C. VOLLMER
IN CHARGE T. LEECH
DATE 9/03/08
SCALE

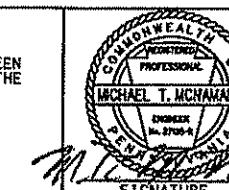
PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
EXISTING PLINTH REPLACEMENT
DIRECT FIXATION DETAILS - CURVED TRACK REPLACEMENT AREAS

Port Authority
CONTRACT NO. NSC-009
DWG. NO. TK132B
SHT. 148



NO.	DATE	DESCRIPTION
④	09/03/08	ADDENDUM 4 - DRAWING MODIFIED
⑤	08/20/08	ADDENDUM 3 - DRAWING MODIFIED
		REVISIONS

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AS AMENDED, FOR THE PORT AUTHORITY OF
ALLENTOWN COUNTY, PENNSYLVANIA.

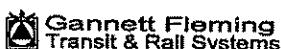
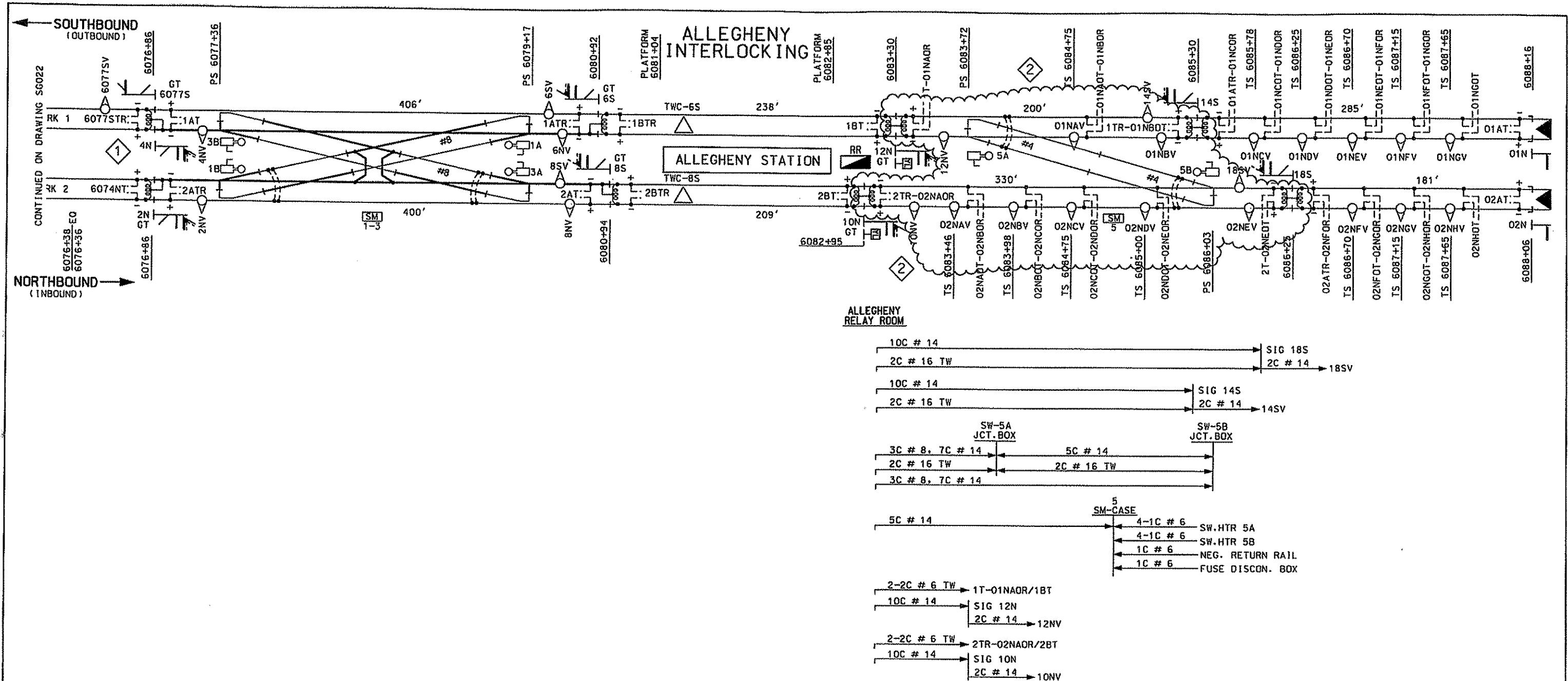


DMJM HARRIS AECC
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Donald D. Harris
APPROVED BY
DATE
9/3/05

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

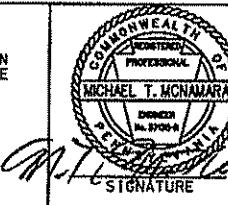
PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH **PENNSYLVANIA**

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



REVISIONS		
NO.	DATE	DESCRIPTION
◇	09/03/08	ADDENDUM 4 - DRAWING MODIFIED
◇	08/20/08	ADDENDUM 3 - DRAWING MODIFIED

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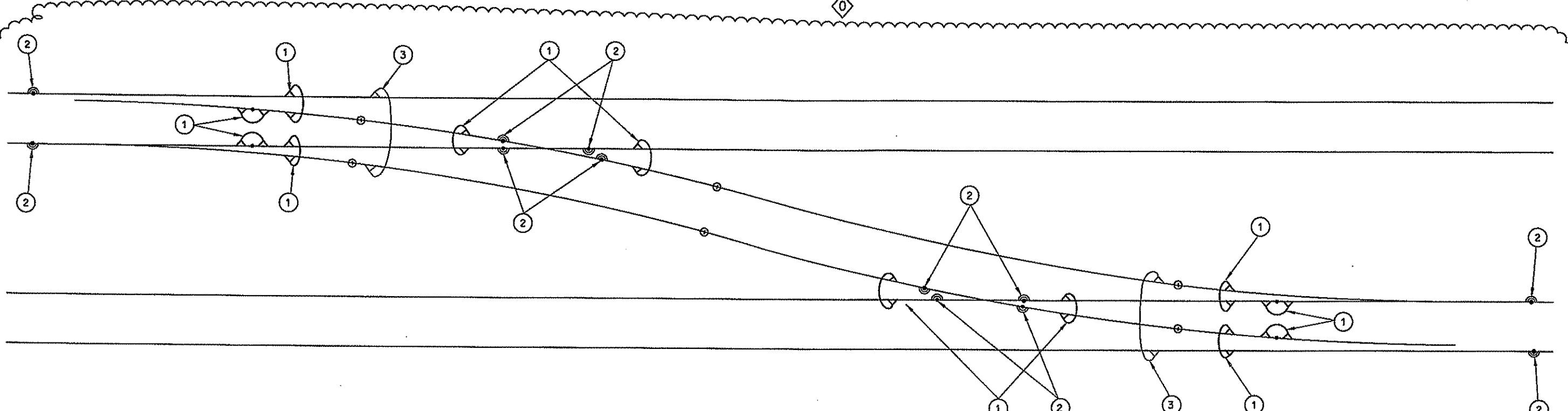
DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Frank J. P. Harris
APPROVED 9/3/03
DATE

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

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA

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

CONTRACT NO.	NSC-009		
DWG NO.	SG024	ED	350



TYPICAL DOUBLE RAIL CROSS-OVER SWITCH BONDING

EQUIPMENT:

- ① DUAL 500 kcmil FROG OR CROSSBOND CABLE WITH EXOTHERMIC WELDS.
- ② TWO 250 kcmil BONDS SHALL BE EXOTHERMICALLY WELDED TO THE FIELD SIDE OF THE RAIL HEAD WITHIN THE LIMITS OF A JOINT BAR, PER DETAIL 1 (OF DWG NO. SG168), AND ONE 500 kcmil BOND SHALL BE EXOTHERMICALLY WELDED TO THE FIELD SIDE OF THE WEB OF THE RAILS AT THE CENTERLINE OF THE WEB 4 INCHES BEYOND THE JOINT BARS AS SHOWN IN DETAIL 1 (DWG# SG168).
- ③ DUAL #6 BONDSTRAND CROSSBOND CABLE, WELDED.

LEGEND:

- INSULATED RAIL JOINTS
- RAIL JOINT WITH 2-250 kcmil, TYPE 'C' WELDED RAIL-HEAD BONDS AND 1-500 kcmil ROPELAY INSULATED BOND CABLE WELDED TO THE FIELD SIDE OF THE WEB OF THE RAILS AT THE CENTERLINE OF THE WEB 4 INCHES BEYOND THE ENDS OF THE JOINT BAR AS SHOWN IN DETAIL 1 (DWG# SG168).
- WEB-OF-RAIL WELDED CONNECTION FOR 1000 kcmil OR DUAL 500 kcmil BONDS.

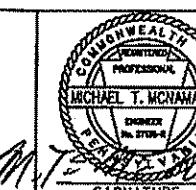
NOTES:

1. THE CONTRACTOR SHALL PROVIDE NEGATIVE RETURN RAIL BONDING ALL AROUND NEGATIVE-RETURN AND SIGNAL-RAIL NON-INSULATED JOINTS WITHIN INTERLOCKING LIMITS. THIS BONDING SHALL CONSIST OF TWO 250 kcmil, TYPE 'C' WELDED RAIL-HEAD BONDS AND ONE 500 kcmil, TYPE 'W' WELDED RAIL WEB BOND WHEREVER POSSIBLE.
2. THE CONTRACTOR SHALL PROVIDE 1000 kcmil OR DUAL 500 kcmil WELDED BONDS FOR NEGATIVE-RETURN PURPOSES.

Gannett Fleming
Transit & Rail Systems

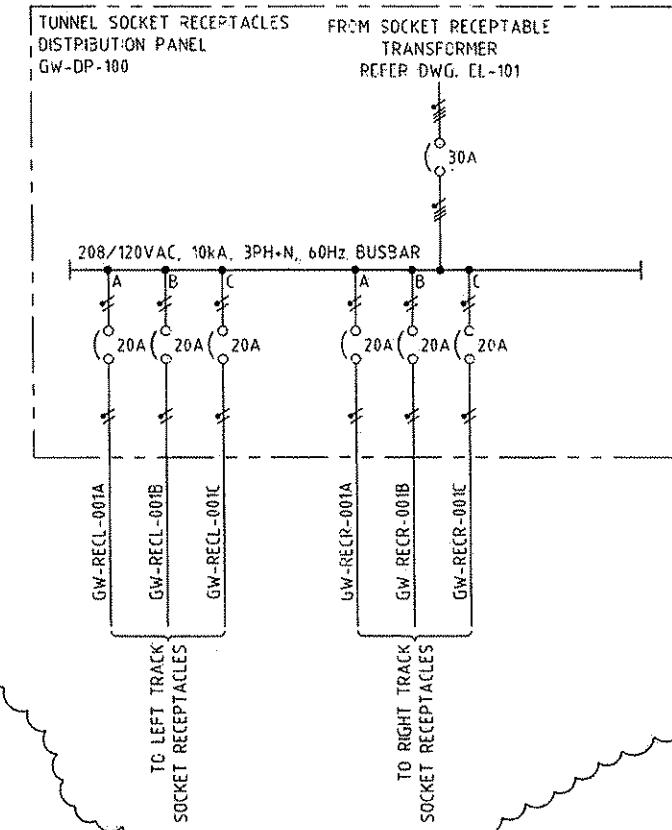
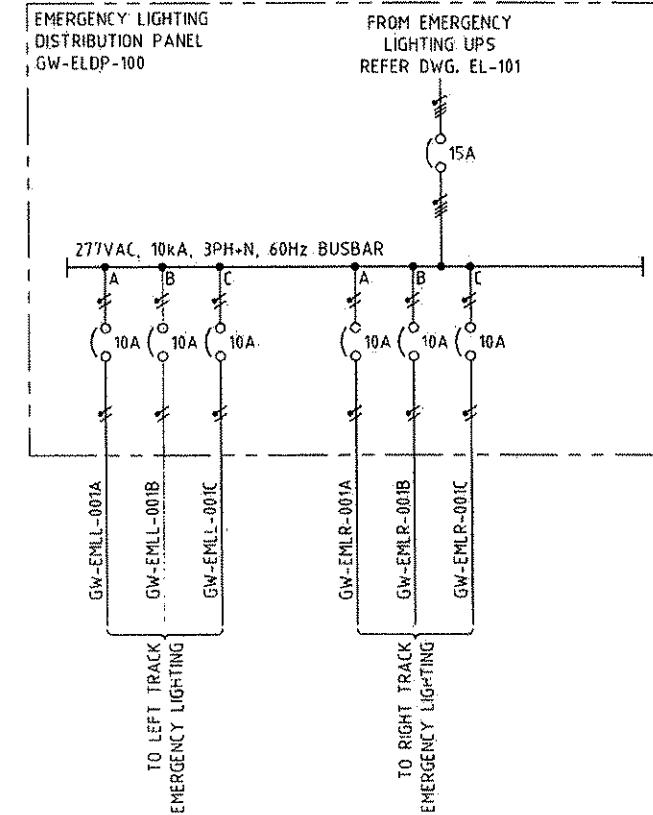
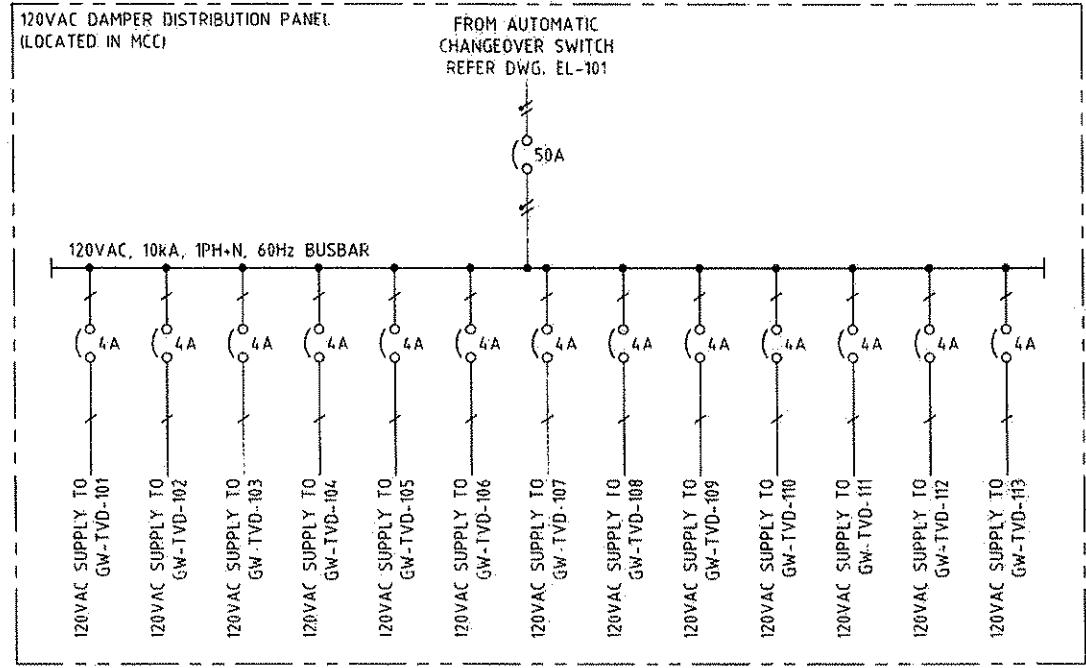
09/03/08	ADDENDUM 4 - DRAWING ADDED
NO. DATE	DESCRIPTION
	REVISIONS

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DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
MICHAEL T. MCNAMARA
PROFESSIONAL ENGINEER
REGISTRATION NO. 2704-4
EXPIRES NOVEMBER 2010
SIGNATURE
Dad Lai
APPROVED
9/3/08
DATE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
TYPICAL
DOUBLE RAIL SWITCH BONDING - CROSSOVER
Contract No. NSC-008
Dwg. No. SG170A Sht. 415A

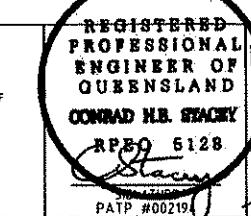


MAUNSELL | AECOM

C. Stacy
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925
APPROVED
DATE: AUGUST 21, 2008

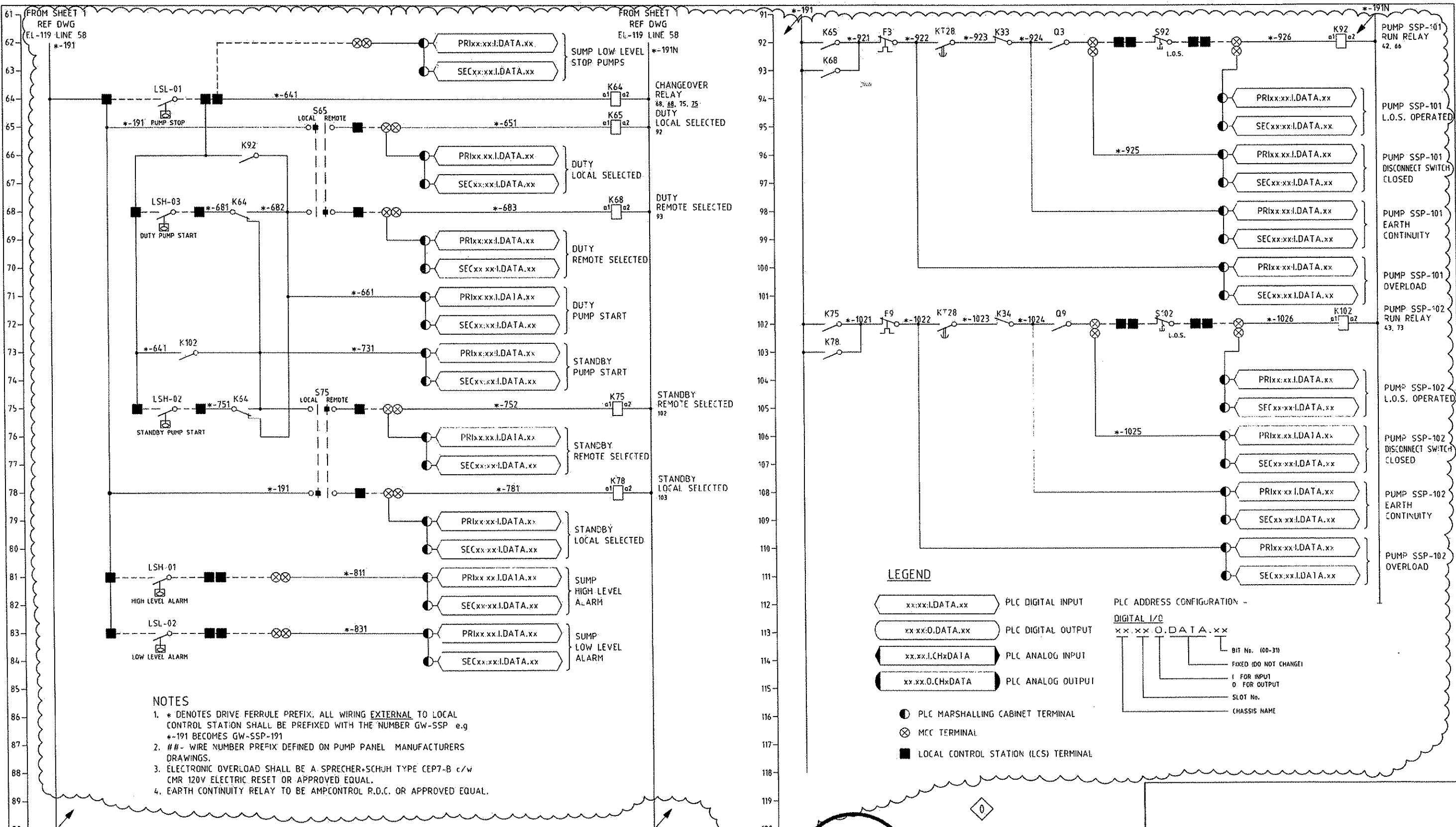
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TRANSPORTATION, UNDER THE URBAN MASS
TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE
PORT AUTHORITY OF ALLEGHENY COUNTY,
PENNSYLVANIA.



