

DIVISION 23 - (HVAC)

SEE HVAC PLANS FOR FULL SCHEDULES

(COVER-M) Mechanical Equipment Schedule Summary - (New)

Level	Mark	Type Mark	Qty.	Description	Manufacturer	Model #	Voltage	Phase	Energy Source	Heating Capacity	Cooling Capacity	Air Flow	Supplied By	Controls Scheme / Comments
FFE Ground Floor	<varies>	BBH-1	3	BASEBOARD HEATER / 750W / 208V 1P	OUELLET	OFM0758BL	208 V	1	ELEC.	7,680 Btu/h	0.0 ton	280 CFM	DIV. 23	
<varies>	<varies>	DH-1	4	DUCT HEATER / 1kW / / 24V SCR MODULATING CONTROLS / 6" ROUND DUCT	THERMOLEC	TER-6-1120	120 V	1	ELEC.	13,650 Btu/h	0.0 ton		DIV. 23	
FFE Lower Level	FC-1-05	DH-2	1	DUCT HEATER / 2kW / 10"x6" DUCT / 24V SCR MODULATING CONTROLS	THERMOLEC	MSC0-02LS	208 V	1	ELEC.	6,820 Btu/h	0.0 ton		DIV. 23	
<varies>	<varies>	DH-3	2	DUCT HEATER / 3kW / 14"x6" DUCT / 24V SCR MODULATING CONTROLS	THERMOLEC	MSC0-03LS	208 V	1	ELEC.	20,470 Btu/h	0.0 ton		DIV. 23	
FFE Ground Floor	FFH-21	DH-4	1	DUCT HEATER / 30kW / 18"x16" DUCT / 24V SCR MODULATING CONTROLS	THERMOLEC	MSC0-30LS	208 V	3	ELEC.	102,360 Btu/h	0.0 ton		DIV. 22	
FFE Lower Level	FC-1-25	DHWT-1	1	HOT WATER TANK / ELECTRIC / 66 US GAL. (250L) TOP ENTRY / DUAL ELEMENT / 24 GPH FHR @100F	A. O. SMITH	DEH-66	208 V	3	ELEC.	0 Btu/h	0.0 ton		DIV. 22	
<varies>	<varies>	DHWT-2	3	HOT WATER TANK / 80 US GAL. (303L) / TOP ENTRY / DOUBLE ELEC. ELEMENT	BRADFORD WHITE	E32-80R-3	208 V	1		0 Btu/h	0.0 ton		DIV. 23	
FFE Lower Level	FC-1-02	FC-1	1	VRF / 0.75 TON / INDOOR UNIT / CEILING CONCEALED / c/w CONDENSATE PUMP	HISENSE	AVD-09 LUX2SAH	208 V	1		11,300 Btu/h	0.8 ton	280 CFM	DIV. 23	
1 - Finished Ceiling	FC-1-01	FC-2	1	VRF / 1.25 TON / INDOOR UNIT / CEILING CONCEALED / c/w CONDENSATE PUMP	HISENSE	AVD-15H3FCH	208 V	1		17,100 Btu/h	1.3 ton	425 CFM	DIV. 23	
2 - Finished Ceiling	FC-1-09	FC-3	1	VRF / 1.6 TON / INDOOR UNIT / CEILING CONCEALED / c/w CONDENSATE PUMP	HISENSE	AVD-19H3FCH	208 V	1		21,500 Btu/h	1.6 ton	530 CFM	DIV. 23	
FFE Lower Level	<varies>	HP-1	2	OUTDOOR CONDENSING UNIT / SPLIT HEAT PUMP / 0.75 TON / 208V 1Ø / WINDGUARD / c/w WALL BRKT. (STRUCTURAL BY OTHERS)	HISENSE	AS-09UW3SVEDL-O	208 V	1	ELEC	19,000 Btu/h	1.5 ton	2,000 CFM	DIV. 23	
FFE Lower Level	<varies>	HP-2	4	OUTDOOR CONDENSING UNIT / SPLIT HEAT PUMP / 2 TON / 240V 1Ø / c/w WALL BRACKET SUPPORT (STRUCTURAL BY OTHERS)	HISENSE	AVW-28H3FH-MCO	208 V	1	ELEC	108,000 Btu/h	9.0 ton	3,000 CFM	DIV. 23	
FFE Lower Level	FFH-22	HP-3	1	OUTDOOR CONDENSING UNIT / SPLIT HEAT PUMP / 1 TON / 240V 1Ø / c/w WALL BRACKET SUPPORT (STRUCTURAL BY OTHERS)	HISENSE	AS-12UW3SXEDL-O	208 V	1	ELEC	13,000 Btu/h	1.0 ton	2,000 CFM	DIV. 23	
<varies>	<varies>	HRV-1	4	ENERGY RECOVERY VENTILATOR / LOW PROFILE / COLD CLIMATE	PANASONIC	FV-10VEC1	120 V	1		0 Btu/h	0.0 ton	100 CFM	DIV. 23	
<varies>	<varies>	KH-1	3	KITCHEN EXHAUST HOOD / DOMESTIC / UNDER CABINET / 30" / S.S. / c/w UNDER LIGHTS / DUCTLESS RECIRCULATING / c/w CHARCOAL FILTER	BROAN	BCS330SSC	120 V	1		0 Btu/h	0.0 ton	300 CFM	DIV. 23	
FFE Ground Floor	FFH-19	PS-1	1	ROOM STATIC PRESSURE SENSOR / WALL MOUNT / 0-10VDC	EH PRICE	ROOM STATIC	24 V			0 Btu/h	0.0 ton		DIV. 23	
										340,890 Btu/h	15.2 ton			

(COVER-M) Thermostat Schedule - (New)

Level	Mark	Type Mark	Qty.	Description	Manufacturer	Rm. #	Supplied By
FFE Lower Level	FC-1-21	TS-1	1	THERMOSTAT / PROGRAMMABLE / TOUCH SCREEN	HISENSE		DIV. 23
FFE Ground Floor	<varies>	TS-1	2	THERMOSTAT / PROGRAMMABLE / TOUCH SCREEN	HISENSE	<varies >	DIV. 23
2 - Floor	FFH-14	TS-1	1	THERMOSTAT / PROGRAMMABLE / TOUCH SCREEN	HISENSE	224	DIV. 23
Grand total			4				

DIVISION 22 - (PLUMBING)

SEE PLUMBING PLANS FOR FULL SCHEDULES

(COVER-P) Plumbing Fixture Schedule Summary - (New)

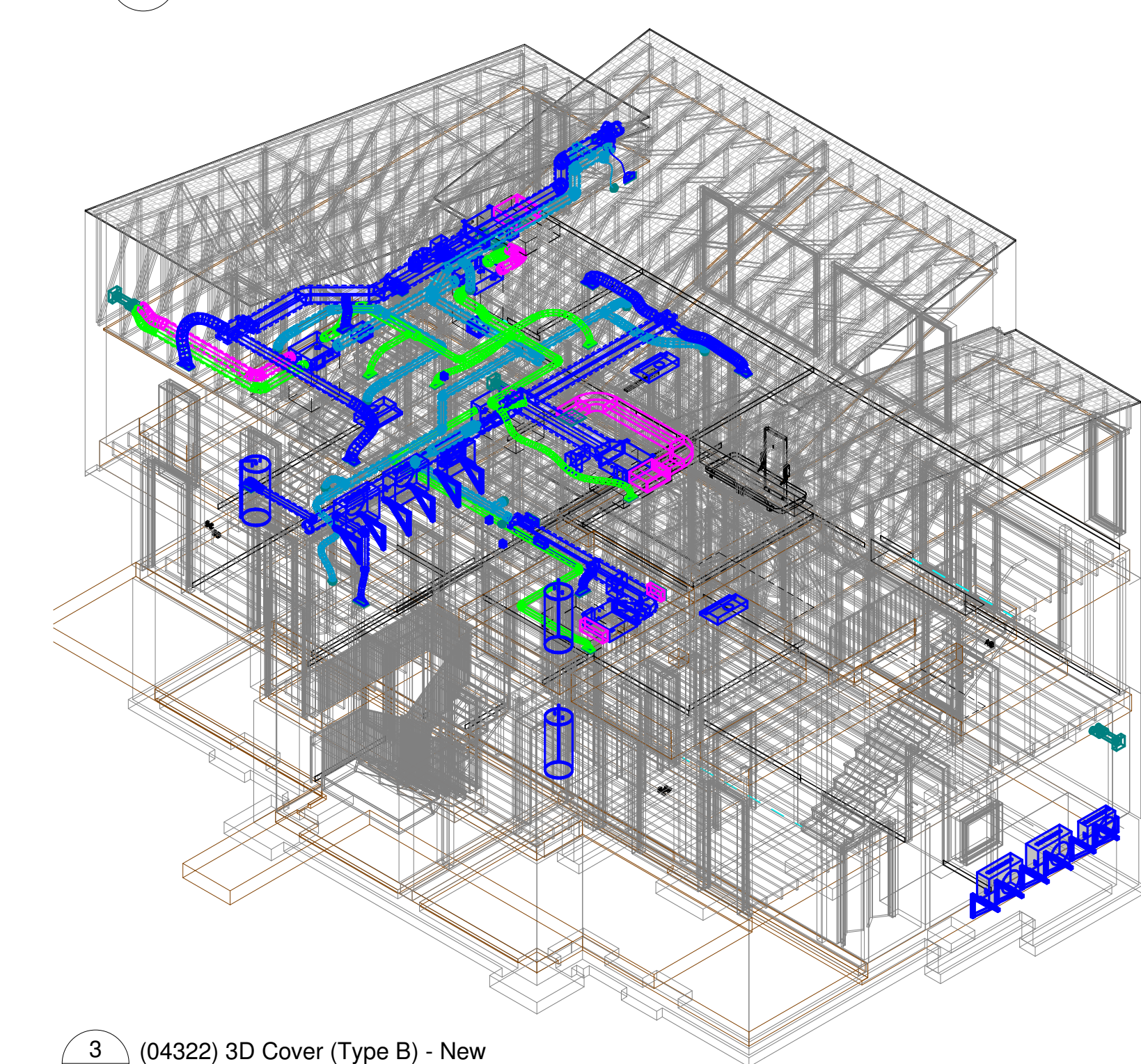
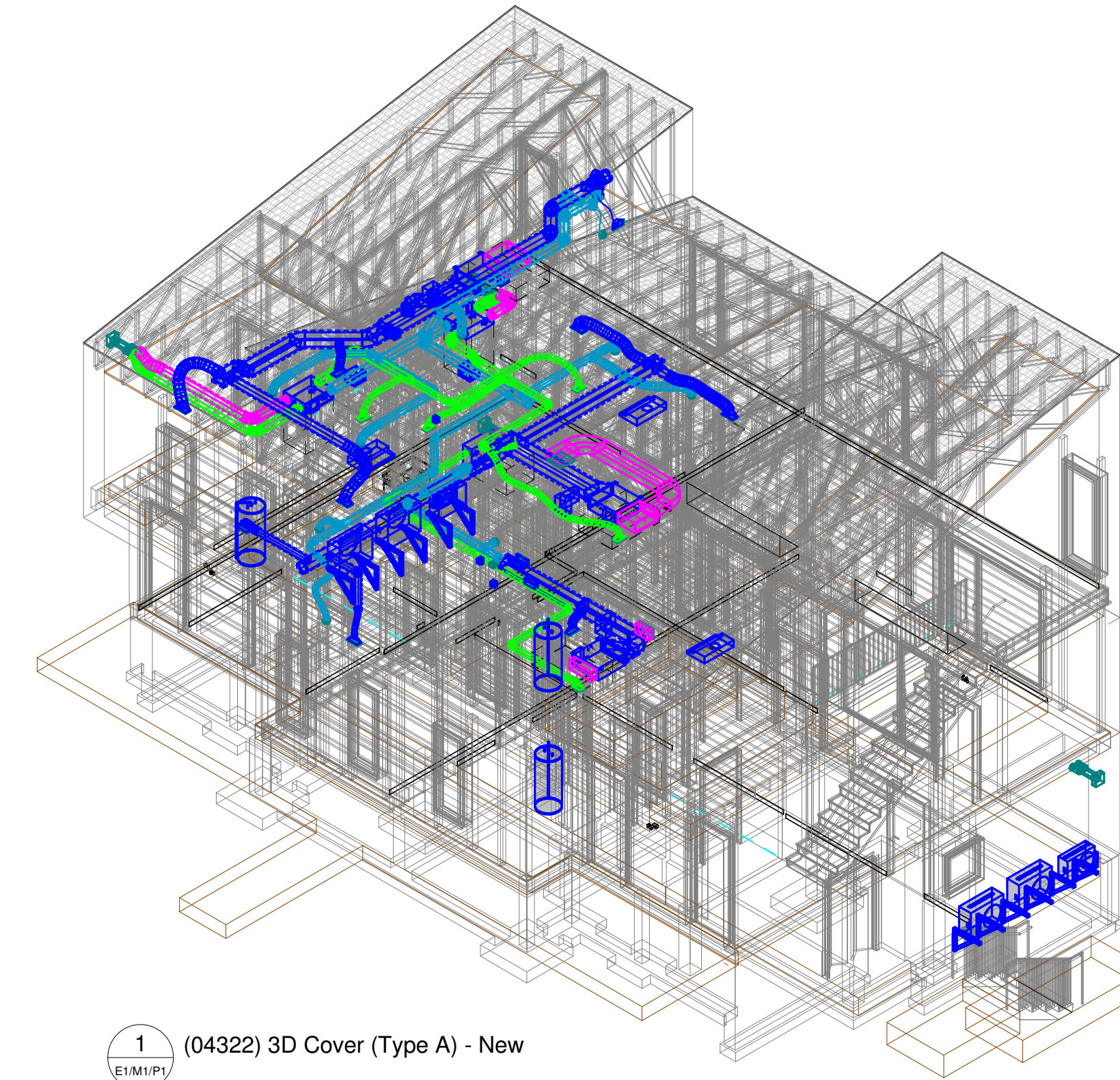
Level	Type Mark	Qty.	Description	Manufacturer	Barrier-Free (Blank = N/A)	Supplied By
FFE Lower Level	BF-1	1	BACKFLOW PREVENTER / "DCVA" TYPE / 2" CONN. / HORIZ. MNT.	WATTS		Div. 22
FFE Lower Level	BF-2	1	BACKFLOW PREVENTER / "DCVA" TYPE / 1" CONN. / HORIZ. MNT.	WATTS		Div. 22
FFE Ground Floor	CO-3F	1	3"Ø C/O / FINISHED	SEE PROJECT SPEC.		DIV. 22
FFE Lower Level	CO-4F	2	4"Ø C/O / FINISHED	SEE PROJECT SPEC.		DIV. 22
FFE Ground Floor	FD-2F	1	FLOOR DRAIN / 2" / FINISHED c/w TRAP & PRIMER	SEE PROJECT SPEC.		DIV. 22
<varies>	FD-3F	3	FLOOR DRAIN / 3" / FINISHED c/w TRAP & PRIMER	SEE PROJECT SPEC.		DIV. 22
FFE Lower Level	FD-3U	1	FLOOR DRAIN / 3" / UNFINISHED c/w TRAP & PRIMER	SEE PROJECT SPEC.		DIV. 22
FFE Ground Floor	HB-1	2	HYDRANT / NON-FREEZE / 12" WALL THICKNESS/ 3/4" NOM. / c/w VACUUM BREAKER / KEY LOCK	WATTS		DIV. 22
FFE Lower Level	MS-1	1	SINK / JANITOR / FLOOR MNT. / PRECAST TERRAZZO / 24"x24"x12" / 3" DRAIN	FIAT		DIV. 22
<varies>	SH-1	2	SHOWER/ 5 PIECE / c/w GRAB BARS & SEAT / HANDHELD SHOWER VALVE	LONGEVITY	Yes	DIV. 22
2 - Floor	SH-2	1	SHOWER / c/w HEAD & CONTROLS	LONGEVITY	No	DIV. 22
<varies>	SNK-1	3	SINK / KITCHEN / DBL. BOWL / 7" DEEP / STAINLESS STEEL / DECK MNT. / SINGLE HANDLE FAUCET	KINDRED		DIV. 22
<varies>	SNK-2	3	LAVATORY / DROP IN / SINGLE HANDLE STD. FAUCET	AMERICAN STD.		DIV. 22
FFE Ground Floor	SNK-3	1	LAVATORY / B.F. / WALL MNT. @ 34" TO RIM / SINGLE HANDLE STD. FAUCET	AMERICAN STD.	Yes	DIV. 22
FFE Ground Floor	WB-1	4	WALL BOX / LAUNDRY / LEAD FREE / 1/2" SUPPLIES / c/w WATER HAMMER ARRESTOR	OATEY		DIV. 22
FFE Ground Floor	WC-1	1	TOILET / B.F. / PUBLIC / BOWL, ELONG., 16 1/2" AFF / FLOOR MNT. / LINED TANK / OPEN SEAT NO COVER	AMERICAN STD.	Yes	DIV. 22
<varies>	WC-2	3	TOILET / PRIVATE / BOWL, ELONG., 15" AFF. / FLOOR MOUNT / LINED TANK / OPEN SEAT c/w COVER	AMERICAN STD.	Yes	DIV. 22
FFE Lower Level	WM-1	1	WATER METER	BY AHJ	Yes	BY AHJ
<varies>	WM-2	3	WATER METER / TENANT SUB-METER c/w REMOTE READOUT	BY CONTRACTOR	Yes	DIV. 22
FFE Lower Level	WM-3	1	WATER METER / TENANT SUB-METER c/w REMOTE READOUT	BY CONTRACTOR	Yes	DIV. 22
Grand total		36				

DIVISION 26 - (ELECTRICAL)

SEE ELECTRICAL PLANS FOR FULL SCHEDULES

(COVER-E) Lighting Fixture Schedule - (New)

Level	Type Mark	Qty.	Description	Manufacturer	Voltage	Supplied By	Comments (Controls)
1 - Finished Ceiling		1	OCCUPANCY SENSOR w/ TIMER / CEILING MOUNTED	WATTSTOPPER	120 V	DIV. 26	
<varies>	A1	4	LUMINAIRE / INDOOR / LINEAR / SURFACE / 24" LENGTH / LED DIRECT	LITHONIA LIGHTING	120 V	DIV. 26	
<varies>	A2	6	LUMINAIRE / INDOOR / LINEAR / SURFACE / 48" LENGTH / LED DIRECT	LITHONIA LIGHTING	120 V	DIV. 26	
<varies>	B	4	LUMINAIRE / INDOOR / VANITY / WALL / 24" LENGTH / LED DIRECT	LITHONIA LIGHTING	120 V	DIV. 26	
<varies>	C	3	LUMINAIRE / INDOOR / LINEAR / WALL / 48" LENGTH / LED DIRECT	LITHONIA LIGHTING	120 V	DIV. 26	
<varies>	E1	4	EXIT SIGN COMBO / c/w BATT. & DBL. EMERG. LIGHT / CEILING / GREEN PICTOGRAM / SINGLE FACE / STRAIGHT-THRU / 120V / 12V-80W BATTERY / 12V-6W LED / WHITE	LUMACELL	120 V	DIV. 26	
FFE Ground Floor	E2	1	EMERG. LIGHT / WALL / REMOTE DOUBLE HEAD / 12V / WHITE	LUMACELL	12 V	DIV. 26	
FFE Ground Floor	E3	1	EMERG. LIGHT / WALL / REMOTE SINGLE HEAD / 12V / WHITE	LUMACELL	12 V	DIV. 26	
1 - US Landing	E4	1	EXIT SIGN COMBO / c/w BATT. & DBL. EMERG. LIGHT / CEILING / GREEN PICTOGRAM / DOUBLE FACE / RIGHT ARROW / 120V / 12V-80W BATTERY / 12V-6W LED / WHITE	LUMACELL	120 V	DIV. 26	
<varies>	K	10	LUMINAIRE / INDOOR / TAPE / SURFACE / 18" LENGTH / LED DIRECT	LITHONIA LIGHTING	120 V	DIV. 26	
<varies>	L1	2	LUMINAIRE / INDOOR / DOME / SURFACE / 11" / LED DIRECT	LITHONIA LIGHTING	120 V	DIV. 26	
<varies>	L2	18	LUMINAIRE / INDOOR / DOME / SURFACE / 14" / LED DIRECT	LITHONIA LIGHTING	120 V	DIV. 26	
FFE Ground Floor	LP1	7	LUMINAIRE / OUTDOOR / POLE LIGHT / SINGLE / RECT. HEAD / LED DIRECT	LUMENPULSE	120 V	DIV. 26	
FFE Ground Floor	LP2	2	LUMINAIRE / OUTDOOR / POLE LIGHT / SINGLE / RECT. HEAD / LED DIRECT	LUMENPULSE	120 V	DIV. 26	
FFE Ground Floor	LP3	14	LUMINAIRE / OUTDOOR / BOLLARD / 4 - WAY / LED DIRECT	LUMENPULSE	120 V	DIV. 26	
<varies>	LW1	24	LUMINAIRE / OUTDOOR / WALL PACK / WALL / LED DIRECT	LITHONIA LIGHTING	120 V	DIV. 26	
FFE Ground Floor	LW2	3	LUMINAIRE / OUTDOOR / WALL PACK / WALL / LED DIRECT	LITHONIA LIGHTING	120 V	DIV. 26	
2 - Floor	P	4	LUMINAIRE / INDOOR / PENDANT / SUSPENDED / LED DIRECT	LITHONIA LIGHTING	120 V	DIV. 26	
1 - Finished Ceiling	TC	1	ASTRONOMIC TIME SWITCH	INTERMATIC	120 V	DIV. 26	
Grand total		110					



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E1/M1/P1	Project Cover
E2/M2/P2	Project Cover
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M-4	HVAC - Specifications
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M-6	HVAC - Scope of Work
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M-8	HVAC - Bldg. 2
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M-10	HVAC - Bldg. 4
M-11	HVAC - Bldg. 5
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E-8	Power/Comm - Bldg. 1
E-9	Elec. Lighting - Bldg 1
E-10	Power/Comm - Bldg. 2
E-11	Elec. Lighting - Bldg 2
E-12	Power/Comm - Bldg. 3
E-13	Elec. Lighting - Bldg 3
E-14	Power/Comm - Bldg. 4
E-15	Elec. Lighting - Bldg 4
E-16	Power/Comm - Bldg. 5
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NORTHSTAR PROJECT

HVAC, PLUMBING, ELECTRICAL DESIGN DRAWINGS



Client:	WW Inc.
Address:	Minden, ON
Project Name:	Gull River Affordable Housing
Dwg. Name:	Project Cover
NSET Project #:	04322
Drawn by:	Northstar Eng.
Checked by:	J.D.L.
Scale:	AS NOTED
Revision:	6.0
Drawing #:	E1/M1/P1
Project Date:	Jan. 14/22
Arch-D:	(24' x 36')



NORTHSTAR PROJECT

HVAC, PLUMBING,
ELECTRICAL & FIRE
PROTECTION
DESIGN DRAWINGS



92 Caplan Ave. Suite #517
Barrie, Ontario L4N 9J2
Tel. (705) 719-1003 Fax (705) 719-0490
dlong@nset.ca www.nset.ca

Client: WW Inc.

Address: Minden, ON

Project Name: Gull River Affordable Housing

Dwg. Name: Project Cover

NSET Project #: 04322

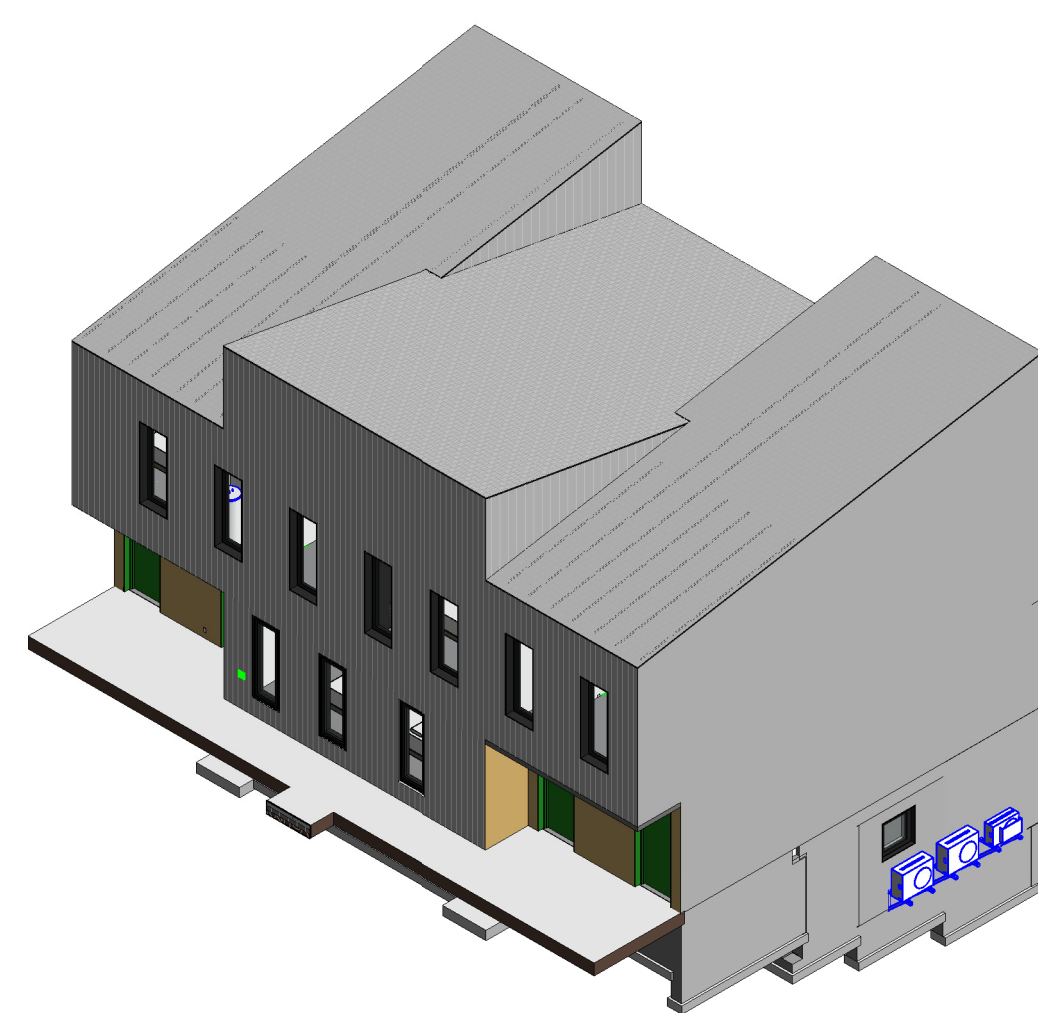
Drawn by: Northstar Eng. Checked by: Checker

Scale: AS NOTED Revision 5.0

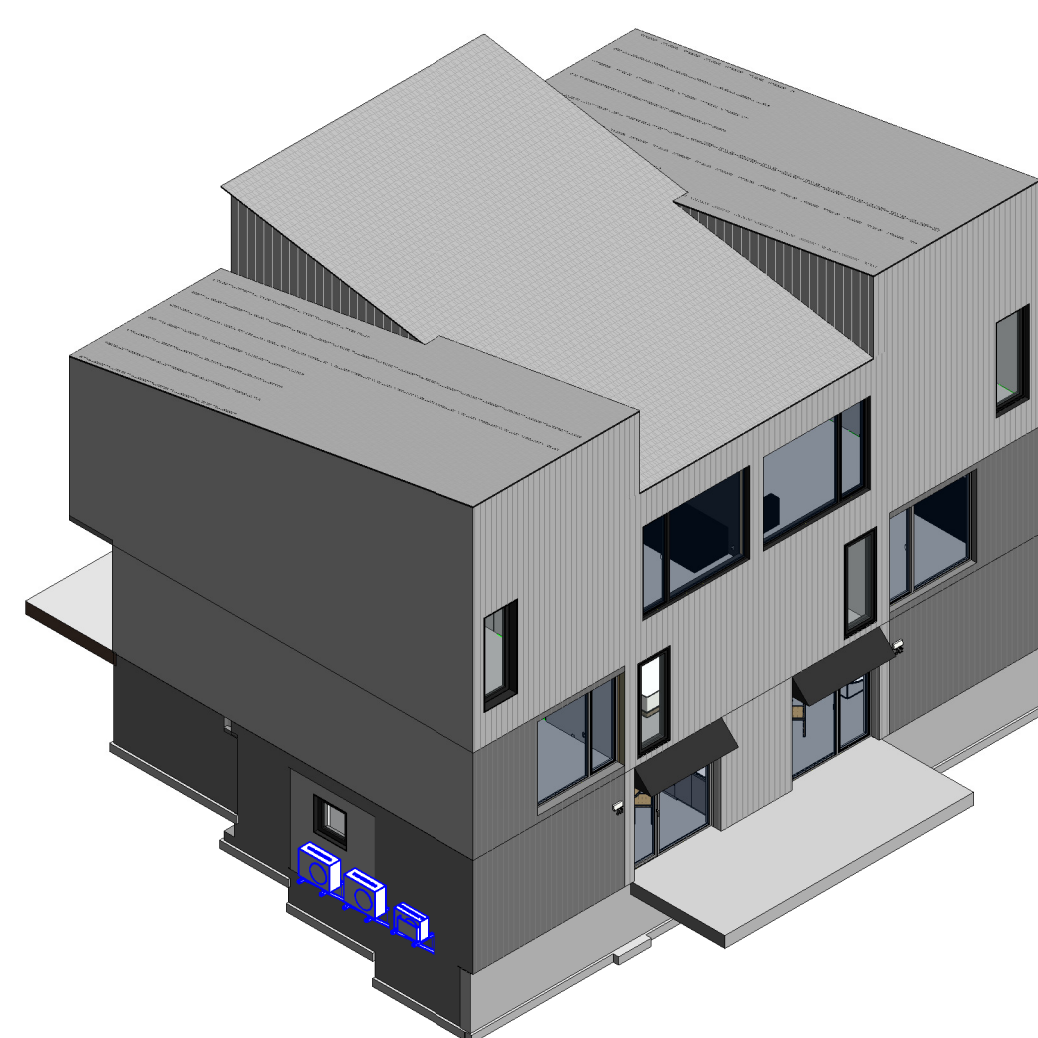
Drawing #: E2/M2/P2

Project Date: Jan. 14/22 Arch-D (24"x36")

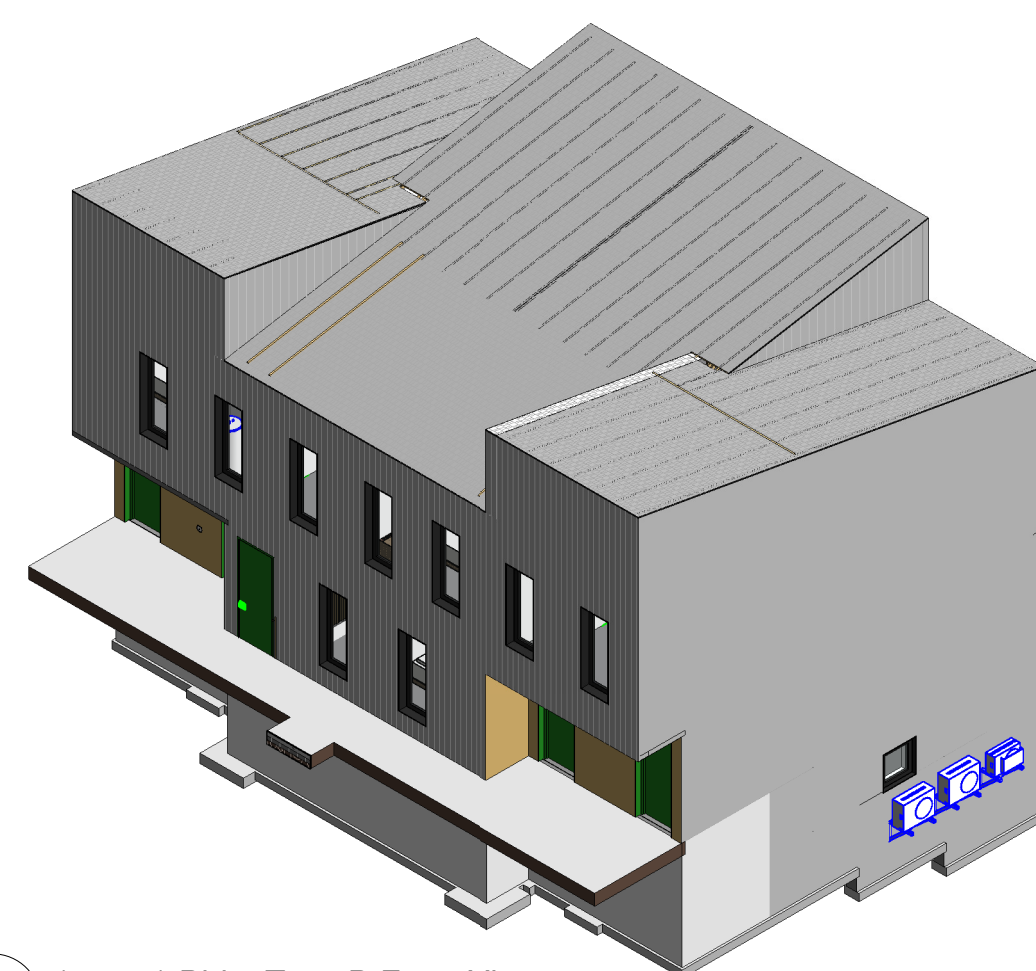
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E-8	Power/Comm - Bldg. 1
E-9	Elec. Lighting - Bldg. 1
E-10	Power/Comm - Bldg. 2
E-11	Elec. Lighting - Bldg. 2
E-12	Power/Comm - Bldg. 3
E-13	Elec. Lighting - Bldg. 3
E-14	Power/Comm - Bldg. 4
E-15	Elec. Lighting - Bldg. 4
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E-20	Elec. Typical Building
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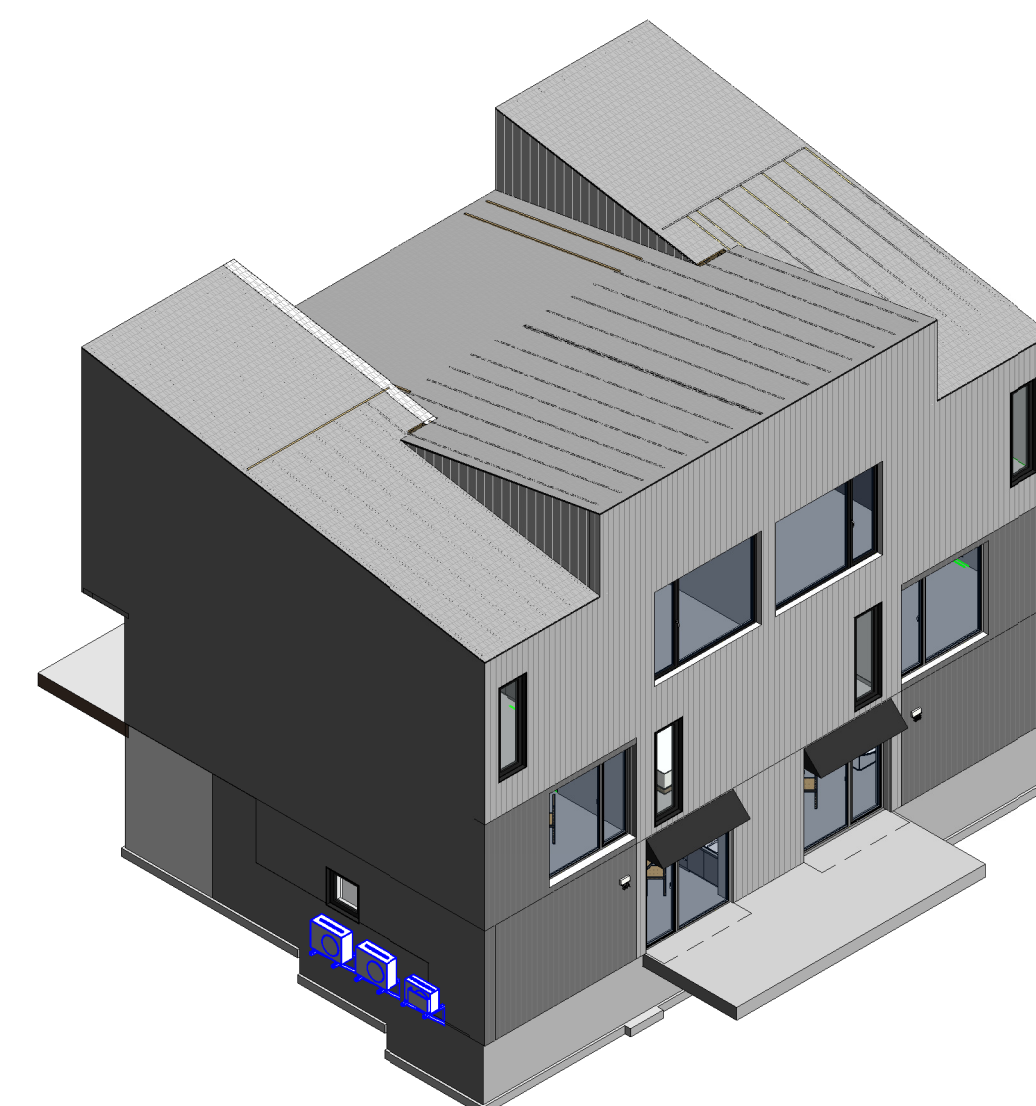
3 (04322) Bldg. Type A Front View
E2/M2/P2 N.T.S.



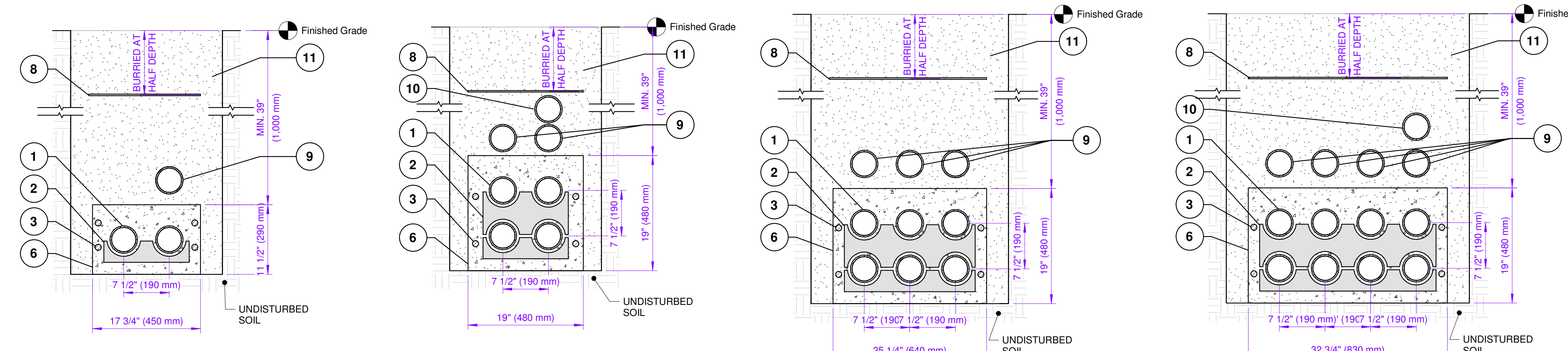
4 (04322) Bldg. Type A Rear View
E2/M2/P2 N.T.S.



5 (04322) Bldg. Type B Front View
E2/M2/P2 N.T.S.

