Section 13

Test Results/As-Built Drawings

WESCAN
ELECTRICAL MECHANICAL SERVICES

WESCAN Electrical Mechanical Services

RECORD MEGGER READING ON CABLES

Job Name: South West Rapid Transit Corridor

Job No:	E779

FROM	TO	VOLTAGE	GROUND TO PHASE			PHASE TO PHASE	PHASE TO NEUTRAL		DATE	TESTED BY
			A-G	B-G	N-G	A-B	A-N	B-N		
Hydro Transformer	Main Disconnect	120/240	∞	∞	∞	∞	∞	∞	11/14/2012	R. Wilson
Main Disconnect	Panel A	120/240	∞	∞	∞	∞	∞	∞	11/14/2012	R. Wilson
Panel A	Panel L	120/240	∞	∞	∞	∞	∞	∞	11/14/2012	R. Wilson

WESCAN Electrical Mechanical Services

VOLTAGE / CURRENT READINGS ON CABLES

Job Name: South West Rapid Transit Corridor

Job No: E779

Date: 3/30/2012

Time: 11:00am

FROM	TO	AMPACITY LOAD			VOLTAGE PHASE TO PHASE	VOLTAGE PHASE TO NEUTRAL		VOLTAGE PHASE TO GROUND			Size	Ground
		A	B	N	A-B	A-N	B-N	A-G	B-G	N-G		
Hydro Transformer	Main Disconnect	191	230	34	237	118	117	118	117	0	2x(3x250mcm)	2 x #4
Main Disconnect	Panel A	191	230	34	237	118	117	118	117	0	3x500mcm	#2
Panel A	Panel L	69	101	29.3	237	118	117	118	117	0	3 x 3/0	#6

BUS DETECTION AND WARNING SYSTEM

Provide a complete and operational bus detection and warning system to the complete satisfaction of the Contract Administrator. Electrical provisions include, but are not necessarily limited to the following:

1. Provision of the supply and install of directional probe system to detect inbound vehicles only. Probes to be located in the roadbed 200m from the entrance to the station. All wiring to be in minimum 1.5"conduit. Provide 18"x24" splice pit at curb to CoW standards, for connection to probe. Wiring to be 14/4 shielded buried cable. One probe will be required west of the station (in east–bound lane) and one will be required east of the station (in west–bound lane). Coordinate conduit routing with Contract Administrator prior to road work or rough–in.
2. Each probe is to be connected to a processor c/w power supply in heated electrical room. Upon detection of vehicle, processor is to signal a timed relay which will activate the following after a programmable delay
   a) signal devices at east end of station are to operate upon activation of west–bound (inbound) vehicles only. Devices at west end of station to operate similarly.
   b) audible chime at north and south pedestrian gates.
   c) illuminate flashing LED lights mounted on top of pedestrian gates (both sides of pedestrian crossing). Lights are to continue flashing for a programmable duration. Initial setting to be 30 seconds from activation. LED signals to be Edwards 103 series, NEMA 4X rated weather–proof and vandal–resistant.
   d) chime is to sound every time a vehicle passes the detector and lights to flash for full duration after each vehicle.
3. Manufacturers: Probes to be Sure Action Incorporated P8000 c/w 212 Processor or approved equal.
4. Equipment is to be supplied by local manufacturer's rep, such as National Industrial Communications Inc. Final connections to be performed by manufacturer's representative.
5. Provide complete commissioning and training of system to Contract Administrator's satisfaction.