MMJ HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA 15222
D. P. Harris
APPROVED DATE: 8/25/08

DESIGNED IS DRAWN GH CHECKED SF IN CHARGE LS DATE 8/21/08 SCALE N.T.S.	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) GATEWAY STATION DISTRIBUTION PANELS SLD CONTRIBUTION CONTRACT NO.: NSC-009 DWG. NO. EL-101A SHT. 658A
---	---



MAUNSELL | AECOM

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

C. Stacey
APPROVED
AUGUST 21, 2008
DATE

NO.	DATE	DESCRIPTION	REVISIONS
08/21/08	ADDENDUM 4 - DRAWING ADDED		

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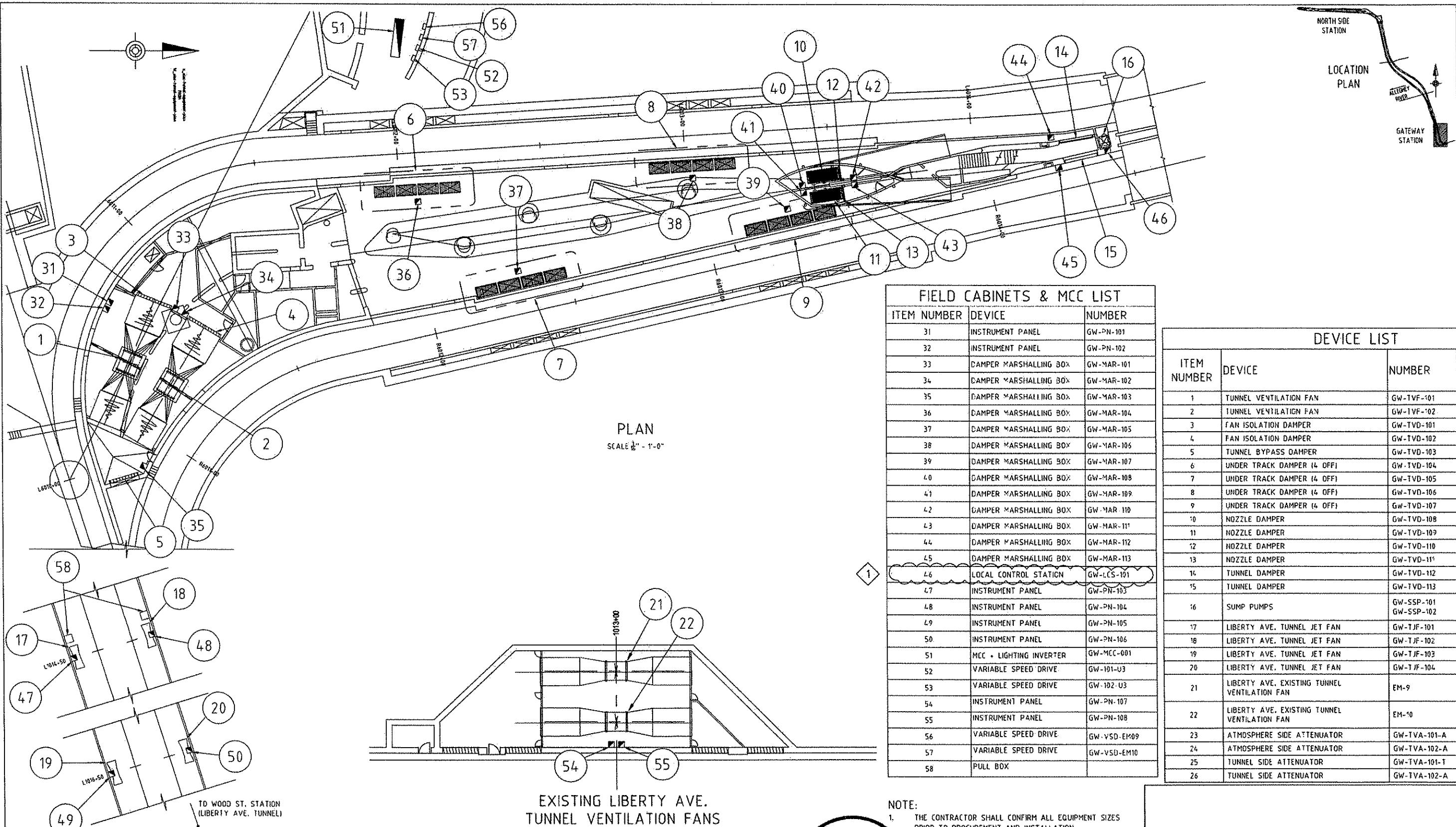
REGISTERED
PROFESSIONAL
ENGINEER OF
QUEENSLAND
CONRAD H.R. STACEY
RPEQ 6128
C. Stacey
SIGNATURE
PATP #002194

DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA 15222
Daryl P. [Signature]
APPROVED
08/25/08
DATE

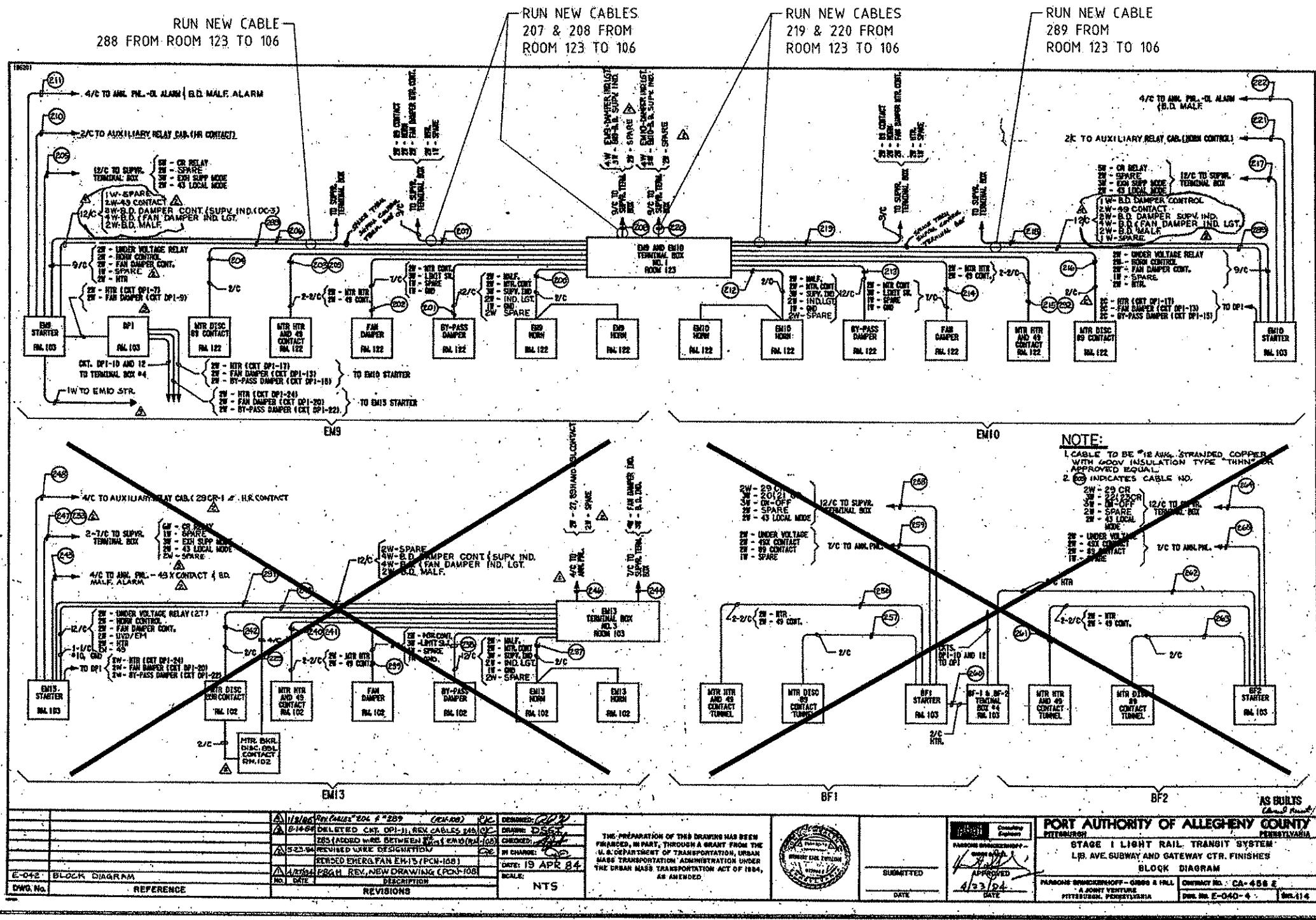
DESIGNED TS
DRAWN GH
CHECKED MHS
IN CHARGE ES
DATE 08/21/08
SCALE N.T.S.

Port Authority
SUBMISSION
CONTRACT NO. NBC-009
DWG. NO. EL-119A SHT. 672A

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



MAUNSELL AECOM					
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925		08/21/08 ADDENDUM 4 - DRAWING MODIFIED		CONRAD H. STACEY RPEO 5128	
APPROVED	AUGUST 21, 2008	NO. DATE	DESCRIPTION	REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND	DESIGNED TS DRAWN GH CHECKED MHS IN CHARGE CS DATE 08/27/08 SCALE 1/16" - 1'-0"
		REVISIONS		CONRAD H. STACEY RPEO 5128	APPROVED D. P. HARRIS 8/25/08 DATE
				PATP #002104	
<p>NOTE:</p> <ol style="list-style-type: none"> THE CONTRACTOR SHALL CONFIRM ALL EQUIPMENT SIZES PRIOR TO PROCUREMENT AND INSTALLATION. 					
PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH PENNSYLVANIA NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) GATEWAY STATION ELECTRICAL EQUIPMENT					
Port Authority		CONTRACT NO. NBC-009		DRAW. NO. EL-150 SHT. 676	



MAUNSELL | AECOM

C. Stacey Mansell Australia Pty Ltd A.B.N. 20 093 846 925
APPROVED AUGUST 21, 2008 DATE

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REGISTERED
PROFESSIONAL
ENGINEER OF
QUEENSLAND
CONRAD H. STACEY
REPO 5128
Stacey
SIGNATURE
PATP #00204

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


APPROVED DATE

DESIGNER
DRAWN BY
CHECKED BY
IN CHARGE
DATE
SCALE

ED 19
G
D SF
RGE CS
8/2
N.

21/08
T.S.

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PO
PITT

**PORT AUTHORITY
OF PITTSBURGH**

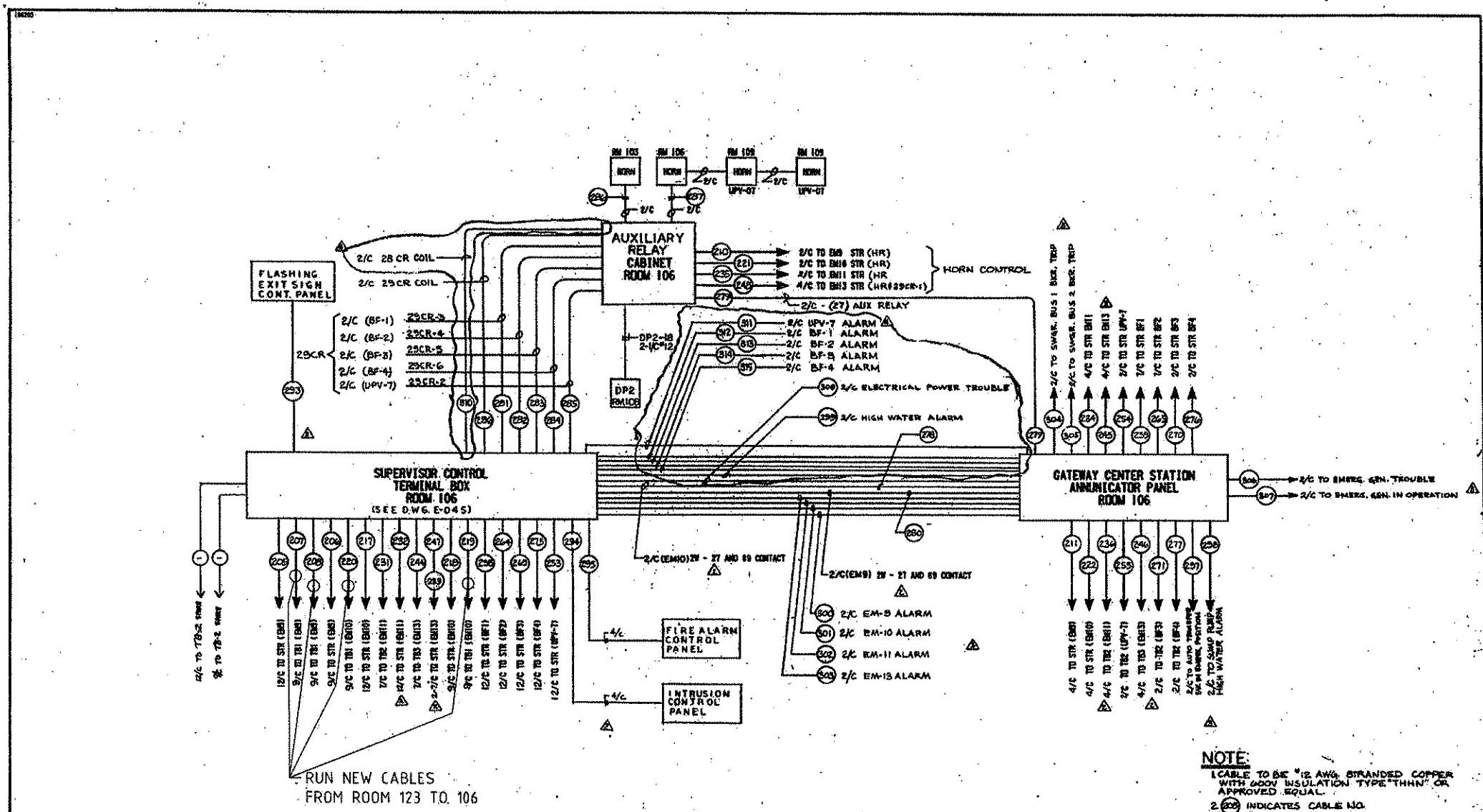
**NORTHERN
NSC TRAINING
E. SUBWIRE
RAM (EXI)**

**URITY O
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RAWING
CONTRA

NY CO
PENN

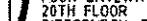
UTHORITY OF ALLEGHENY COUNTY
PENNSYLVANIA



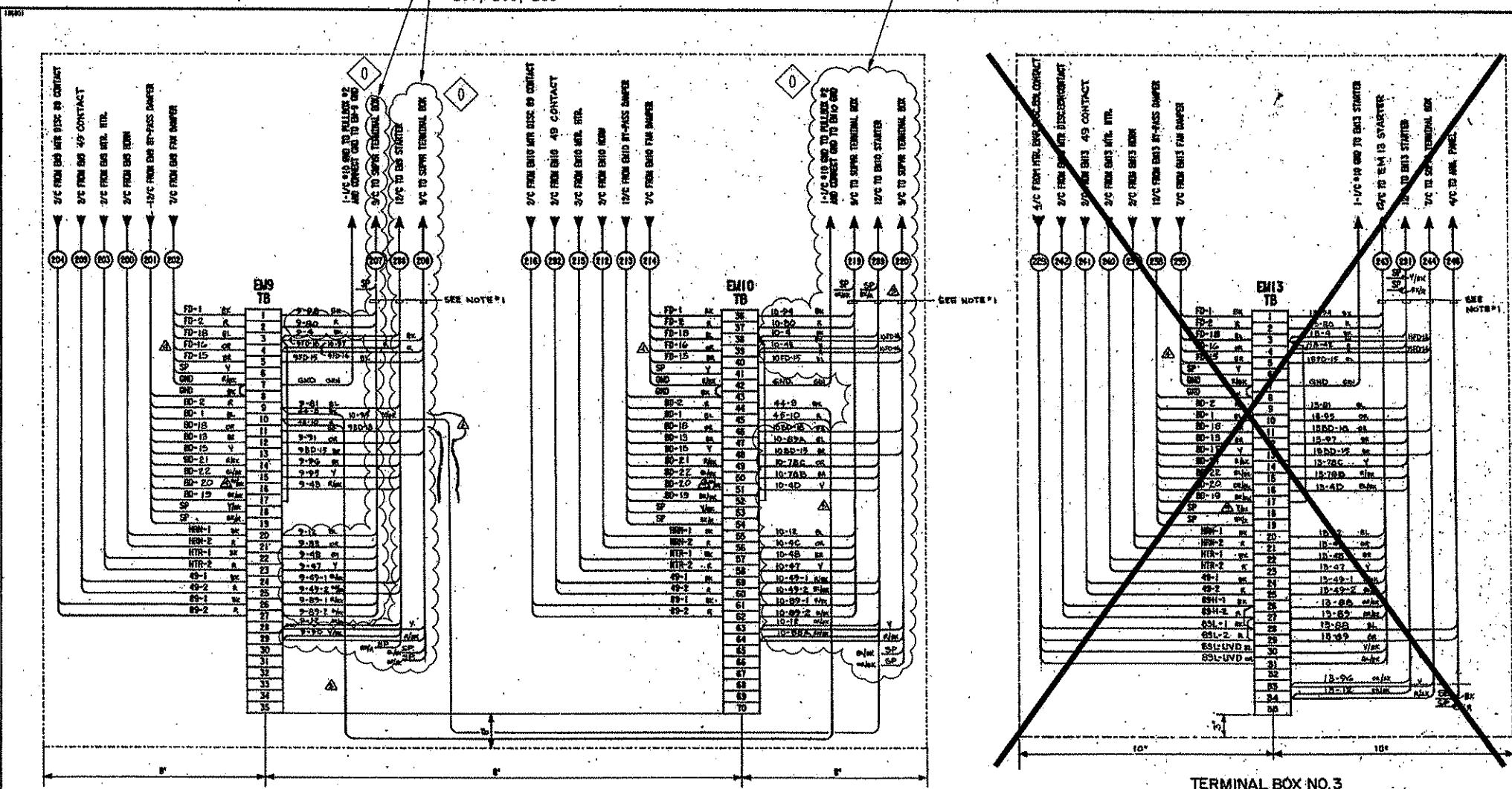
NOTE:
1 CABLE TO BE "12 AWG. STRANDED COPPER
WITH 600V INSULATION TYPE "THHN" OR
APPROVED EQUAL.
2 (200) INDICATES CABLE NO.