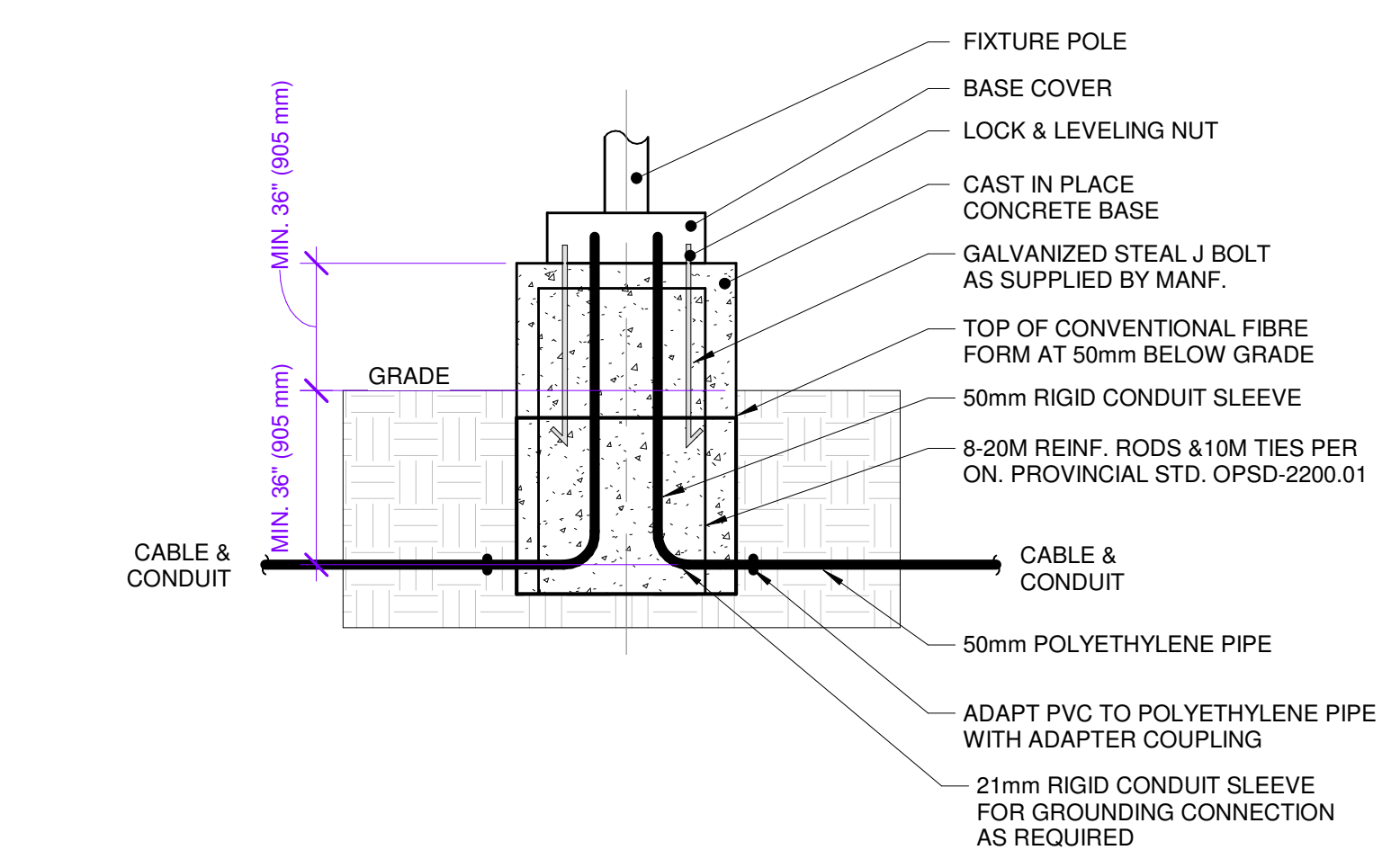


6 (04322) Bldg. Type B Rear View
E2/M2/P2 N.T.S.

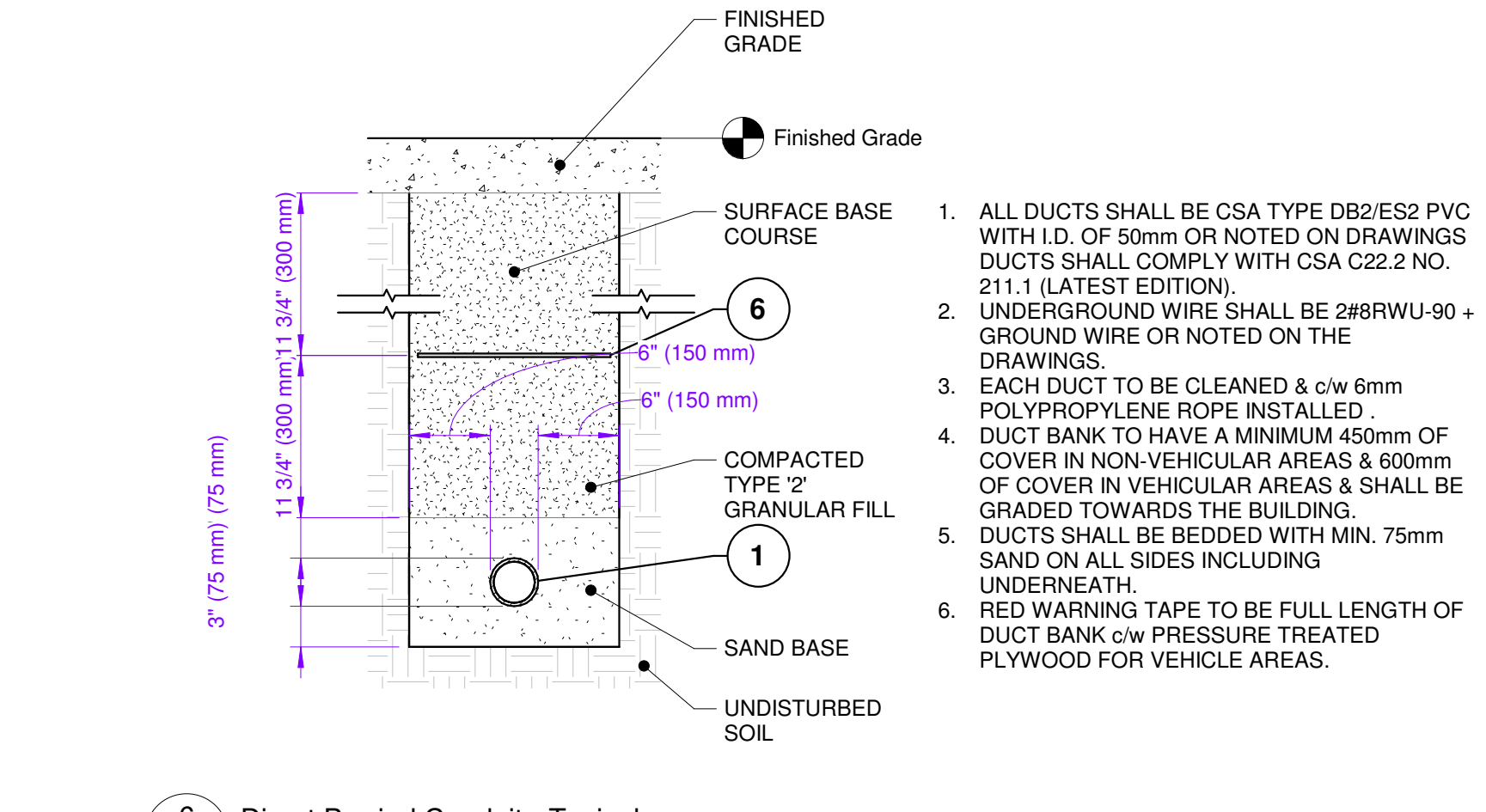


2 Concrete Encased Duct Bank - 2 Duct N.T.S.
 3 Concrete Encased Duct Bank - 4 Duct N.T.S.
 4 Concrete Encased Duct Bank - 6 Duct N.T.S.
 5 Concrete Encased Duct Bank - 8 Duct N.T.S.

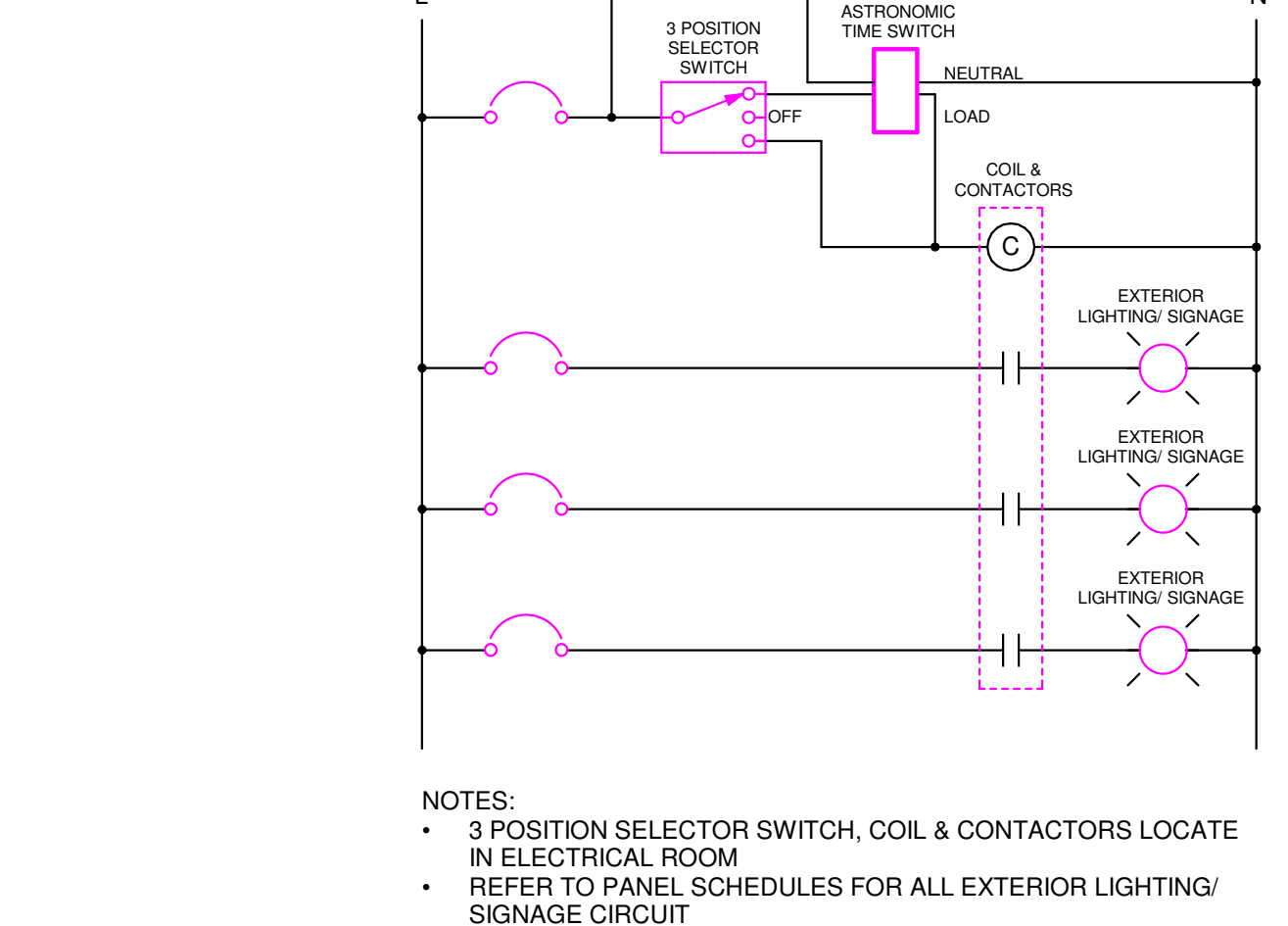
- ALL DUCTS SHALL BE CSA TYPE DB2/ES2 PVC WITH I.D. OF 102mm DUCTS SHALL COMPLY WITH CSA C22.2 NO. 211.1 (LATEST EDITION).
- APPROVED PRE-FABRICATED DUCT SPACER & HOLDERS.
- THE DUCT RUN TO BE REINFORCED, 15mm (1/2") REINFORCING RODS TO BE PLACED MIN. 50mm ABOVE BOTTOM OF SPACERS.
- EACH DUCT TO BE CLEANED & c/w 6mm POLYPROPYLENE ROPE INSTALLED.
- PROVIDE ADEQUATE DRAINAGE TO MEET OESC RULE 6-312.
- THE DUCTS SHALL BE ENCASED WITH 20MPA GRADE CONCRETE WITH MIN. COVER OF 75mm FROM EXTERIOR WALLS OF DUCTS ON ALL SIDES.
- DUCT BANK TO HAVE A 1m OF COVER & TO BE GRADED TOWARDS THE CURB.
- RED WARNING TAPE TO BE FULL LENGTH & WIDTH OF DUCT BANK.
- SUITE 102mm COMM. DUCT (AS REQUIRED)
- INCOMING 102mm COMM. DUCT (AS REQUIRED)
- TRENCHING & BACK FILL BY GENERAL TRADES CONTRACTOR.
- EXACT CONSTRUCTION DETAILS TO CONFORM TO LOCAL UTILITIES REQUIREMENTS & DETAILS.



8 Pole Bases / Light Pole Standard N.T.S.



6 Direct Buried Conduit - Typical N.T.S.



7 Exterior Lighting Control - Astronomic Timer N.T.S.

- ALL DUCTS SHALL BE CSA TYPE DB2/ES2 PVC WITH I.D. OF 50mm OR NOTED ON DRAWINGS. DUCTS SHALL COMPLY WITH CSA C22.2 NO. 211.1 (LATEST EDITION).
- UNDERGROUND WIRE SHALL BE #28RWU-90 + GROUND WIRE OR NOTED ON THE DRAWINGS.
- EACH DUCT TO BE CLEANED & c/w 6mm POLYPROPYLENE ROPE INSTALLED.
- DUCT BANK TO HAVE A MINIMUM 450mm OF COVER IN NON-VEHICULAR AREAS & 600mm OF COVER IN VEHICULAR AREAS & SHALL BE GRADED TOWARDS THE BUILDING.
- DUCTS SHALL BE BEDDED WITH MIN. 75mm SAND ON ALL SIDES INCLUDING UNDERNEATH.
- RED WARNING TAPE TO BE FULL LENGTH OF DUCT BANK c/w PRESSURE TREATED PLYWOOD FOR VEHICLE AREAS.

NOTES:
 • 3 POSITION SELECTOR SWITCH, COIL & CONTACTORS LOCATE IN ELECTRICAL ROOM
 • REFER TO PANEL SCHEDULES FOR ALL EXTERIOR LIGHTING/SIGNAGE CIRCUIT

(04322) PROJECT DRAWING REGISTER	
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E-13	Elec. Lighting - Bldg. 3
E-14	Power/Comm - Bldg. 4
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NORTHSTAR
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GENERAL DRAWING / DESIGNER NOTES:

(1) ALL CONSTRUCTION METHODS AND MATERIALS TO CONFORM TO THE LATEST EDITION OF THE PROVINCE OF ONTARIO'S BUILDING CODE, LOCAL REGULATIONS AND AUTHORITIES HAVING JURISDICTION.

(2) THE CONSULTANT RESERVES THE RIGHT TO MAKE REASONABLE CHANGES IN ORDER TO ACCOMMODATE CONDITIONS ARISING DURING CONSTRUCTION FOR ADDITIONAL FEES. ADDITIONAL CONSTRUCTION COSTS ARISING FROM SUCH CHANGES MAY APPLY AND ARE TO BE NEGOTIATED BETWEEN THE OWNER AND CONTRACTOR.

(3) DRAWINGS ONLY SHOW GENERAL INTENT AND SCOPE OF WORK. EXACT DETAILS OF INSTALLATIONS ARE TO BE PROVIDED BY CONTRACTOR(S). DO NOT SCALE DRAWINGS.

(4) CONTRACTOR/AGENT/OWNER TO REPORT ALL DISCOVERIES OF ERRORS, OMISSIONS OR DISCREPANCIES TO THE DESIGNER.

(5) PROCEED WITH CONSTRUCTION ONLY USING THE LATEST REVISED DRAWINGS MARKED "ISSUED FOR CONSTRUCTION".

(6) THIS DRAWING IS SPECIFIC TO THIS PROJECT AND CANNOT BE USED FOR OTHER "SIMILAR" PROJECTS.

(7) THIS DRAWING IS THE PROPERTY OF NORTHSTAR ENGINEERING & TECHNOLOGIES LTD. UN-AUTHORIZED RE-PRODUCTION OR USE IS PROHIBITED.

(8) SHOP DRAWINGS: BASED ON CONTRACT WITH OWNER, THE ENGINEER WILL REVIEW SHOP SUBMISSION DWGS FROM THE CONTRACTOR TO REVIEW THE ITEMS FOR GENERAL CONFORMANCE TO THE DESIGN DWGS. THE SHOP DWG REVIEW WILL NOT RELEASE THE CONTRACTOR FROM RESPONSIBILITY TO MAKE A FEASIBLE WORKING SYSTEM. THESE SHOP DRAWINGS SHALL CONSIST OF PLUMBING FIXTURES, HVAC EQUIPMENT, HVAC DIFFUSERS, MINIMUM 1/2 WEEKS FOR COMPLETION BASED ON COMPLEXITY.

(9) THE DESIGNER DOES NOT ACCEPT RESPONSIBILITY FOR OTHER DESIGNERS WORK IN ASSOCIATION WITH THIS PROJECT.

(10) RESPONSIBILITY FOR ANY FINAL ASSEMBLYS THAT VIOLATE APPLICABLE BUILDING CODES IS NOT ACCEPTED BY THE DESIGNER.

(11) REQUESTS FOR CHANGES OR SUBSTITUTIONS TO EQUIPMENT, PLANS AND/OR SPECIFICATIONS WILL BE SUBJECT TO ADDITIONAL FEES CHARGED BY THE CONSULTANT.

(12) SITE VISITS TO REVIEW IMPLEMENTED DESIGNS WITHIN THE SCOPE OF THIS PROJECT TO BE ARRANGED WITH THE OWNER.

(13) MINIMUM FORTY EIGHT (48) HOURS PRIOR NOTICE TO BE PROVIDED FOR SITE VISITS - ONCE ARRANGED.

(14) REQUESTS FOR THE RELEASE OF THIS DRAWING SET FROM NORTHSTAR ENGINEERING & TECHNOLOGIES LTD. FOR THE PURPOSE OF TENDERING PURPOSES BY ANY CONTRACTOR TO BE MADE BY THE OWNER OR ARCHITECT IN WRITING.

(15) TENDER PRICING BY CONTRACTORS OF DRAWINGS TO BE BASED ON DWGS MARKED "ISSUED FOR TENDER" OR "ISSUED FOR CONSTRUCTION" ONLY.

(16) ALL REQUESTS FOR DESIGN CHANGES / SUBSTITUTIONS TO BE MADE IN WRITING. ADDITIONAL FEES MAY APPLY. ALLOW MINIMUM (1) ONE WEEK TO REVIEW AND RESPOND TO CHANGE REQUESTS.

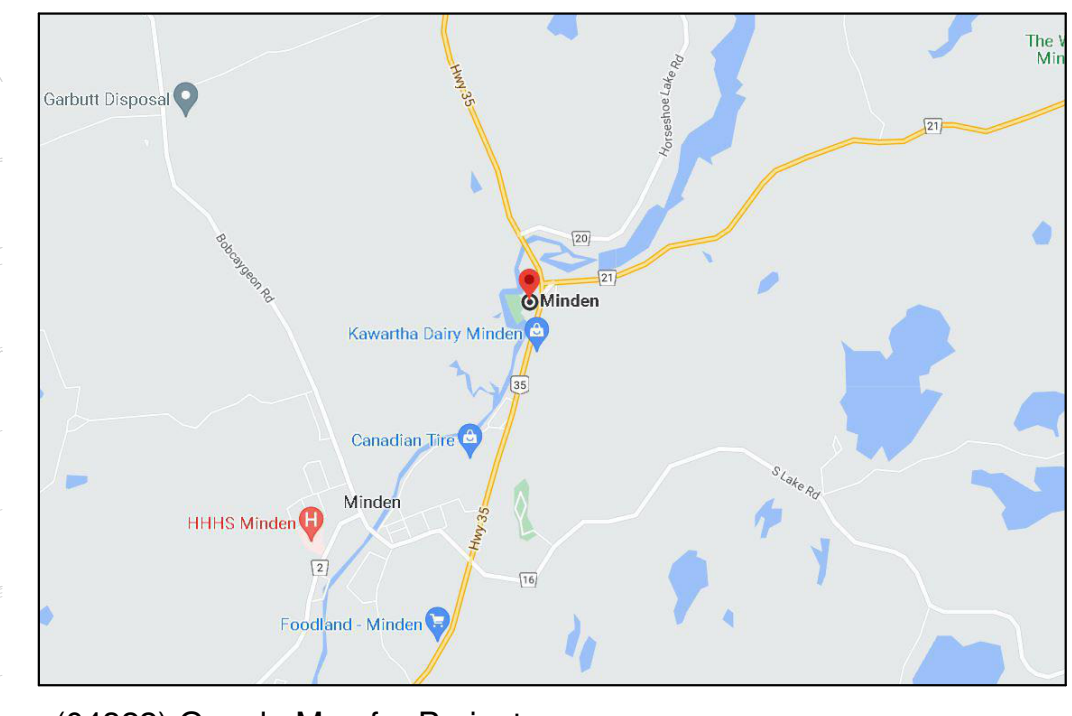
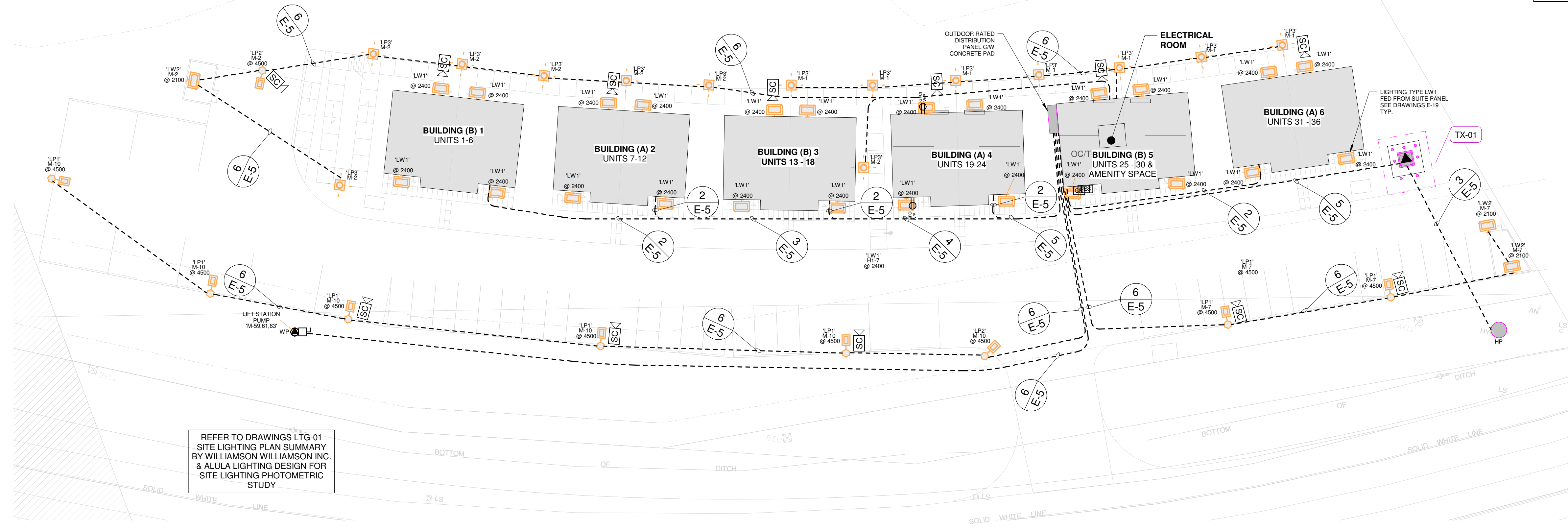
(MASTER-E) Lighting Fixture Schedule - Exterior Only																
Level	Type	Qty.	Description	Fixture Finish	Color Temperature	Lumens	Voltage	VA	Manufacturer	Part #	Elevation of Light Source	Mounting Comments	Accessory 1	Lamping	Supplied By	Approved Alternate
FFE Lower Level	LW1	12	LUMINAIRE / OUTDOOR / WALL PACK / WALL / LED DIRECT	BLACK	3000 K	1164 lm	120 V	10 VA	LITHONIA LIGHTING	WDGE1-P1-10W-80CRI-VF-PE	94 1/2"	WALL	PHOTOCCELL	LED 10W	DIV. 26	APPROVED EQUAL
FFE Ground Floor	LP1	7	LUMINAIRE / OUTDOOR / POLE LIGHT / SINGLE / RECT. HEAD / LED DIRECT	BLACK	3000 K	5022 lm	120 V	11.5 VA	LUMENPULSE	BLDM-SD-X-CSL-M100-30K-CR180-4BLS-X-DIM-X-X	177 1/8"	WALL	PHOTOCCELL	LED 115W	DIV. 26	APPROVED EQUAL
FFE Ground Floor	LP2	2	LUMINAIRE / OUTDOOR / POLE LIGHT / SINGLE / RECT. HEAD / LED DIRECT	BLACK	3000 K	5803 lm	120 V	80 VA	LUMENPULSE	BLDM-SD-X-CSL-M80-30K-CR180-4-X-DIM-X-X	177 1/8"	WALL	PHOTOCCELL	LED 80W	DIV. 26	APPROVED EQUAL
FFE Ground Floor	LP3	14	LUMINAIRE / OUTDOOR / BOLLARD / 4-WAY / LED DIRECT	BLACK	3000 K	850 lm	120 V	11 VA	LUMENPULSE	LIB-X-CSL-SO-30K-CR180-2-X-X-NO-X		WALL	PHOTOCCELL	LED 11W	DIV. 26	APPROVED EQUAL
FFE Ground Floor	LW1	12	LUMINAIRE / OUTDOOR / WALL PACK / WALL / LED DIRECT	BLACK	3000 K	1164 lm	120 V	10 VA	LITHONIA LIGHTING	WDGE1-P1-10W-80CRI-VF-PE	94 1/2"	WALL	PHOTOCCELL	LED 10W	DIV. 26	APPROVED EQUAL
FFE Ground Floor	LW2	3	LUMINAIRE / OUTDOOR / WALL PACK / WALL / LED DIRECT	BLACK	3000 K	800 lm	120 V	8 VA	LITHONIA LIGHTING	LIL LED-30K-MVOLT-PE-BB-X	82 5/8"	WALL	PHOTOCCELL	LED 8.4W	DIV. 26	APPROVED EQUAL
		50														

EXTERIOR LIGHTING LEGEND	
	LUMINAIRE - EXTERIOR WALL PACK - WALL MOUNTED - LED
	LUMINAIRE - EXTERIOR POLE LIGHT - SINGLE HEAD - RECTANGULAR HEAD - LED
	LUMINAIRE - EXTERIOR BOLLARD - LED

SECURITY LEGEND	
	SECURITY CAMERA
	ELECTRIC LOCK
	KEYPAD ACCESS
	CARD READER
	MOTION SENSOR
	DOOR CONTACT
	PUSH TO EXIT
	SECURITY PANEL
	MAG - LOCK DOOR
	AUTOMATIC DOOR CONTROL

NOT ALL SYMBOLS APPLY TO FLOOR PLANS / DRAWINGS SEE SPECIFICATIONS FOR ALL CABLE TYPES

DRAWING REVISIONS		
No.	Description	Date
2	Issued for Review	Apr. 22/22
3	Preliminary for Review	Sep. 09/22
4	Issued for Permit	Oct. 05/22
5	Issued for Tender	May 18/23
6	Re-Issued for Tender	Dec. 20/24



1 (04322) Site - Electrical Plan - New N.T.S.

Engineer's Seal:

Client: **WW Inc.**

Address: **Minden, ON**

Project Name: **Gull River Affordable Housing**

Dwg. Name: **Electrical Site Plan**

NSET Project #: **04322**

Drawn by: Northstar Eng. Checked by: D.B.D.

Scale: As indicated Revision #: 6.0

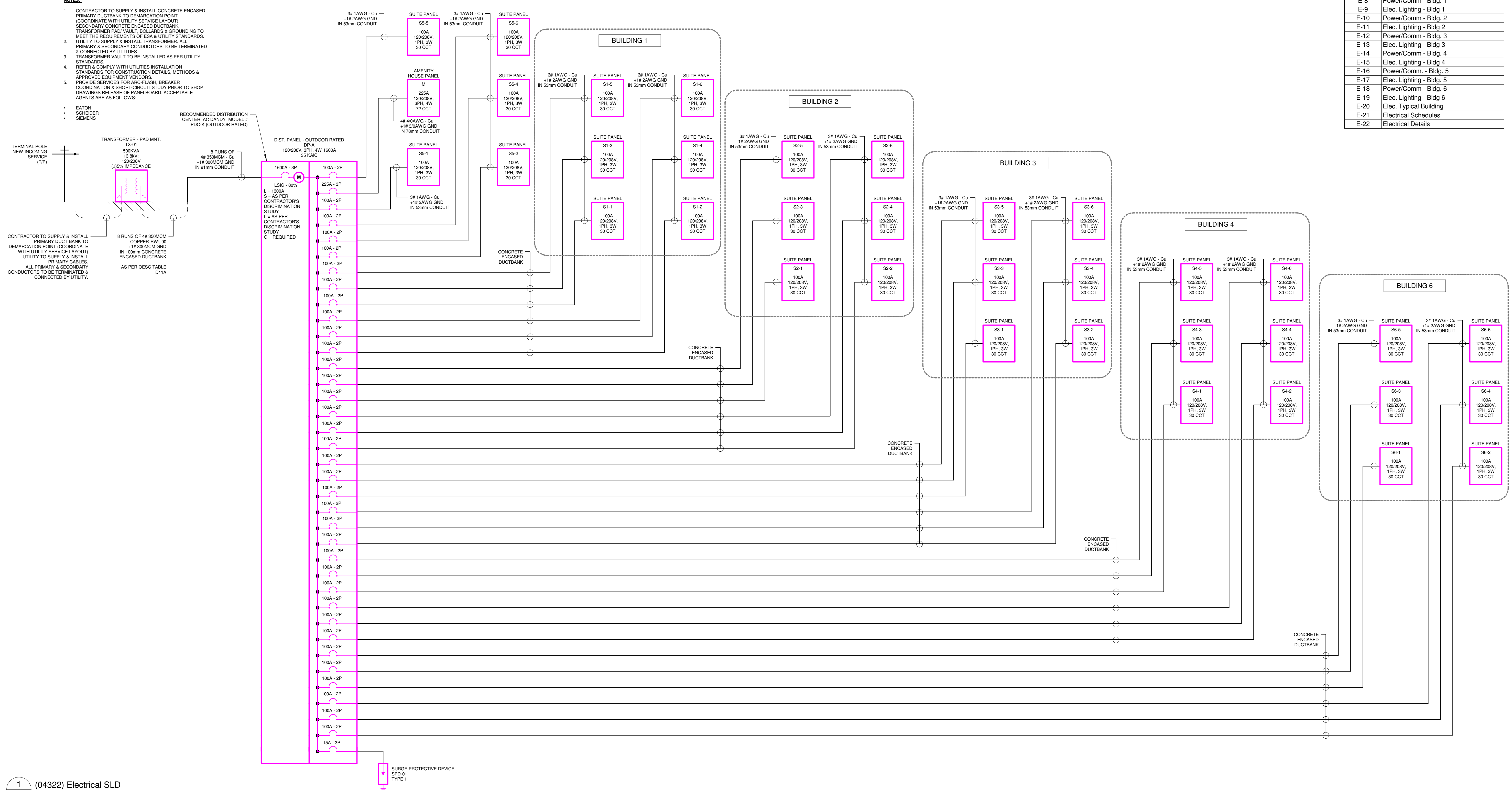
Drawing #: **E-6**

Project Date: Jan. 14/22 Arch-D (24" x 36")

(04322) PROJECT DRAWING REGISTER	
Sheet #	Sheet Name
E1/M1/P1	Project Cover
E2/M2/P2	Project Cover
M-3	HVAC - Specifications
M-4	HVAC - Specifications
M-5	HVAC - Scope of Work
M-6	HVAC - Scope of Work
M-7	HVAC - Bldg. 1
M-8	HVAC - Bldg. 2
M-9	HVAC - Bldg. 3
M-10	HVAC - Bldg. 4
M-11	HVAC - Bldg. 5
M-12	HVAC - Bldg. 6
M-13	HVAC - Isometric & Elevation Views
M-14	HVAC Details
P-3	Plumbing - Specifications
P-4	Plumbing - Specifications
P-5	Plumbing - Site Plan
P-6	Plumbing - Bldg. 1
P-7	Plumbing - Bldg. 2
P-8	Plumbing - Bldg. 3
P-9	Plumbing - Bldg. 4
P-10	Plumbing - Bldg. 5
P-11	Plumbing - Bldg. 6
P-12	Plumbing - Typical Building
P-13	Plumbing - Details
P-14	Plumbing - Water Schematic
P-15	Plumbing - Sanitary Schematic
E-3	Elec. Power - Specifications
E-4	Elec. Power - Specifications
E-5	Elec. Power - Scope of Work
E-6	Electrical Site Plan
E-7	Elec. - SLD
E-8	Power/Comm - Bldg. 1
E-9	Elec. Lighting - Bldg. 1
E-10	Power/Comm - Bldg. 2
E-11	Elec. Lighting - Bldg. 2
E-12	Power/Comm - Bldg. 3
E-13	Elec. Lighting - Bldg. 3
E-14	Power/Comm - Bldg. 4
E-15	Elec. Lighting - Bldg. 4
E-16	Power/Comm - Bldg. 5
E-17	Elec. Lighting - Bldg. 5
E-18	Power/Comm - Bldg. 6
E-19	Elec. Lighting - Bldg. 6
E-20	Elec. Typical Building
E-21	Electrical Schedules
E-22	Electrical Details

COPPER FEEDER SCHEDULE - MAXIMUM CIRCUIT CAPACITY (PER 75°C COLUMN) 1 RUN - COPPER			
FEEDER AMPACITY FOR 3 & 4 WIRE SYSTEMS	CONDUCTOR SIZE (AWG OR KCMIL) PER RUN	3 WIRE CONDUIT SIZE PER RUN	4 WIRE CONDUIT SIZE PER RUN
25 A	#12 AWG	21 (3/4")	21 (3/4")
35 A	#10 AWG	21 (3/4")	21 (3/4")
50 A	#8 AWG	27 (1")	27 (1")
65 A	#6 AWG	27 (1")	35 (1-1/4")
85 A	#4 AWG	35 (1-1/4")	35 (1-1/4")
100 A	#3 AWG	35 (1-1/4")	41 (1-1/2")
115 A	#2 AWG	35 (1-1/4")	41 (1-1/2")
130 A	#1 AWG	41 (1-1/2")	53 (2")
150 A	#1/0 AWG	53 (2")	53 (2")
175 A	#2/0 AWG	53 (2")	53 (2")
200 A	#3/0 AWG	53 (2")	63 (2-1/2")
230 A	#4/0 AWG	63 (2-1/2")	63 (2-1/2")
255 A	250 KCMIL	63 (2-1/2")	78 (3")
285 A	300 KCMIL	78 (3")	78 (3")
310 A	350 KCMIL	78 (3")	78 (3")
335 A	400 KCMIL	78 (3")	91 (3-1/2")
380 A	500 KCMIL	78 (3")	91 (3-1/2")

- NOTES:**
- CONTRACTOR TO SUPPLY & INSTALL CONCRETE ENCASED PRIMARY DUCTBANK TO DEMARCATION POINT (COORDINATE WITH UTILITY SERVICE LAYOUT). SECONDARY CONCRETE ENCASED DUCTBANK TRANSFORMER PAD VULT. BOLLARDS & GROUNDING TO MEET THE REQUIREMENTS OF ESA & UTILITY STANDARDS.
 - UTILITY TO SUPPLY & INSTALL TRANSFORMER. ALL PRIMARY & SECONDARY CONDUCTORS TO BE TERMINATED & CONNECTED BY UTILITIES.
 - TRANSFORMER VULT. TO BE INSTALLED AS PER UTILITY STANDARDS.
 - REFER & COMPLY WITH UTILITIES INSTALLATION STANDARDS FOR CONSTRUCTION DETAILS, METHODS & APPROVED EQUIPMENT VENDORS.
 - PROVIDE SERVICES FOR ARC FLASH, BREAKER COORDINATION & SHORT-CIRCUIT STUDY PRIOR TO SHOP DRAWINGS RELEASE OF PANELBOARD. ACCEPTABLE AGENTS ARE AS FOLLOWS:
 - EATON
 - SCHIEDER
 - SIEMENS



- GENERAL DRAWING / DESIGNER NOTES:**
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Engineer's Seal:

Client: **WW Inc.**
 Address: **Minden, ON**
 Project Name: **Gull River Affordable Housing**
 Dwg. Name: **Elec. - SLD**
 NSET Project #: **04322**
 Drawn by: Northstar Eng. Checked by: D.B.D.
 Scale: 12" = 1'-0" Revision #: 6.0
 Drawing #: **E-7**
 Project Date: Jan. 14/22 Arch-D (24" x 36")