GENERAL ELECTRICAL NOTES

1. ALL WIRING AND ELECTRICAL WITHIN STATION TO BE IP65 RATED DUST TIGHT AND WATER TIGHT CONSTRUCTION.

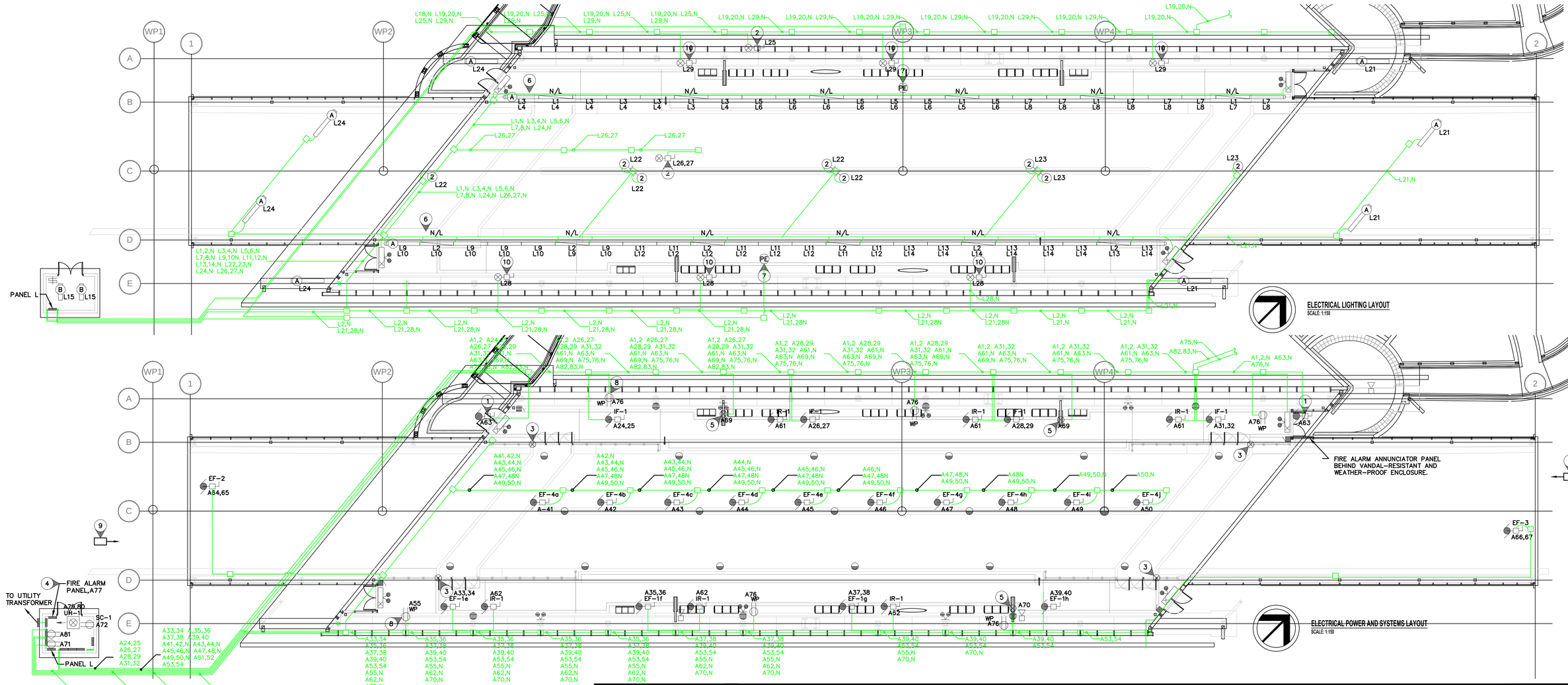
2. ELECTRICAL CONDUIT THROUGHOUT THE BUILDING IS TO BE CONCEALED BY STRUCTURE WHERE POSSIBLE. EXPOSED CONDUIT IS ONLY TO BE RUN WHERE ABSOLUTELY NECESSARY AND ONLY AFTER RECEIVING WRITTEN APPROVAL FROM CONTRACT ADMINISTRATOR. CONDUIT IS NOT TO BE RUN IN ROADBED, EXCEPT FOR CONDUIT REQUIRED FOR BUS DETECTION AND WARNING SYSTEM AND FOR CONDUIT FROM THE ELECTRICAL ROOM. CONDUITS FROM THE ELECTRICAL ROOM ARE TO BE RUN UNDERGROUND BETWEEN WP1 AND WP2, E.C. TO CONFIRM PIPE LAYOUT PRIOR TO ROUGH–IN. PROVIDE ANTICIPATED PIPE LAYOUT FOR CONTRACT ADMINISTRATOR'S APPROVAL PRIOR TO INSTALLATION AND PRIOR TO POURING OF BRIDGE ROADWAY SLAB OR PLATFORMS.

SPECIFIC ELECTRICAL NOTES

1. WIRE AND CONNECT AUTOMATIC DOOR OPERATOR AND ALL RELATED CONTROLS.
2. WIRE AND CONNECT EXTERIOR SIGNAGE AS REQUIRED.
3. PROVIDE BUS WARNING FLASHING LIGHTS AT TOP OF POSTS OF CROSSING GATES. WIRE AND CONNECT TO BUS DETECTION AND WARNING SYSTEM. PROVIDE AUDIBLE CHIME AT NEAREST COLUMN.
4. TIE ALL SPRINKLER FLOW, TAMPER, PRESSURE AND LOW TEMP SWITCHES TO FIRE ALARM PANEL.
5. PROVIDE POWER TO TRANSIT EBBD.
6. EACH TYPE A LUMINAIRE WITHIN BUILDING TO HAVE BALLASTS WIRED TO DIFFERENT CIRCUITS AS INDICATED. FOR DAYLIGHT HARVESTING, FIXTURES TO BE REDUCED TO SINGLE BALLAST OPERATION AND OFF AS DICTATED BY LIGHTING CONTROL SYSTEM.
7. INTERIOR MOUNTED PHOTOCELL FOR DAYLIGHT HARVESTING. TIE TO LIGHTING CONTROL PANEL.
8. MOUNTED ON COLUMN IN MECHANICAL SERVICE CHASE. (TYPICAL 3 PER SIDE.)
9. BUS DETECTION PROBE. LOCATE 200m FROM STATION. REFER TO CIVIL DRAWINGS. TIE TO BUS DETECTION AND WARNING SYSTEM.
10. WIRE AND CONNECT SIGNAGE AS REQUIRED. CONFIRM EXACT LOCATION AND REQUIREMENTS PRIOR TO ROUGH–IN.
11. FUTURE CCTV MONITOR C/W HEATED VANDAL–RESISTANT ENCLOSURE (BY E.C.) CONFIRM EXACT LOCATION AND REQUIREMENTS PRIOR TO ROUGH–IN.