DRAWING NO.		REFERENCE	REV. B-04 ADDED CABLES BIG TRAIL RIF	(PCN-108)	REVISIONS	REMARKS	APPROVALS	PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH, PENNSYLVANIA
DRAWING NO.	REF. DATE	DESCRIPTION	REV. CABLES BIG TRAIL RIF	PCN-108	REVISIONS	REMARKS	APPROVALS	STAGE 1 LIGHT RAIL TRANSIT SYSTEM LIB. AVE. SUBWAY AND GATEWAY CTR. FINISHED
E-045	SURVEY CONT. TERM BOX WIRING DIAG.	A-04	REV. CABLES BIG TRAIL RIF	PCN-108				
E-044	TERM. BOX N° 2 64 WIRING DIAG.	A-04	REV. CABLES BIG TRAIL RIF	PCN-108				
E-043	TERM. BOX N° 1 64 WIRING DIAG.	A-04	REV. CABLES BIG TRAIL RIF	PCN-108				
E-041	BLOCK DIAGRAM	A-04	PBSH REV. NEW DRAWING	(PCN-108)				
E-040	BLOCK DIAGRAM	A-04	PBSH REV. NEW DRAWING	(PCN-108)				
DRAWING NO.		REFERENCE	REV. B-04 ADDED CABLES BIG TRAIL RIF	(PCN-108)	REVISIONS	REMARKS	APPROVALS	STAGE 1 LIGHT RAIL TRANSIT SYSTEM LIB. AVE. SUBWAY AND GATEWAY CTR. FINISHED
Dwg. No.								
REF. DATE								
DESCRIPTION								
REVISIONS								
REMARKS								

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 <u>BPEO 5128</u>  <small>QUALIFIED PATP #00214</small>	DMJM HARRIS AECO FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222  <u>Daniel P. Klein</u> APPROVED 8/25/08 DATE
---	---

PORT AUTHORITY OF ALLEGHENY COUNTY	
PITTSBURGH	PENNSYLVANIA
NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) LIB. AVE. SUBWAY AND GATEWAY CTR. FINISHES BLOCK DIAGRAM (EXISTING DRAWING MARK UP) SHEET 2 OF 2	
 Port Authority	CONTRACT NO.
	NSC-009
	DWG. NO.
	EL-153B
	SHT.
	679B



TERMINAL BOX No. 1
ROOM 123

TERMINAL SIDE NORMAL CAT. # A-362408 LP AND
PANEL # A-3624 W/ "SS D" TYPE "KCS-4" TERMINAL
BLOCKS, MOUNTING CHANNEL AND END CLAMPS

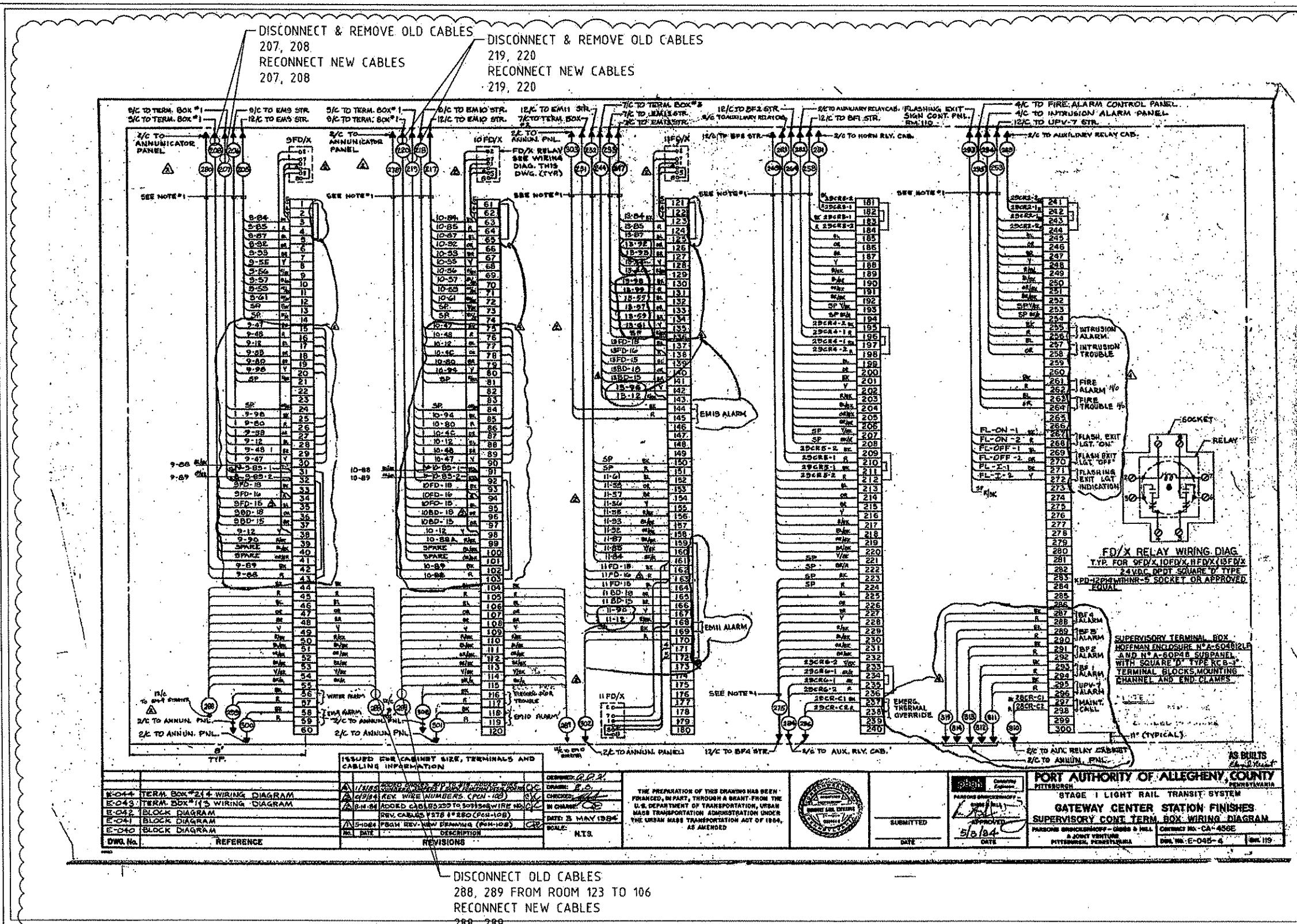
DWS No.	REFERENCE	REV DATE	DESCRIPTION	REVISIONS		SCALE:	N.T.S.
				REV'D	CHANGED		
		1/18/65	NY WIRE NOS. ADDED. WIRE (P/N-108)			1/18/65	
		1/18/65	REVISED WIRE NOS. (P/N-108)			1/18/65	DRAWN D.S.G. 2
		8-14-64	ADDED CABLE & SPARES (P/N-108)			8-14-64	CHECKED
		8-14-64	ADDED WIRE NOS. & REVISED			8-14-64	IN CHARGE
			CABLE CONNECTIONS (P/N-108)				DATE: 10 MAY 1964
			PUSH PIN - NEW DRAWING (P/N-108)				

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>CONRAD H. STACY</p> <p>REC-5128</p> <p><i>Stacy</i></p> <p>SIGNATURE PATP #002194</p>	<p>DMJM HARRIS AECOM</p> <p>FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222</p> <p><i>David P. Stacey</i></p> <p>APPROVED</p> <p>8/25/08</p> <p>DATE</p>
--	--

PITTSTON AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH **PENNSYLVANIA**

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
LIB. AVE. SUBWAY AND GATEWAY CTR. FINISHES
TERM BOX No.1-2 WIRING DIAGRAM (EXISTING DRAWING MARK UP)



MAUNSELL | AECOM

Maunsell Australia Pty Ltd A.B.N. 20 093 846 925
APPROVED DATE AUGUST 21, 2008

08/21/08	ADDENDUM 4 - 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.

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

DMMJ HARRIS | AECOM

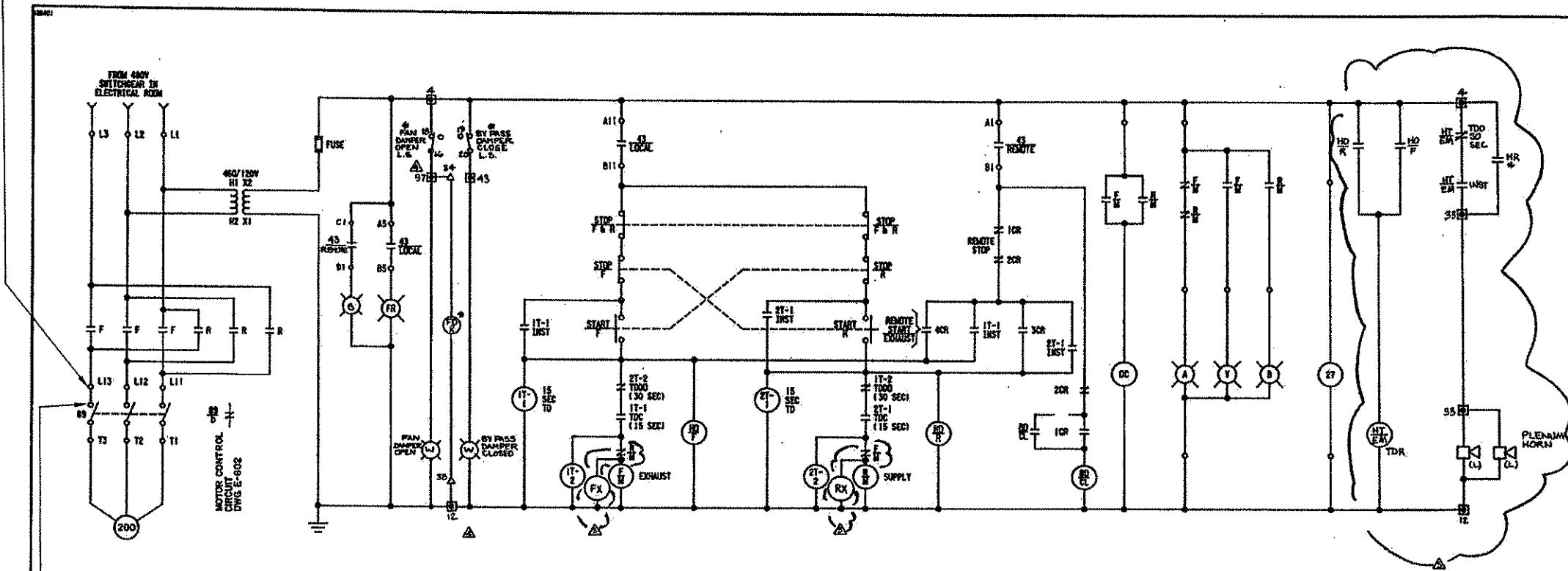
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Signature: *Stacey*

Designated: TS
Drawn: GH
Checked: SF
In Charge: CS
Date: 8/21/08
Scale: N.T.S.

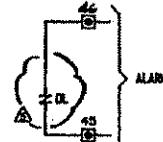
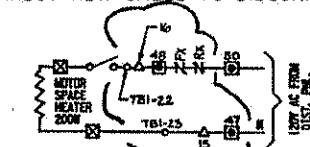
PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
GATEWAY CENTER FINISHES
SUPERVISORY CONT. TERM. BOX WIRING DIA. (EXISTING DRAWING MARK UP)

Port Authority
CONTRACT NO. NSC-009
DWG. NO. EL-153D SHT. 67BD

DISCONNECT OLD CABLE AT STARTER &
RECONNECT NEW CABLE TO STARTER



DISCONNECT OLD CABLE FROM DISCONNECT SWITCH &
RECONNECT NEW CABLE TO DISCONNECT SWITCH



ADDED:
HORN CONTROL & HTR DISC SW.
ALSO REDRAWN

E-043 REV. FAN SCHEMATIC L-PCN-10015474		DEEMED: 10/2008
E-043 REV. FAN BYPASS DAMPER LS-OUL-1001		DRAWN: DSGT
E-043 REV. CONTACT #3 ALARM # (PCA-100) D/C		CHECKED: [Signature]
E-043 REV. BY PASS DAMPER, CLASS L-S-# 2/2		IN CHARGE: [Signature]
ADDED TERMINAL NUMBERS (OCA-100)		DATE: 19 APR 04
E-043 PUSH KEY (PCA-100) SEE REV. NOTE ABOVE		SCALE: N.T.S.
DWG. NO. E-043	REF. DATE	DESCRIPTION
		REVISIONS

NOTE:
* INDICATES EXTERNAL DEVICE

PROJECT RECORD COPY

AS BUILT		PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH	
E-043 REV. FAN SCHEMATIC L-PCN-10015474		STAGE I LIGHT RAIL TRANSIT SYSTEM LIB. AVE. SUBWAY AND GATEWAY CTL. SUBWAY FINISHES FAN EM-9 SCHEMATIC SH. 1 OF 2	
APPROVED	DATE	PARSONS BRINCKERHOFF - CHERRY & HILL	CONTRACT NO. CA-4568
4/25/08		JOURNAL VERITY	
		PITTSBURGH, PENNSYLVANIA	DWG. NO. E-043-5 SHT. 56

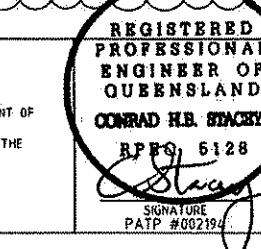
MAUNSELL | AECOM

Maunsell Australia Pty Ltd A.B.N. 20 093 866 925

C. Stacey
APPROVED
AUGUST 21, 2008
DATE:

08/21/08	ADDITION 4 - DRAWING ADDED
NO. DATE	DESCRIPTION
	REVISIONS

THE PREPARATION OF THIS DOCUMENT HAS BEEN
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TRANSPORTATION, UNDER THE URBAN MASS
TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE
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PENNSYLVANIA.



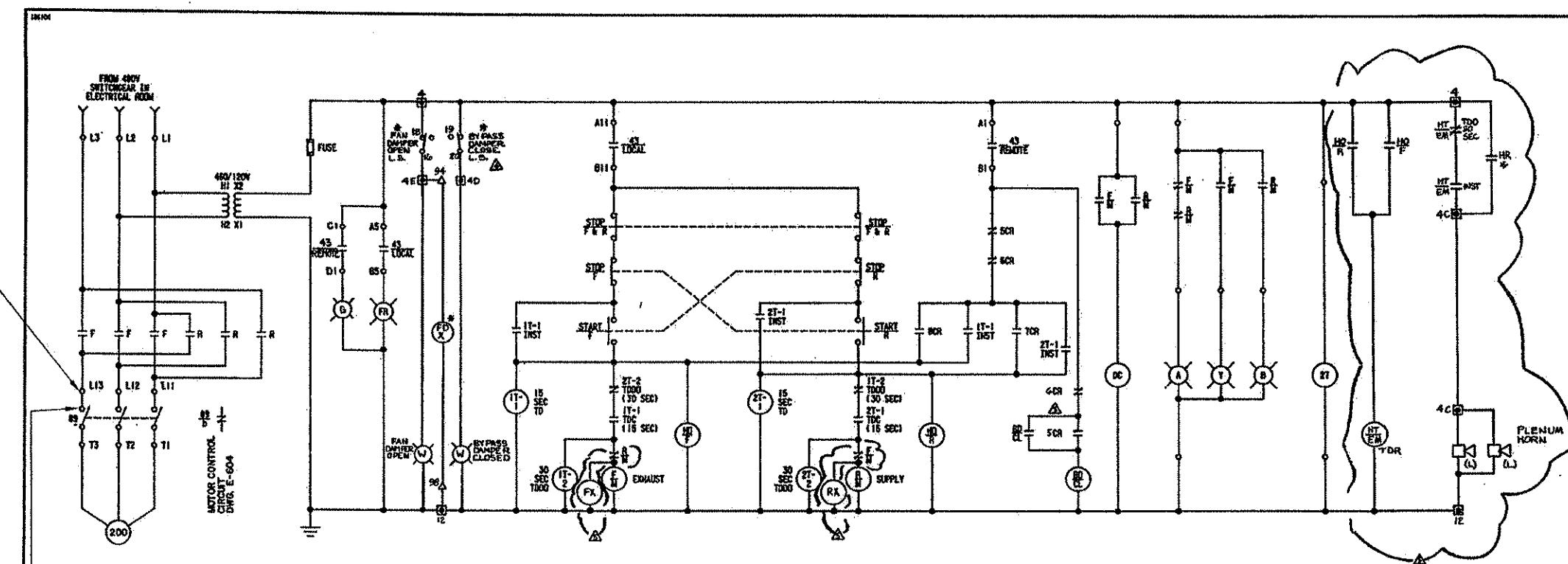
REGISTERED
PROFESSIONAL
ENGINEER OF
QUEENSLAND
CONRAD H.B. STACEY
P.E.P.Q., 5128
C. Stacey
APPROVED
SIGNATURE
PATP #002194
DATE: 8/25/08

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH

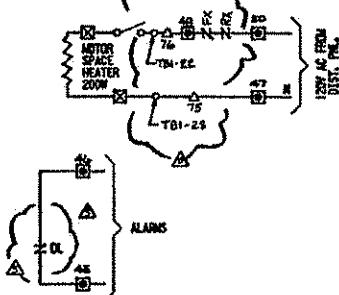
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
LIB. AVE. SUBWAY AND GATEWAY CTR. FINISHES
FAN EM-9 SCHEMATIC (EXISTING DRAWING MARK UP)

Port Authority
CONTRACT NO. NBC-009
DWG. NO. EL-153E SHT. 679E

DISCONNECT OLD CABLE AT STARTER &
RECONNECT NEW CABLE TO STARTER



DISCONNECT OLD CABLE FROM DISCONNECT SWITCH &
RECONNECT NEW CABLE TO DISCONNECT SWITCH



ADDED:
HORN CONTROL & HTR. DISC. SWITCH
ALSO REDRAWN

E-043 AUX. RELAY CAB. SCHEMATIC		REFERENCE	
DWG. No.	DATE	DESCRIPTION	REVISIONS

NOTE:
* INDICATES EXTERNAL DEVICE

PROJECT RECORD COPY

AS BUILT
Conrad H. Stacey

PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH, PENNSYLVANIA	
STAGE 1 LIGHT RAIL TRANSIT SYSTEM LIB. AVE. SUBWAY AND GATEWAY CTR. SUBWAY FINISHES FAN 10 EM-10 SCHEMATIC S.H. 1 OF 2	
APPROVED <i>H. Stacey</i>	DATE 4/23/08
SUBMITTED <i>H. Stacey</i>	DATE 4/23/08
PURCHASE BROOKENHOFF - CHASE & HILL A JOINT VENTURE PITTSBURGH, PENNSYLVANIA	CONTRACT NO. CA-406
DWG. NO. E-003-5	Sheet No. 100

THE PREPARATION OF THIS DOCUMENT HAS BEEN
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TRANSPORTATION, UNDER THE URBAN MASS
TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE
PORT AUTHORITY OF ALLEGHENY COUNTY,
PENNSYLVANIA.