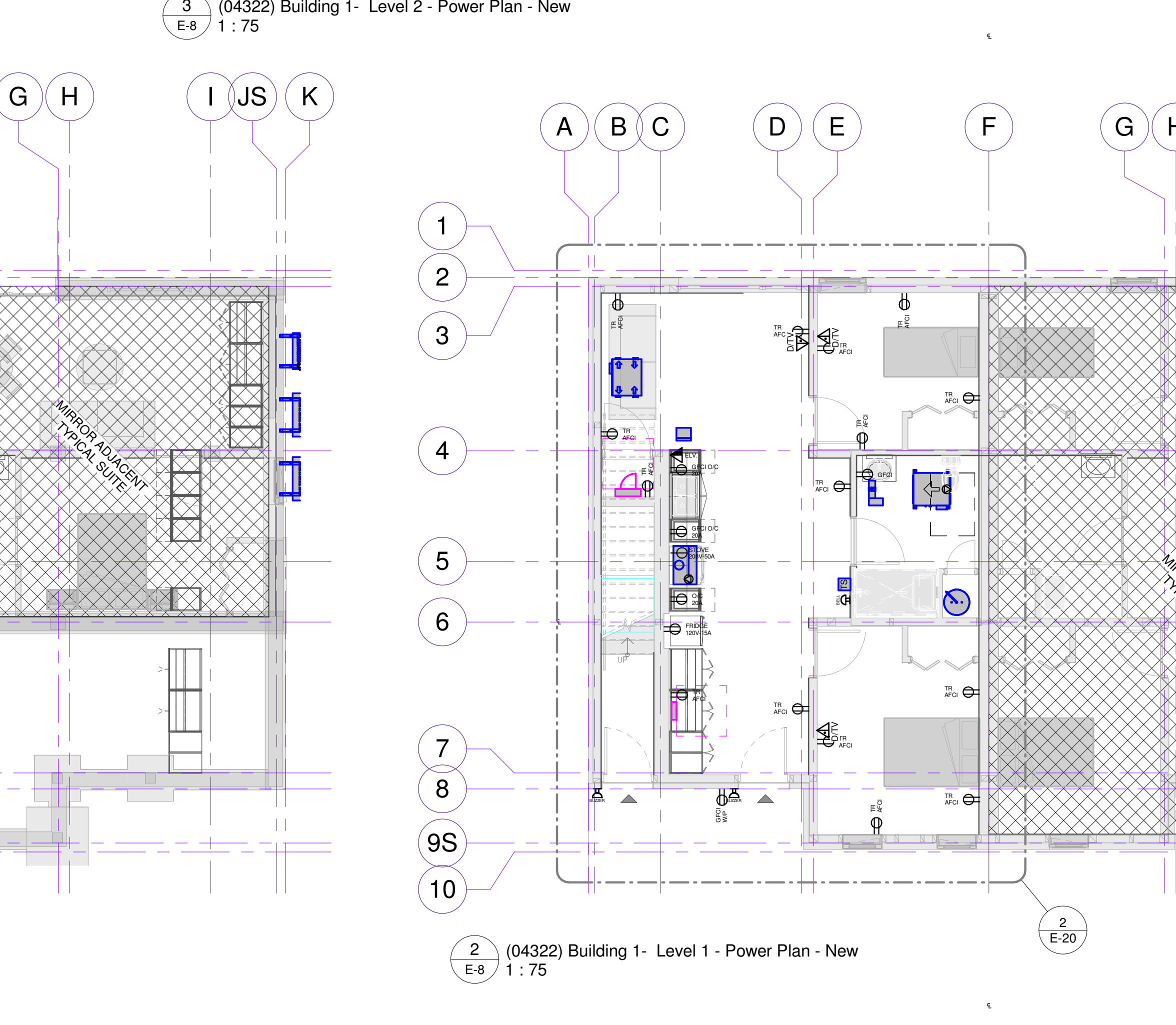
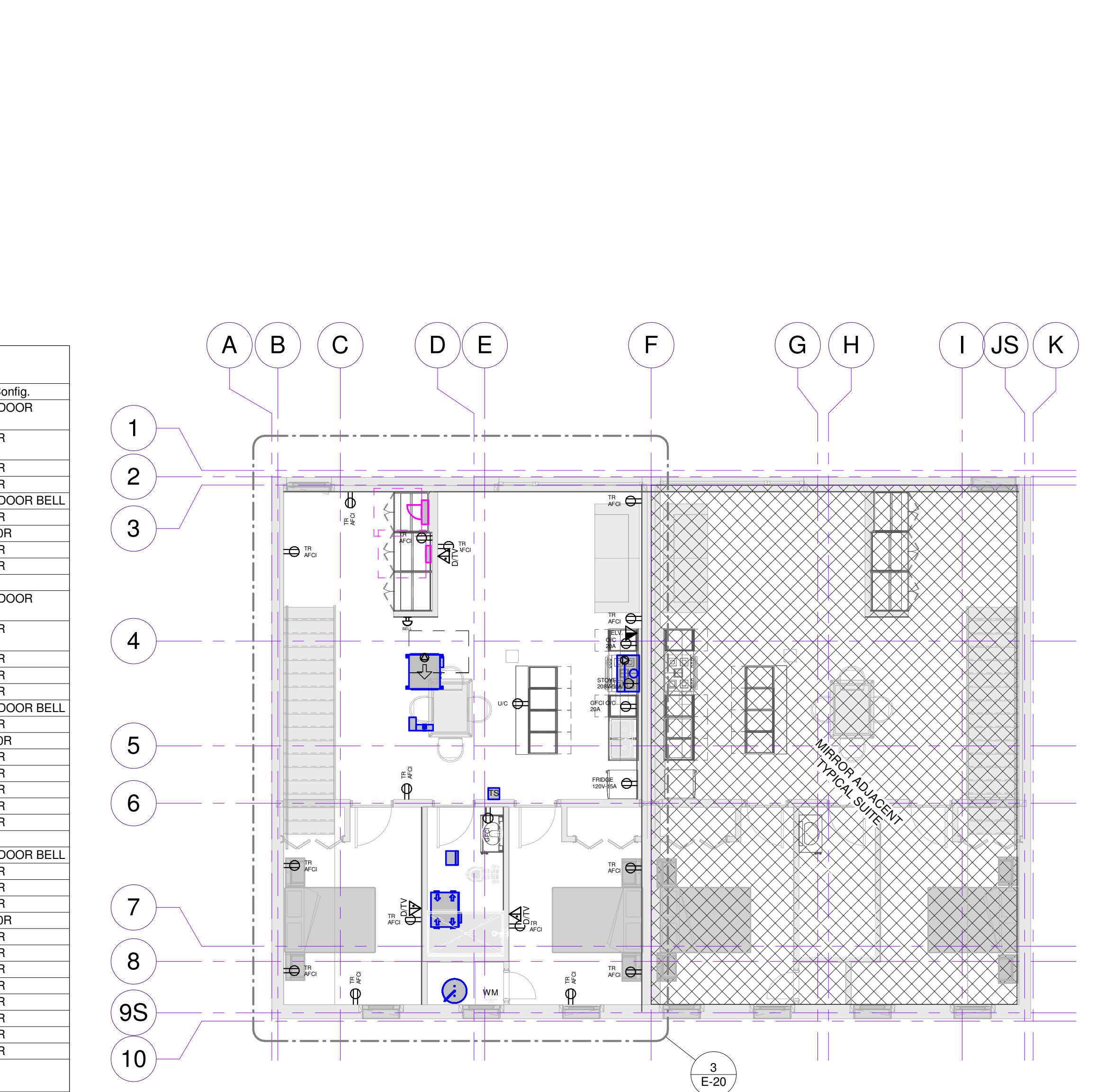
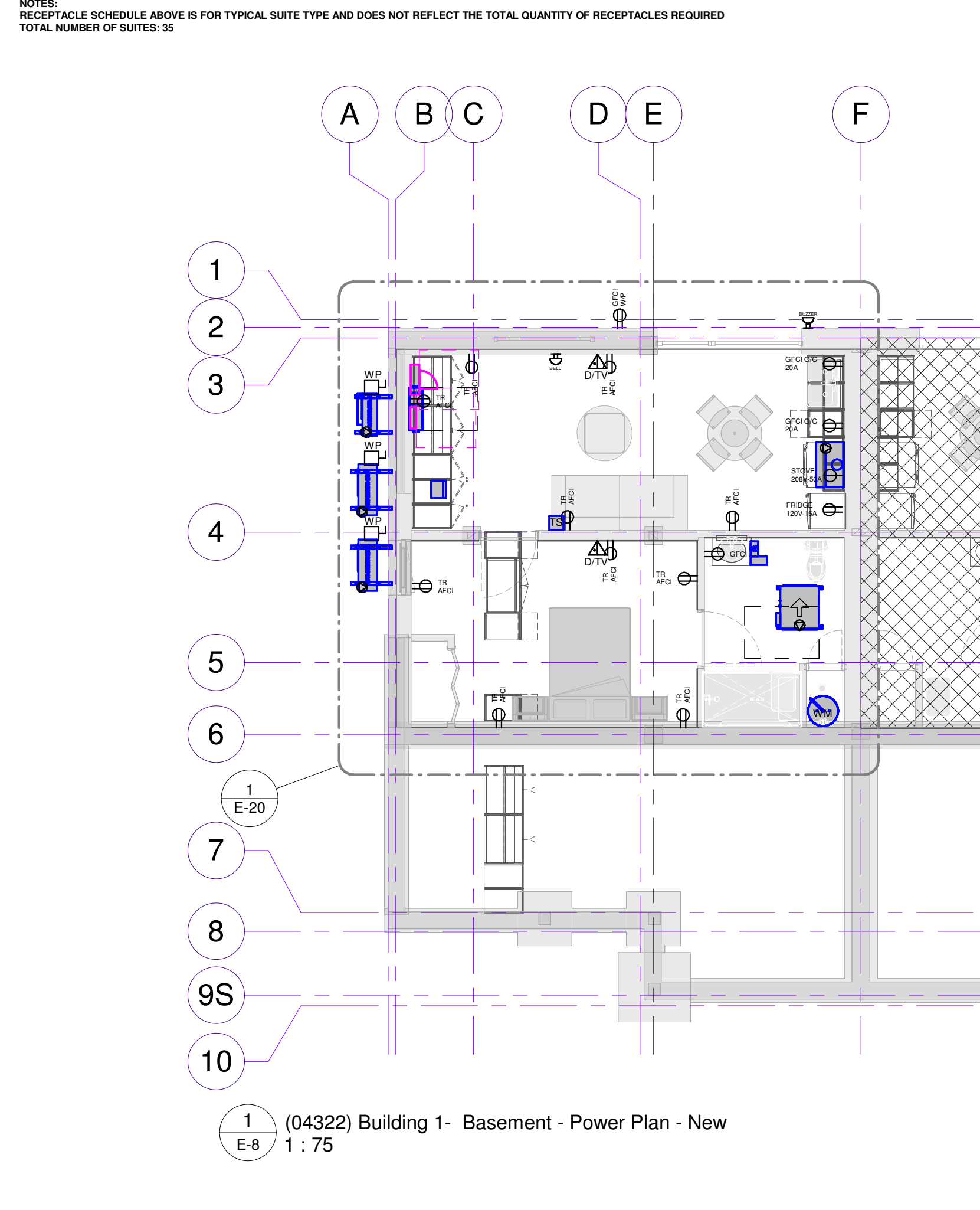
ELECTRICAL LEGEND		LIGHTING LEGEND	
(OFFICES) ELECTRICAL CIRCUIT TAG: COMMENT PANEL NAME CIRCUIT #	⊕	LUMINAIRE - INTERIOR DOWNLIGHT - RECESSED - LED	⊕
(OFFICES) MECHANICAL EQUIPMENT CIRCUIT TAG: AIR SYSTEM COMMENT MECHANICAL EQUIP. MARK / TYPE MARK PANEL NAME CIRCUIT #	⊕	LUMINAIRE - INTERIOR DOWNLIGHT - SURFACE MOUNTED - LED	⊕
(OFFICES) ELECTRICAL EQUIPMENT TAG: COMMENTS PANEL NAME	⊕	LUMINAIRE - INTERIOR LINEAR - SURFACE MOUNTED - LED	⊕
(OFFICES) SEE SLD, SCHEDULES & PLAN VIEWS.	⊕	LUMINAIRE - INTERIOR LINEAR - WALL MOUNTED - LED	⊕
JUNCTION BOX - WALL MOUNTED	⊕	LUMINAIRE - INTERIOR TAPE - SURFACE MOUNTED - LED	⊕
JUNCTION BOX - FLOOR MOUNTED	⊕	EXTERIOR LIGHTING LEGEND	
JUNCTION BOX - CEILING MOUNTED	⊕	LUMINAIRE - EXTERIOR WALL PACK - WALL MOUNTED - LED	⊕
DIRECT CONNECTION - SINGLE PHASE	⊕	LUMINAIRE - EXTERIOR BOLLARD - LED	⊕
DIRECT CONNECTION - THREE PHASE	⊕	LUMINAIRE - EXTERIOR POLE LIGHT - SINGLE HEAD - RECTANGULAR HEAD - LED	⊕
DISCONNECT	⊕	EXIT & EMERGENCY LIGHTING LEGEND	
DUPLEX RECEPTACLE (REFER TO SCHEDULES FOR NEMA TYPE & AMPERAGE) x 1 - WALL MOUNTED	⊕	EXIT SIGN - CEILING MOUNTED DIRECTIONAL ARROW INDICATES NUMBER OF EMERGENCY LIGHTS	⊕
XXX DENOTES: EX - EXISTING GFCI - GROUND FAULT CIRCUIT INTERRUPTER ISO GD - ISOLATED GROUND GC - OVER COUNTER UIC - UNDER COUNTER W/P - WEATHER PROOF TR - TAMPER RESISTANT USB - CONTAINS USB PORTS	⊕	EXIT SIGN - WALL MOUNTED c/w BATTERY DIRECTIONAL ARROW INDICATES NUMBER OF EMERGENCY LIGHTS	⊕
DUPLEX RECEPTACLE SPLIT (INVOL. CIRCUITS) - WALL MOUNTED	⊕	EMERGENCY LIGHT - REMOTE DOUBLE HEADS - CEILING MOUNTED	⊕
DUPLEX RECEPTACLE (120V, STD.) x 1 - FLOOR MOUNTED	⊕	EMERGENCY LIGHT - REMOTE DOUBLE HEADS - WALL MOUNTED	⊕
DUPLEX RECEPTACLE (120V, STD.) x 1 - CEILING MOUNTED	⊕	EMERGENCY LIGHT - REMOTE SINGLE HEAD - CEILING MOUNTED	⊕
DUPLEX RECEPTACLE (120V, STD.) x 1 CAB TIRE c/w STRAIN RELIEF - SUSPENDED MOUNT	⊕	EMERGENCY LIGHT - REMOTE SINGLE HEAD - WALL MOUNTED	⊕
QUADPLEX RECEPTACLE (120V, STD.) x 1 - WALL MOUNTED	⊕	LIGHTING CONTROLS LEGEND	
QUADPLEX RECEPTACLE (120V, STD.) x 1 - FLOOR MOUNTED	⊕	SINGLE RECEPTACLE x 1 (WALL MOUNTED)	⊕
QUADPLEX RECEPTACLE (120V, STD.) x 1 - CEILING MOUNTED	⊕	XXX DENOTES: OUTLET PURPOSE SEE SYMBOL ON PLANS (REFER TO SCHEDULES FOR NEMA TYPE)	⊕
HANDICAP PUSH BUTTON - WALL MOUNTED	⊕	SW # 1	⊕
LOCK PUSH BUTTON - WALL MOUNTED	⊕	SW # 2	⊕
EMERGENCY CALL PUSH BUTTON - WALL MOUNTED	⊕	SW # 3	⊕
DOMESTIC LIGHT (STROBE) WITH SOUNDER - WALL MOUNTED	⊕	SW # 4	⊕
THERMOSTAT - SUPPLIED & INSTALLED BY DIV. 23 WIRE < 30V - CONNECTION BY DIV. 26 WIRE < 30V - CONNECTION BY DIV. 23	⊕	SW # 5	⊕
COMMUNICATIONS LEGEND		SW # 6	⊕
TELEPHONE & DATA COMBINATION OUTLET - QUANTITY AS INDICATED - WALL MOUNTED	⊕	SW # 7	⊕
TELEPHONE & DATA COMBINATION OUTLET - QUANTITY AS INDICATED - CEILING MOUNTED	⊕	SW # 8	⊕
TELEPHONE & DATA COMBINATION OUTLET - QUANTITY AS INDICATED - FLOOR MOUNTED	⊕	SW # 9	⊕
DATA OUTLET - QUANTITY AS INDICATED - CEILING MOUNTED	⊕	SW # 10	⊕
WIRELESS ACCESS POINT DATA OUTLET - QUANTITY AS INDICATED - CEILING MOUNTED	⊕	SW # 11	⊕
COAX CABLE TV OUTLET - QUANTITY AS INDICATED - PROVIDE RG6 CABLE - WALL MOUNTED	⊕	SW # 12	⊕
COAX CABLE TV OUTLET - QUANTITY AS INDICATED - PROVIDE RG6 CABLE - FLOOR MOUNTED	⊕	SW # 13	⊕
COAX CABLE TV OUTLET - QUANTITY AS INDICATED - PROVIDE RG6 CABLE - CEILING MOUNTED	⊕	SW # 14	⊕
DATA & COAX COMBINATION OUTLET - QUANTITY AS INDICATED - PROVIDE RG6 CABLE - WALL MOUNTED	⊕	SW # 15	⊕
DATA & COAX COMBINATION OUTLET - QUANTITY AS INDICATED - PROVIDE RG6 CABLE - FLOOR MOUNTED	⊕	SW # 16	⊕
DATA & COAX COMBINATION OUTLET - QUANTITY AS INDICATED - PROVIDE RG6 CABLE - CEILING MOUNTED	⊕	SW # 17	⊕
NOT ALL SYMBOLS APPLY TO FLOOR PLANS / DRAWINGS SEE SPECIFICATIONS FOR ALL CABLE TYPES		NOT ALL SYMBOLS APPLY TO FLOOR PLANS / DRAWINGS SEE SPECIFICATIONS FOR ALL CABLE TYPES	

(04322) Data Device Schedule - Typical Suite Only

Level	Rm. #	Description	Pin Config.	Qty.
FFE Lower Level	106	OUTLET - DATA & COAX CABLE COMBINATION - WALL MOUNTED		1
FFE Lower Level	108	OUTLET - DATA & COAX CABLE COMBINATION - WALL MOUNTED		1
FFE Ground Floor		OUTLET - DATA & COAX CABLE COMBINATION - WALL MOUNTED		1
FFE Ground Floor	112	OUTLET - DATA & COAX CABLE COMBINATION - WALL MOUNTED		1
FFE Ground Floor	113	OUTLET - DATA & COAX CABLE COMBINATION - WALL MOUNTED		1
FFE Ground Floor	114	OUTLET - TELEPHONE & DATA COMBINATION - WALL MOUNTED - ELEVATED		1
2 - Floor		OUTLET - DATA & COAX CABLE COMBINATION - WALL MOUNTED		4
2 - Floor	224	OUTLET - TELEPHONE & DATA COMBINATION - WALL MOUNTED - ELEVATED		1
2 - Floor	225	OUTLET - DATA & COAX CABLE COMBINATION - WALL MOUNTED		1
2 - Floor	228	OUTLET - DATA & COAX CABLE COMBINATION - WALL MOUNTED		1
Grand total				10

(04322) Electrical Receptacle Schedule - Typical Suite Only

Level	Rm. #	Qty.	Description	Pin Config.
FFE Lower Level		1	ELECTRIC DOOR BUZZER	ELECTRIC DOOR BUZZER
FFE Lower Level		1	RECEPTACLE - DUPLEX - WALL MOUNTED - 120V 15A - GFCI - WEATHERPROOF c/w NEMA 4 ENCLOSURE	NEMA 5-15R
FFE Lower Level	106	5	RECEPTACLE - DUPLEX - WALL MOUNTED - 120V 15A - TAMPER RESISTANT	NEMA 5-15R
FFE Lower Level	107	1	RECEPTACLE / DUPLEX / WALL MOUNTED / 120V / 15A / GFCI	NEMA 5-15R
FFE Lower Level	108	1	ELECTRIC DOOR BELL	ELECTRIC DOOR BELL
FFE Lower Level	108	5	RECEPTACLE - DUPLEX - WALL MOUNTED - 120V 15A - TAMPER RESISTANT	NEMA 5-15R
FFE Lower Level	108	1	RECEPTACLE - SINGLE - WALL MOUNTED - 208V 50A - COOKING RANGE	NEMA 14-50R
FFE Lower Level	108	1	RECEPTACLE / DUPLEX / WALL MOUNTED / 120V / 15A / FRIDGE	NEMA 5-20R
FFE Lower Level	108	2	RECEPTACLE / DUPLEX / WALL MOUNTED / 120V / 20A / GFCI / OVER COUNTER	NEMA 5-20R
FFE Ground Floor		2	ELECTRIC DOOR BUZZER	ELECTRIC DOOR BUZZER
FFE Ground Floor		1	RECEPTACLE - DUPLEX - WALL MOUNTED - 120V 15A - GFCI - WEATHERPROOF c/w NEMA 4 ENCLOSURE	NEMA 5-15R
FFE Ground Floor	112	3	RECEPTACLE - DUPLEX - WALL MOUNTED - 120V 15A - TAMPER RESISTANT	NEMA 5-15R
FFE Ground Floor	113	4	RECEPTACLE - DUPLEX - WALL MOUNTED - 120V 15A - TAMPER RESISTANT	NEMA 5-15R
FFE Ground Floor	114	1	ELECTRIC DOOR BELL	ELECTRIC DOOR BELL
FFE Ground Floor	114	3	RECEPTACLE - DUPLEX - WALL MOUNTED - 120V 15A - TAMPER RESISTANT	NEMA 5-15R
FFE Ground Floor	114	1	RECEPTACLE - SINGLE - WALL MOUNTED - 208V 50A - COOKING RANGE	NEMA 14-50R
FFE Ground Floor	114	1	RECEPTACLE / DUPLEX / WALL MOUNTED / 120V / 15A / FRIDGE	NEMA 5-15R
FFE Ground Floor	114	2	RECEPTACLE / DUPLEX / WALL MOUNTED / 120V / 20A / GFCI / OVER COUNTER	NEMA 5-20R
FFE Ground Floor	114	1	RECEPTACLE / DUPLEX / WALL MOUNTED / 120V / 20A / GFCI / OVER COUNTER	NEMA 5-20R
FFE Ground Floor	115	1	RECEPTACLE / DUPLEX / WALL MOUNTED / 120V / 15A / GFCI	NEMA 5-15R
FFE Ground Floor	116	4	RECEPTACLE - DUPLEX - WALL MOUNTED - 120V 15A - TAMPER RESISTANT	NEMA 5-15R
2 - Floor		1	ELECTRIC DOOR BELL	ELECTRIC DOOR BELL
2 - Floor	223	2	RECEPTACLE - DUPLEX - WALL MOUNTED - 120V 15A - TAMPER RESISTANT	NEMA 5-15R
2 - Floor	224	2	RECEPTACLE - DUPLEX - WALL MOUNTED - 120V 15A - TAMPER RESISTANT	NEMA 5-15R
2 - Floor	224	1	RECEPTACLE - SINGLE - WALL MOUNTED - 208V 50A - COOKING RANGE	NEMA 14-50R
2 - Floor	224	1	RECEPTACLE / DUPLEX / UNDER COUNTER MNT. / 120V / 15A	NEMA 5-15R
2 - Floor	224	1	RECEPTACLE / DUPLEX / WALL MOUNTED / 120V / 15A / FRIDGE	NEMA 5-15R
2 - Floor	224	1	RECEPTACLE / DUPLEX / WALL MOUNTED / 120V / 20A / GFCI / OVER COUNTER	NEMA 5-20R
2 - Floor	224	1	RECEPTACLE / DUPLEX / WALL MOUNTED / 120V / 20A / OVER COUNTER	NEMA 5-20R
2 - Floor	225	2	RECEPTACLE - DUPLEX - WALL MOUNTED - 120V 15A - TAMPER RESISTANT	NEMA 5-15R
2 - Floor	226	4	RECEPTACLE - DUPLEX - WALL MOUNTED - 120V 15A - TAMPER RESISTANT	NEMA 5-15R
2 - Floor	227	1	RECEPTACLE / DUPLEX / WALL MOUNTED / 120V / 15A / GFCI	NEMA 5-15R
2 - Floor	228	4	RECEPTACLE - DUPLEX - WALL MOUNTED - 120V 15A - TAMPER RESISTANT	NEMA 5-15R
Grand total		65		



(04322) PROJECT DRAWING REGISTER

Sheet #	Sheet Name
E1/M1/P1	Project Cover
E2/M2/P2	Project Cover
M-3	HVAC - Specifications
M-4	HVAC - Specifications
M-5	HVAC - Scope of Work
M-6	HVAC - Scope of Work
M-7	HVAC - Bldg. 1
M-8	HVAC - Bldg. 2
M-9	HVAC - Bldg. 3
M-10	HVAC - Bldg. 4
M-11	HVAC - Bldg. 5
M-12	HVAC - Bldg. 6
M-13	HVAC - Isometric & Elevation Views
M-14	HVAC Details
P-3	Plumbing - Specifications
P-4	Plumbing - Specifications
P-5	Plumbing - Site Plan
P-6	Plumbing - Bldg. 1
P-7	Plumbing - Bldg. 2
P-8	Plumbing - Bldg. 3
P-9	Plumbing - Bldg. 4
P-10	Plumbing - Bldg. 5
P-11	Plumbing - Bldg. 6
P-12	Plumbing - Typical Building
P-13	Plumbing - Details
P-14	Plumbing - Water Schematic
P-15	Plumbing - Sanitary Schematic
E-3	Elec. Power - Specifications
E-4	Elec. Power - Specifications
E-5	Elec. Power - Scope of Work
E-6	Electrical Site Plan
E-7	Elec. - SLD
E-8	Power/Comm - Bldg. 1
E-9	Elec. Lighting - Bldg. 1
E-10	Power/Comm - Bldg. 2
E-11	Elec. Lighting - Bldg. 2
E-12	Power/Comm - Bldg. 3
E-13	Elec. Lighting - Bldg. 3
E-14	Power/Comm - Bldg. 4
E-15	Elec. Lighting - Bldg. 4
E-16	Power/Comm - Bldg. 5
E-17	Elec. Lighting - Bldg. 5
E-18	Power/Comm - Bldg. 6
E-19	Elec. Lighting - Bldg. 6
E-20	Elec. Typical Building
E-21	Electrical Schedules
E-22	Electrical Details

NORTHSTAR ENGINEERING & TECHNOLOGIES LTD.

92 Caplan Ave. Suite #517
Barrie, Ontario L4N 5J2
Tel. (705) 719-1003 Fax (705) 719-0490
dong@nset.ca www.nset.ca

- GENERAL DRAWING / DESIGNER NOTES:**
- ALL CONSTRUCTION METHODS AND MATERIALS TO CONFORM TO THE LATEST EDITION OF THE PROVINCE OF ONTARIO'S BUILDING CODE, LOCAL REGULATIONS AND AUTHORITIES HAVING JURISDICTION.
 - THE CONSULTANT RESERVES THE RIGHT TO MAKE REASONABLE CHANGES IN ORDER TO ACCOMMODATE CONDITIONS ARISING DURING CONSTRUCTION FOR ADDITIONAL FEES. ADDITIONAL CONSTRUCTION COSTS ARISING FROM SUCH CHANGES MAY APPLY AND ARE TO BE NEGOTIATED BETWEEN THE OWNER AND CONTRACTOR.
 - DRAWINGS ONLY SHOW GENERAL INTENT AND SCOPE OF WORK. EXACT DETAILS OF INSTALLATIONS ARE TO BE PROVIDED BY CONTRACTOR(S). DO NOT SCALE DRAWINGS.
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 - THE DESIGNER DOES NOT ACCEPT RESPONSIBILITY FOR OTHER DESIGNERS WORK IN ASSOCIATION WITH THIS PROJECT.
 - RESPONSIBILITY FOR ANY FINAL ASSEMBLYS THAT VIOLATE APPLICABLE BUILDING CODES IS NOT ACCEPTED BY THE DESIGNER.
 - REQUESTS FOR CHANGES OR SUBSTITUTIONS TO EQUIPMENT, PLANS AND/OR SPECIFICATIONS WILL BE SUBJECT TO ADDITIONAL FEES CHARGED BY THE CONSULTANT.
 - SITE VISITS TO REVIEW IMPLEMENTED DESIGNS WITH THE OWNER. THE SCOPE OF THIS PROJECT TO BE ARRANGED WITH THE OWNER.
 - MINIMUM FORTY EIGHT (48) HOURS PRIOR NOTICE TO BE PROVIDED FOR SITE VISITS - ONCE ARRANGED.
 - REQUESTS FOR THE RELEASE OF THIS DRAWING SET FROM NORTHSTAR ENGINEERING & TECHNOLOGIES LTD. FOR THE PURPOSE OF TENDERING PURPOSES BY ANY CONTRACTOR TO BE MADE BY THE OWNER OR ARCHITECT IN WRITING.
 - TENDER PRICING BY CONTRACTORS OF DRAWINGS TO BE BASED ON DWGS MARKED "ISSUED FOR TENDER" OR "ISSUED FOR CONSTRUCTION" ONLY.
 - ALL REQUESTS FOR DESIGN CHANGES / SUBSTITUTIONS TO BE MADE IN WRITING. ADDITIONAL FEES MAY APPLY. ALLOW MINIMUM (1) ONE WEEK TO REVIEW AND RESPOND TO CHANGE REQUESTS.

DRAWING REVISIONS

No.	Description	Date
2	Issued for Review	Apr. 22/22
3	Preliminary for Review	Sep. 09/22
4	Issued for Permit	Oct. 05/22
5	Issued for Tender	May 18/23
6	Re-issued for Tender	Dec. 20/24

Engineer's Seal: [Signature]

Client: **WW Inc.**

Address: **Minden, ON**

Project Name: **Gull River Affordable Housing**

Dwg. Name: **Power/Comm - Bldg. 1**

NSET Project #: **04322**

Drawn by: Northstar Eng. Checked by: D.B.D.

Scale: As indicated Revision #: 6.0

Drawing #: **E-8**

Project Date: Jan. 14/22 Arch-D (24" x 36")

(04322) Lighting Fixture Schedule - Interior - Typical Suite Only

Level	Type	Qty.	Description	Fixture Finish	Color Temperature	Lumens	Voltage	VA	Manufacturer	Part #	Elevation of Light Source	Mounting Comments	Accessory 1	Lamping	Supplied By	Approved Alternate
FFE Lower Level	B	1	LUMINAIRE / INDOOR / VANITY / WALL / 24" LENGTH / LED DIRECT	BRUSHED NICKEL	3000 K	1300 lm	120 V	18 VA	LITHONIA LIGHTING	FMVCSL 24IN MVOLT 30K 90CRI BN M6	84"	WALL		LED 18W	DIV. 26	APPROVED EQUAL
B1 - U/S Cabinet	K	3	LUMINAIRE / INDOOR / TAPE / SURFACE / 18" LENGTH / LED DIRECT	WHITE	3500 K	400 lm	120 V	9 VA	LITHONIA LIGHTING	UCES 18IN SWW6 90CRI WH M6		CEILING / SURFACE		LED 8.4W	DIV. 26	APPROVED EQUAL
B1 - Ceiling	A1	1	LUMINAIRE / INDOOR / LINEAR / SURFACE / 24" LENGTH / LED DIRECT	WHITE	3500 K	940 lm	120 V	9 VA	LITHONIA LIGHTING	RLNK L24 120 35K 80 CRI M4		CEILING / SURFACE		LED 8.9W	DIV. 26	APPROVED EQUAL
B1 - Ceiling	L1	1	LUMINAIRE / INDOOR / DOME / SURFACE / 11" / LED DIRECT	WHITE	4000 K	1100 lm	120 V	16 VA	LITHONIA LIGHTING	FMLRL 11 14840 M4		CEILING / SURFACE		LED 16W	DIV. 26	APPROVED EQUAL
B1 - Ceiling	L2	3	LUMINAIRE / INDOOR / DOME / SURFACE / 14" / LED DIRECT	WHITE	4000 K	1600 lm	120 V	24 VA	LITHONIA LIGHTING	FMLRL 14 20840 M4		CEILING / SURFACE		LED 24W	DIV. 26	APPROVED EQUAL
FFE Ground Floor	B	1	LUMINAIRE / INDOOR / VANITY / WALL / 24" LENGTH / LED DIRECT	BRUSHED NICKEL	3000 K	1300 lm	120 V	18 VA	LITHONIA LIGHTING	FMVCSL 24IN MVOLT 30K 90CRI BN M6	84"	WALL		LED 18W	DIV. 26	APPROVED EQUAL
1 - U/S Cabinet	K	4	LUMINAIRE / INDOOR / TAPE / SURFACE / 18" LENGTH / LED DIRECT	WHITE	3500 K	400 lm	120 V	9 VA	LITHONIA LIGHTING	UCES 18IN SWW6 90CRI WH M6		CEILING / SURFACE		LED 8.4W	DIV. 26	APPROVED EQUAL
1 - Finished Ceiling	A1	2	LUMINAIRE / INDOOR / LINEAR / SURFACE / 24" LENGTH / LED DIRECT	WHITE	3500 K	940 lm	120 V	9 VA	LITHONIA LIGHTING	RLNK L24 120 35K 80 CRI M4		CEILING / SURFACE		LED 8.9W	DIV. 26	APPROVED EQUAL
1 - Finished Ceiling	L1	1	LUMINAIRE / INDOOR / DOME / SURFACE / 11" / LED DIRECT	WHITE	4000 K	1100 lm	120 V	16 VA	LITHONIA LIGHTING	FMLRL 11 14840 M4		CEILING / SURFACE		LED 16W	DIV. 26	APPROVED EQUAL
1 - Finished Ceiling	L2	6	LUMINAIRE / INDOOR / DOME / SURFACE / 14" / LED DIRECT	WHITE	4000 K	1600 lm	120 V	24 VA	LITHONIA LIGHTING	FMLRL 14 20840 M4		CEILING / SURFACE		LED 24W	DIV. 26	APPROVED EQUAL
2 - Floor	B	1	LUMINAIRE / INDOOR / VANITY / WALL / 24" LENGTH / LED DIRECT	BRUSHED NICKEL	3000 K	1300 lm	120 V	18 VA	LITHONIA LIGHTING	FMVCSL 24IN MVOLT 30K 90CRI BN M6	84"	WALL		LED 18W	DIV. 26	APPROVED EQUAL
2 - Floor	P	4	LUMINAIRE / INDOOR / PENDANT / SUSPENDED / LED DIRECT	WHITE	4000 K	4800 lm	120 V	34 VA	LITHONIA LIGHTING	VCVLED-V4-P2-40K-80CRI-T5W-120-PM-DWHXD	108"	SUSPENDED		LED 34W	DIV. 26	APPROVED EQUAL
2 - U/S Cabinet	K	3	LUMINAIRE / INDOOR / TAPE / SURFACE / 18" LENGTH / LED DIRECT	WHITE	3500 K	400 lm	120 V	9 VA	LITHONIA LIGHTING	UCES 18IN SWW6 90CRI WH M6		CEILING / SURFACE		LED 8.4W	DIV. 26	APPROVED EQUAL
2 - Finished Ceiling	A1	1	LUMINAIRE / INDOOR / LINEAR / SURFACE / 24" LENGTH / LED DIRECT	WHITE	3500 K	940 lm	120 V	9 VA	LITHONIA LIGHTING	RLNK L24 120 35K 80 CRI M4		CEILING / SURFACE		LED 8.9W	DIV. 26	APPROVED EQUAL
2 - Finished Ceiling	L2	4	LUMINAIRE / INDOOR / DOME / SURFACE / 14" / LED DIRECT	WHITE	4000 K	1600 lm	120 V	24 VA	LITHONIA LIGHTING	FMLRL 14 20840 M4		CEILING / SURFACE		LED 24W	DIV. 26	APPROVED EQUAL

NOTES:
LIGHTING SCHEDULE ABOVE IS FOR TYPICAL SUITE TYPE AND DOES NOT REFLECT THE TOTAL QUANTITY OF LIGHTING FIXTURES REQUIRED
TOTAL NUMBER OF SUITES: 35

(MASTER-E) Fire Alarm Device Schedule

Level	Type Mark	Description	Circuit #	Qty.
2 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1
2 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1
2 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1
1 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	7	1
1 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	7	1
1 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	7	1
B1 - Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1
B1 - Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1
				8

NOTES:
FIRE ALARM SCHEDULE ABOVE IS FOR TYPICAL SUITE TYPE AND DOES NOT REFLECT THE TOTAL QUANTITY OF DEVICES REQUIRED
TOTAL NUMBER OF SUITES: 35

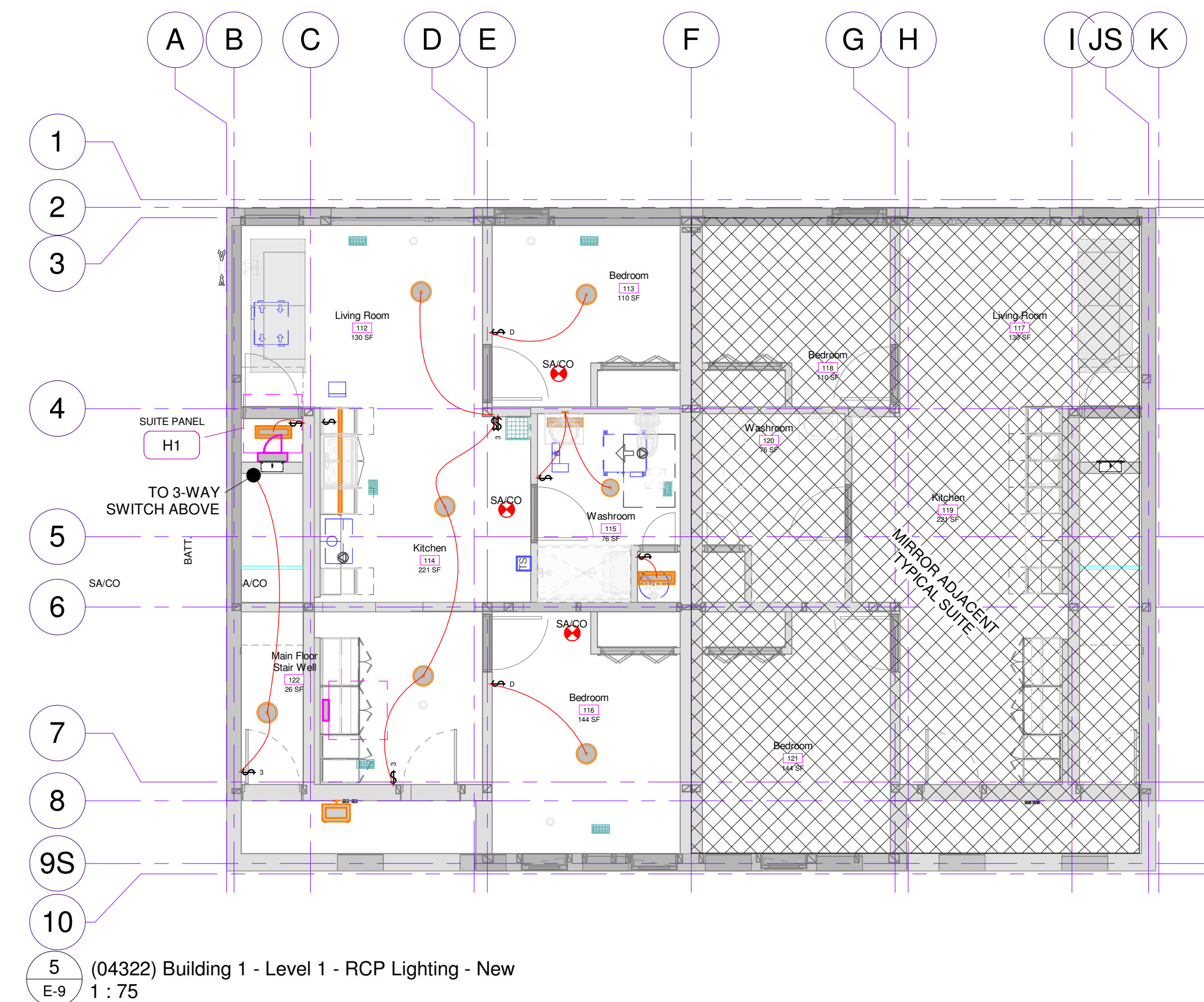
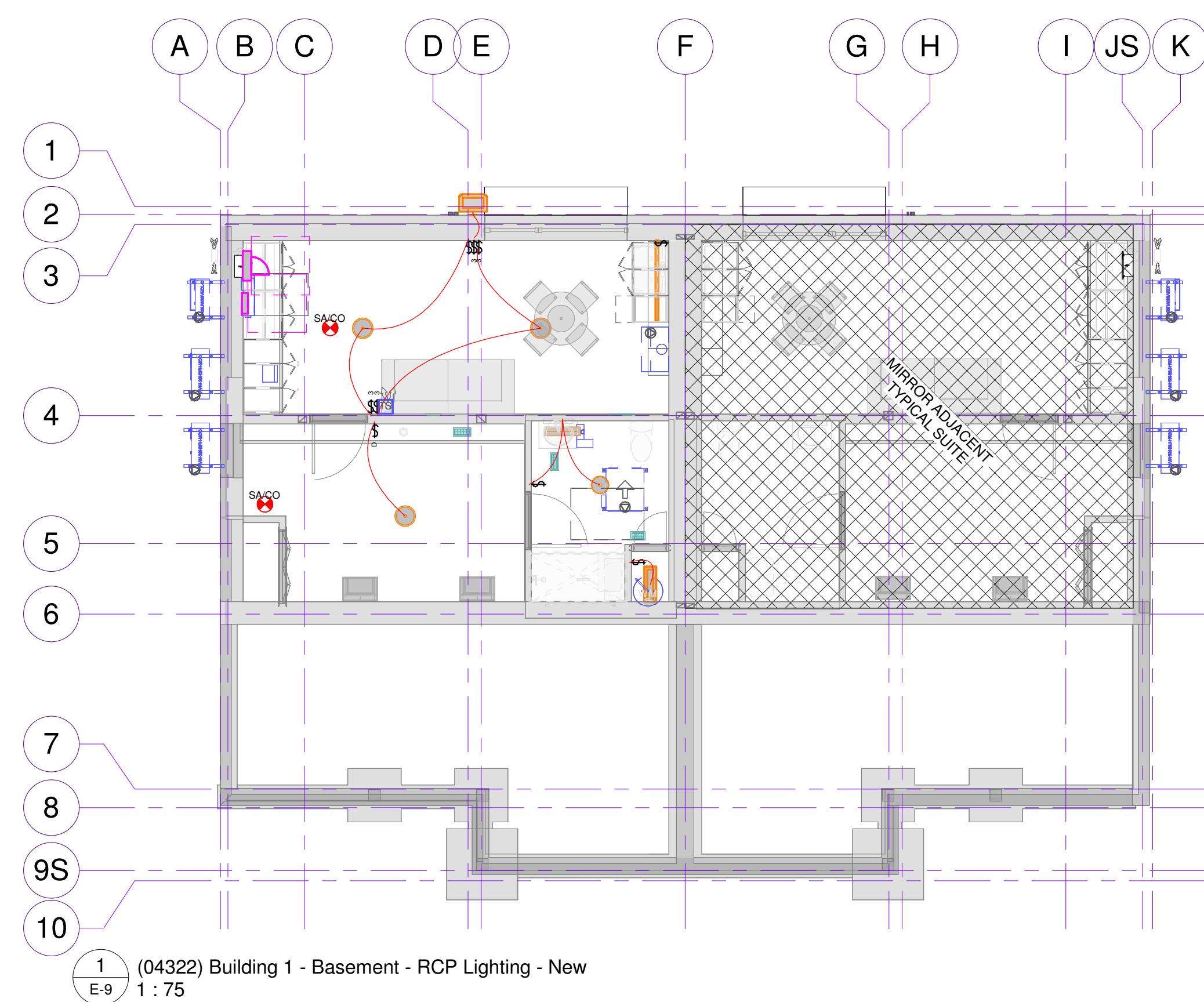
(04322) PROJECT DRAWING REGISTER

