

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:

- 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 Co/W 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.
- 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:
 - 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.
 - audible chime at north and south pedestrian gates.
 - 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.
 - chime is to sound every time a vehicle passes the detector and lights to flash for full duration after each vehicle.
- Manufacturers: Probes to be Sure Action Incorporated P8000 c/w 212 Processor or approved equal.
- 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.
- Provide complete commissioning and training of system to Contract Administrator's satisfaction.

GENERAL ELECTRICAL NOTES

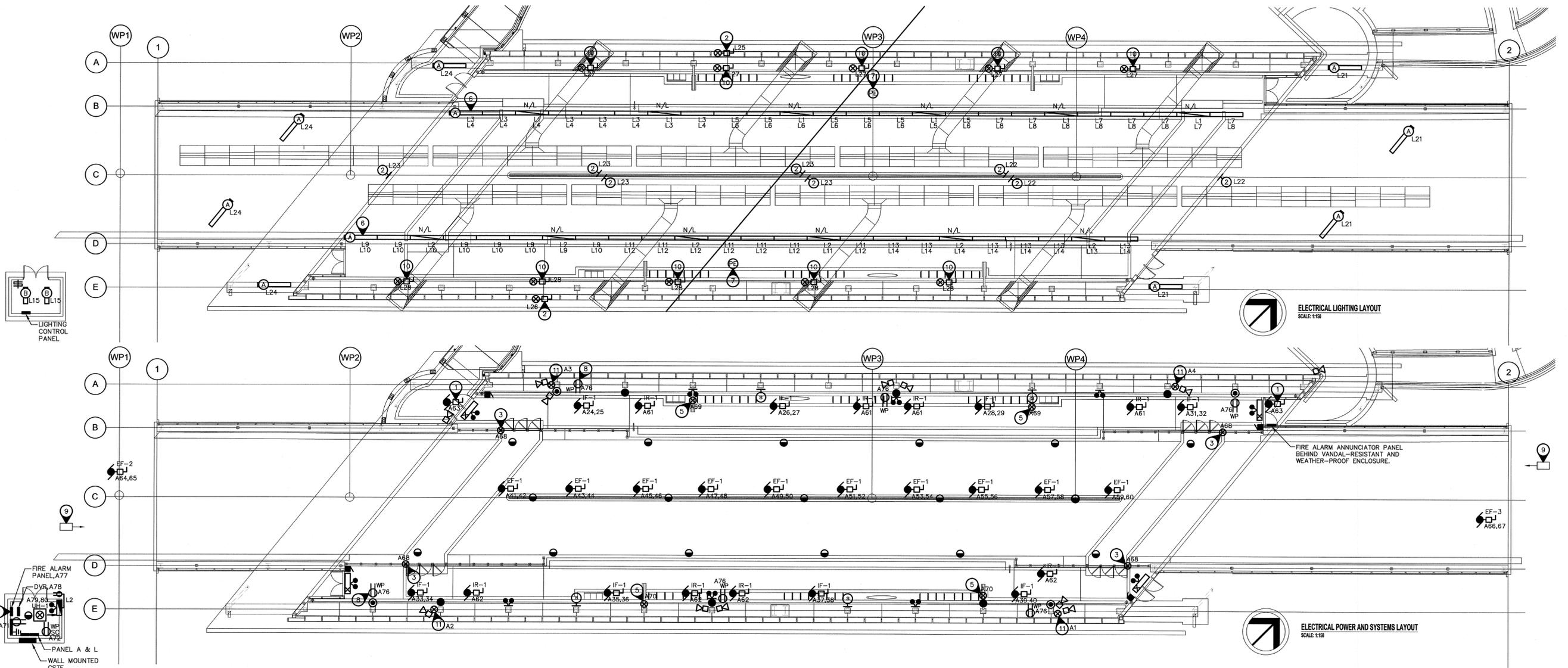
- ALL WIRING AND ELECTRICAL WITHIN STATION TO BE IP65 RATED DUST TIGHT AND WATER TIGHT CONSTRUCTION.
- ELECTRICAL CONDUIT THROUGHOUT THE BUILDING IS TO BE CONCEALED BY STRUCTURE WHERE POSSIBLE. EXPOSED CONDUIT IS ONLY TO BE RUN WHERE ABSOLUTELY NECESSARY AND ONLY AFTER RECEIVING WRITTEN APPROVAL FROM 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 ANTI-CIPATED PIPE LAYOUT FOR CONTRACT ADMINISTRATOR'S APPROVAL PRIOR TO INSTALLATION AND PRIOR TO POURING OF BRIDGE ROADWAY SLAB OR PLATFORMS.

SPECIFIC ELECTRICAL NOTES

- WIRE AND CONNECT AUTOMATIC DOOR OPERATOR AND ALL RELATED CONTROLS.
- WIRE AND CONNECT EXTERIOR SIGNAGE AS REQUIRED.
- 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.
- TIE ALL SPRINKLER FLOW, TAMPER, PRESSURE AND LOW TEMP SWITCHES TO FIRE ALARM PANEL.
- PROVIDE POWER TO TRANSIT EBBD.
- 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.
- INTERIOR MOUNTED PHOTOCCELL FOR DAYLIGHT HARVESTING. TIE TO LIGHTING CONTROL PANEL.
- MOUNTED ON COLUMN IN MECHANICAL SERVICE CHASE. (TYPICAL 3 PER SIDE.)
- BUS DETECTION PROBE. LOCATE 200m FROM STATION. REFER TO CIVIL DRAWINGS. TIE TO BUS DETECTION AND WARNING SYSTEM.
- WIRE AND CONNECT SIGNAGE AS REQUIRED. CONFIRM EXACT LOCATION AND REQUIREMENTS PRIOR TO ROUGH-IN.
- CCTV MONITOR C/W HEATED VANDAL-RESISTANT ENCLOSURE (BY E.C.) CONFIRM EXACT LOCATION AND REQUIREMENTS PRIOR TO ROUGH-IN.

SYMBOL SCHEDULE

- Fluorescent luminaire, B1-a - denotes panel circuit No. and switch.
- Night light fluorescent luminaire. Wire one ballast to night lighting circuit, and the remainder to regular lighting circuit shown.
- Ceiling mounted luminaire.
- Wall mounted luminaire. 'A' denotes type.
- Post light
- Single pole switch.
- Duplex receptacle.
- Duplex receptacle - weather proof.
- Ground fault duplex receptacle.
- 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.
- Panic alarm / public address system wall mounted weather-proof speaker.
- 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.
- Photo-cell.



APGM
Certificate of Authorization
Nova 3 Engineering Ltd.
No. 962 Date: 2019-05-13

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



LOCATION UNDERGROUND APPROVED STRUCTURES	B.M. ELEV.
SUPV. U/O 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.	
1 ISSUED FOR TENDER	2010-05-14 DZ
NO. REVISIONS	DATE BY

DESIGNED BY	NOVA 3 ENGINEERING LTD. CONSULTING ENGINEERS
DRAWN BY	
CHECKED BY	
APPROVED BY	
HOR. SCALE	RELEASED FOR CONSTRUCTION
VERTICAL	DATE 2010.04.12

ENGINEER'S SEAL
PROVINCE OF MANITOBA
V. J. THIELMANN
REGISTERED ENGINEER
CONSULTANT PROJECT NO. 088813

THE CITY OF WINNIPEG
TRANSIT DEPARTMENT
Winnipeg
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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