SYMBOL SCHEDULE

- B1–a — Fluorescent luminaire, B1–a – denotes panel circuit No. and switch.
- N/L — Night light fluorescent luminaire. Wire one ballast to night lighting circuit, and the remainder to regular lighting circuit shown.
- Ceiling mounted luminaire.
- A — Wall mounted luminaire. 'A' denotes type.
- Post light
- Single pole switch.
- Duplex receptacle.
- WP — Duplex receptacle – weather proof.
- GF — Ground fault duplex receptacle.
- Fireguard backboard c/w power supply and #6 AWG green ground wire to building ground and c/w 1–4" entrance conduit as required by the telephone utility and 1–4" entrance conduit as required by CATV utility.
- Fire alarm pull station c/w polycarbonate cover.
- Fire alarm audible device, c/w strobe light.
- Fire alarm fixed temperature thermal detector.
- CCTV camera c/w power supply and empty conduit as required by CCTV supplier. Verify location before installation.
- Panic alarm interactive communication station.
- S — Panic alarm / public address system wall mounted weather–proof speaker.
- UH–1 — Electric unit heater c/w built in thermostat unless otherwise indicated. 'UH–1' denotes type. See heating schedule for details.
- Junction box.
- Motor. Refer to mechanical for exact location.
- Disconnect switch to suit application. By div. 16.
- Emergency double head fixture. Wire to battery bank. Weather–proof and vandal–resistant.
- Universal LED exit sign. Wire to emergency battery bank. Weather–proof and vandal–resistant.
- PE — Photo–cell.



ELECTRICAL LIGHTING LAYOUT
SCALE: 1:150

ELECTRICAL POWER AND SYSTEMS LAYOUT
SCALE: 1:150

LOCATION UNDERGROUND STRUCTURES APPROVED

SUPV. U/G STRUCTURES COMMITTEE — DATE

NOTE:
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE, BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

NO.	REVISIONS	DATE	BY
1	ISSUED FOR TENDER	2010-05-14	DZ

B.M. ELEV.

DESIGNED BY
DRAWN BY
CHECKED BY
APPROVED BY
HOR. SCALE
VERTICAL
DATE 2010.04.12

NOVA 3 ENGINEERING LTD.
CONSULTING ENGINEERS

DILLON CONSULTING

RELEASED FOR CONSTRUCTION
DATE

ENGINEER'S SEAL

CONSULTANT PROJECT NO. 088813

AS–BUILT DRAWING
Completed By: Rob Wilson
Date: March, 2012

WESCAN
1049 LOGAN AVE
WINNIPEG, MANITOBA
TEL: 786–3384
FAX: 783–2750
www.wescan–services.com

NOVA 3 JOB NUMBER: 29–187
REFER TO WWW.NOVA3.CA FOR CAUTIONARY NOTES.

gpparchitecture

Winnipeg

THE CITY OF WINNIPEG
TRANSIT DEPARTMENT

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1

OSBORNE STATION & ASSOCIATED WORKS

ELECTRICAL STATION LAYOUT

CITY DRAWING NUMBER: B237-10-91
SHEET 91 OF 121
CONSULTANT DRAWING NUMBER: C5-E2200-T

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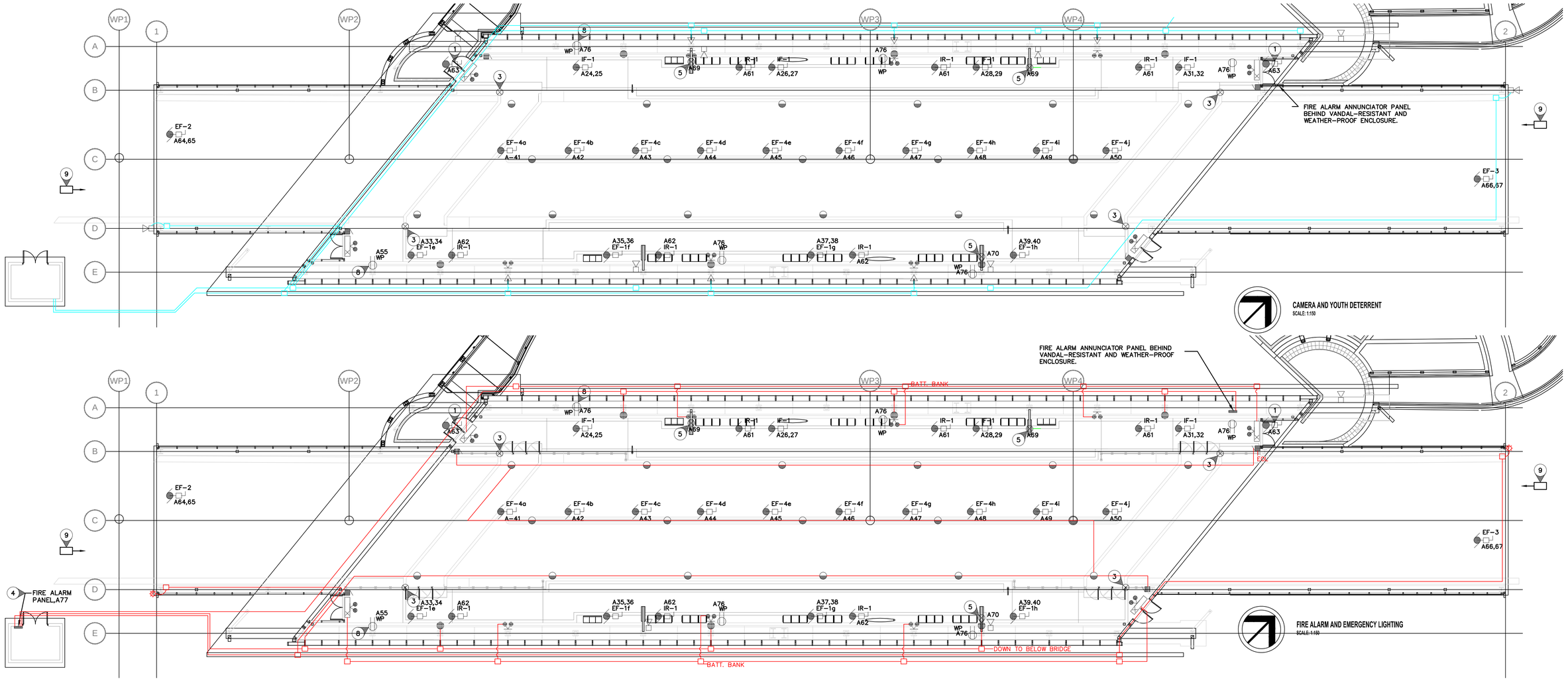