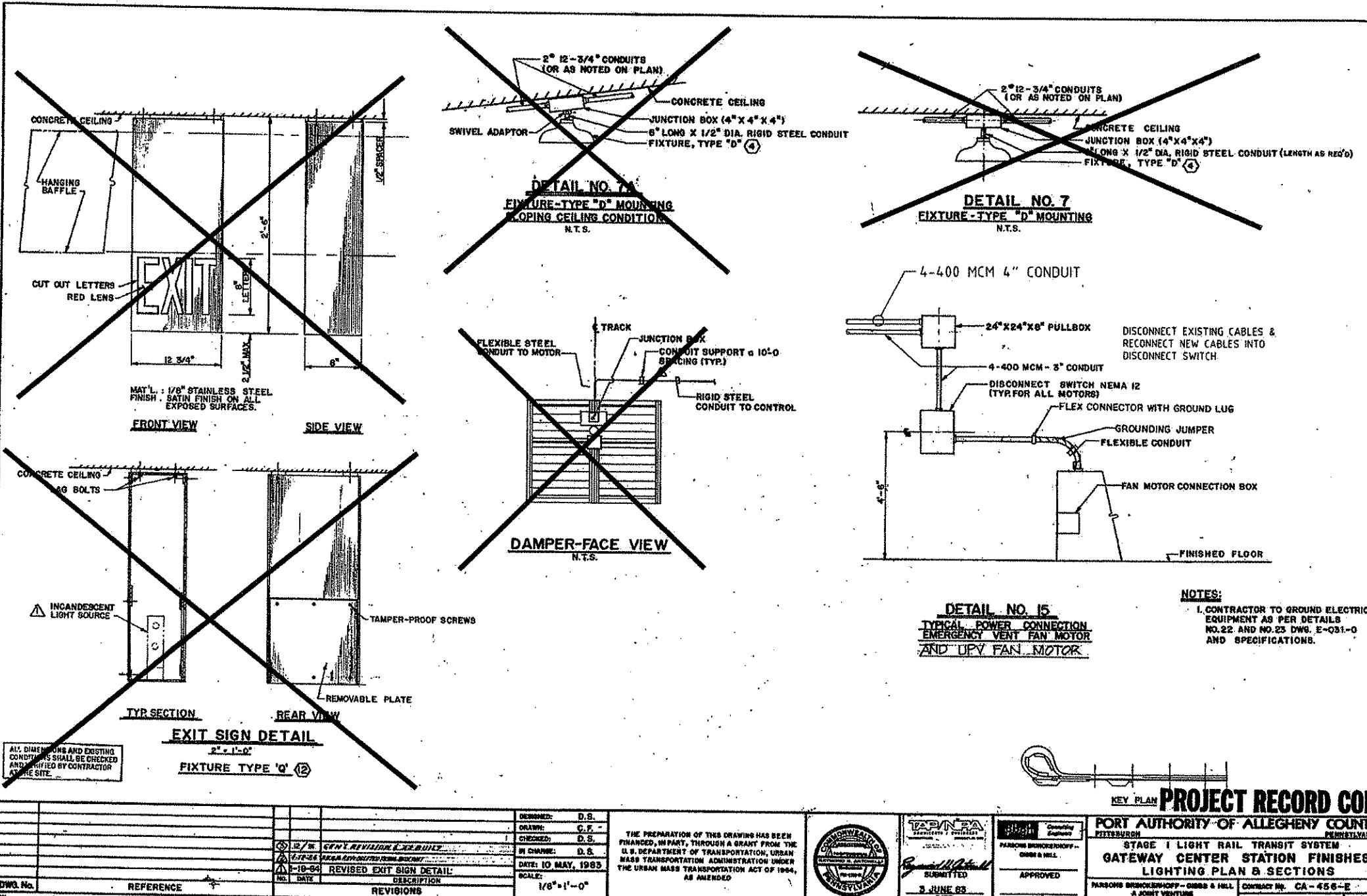
REGISTERED
PROFESSIONAL
ENGINEER OF
QUEENSLAND
CONRAD H. STACEY
R.P.E.I.D. 6128
PATP #00214

OMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
APPROVED
Conrad H. Stacey
DATE
8/21/08

MAUNSELL AECOM	
Maunsell Australia Pty Ltd. A.B.N. 20 093 846 925	
<i>C. Stacey</i>	AUGUST 21, 2008
APPROVED	DATE

08/21/08 ADDENDUM 4 - DRAWING ADDED
NO. DATE DESCRIPTION
REVISIONS

PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH, PENNSYLVANIA	
NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) LIB. AVE. SUBWAY AND GATEWAY CTR. FINISHES FAN EM-10 SCHEMATIC (EXISTING DRAWING MARK UP)	
Port Authority	CONTRACT NO. NSC-009
DWG. NO. EL-153F	Sheet No. 679F



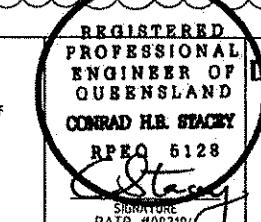
KEY PLAN PROJECT RECORD COPY

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
STAGE I LIGHT RAIL TRANSIT SYSTEM
GATEWAY CENTER STATION FINISHES
LIGHTING PLAN & SECTIONS

DESIGNED: D.S.	DRAWN: C.R.	CHECKED: D.S.	IN CHARGE: D.S.	PARSONS BRINCKERHOFF A SUBSIDIARY OF PARSONS CORPORATION Pittsburgh, PA 15222	OWNER Parsons Brinckerhoff Parsons, Brinckerhoff, Quigley & Douglas A Division of Parsons Corporation 1000 Penn Avenue Pittsburgh, PA 15222	DATE: 10 MAY, 1985	SUMMITTED: 3 JUNE 85	APPROVED: DATE	PARSONS BRINCKERHOFF - COMB & HILL A PORT AUTHORITY PITTSBURGH, PENNSYLVANIA	CONTRACT NO. CA-456-E	SCALE: 1/8"=1'-0"	REV. NO. 12/08	REVISIONS: REVISED EXIT SIGN DETAIL
DWG. NO. REFERENCE	REVISIONS	DATE	DESCRIPTION	SCALE: 1/8"=1'-0"	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE	DATE

MAUNSELL AECOM		
Hansell Australia Pty Ltd A.B.N. 20 093 846 925		
AUGUST 21, 2008		
<input checked="" type="checkbox"/> 08/21/08 ADDENDUM 4 - DRAWING ADDED NO. DATE DESCRIPTION REVISIONS		

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



DESIGNED TS
DRAWN GK
CHECKED SF
IN CHARGE CS
DATE 8/21/08
SCALE N.T.S.
SIGNATURE: David P. Harris
APPROVED DATE
DWG. NO. EL-153G SHT. 679G

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
GATEWAY CENTER FINISHES
LIGHTING PLAN & SECTIONS (EXISTING DRAWING MARK UP)

Port Authority	CONTRACT NO. NBC-009
DWG. NO. EL-153G	SHT. 679G

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

CONTINUED ON DRAWING EL-161

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

CONTINUED FROM DRAWING EL-160

REV	Source	Destination	Cable Number	Cable Type	Voltage Rating	Cores	AWG/MCM	GND AWG	Conduit #
0	Gateway Station Room 103	Disconnect Switch Existing Tunnel Vent Fan EM 09	GW-TVF-EM09-P01	Shielded VSD	600V	2-3C+3E	350	2	M44,M44A
0	Room 123 Terminal Box 1	Room 106 Supervisory Terminal Box Htr, damper Ctr	207	LSZH	600V	9C	12		
0	Room 123 Terminal Box 1	Room 106 Supervisory Terminal Box EM9 damper Ind	208	LSZH	600V	9C	12		
0	Room 123 Terminal Box 1	Room 103 EM9 Str Bypass damper Ctr, Ind	288	LSZH	600V	9C	12		
0	Gateway Station MCC	Gateway Station Room 103	GW-TVF-EM09-P02	Shielded VSD	600V	2-3C+3E	350	2	M44,M44A
0	Gateway Station MCC	VSD-EM09	GW-TVF-EM09-P01	Fire Rated	600V	1 - 3C+E	500	1/0	
0	VSD-EM09	Gateway Station MCC	GW-TVF-EM09-P02	Shielded VSD	600V	2-3C+3E	350	2	
0	Gateway Station MCC	Tunnel Vent Fan Instrument Panel GW-PN-107 Ctr Digital	GW-TVF-EM09-C01	LSZH	600V	Multicore 12C+E	12	8	
0	Gateway Station MCC	Tunnel Vent Fan Instrument Panel GW-PN-107 Ctr Analog	GW-TVF-EM09-I01	LSZH	600V	1 Pair shielded	14		
0	Gateway Station MCC	VSD-EM09 Ctr Analog	GW-TVF-EM09-I01	LSZH	600V	4 Pair Individually Shielded	14		
0	Gateway Station MCC	VSD-EM09 Ctr	GW-TVF-EM09-C02	LSZH	600V	Multicore 12C+E	12	8	
0	Gateway Station MCC	Tunnel Vent Fan GW-TVFEM09 Heater	GW-TVF-EM09-S01	Fire Rated	600V	Multicore 2C+E	12	8	
0	Tunnel Vent Fan GW-TVFEM09 RTD	Tunnel Vent Fan Instrument Panel GW-PN-107 Ctr Analog	GW-TVF-EM09-R01	LSZH	600V	6 Triple Individually shielded	14		
0	Tunnel Vent Fan Instrument Panel GW-PN-107	PLC MODBUS	GW-TVF-EM09-L01	LSZH	600V	1 Pair shielded	14		
0	VSD-EM09	PLC MODBUS	GW-TVF-EM09-L02	LSZH	600V	1 Pair shielded	14		
0	Tunnel Vent Fan Instrument Panel GW-PN-107	Forward Differential Pressure Switch	GW-TVF-EM09-C03	Fire Rated	600V	Multicore 2C+E	12	8	
0	Tunnel Vent Fan Instrument Panel GW-PN-107	Reverse Differential Pressure Switch	GW-TVF-EM09-C04	Fire Rated	600V	Multicore 2C+E	12	8	
0	Tunnel Vent Fan Instrument Panel GW-PN-107	Fan Room Emergency Stop	GW-TVF-EM09-C05	Fire Rated	600V	Multicore 2C+E	12	8	
0	VSD-EM09	Braking Resistor	GW-TVF-EM09-C06	Fire Rated	600V	Multicore 2C+E	12	8	
0	Disconnect Switch	Tunnel Vent Fan Instrument Panel GW-PN-107	GW-TVF-EM09-C07	Fire Rated	600V	Multicore 2C+E	12	8	
0	Gateway Station Room 103	Disconnect Switch Existing Tunnel Vent Fan EM-10	GW-TVF-EM10-P01	Shielded VSD	600V	2-3C+3E	350	2	M45,M45A
0	Room 123 Terminal Box 1	Room 106 Supervisory Terminal Box Htr, damper Ctr	219	LSZH	600V	9C	12		
0	Room 123 Terminal Box 1	Room 106 Supervisory Terminal Box EM10 damper Ind	220	LSZH	600V	9C	12		
0	Room 123 Terminal Box 1	Room 103 EM10 Str Bypass damper Ctr, Ind	289	LSZH	600V	9C	12		
0	Gateway Station MCC	Gateway Station Room 103	GW-TVF-EM10-P02	Shielded VSD	600V	2-3C+3E	350	2	M45,M45A
0	Gateway Station MCC	VSD-EM10	GW-TVF-EM10-P01	Fire Rated	600V	1 - 3C+E	500	1/0	
0	VSD-EM10	Gateway Station MCC	GW-TVF-EM10-P02	Shielded VSD	600V	2-3C+3E	350	2	
0	Gateway Station MCC	Tunnel Vent Fan Instrument Panel GW-PN-108 Ctr Digital	GW-TVF-EM10-C01	LSZH	600V	Multicore 12S+E	12	8	
0	Gateway Station MCC	Tunnel Vent Fan Instrument Panel GW-PN-108 Ctr Analog	GW-TVF-EM10-I01	LSZH	600V	1 Pair shielded	14		
0	Gateway Station MCC	VSD-EM10 Ctr Analog	GW-TVF-EM10-I02	LSZH	600V	4 Pair Individually Shielded	14		
0	Gateway Station MCC	VSD-EM10 Ctr	GW-TVF-EM10-C02	LSZH	600V	Multicore 12C+E	12	8	
0	Gateway Station MCC	Tunnel Vent Fan GW-TVFEM09 Heater	GW-TVF-EM10-S01	Fire Rated	600V	Multicore 2C+E	12	8	
0	Tunnel Vent Fan GW-TVFEM09 RTD	Tunnel Vent Fan Instrument Panel GW-PN-108 Ctr Analog	GW-TVF-EM10-R01	LSZH	600V	6 Triple Individually shielded	14		
0	Tunnel Vent Fan Instrument Panel GW-PN-108	Tunnel Vent Fan Instrument Panel GW-PN-107	GW-TVF-EM10-L01	LSZH	600V	1 Pair shielded	14		
0	VSD-EM10	PLC MODBUS	GW-TVF-EM10-L02	LSZH	600V	1 Pair shielded	14		
0	Tunnel Vent Fan Instrument Panel GW-PN-108	Forward Differential Pressure Switch	GW-TVF-EM10-C03	Fire Rated	600V	Multicore 2C+E	12	8	
0	Tunnel Vent Fan Instrument Panel GW-PN-108	Reverse Differential Pressure Switch	GW-TVF-EM10-C04	Fire Rated	600V	Multicore 2C+E	12	8	
0	Tunnel Vent Fan Instrument Panel GW-PN-108	Fan Room Emergency Stop	GW-TVF-EM10-C05	Fire Rated	600V	Multicore 2C+E	12	8	
0	VSD-EM10	Braking Resistor	GW-TVF-EM10-C06	Fire Rated	600V	Multicore 2C+E	12	8	
0	Disconnect Switch	Tunnel Vent Fan Instrument Panel GW-PN-108	GW-TVF-EM10-C07	Fire Rated	600V	Multicore 2C+E	12	8	
0	Gateway Station MCC	Disconnect Switch	GW-SSP-101-P01	Fire Rated	600V	Multicore 3C+E	2	8	M14
0	Disconnect Switch	Sump Pump GW-SSP-101	GW-SSP-101-P02	Fire Rated	600V	Multicore 3C+E	2	8	
0	Gateway Station MCC	Sump Pump GW-SSP-101 Ctr	GW-SSP-101-C01	LSZH	600V	Multicore 12C+E	12	8	M16
0	Sump Pump 101 LCS	Level Switch 1	GW-SSP-101-I01	Fire Rated	600V	Multicore 2C+E	12	8	
0	Sump Pump 101 LCS	Level Switch 2	GW-SSP-101-I02	Fire Rated	600V	Multicore 2C+E	12	8	
0	Gateway Station MCC	Disconnect Switch	GW-SSP-102-P01	Fire Rated	600V	Multicore 3C+E	2	8	M14
0	Disconnect Switch	Sump Pump GW-SSP-102	GW-SSP-102-P02	Fire Rated	600V	Multicore 3C+E	2	8	
0	Gateway Station MCC	Sump Pump GW-SSP-102 Ctr	GW-SSP-102-C01	LSZH	600V	Multicore 12C+E	12	8	M16
0	Sump Pump 102 LCS	Level Switch 1	GW-SSP-102-I01	Fire Rated	600V	Multicore 2C+E	12	8	
0	Sump Pump 102 LCS	Level Switch 2	GW-SSP-102-I02	Fire Rated	600V	Multicore 2C+E	12	8	
0	Gateway Station MCC	Left Track Lighting UPS Phase A	GW-EMLL-001A	Fire Rated	600V	Multicore 2C+E	4	8	M19
0	Gateway Station MCC	Left Track Lighting UPS Phase B	GW-EMLL-001B	Fire Rated	600V	Multicore 2C+E	4	8	M19
0	Gateway Station MCC	Left Track Lighting UPS Phase C	GW-EMLL-001C	Fire Rated	600V	Multicore 2C+E	4	8	M19
0	Gateway Station MCC	Right Track Lighting UPS Phase A	GW-EMLR-001A	Fire Rated	600V	Multicore 2C+E	4	8	M21
0	Gateway Station MCC	Right Track Lighting UPS Phase B	GW-EMLR-001B	Fire Rated	600V	Multicore 2C+E	4	8	M21
0	Gateway Station MCC	Right Track Lighting UPS Phase C	GW-EMLR-001C	Fire Rated	600V	Multicore 2C+E	4	8	M21
0	Gateway Station MCC	TV Isolation Damper GW-MAR-101	GW-MAR-101-S01	Fire Rated	600V	Multicore 3C+E	6	8	M29
0	TV Isolation Damper GW-MAR-101	TV Isolation Damper GW-TVD-101A	GW-TVD-101A-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-101	TV Isolation Damper GW-TVD-101B	GW-TVD-101B-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-101	TV Isolation Damper GW-TVD-101C	GW-TVD-101C-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	TV Isolation Damper GW-MAR-101	TV Isolation Damper GW-TVD-101D	GW-TVD-101D-S01	Fire Rated	600V	Multicore 3C+E	12	8	
0	Gateway Station MCC	TV Isolation Damper GW-TVD-101 Ctr	GW-TVD-101-C01	LSZH	600V	Multicore 12C+E	12	8	M29

CONTINUED ON DRAWING EL-162

CABLE NUMBER FORMAT: AB-CDE-123-F45

AB: STATION ABBREVIATION

GW - GATEWAY STATION
NS - NORTH SIDE STATION

CDE: EQUIPMENT TYPE

TJF - TUNNEL JET FAN
TVA - TUNNEL VENTILATION ATTENUATOR

TVD - TUNNEL VENTILATION DAMPER

TVF - TUNNEL VENTILATION FAN

SSP - SUBMERSIBLE SUMP PUMP

PN - INSTRUMENT PANEL

EMLL - EMERGENCY EGGS LIGHT LEFT TRACK

EMLR - EMERGENCY EGGS LIGHT RIGHT TRACK

RECL - RECEPTACLE LEFT TRACK

RECRR - RECEPTACLE RIGHT TRACK

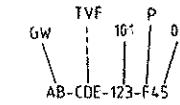
123: EQUIPMENT NUMBER

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

F45: CABLE TYPE & SEQUENTIAL NUMBER

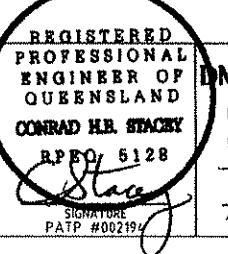
F - A = 1000V POWER
P = 480V POWERD = 277V POWER
S = 120V POWERF = 24-VDC POWER
E = EARTHC = 110V CONTROL
J = 24-VDC CONTROLL = NETWORK
I = 24-VDC INSTRUMENTR = RTD
T = THERMISTOR

45 - SEQUENTIAL CABLE NUMBER.