Sheet #	Sheet Name
E1/M1/P1	Project Cover
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M-3	HVAC - Specifications
M-4	HVAC - Specifications
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M-9	HVAC - Bldg. 3
M-10	HVAC - Bldg. 4
M-11	HVAC - Bldg. 5
M-12	HVAC - Bldg. 6
M-13	HVAC - Isometric & Elevation Views
M-14	HVAC Details
P-3	Plumbing - Specifications
P-4	Plumbing - Specifications
P-5	Plumbing - Site Plan
P-6	Plumbing - Bldg. 1
P-7	Plumbing - Bldg. 2
P-8	Plumbing - Bldg. 3
P-9	Plumbing - Bldg. 4
P-10	Plumbing - Bldg. 5
P-11	Plumbing - Bldg. 6
P-12	Plumbing - Typical Building
P-13	Plumbing - Details
P-14	Plumbing - Water Schematic
P-15	Plumbing - Sanitary Schematic
E-3	Elec. Power - Specifications
E-4	Elec. Power - Specifications
E-5	Elec. Power - Scope of Work
E-6	Electrical Site Plan
E-7	Elec. - SLD
E-8	Power/Comm - Bldg. 1
E-9	Elec. Lighting - Bldg. 1
E-10	Power/Comm - Bldg. 2
E-11	Elec. Lighting - Bldg. 2
E-12	Power/Comm - Bldg. 3
E-13	Elec. Lighting - Bldg. 3
E-14	Power/Comm - Bldg. 4
E-15	Elec. Lighting - Bldg. 4
E-16	Power/Comm - Bldg. 5
E-17	Elec. Lighting - Bldg. 5
E-18	Power/Comm - Bldg. 6
E-19	Elec. Lighting - Bldg. 6
E-20	Elec. Typical Building
E-21	Electrical Schedules
E-22	Electrical Details



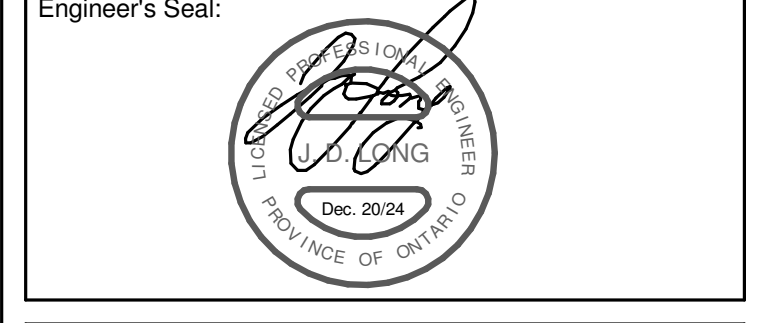
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DRAWING REVISIONS

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3	Preliminary for Review	Sep. 09/22
4	Issued for Permit	Oct. 05/22
5	Issued for Tender	May 18/23
6	Re-Issued for Tender	Dec. 20/24



Client: **WW Inc.**

Address: **Minden, ON**

Project Name: **Gull River Affordable Housing**

Dwg. Name: **Elec. Lighting - Bldg 1**

NSET Project #: **04322**

Drawn by: Northstar Eng. Checked by: D.B.D.

Scale: As indicated Revision #: 6.0

Drawing #: **E-9**

Project Date: Jan. 14/22 Arch-D (24" x 36")

(04322) Lighting Fixture Schedule - Interior - Typical Suite Only

Level	Type	Qty.	Description	Fixture Finish	Color Temperature	Lumens	Voltage	VA	Manufacturer	Part #	Elevation of Light Source	Mounting Comments	Accessory 1	Lamping	Supplied By	Approved Alternate
FFE Lower Level	B	1	LUMINAIRE / INDOOR / VANITY / WALL / 24" LENGTH / LED DIRECT	BRUSHED NICKEL	3000 K	1300 lm	120 V	18 VA	LITHONIA LIGHTING	FMVCSL 24IN MVOLT 30K 90CRI BN M6	84"	WALL		LED 18W DIV. 26	APPROVED EQUAL	
B1 - U/S Cabinet	K	3	LUMINAIRE / INDOOR / TAPE / SURFACE / 18" LENGTH / LED DIRECT	WHITE	3500 K	400 lm	120 V	9 VA	LITHONIA LIGHTING	UCES 18IN SWW6 90CRI WH M6		CEILING / SURFACE		LED 8.4W DIV. 26	APPROVED EQUAL	
B1 - Ceiling	A1	1	LUMINAIRE / INDOOR / LINEAR / SURFACE / 24" LENGTH / LED DIRECT	WHITE	3500 K	940 lm	120 V	9 VA	LITHONIA LIGHTING	RLNK L24 120 35K 80 CRI M4		CEILING / SURFACE		LED 8.9W DIV. 26	APPROVED EQUAL	
B1 - Ceiling	L1	1	LUMINAIRE / INDOOR / DOME / SURFACE / 11" / LED DIRECT	WHITE	4000 K	1100 lm	120 V	16 VA	LITHONIA LIGHTING	FMLRL 11 14840 M4		CEILING / SURFACE		LED 16W DIV. 26	APPROVED EQUAL	
B1 - Ceiling	L2	3	LUMINAIRE / INDOOR / DOME / SURFACE / 14" / LED DIRECT	WHITE	4000 K	1600 lm	120 V	24 VA	LITHONIA LIGHTING	FMLRL 14 20840 M4		CEILING / SURFACE		LED 24W DIV. 26	APPROVED EQUAL	
FFE Ground Floor	B	1	LUMINAIRE / INDOOR / VANITY / WALL / 24" LENGTH / LED DIRECT	BRUSHED NICKEL	3000 K	1300 lm	120 V	18 VA	LITHONIA LIGHTING	FMVCSL 24IN MVOLT 30K 90CRI BN M6	84"	WALL		LED 18W DIV. 26	APPROVED EQUAL	
1 - U/S Cabinet	K	4	LUMINAIRE / INDOOR / TAPE / SURFACE / 18" LENGTH / LED DIRECT	WHITE	3500 K	400 lm	120 V	9 VA	LITHONIA LIGHTING	UCES 18IN SWW6 90CRI WH M6		CEILING / SURFACE		LED 8.4W DIV. 26	APPROVED EQUAL	
1 - Finished Ceiling	A1	2	LUMINAIRE / INDOOR / LINEAR / SURFACE / 24" LENGTH / LED DIRECT	WHITE	3500 K	940 lm	120 V	9 VA	LITHONIA LIGHTING	RLNK L24 120 35K 80 CRI M4		CEILING / SURFACE		LED 8.9W DIV. 26	APPROVED EQUAL	
1 - Finished Ceiling	L1	1	LUMINAIRE / INDOOR / DOME / SURFACE / 11" / LED DIRECT	WHITE	4000 K	1100 lm	120 V	16 VA	LITHONIA LIGHTING	FMLRL 11 14840 M4		CEILING / SURFACE		LED 16W DIV. 26	APPROVED EQUAL	
1 - Finished Ceiling	L2	6	LUMINAIRE / INDOOR / DOME / SURFACE / 14" / LED DIRECT	WHITE	4000 K	1600 lm	120 V	24 VA	LITHONIA LIGHTING	FMLRL 14 20840 M4		CEILING / SURFACE		LED 24W DIV. 26	APPROVED EQUAL	
2 - Floor	B	1	LUMINAIRE / INDOOR / VANITY / WALL / 24" LENGTH / LED DIRECT	BRUSHED NICKEL	3000 K	1300 lm	120 V	18 VA	LITHONIA LIGHTING	FMVCSL 24IN MVOLT 30K 90CRI BN M6	84"	WALL		LED 18W DIV. 26	APPROVED EQUAL	
2 - Floor	P	4	LUMINAIRE / INDOOR / PENDANT / SUSPENDED / LED DIRECT	WHITE	4000 K	4800 lm	120 V	34 VA	LITHONIA LIGHTING	VCVLLED-V4-P2-40K-80CRI-T5W-120-PM-DWHXD	108"	SUSPENDED		LED 34W DIV. 26	APPROVED EQUAL	
2 - U/S Cabinet	K	3	LUMINAIRE / INDOOR / TAPE / SURFACE / 18" LENGTH / LED DIRECT	WHITE	3500 K	400 lm	120 V	9 VA	LITHONIA LIGHTING	UCES 18IN SWW6 90CRI WH M6		CEILING / SURFACE		LED 8.4W DIV. 26	APPROVED EQUAL	
2 - Finished Ceiling	A1	1	LUMINAIRE / INDOOR / LINEAR / SURFACE / 24" LENGTH / LED DIRECT	WHITE	3500 K	940 lm	120 V	9 VA	LITHONIA LIGHTING	RLNK L24 120 35K 80 CRI M4		CEILING / SURFACE		LED 8.9W DIV. 26	APPROVED EQUAL	
2 - Finished Ceiling	L2	4	LUMINAIRE / INDOOR / DOME / SURFACE / 14" / LED DIRECT	WHITE	4000 K	1600 lm	120 V	24 VA	LITHONIA LIGHTING	FMLRL 14 20840 M4		CEILING / SURFACE		LED 24W DIV. 26	APPROVED EQUAL	

NOTES:
LIGHTING SCHEDULE ABOVE IS FOR TYPICAL SUITE TYPE AND DOES NOT REFLECT THE TOTAL QUANTITY OF LIGHTING FIXTURES REQUIRED
TOTAL NUMBER OF SUITES: 35

(MASTER-E) Fire Alarm Device Schedule

Level	Type Mark	Description	Circuit #	Qty.
2 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1
2 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1
2 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1
1 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	7	1
1 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	7	1
1 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	7	1
B1 - Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1
B1 - Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1

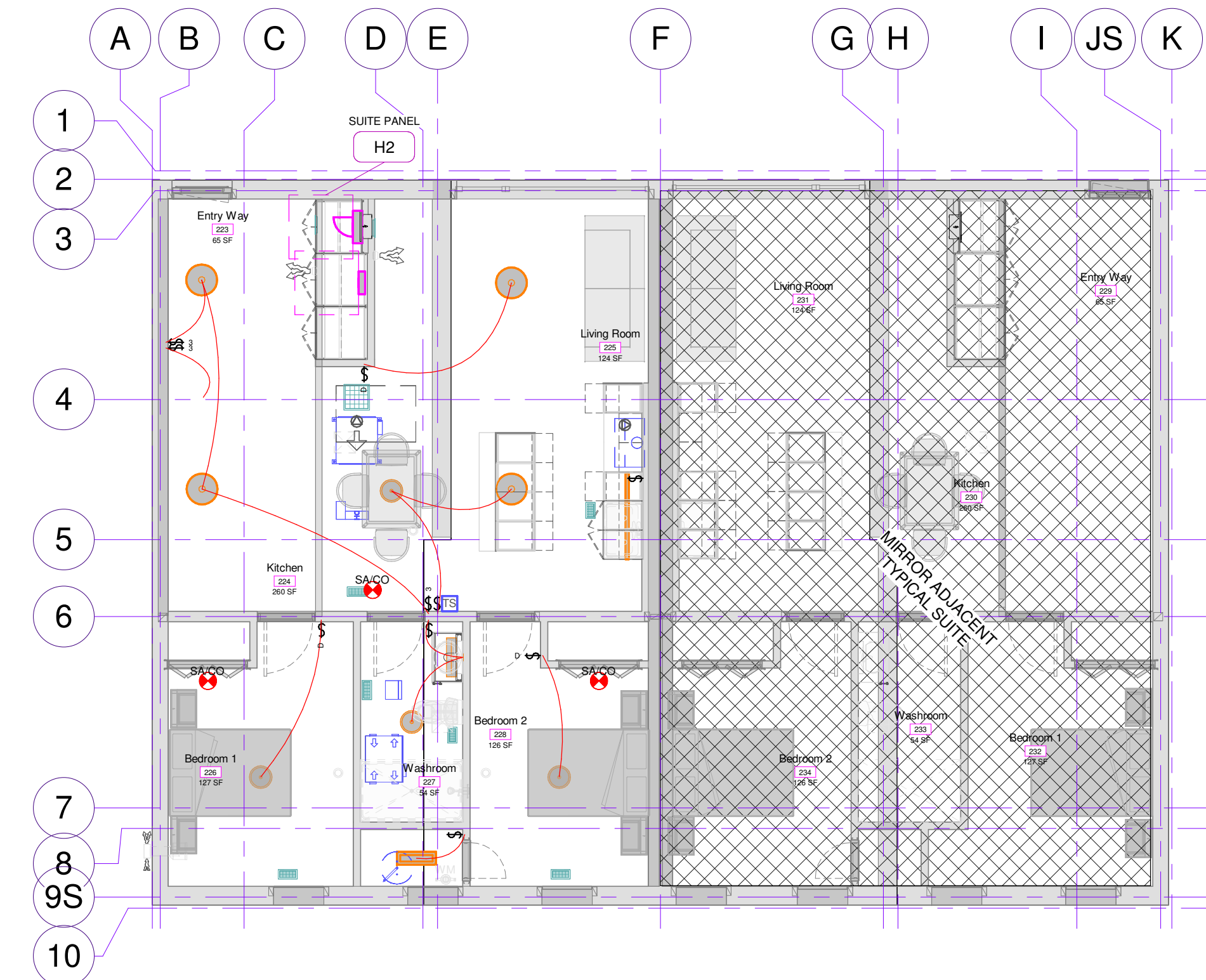
NOTES:
FIRE ALARM SCHEDULE ABOVE IS FOR TYPICAL SUITE TYPE AND DOES NOT REFLECT THE TOTAL QUANTITY OF DEVICES REQUIRED
TOTAL NUMBER OF SUITES: 35

(04322) PROJECT DRAWING REGISTER

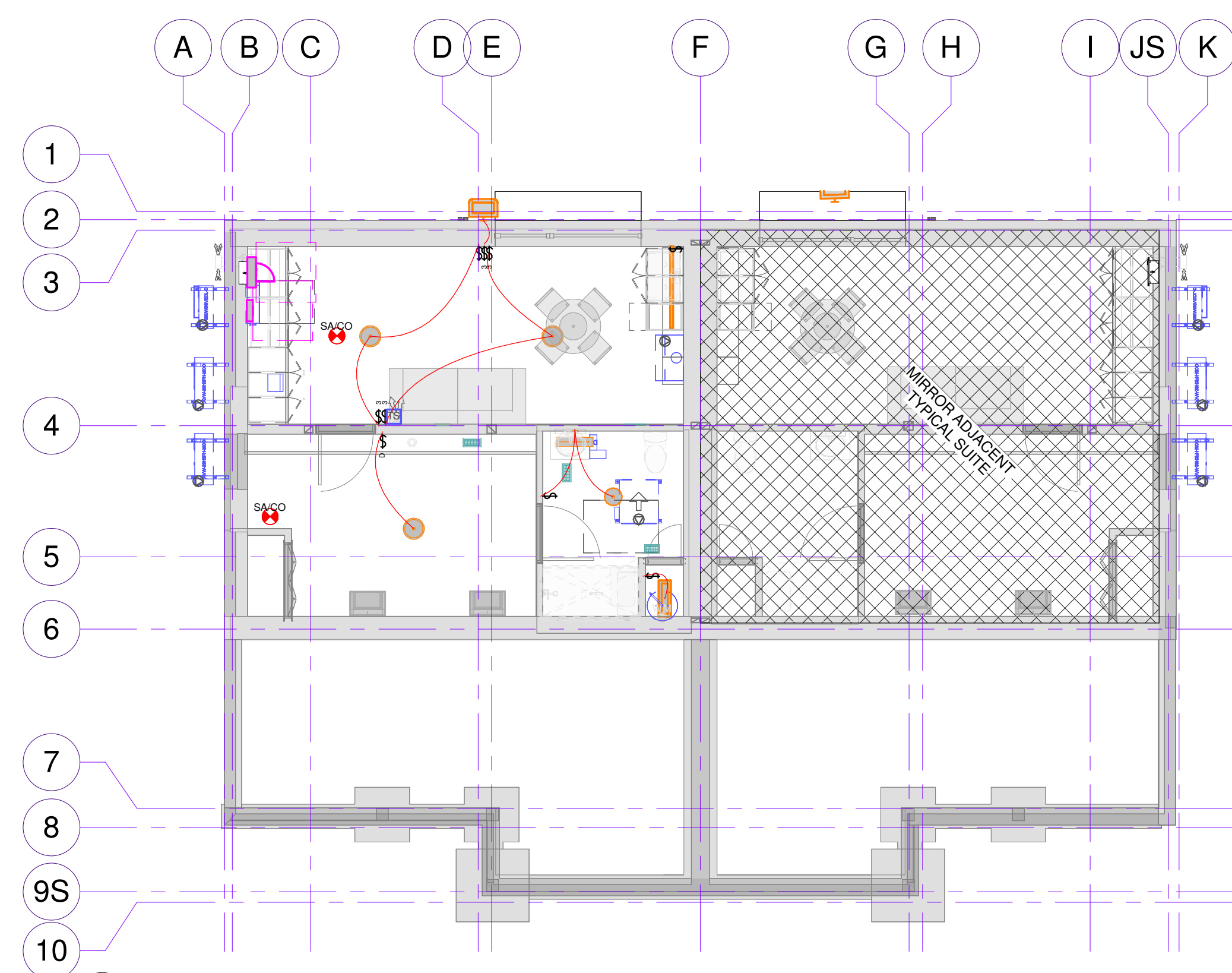
Sheet #	Sheet Name
E1/M1/P1	Project Cover
E2/M2/P2	Project Cover
M-3	HVAC - Specifications
M-4	HVAC - Specifications
M-5	HVAC - Scope of Work
M-6	HVAC - Scope of Work
M-7	HVAC - Bldg. 1
M-8	HVAC - Bldg. 2
M-9	HVAC - Bldg. 3
M-10	HVAC - Bldg. 4
M-11	HVAC - Bldg. 5
M-12	HVAC - Bldg. 6
M-13	HVAC - Isometric & Elevation Views
M-14	HVAC Details
P-3	Plumbing - Specifications
P-4	Plumbing - Specifications
P-5	Plumbing - Site Plan
P-6	Plumbing - Bldg. 1
P-7	Plumbing - Bldg. 2
P-8	Plumbing - Bldg. 3
P-9	Plumbing - Bldg. 4
P-10	Plumbing - Bldg. 5
P-11	Plumbing - Bldg. 6
P-12	Plumbing - Typical Building
P-13	Plumbing - Details
P-14	Plumbing - Water Schematic
P-15	Plumbing - Sanitary Schematic
E-3	Elec. Power - Specifications
E-4	Elec. Power - Specifications
E-5	Elec. Power - Scope of Work
E-6	Electrical Site Plan
E-7	Elec. - SLD
E-8	Power/Comm - Bldg. 1
E-9	Elec. Lighting - Bldg. 1
E-10	Power/Comm - Bldg. 2
E-11	Elec. Lighting - Bldg. 2
E-12	Power/Comm - Bldg. 3
E-13	Elec. Lighting - Bldg. 3
E-14	Power/Comm - Bldg. 4
E-15	Elec. Lighting - Bldg. 4
E-16	Power/Comm - Bldg. 5
E-17	Elec. Lighting - Bldg. 5
E-18	Power/Comm - Bldg. 6
E-19	Elec. Lighting - Bldg. 6
E-20	Electrical Building
E-21	Electrical Schedules
E-22	Electrical Details



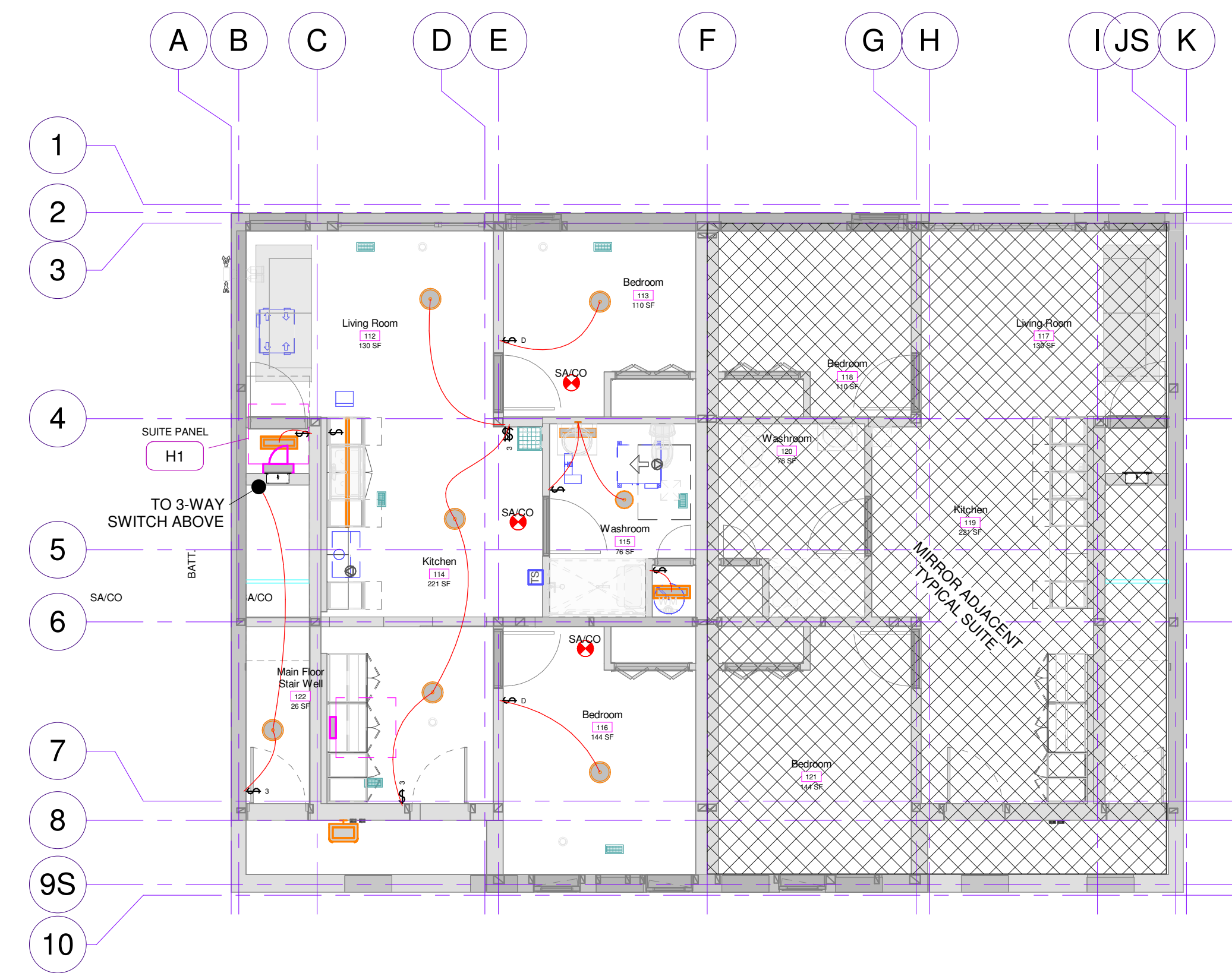
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 - THE DESIGNER DOES NOT ACCEPT RESPONSIBILITY FOR OTHER DESIGNERS WORK IN ASSOCIATION WITH THIS PROJECT.
 - RESPONSIBILITY FOR ANY FINAL ASSEMBLYS THAT VIOLATE APPLICABLE BUILDING CODES IS NOT ACCEPTED BY THE DESIGNER.
 - REQUESTS FOR CHANGES OR SUBSTITUTIONS TO EQUIPMENT, PLANS AND / OR SPECIFICATIONS WILL BE SUBJECT TO ADDITIONAL FEES CHARGED BY THE CONSULTANT.
 - SITE VISITS TO REVIEW IMPLEMENTED DESIGNS WITHIN THE SCOPE OF THIS PROJECT TO BE ARRANGED WITH THE OWNER.
 - MINIMUM FORTY EIGHT (48) HOURS PRIOR NOTICE TO BE PROVIDED FOR SITE VISITS - ONCE ARRANGED.
 - REQUESTS FOR THE RELEASE OF THIS DRAWING SET FROM NORTHSTAR ENGINEERING & TECHNOLOGIES LTD. FOR THE PURPOSE OF TENDERING PURPOSES BY ANY CONTRACTOR TO BE MADE BY THE OWNER OR ARCHITECT IN WRITING.
 - TENDER PRICING BY CONTRACTORS OF DRAWINGS TO BE BASED ON DWGS MARKED "ISSUED FOR TENDER" OR "ISSUED FOR CONSTRUCTION" ONLY.
 - ALL REQUESTS FOR DESIGN CHANGES / SUBSTITUTIONS TO BE MADE IN WRITING. ADDITIONAL FEES MAY APPLY. ALLOW MINIMUM (1) ONE WEEK TO REVIEW AND RESPOND TO CHANGE REQUESTS.



2 (04322) Building 2 - Level 2 - RCP Lighting - New
E-11 1 : 75



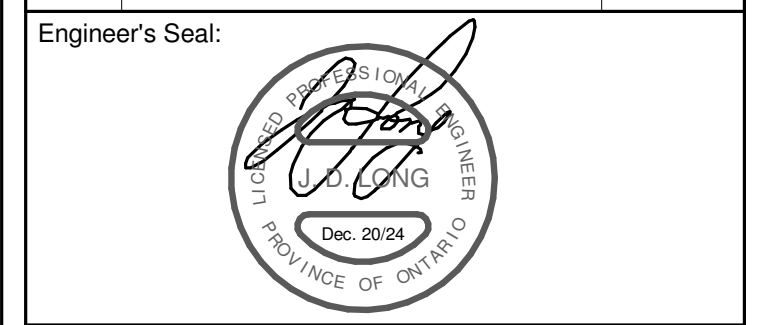
1 (04322) Building 2 - Basement - RCP Lighting - New
E-11 1 : 75



5 (04322) Building 2 - Level 1 - RCP Lighting - New
E-11 1 : 75

DRAWING REVISIONS

No.	Description	Date
2	Issued for Review	Apr. 22/22
3	Preliminary for Review	Sep. 09/22
4	Issued for Permit	Oct. 05/22
5	Issued for Tender	May 18/23
6	Re-issued for Tender	Dec. 20/24



Client: **WW Inc.**

Address: **Minden, ON**

Project Name: **Gull River Affordable Housing**

Dwg. Name: **Elec. Lighting - Bldg 2**

NSET Project #: **04322**

Drawn by: Northstar Eng. Checked by: D.B.D.

Scale: As indicated Revision #: 6.0

Drawing #: **E-11**

Project Date: Jan. 14/22 Arch-D (24" x 36")

(04322) Lighting Fixture Schedule - Interior - Typical Suite Only

Level	Type	Qty.	Description	Fixture Finish	Color Temperature	Lumens	Voltage	VA	Manufacturer	Part #	Elevation of Light Source	Mounting Comments	Accessory 1	Lamping	Supplied By	Approved Alternate
FFE Lower Level	B	1	LUMINAIRE / INDOOR / VANITY / WALL / 24" LENGTH / LED DIRECT	BRUSHED NICKEL	3000 K	1300 lm	120 V	18 VA	LITHONIA LIGHTING	FMVCSL 24IN MVOLT 30K 90CRI BN M6	84"	WALL		LED 18W	DIV. 26	APPROVED EQUAL
B1 - U/S Cabinet	K	3	LUMINAIRE / INDOOR / TAPE / SURFACE / 18" LENGTH / LED DIRECT	WHITE	3500 K	400 lm	120 V	9 VA	LITHONIA LIGHTING	UCES 18IN SWW6 90CRI WH M6		CEILING / SURFACE		LED 8.4W	DIV. 26	APPROVED EQUAL
B1 - Ceiling	A1	1	LUMINAIRE / INDOOR / LINEAR / SURFACE / 24" LENGTH / LED DIRECT	WHITE	3500 K	940 lm	120 V	9 VA	LITHONIA LIGHTING	RLNK L24 120 35K 80 CRI M4		CEILING / SURFACE		LED 8.9W	DIV. 26	APPROVED EQUAL
B1 - Ceiling	L1	1	LUMINAIRE / INDOOR / DOME / SURFACE / 11" / LED DIRECT	WHITE	4000 K	1100 lm	120 V	16 VA	LITHONIA LIGHTING	FMLRL 11 14840 M4		CEILING / SURFACE		LED 16W	DIV. 26	APPROVED EQUAL
B1 - Ceiling	L2	3	LUMINAIRE / INDOOR / DOME / SURFACE / 14" / LED DIRECT	WHITE	4000 K	1600 lm	120 V	24 VA	LITHONIA LIGHTING	FMLRL 14 20840 M4		CEILING / SURFACE		LED 24W	DIV. 26	APPROVED EQUAL
FFE Ground Floor	B	1	LUMINAIRE / INDOOR / VANITY / WALL / 24" LENGTH / LED DIRECT	BRUSHED NICKEL	3000 K	1300 lm	120 V	18 VA	LITHONIA LIGHTING	FMVCSL 24IN MVOLT 30K 90CRI BN M6	84"	WALL		LED 18W	DIV. 26	APPROVED EQUAL
1 - U/S Cabinet	K	4	LUMINAIRE / INDOOR / TAPE / SURFACE / 18" LENGTH / LED DIRECT	WHITE	3500 K	400 lm	120 V	9 VA	LITHONIA LIGHTING	UCES 18IN SWW6 90CRI WH M6		CEILING / SURFACE		LED 8.4W	DIV. 26	APPROVED EQUAL
1 - Finished Ceiling	A1	2	LUMINAIRE / INDOOR / LINEAR / SURFACE / 24" LENGTH / LED DIRECT	WHITE	3500 K	940 lm	120 V	9 VA	LITHONIA LIGHTING	RLNK L24 120 35K 80 CRI M4		CEILING / SURFACE		LED 8.9W	DIV. 26	APPROVED EQUAL
1 - Finished Ceiling	L1	1	LUMINAIRE / INDOOR / DOME / SURFACE / 11" / LED DIRECT	WHITE	4000 K	1100 lm	120 V	16 VA	LITHONIA LIGHTING	FMLRL 11 14840 M4		CEILING / SURFACE		LED 16W	DIV. 26	APPROVED EQUAL
1 - Finished Ceiling	L2	6	LUMINAIRE / INDOOR / DOME / SURFACE / 14" / LED DIRECT	WHITE	4000 K	1600 lm	120 V	24 VA	LITHONIA LIGHTING	FMLRL 14 20840 M4		CEILING / SURFACE		LED 24W	DIV. 26	APPROVED EQUAL
2 - Floor	B	1	LUMINAIRE / INDOOR / VANITY / WALL / 24" LENGTH / LED DIRECT	BRUSHED NICKEL	3000 K	1300 lm	120 V	18 VA	LITHONIA LIGHTING	FMVCSL 24IN MVOLT 30K 90CRI BN M6	84"	WALL		LED 18W	DIV. 26	APPROVED EQUAL
2 - Floor	P	4	LUMINAIRE / INDOOR / PENDANT / SUSPENDED / LED DIRECT	WHITE	4000 K	4800 lm	120 V	34 VA	LITHONIA LIGHTING	VCVLLD-V4-P2-40K-80CRI-T5W-120-PM-DWHXD	108"	SUSPENDED		LED 34W	DIV. 26	APPROVED EQUAL
2 - U/S Cabinet	K	3	LUMINAIRE / INDOOR / TAPE / SURFACE / 18" LENGTH / LED DIRECT	WHITE	3500 K	400 lm	120 V	9 VA	LITHONIA LIGHTING	UCES 18IN SWW6 90CRI WH M6		CEILING / SURFACE		LED 8.4W	DIV. 26	APPROVED EQUAL
2 - Finished Ceiling	A1	1	LUMINAIRE / INDOOR / LINEAR / SURFACE / 24" LENGTH / LED DIRECT	WHITE	3500 K	940 lm	120 V	9 VA	LITHONIA LIGHTING	RLNK L24 120 35K 80 CRI M4		CEILING / SURFACE		LED 8.9W	DIV. 26	APPROVED EQUAL
2 - Finished Ceiling	L2	4	LUMINAIRE / INDOOR / DOME / SURFACE / 14" / LED DIRECT	WHITE	4000 K	1600 lm	120 V	24 VA	LITHONIA LIGHTING	FMLRL 14 20840 M4		CEILING / SURFACE		LED 24W	DIV. 26	APPROVED EQUAL

NOTES:
LIGHTING SCHEDULE ABOVE IS FOR TYPICAL SUITE TYPE AND DOES NOT REFLECT THE TOTAL QUANTITY OF LIGHTING FIXTURES REQUIRED
TOTAL NUMBER OF SUITES: 35

(MASTER-E) Fire Alarm Device Schedule

Level	Type Mark	Description	Circuit #	Qty.
2 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1
2 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1
2 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1
1 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	7	1
1 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	7	1
1 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	7	1
B1 - Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1
B1 - Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1

NOTES:
FIRE ALARM SCHEDULE ABOVE IS FOR TYPICAL SUITE TYPE AND DOES NOT REFLECT THE TOTAL QUANTITY OF DEVICES REQUIRED
TOTAL NUMBER OF SUITES: 35

(04322) PROJECT DRAWING REGISTER

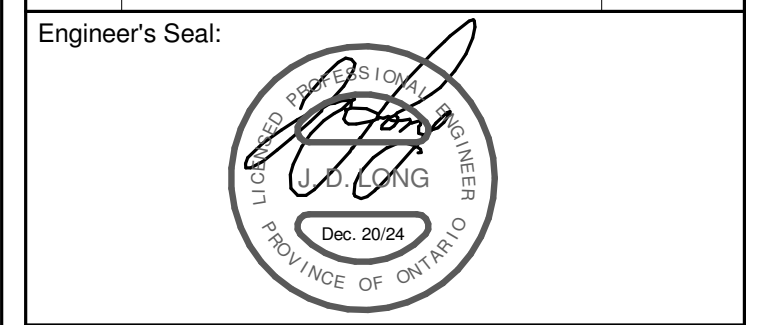
Sheet #	Sheet Name
E1/M1/P1	Project Cover
E2/M2/P2	Project Cover
M-3	HVAC - Specifications
M-4	HVAC - Specifications
M-5	HVAC - Scope of Work
M-6	HVAC - Scope of Work
M-7	HVAC - Bldg. 1
M-8	HVAC - Bldg. 2
M-9	HVAC - Bldg. 3
M-10	HVAC - Bldg. 4
M-11	HVAC - Bldg. 5
M-12	HVAC - Bldg. 6
M-13	HVAC - Isometric & Elevation Views
M-14	HVAC Details
P-3	Plumbing - Specifications
P-4	Plumbing - Specifications
P-5	Plumbing - Site Plan
P-6	Plumbing - Bldg. 1
P-7	Plumbing - Bldg. 2
P-8	Plumbing - Bldg. 3
P-9	Plumbing - Bldg. 4
P-10	Plumbing - Bldg. 5
P-11	Plumbing - Bldg. 6
P-12	Plumbing - Typical Building
P-13	Plumbing - Details
P-14	Plumbing - Water Schematic
P-15	Plumbing - Sanitary Schematic
E-3	Elec. Power - Specifications
E-5	Elec. Power - Scope of Work
E-6	Electrical Site Plan
E-7	Elec. - SLD
E-8	Power/Comm - Bldg. 1
E-9	Elec. Lighting - Bldg. 1
E-10	Power/Comm - Bldg. 2
E-11	Elec. Lighting - Bldg. 2
E-12	Power/Comm - Bldg. 3
E-13	Elec. Lighting - Bldg. 3
E-14	Power/Comm - Bldg. 4
E-15	Elec. Lighting - Bldg. 4
E-16	Power/Comm - Bldg. 5
E-17	Elec. Lighting - Bldg. 5
E-18	Power/Comm - Bldg. 6
E-19	Elec. Lighting - Bldg. 6
E-20	Elec. Typical Building
E-21	Electrical Schedules
E-22	Electrical Details



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DRAWING REVISIONS

No.	Description	Date
2	Issued for Review	Apr. 22/22
3	Preliminary for Review	Sep. 09/22
4	Issued for Permit	Oct. 05/22
5	Issued for Tender	May 18/23
6	Re-issued for Tender	Dec. 20/24



Client: **WW Inc.**

Address: **Minden, ON**

Project Name: **Gull River Affordable Housing**

Dwg. Name: **Elec. Lighting - Bldg 3**

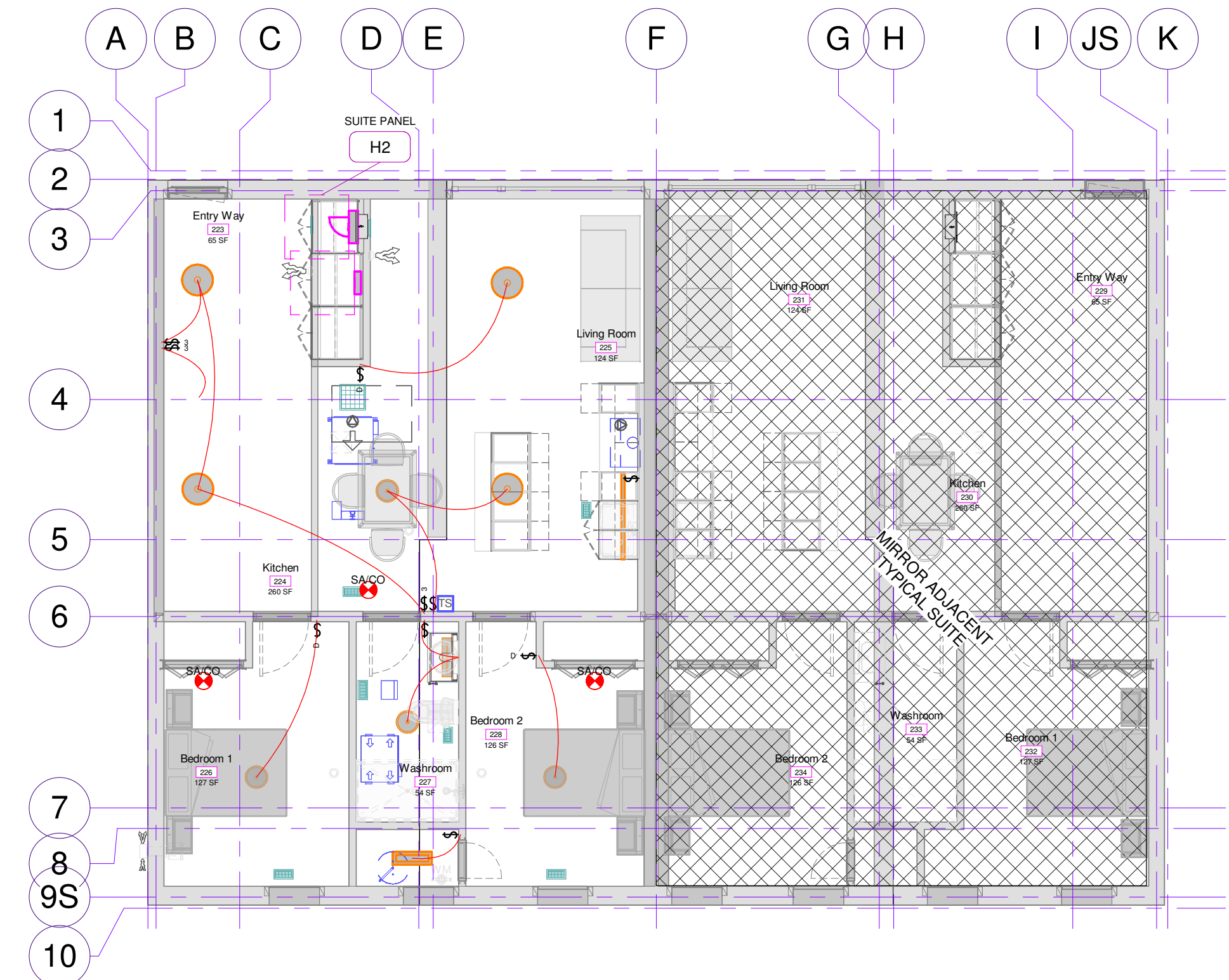
NSET Project #: **04322**

Drawn by: Northstar Eng. Checked by: D.B.D.