CAMERA AND YOUTH DETERRENT
SCALE: 1:150

FIRE ALARM AND EMERGENCY LIGHTING
SCALE: 1:150

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AS–BUILT DRAWING
Completed By: Rob Wilson
Date: March 2012

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LOCATION UNDERGROUND APPROVED STRUCTURES

SUPV. U/G STRUCTURES COMMITTEE ____ DATE ____

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NO.	REVISIONS	DATE	BY
1	ISSUED FOR TENDER	2010-05-14	DZ

B.M. ELEV.

DESIGNED BY
DRAWN BY
CHECKED BY
APPROVED BY
HOR. SCALE
VERTICAL
DATE 2010.04.12

NOVA 3 ENGINEERING LTD.
CONSULTING ENGINEERS
DILLON CONSULTING

RELEASED FOR CONSTRUCTION
DATE

ENGINEER'S SEAL

CONSULTANT PROJECT NO. 088813

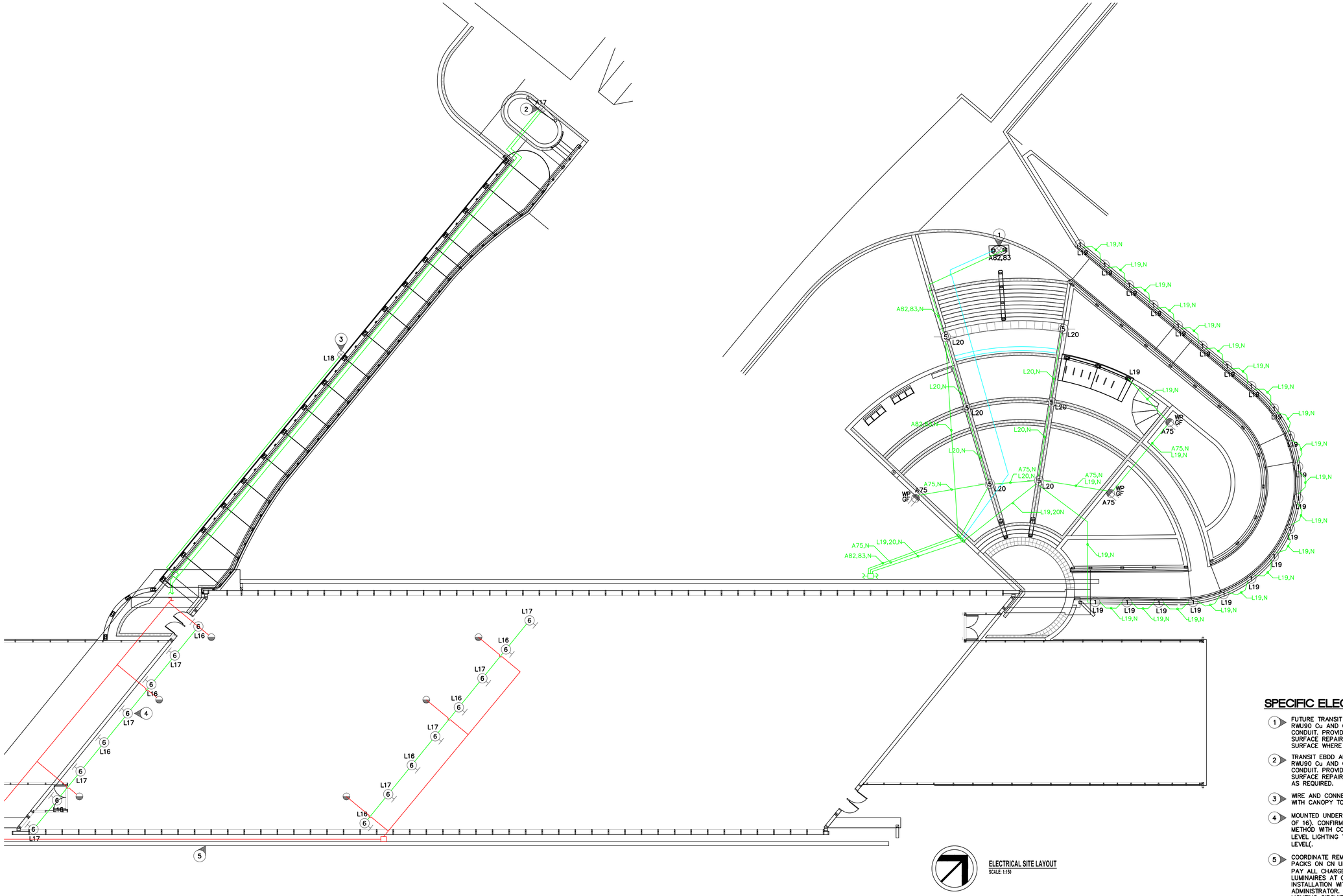
Winnipeg

THE CITY OF WINNIPEG
TRANSIT DEPARTMENT

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1
OSBORNE STATION & ASSOCIATED WORKS