NOTE:

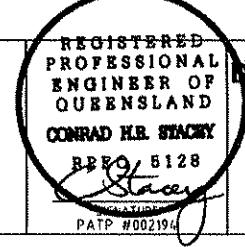
1. LSZH = LOW SMOKE ZERO HALOGEN.
2. CABLE AND CONDUIT SIZING ARE INDICATIVE ONLY. CONTRACTOR TO DESIGN AND VERIFY REQUIRED CABLE AND CONDUIT SIZES.
3. CONTRACTOR TO DETERMINE CABLE LENGTHS REQUIRED.



CONDUIT NUMBER	CONDUIT SIZE (IN)	CONDUIT TOTAL AREA	CABLE SIZE	AWG/MCM	NUMBER OF CABLES	SUB TOTAL X SECTIONAL AREA	TOTAL X SECTIONAL AREA	RMC % FILL	RMC FILL REQUIREMENT	Cables
GATEWAY										
M7	4	12.882	Multicore 3C+E	6	2	0.91	1.84	14%	40%	TVD 104,105 PWR
			Multicore 12C+E	12	2	0.93				TVD 104,105 CTR
MB	4	12.882	Multicore 3C+E	6	2	0.91	1.84	14%	40%	TVD 106,107 PWR
			Multicore 12C+E	12	2	0.93				TVD 106,107 CTR
M9	4	12.882	Spare							
M10	4	12.882	Multicore 3C+E	6	2	0.91	1.84	14%	40%	TVD 108,109 PWR
			Multicore 12C+E	12	2	0.93				TVD 108,109 CTR
M11	4	12.882	Multicore 3C+E	6	2	0.91	1.84	14%	40%	TVD 110,111 PWR
			Multicore 12C+E	12	2	0.93				TVD 110,111 CTR
M12	4	12.882	Spare							
M13	4	12.882	Spare							
M14	4	12.882	Multicore 3C+E	2	2	1.80	1.80	15%	31%	SSP 101,102 PWR
M15	4	12.882	Multicore 3C+E	6	2	0.91	0.91	7%	31%	TVD 112,113 PWR
M16	4	12.882	Multicore 12C+E	12	4	1.88	1.88	14%	40%	SSP 101,102,TVD 112,113 CTR
M17	4	12.882	Spare							
M18	3	7.499	2 - 1C+E	2/0	5	1.37	1.37	18%	40%	Left Track Receptacle
M19	4	12.882	Multicore 2C+E	4	3	2.22	2.22	17%	40%	Left Track Emergency Light
M20	3	7.499	2 - 1C+E	2/0	5	1.37	1.37	18%	40%	Right Track Receptacle
M21	4	12.882	Multicore 2C+E	4	3	2.22	2.22	17%	40%	Right Track Emergency Light
M22	4	12.882	350 3C+3E VSD	350	1	4.34	4.34	34%	53%	TVF 101 Power
M23	4	12.882	350 3C+3E VSD	350	1	4.34	4.34	34%	53%	TVF 101 Power
M24	4	12.882	Multicore 12C+E	12	2	0.93	1.21	9%	40%	TVF 101,102 CTR
M25	4	12.882	350 3C+3E VSD	350	1	4.34	4.34	34%	53%	TVF 102 Power
M26	4	12.882	350 3C+3E VSD	350	1	4.34	4.34	34%	53%	TVF 102 Power
M27	4	12.882	Spare							
M28	4	12.882	1 Pair shielded	14	4	0.48	0.48	4%	40%	TVF 101,102 analog + RS485
M29	4	12.882	Multicore 3C+E	6	3	1.36	2.76	21%	40%	TVD 101,102,103 PWR+CTR
			Multicore 12C+E	12	3	1.40				
M30	4	12.882	Spare							
M31	4	12.882	Spare							
M32	4	12.882	Multicore 3C+E	2	2	1.90	4.81	37%	40%	TJF 101,102 PWR from MCC via same route as EM09 and EM10
			Multicore 3C+E	1/0	2	2.91				TJF 103,104 PWR
M33	4	12.882	Multicore 12C+E	12	4	1.86	2.42	19%	40%	TJF 101,102,103,104 CTR
			Multicore 2C+E	12	4	0.55				TJF 101,102,103,104 HTR
M34	2	3.408	1 Pair shielded	14	4	0.48	0.60	18%	40%	TJF 101,102,103,104 Analogy Vib
			1 Pair shielded	14	1	0.12				TJF 101 RS485
M35	2	3.408	Multicore 3C+E	1/0	1	1.45	1.45	43%	53%	TJF 103 PWR
M36	2	3.408	Multicore 12C+E	12	1	0.47	0.60	18%	31%	TJF 103 CTR
			Multicore 2C+E	12	1	0.14				TJF 103 HTR
M37	2	3.408	1 Pair shielded	14	1	0.45	0.91	27%	31%	TJF 103 Analogy Vib
			1 Pair shielded	14	1	0.45				TJF 101 to 103 RS485
M38	4	12.882	Multicore 3C+E	2	1	0.95	2.40	19%	31%	TJF 102 PWR across track to 102 and 104
			Multicore 3C+E	1/0	1	1.45				TJF 104 PWR
M39	3	7.499	Multicore 12C+E	12	2	0.93	1.21	16%	40%	TJF 102,104 CTR across track to 102 and 104
			Multicore 2C+E	12	2	0.28				TJF 102,104 HTR
M40	2	3.408	1 Pair shielded	14	2	0.24	0.36	11%	40%	TJF 102,104 Analogy Vib across track
			1 Pair shielded	14	1	0.12				TJF 103 to 102 RS485
M41	2	3.408	Multicore 3C+E	1/0	1	1.45	1.45	43%	53%	TJF 104 PWR
M42	2	3.408	Multicore 12C+E	12	1	0.47	0.60	18%	31%	TJF 104 CTR
			Multicore 2C+E	12	1	0.14				TJF 104 HTR
M43	2	3.408	1 Pair shielded	14	1	0.12	0.12	4%	53%	TJF 104 Analogy Vib,TJF 102 TO 104 RS485
M44	4	12.882	VSD 3C+3E	350	1	4.34	4.34	34%	53%	EM08 PWR
M44A	4	12.882	VSD 3C+3E	350	1	4.34	4.34	34%	53%	EM08 PWR
M45	4	12.882	VSD 3C+3E	350	1	4.34	4.34	34%	53%	EM 10 PWR
M45A	4	12.882	VSD 3C+3E	350	1	4.34	4.34	34%	53%	EM10 PWR
M46	3	7.499	Multicore 12C+E	12	2	0.93	1.47	16%	40%	EM09/10 CTR/HTR
M47	2	3.408	1 Pair shielded	14	2	0.54	0.54	16%	31%	EM09,10 COMMS

NOTE:

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2. CONTRACTOR TO DETERMINE CABLE LENGTHS REQUIRED.



DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Drew P. Harris 8/25/08
APPROVED DATE
PATP #002194

DESIGNED TS
DRAWN GH
CHECKED HIS
IN CHARGE ES
DATE 08/27/08
SCALE H.T.S.

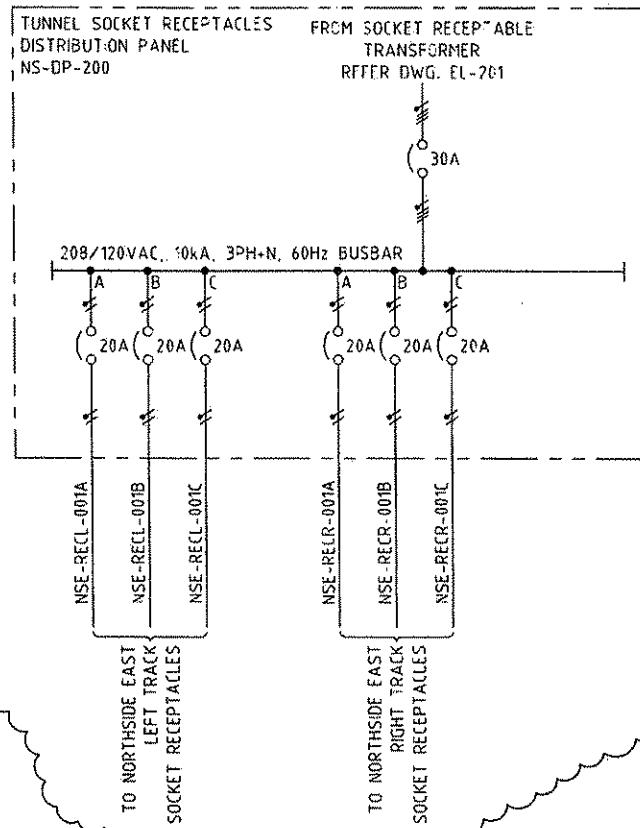
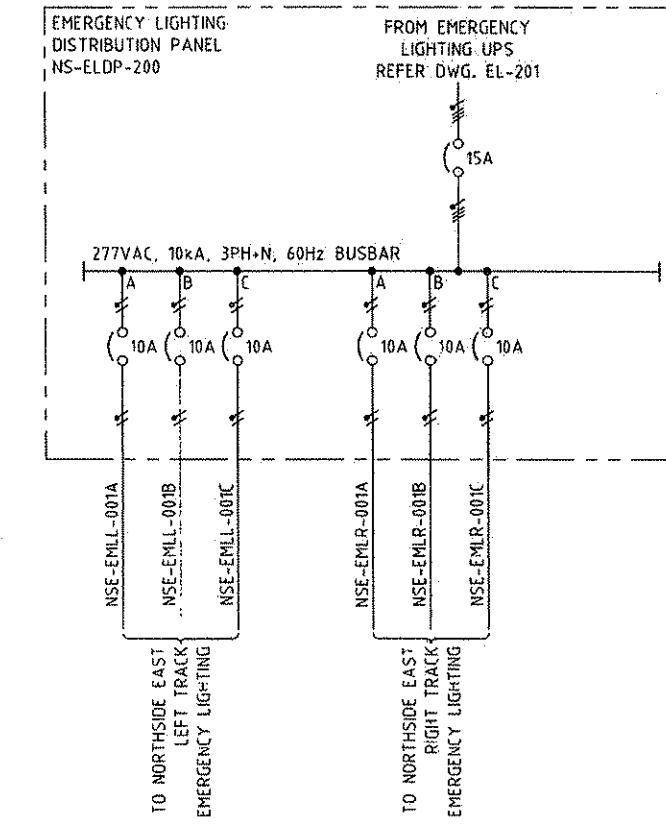
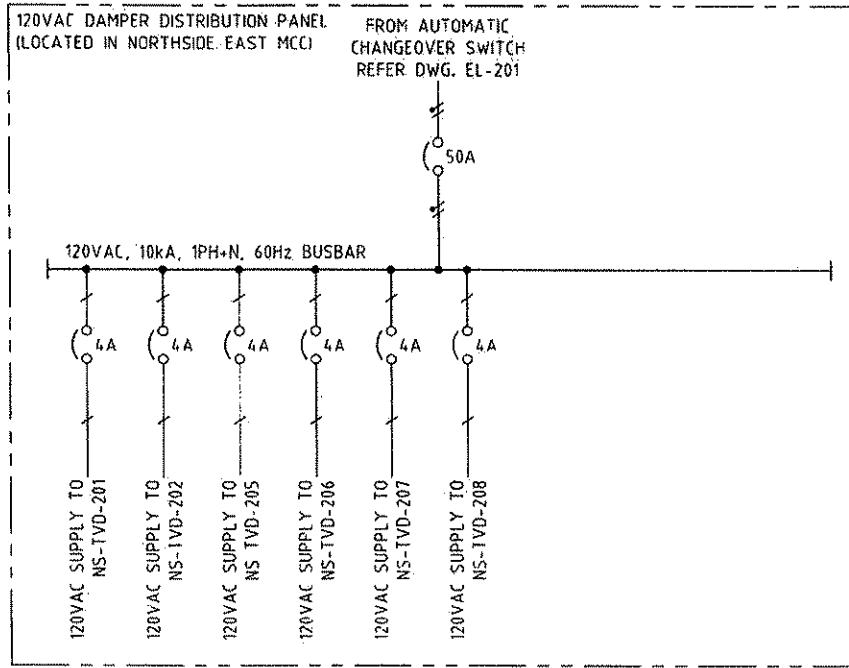
PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
GATEWAY STATION
CABLE SCHEDULE SHEET 4 OF 4
Port Authority CONTRACT NO. NBC-009
DWG. NO. EL-163 SHT. 683

MAUNSELL | AECOM
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925
APPROVED AUGUST 21, 2008
DATE

REVISIONS

08/21/08	ADDITION 4 - DRAWING MODIFIED.
NO. DATE	DESCRIPTION

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.



NOTES

- DISTRIBUTION PANELS TO BE SURFACE MOUNTED,
SUPPLIED WITH SOLID NEUTRAL, EQUIPMENT GROUND BAR,
MAIN BREAKERS 10kAIC, BRANCH BREAKERS 10kAIC.

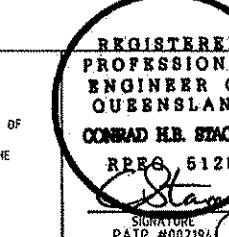
MAUNSELL | AECOM

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

AUGUST 21, 2008

08/21/08	ADDENDUM 4 - DRAWING ADDED	
NO.	DATE	DESCRIPTION
REVISIONS		

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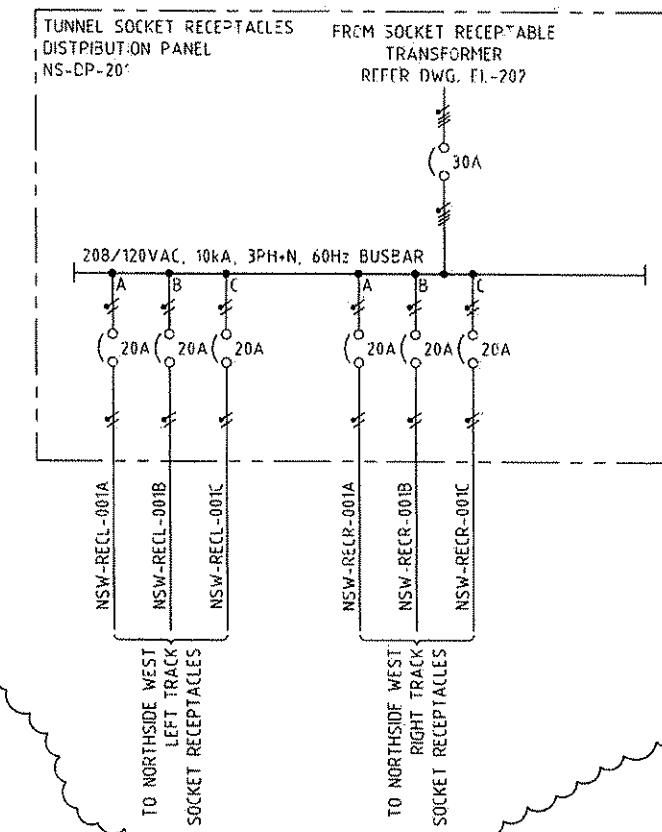
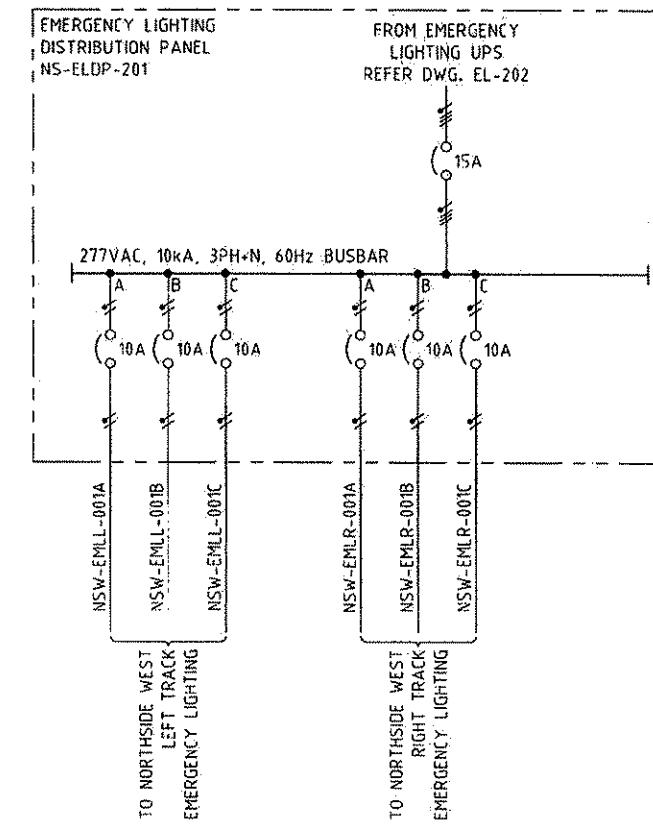
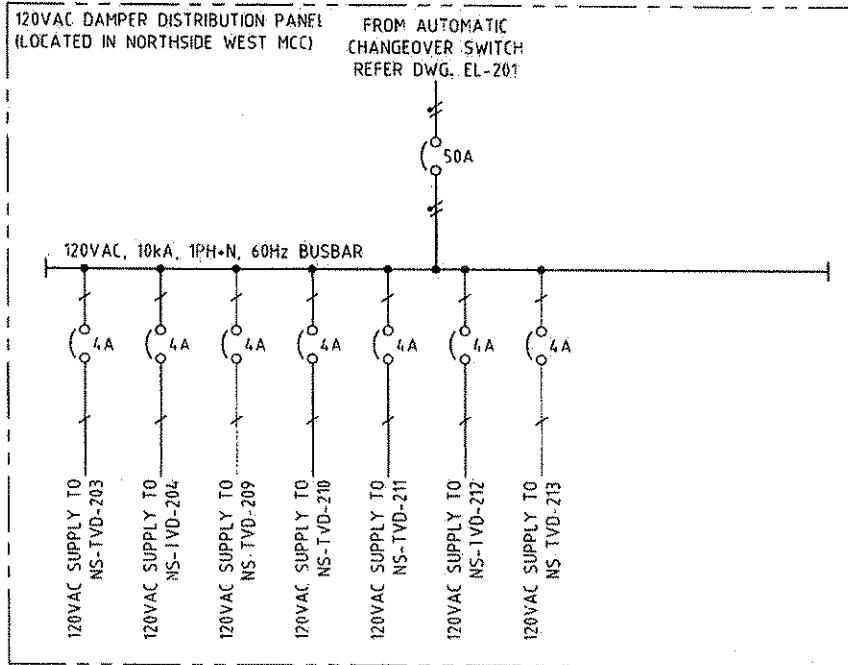
LJM J M HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
SIGNATURE
PATP #002194

APPROVED
8/25/08
DATE

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA

NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
NORTH SIDE STATION
DISTRIBUTION PANELS SLD CONTRIBUTION

Port Authority
CONTRACT NO. NSC-009
DWG. NO. EL-201A SHT. 684A



NOTES

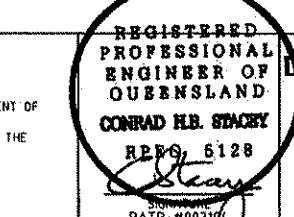
1. DISTRIBUTION PANELS TO BE SURFACE MOUNTED,
SUPPLIED WITH SOLID NEUTRAL, EQUIPMENT GROUND BAR,
MAIN BREAKERS 10kAIC, BRANCH BREAKERS 10kAIC.