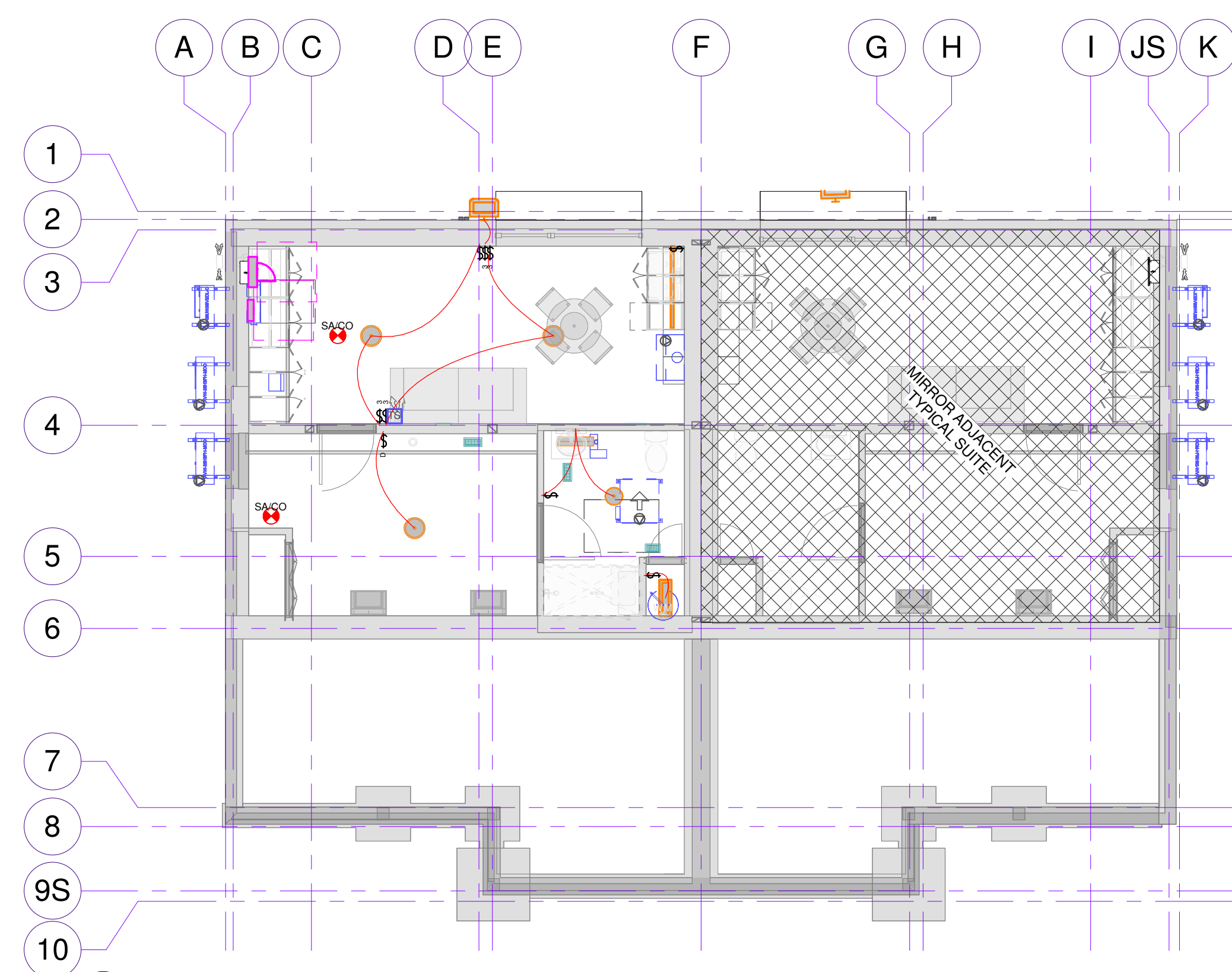
Scale: As indicated Revision #: 6.0

Drawing #: **E-13**

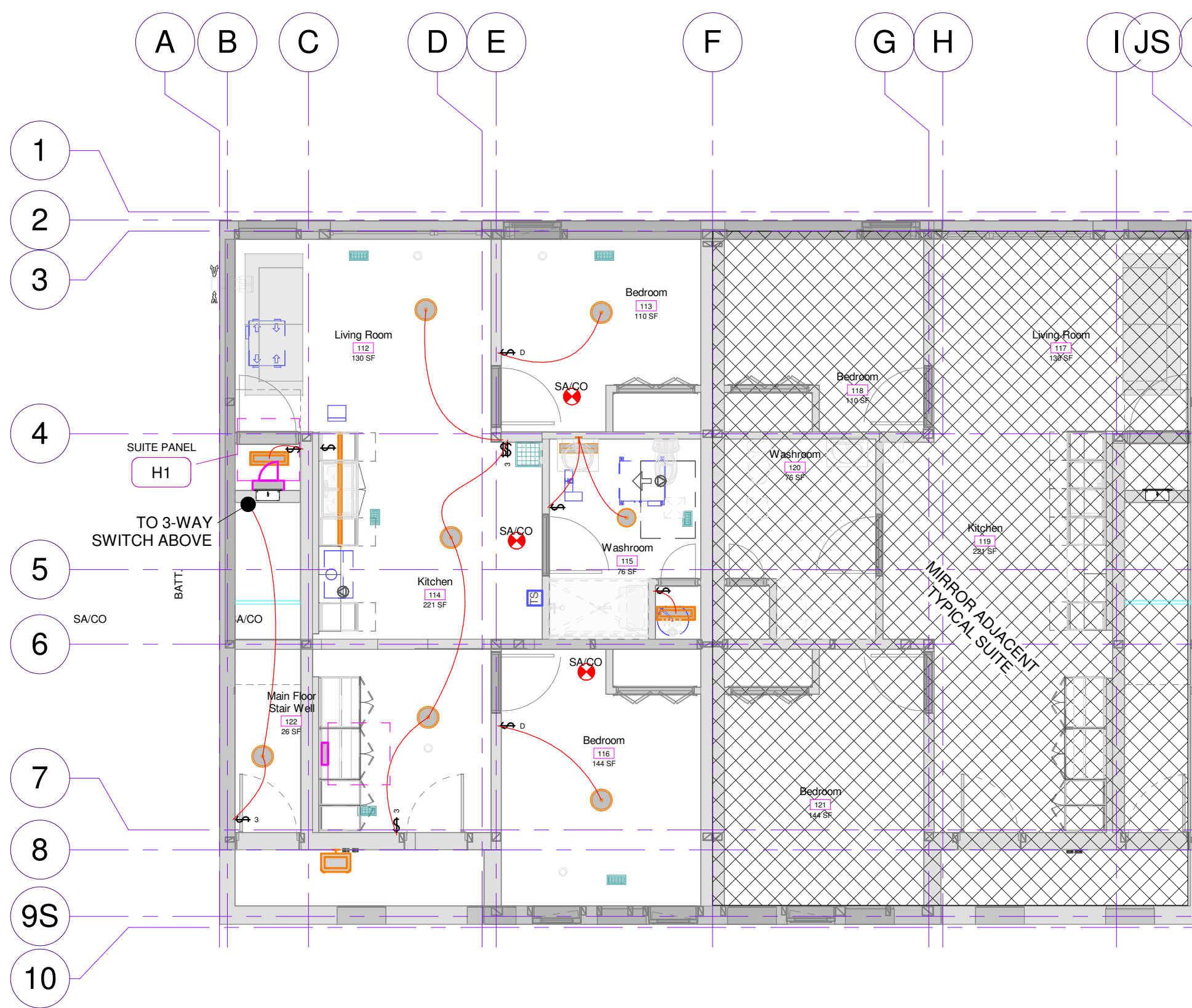
Project Date: Jan. 14/22 Arch-D (24" x 36")



(04322) Building 3 - Level 2 - RCP Lighting - New
E-13 1 : 75



(04322) Building 3 - Basement - RCP Lighting - New
E-13 1 : 75



(04322) Building 3 - Level 1 - RCP Lighting - New
E-13 1 : 75

Electrical and Lighting Legends. Includes symbols for electrical circuit tags, junction boxes, and various lighting fixtures like recessed LEDs and linear pendant lights.

(04322) Data Device Schedule - Typical Suite Only. Table listing levels (FFE Lower Level, FFE Ground Floor, 2-Floor), room numbers, descriptions of data and coax cable combinations, and quantities.

NOTES: DATA DEVICE SCHEDULE ABOVE IS FOR TYPICAL SUITE TYPE AND DOES NOT REFLECT THE TOTAL QUANTITY OF DATA DEVICES REQUIRED. TOTAL NUMBER OF SUITES: 35

(04322) Electrical Receptacle Schedule - Typical Suite Only. Table listing levels, room numbers, descriptions of receptacles (duplex, single, electric door bell), and quantities.

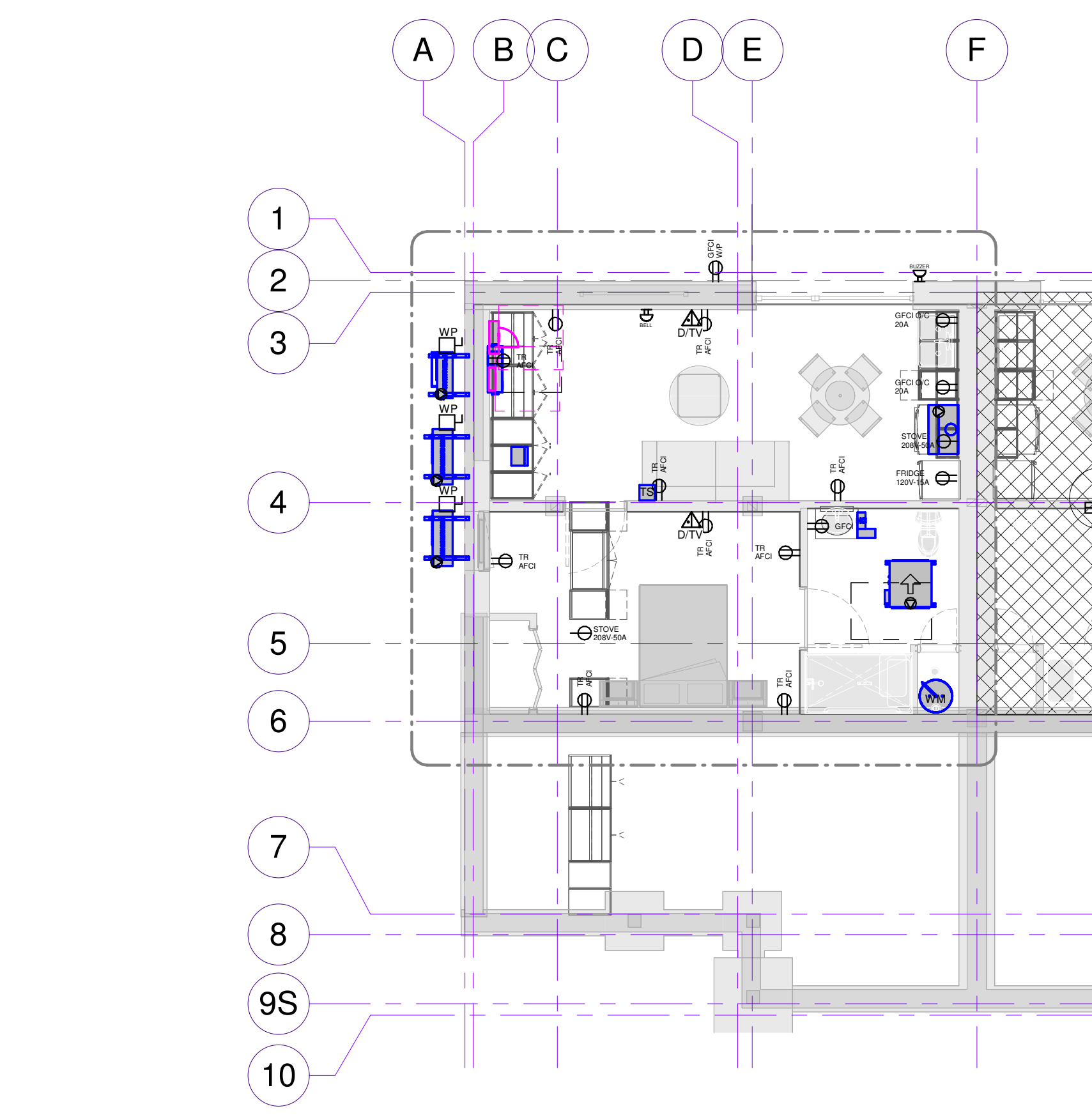
NOTES: RECEPTACLE SCHEDULE ABOVE IS FOR TYPICAL SUITE TYPE AND DOES NOT REFLECT THE TOTAL QUANTITY OF RECEPTACLES REQUIRED. TOTAL NUMBER OF SUITES: 35

Exterior Lighting Legend. Lists various outdoor lighting fixtures such as bollards, single and three-phase direct connections, and disconnects.

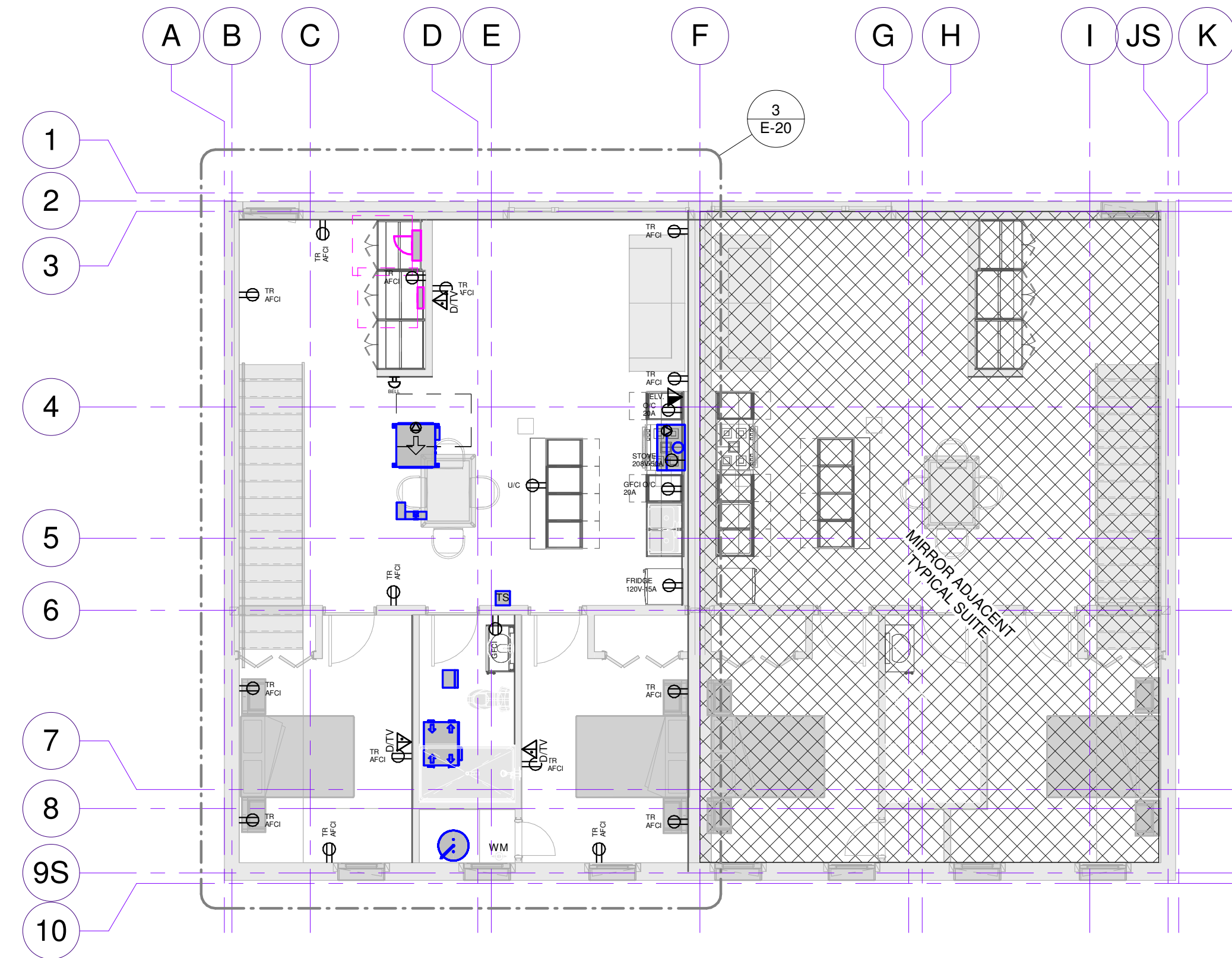
Exit & Emergency Lighting Legend. Details different types of emergency lights, including ceiling-mounted directional arrows and various pendant styles.

Lighting Controls Legend. Explains symbols for lighting circuit tags, outlet purposes, and various switches like single-pole and 3-way switches.

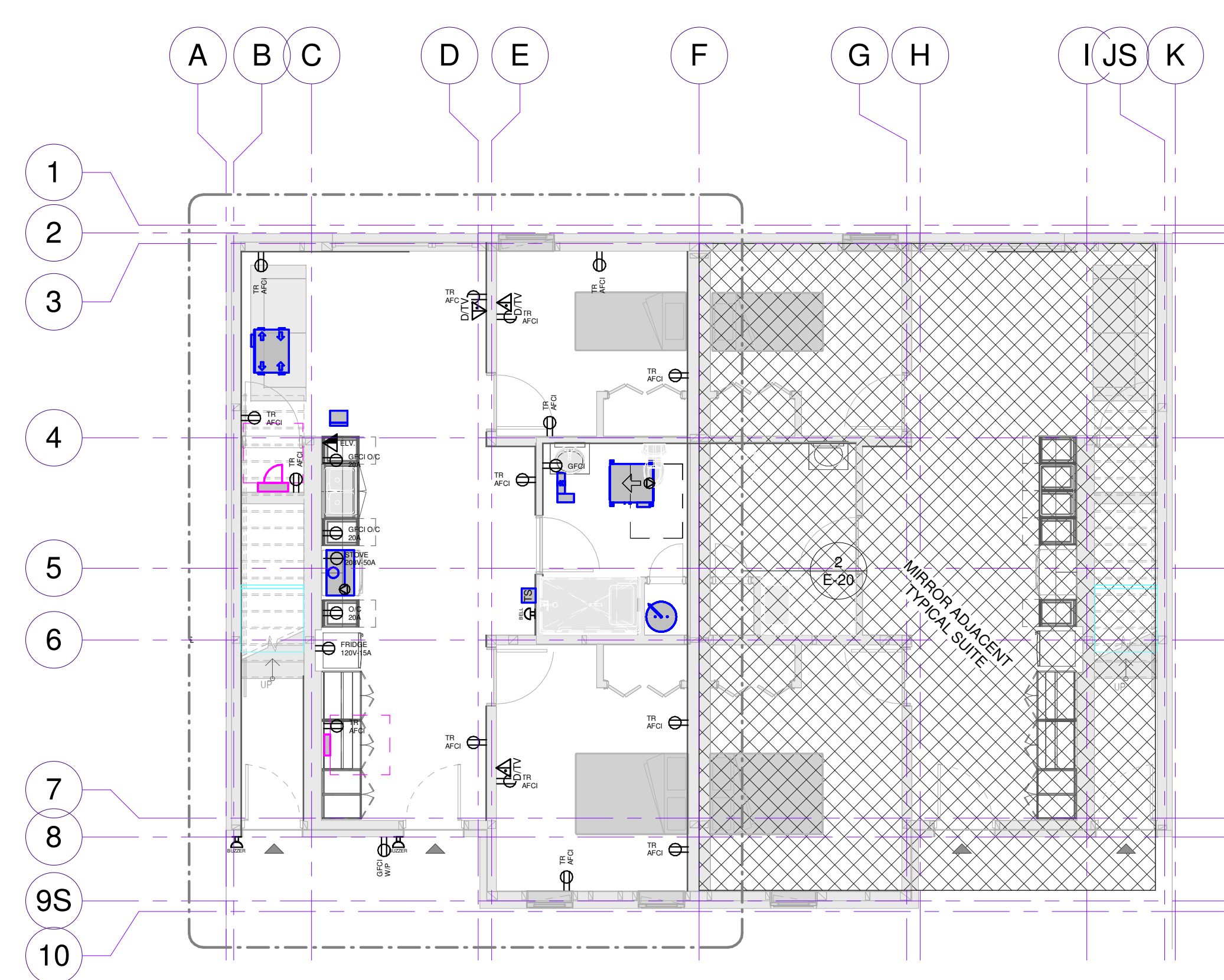
Communications Legend. Defines symbols for telephone/data combination outlets, data outlets, and various types of TV and data outlets.



1 (04322) Building 4 - Basement - Power Plan - New
E-14 1:75



3 (04322) Building 4 - Level 2 - Power Plan - New
E-14 1:75



2 (04322) Building 4 - Level 1 - Power Plan - New
E-14 1:75

(04322) PROJECT DRAWING REGISTER. Table listing sheet numbers, sheet names, and descriptions of drawing sheets.

Northstar Engineering & Technologies Ltd. logo and contact information: 92 Caplan Ave. Suite #517, Barrie, Ontario L4N 6J2.

General Drawing / Designer Notes. A list of 16 numbered notes detailing construction methods, design responsibilities, and drawing requirements.

Drawing Revisions. Table showing a list of revisions with dates: Issued for Review (Apr. 22/22), Preliminary for Review (Sep. 09/22), Issued for Permit (Oct. 05/22), Issued for Tender (May 18/23), and Re-issued for Tender (Dec. 20/24).

Client: WW Inc. Address: Minden, ON. Project Name: Gull River Affordable Housing. Dwg. Name: Power/Comm - Bldg. 4. Project #: 04322. Drawing #: E-14.

(04322) Lighting Fixture Schedule - Interior - Typical Suite Only

Level	Type	Qty.	Description	Fixture Finish	Color Temperature	Lumens	Voltage	VA	Manufacturer	Part #	Elevation of Light Source	Mounting Comments	Accessory 1	Lamping	Supplied By	Approved Alternate
FFE Lower Level	B	1	LUMINAIRE / INDOOR / VANITY / WALL / 24" LENGTH / LED DIRECT	BRUSHED NICKEL	3000 K	1300 lm	120 V	18 VA	LITHONIA LIGHTING	FMVCSL 24IN MVOLT 30K 90CRI BN M6	84"	WALL		LED 18W	DIV. 26	APPROVED EQUAL
B1 - U/S Cabinet	K	3	LUMINAIRE / INDOOR / TAPE / SURFACE / 18" LENGTH / LED DIRECT	WHITE	3500 K	400 lm	120 V	9 VA	LITHONIA LIGHTING	UCES 18IN SWW6 90CRI WH M6		CEILING / SURFACE		LED 8.4W	DIV. 26	APPROVED EQUAL
B1 - Ceiling	A1	1	LUMINAIRE / INDOOR / LINEAR / SURFACE / 24" LENGTH / LED DIRECT	WHITE	3500 K	940 lm	120 V	9 VA	LITHONIA LIGHTING	RLNK L24 120 35K 80 CRI M4		CEILING / SURFACE		LED 8.9W	DIV. 26	APPROVED EQUAL
B1 - Ceiling	L1	1	LUMINAIRE / INDOOR / DOME / SURFACE / 11" / LED DIRECT	WHITE	4000 K	1100 lm	120 V	16 VA	LITHONIA LIGHTING	FMLRL 11 14840 M4		CEILING / SURFACE		LED 16W	DIV. 26	APPROVED EQUAL
B1 - Ceiling	L2	3	LUMINAIRE / INDOOR / DOME / SURFACE / 14" / LED DIRECT	WHITE	4000 K	1600 lm	120 V	24 VA	LITHONIA LIGHTING	FMLRL 14 20840 M4		CEILING / SURFACE		LED 24W	DIV. 26	APPROVED EQUAL
FFE Ground Floor	B	1	LUMINAIRE / INDOOR / VANITY / WALL / 24" LENGTH / LED DIRECT	BRUSHED NICKEL	3000 K	1300 lm	120 V	18 VA	LITHONIA LIGHTING	FMVCSL 24IN MVOLT 30K 90CRI BN M6	84"	WALL		LED 18W	DIV. 26	APPROVED EQUAL
1 - U/S Cabinet	K	4	LUMINAIRE / INDOOR / TAPE / SURFACE / 18" LENGTH / LED DIRECT	WHITE	3500 K	400 lm	120 V	9 VA	LITHONIA LIGHTING	UCES 18IN SWW6 90CRI WH M6		CEILING / SURFACE		LED 8.4W	DIV. 26	APPROVED EQUAL
1 - Finished Ceiling	A1	2	LUMINAIRE / INDOOR / LINEAR / SURFACE / 24" LENGTH / LED DIRECT	WHITE	3500 K	940 lm	120 V	9 VA	LITHONIA LIGHTING	RLNK L24 120 35K 80 CRI M4		CEILING / SURFACE		LED 8.9W	DIV. 26	APPROVED EQUAL
1 - Finished Ceiling	L1	1	LUMINAIRE / INDOOR / DOME / SURFACE / 11" / LED DIRECT	WHITE	4000 K	1100 lm	120 V	16 VA	LITHONIA LIGHTING	FMLRL 11 14840 M4		CEILING / SURFACE		LED 16W	DIV. 26	APPROVED EQUAL
1 - Finished Ceiling	L2	6	LUMINAIRE / INDOOR / DOME / SURFACE / 14" / LED DIRECT	WHITE	4000 K	1600 lm	120 V	24 VA	LITHONIA LIGHTING	FMLRL 14 20840 M4		CEILING / SURFACE		LED 24W	DIV. 26	APPROVED EQUAL
2 - Floor	B	1	LUMINAIRE / INDOOR / VANITY / WALL / 24" LENGTH / LED DIRECT	BRUSHED NICKEL	3000 K	1300 lm	120 V	18 VA	LITHONIA LIGHTING	FMVCSL 24IN MVOLT 30K 90CRI BN M6	84"	WALL		LED 18W	DIV. 26	APPROVED EQUAL
2 - Floor	P	4	LUMINAIRE / INDOOR / PENDANT / SUSPENDED / LED DIRECT	WHITE	4000 K	4800 lm	120 V	34 VA	LITHONIA LIGHTING	VCVLLED-V4-P2-40K-80CRI-T5W-120-PM-DWHXD	108"	SUSPENDED		LED 34W	DIV. 26	APPROVED EQUAL
2 - U/S Cabinet	K	3	LUMINAIRE / INDOOR / TAPE / SURFACE / 18" LENGTH / LED DIRECT	WHITE	3500 K	400 lm	120 V	9 VA	LITHONIA LIGHTING	UCES 18IN SWW6 90CRI WH M6		CEILING / SURFACE		LED 8.4W	DIV. 26	APPROVED EQUAL
2 - Finished Ceiling	A1	1	LUMINAIRE / INDOOR / LINEAR / SURFACE / 24" LENGTH / LED DIRECT	WHITE	3500 K	940 lm	120 V	9 VA	LITHONIA LIGHTING	RLNK L24 120 35K 80 CRI M4		CEILING / SURFACE		LED 8.9W	DIV. 26	APPROVED EQUAL
2 - Finished Ceiling	L2	4	LUMINAIRE / INDOOR / DOME / SURFACE / 14" / LED DIRECT	WHITE	4000 K	1600 lm	120 V	24 VA	LITHONIA LIGHTING	FMLRL 14 20840 M4		CEILING / SURFACE		LED 24W	DIV. 26	APPROVED EQUAL

NOTES:
LIGHTING SCHEDULE ABOVE IS FOR TYPICAL SUITE TYPE AND DOES NOT REFLECT THE TOTAL QUANTITY OF LIGHTING FIXTURES REQUIRED
TOTAL NUMBER OF SUITES: 35

(MASTER-E) Fire Alarm Device Schedule

Level	Type Mark	Description	Circuit #	Qty.
2 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1
2 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1
2 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1
1 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	7	1
1 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	7	1
1 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	7	1
B1 - Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1
B1 - Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1

NOTES:
FIRE ALARM SCHEDULE ABOVE IS FOR TYPICAL SUITE TYPE AND DOES NOT REFLECT THE TOTAL QUANTITY OF DEVICES REQUIRED
TOTAL NUMBER OF SUITES: 35

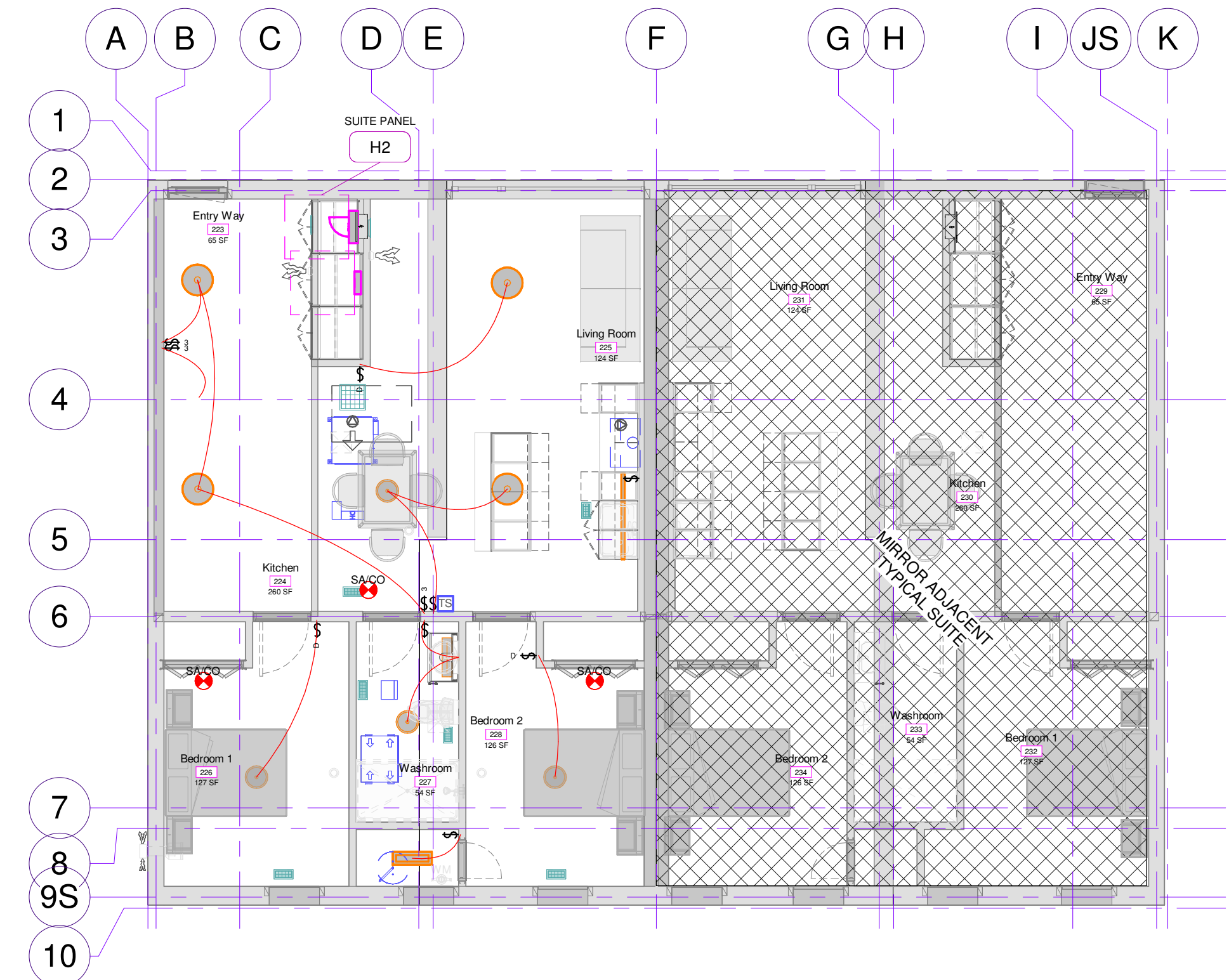
(04322) PROJECT DRAWING REGISTER

Sheet #	Sheet Name
E1/M1/P1	Project Cover
E2/M2/P2	Project Cover
M-3	HVAC - Specifications
M-4	HVAC - Specifications
M-5	HVAC - Scope of Work
M-6	HVAC - Scope of Work
M-7	HVAC - Bldg. 1
M-8	HVAC - Bldg. 2
M-9	HVAC - Bldg. 3
M-10	HVAC - Bldg. 4
M-11	HVAC - Bldg. 5
M-12	HVAC - Bldg. 6
M-13	HVAC - Isometric & Elevation Views
M-14	HVAC Details
P-3	Plumbing - Specifications
P-4	Plumbing - Specifications
P-5	Plumbing - Site Plan
P-6	Plumbing - Bldg. 1
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P-8	Plumbing - Bldg. 3
P-9	Plumbing - Bldg. 4
P-10	Plumbing - Bldg. 5
P-11	Plumbing - Bldg. 6
P-12	Plumbing - Typical Building
P-13	Plumbing - Details
P-14	Plumbing - Water Schematic
P-15	Plumbing - Sanitary Schematic
E-3	Elec. Power - Specifications
E-4	Elec. Power - Specifications
E-5	Elec. Power - Scope of Work
E-6	Electrical Site Plan
E-7	Elec. - SLD
E-8	Power/Comm - Bldg. 1
E-9	Elec. Lighting - Bldg. 1
E-10	Power/Comm - Bldg. 2
E-11	Elec. Lighting - Bldg. 2
E-12	Power/Comm - Bldg. 3
E-13	Elec. Lighting - Bldg. 3
E-14	Power/Comm - Bldg. 4
E-15	Elec. Lighting - Bldg. 4
E-16	Power/Comm - Bldg. 5
E-17	Elec. Lighting - Bldg. 5
E-18	Power/Comm - Bldg. 6
E-19	Elec. Lighting - Bldg. 6
E-20	Elec. Typical Building
E-21	Electrical Schedules
E-22	Electrical Details

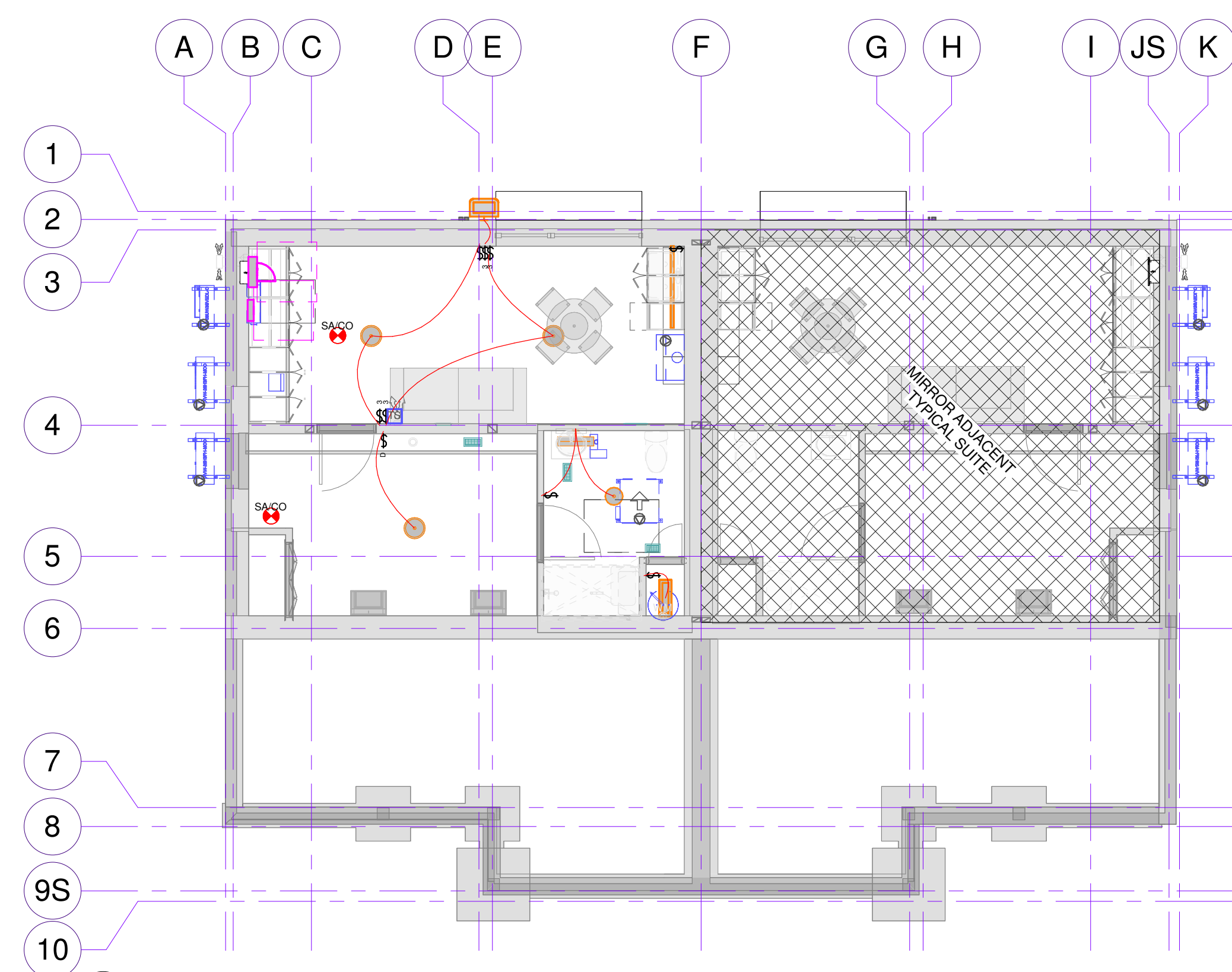


GENERAL DRAWING / DESIGNER NOTES:

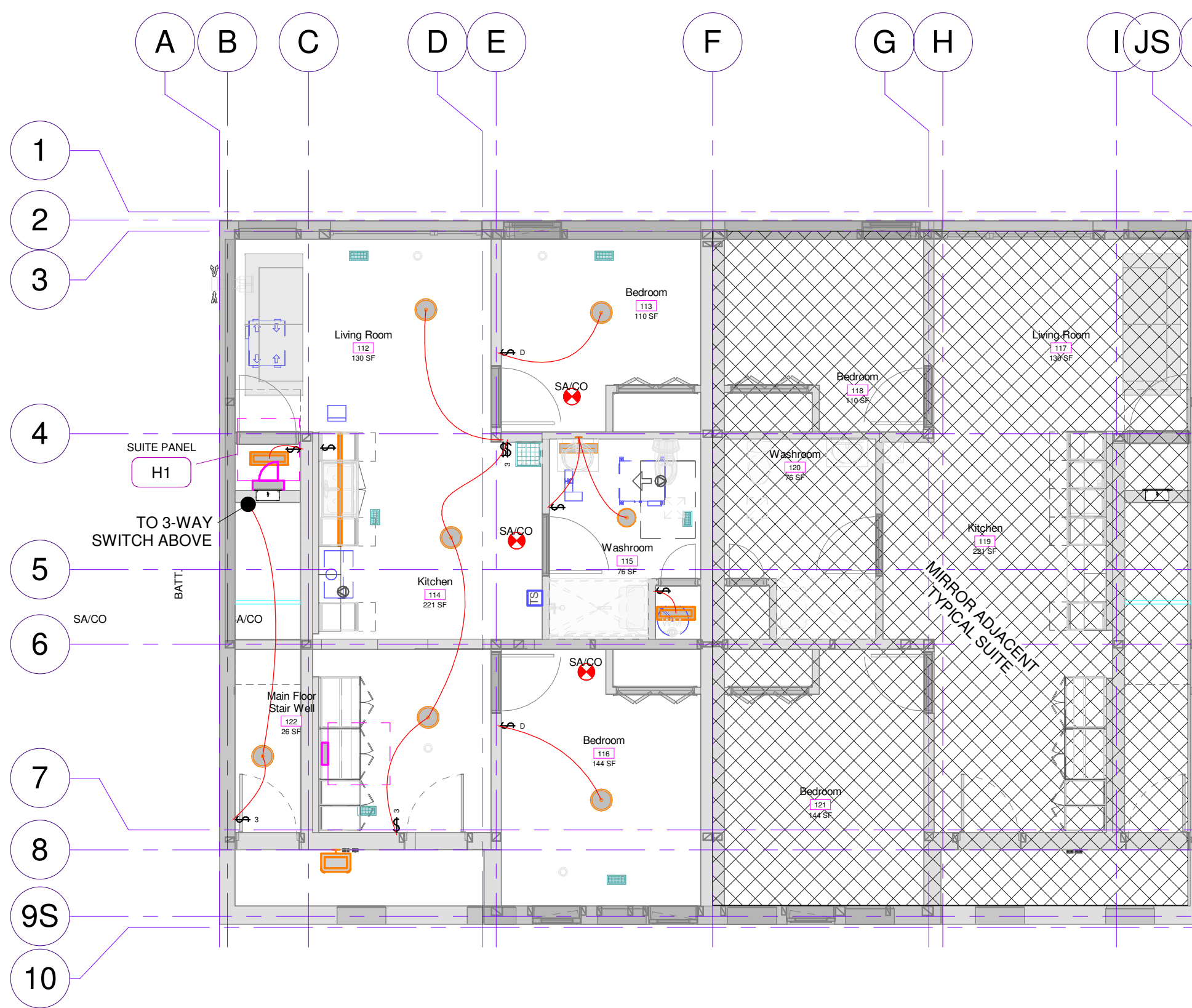
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- ALL REQUESTS FOR DESIGN CHANGES / SUBSTITUTIONS TO BE MADE IN WRITING. ADDITIONAL FEES MAY APPLY. ALLOW MINIMUM (1) ONE WEEK TO REVIEW AND RESPOND TO CHANGE REQUESTS.