FIRE ALARM, EMERGENCY LIGHTING, CAMERAS AND YOUTH DETERRENT

CITY DRAWING NUMBER: B237-10-91
SHEET 91a OF 121
CONSULTANT DRAWING NUMBER: C5-E2200-T



ELECTRICAL SITE LAYOUT
SCALE: 1:150

SPECIFIC ELECTRICAL NOTES

1. FUTURE TRANSIT SIGN. PROVIDE BURIED 2 #12 RWU90 Cu AND GROUND IN A 25mm RIGID PVC CONDUIT. PROVIDE TRENCHING, BACKFILLING AND SURFACE REPAIR AS REQUIRED. PUSH BELOW SURFACE WHERE PRACTICAL.
2. TRANSIT EBDD AND TOTEM. PROVIDE BURIED 2 #12 RWU90 Cu AND GROUND IN A 25mm RIGID PVC CONDUIT. PROVIDE TRENCHING, BACKFILLING AND SURFACE REPAIR AS REQUIRED. WIRE & CONNECT AS REQUIRED.
3. WIRE AND CONNECT CANOPY LIGHTING SUPPLIED WITH CANOPY TO CIRCUIT A18.
4. MOUNTED UNDERNEATH NEW OVERPASS (TYPICAL OF 16). CONFIRM MOUNTING LOCATIONS AND METHOD WITH CONTRACT ADMINISTRATOR. NIGHT LEVEL LIGHTING TO BE ONE CIRCUIT ONLY (HALF LEVEL(.
5. COORDINATE REMOVAL OF SIX (6) EXISTING WALL PACKS ON CN UNDERPASS WITH MANITOBA HYDRO. PAY ALL CHARGES. PROVIDE (8) NEW TYPE 6 LUMINAIRES AT CN UNDERPASS. COORDINATE INSTALLATION WITH MB HYDRO AND CONTRACT ADMINISTRATOR. WIRE & CONNECT TO EXISTING LIGHTING CIRCUITS.

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AS-BUILT DRAWING
Completed By: Rob Wilson
Date: March 2012
WESCAN
1049 LOGAN AVE
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LOCATION UNDERGROUND STRUCTURES APPROVED

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NO.	REVISIONS	DATE	BY
1	ISSUED FOR TENDER	2010-05-14	DZ

B.M. ELEV.

DESIGNED BY
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HOR. SCALE
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DATE

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Winnipeg

THE CITY OF WINNIPEG
TRANSIT DEPARTMENT

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1

OSBORNE STATION & ASSOCIATED WORKS

ELECTRICAL SITE LAYOUT

CITY DRAWING NUMBER: B237-10-92

SHEET 92 OF 121

CONSULTANT DRAWING NUMBER: C5-E2201-T

PANEL 'A'

MOUNTING SURFACE
LOCATION MECH. ROOM
VOLTAGE 120/240V–1PH–3W
MAIN BUS 400A
REMARKS TUB 1

DESCRIPTION	BKR	CIRCUIT		CIRCUIT	BKR	DESCRIPTION
HEAT TRACE (NORTH) GFCI	15	1	31	40		EF–1d
		2	32			
HEAT TRACE (NORTH) GFCI	15	3	33	40		EF–1e
		4	34			
HEAT TRACE (NORTH) GFCI	15	5	35	40		EF–1f
		6	36			
SPACE	–	7	37	40		EF–1g
SPACE	–	8	38			
TELEPHONE RECEPTACLE	15	9	39	40		EF–1h
SPACE	–	10	40			
SPACE	–	11	41	15		EF–4a
SPACE	–	12	42	15		EF–4b
SPACE	–	13	43	15		EF–4c
SPACE	–	14	44	15		EF–4d
SPACE	–	15	45	15		EF–4e
SPACE	–	16	46	15		EF–4f
WEST PEDESTRIAN RAMP SIGN	15	17	47	15		EF–4g
HVAC CONTROL PANEL	15	18	48	15		EF–4h
SPARE	15	19	49	15		EF–4i
SPARE	15	20	50	15		EF–4j
SPARE	15	21	51	40		EF–2
SPACE	–	22	52			
SPACE	–	23	53	40		EF–3
EF–1a	40	24	54			
		25	55	15		RECEPTACLE SOUTH SERVICE CHASE
EF–1b	40	26	56	–		SPACE
		27	57	–		SPACE
EF–1c	40	28	58	–		SPACE
		29	59	–		SPACE
SPACE	–	30	60	–		SPACE

PANEL 'A'