MAUNSELL | AECOM

C. Steacy
APPROVED
Munsell Australia Pty Ltd ABN. 20 093 866 925
AUGUST 21, 2008
DATE

NO.	DATE	DESCRIPTION
	08/21/08	ADDENDUM 4 - DRAWING ADDED
		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.



DMJH HARRIS | AECOM

FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

8/25/08
APPROVED
DATE

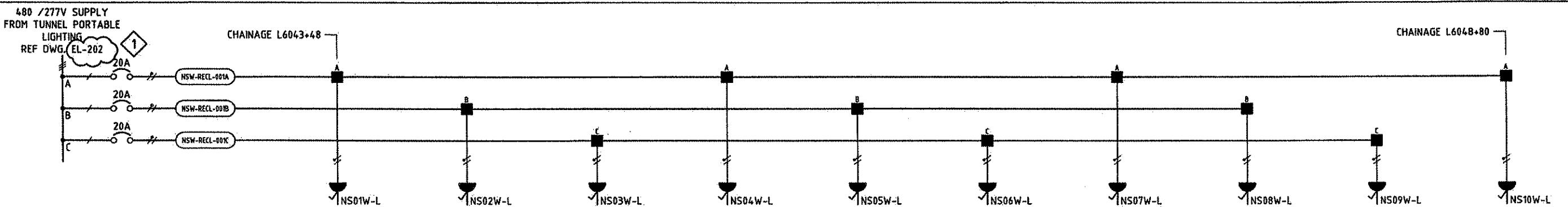
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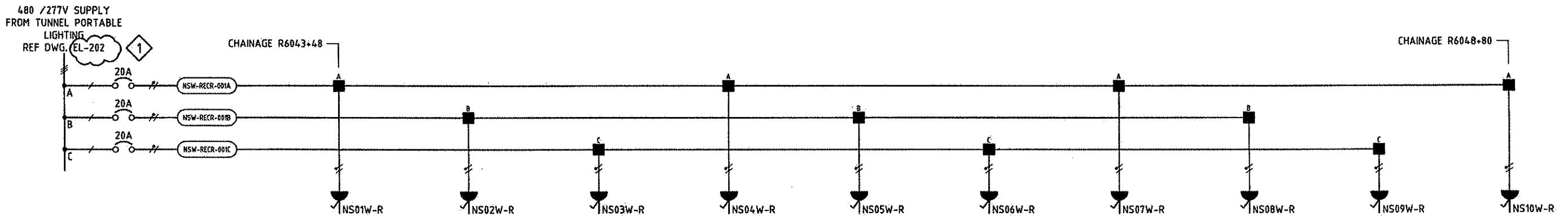
PORT AUTHORITY OF ALLEGHENY COUNTY
PITTBURGH
PENNSYLVANIA

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

Port Authority	CONTRACT NO. NSC-009
DWG. NO. EL-202A	SHT. 686A



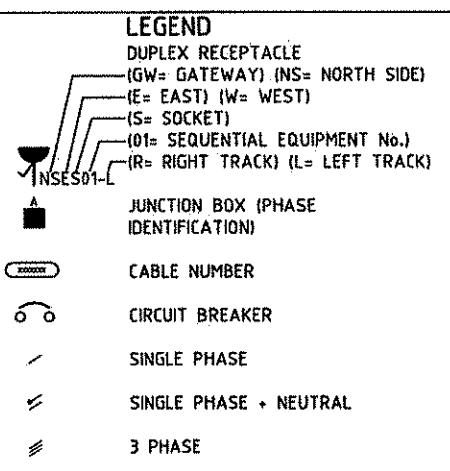
NORTH SIDE STATION (WEST) TUNNEL SOCKET OUTLET CIRCUITS LEFT TRACK



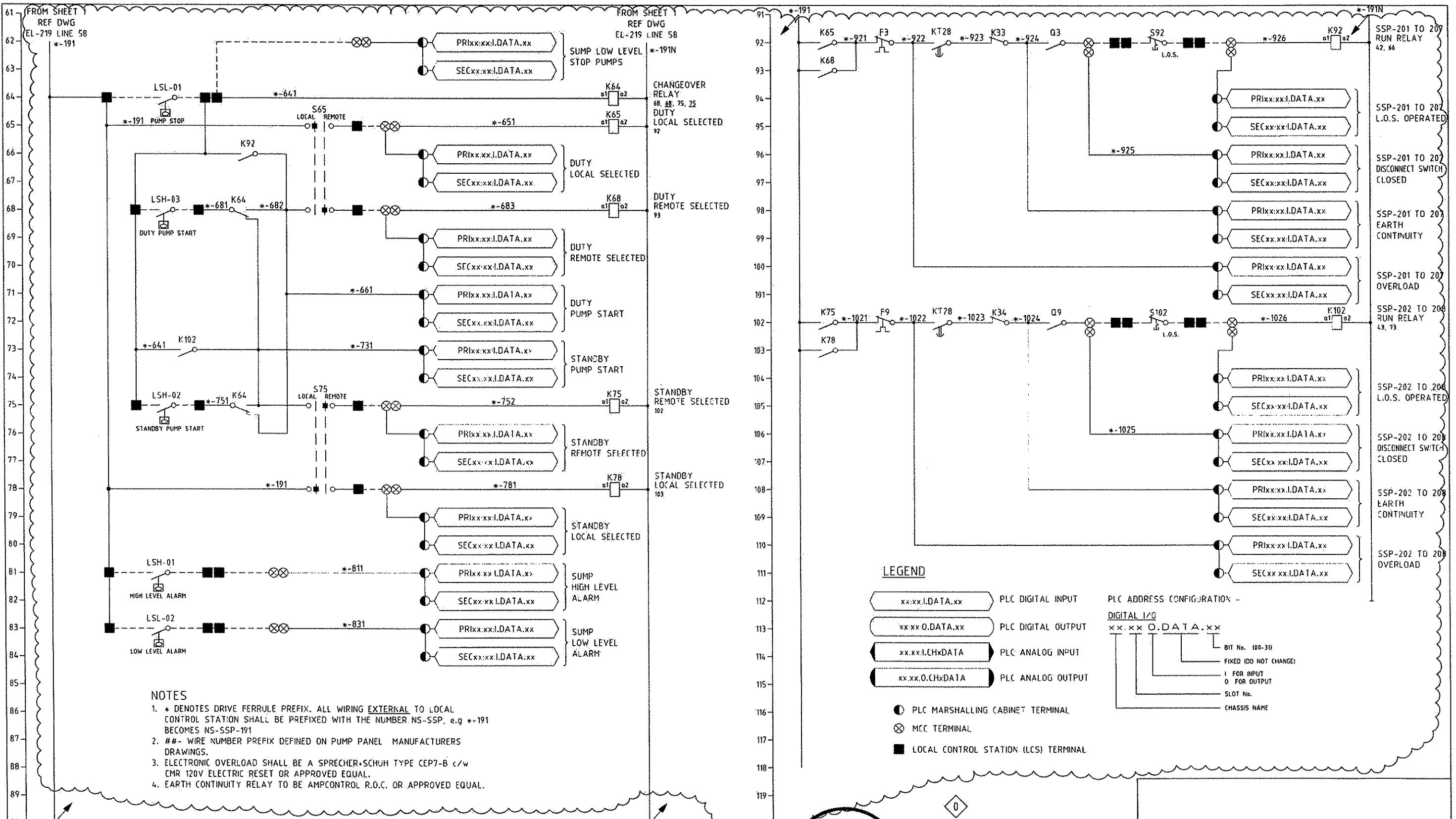
NORTH SIDE STATION (WEST) TUNNEL SOCKET OUTLET CIRCUITS RIGHT TRACK

NOTE

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



MAUNSELL AECOM																					
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925																					
<i>C. Stacey</i>		AUGUST 21, 2008																			
APPROVED		DATE		08/21/08 ADDENDUM 4 - DRAWING MODIFIED		DESCRIPTION															
						REVISIONS															
<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>																					
		<p>REGISTERED PROFESSIONAL ENGINEER OF QUEENSLAND CONRAD H. STACEY R-120-5128</p>		<p>DESIGNED TS DRAWN GH CHECKED HS IN CHARGE IS DATE 08/21/08 SCALE 1/16"</p>		<p>MMJ HARRIS AECOM FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222</p>		<p>Port Authority CONTRACT NO. NBC-009 DWG. NO. EL-208 SHT. 688</p>		<p>PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH PENNSYLVANIA NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM WIDE) NORTH SIDE STATION LV DISTRIBUTION CONTRIBUTION SHEET 4 OF 4</p>											



REGISTERED
PROFESSIONAL
ENGINEER OF
QUEENSLAND
CONRAD H.B. STACEY
RPEQ 5128
Signature
PATP #002104

DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
Dad P. Stacey
APPROVED
8/25/08
DATE

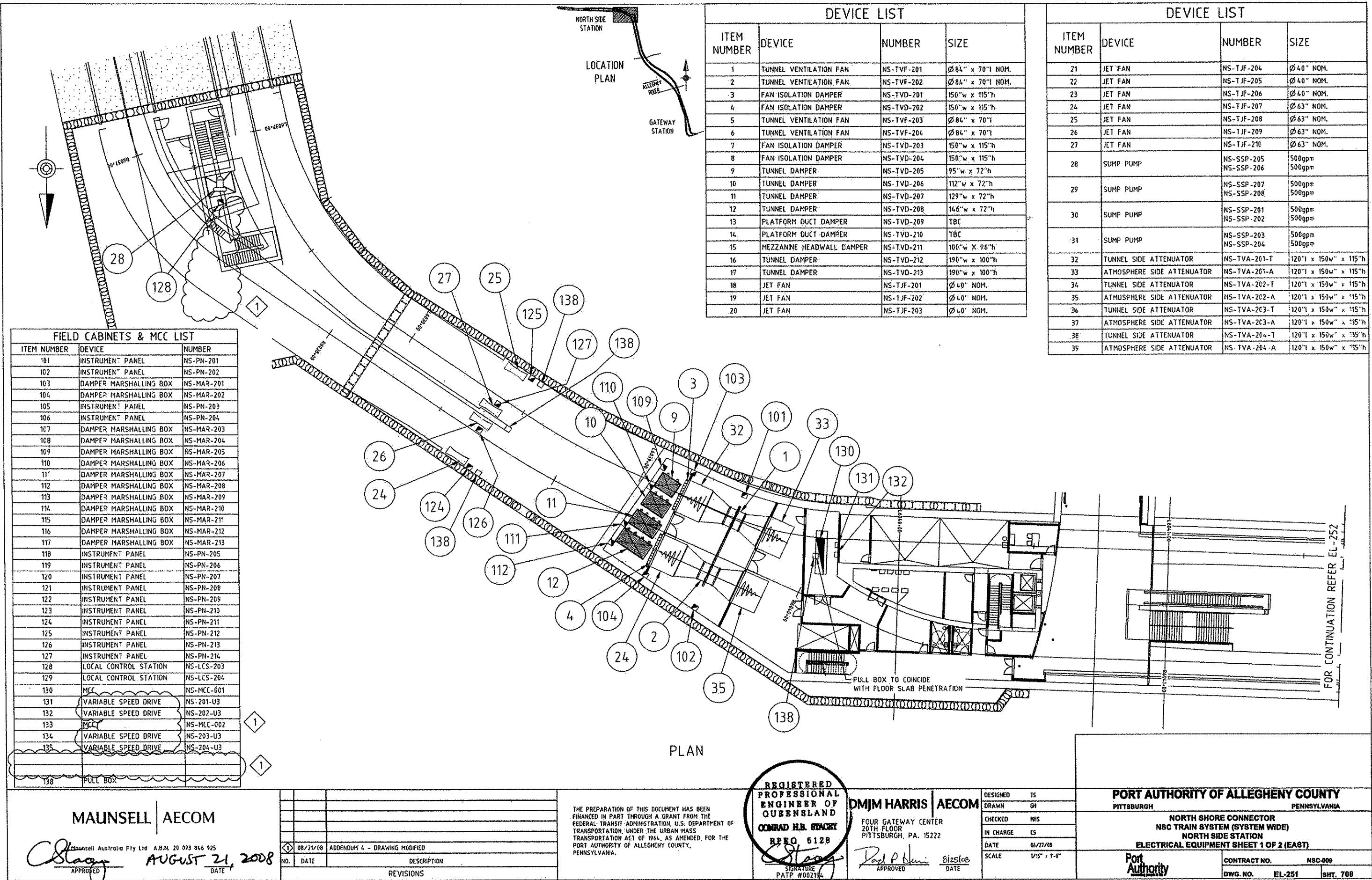
DESIGNED TS
DRAWN GH
CHECKED SF
IN CHARGE CS
DATE 8/21/08
SCALE N.T.S.

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH PENNSYLVANIA
NORTH SHORE CONNECTOR
NSC TRAIN SYSTEM (SYSTEM WIDE)
NORTH SIDE STATION
NS-SSP-201 - 208 TUNNEL SUMP PUMP ELECTRICAL SCHEMATIC DIA, SHT 2 OF 2
Port Authority
CONTRACT NO. NSC-009
DWG. NO. EL-219A SHT. 699A

MAUNSELL | AECOM
C. Stacey APPROVED
Maunsell Australia Pty Ltd A.B.N. 20 093 846 925
AUGUST 21, 2008
DATE

NO.	DATE	DESCRIPTION
		REVISIONS

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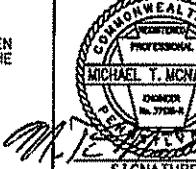


CONDUIT NUMBER	CONDUIT SIZE (IN)	CONDUIT TOTAL AREA	CABLE SIZE	AWG/MCM	NUMBER OF CABLES	SUB TOTAL X SECTIONAL AREA	TOTAL X SECTIONAL AREA	RMC % FILL REQUIREMENT		Cables:
NORTHSIDE EAST										
M200	4	12.882	Multicore 3C+E	4/0	1	2.46	2.46	19%	53% TUF 209, 210 PWR	
M200a	4	12.882	Multicore 3C+E	4/0	1	2.46	2.46	19%	53% TUF 210 PWR	
M201	4	12.882	Multicore 3C+E	4/0	1	2.46	2.46	19%	53% TUF 209, 207 PWR	
M201a	4	12.882	Multicore 3C+E	4/0	1	2.46	2.46	19%	53% TUF 209 PWR	
M202	3	7.499	Multicore 12C+E	12	4	1.26	2.42	92%	40% TUF 207, 209, 206, 210 CTR	
M203	2	3.408	1 Pair shielded	14	4	0.48	0.60	16%	40% TUF 207, 209, 206, 210 Analog Vib	
M204	3	7.499	SPARE					0%		
M205	3	7.499	Multicore 3C+E	2	2	1.90	1.90	25%	31% SSP 205, 206 PWR	
M206	2	3.408	Multicore 12C+E	12	2	0.93	0.93	27%	31% SSP 205, 206 CTR	
M207	3	7.499	Multicore 3C+E	4/0	1	2.46	2.46	33%	53% SSP 201 PWR	
M208	3	7.499	Multicore 3C+E	4/0	1	2.46	2.46	33%	53% SSP 202 PWR	
M209	2	3.408	Multicore 12C+E	12	2	0.93	0.93	27%	31% SSP 201, 202 CTR	
M210	3	7.499	Multicore 3C+E	4/0	1	2.46	2.46	33%	53% SSP 203 PWR	
M211	3	7.499	Multicore 3C+E	4/0	1	2.46	2.46	33%	53% SSP 204 PWR	
M212	2	3.408	Multicore 12C+E	12	2	0.93	0.93	27%	31% SSP 203, 204 CTR	
M213	3	7.499	2 - 1C+E	1/0	5	1.37	1.37	18%	40% Left Track Receptacle	
M214	3	7.499	Multicore 2C+E	4	3	2.22	2.22	30%	40% Left Track Emergency Light	
M215	3	7.499	2 - 1C+E	1/0	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% TUF 207 CTR	
			Multicore 2C+E	12	1	0.14			TUF 207 HTR	
M219	2	3.408	1 Pair shielded	14	2	0.24	0.24	7%	31% TUF 207 Comms	
M221	2	3.408	Multicore 12C+E	12	1	0.47	0.60	18%	31% TUF 209 CTR	
			Multicore 2C+E	12	1	0.14			TUF 209 HTR	
M222	2	3.408	1 Pair shielded	14	2	0.24	0.24	7%	31% TUF 209 Comms	
M224	2	3.408	Multicore 12C+E	12	1	0.47	0.60	18%	31% TUF 208 CTR	
			Multicore 2C+E	12	1	0.14			TUF 208 HTR	
M225	2	3.408	1 Pair shielded	14	2	0.24	0.24	7%	31% TUF 208 Comms	
M227	2	3.408	Multicore 12C+E	12	1	0.47	0.60	18%	31% TUF 210 CTR	
			Multicore 2C+E	12	1	0.14			TUF 210 HTR	
M228	2	3.408	1 Pair shielded	14	2	0.24	0.24	7%	31% TUF 210 Comms	
M229	4	12.882	1 - 3C+3E	500	1	5.47	5.47	42%	53% TUF 201 Power	
M230	4	12.882	1 - 3C+3E	500	1	5.47	5.47	42%	53% TUF 202 Power	
M231	2	3.408	Multicore 12C+E	12	2	0.23	0.63	27%	31% TUF 207, 202 CTR	
M232	2	3.408	Multicore 2C+E	12	2	0.26	0.26	8%	31% TUF 201, 202 HTR	
M233	2	3.408	1 Pair shielded	14	4	0.48	0.48	14%	40% TVF 201, 202 analog + RS485	
M234	2	3.408	Multicore 3C+E	6	1	0.45	0.62	27%	31% TUD 201 PWR	
			Multicore 12C+E	12	1	0.47			TVD 201 CTR	
M235	2	3.408	Multicore 3C+E	6	1	0.45	0.82	27%	31% TUD 202 PWR	
			Multicore 12C+E	12	1	0.47			TVD 202 CTR	
M236	3	7.499	Multicore 3C+E	6	2	0.81	1.84	26%	40% TUD 205, 206 PWR	
			Multicore 12C+E	12	2	0.93			TUD 205, 206 CTR	
M237	3	7.499	Multicore 3C+E	6	2	0.91	1.84	26%	40% TUD 207, 208 PWR	
			Multicore 12C+E	12	2	0.93			TUD 207, 208 CTR	
M238	2	3.408	Multicore 12C+E	12	1	0.47	0.60	18%	31% TVF 201 CTR	
			Multicore 2C+E	12	1	0.14			TVF 201 HTR	
M239	2	3.408	1 Pair shielded	14	2	0.24	0.24	7%	31% TVF 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 REQUIREMENT		Cables
NORTHSIDE WEST										
M250	4	12.882	1 - 3C+3E	500	1	5.47	5.47	42%	53% TUF 203 Power	
M251	4	12.882	1 - 3C+3E	600	1	5.47	5.47	42%	53% TUF 204 Power	
M252	2	3.408	Multicore 12C+E	12	2	0.28	0.28	8%	31% TUF 203, 204 HTR	
M253	2	3.408	Multicore 2C+E	12	4	0.48	0.48	14%	40% TUF 203, 204 analog + RS485	
M254	2	3.408	1 Pair shielded	14	6	0.45	0.92	27%	31% TUD 203 Power	
M255	2	3.408	Multicore 3C+E	12	1	0.47			TUD 203 CTR	
M256	2	3.408	Multicore 3C+E	8	1	0.45	0.92	27%	31% TUD 203 CTR	
M257	3	7.499	Multicore 12C+E	6	1	0.45	0.45	23%	40% TUD 210 PWR	
			Multicore 3C+E	2	1	0.85			TUD 212 PWR	
M258	2	3.408	Multicore 3C+E	12	1	0.47			TUD 210, 212 CTR	
M259	3	7.499	Multicore 3C+E	6	1	0.45	0.45	23%	40% TUD 210 PWR	
M260	4	12.882	Multicore 3C+E	10	3	4.38	4.38	34%	40% TUF 202, 204, 206 PWR	
M261	3	7.499	Multicore 12C+E	12	3	1.40	1.40	24%	40% TUF 202, 204, 206 CTR	
M262	2	3.408	Multicore 2C+E	12	3	0.42	0.42	10%	40% TUF 202, 204, 206 HTR	
M263	4	12.882	Multicore 3C+E	10	2	2.81	2.81	23%	31% TUF 204, 206 PWR	
M264	2	3.408	Multicore 12C+E	12	2	0.28	0.28	5%	40% TUF 204, 206 CTR	
M265	2	3.408	1 Pair shielded	14	2	0.24	0.24	14%	40% TUF 204, 206 Analog Vib	
M266	2	3.408	Multicore 3C+E	10	1	1.45	1.45	43%	53% TUF 208 PWR	
M267	2	3.408	Multicore 12C+E	12	1	0.47	0.47	10%	53% TUF 208 CTR	
M268	2	3.408	1 Pair shielded	14	1	0.12	0.12	11%	53% TUF 208 Analog Vib	
M269	4	12.882	Multicore 3C+E	10	3	4.38	4.38	34%	40% TUF 201, 203, 205 PWR	
M270	3	7.499	Multicore 12C+E	12	3	1.40	1.40	24%	40% TUF 201, 203, 205 CTR	
M271	2	3.408	1 Pair shielded</td							