(04322) Building 4 - Level 2 - RCP Lighting - New
1 : 75



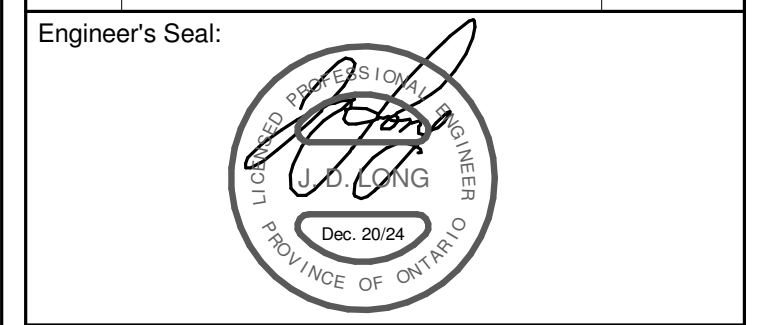
(04322) Building 4 - Basement - RCP Lighting - New
1 : 75



(04322) Building 4 - Level 1 - RCP Lighting - New
1 : 75

DRAWING REVISIONS

No.	Description	Date
2	Issued for Review	Apr. 22/22
3	Preliminary for Review	Sep. 09/22
4	Issued for Permit	Oct. 05/22
5	Issued for Tender	May 18/23
6	Re-Issued for Tender	Dec. 20/24



Client: **WW Inc.**

Address: **Minden, ON**

Project Name: **Gull River Affordable Housing**

Dwg. Name: **Elec. Lighting - Bldg 4**

NSET Project #: **04322**

Drawn by: Northstar Eng. Checked by: D.B.D.

Scale: As indicated Revision #: 6.0

Drawing #: **E-15**

Project Date: Jan. 14/22 Arch-D (24" x 36")

ELECTRICAL LEGEND		LIGHTING LEGEND		SECURITY LEGEND	
(OFFICES) A-20,22 @450mm A.F.F.	ELECTRICAL CIRCUIT TAG: COMMENT CIRCUIT # JB: ROUGH IN HEIGHT (CENTER LINE OF BOX) ABOVE FINISHED FLOOR - WALL MOUNTED - IN mm		LUMINAIRE - INTERIOR DOWNLIGHT - RECESSED - LED		SECURITY CAMERA
(OFFICES) A-20 @450mm A.F.F.	MECHANICAL EQUIPMENT TAG: AIR SYSTEM COMMENT MECHANICAL EQUIP. MARK / TYPE MARK CIRCUIT #		LUMINAIRE - INTERIOR DOWNLIGHT - SURFACE MOUNTED - LED		ELECTRIC LOCK
(OFFICES) PB-1	ELECTRICAL EQUIPMENT TAG: COMMENTS PANEL NAME SEE SLD, SCHEDULES & PLAN VIEWS.		LUMINAIRE - INTERIOR DOME - SURFACE MOUNTED - LED		KEYPAD ACCESS
JUN	JUNCTION BOX - WALL MOUNTED		LUMINAIRE - INTERIOR LINEAR - SURFACE MOUNTED - LED		CARD READER
JUN	JUNCTION BOX - FLOOR MOUNTED		LUMINAIRE - INTERIOR LINEAR - WALL MOUNTED - LED		MOTION SENSOR
JUN	JUNCTION BOX - CEILING MOUNTED		LUMINAIRE - INTERIOR LINEAR PENDANT - SUSPENDED - LED		DOOR CONTACT
DC	DIRECT CONNECTION - SINGLE PHASE		LUMINAIRE - INTERIOR TAPE - SURFACE MOUNTED - LED		PUSH TO EXIT
DC	DIRECT CONNECTION - THREE PHASE		LUMINAIRE - EXTERIOR BOLLARD - LED		SECURITY PANEL
DISC	DISCONNECT		LUMINAIRE - EXTERIOR POLE LIGHT - SINGLE HEAD - RECTANGULAR HEAD - LED		MAG. LOCK DOOR

EXIT & EMERGENCY LIGHTING LEGEND

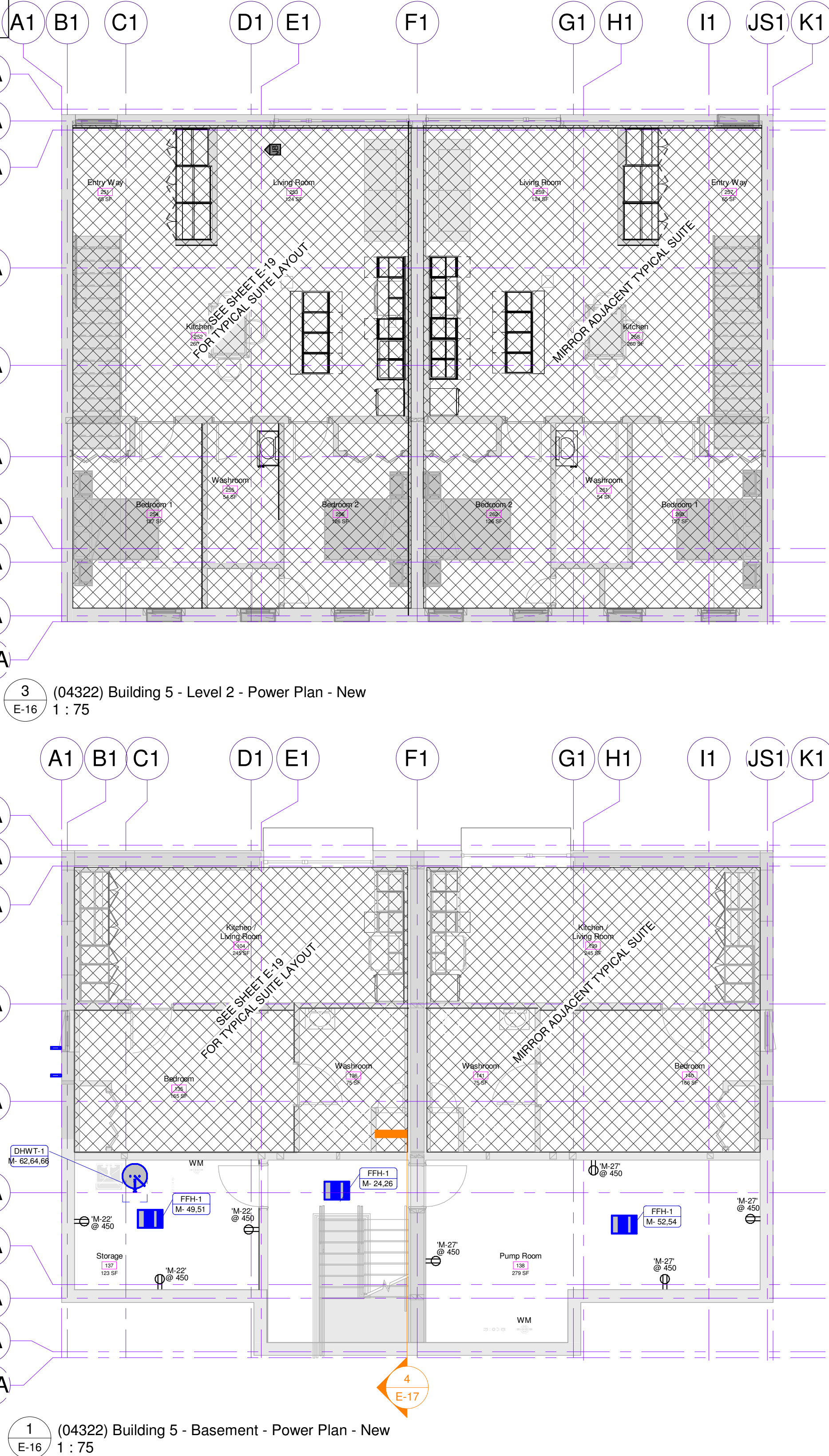
	EXIT SIGN - CEILING MOUNTED DIRECTIONAL ARROW INDICATES NUMBER OF EMERGENCY LIGHTS BY BATTERY
	EXIT SIGN - WALL MOUNTED DIRECTIONAL ARROW INDICATES NUMBER OF EMERGENCY LIGHTS BY BATTERY
	EMERGENCY LIGHT - REMOTE DOUBLE HEADS - CEILING MOUNTED
	EMERGENCY LIGHT - REMOTE DOUBLE HEADS - WALL MOUNTED
	EMERGENCY LIGHT - REMOTE SINGLE HEAD - CEILING MOUNTED
	EMERGENCY LIGHT - REMOTE SINGLE HEAD - WALL MOUNTED

LIGHTING CONTROLS LEGEND

	LIGHTING CIRCUIT TAG: SWITCH GROUP FITURE TYPE PANEL NAME CIRCUIT # JB: ROUGH IN HEIGHT (CENTER LINE OF BOX) ABOVE FINISHED FLOOR - WALL MOUNTED - IN mm
	TYP. LIGHT INDICATES NIGHT LIGHT TO REMAIN ACTIVE AT ALL TIMES
	EXTRA LOW VOLTAGE WIRE (ELV) - 30V
	LOW VOLTAGE SWITCH WIRE - 30V TO 750V
	LINE VOLTAGE SWITCH - SINGLE POLE
	LINE VOLTAGE SWITCH - 3 WAY
	LINE VOLTAGE SWITCH - DIMMER
	LINE VOLTAGE SWITCH - SINGLE POLE - TO FAN
	LINE VOLTAGE SWITCH - OCCUPANCY SENSOR
	LINE VOLTAGE OCCUPANCY SENSOR & TIMER - CEILING MOUNTED
	PHOTOCELL
	ASTRONOMIC TIME SWITCH

COMMUNICATIONS LEGEND

	TELEPHONE & DATA COMBINATION OUTLET - QUANTITY AS INDICATED - WALL MOUNTED
	TELEPHONE & DATA COMBINATION OUTLET - QUANTITY AS INDICATED - CEILING MOUNTED
	TELEPHONE & DATA COMBINATION OUTLET - QUANTITY AS INDICATED - FLOOR MOUNTED
	DATA OUTLET - QUANTITY AS INDICATED - CEILING MOUNTED
	WIRELESS ACCESS POINT DATA OUTLET - QUANTITY AS INDICATED - CEILING MOUNTED
	COAX CABLE TV OUTLET - QUANTITY AS INDICATED - PROVIDE RG6 CABLE - WALL MOUNTED
	COAX CABLE TV OUTLET - QUANTITY AS INDICATED - PROVIDE RG6 CABLE - FLOOR MOUNTED
	COAX CABLE TV OUTLET - QUANTITY AS INDICATED - PROVIDE RG6 CABLE - CEILING MOUNTED
	DATA & COAX COMBINATION OUTLET - QUANTITY AS INDICATED - PROVIDE RG6 CABLE - WALL MOUNTED
	DATA & COAX COMBINATION OUTLET - QUANTITY AS INDICATED - PROVIDE RG6 CABLE - FLOOR MOUNTED
	DATA & COAX COMBINATION OUTLET - QUANTITY AS INDICATED - PROVIDE RG6 CABLE - CEILING MOUNTED



(04322) Electrical Receptacle Schedule - Service & Common Areas					
Level	Rm. #	Qty.	Description	Pin Config.	
FFE Lower Level		3	ELECTRICAL DISCONNECT		
FFE Lower Level	137	3	RECEPTACLE / DUPLEX / WALL MOUNTED / 120V / 15A	NEMA 5-15R	
FFE Lower Level	138	4	RECEPTACLE / DUPLEX / WALL MOUNTED / 120V / 15A	NEMA 5-15R	
10					
FFE Ground Floor		1	DIRECT CONNECTION - 208V 3Ø	DIRECT CONNECTION	
FFE Ground Floor		1	HANDICAP DOOR PUSH BUTTON	HANDICAP DOOR PUSH BUTTON	
FFE Ground Floor		1	RECEPTACLE - DUPLEX - WALL MOUNTED - 120V 15A - GFCI - WEATHERPROOF c/w NEMA 4 ENCLOSURE	NEMA 5-15R	
FFE Ground Floor	142	1	AUTOMATIC DOOR OPERATOR	BY OTHERS	
FFE Ground Floor	142	1	HANDICAP DOOR PUSH BUTTON	HANDICAP DOOR PUSH BUTTON	
FFE Ground Floor	142	1	RECEPTACLE - DUPLEX - WALL MOUNTED - 120V 15A	NEMA 5-15R	
FFE Ground Floor	142	4	RECEPTACLE - SINGLE - WALL MOUNTED - 208V 3ØA	NEMA 14-30R	
FFE Ground Floor	142	4	RECEPTACLE - DUPLEX - WALL MOUNTED - 120V 15A - CLOTHES WASHER	NEMA 5-15R	
FFE Ground Floor	143	1	RECEPTACLE - DUPLEX - WALL MOUNTED - 120V 15A	NEMA 5-15R	
FFE Ground Floor	143	2	RECEPTACLE - QUADPLEX - WALL MOUNTED - 120V 15A - ELEVATED	NEMA 5-15R	
FFE Ground Floor	144	1	AUTOMATIC DOOR OPERATOR	BY OTHERS	
FFE Ground Floor	144	1	DOOR LOCK PUSH BUTTON	DOOR LOCK PUSH BUTTON	
FFE Ground Floor	144	1	EMERGENCY CALL PUSH BUTTON	EMERGENCY CALL PUSH BUTTON	
FFE Ground Floor	144	1	HANDICAP DOOR PUSH BUTTON	HANDICAP DOOR PUSH BUTTON	
FFE Ground Floor	144	2	JUNCTION BOX - WALL MOUNTED - 120V 1Ø	JUNCTION BOX	
FFE Ground Floor	144	1	RECEPTACLE - DUPLEX - WALL MOUNTED - 120V 15A - GFCI	NEMA 5-15R	
FFE Ground Floor	144	1	UNIVERSAL WASHROOM - DOME LIGHT WITH SOUNDER	DOME LIGHT WITH SOUNDER	
FFE Ground Floor	145	1	HANDICAP DOOR PUSH BUTTON	HANDICAP DOOR PUSH BUTTON	
FFE Ground Floor	145	2	RECEPTACLE - DUPLEX - WALL MOUNTED - 120V 15A	NEMA 5-15R	
FFE Ground Floor	145	1	UNIVERSAL WASHROOM - DOME LIGHT WITH SOUNDER	DOME LIGHT WITH SOUNDER	
Grand total		29			

(04322) PROJECT DRAWING REGISTER	
Sheet #	Sheet Name
E1/M1/P1	Project Cover
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E-9	Elec. Lighting - Bldg. 1
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E-11	Elec. Lighting - Bldg. 2
E-12	Power/Comm - Bldg. 3
E-13	Elec. Lighting - Bldg. 3
E-14	Power/Comm - Bldg. 4
E-15	Elec. Lighting - Bldg. 4
E-16	Power/Comm - Bldg. 5
E-17	Elec. Lighting - Bldg. 5
E-18	Power/Comm - Bldg. 6
E-19	Elec. Lighting - Bldg. 6
E-20	Elect. Typical Building
E-21	Electrical Schedules
E-22	Electrical Details

NORTHSTAR ENGINEERING & TECHNOLOGIES LTD.
92 Caplan Ave. Suite #517
Barrington Ontario L4N 8J2
Tel. (705) 719-1003 Fax (705) 719-0490
dlong@nset.ca www.nset.ca

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Engineer's Seal:

Client: **WW Inc.**

Address: **Minden, ON**

Project Name: **Gull River Affordable Housing**

Dwg. Name: **Power/Comm. - Bldg. 5**

NSET Project #: **04322**

Drawn by: Northstar Eng. | Checked by: D.B.D.

Scale: As indicated | Revision #: 6.0

Drawing #: **E-16**

Project Date: Jan. 14/22 | Arch-D (24" x 36")

(04322) Lighting Fixture Schedule - Interior - Service & Common Areas

Level	Type	Qty.	Description	Fixture Finish	Color Temperature	Lumens	Voltage	VA	Manufacturer	Part #	Elevation of Light Source	Mounting Comments	Accessory 1	Lamping	Supplied By	Approved Alternate
FFE Lower Level	C	2	LUMINAIRE / INDOOR / LINEAR / WALL / 48" LENGTH / LED DIRECT	WHITE	3500 K	1950 lm	120 V	20 VA	LITHONIA LIGHTING	RLNK L48 120 35K 80 CRI M4	<varies>	WALL		LED 20W	DIV. 26	APPROVED EQUAL
B1 - Ceiling	E1	2	EXIT SIGN COMBO / c/w BATT. & DBL. EMERG. LIGHT / CEILING / GREEN PICTOGRAM / SINGLE FACE / STRAIGHT-THRU / 120V / 12V-80W BATTERY / 12V-6W LED / WHITE											2xMR16 LED 12V-6W	DIV. 26	
B1 - Finished Ceiling	A2	5	LUMINAIRE / INDOOR / LINEAR / SURFACE / 48" LENGTH / LED DIRECT	WHITE	3500 K	1950 lm	120 V	20 VA	LITHONIA LIGHTING	RLNK L48 120 35K 80 CRI M4		CEILING / SURFACE		LED 20W	DIV. 26	APPROVED EQUAL
1 - U/S Landing	E4	1	EXIT SIGN COMBO / c/w BATT. & DBL. EMERG. LIGHT / CEILING / GREEN PICTOGRAM / DOUBLE FACE / RIGHT ARROW / 120V / 12V-80W BATTERY / 12V-6W LED / WHITE							LSC1280W2LD10DF				2xMR16 LED 12V-6W	DIV. 26	
FFE Ground Floor	B	1	LUMINAIRE / INDOOR / VANITY / WALL / 24" LENGTH / LED DIRECT	BRUSHED NICKEL	3000 K	1300 lm	120 V	18 VA	LITHONIA LIGHTING	FMVCSL 24IN MVOLT 30K 90CRI BN M6	96"	WALL		LED 18W	DIV. 26	APPROVED EQUAL
FFE Ground Floor	C	1	LUMINAIRE / INDOOR / LINEAR / WALL / 48" LENGTH / LED DIRECT	WHITE	3500 K	1950 lm	120 V	20 VA	LITHONIA LIGHTING	RLNK L48 120 35K 80 CRI M4	86 5/8"	WALL		LED 20W	DIV. 26	APPROVED EQUAL
FFE Ground Floor	E2	1	EMERG. LIGHT / WALL / REMOTE DOUBLE HEAD / 12V / WHITE							MOM2LD10				2xMR16 LED	DIV. 26	
FFE Ground Floor	E3	1	EMERG. LIGHT / WALL / REMOTE SINGLE HEAD / 12V / WHITE							MOM1LD10				1xMR16 LED	DIV. 26	
1 - Finished Ceiling	A2	1	LUMINAIRE / INDOOR / LINEAR / SURFACE / 48" LENGTH / LED DIRECT	WHITE	3500 K	1950 lm	120 V	20 VA	LITHONIA LIGHTING	RLNK L48 120 35K 80 CRI M4		CEILING / SURFACE		LED 20W	DIV. 26	APPROVED EQUAL
1 - Finished Ceiling	E1	2	EXIT SIGN COMBO / c/w BATT. & DBL. EMERG. LIGHT / CEILING / GREEN PICTOGRAM / SINGLE FACE / STRAIGHT-THRU / 120V / 12V-80W BATTERY / 12V-6W LED / WHITE							LSC1280W2LD10				2xMR16 LED 12V-6W	DIV. 26	
1 - Finished Ceiling	L2	5	LUMINAIRE / INDOOR / DOME / SURFACE / 14" / LED DIRECT	WHITE	4000 K	1600 lm	120 V	24 VA	LITHONIA LIGHTING	FMLRL 14 20840 M4		CEILING / SURFACE		LED 24W	DIV. 26	APPROVED EQUAL
1 - Finished Ceiling	TC	1	ASTRONOMIC TIME SWITCH							ET8000 SERIES					DIV. 26	

(04322) PROJECT DRAWING REGISTER

Sheet #	Sheet Name
E1/M1/P1	Project Cover
E2/M2/P2	Project Cover
M-3	HVAC - Specifications
M-4	HVAC - Specifications
M-5	HVAC - Scope of Work
M-6	HVAC - Scope of Work
M-7	HVAC - Bldg. 1
M-8	HVAC - Bldg. 2
M-9	HVAC - Bldg. 3
M-10	HVAC - Bldg. 4
M-11	HVAC - Bldg. 5
M-12	HVAC - Bldg. 6
M-13	HVAC - Isometric & Elevation Views
M-14	HVAC Details
P-3	Plumbing - Specifications
P-4	Plumbing - Specifications
P-5	Plumbing - Site Plan
P-6	Plumbing - Bldg. 1
P-7	Plumbing - Bldg. 2
P-8	Plumbing - Bldg. 3
P-9	Plumbing - Bldg. 4
P-10	Plumbing - Bldg. 5
P-11	Plumbing - Bldg. 6
P-12	Plumbing - Typical Building
P-13	Plumbing - Details
P-14	Plumbing - Water Schematic
P-15	Plumbing - Sanitary Schematic
E-3	Elec. Power - Specifications
E-4	Elec. Power - Specifications
E-5	Elec. Power - Scope of Work
E-6	Electrical Site Plan
E-7	Elec. - SLD
E-8	Power/Comm - Bldg. 1
E-9	Elec. Lighting - Bldg. 1
E-10	Power/Comm - Bldg. 2
E-11	Elec. Lighting - Bldg. 2
E-12	Power/Comm - Bldg. 3
E-13	Elec. Lighting - Bldg. 3
E-14	Power/Comm - Bldg. 4
E-15	Elec. Lighting - Bldg. 4
E-16	Power/Comm - Bldg. 5
E-17	Elec. Lighting - Bldg. 5
E-18	Power/Comm - Bldg. 6
E-19	Elec. Lighting - Bldg. 6
E-20	Elec. Typical Building
E-21	Electrical Schedules
E-22	Electrical Details

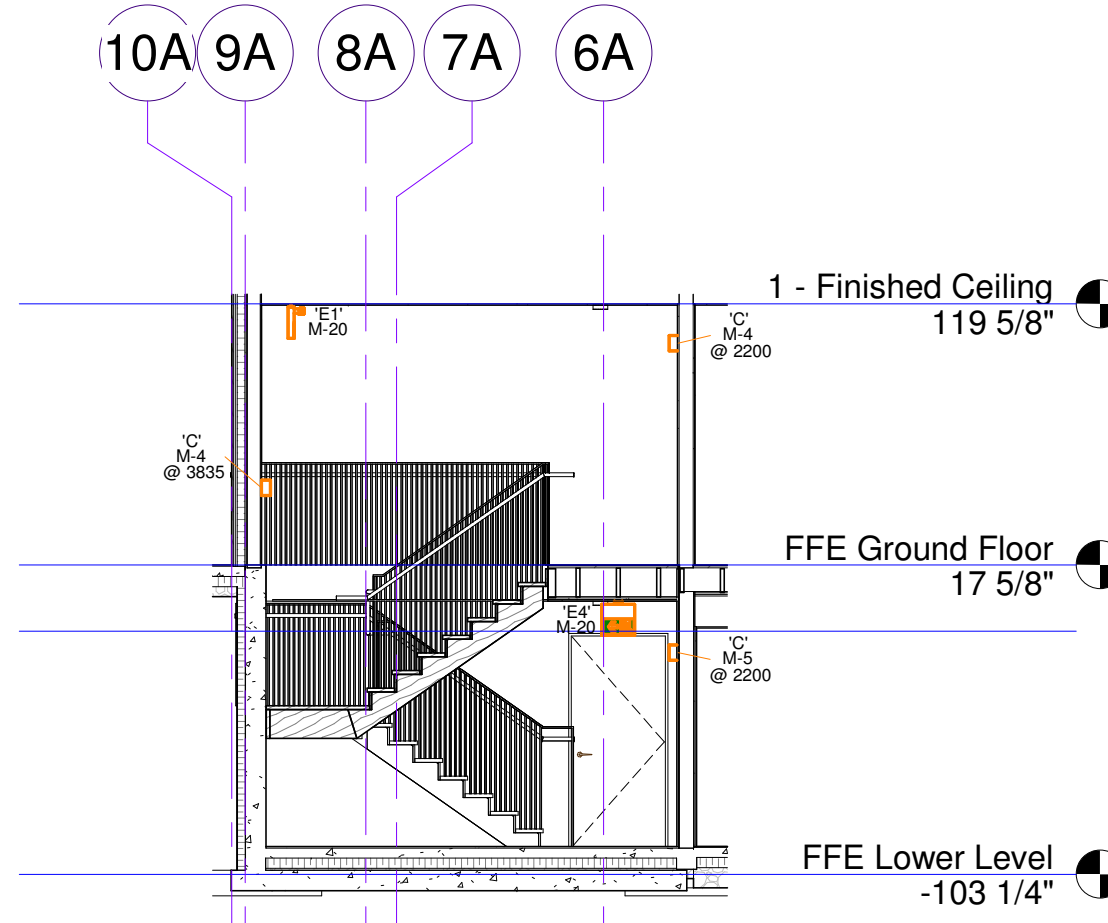
NORTHSTAR
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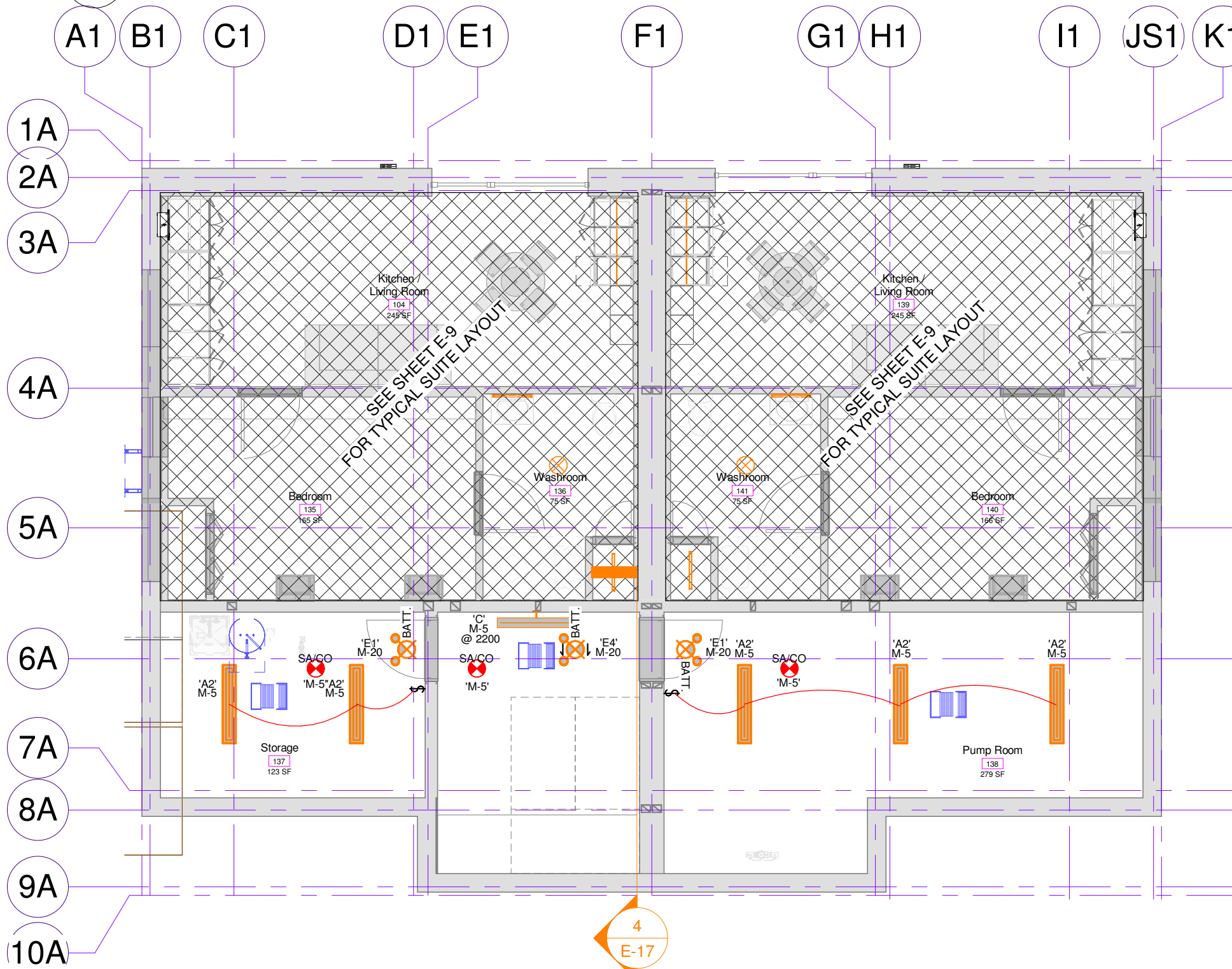
- GENERAL DRAWING / DESIGNER NOTES:**
- ALL CONSTRUCTION METHODS AND MATERIALS TO CONFORM TO THE LATEST EDITION OF THE PROVINCE OF ONTARIO'S BUILDING CODE, LOCAL REGULATIONS AND AUTHORITIES HAVING JURISDICTION.
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 - CONTRACTOR/AGENT/OWNER TO REPORT ALL DISCOVERIES OF ERRORS, OMISSIONS OR DISCREPANCIES TO THE DESIGNER.
 - PROCEED WITH CONSTRUCTION ONLY USING THE LATEST REVISED DRAWINGS MARKED "ISSUED FOR CONSTRUCTION".
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 - SHOP DRAWINGS: BASED ON CONTRACT WITH OWNER, THE ENGINEER WILL REVIEW SHOP SUBMISSION DWGS FROM THE CONTRACTOR TO REVIEW THE ITEMS FOR GENERAL CONFORMANCE TO THE DESIGN DWGS. THE SHOP DWG REVIEW WILL NOT RELEASE THE CONTRACTOR FROM RESPONSIBILITY TO MAKE A FEASIBLE WORKING SYSTEM. THESE SHOP DRAWINGS SHALL CONSIST OF PLUMBING FIXTURES, HVAC EQUIPMENT, HVAC DIFFUSERS. MINIMUM 1-2 WEEKS FOR COMPLETION BASED ON COMPLEXITY.
 - THE DESIGNER DOES NOT ACCEPT RESPONSIBILITY FOR OTHER DESIGNERS WORK IN ASSOCIATION WITH THIS PROJECT.
 - RESPONSIBILITY FOR ANY FINAL ASSEMBLYS THAT VIOLATE APPLICABLE BUILDING CODES IS NOT ACCEPTED BY THE DESIGNER.
 - REQUESTS FOR CHANGES OR SUBSTITUTIONS TO EQUIPMENT, PLANS AND/OR SPECIFICATIONS WILL BE SUBJECT TO ADDITIONAL FEES CHARGED BY THE CONSULTANT.
 - SITE VISITS TO REVIEW IMPLEMENTED DESIGNS WITHIN THE SCOPE OF THIS PROJECT TO BE ARRANGED WITH THE OWNER.
 - MINIMUM FORTY EIGHT (48) HOURS PRIOR NOTICE TO BE PROVIDED FOR SITE VISITS - ONCE ARRANGED.
 - REQUESTS FOR THE RELEASE OF THIS DRAWING SET FROM NORTHSTAR ENGINEERING & TECHNOLOGIES LTD. FOR THE PURPOSE OF TENDERING PURPOSES BY ANY CONTRACTOR TO BE MADE BY THE OWNER OR ARCHITECT IN WRITING.
 - TENDER PRICING BY CONTRACTORS OF DRAWINGS TO BE BASED ON DWGS MARKED "ISSUED FOR TENDER" OR "ISSUED FOR CONSTRUCTION" ONLY.
 - ALL REQUESTS FOR DESIGN CHANGES / SUBSTITUTIONS TO BE MADE IN WRITING. ADDITIONAL FEES MAY APPLY. ALLOW MINIMUM (1) ONE WEEK TO REVIEW AND RESPOND TO CHANGE REQUESTS.