MOUNTING SURFACE
LOCATION MECH. ROOM
VOLTAGE 120/240V–1PH–3W
MAIN BUS 400A
REMARKS TUB 2

DESCRIPTION	BKR	CIRCUIT		CIRCUIT	BKR	DESCRIPTION
1R–1 RADIANT HEAT (NORTH)	15	61	91	–		SPACE
IR–1 RADIANT HEAT (SOUTH)	15	62	92	–		SPACE
DOORS AND ANNUNCIATOR HEATER	15	63	93	–		SPACE
SPACE	–	64	94	–		SPACE
SPACE	–	65	95	–		SPACE
SPACE	–	66	96	–		SPACE
SPACE	–	67	97	–		SPACE
BUS DETECTION	15	68	98	–		SPACE
EBBD NORTH	15	69	99	–		SPACE
EBBD SOUTH	15	70	100	–		SPACE
SPACE	–	71	101	–		SPACE
SPRINKLER COMPRESSOR	15	72	102	–		SPACE
SPACE	–	73	103	–		SPACE
SPACE	–	74	104	–		SPACE
GFCI RECEPTACLE EAST COURT YARD	15	75	105	–		SPACE
RECEPTACLE NORTH SERVICE CHASE	15	76	106	–		SPACE
FIRE ALARM PANEL	15	77	107	–		SPACE
YOUTH DETERRENT	–	78	108	–		SPACE
UNIT HEATER CONTROL BUILDING	30	79	109	–		SPACE
		80	110	–		SPACE
SPACE	–	81	111	–		SPACE
EAST PYLON MESSAGE BOARD	30	82	112	–		SPACE
EAST PYLON SIGN	15	83	113	–		SPACE
SPACE	–	84	114	–		SPACE
NORTH HEAT TRACE	15	85	115	–		SPACE
		86	116	–		SPACE
NORTH HEAT TRACE	15	87	117	–		SPACE
		88	118	–		SPACE
NORTH HEAT TRACE	15	89	119	–		SPACE
		90	120	15		RECEPTACLE BELOW PANEL A

PANEL 'L'

MOUNTING SURFACE
LOCATION MECH. ROOM
VOLTAGE 120/240V–1PH–3W
MAIN BUS 200A
REMARKS LIGHTING CONTROL PANEL

DESCRIPTION	BKR	CIRCUIT		CIRCUIT	BKR	DESCRIPTION
N/L LIGHTING	20	1	22	20		UP LIGHTING
N/L LIGHTING	20	2	23	20		UP LIGHTING
LIGHTING	20	3	24	20		EXTERIOR LIGHTING
LIGHTING	20	4	25	20		EXTERIOR SIGNAGE
LIGHTING	20	5	26	20		EXTERIOR SIGNAGE FACING NORTH
LIGHTING	20	6	27	20		EXTERIOR SIGNAGE FACING SOUTH
LIGHTING	20	7	28	20		INTERIOR SIGNAGE SOUTH
LIGHTING	20	8	29	20		INTERIOR SIGNAGE NORTH
LIGHTING	20	9	30	20		ROADWAY LIGHTING BELOW BRIDGE
LIGHTING	20	10	31	20		ROADWAY LIGHTING BELOW BRIDGE
LIGHTING	20	11	32	20		SPARE
LIGHTING	20	12	33	20		SPARE
LIGHTING	20	13	34	20		SPARE
LIGHTING	20	14	35	20		SPARE
LIGHTING	20	15	36	20		SPARE
SPARE	20	16	37	20		SPARE
LIGHTING CONTROL	20	17	38	20		SPARE
CANOPY LIGHTING	20	18	39	20		SPARE
STEP LIGHTS	20	19	40	20		SPARE
POST LIGHTS	20	20	41	20		SPARE
EXTERIOR LIGHTING	20	21	42	20		SPARE

MOTOR SCHEDULE

NO.	DESCRIPTION	LOCATION	VOLT–PH.	HP/W/MCA	C.B.	COND.	STARTER	NOTE
EF–1	INLINE FAN	WALL	240V–1PH	2.37HP	40A–2P	#10	MAGNETIC	NOTE 1,2
EF–4	EXHAUST FAN	ROOF	120V–1PH	0.22HP	15A–1P	#12	MAGNETIC	NOTE 1,2
EF–2	EXHAUST FAN	ROOF	240V–1PH	2.14HP	40A–2P	#10	MAGNETIC	NOTE 1,2
EF–3	EXHAUST FAN	ROOF	240V–1PH	2.14HP	40A–2P	#10	MAGNETIC	NOTE 1,2
IR–1	GAS RADIANT HEATER	WALL	120V–1PH	145W	15A–1P	#12	–	NOTE 1
AC–1	AIR COMPRESSOR	MECH RM	120V–1PH	1/3HP	15A–1P	#12	MANUAL	NOTE 1,3

SPECIFIC NOTES

1. WIRE AND CONNECT AS REQUIRED. REFER TO MECHANICAL.
2. MAGNETIC STARTER BY DIV. 16.
3. MANUAL STARTER BY DIV. 16.
4. WIRE ALL CONTROL ALARMS AS REQUIRED (SEE MECHANICAL).

GENERAL NOTES

A. MANUAL STARTERS TO BE C/W OVERCURRENT PROTECTION.
B. ALL DISCONNECT SWITCHES TO BE SUPPLIED BY DIV. 16.
C. ELECTRICAL CONTRACTOR TO PROVIDE CIRCUIT BREAKERS AND WIRING ACCORDING TO THE FINAL NAMEPLATES OF ALL THE MECHANICAL EQUIPMENT.
D. ALL LOW VOLTAGE CONTROL WIRING BY DIV. 15.
E. ALL LINE VOLTAGE CONTROL WIRING BY DIV. 16 – REFER TO MECHANICAL SECTION. COORDINATE EXACT REQUIREMENTS WITH DIV. 15.

SPECIFIC ELECTRICAL NOTES

1. FOR CONNECTION TO GROUND LOOP. PROVIDE 7 METRE LONG TAIL.
2. GROUND LOOP TO RUN INSIDE STRUCTURE ABOVE ROADWAY.
3. TYPICAL CONNECTION TO STRUCTURAL COLUMN VIA CADWELD.
4. ALLOW ADEQUATE CABLE FOR CONNECTION TO ELECTRICAL SERVICE GROUND.
5. TYPICAL #4/0 BARE COPPER BURIED 1 METRE BELOW GRADE.
6. TYPICAL GROUND ROD – SEE GENERAL ELECTRICAL NOTE 3.
7. #4/0 BARE COPPER RUN UP/DOWN COLUMNS AND OVER ROADBED IN CEILING STRUCTURE.