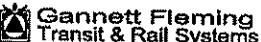
INDEX OF ALSO DRAWINGS

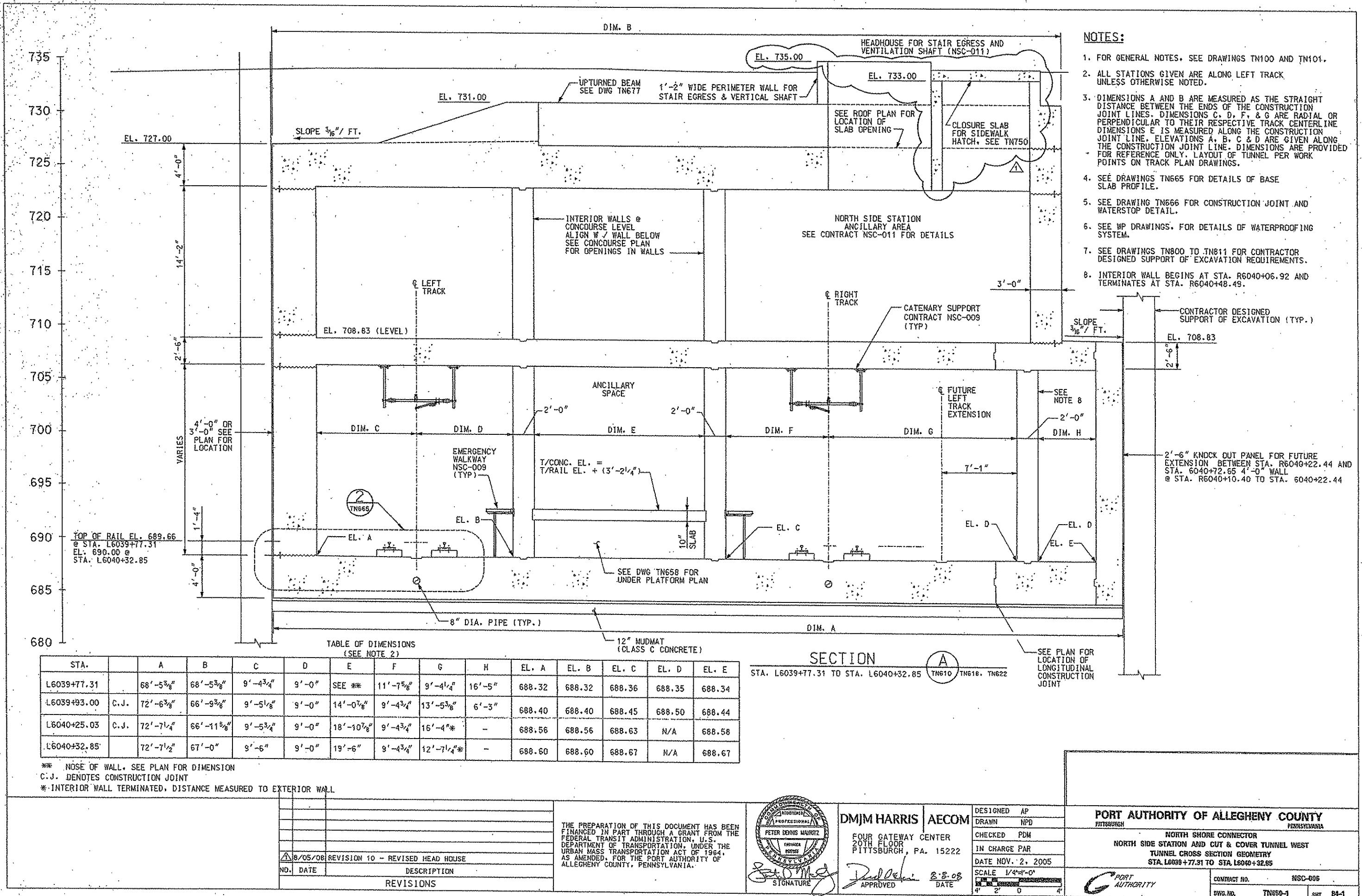
CONTRACT NO.	DRAWING NO.	DRAWING TITLE	CONTRACT NO.	DRAWING NO.	DRAWING TITLE
GATEWAY STATION SHELL					NORTHSIDE STATION AND CUT & COVER TUNNEL WEST
NSC-004R	TN104	BASE SLAB PROFILE AND LONGITUDINAL SECTION THRU PLINTH	NSC-006	CV107	ROADWAY PLAN STA 6046+00 TO STA 6051+50 LEFT TRACK
NSC-004R	TN105	MISCELLANEOUS INTERIOR WALL DETAILS	NSC-006	TN600-1	NORTH SHORE GENERAL PLAN STA L6039+55 TO STA L6044+10
NSC-004R	TN106	MISCELLANEOUS PLATFORM DETAILS	NSC-006	TN601	NORTH SHORE GENERAL PLAN STA L6044+10 TO STA L6049+00
NSC-004R	TN107	EMERGENCY EGRESS HATCH DETAIL	NSC-006	TN602	NORTH SHORE GENERAL PLAN STA L6049+00 TO STA L6051+94.00
NSC-004R	TN108	EMERGENCY EGRESS STAIRWAY MISCELLANEOUS DETAILS	NSC-006	TN610-3	PLAN @ TRACK LEVEL STA L6039+55 TO STA L6041+00
NSC-004R	TN109	PENN AVE PLACE EMERGENCY EGRESS GENERAL PLAN AND ELEVATION	NSC-006	TN611-1	PLAN @ TRACK LEVEL STA L6041+00 TO STA L6043+00
NSC-004R	TN110	PENN AVE PLACE EMERGENCY EGRESS VAULT DEMOLITION DETAILS	NSC-006	TN612-1	PLAN @ TRACK LEVEL STA L6043+00 TO STA L6045+00
NSC-004R	TN405	EXISTING GATEWAY STATION DEMOLITION PLAN	NSC-006	TN613	PLAN @ TRACK LEVEL STA L6045+00 TO STA L6046+80
NSC-004R	TN406	EXISTING GATEWAY STATION DEMOLITION CROSS SECTIONS	NSC-006	TN614	PLAN @ TRACK LEVEL STA L6046+80 TO STA L6048+85
NSC-004R	TN411	GATEWAY STATION PLAN @ TRACK LEVEL SHEET 2 OF 7	NSC-006	TN615-1	PLAN @ TRACK LEVEL STA L6048+85 TO STA L6051+00
NSC-004R	TN412	GATEWAY STATION PLAN @ TRACK LEVEL SHEET 3 OF 7	NSC-006	TN616	PLAN @ TRACK LEVEL STA L6051+00 TO STA L6051+94.00
NSC-004R	TN413	GATEWAY STATION PLAN @ TRACK LEVEL SHEET 4 OF 7	NSC-006	TN618-3	CONCOURSE PLAN STA L6039+55.00 TO STA L6040+93.86
NSC-004R	TN414	GATEWAY STATION PLAN @ TRACK LEVEL SHEET 5 OF 7	NSC-006	TN620-3	CONCOURSE LEVEL PLAN STA L6043+17.54 TO STA L6044+07.77
NSC-004R	TN415	GATEWAY STATION PLAN @ TRACK LEVEL SHEET 6 OF 7	NSC-006	TN621-1	CONCOURSE PLAN STATION ENTRY CONCOURSE
NSC-004R	TN416	GATEWAY STATION PLAN @ TRACK LEVEL SHEET 7 OF 7	NSC-006	TN624-1	ROOF PLAN STA L6043+00 TO STA L6044+07.77
NSC-004R	TN418	GATEWAY STATION PLAN @ PLATFROM LEVEL SHEET 1 OF 3	NSC-006	TN630-2	LONGITUDINAL ELEVATION STA R6039+80.58 TO R6041+00
NSC-004R	TN419	GATEWAY STATION PLAN @ PLATFROM LEVEL SHEET 2 OF 3	NSC-006	TN631-1	LONGITUDINAL ELEVATION STA R6041+00 TO R6043+00
NSC-004R	TN420	GATEWAY STATION PLAN @ PLATFROM LEVEL SHEET 3 OF 3	NSC-006	TN632-3	LONGITUDINAL ELEVATION STA R6043+00 TO R6045+00
NSC-004R	TN422	GATEWAY STATION PLAN @ ROOF LEVEL SHEET 2 OF 4	NSC-006	TN633	LONGITUDINAL ELEVATION STA R6045+00 TO R6047+00
NSC-004R	TN426	PARTIAL PLAN AT SOUTH EMERGENCY EGRESS STAIR @ TRACK LEVEL SHEET 1 OF 3	NSC-006	TN634	LONGITUDINAL ELEVATION STA R6047+00 TO R6049+00
NSC-004R	TN427	PARTIAL PLAN AT SOUTH EMERGENCY EGRESS STAIR @ PLATFORM LEVEL SHEET 2 OF 3	NSC-006	TN635-1	LONGITUDINAL ELEVATION STA R6049+00 TO R6051+94.00
NSC-004R	TN428	PARTIAL PLAN AT VENT CHASE @ TRACK LEVEL SHEET 1 OF 2	NSC-006	TN636-2	RIGHT BOAT WALL LONGITUDINAL ELEVATION STA R6048+95 TO R6051+94.00
NSC-004R	TN429	PARTIAL PLAN AT VENT CHASE @ PLATFORM LEVEL SHEET 2 OF 2	NSC-006	TN643	LEFT TRACK SLURRY WALL ELEVATION STA L6042+00 TO STA L6044+07.77
NSC-004R	TN430	PARTIAL PLAN AT NORTH EMERGENCY EGRESS STAIR @ TRACK LEVEL SHEET 1 OF 3	NSC-006	TN644	RIGHT TRACK SLURRY WALL ELEVATION STA R6042+00 TO STA R6044+07.77
NSC-004R	TN431	PARTIAL PLAN AT NORTH EMERGENCY EGRESS STAIR @ PLATFORM LEVEL SHEET 2 OF 3	NSC-006	TN650-1	TUNNEL CROSS SECTION GEOMETRY STA L6039+77.31 TO STA L6040+32.85
NSC-004R	TN432	PARTIAL PLAN AT NORTH EMERGENCY EGRESS STAIR @ PLATFORM LEVEL SHEET 2 OF 3	NSC-006	TN651-2	STATION CROSS SECTION GEOMETRY STA L6040+32.85 TO STA L6040+53.42
NSC-004R	TN433	PARTIAL PLAN AT NORTH EMERGENCY EGRESS STAIR @ ROOF LEVEL SHEET 3 OF 3	NSC-006	TN652-3	STATION CROSS SECTION GEOMETRY STA L6040+53.42 TO STA L6041+12.50
NSC-004R	TN435	LONGITUDINAL ELEVATION STA L6016+00 TO STA L6014+00	NSC-006	TN653-2	STATION CROSS SECTION GEOMETRY STA L6041+12.50 TO STA L6043+17.54
NSC-004R	TN436	LONGITUDINAL ELEVATION STA L6014+00 TO STA L6012+00	NSC-006	TN654-1	STATION SECTION GEOMETRY STA L6043+17.54 TO STA L6044+07.77
NSC-004R	TN437	LONGITUDINAL ELEVATION STA L6012+00 TO STA L6009+65	NSC-006	TN655-2	TUNNEL CROSS SECTION GEOMETRY STA L6044+07.77 TO STA L6045+50.00
NSC-004R	TN438	LONGITUDINAL ELEVATION STA R6009+70 TO STA R6012+00	NSC-006	TN656	TUNNEL CROSS SECTION GEOMETRY STA L6045+50.00 TO STA L6047+00
NSC-004R	TN439	LONGITUDINAL ELEVATION STA R6012+00 TO STA R6014+00	NSC-006	TN657-1	TUNNEL CROSS SECTION GEOMETRY STA L6047+00 TO STA L6048+95.00
NSC-004R	TN440	LONGITUDINAL ELEVATION STA R6014+00 TO STA R6016+00	NSC-006	TN658-2	PLAN AND SECTION AT EAST ANCILLARY AREA
NSC-004R	TN442	CROSS SECTION AT TIE-IN TD EXISTING STA 1009+51 TO STA 1010+24	NSC-006	TN659-3	WEST ANCILLARY AREA WALL ELEVATIONS
NSC-004R	TN443	CROSS SECTION AT TIE-IN TD EXISTING STA 1008+96 TO STA 1009+51	NSC-006	TN660	BOAT CROSS SECTION GEOMETRY STA L6048+95.00 TO STA L6051+94.00
NSC-004R	TN444	CROSS SECTION STA L6010+50 TO L6010+64	NSC-006	TN661-2	EAST ANCILLARY AREA WALL ELEVATION
NSC-004R	TN445	CROSS SECTION STA L6010+64 TO L6011+18.69	NSC-006	TN669-2	DRY STANDPIPE NICHE DETAILS
NSC-004R	TN446	CROSS SECTION STA L6011+18.69 TO L6011+75	NSC-006	TN678-1	REINFORCING SECTIONS - STA L6039+55 TO STA L6040+53.42 SHEET 6 OF 6
NSC-004R	TN448	CROSS SECTION STA L6011+75 TO L6012+25	NSC-006	TN703-1	SUMP CHAMBER IN BOAT SECTION
NSC-004R	TN449	CROSS SECTION STA L6012+25 TO L6012+75	NSC-006	TN712	CATENARY ANCHOR BOLT LAYOUT AND DETAILS
NSC-004R	TN450	CROSS SECTION STA L6012+75 TO L6013+24	NSC-006	TN713-1	NORTHSIDE STATION GROUND GRID
NSC-004R	TN451	CROSS SECTION STA L6013+24 TO L6013+51	NSC-006	PL600	TUNNEL DRAINAGE PLAN STA L6039+55 TO STA L6041+40
NSC-004R	TN452	CROSS SECTION STA L6013+51 TO L6013+75	NSC-006	PL601	TUNNEL DRAINAGE PLAN STA L6041+40 TO STA L6046+60
NSC-004R	TN453	CROSS SECTION STA L6013+75 TO L6014+18	NSC-006	PL602	TUNNEL DRAINAGE PLAN STA L6046+60 TO STA L6051+94
NSC-004R	TN454	CROSS SECTION STA L6014+18 TO L6014+35	NSC-006	PL610	TUNNEL DRAINAGE DETAILS SHEET 1 OF 1
NSC-004R	TN455	CROSS SECTION STA L6014+35 TO L6014+49.57			
NSC-004R	TN540	RECEIVING PIT HEAD WALL REINFORCEMENT @ BORED TUNNEL SHEET 1 OF 2			
NSC-004R	TN581	GATEWAY STATION PLAN @ TRACK LEVEL - CONDUIT ROUTING PLAN SHEET 1 OF 6			
NSC-004R	TN582	GATEWAY STATION PLAN @ TRACK LEVEL - CONDUIT ROUTING PLAN SHEET 2 OF 6			
NSC-004R	TN583	GATEWAY STATION PLAN @ TRACK LEVEL - CONDUIT ROUTING PLAN SHEET 3 OF 6			
NSC-004R	TN584	GATEWAY STATION PLAN @ PLATFORM LEVEL - CONDUIT ROUTING PLAN SHEET 4 OF 6			
NSC-004R	TN585	GATEWAY STATION PLAN @ PLATFORM LEVEL - CONDUIT ROUTING PLAN SHEET 5 OF 6			
NSC-004R	TN586	GATEWAY STATION PLAN @ PLATFORM LEVEL - CONDUIT ROUTING PLAN SHEET 6 OF 6			
NSC-004R	TN587	CONDUIT EMBEDMENTS AND PULL BOX SCHEMATIC			
NSC-004R	TN588	GATEWAY STATION PLAN - CONDUIT ROUTING PLAN DETAILS (1 OF 3)			
NSC-004R	TN589	GATEWAY STATION PLAN - CONDUIT ROUTING PLAN DETAILS (2 OF 3)			
NSC-004R	TN589A	GATEWAY STATION PLAN - CONDUIT ROUTING PLAN DETAILS (3 OF 3)			
NSC-004R	TN590	CONDUIT SCHEDULE (1 OF 2)			
NSC-004R	TN591	CONDUIT SCHEDULE (2 OF 2)			
NSC-004R	TN592	ELECTRICAL BLOCKOUT LOCATION PLAN PLATFORM LEVEL			