(MASTER-E) Fire Alarm Device Schedule

Level	Type Mark	Description	Circuit #	Qty.
1 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-SS31, SS38	4	1
1 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-SS31, SS38	4	1
1 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-SS31, SS38	4	1
1 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-SS31, SS38	4	1



3 (04322) Building 5 - Level 2 - RCP Lighting - New
1 : 75

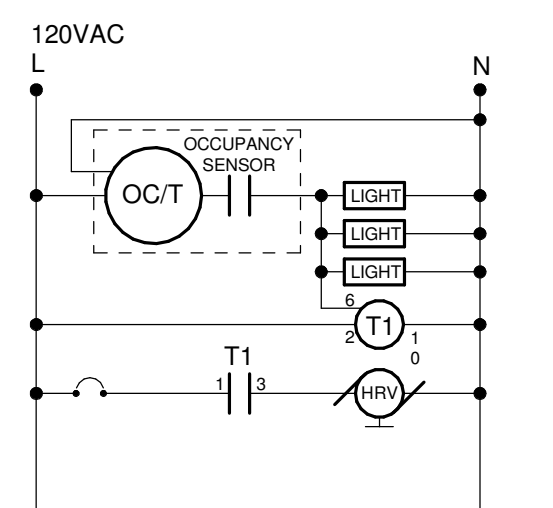


1 (04322) Building 5 - Basement - RCP Lighting - New
1 : 75

4 (04322) Unit 5 - Stairwell Section
1 : 75



2 (04322) Building 5 - Level 1 - RCP Lighting - New
1 : 75



NOTES:
CONCEPTUAL CONTROL CIRCUIT FOR DELAY-OFF EXHAUST FANS.
SEE PLANS FOR QUANTITIES, LOCATIONS, & CIRCUITS FOR LIGHTS & FANS.
IF LOADS EXCEED CONTACT CURRENT RATING; ADD ADDITIONAL CONTACTORS ON LIGHT/FAN POWER SUPPLIES.
OMRON SOLID-STATE MULTI-FUNCTIONAL TIMER
H3CR-AP (MODE D)
100 to 240 VAC (50/60 Hz)/100 to 125 VDC
TIME LIMIT CONTACTS:
5 A @ 250 VAC/30 VDC,
0.15 A @ 125 VDC, RESISTIVE LOAD
OCCUPANCY SENSOR
MFG: WATTSTOPPER
MODEL: DT-355

5 Fan Control / Occ Sensor Light Control c/w Delay-Off Fan
N.T.S.

DRAWING REVISIONS

No.	Description	Date
1	Preliminary	May 19/22
3	Preliminary for Review	Sep. 09/22
4	Issued for Permit	Oct. 05/22
5	Issued for Tender	May 18/23
6	Re-Issued for Tender	Dec. 20/24

Engineer's Seal:

Client: **WW Inc.**
Address: **Minden, ON**
Project Name: **Gull River Affordable Housing**
Dwg. Name: **Elec. Lighting - Bldg. 5**
NSET Project #: **04322**
Drawn by: Northstar Eng. Checked by: J.D.L.
Scale: As indicated Revision #: 6.0
Drawing #: **E-17**
Project Date: Jan. 14/22 Arch-D (24" x 36")

(04322) Lighting Fixture Schedule - Interior - Typical Suite Only

Level	Type	Qty.	Description	Fixture Finish	Color Temperature	Lumens	Voltage	VA	Manufacturer	Part #	Elevation of Light Source	Mounting Comments	Accessory 1	Lamping	Supplied By	Approved Alternate
FFE Lower Level	B	1	LUMINAIRE / INDOOR / VANITY / WALL / 24" LENGTH / LED DIRECT	BRUSHED NICKEL	3000 K	1300 lm	120 V	18 VA	LITHONIA LIGHTING	FMVCSL 24IN MVOLT 30K 90CRI BN M6	84"	WALL		LED 18W	DIV. 26	APPROVED EQUAL
B1 - U/S Cabinet	K	3	LUMINAIRE / INDOOR / TAPE / SURFACE / 18" LENGTH / LED DIRECT	WHITE	3500 K	400 lm	120 V	9 VA	LITHONIA LIGHTING	UCES 18IN SWW6 90CRI WH M6		CEILING / SURFACE		LED 8.4W	DIV. 26	APPROVED EQUAL
B1 - Ceiling	A1	1	LUMINAIRE / INDOOR / LINEAR / SURFACE / 24" LENGTH / LED DIRECT	WHITE	3500 K	940 lm	120 V	9 VA	LITHONIA LIGHTING	RLNK L24 120 35K 80 CRI M4		CEILING / SURFACE		LED 8.9W	DIV. 26	APPROVED EQUAL
B1 - Ceiling	L1	1	LUMINAIRE / INDOOR / DOME / SURFACE / 11" / LED DIRECT	WHITE	4000 K	1100 lm	120 V	16 VA	LITHONIA LIGHTING	FMLRL 11 14840 M4		CEILING / SURFACE		LED 16W	DIV. 26	APPROVED EQUAL
B1 - Ceiling	L2	3	LUMINAIRE / INDOOR / DOME / SURFACE / 14" / LED DIRECT	WHITE	4000 K	1600 lm	120 V	24 VA	LITHONIA LIGHTING	FMLRL 14 20840 M4		CEILING / SURFACE		LED 24W	DIV. 26	APPROVED EQUAL
FFE Ground Floor	B	1	LUMINAIRE / INDOOR / VANITY / WALL / 24" LENGTH / LED DIRECT	BRUSHED NICKEL	3000 K	1300 lm	120 V	18 VA	LITHONIA LIGHTING	FMVCSL 24IN MVOLT 30K 90CRI BN M6	84"	WALL		LED 18W	DIV. 26	APPROVED EQUAL
1 - U/S Cabinet	K	4	LUMINAIRE / INDOOR / TAPE / SURFACE / 18" LENGTH / LED DIRECT	WHITE	3500 K	400 lm	120 V	9 VA	LITHONIA LIGHTING	UCES 18IN SWW6 90CRI WH M6		CEILING / SURFACE		LED 8.4W	DIV. 26	APPROVED EQUAL
1 - Finished Ceiling	A1	2	LUMINAIRE / INDOOR / LINEAR / SURFACE / 24" LENGTH / LED DIRECT	WHITE	3500 K	940 lm	120 V	9 VA	LITHONIA LIGHTING	RLNK L24 120 35K 80 CRI M4		CEILING / SURFACE		LED 8.9W	DIV. 26	APPROVED EQUAL
1 - Finished Ceiling	L1	1	LUMINAIRE / INDOOR / DOME / SURFACE / 11" / LED DIRECT	WHITE	4000 K	1100 lm	120 V	16 VA	LITHONIA LIGHTING	FMLRL 11 14840 M4		CEILING / SURFACE		LED 16W	DIV. 26	APPROVED EQUAL
1 - Finished Ceiling	L2	6	LUMINAIRE / INDOOR / DOME / SURFACE / 14" / LED DIRECT	WHITE	4000 K	1600 lm	120 V	24 VA	LITHONIA LIGHTING	FMLRL 14 20840 M4		CEILING / SURFACE		LED 24W	DIV. 26	APPROVED EQUAL
2 - Floor	B	1	LUMINAIRE / INDOOR / VANITY / WALL / 24" LENGTH / LED DIRECT	BRUSHED NICKEL	3000 K	1300 lm	120 V	18 VA	LITHONIA LIGHTING	FMVCSL 24IN MVOLT 30K 90CRI BN M6	84"	WALL		LED 18W	DIV. 26	APPROVED EQUAL
2 - Floor	P	4	LUMINAIRE / INDOOR / PENDANT / SUSPENDED / LED DIRECT	WHITE	4000 K	4800 lm	120 V	34 VA	LITHONIA LIGHTING	VCVLLED-V4-P2-40K-80CRI-T5W-120-PM-DWHXD	108"	SUSPENDED		LED 34W	DIV. 26	APPROVED EQUAL
2 - U/S Cabinet	K	3	LUMINAIRE / INDOOR / TAPE / SURFACE / 18" LENGTH / LED DIRECT	WHITE	3500 K	400 lm	120 V	9 VA	LITHONIA LIGHTING	UCES 18IN SWW6 90CRI WH M6		CEILING / SURFACE		LED 8.4W	DIV. 26	APPROVED EQUAL
2 - Finished Ceiling	A1	1	LUMINAIRE / INDOOR / LINEAR / SURFACE / 24" LENGTH / LED DIRECT	WHITE	3500 K	940 lm	120 V	9 VA	LITHONIA LIGHTING	RLNK L24 120 35K 80 CRI M4		CEILING / SURFACE		LED 8.9W	DIV. 26	APPROVED EQUAL
2 - Finished Ceiling	L2	4	LUMINAIRE / INDOOR / DOME / SURFACE / 14" / LED DIRECT	WHITE	4000 K	1600 lm	120 V	24 VA	LITHONIA LIGHTING	FMLRL 14 20840 M4		CEILING / SURFACE		LED 24W	DIV. 26	APPROVED EQUAL

NOTES:
LIGHTING SCHEDULE ABOVE IS FOR TYPICAL SUITE TYPE AND DOES NOT REFLECT THE TOTAL QUANTITY OF LIGHTING FIXTURES REQUIRED
TOTAL NUMBER OF SUITES: 35

(MASTER-E) Fire Alarm Device Schedule

Level	Type Mark	Description	Circuit #	Qty.
2 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1
2 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1
2 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1
1 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	7	1
1 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	7	1
1 - Finished Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	7	1
B1 - Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1
B1 - Ceiling		FIRE ALARM - COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR - CEILING MOUNTED - CAN/ULC-S531, S538	4	1

NOTES:
FIRE ALARM SCHEDULE ABOVE IS FOR TYPICAL SUITE TYPE AND DOES NOT REFLECT THE TOTAL QUANTITY OF DEVICES REQUIRED
TOTAL NUMBER OF SUITES: 35

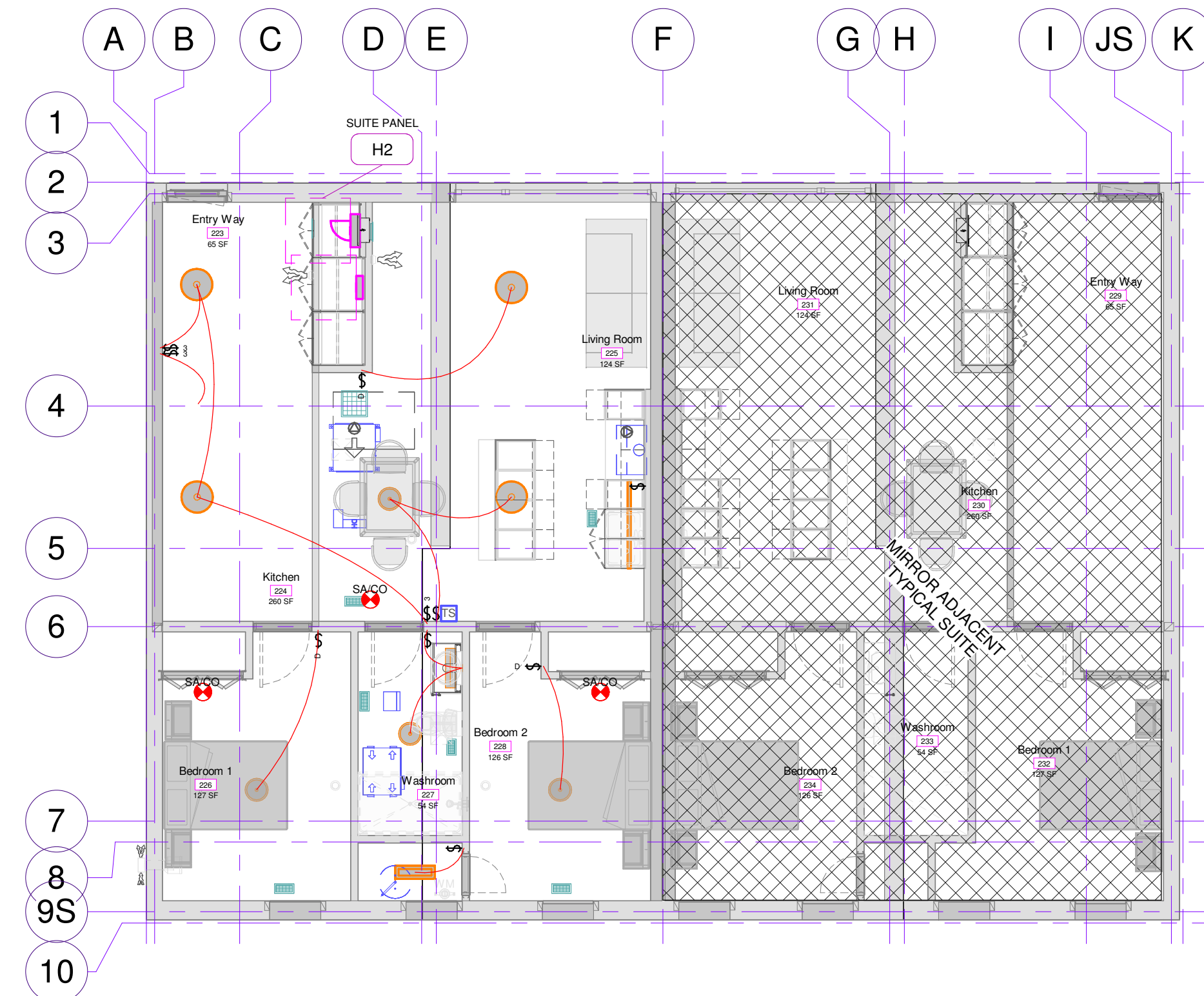
(04322) PROJECT DRAWING REGISTER

Sheet #	Project Cover	Sheet Name
E1/M1/P1	Project Cover	Project Cover
E2/M2/P2	Project Cover	Project Cover
M-3	HVAC - Specifications	HVAC - Specifications
M-4	HVAC - Scope of Work	HVAC - Scope of Work
M-5	HVAC - Scope of Work	HVAC - Scope of Work
M-6	HVAC - Scope of Work	HVAC - Scope of Work
M-7	HVAC - Bldg. 1	HVAC - Bldg. 1
M-8	HVAC - Bldg. 2	HVAC - Bldg. 2
M-9	HVAC - Bldg. 3	HVAC - Bldg. 3
M-10	HVAC - Bldg. 4	HVAC - Bldg. 4
M-11	HVAC - Bldg. 5	HVAC - Bldg. 5
M-12	HVAC - Bldg. 6	HVAC - Bldg. 6
M-13	HVAC - Isometric & Elevation Views	HVAC - Isometric & Elevation Views
M-14	HVAC Details	HVAC Details
P-3	Plumbing - Specifications	Plumbing - Specifications
P-4	Plumbing - Site Plan	Plumbing - Site Plan
P-5	Plumbing - Bldg. 1	Plumbing - Bldg. 1
P-6	Plumbing - Bldg. 2	Plumbing - Bldg. 2
P-7	Plumbing - Bldg. 3	Plumbing - Bldg. 3
P-8	Plumbing - Bldg. 4	Plumbing - Bldg. 4
P-9	Plumbing - Bldg. 5	Plumbing - Bldg. 5
P-10	Plumbing - Bldg. 6	Plumbing - Bldg. 6
P-11	Plumbing - Typical Building	Plumbing - Typical Building
P-12	Plumbing - Details	Plumbing - Details
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P-14	Plumbing - Sanitary Schematic	Plumbing - Sanitary Schematic
E-3	Elec. Power - Specifications	Elec. Power - Specifications
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E-5	Electrical Site Plan	Electrical Site Plan
E-6	Elec. - SLD	Elec. - SLD
E-7	Power/Comm - Bldg. 1	Power/Comm - Bldg. 1
E-8	Power/Comm - Bldg. 2	Power/Comm - Bldg. 2
E-9	Power/Comm - Bldg. 3	Power/Comm - Bldg. 3
E-10	Power/Comm - Bldg. 4	Power/Comm - Bldg. 4
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E-12	Power/Comm - Bldg. 6	Power/Comm - Bldg. 6
E-13	Electrical Schedules	Electrical Schedules
E-14	Electrical Details	Electrical Details
E-15	Electrical Details	Electrical Details
E-16	Electrical Details	Electrical Details
E-17	Electrical Details	Electrical Details
E-18	Electrical Details	Electrical Details
E-19	Electrical Details	Electrical Details
E-20	Electrical Details	Electrical Details
E-21	Electrical Details	Electrical Details
E-22	Electrical Details	Electrical Details

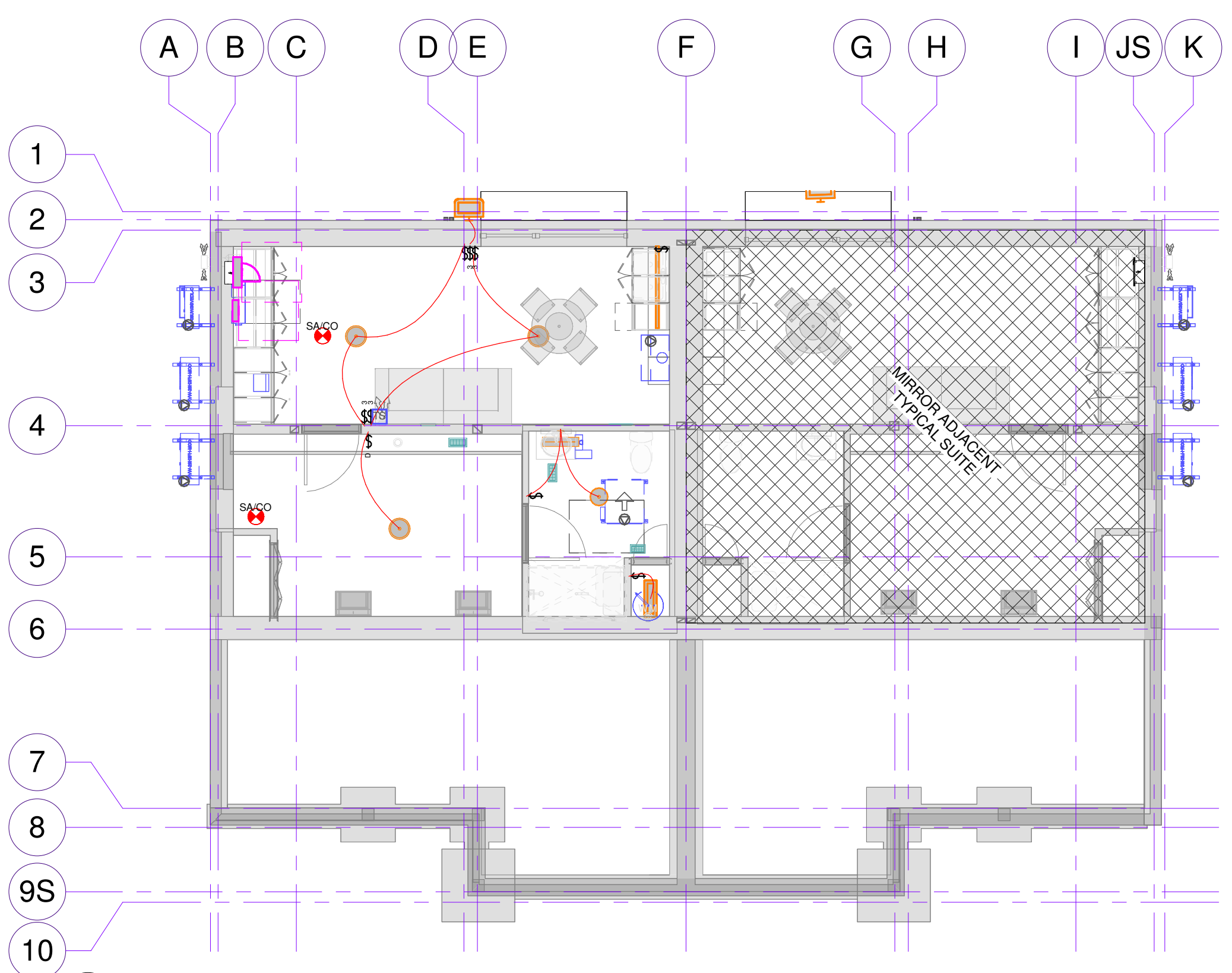


GENERAL DRAWING / DESIGNER NOTES:

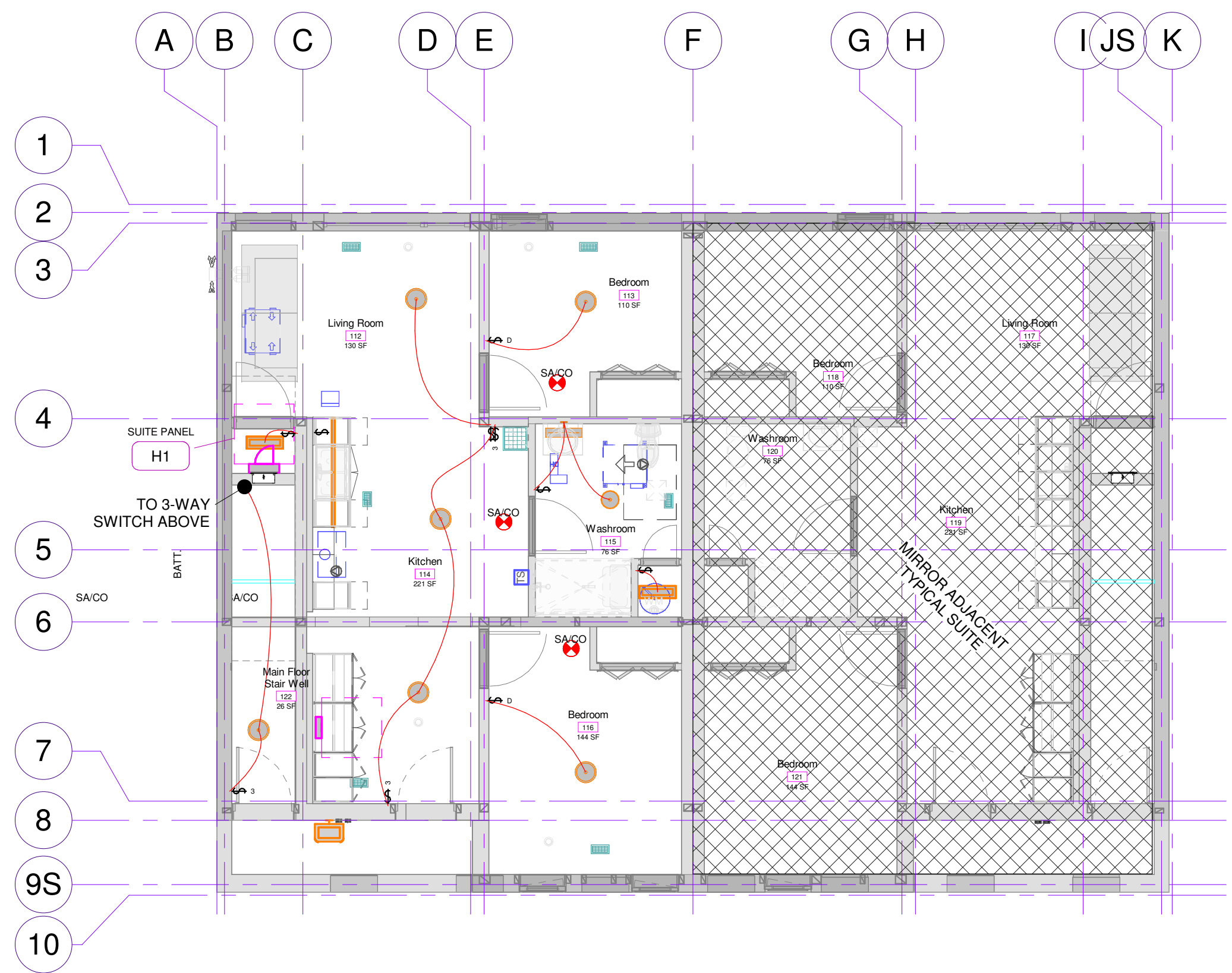
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2 (04322) Building 6 - Level 2 - RCP Lighting - New
E-19 1 : 75

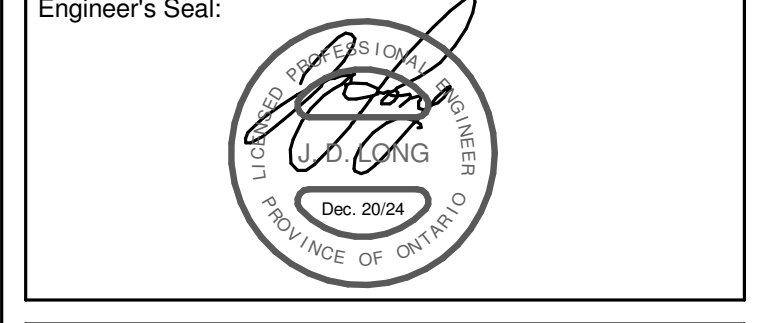


1 (04322) Building 6 - Basement - RCP Lighting - New
E-19 1 : 75



5 (04322) Building 6 - Level 1 - RCP Lighting - New
E-19 1 : 75

No.	Description	Date
2	Issued for Review	Apr. 22/22
3	Preliminary for Review	Sep. 09/22
4	Issued for Permit	Oct. 05/22
5	Issued for Tender	May 18/23
6	Re-Issued for Tender	Dec. 20/24



Client: **WW Inc.**

Address: **Minden, ON**

Project Name: **Gull River Affordable Housing**

Dwg. Name: **Elec. Lighting - Bldg 6**

NSET Project #: **04322**

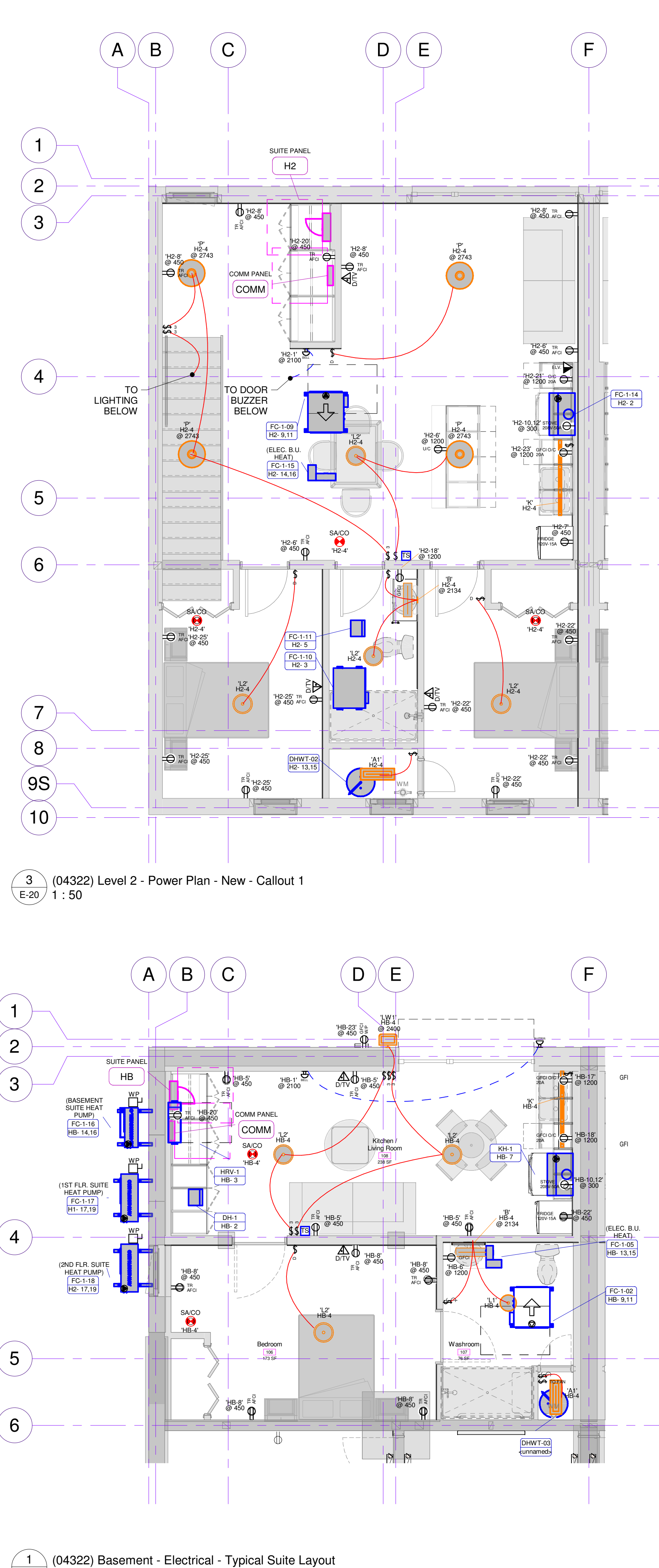
Drawn by: Northstar Eng. Checked by: D.B.D.

Scale: As indicated Revision #: 6.0

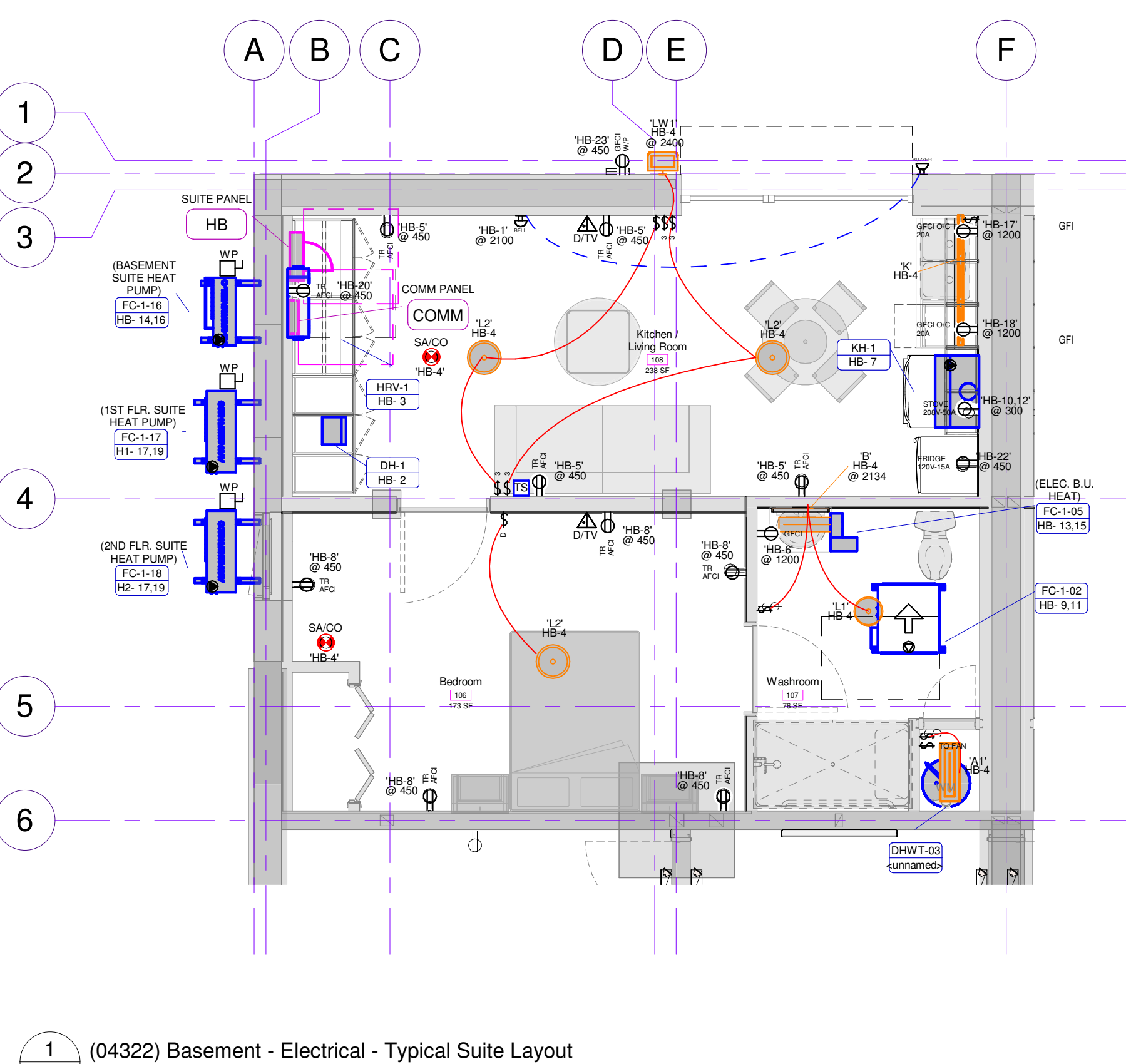
Drawing #: **E-19**

Project Date: Jan. 14/22 Arch-D (24" x 36")

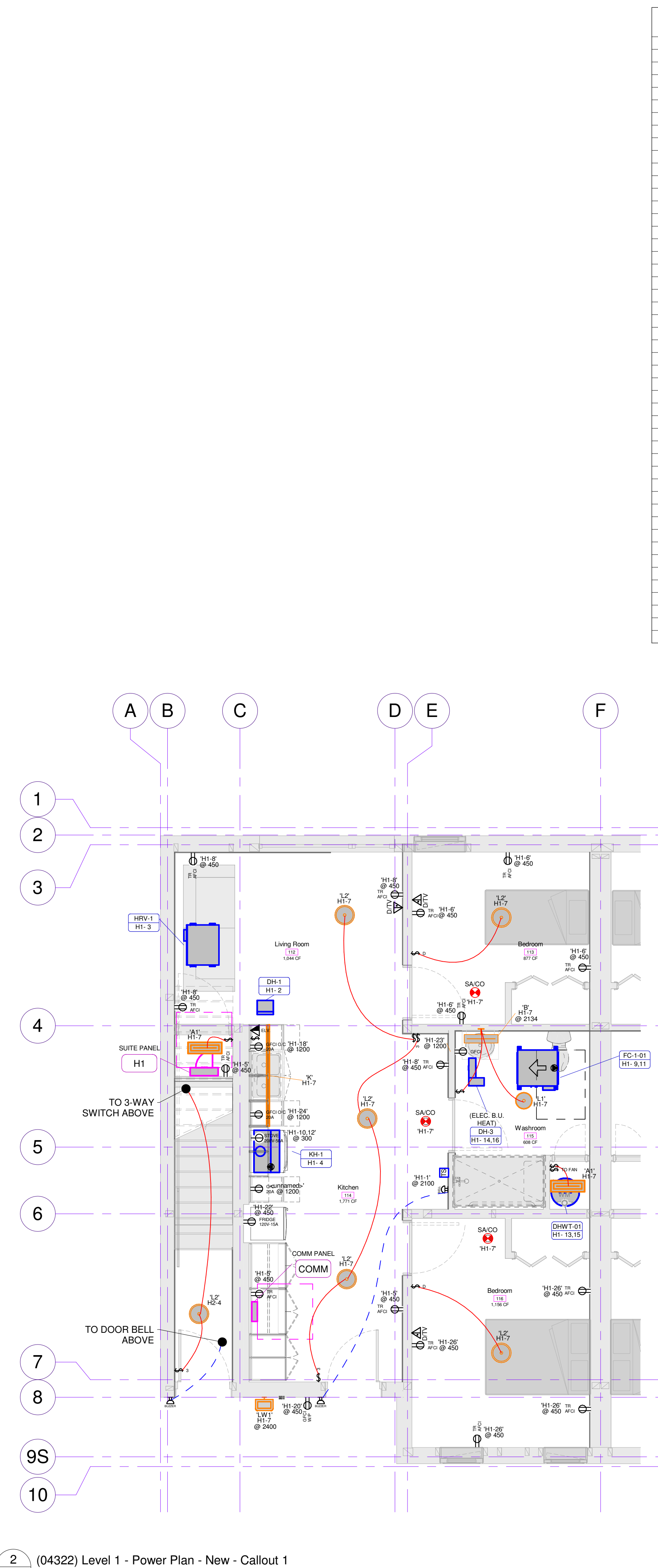
ELECTRICAL LEGEND		LIGHTING LEGEND	
	ELECTRICAL CIRCUIT TAG: COMMENT: PANEL NAME: CIRCUIT #: JB: ROUGH IN HEIGHT (CENTER LINE OF BOX) ABOVE FINISHED FLOOR - FOR WALL MOUNTED - IN mm		LUMINAIRE - INTERIOR DOWNLIGHT - RECESSED - LED
	MECHANICAL EQUIPMENT CIRCUIT TAG: AIR SYSTEM COMMENT: MECHANICAL EQUIP. MARK / TYPE MARK: PANEL NAME: CIRCUIT #		LUMINAIRE - INTERIOR DOWNLIGHT - SURFACE MOUNTED - LED
	ELECTRICAL EQUIPMENT TAG: COMMENTS: PANEL NAME: SEE SLD, SCHEDULES & PLAN VIEWS.		LUMINAIRE - INTERIOR DOME - SURFACE MOUNTED - LED
	JUNCTION BOX - WALL MOUNTED		LUMINAIRE - INTERIOR LINEAR - SURFACE MOUNTED - LED
	JUNCTION BOX - FLOOR MOUNTED		LUMINAIRE - INTERIOR LINEAR - WALL MOUNTED - LED
	JUNCTION BOX - CEILING MOUNTED		LUMINAIRE - INTERIOR LINEAR PENDANT - SUSPENDED - LED
	DIRECT CONNECTION - SINGLE PHASE		LUMINAIRE - EXTERIOR WALL PACK - WALL MOUNTED - LED
	DIRECT CONNECTION - THREE PHASE		LUMINAIRE - EXTERIOR BOLLARD - LED
	DISCONNECT		LUMINAIRE - EXTERIOR POLE LIGHT - SINGLE HEAD - RECTANGULAR HEAD - LED
	DIRECT CONNECTION c/w DISCONNECT	EXIT & EMERGENCY LIGHTING LEGEND	
	DUPLEX RECEPTACLE (REFER TO SCHEDULES FOR NEMA TYPE & AMPERE RATING x 1 - WALL MOUNTED)		EXIT SIGN - CEILING MOUNTED DIRECTIONAL ARROW INDICATES NUMBER OF EMERGENCY LIGHTS c/w BATTERY HATCH INDICATES NUMBER OF SIDES / FACES
	DUPLEX RECEPTACLE (120V, STD.) x 1 - FLOOR MOUNTED		EXIT SIGN - WALL MOUNTED DIRECTIONAL ARROW INDICATES NUMBER OF EMERGENCY LIGHTS HATCH INDICATES NUMBER OF SIDES / FACES
	DUPLEX RECEPTACLE (120V, STD.) x 1 - CEILING MOUNTED		BATTERY UNIT - PLUG-IN c/w DUPLEX RECEPTACLE - WALL MOUNTED
	DUPLEX RECEPTACLE (120V, STD.) x 1 CAB TIRE c/w STRAIN RELIEF - SUSPENDED MOUNT		BATTERY UNIT c/w EMERGENCY LIGHTS - FLOOR c/w DUPLEX RECEPTACLE - WALL MOUNTED
	QUADPLEX RECEPTACLE (120V, STD.) x 1 - WALL MOUNTED		EMERGENCY LIGHT - REMOTE DOUBLE HEADS - CEILING MOUNTED
	QUADPLEX RECEPTACLE (120V, STD.) x 1 - FLOOR MOUNTED		EMERGENCY LIGHT - REMOTE DOUBLE HEADS - WALL MOUNTED
	QUADPLEX RECEPTACLE (120V, STD.) x 1 - CEILING MOUNTED		EMERGENCY LIGHT - REMOTE SINGLE HEAD - CEILING MOUNTED
	SINGLE RECEPTACLE x 1 (WALL MOUNTED)		EMERGENCY LIGHT - REMOTE SINGLE HEAD - WALL MOUNTED
	HANDICAP PUSH BUTTON - WALL MOUNTED	LIGHTING CONTROLS LEGEND	
	LOCK PUSH BUTTON - WALL MOUNTED		LIGHTING CIRCUIT TAG: SWITCH GROUP: FITTURE TYPE: PANEL NAME: CIRCUIT #: JB: ROUGH IN HEIGHT (CENTER LINE OF BOX) ABOVE FINISHED FLOOR - WALL MOUNTED - IN mm
	EMERGENCY CALL PUSH BUTTON - WALL MOUNTED		SWITCH TAG (w/ SWITCH GROUP - LIGHTS ASSOCIATED WILL ACTIVATE ON THIS SWITCH)
	DOME LIGHT (STROBE) WITH SOUNDER - WALL MOUNTED		EXTRA LOW VOLTAGE WIRE (ELV) -30V
	THERMOSTAT - SUPPLIED & INSTALLED BY DIV. 23 - WIRES 30V - CONNECTION BY DIV. 26 - WIRES 30V - CONNECTION BY DIV. 26		LOW VOLTAGE SWITCH WIRE 330 TO 750V
COMMUNICATIONS LEGEND			LINE VOLTAGE SWITCH - SINGLE POLE
	TELEPHONE & DATA COMBINATION OUTLET - QUANTITY AS INDICATED - WALL MOUNTED		LINE VOLTAGE SWITCH - 3 WAY
	TELEPHONE & DATA COMBINATION OUTLET - QUANTITY AS INDICATED - CEILING MOUNTED		LINE VOLTAGE SWITCH - DIMMER
	DATA OUTLET - QUANTITY AS INDICATED - CEILING MOUNTED		LINE VOLTAGE SWITCH - SINGLE POLE - TO FAN
	WIRELESS ACCESS POINT DATA OUTLET - QUANTITY AS INDICATED - CEILING MOUNTED		LINE VOLTAGE SWITCH - OCCUPANCY SENSOR
	COAX CABLE TV OUTLET - QUANTITY AS INDICATED - PROVIDE RG6 CABLE - WALL MOUNTED		LINE VOLTAGE OCCUPANCY SENSOR & TIMER - CEILING MOUNTED
	COAX CABLE TV OUTLET - QUANTITY AS INDICATED - PROVIDE RG6 CABLE - FLOOR MOUNTED		PHOTOCELL
	COAX CABLE TV OUTLET - QUANTITY AS INDICATED - PROVIDE RG6 CABLE - CEILING MOUNTED		ASTRONOMIC TIME SWITCH
	DATA & COAX COMBINATION OUTLET - QUANTITY AS INDICATED - PROVIDE RG6 CABLE - WALL MOUNTED		CEILING MOUNT SD: SMOKE DETECTOR - PHOTOELECTRIC
	DATA & COAX COMBINATION OUTLET - QUANTITY AS INDICATED - PROVIDE RG6 CABLE - FLOOR MOUNTED		SD: DUCT TYPE PHOTOELECTRIC SMOKE DETECTOR
	DATA & COAX COMBINATION OUTLET - QUANTITY AS INDICATED - PROVIDE RG6 CABLE - CEILING MOUNTED		SD: BEAM TYPE SMOKE DETECTOR
			SS: SMOKE DETECTOR c/w LOCAL SOUNDER/BELL
			SA: SMOKE ALARM
			SA-CD: COMBINATION SMOKE ALARM & CARBON MONOXIDE DETECTOR
			C: CONVENTIONAL BLANK ADDRESSABLE WG: C/W WIRE GUARD
	WEATHER PROOF - OUTDOOR RATED		
NOT ALL SYMBOLS APPLY TO FLOOR PLANS / DRAWINGS SEE SPECIFICATIONS FOR ALL CABLE TYPES		NOT ALL SYMBOLS APPLY TO FLOOR PLANS / DRAWINGS SEE SPECIFICATIONS FOR ALL CABLE TYPES	