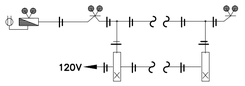
HEATING SCHEDULE

TYPE	WATTS	VOLTAGE	DESCRIPTION	MANUFACTURER	CATALOGUE #	REMARK
UH–1	5000	240V–1PH	UNIT HEATER	CHROMALOX	EUH05B31T	NOTE 1

SPECIFIC HEATING NOTES

1. C/W BUILT–IN THERMOSTAT. MOUNT SECURELY WHERE INDICATED TO THE SATISFACTION OF THE ENGINEER.

(GENERAL) VOLTAGE TO BE AS INDICATED ABOVE UNLESS OTHERWISE NOTED ON DRAWINGS.
(GENERAL) APPROVED EQUAL: OUELLET.



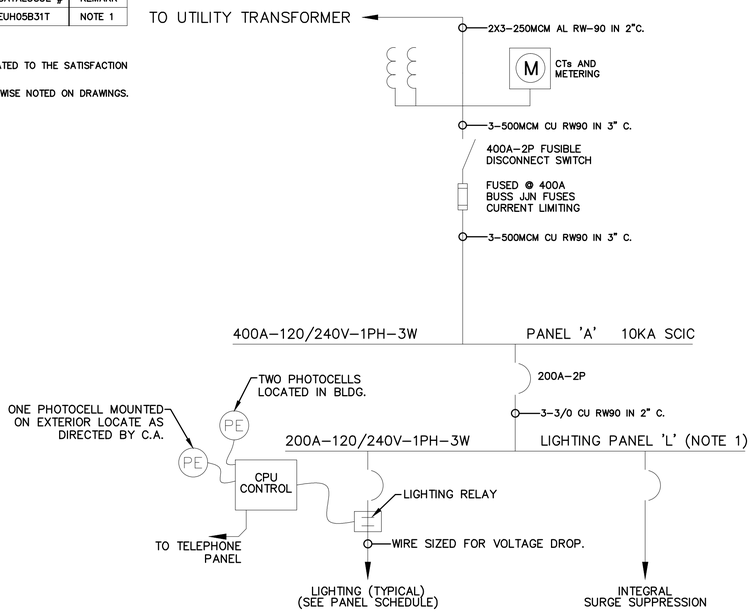
EMERGENCY LIGHTING AND SIGNAGE

N.T.S.

1. CONDUCTORS SIZED TO MANUFACTURERS RECOMMENDATIONS. MAXIMUM 5% VOLTAGE DROP.
2. WIRE AND CONNECT DC TO ALL COMPONENTS.
3. PROVIDE 60 MINUTE CAPACITY UNDER FULL LOAD.
4. INTERLOCK WITH NORMAL LIGHTING CIRCUIT TO ACTIVATE EMERGENCY LIGHTING UPON LOSS OF NORMAL LIGHTING.

GENERAL ELECTRICAL NOTES

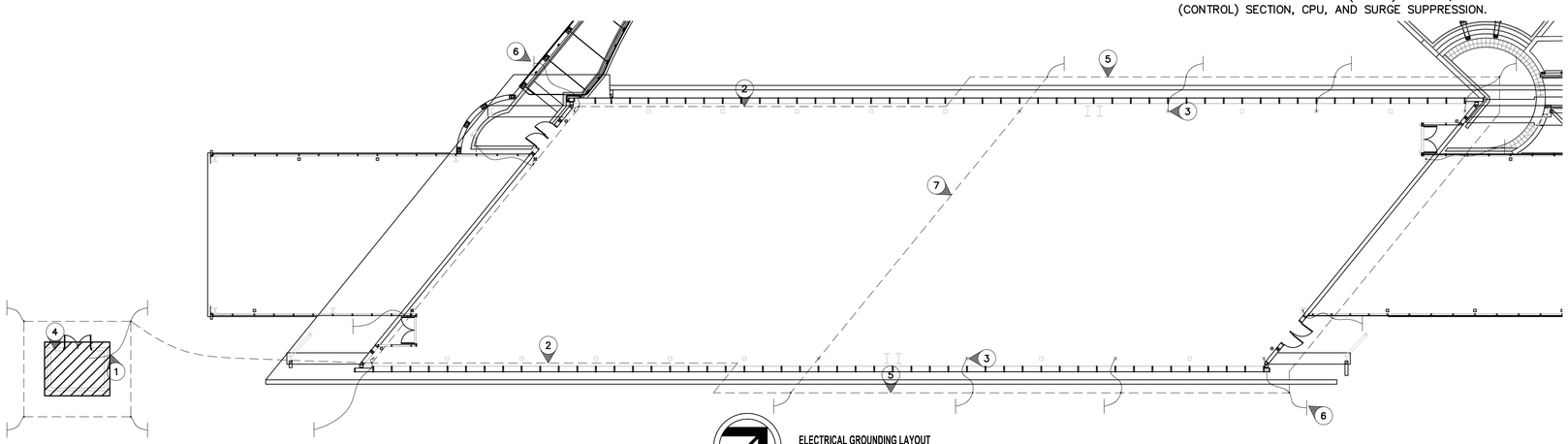
1. PROVIDE A GRID NETWORK TYPE OF GROUNDING SYSTEM, AS SHOWN ON THIS DRAWING, HAVING A MAXIMUM RESISTANCE OF FIVE (5) OHMS. AFTER TESTING WITH A GROUNDING MEGGER, WHERE NECESSARY, ADDITIONAL GROUND RODS SHALL BE PROVIDED TO OBTAIN THIS RESISTANCE.
2. TAPS AND CONNECTIONS WHICH ARE NORMALLY INACCESSIBLE AFTER INSTALLATION SHALL BE MADE USING A CADWELD CONNECTION TYPE "TA". SOLDER SHALL NOT BE USED.
3. GROUND RODS SHALL BE 3/4" (19mm) DIAMETER BY 10'–0" (3050mm) LONG COPPER WELD RODS INSTALLED 2'–6" (760mm) BELOW GRADE. GROUND CABLE FOR THE NETWORK SHALL BE #4/0 BARE STRANDED COPPER INSTALLED 3'–0" (910mm) BELOW GRADE. NO MECHANICAL PROTECTION IS REQUIRED.