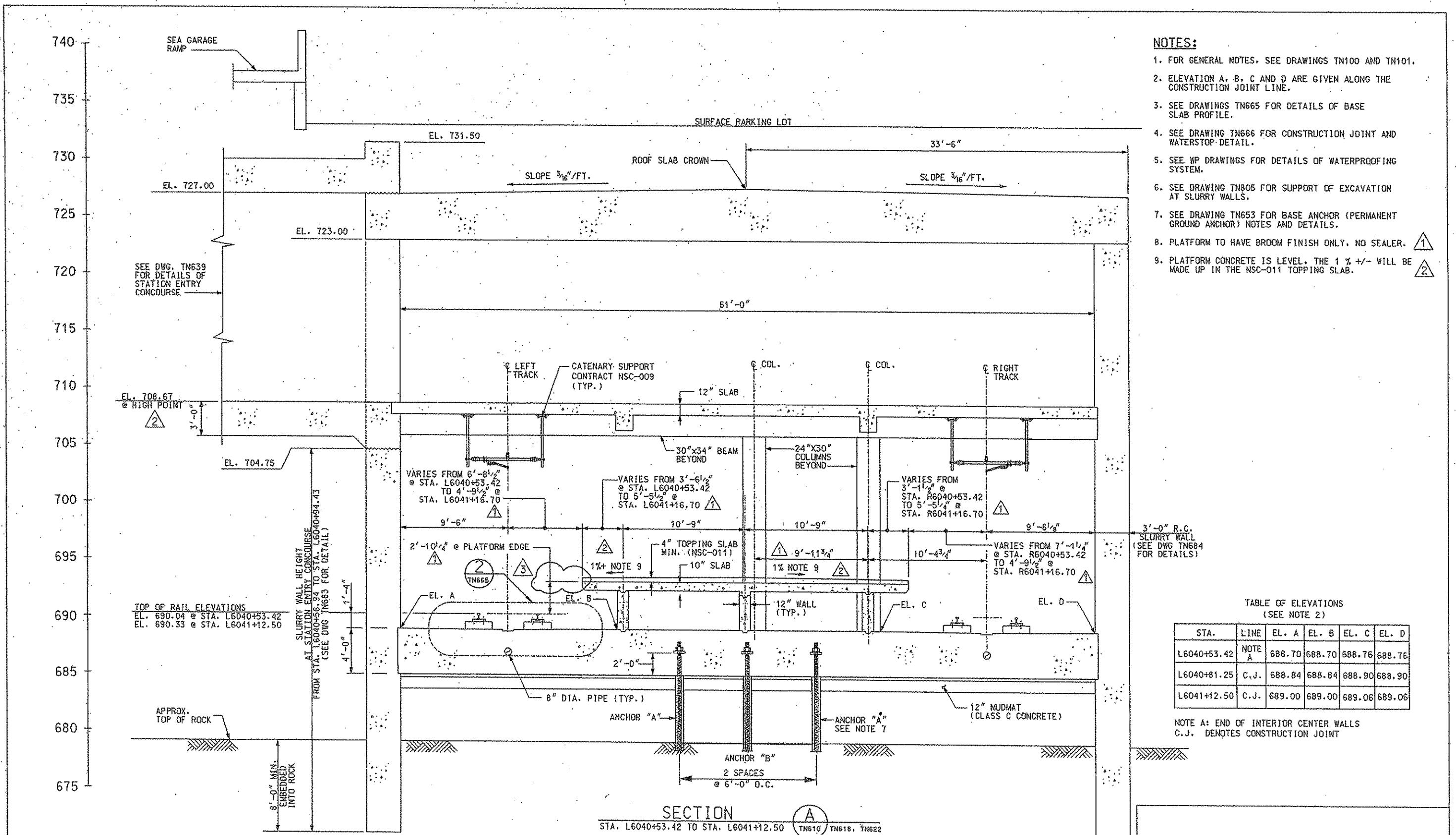
 <p>Gannett Fleming Transit & Rail Systems</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%; padding: 2px;"></td> <td style="width: 50%; padding: 2px;"></td> </tr> <tr> <td style="padding: 2px;">◆ 09/03/08 ADDENDUM 4 - DRAWING MODIFIED</td> <td style="padding: 2px;">DESCRIPTION</td> </tr> <tr> <td style="padding: 2px;">NO. DATE</td> <td style="padding: 2px;">REVISIONS</td> </tr> </table>			◆ 09/03/08 ADDENDUM 4 - DRAWING MODIFIED	DESCRIPTION	NO. DATE	REVISIONS	<p style="margin-top: 100px;">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>	<div style="text-align: center;">  <p>PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH</p> </div>	<p>DESIGNED JC TRAUM DRAWN JC TRAUM</p>	<p>CHECKED CD JONES IN CHARGE CD JONES</p>	<p>DATE APR. 28, 2008 APPROVED <i>Paul P. Harris</i> 9/13/08 SIGNATURE DATE</p>	<p>SCALE NTS Port Authority DEPARTMENT OF TRANSPORTATION</p>	<p>CONTRACT NO. NSC-009 DNG. NO. GN002A SHT.</p>
◆ 09/03/08 ADDENDUM 4 - DRAWING MODIFIED	DESCRIPTION													
NO. DATE	REVISIONS													
<p>PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH</p>	<p>NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM-WIDE)</p>	<p>INDEX OF ALSO DRAWINGS FOR NSC CONTRACT INTERFACES SHEET 2 OF 4</p>	<p>Port Authority DEPARTMENT OF TRANSPORTATION</p>	<p>CONTRACT NO. NSC-009 DNG. NO. GN002A SHT.</p>										

INDEX OF ALSO DRAWINGS

CONTRACT NO.	DRAWING NO.	DRAWING TITLE	CONTRACT NO.	DRAWING NO.	SHEET NO.	DRAWING TITLE
OPERATION CONTROL CENTER (OCC)						
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				
STAGE 2 LIGHT RAIL TRANSIT SYSTEM FIBER NODES						
LRT-006	FM-06-EC-119	System Design (Fiber Optic) By Node Locations.				

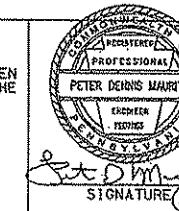
 Gannett Fleming Transit & Rail Systems			<p>THE PREPARATION OF THIS DOCUMENT HAS BEEN FINANCED IN PART THROUGH A GRANT FROM THE FEDERAL TRANSIT ADMINISTRATION, U.S. DEPARTMENT OF TRANSPORTATION, UNDER THE URBAN MASS TRANSPORTATION ACT OF 1964, AS AMENDED, FOR THE PORT AUTHORITY OF ALLEGHENY COUNTY, PENNSYLVANIA.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 10%;">NO.</td> <td style="width: 10%;">DATE</td> <td style="width: 10%;">DESCRIPTION</td> <td style="width: 10%;">REVISIONS</td> </tr> <tr> <td colspan="4">ADDENDUM 4 - DRAWING MODIFIED</td> </tr> <tr> <td colspan="4">ADDENDUM 3 - DRAWING MODIFIED</td> </tr> </table>	NO.	DATE	DESCRIPTION	REVISIONS	ADDENDUM 4 - DRAWING MODIFIED				ADDENDUM 3 - DRAWING MODIFIED				 DMJM HARRIS AECOM FOUR GATEWAY CENTER 20TH FLOOR PITTSBURGH, PA. 15222 <div style="display: flex; justify-content: space-between;"> DESIGNED JC TRAUM DRAWN JC TRAUM PORT AUTHORITY OF ALLEGHENY COUNTY PITTSBURGH </div> <div style="display: flex; justify-content: space-between;"> CHECKED CD JONES NORTH SHORE CONNECTOR NSC TRAIN SYSTEM (SYSTEM-WIDE) </div> <div style="display: flex; justify-content: space-between;"> IN CHARGE CD JONES INDEX OF ALSO DRAWINGS FOR NSC CONTRACT INTERFACES </div> <div style="display: flex; justify-content: space-between;"> DATE APR. 28, 2008 SHEET 1 OF 5 </div> <div style="display: flex; justify-content: space-between;"> SCALE NTS Port Authority </div> <div style="display: flex; justify-content: space-between;"> CONTRACT NO. NSC-009 DWG. NO. GN006A </div> <div style="display: flex; justify-content: space-between;"> SHR SHR </div>
	NO.	DATE		DESCRIPTION	REVISIONS											
ADDENDUM 4 - DRAWING MODIFIED																
ADDENDUM 3 - DRAWING MODIFIED																





SECTION
STA. L6040+53.42 TO STA. L6041+12.50

TN610 TN618, TN622



DMJM HARRIS | AECOM

FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222

PETER DENNIS MARITZ
ENGINEER / LEAD
DATE NOV. 2, 2005

APPROVED
B.B. 08
DATE
4' 2' 0 4'

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH

NORTH SHORE CONNECTOR
NORTH SIDE STATION AND CUT & COVER TUNNEL WEST
STATION CROSS SECTION GEOMETRY
STA. L6040+53.42 TO STA. L6041+12.50

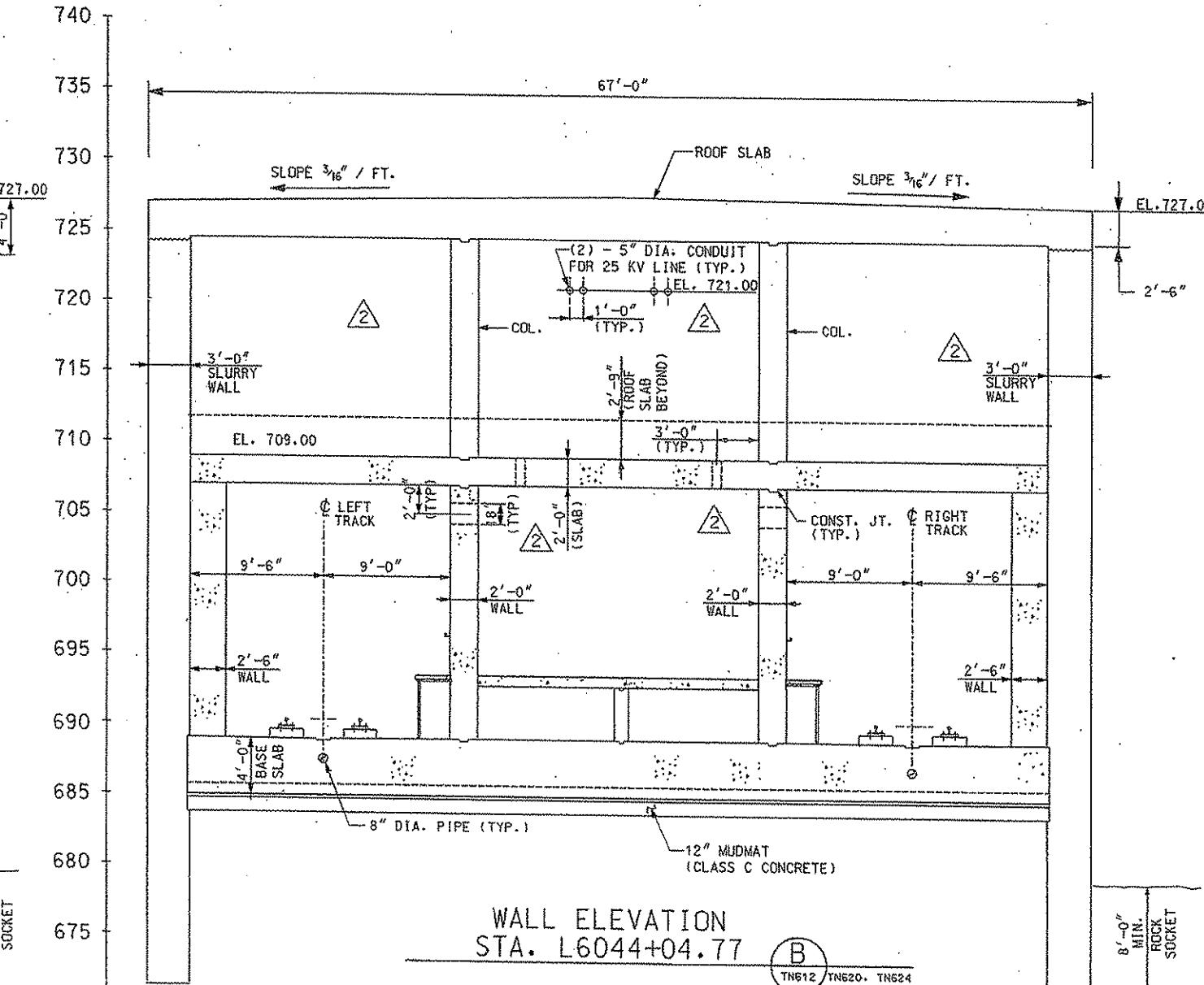
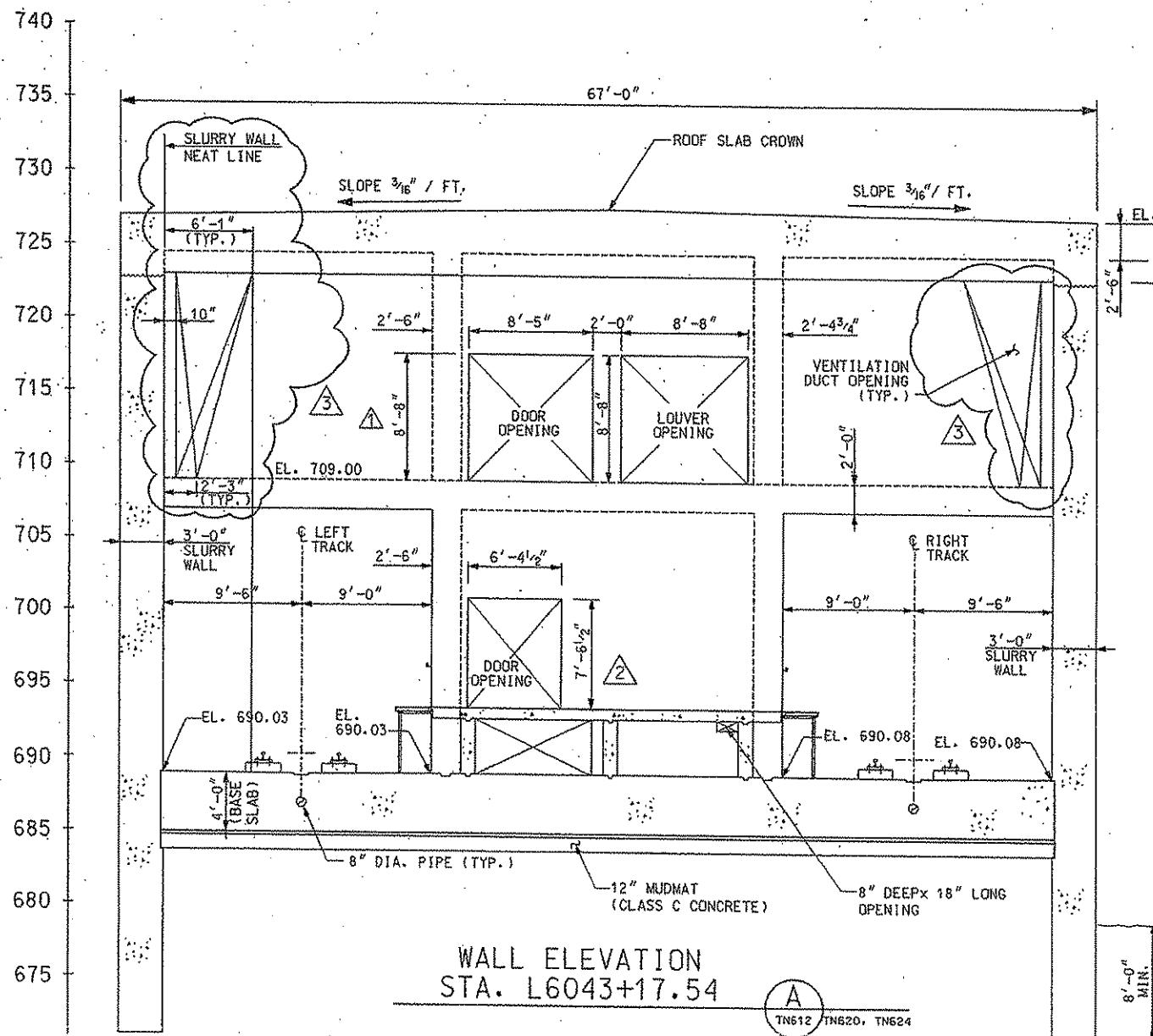
CONTRACT NO. NSC-006
Dwg. No. TN652-3 Sht. 86-3

△	8/05/08	REVISION 10 - REVISED TOPPING SLAB DIMENSION MARKER	
△	5/09/08	REVISION 8 - ADD TOPPING SLAB NOTE, MOD MEZZ ELEV	
△	1/27/08	REVISION 6 - TOPPING SLAB REVISION	
NO. DATE		DESCRIPTION	
		REVISIONS	

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NOTES:

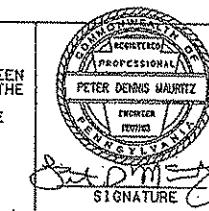
1. FOR GENERAL NOTES, SEE DRAWINGS TN100 AND TN101.
2. ALL STATIONS GIVEN ARE ALONG LEFT TRACK UNLESS OTHERWISE NOTED.
3. ALL DIMENSIONS ARE PERPENDICULAR OR RADIAL TO CORRESPONDING TRACK UNLESS OTHERWISE NOTED.
4. SEE DRAWING TN665, FOR DETAILS OF BASE SLAB PROFILE.
5. SEE DRAWING TN666, FOR CONSTRUCTION JOINT AND WATERSTOP DETAIL.
6. SEE WP DRAWINGS, FOR DETAILS OF WATERPROOFING SYSTEM.
7. SEE DRAWING TN805, FOR SUPPORT OF EXCAVATION AT SLURRY WALLS.



SDATES #FILE#

NO.	DATE	DESCRIPTION	REVISIONS
△	8/05/08	REVISION 10- MODIFIED VENT OPENING SIZE	
△	5/09/08	REVISION 8- MODIFIED DOOR SIZE & CONDUIT OPENINGS	
△	1/27/08	REVISION 6- REVISED DOOR OPENING HEIGHT	

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DMJM HARRIS | AECOM
FOUR GATEWAY CENTER
20TH FLOOR
PITTSBURGH, PA. 15222
[Signature]
APPROVED 8-8-08
DATE

DESIGNED KV
DRAWN NPD
CHECKED PDM
IN CHARGE PAR
DATE NOV. 2, 2005
SCALE 3/16"=1'-0"
4' 2' 0' 4'

PORT AUTHORITY OF ALLEGHENY COUNTY
PITTSBURGH, PENNSYLVANIA

NORTH SHORE CONNECTOR
NORTH SIDE STATION AND CUT & COVER TUNNEL WEST
WEST ANCILLARY AREA WALL ELEVATIONS

PORT AUTHORITY
CONTRACT NO. NSC-006
Dwg. No. TNG59-3 Sht. 93-3