400A–120/240V–1PH–3W SINGLE LINE DIAGRAM

N.T.S

NOTE 1: PANEL 'L' IS TO BE ONE COMPLETE UNIT, INCLUDING CIRCUIT BREAKER (POWER) SECTION, RELAY (CONTROL) SECTION, CPU, AND SURGE SUPPRESSION.



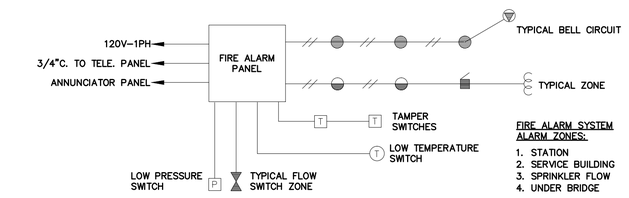
ELECTRICAL GROUNDING LAYOUT
SCALE: 1:200

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION	CATALOG NUMBER	LAMPS
A	8' FLUORESCENT SURFACE MOUNTED – IP65 RATED C/W 3" STEM	PEERLESS STATION	4–54W T5HO/8' SECTION
B	4' FLUORESCENT	LITHONIA UNS	1–54W T5HO
1	STEP LIGHT MOUNTED IN POSTS – REFER TO LANDSCAPE ARCH DWGS	FC LIGHTING FCSL400	3–3W LED
2	HID FLOODLIGHT MTD. IN STRUCTURE – INDIRECT	LITHONIA WFL–2	1–150W MH
5	POST MOUNTED LIGHT C/W 18' POST (5" ROUND)	REBELLE CYL–003	1–150W MH
6	ROADWAY LIGHTING	HOLLOPHANE PREDATOR	1–100W HPS
	EMERGENCY DOUBLE HEAD FIXTURE –VANDAL RESISTANT, WEATHERPROOF	SEE SPEC SECTION 26 52 01	2–20W MR16

LUMINAIRE SCHEDULE NOTES:

1. ALL FLUORESCENT BALLASTS TO BE ELECTRONIC, MB HYDRO "POWER SMART" APPROVED.
2. ALL FLUORESCENT LAMPS TO BE 4100K & 85 CRI, UNLESS OTHERWISE NOTED.
3. REFER ALSO TO SPECIFICATION SECTION 26 50 00.



FIRE ALARM RISER DIAGRAM

N.T.S

T:\PUBLIC\R_TURKULA\JEFF\DJ JOBS\E779 RAPID TRANSIT\Cadd Files\As–Built Drawings\Rob Wilson As–Builts\Asbuilt.dwg

WESCAN
AS–BUILT DRAWING
Completed By: Rob Wilson
Date: March 2012
1049 LOGAN AVE
WINNIPEG, MANITOBA
TEL: 786–3384
FAX: 783–2750
www.wescan–services.com

NOVA 3 JOB NUMBER: 29–187
REFER TO WWW.NOVA3.CA FOR CAUTIONARY NOTES.

gpparchitecture

LOCATION UNDERGROUND APPROVED STRUCTURES

SUPV. U/G STRUCTURES COMMITTEE DATE

NOTE:
LOCATION OF UNDERGROUND STRUCTURES AS SHOWN ARE BASED ON THE BEST INFORMATION AVAILABLE, BUT NO GUARANTEE IS GIVEN THAT ALL EXISTING UTILITIES ARE SHOWN OR THAT THE GIVEN LOCATIONS ARE EXACT. CONFIRMATION OF EXISTENCE AND EXACT LOCATION OF ALL SERVICES MUST BE OBTAINED FROM THE INDIVIDUAL UTILITIES BEFORE PROCEEDING WITH CONSTRUCTION.

NO.	REVISIONS	DATE	BY
1	ISSUED FOR TENDER	2010-05-14	DZ

B.M. ELEV.

DESIGNED BY
DRAWN BY
CHECKED BY
APPROVED BY
HOR. SCALE
VERTICAL
DATE

NOVA 3 ENGINEERING LTD.
CONSULTING ENGINEERS

DILLON CONSULTING

RELEASED FOR CONSTRUCTION
DATE

ENGINEER'S SEAL

CONSULTANT PROJECT NO.
088813

Winnipeg

THE CITY OF WINNIPEG
TRANSIT DEPARTMENT

SOUTHWEST RAPID TRANSIT CORRIDOR - STAGE 1
OSBORNE STATION & ASSOCIATED WORKS

CITY DRAWING NUMBER B237-10-93
SHEET 93 OF 121

ELECTRICAL DETAILS AND SCHEDULES

CONSULTANT DRAWING NUMBER C5-E2202-T