3 (04322) Level 2 - Power Plan - New - Callout 1
E-20 1 : 50



1 (04322) Basement - Electrical - Typical Suite Layout
E-20 1 : 50



2 (04322) Level 1 - Power Plan - New - Callout 2
E-20 1 : 50

(04322) PROJECT DRAWING REGISTER	
Sheet #	Sheet Name
E1/M1/P1	Project Cover
E2/M2/P2	Project Cover
M-3	HVAC - Specifications
M-4	HVAC - Specifications
M-5	HVAC - Scope of Work
M-6	HVAC - Scope of Work
M-7	HVAC - Bldg. 1
M-8	HVAC - Bldg. 2
M-9	HVAC - Bldg. 3
M-10	HVAC - Bldg. 4
M-11	HVAC - Bldg. 5
M-12	HVAC - Bldg. 6
M-13	HVAC - Isometric & Elevation Views
M-14	HVAC Details
P-3	Plumbing - Specifications
P-4	Plumbing - Site Plan
P-6	Plumbing - Bldg. 1
P-7	Plumbing - Bldg. 2
P-8	Plumbing - Bldg. 3
P-9	Plumbing - Bldg. 4
P-10	Plumbing - Bldg. 5
P-11	Plumbing - Bldg. 6
P-12	Plumbing - Typical Building
P-13	Plumbing - Details
P-14	Plumbing - Water Schematic
P-15	Plumbing - Sanitary Schematic
E-3	Elect. Power - Specifications
E-4	Elect. Power - Specifications
E-5	Elect. Power - Scope of Work
E-6	Electrical Site Plan
E-7	Elect. - SLD
E-8	Power/Comm - Bldg. 1
E-9	Elect. Lighting - Bldg. 1
E-10	Power/Comm - Bldg. 2
E-11	Elect. Lighting - Bldg. 2
E-12	Power/Comm - Bldg. 3
E-13	Elect. Lighting - Bldg. 3
E-14	Power/Comm - Bldg. 4
E-15	Elect. Lighting - Bldg. 4
E-16	Power/Comm - Bldg. 5
E-17	Elect. Lighting - Bldg. 5
E-18	Power/Comm - Bldg. 6
E-19	Elect. Lighting - Bldg. 6
E-20	Elect. Typical Building
E-21	Electrical Schedules
E-22	Electrical Details

NORTHSTAR
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dong@nset.ca www.nset.ca

- GENERAL DRAWING / DESIGNER NOTES:
- (1) ALL CONSTRUCTION METHODS AND MATERIALS TO CONFORM TO THE LATEST EDITION OF THE PROVINCE OF ONTARIO'S BUILDING CODE, LOCAL REGULATIONS AND AUTHORITIES HAVING JURISDICTION.
 - (2) THE CONSULTANT RESERVES THE RIGHT TO MAKE REASONABLE CHANGES IN ORDER TO ACCOMMODATE CONDITIONS ARISING DURING CONSTRUCTION FOR ADDITIONAL FEES. ADDITIONAL CONSTRUCTION COSTS ARISING FROM SUCH CHANGES MAY APPLY AND ARE TO BE NEGOTIATED BETWEEN THE OWNER AND CONTRACTOR.
 - (3) DRAWINGS ONLY SHOW GENERAL INTENT AND SCOPE OF WORK. EXACT DETAILS OF INSTALLATIONS ARE TO BE PROVIDED BY THE CONTRACTOR(S). DO NOT SCALE DRAWINGS.
 - (4) CONTRACTOR/AGENT/OWNER TO REPORT ALL DISCOVERIES OF ERRORS, OMISSIONS OR DISCREPANCIES TO THE DESIGNER.
 - (5) PROCEED WITH CONSTRUCTION ONLY USING THE LATEST REVISED DRAWINGS MARKED 'ISSUED FOR CONSTRUCTION'.
 - (6) THIS DRAWING IS SPECIFIC TO THIS PROJECT AND CANNOT BE USED FOR OTHER 'SIMILAR' PROJECTS.
 - (7) THIS DRAWING IS THE PROPERTY OF NORTHSTAR ENGINEERING & TECHNOLOGIES LTD. UN-AUTHORIZED RE-PRODUCTION OR USE IS PROHIBITED.
 - (8) SHOP DRAWINGS: BASED ON CONTRACT WITH OWNER, THE ENGINEER WILL REVIEW SHOP SUBMISSION DWGS FROM THE CONTRACTOR TO REVIEW THE ITEMS FOR GENERAL CONFORMANCE TO THE DESIGN DWGS. THE SHOP DWG REVIEW WILL NOT RELEASE THE CONTRACTOR FROM RESPONSIBILITY TO MAKE A FEASIBLE WORKING SYSTEM. THESE SHOP DRAWINGS SHALL CONSIST OF PLUMBING FIXTURES, HVAC EQUIPMENT, HVAC DIFFUSERS, MINIMUM 1/2 WEEKS FOR COMPLETION (BASED ON COMPLEXITY).
 - (9) THE DESIGNER DOES NOT ACCEPT RESPONSIBILITY FOR OTHER DESIGNERS WORK IN ASSOCIATION WITH THIS PROJECT.
 - (10) RESPONSIBILITY FOR ANY FINAL ASSEMBLY THAT VIOLATE APPLICABLE BUILDING CODES IS NOT ACCEPTED BY THE DESIGNER.
 - (11) REQUESTS FOR CHANGES OR SUBSTITUTIONS TO EQUIPMENT, PLANS AND / OR SPECIFICATIONS WILL BE SUBJECT TO ADDITIONAL FEES CHARGED BY THE CONSULTANT.
 - (12) SITE VISITS TO REVIEW IMPLEMENTED DESIGNS WITHIN THE SCOPE OF THIS PROJECT TO BE ARRANGED WITH THE OWNER.
 - (13) MINIMUM FORTY EIGHT (48) HOURS PRIOR NOTICE TO BE PROVIDED FOR SITE VISITS - ONCE ARRANGED.
 - (14) REQUESTS FOR THE RELEASE OF THIS DRAWING SET FROM NORTHSTAR ENGINEERING & TECHNOLOGIES LTD. FOR THE PURPOSE OF TENDERING PURPOSES BY ANY CONTRACTOR TO BE MADE BY THE OWNER OR ARCHITECT IN WRITING.
 - (15) TENDER PRICING BY CONTRACTORS OF DRAWINGS TO BE BASED ON DWGS MARKED 'ISSUED FOR TENDER' OR 'ISSUED FOR CONSTRUCTION' ONLY.
 - (16) ALL REQUESTS FOR DESIGN CHANGES / SUBSTITUTIONS TO BE MADE IN WRITING. ADDITIONAL FEES MAY APPLY. ALLOW MINIMUM (1) ONE WEEK TO REVIEW AND RESPOND TO CHANGE REQUESTS.

DRAWING REVISIONS		
No.	Description	Date
2	Issued for Review	Apr. 22/22
3	Preliminary for Review	Sep. 09/22
4	Issued for Permit	Oct. 05/22
5	Issued for Tender	May 18/23
6	Re-issued for Tender	Dec. 20/24

Engineer's Seal:

Client: **WW Inc.**

Address: **Minden, ON**

Project Name: **Gull River Affordable Housing**

Dwg. Name: **Elec. Typical Building**

NSET Project #: **04322**

Drawn by: Northstar Eng. Checked by: D.B.D.
Scale: As indicated Revision #: 6.0

Drawing #: **E-20**

Project Date: Jan. 14/22 Arch-D (24" x 36")

(MASTER-E) Electric Heat Schedule - (New)

Table with columns: Type Mark, Description, Mfg., Model, Fuel Type, Voltage, Phase, Heating Capacity, Supplied By. Rows include BBH-1, DH-1, DH-2, DH-3, DH-4, FFH-1, and Grand total.

(04322) PROJECT DRAWING REGISTER

Table with columns: Sheet #, Sheet Name. Lists sheets E1/M1/P1 through E-22, including HVAC specifications, plumbing details, and electrical schedules.



GENERAL DRAWING / DESIGNER NOTES:

- Notes 1-18 detailing construction methods, consultant responsibilities, drawing scope, and revision requirements.

Panel: H2

Panel schedule for H2 including location (RECESSED), supply (EATON), and a detailed circuit table with columns for CT, description, wires, breakers, and loads.

(MASTER-E) Panel Schedule - (New)

Summary panel schedule table with columns: Level, Panel Name, Description, Location. Rows for FFE Lower Level and FFE Ground Floor.

Panel: H1

Panel schedule for H1 including location (RECESSED), supply (EATON), and a detailed circuit table with columns for CT, description, wires, breakers, and loads.

Panel: M

Panel schedule for M including location (SURFACE), supply (EATON), and a detailed circuit table with columns for CT, description, wires, breakers, and loads.

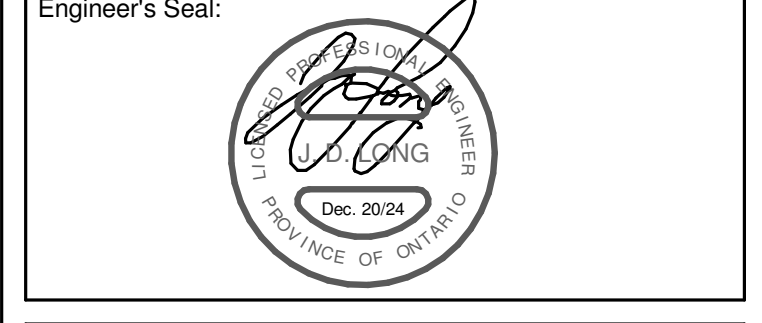
Panel: HB

Panel schedule for HB including location (Kitchen / Living Room 108), supply (EATON), and a detailed circuit table with columns for CT, description, wires, breakers, and loads.

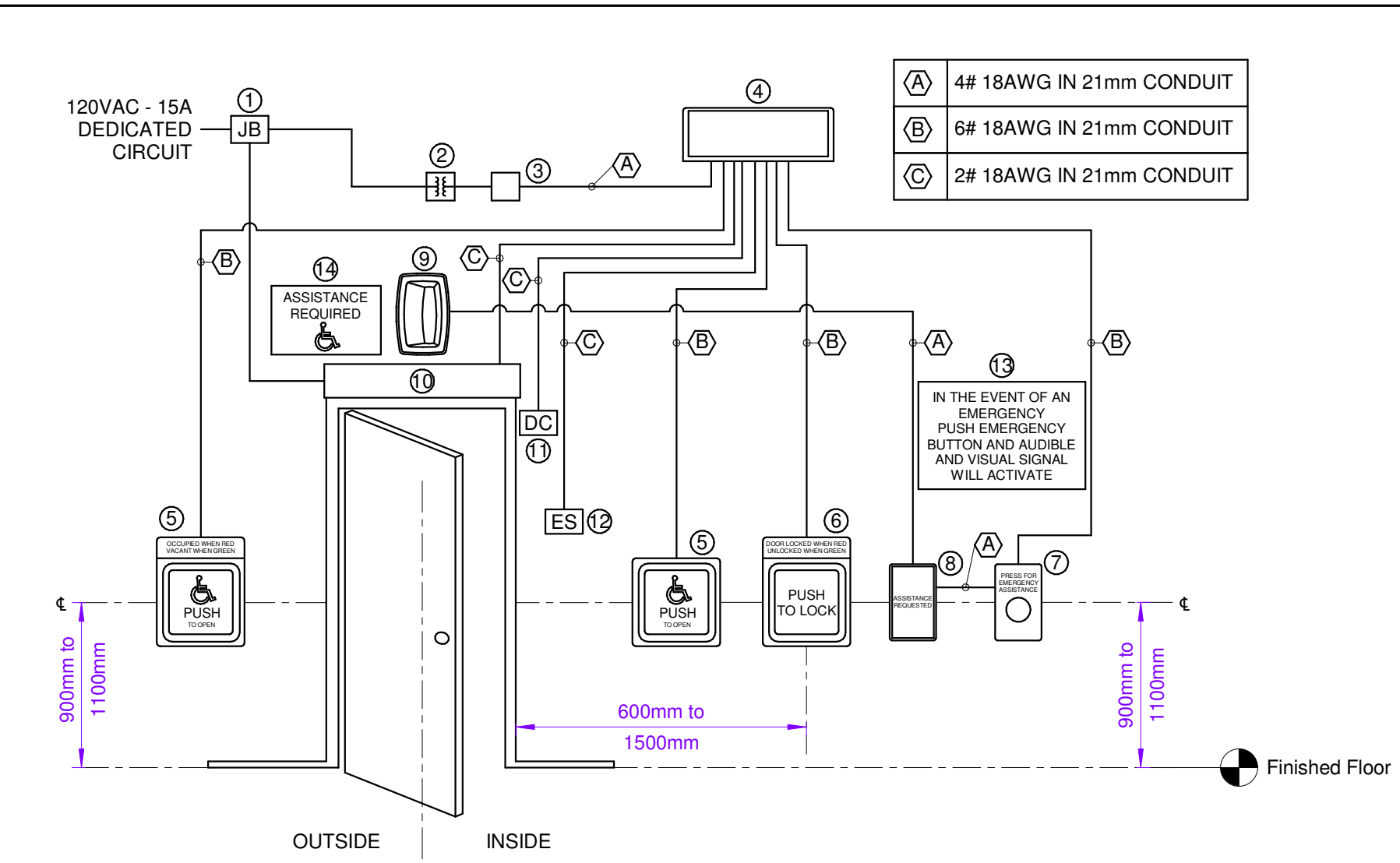
WIRE SIZE NOTE: ALL 15A & 20A CIRCUITS TO BE SERVED BY 12G. MINIMUM WIRE c/w 3/4" CONDUIT UNLESS NOTED IN THE SCHEDULE.

DRAWING REVISIONS

Revision table with columns: No., Description, Date. Shows revisions from Preliminary (May 19/22) to Re-issued for Tender (Dec 20/24).



Client information: WW Inc., Minden, ON. Project Name: Gull River Affordable Housing. Dwg. Name: Electrical Schedules. Project #: 04322. Drawing #: E-21. Project Date: Jan. 14/22. Arch-D (24" x 36").

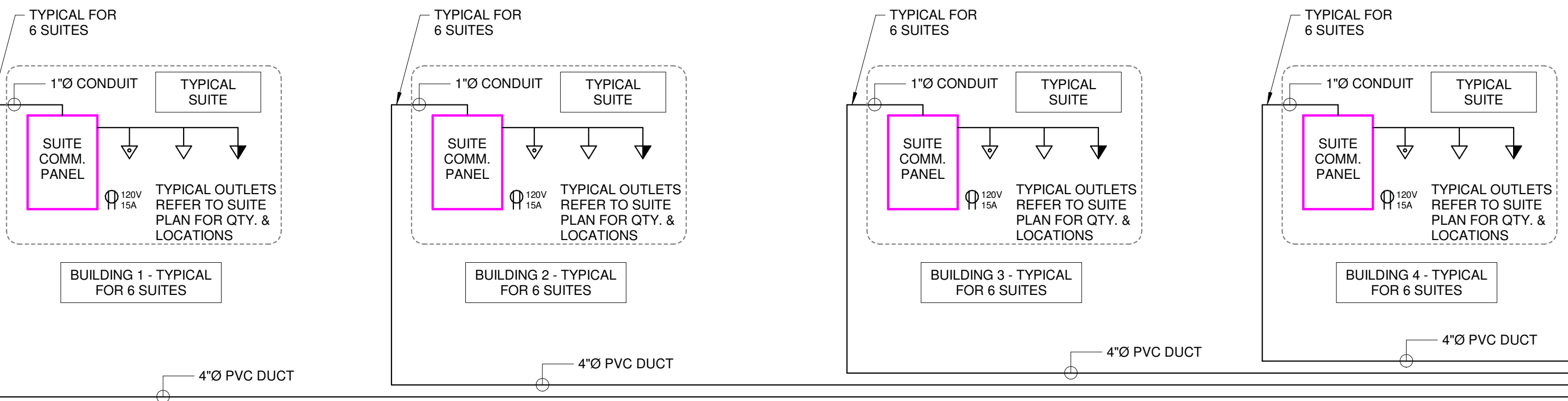


NOTES:
 SUPPLY & INSTALL A COMPLETE UNIVERSAL ACCESSIBLE WASHROOM DOOR CONTROL, ELECTRONIC LOCKING & EMERGENCY SIGNAL KIT AS PER MANUFACTURERS RECOMMENDATIONS FOR ALL COMPONENTS. WIRING, INTERCONNECTIONS & MOUNTING. ALL WIRING & SERVICE INSTALLATIONS SHALL BE CONCEALED. FINAL WIRE SPECIFICATION TO BE CONFIRM WITH SHOP DRAWINGS. UNIVERSAL EMERGENCY CALL KIT TO BE CAMDEN CX-WC13XFM & CX-WEC10 SYSTEMS OR APPROVED EQUAL. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT DEVICE LOCATIONS.

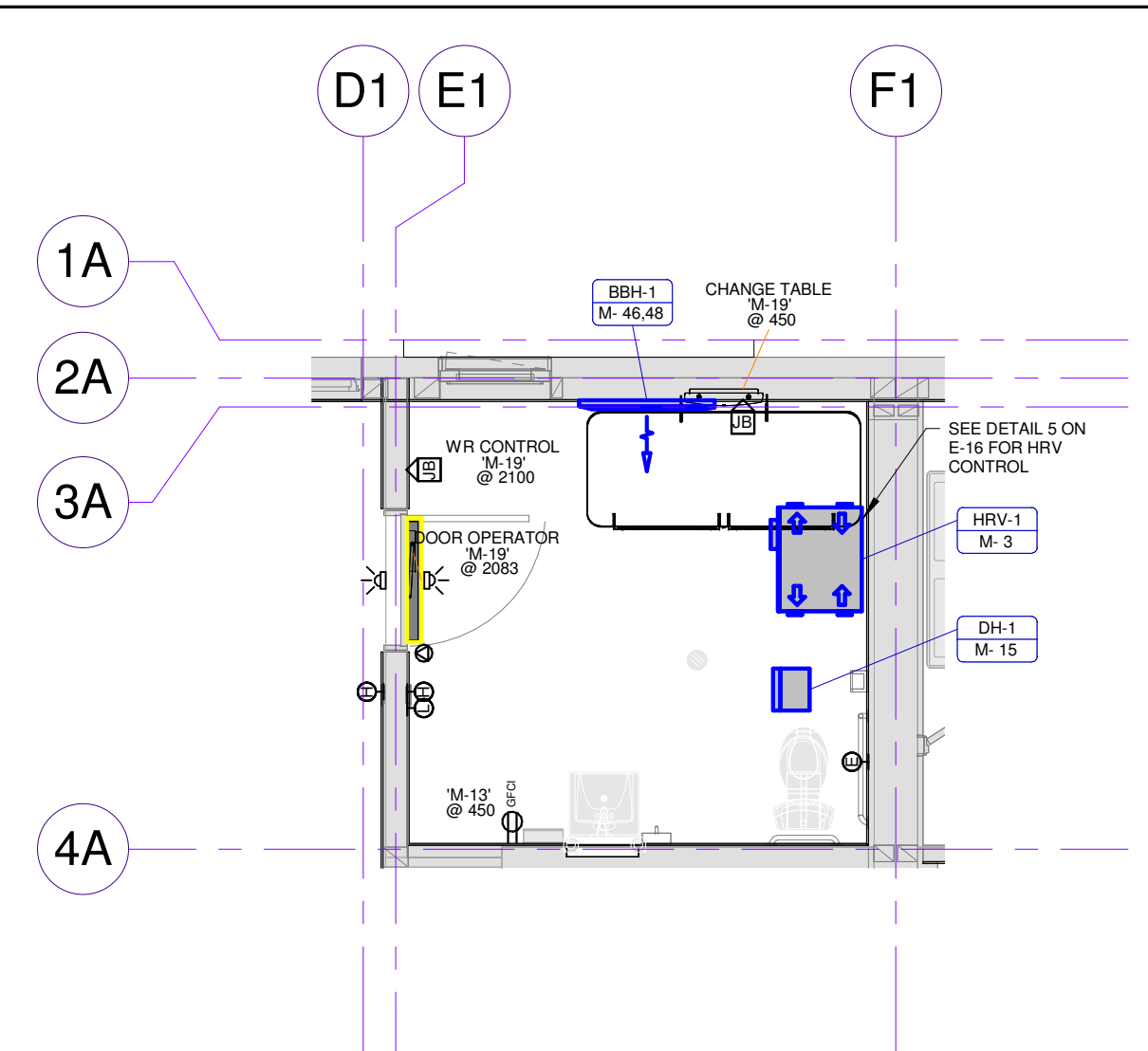
- 120VAC - 15A DEDICATED CIRCUIT FOR UNIVERSAL ACCESSIBLE WASHROOM CONTROL.
- 120VAC TO 24VDC TRANSFORMER.
- 12/24VDC LINEAR POWER SUPPLY.
- UNIVERSAL WASHROOM DOOR CONTROL/ RELAY.
- WALL MOUNTED HANDICAP PUSH BUTTON WITH ILLUMINATED ENCLOSURE AND SIGN - BUTTON TO OPERABLE WITH A CLOSED FIST OF NOT MORE THAN 22.2N. SYMBOL ON DRAWINGS: (C)
- WALL MOUNTED DOOR LOCK PUSH BUTTON WITH ILLUMINATED ENCLOSURE AND SIGN - BUTTON TO OPERABLE WITH A CLOSED FIST OF NOT MORE THAN 22.2N. SYMBOL ON DRAWINGS: (C)
- WALL MOUNTED EMERGENCY CALL PUSH BUTTON WITH ILLUMINATED ENCLOSURE AND SIGN - BUTTON TO OPERABLE WITH A CLOSED FIST OF NOT MORE THAN 22.2N. ELECTRIC STRIKE ON DOOR TO RELEASE WHEN EMERGENCY BUTTON IS PUSHED. DOOR OPERATOR IS NOT TO ACTIVATE. SYMBOL ON DRAWINGS: (C)
- ASSISTANCE REQUESTED LED ANNUCIATOR WITH SOUNDER.
- DOOR LIGHT WITH SOUNDER OUTSIDE OF WASHROOM TO SIGNAL ASSISTANCE IS REQUIRED WHEN EMERGENCY CALL PUSH BUTTON IS PRESSED. SOUND LEVEL TO BE 82 DBA @ 3 METERS.
- DOOR OPERATOR - SUPPLIED BY OTHERS
- MAGNETIC DOOR CONTACT
- ELECTRIC STRIKE
- EMERGENCY ASSISTANCE LAMACOID SIGNAGE - MOUNT SIGN ON WALL ABOVE PUSHBUTTON. SIGN TO READ AS SHOWN. LETTERS ON LAMACOID MUST BE AT LEAST 25MM HIGH WITH A 5MM STROKE.
- PROVIDE "ASSISTANCE REQUIRED" WITH WHEELCHAIR GRAPHIC SIGNAGE OUTSIDE OF THE WASHROOM.

NUMBER OF CABLES PER CONDUIT		
CONDUIT SIZE (INNER DIAMETER)	# OF COAX CABLE (RG6U)	# OF CAT6a CABLE (4 PAIR)
1/2"	1	0
3/4"	2	4
1"	4	7
1-1/4"	7	12
1-1/2"	10	16
2"	16	22
2-1/2"	28	36
3"	42	50

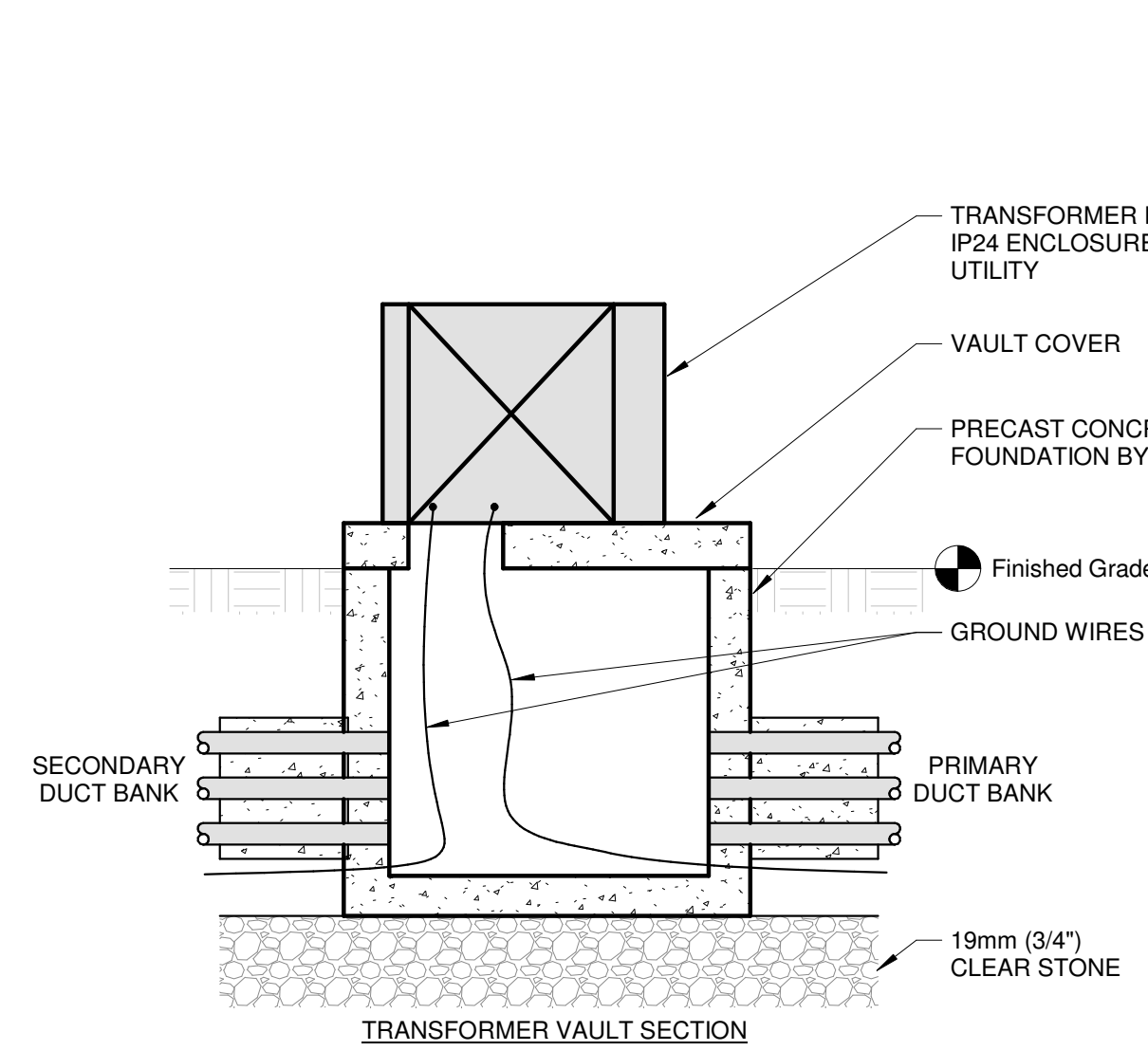
- NOTES:**
- IN-SUITE RECESSED WALL CABINET (DEMARICATION COMMUNICATION BOX - PRIMEX MODEL P3000 - 30"X x 14"W x 3.5"D), PROVIDED BY COMMUNICATION PROVIDER.
 - MOUNTING HEIGHT IN BARRIER FREE SUITE SHALL BE 13" A.F.F. & SHALL BE 30" A.F.F. FOR OTHER SUITES.
 - COORDINATE FINAL LOCATION & MOUNTING HEIGHT WITH ARCHITECT PRIOR TO ROUGH-IN.
- TELEVISION RISER:**
- ALL CABLE INSTALLATION & CONNECTIONS ARE BY OTHERS.
 - ELECTRICAL CONTRACTOR TO PROVIDE CONDUITS & COMM. PANEL AS SHOWN. WHEN DEVICES ARE LOCATED ON SUITE DEMISING WALLS, DATA BOXES ARE TO BE USED & PUTTY PADS WHEN REQUIRED TO MAINTAIN ACOUSTICAL & FIRE RATINGS.
 - MAXIMUM RUN OF CABLE FROM POINT OF SUPPLY TO FURTHEST OUTLET IS NOT TO EXCEED 50 METERS.
- COMMUNICATIONS RISER:**
- ALL CABLE INSTALLATION & CONNECTIONS ARE BY OTHERS.
 - ELECTRICAL CONTRACTOR TO PROVIDE CONDUITS & COMM. PANEL AS SHOWN. WHEN DEVICES ARE LOCATED ON SUITE DEMISING WALLS, DATA BOXES ARE TO BE USED & PUTTY PADS WHEN REQUIRED TO MAINTAIN ACOUSTICAL & FIRE RATINGS.



1 Communications - Riser Diagram
 E-22 N.T.S.

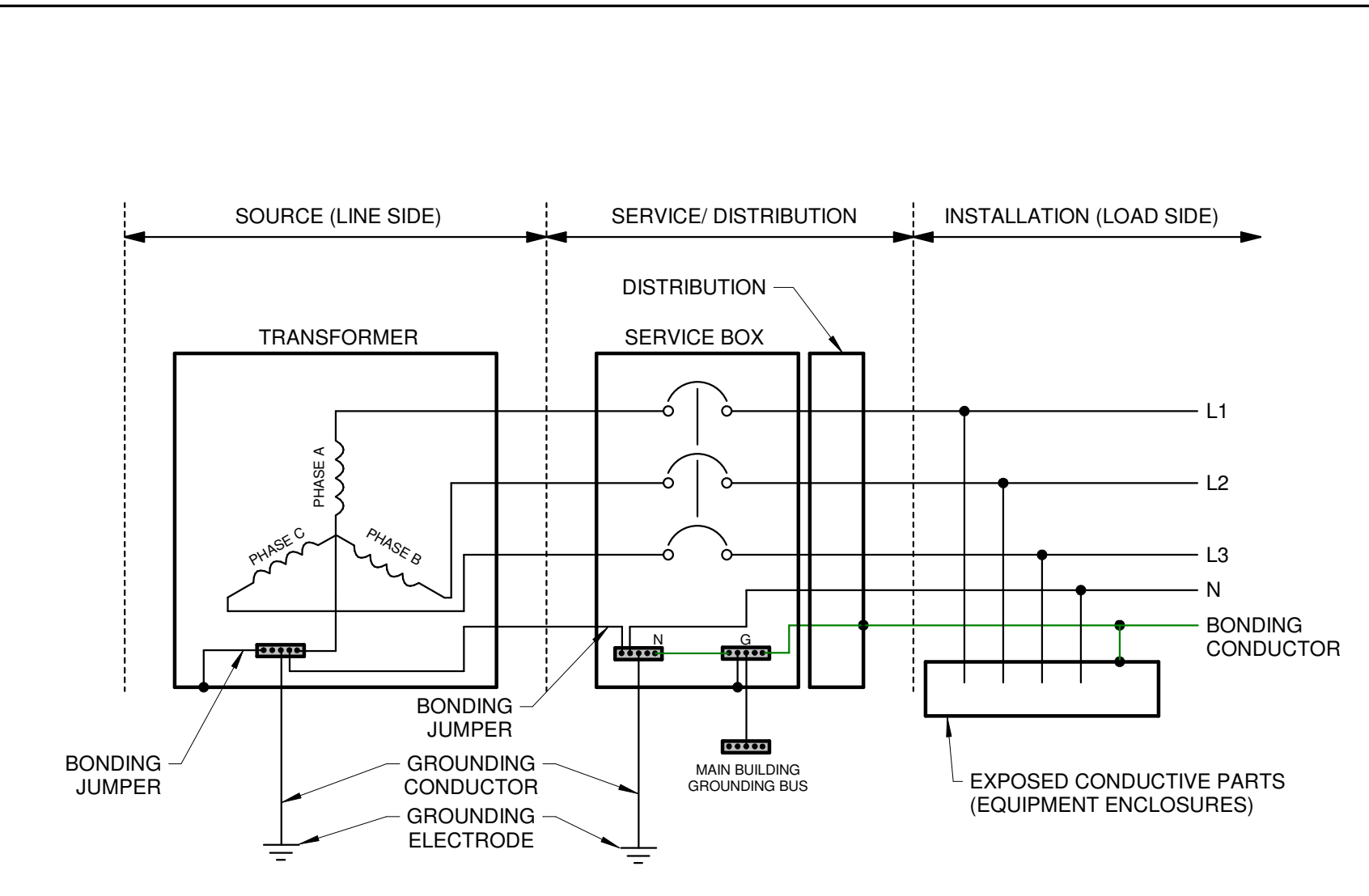


3 (04322) Building 5 - Level 1 - Power Plan - Universal WR
 E-22 1 : 50



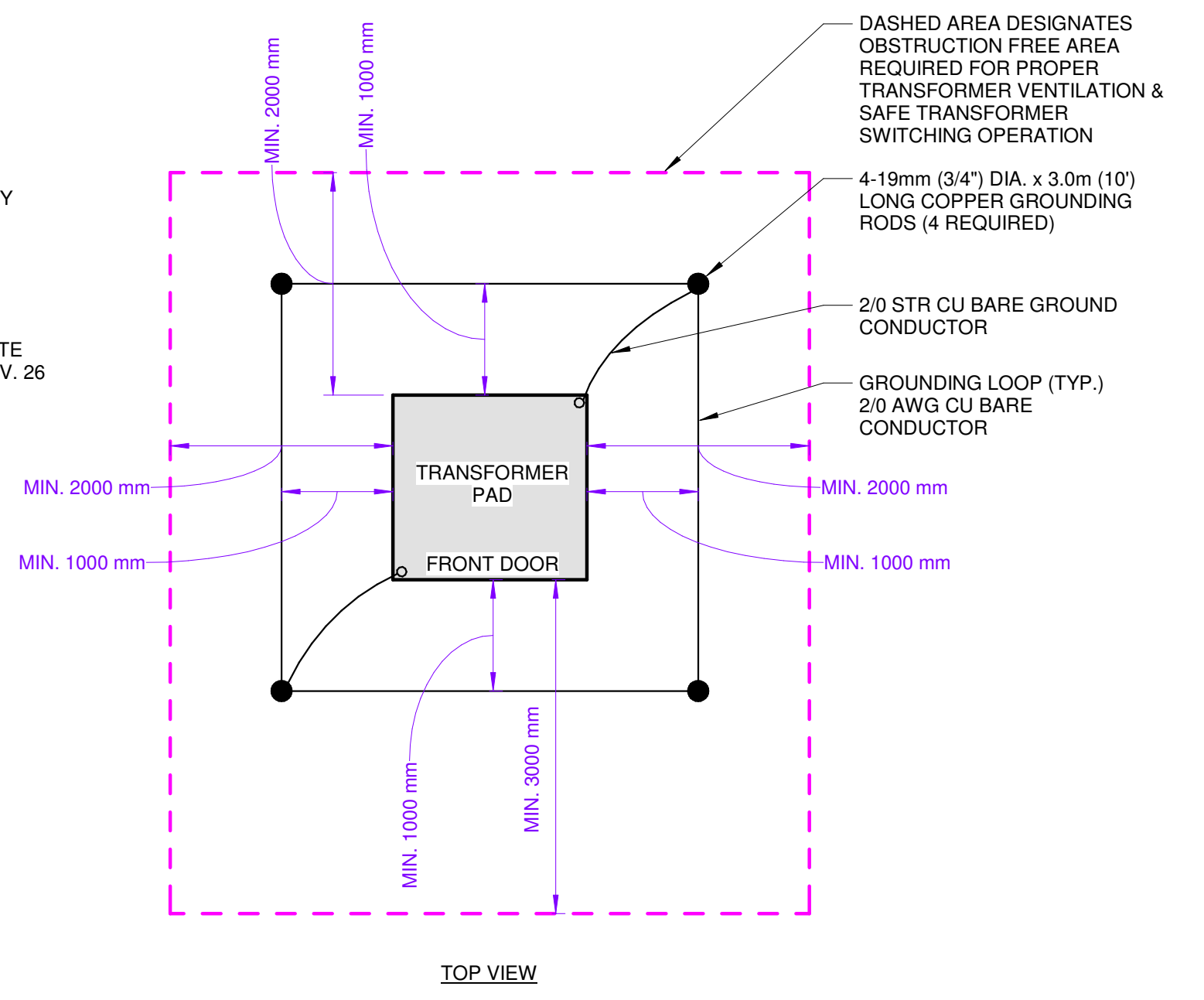
- NOTES:**
- TRANSFORMER VAULT TO BE INSTALLED AS PER UTILITIES STANDARD. CONTRACTOR TO SUPPLY & INSTALL CONCRETE ENCASED PRIMARY DUCT BANK TO DEMARICATION POINT (COORDINATE WITH UTILITIES), COMPLETE SECONDARY DUCT BANK & CABLES, TRANSFORMER PAD/VAULT, BOLLARDS & GROUNDING TO MEET THE REQUIREMENTS OF ESA & UTILITIES.
 - UTILITY TO SUPPLY & INSTALL TRANSFORMER COMPLETE WITH PRIMARY CONDUCTORS. ALL PRIMARY & SECONDARY CONDUCTORS TO BE TERMINATED BY UTILITIES.
 - REFER & COMPLY WITH UTILITIES INSTALLATION STANDARDS FOR CONSTRUCTION DETAILS, METHODS & APPROVED EQUIPMENT VENDORS.

5 Pad Mount Transformer
 E-22 N.T.S.

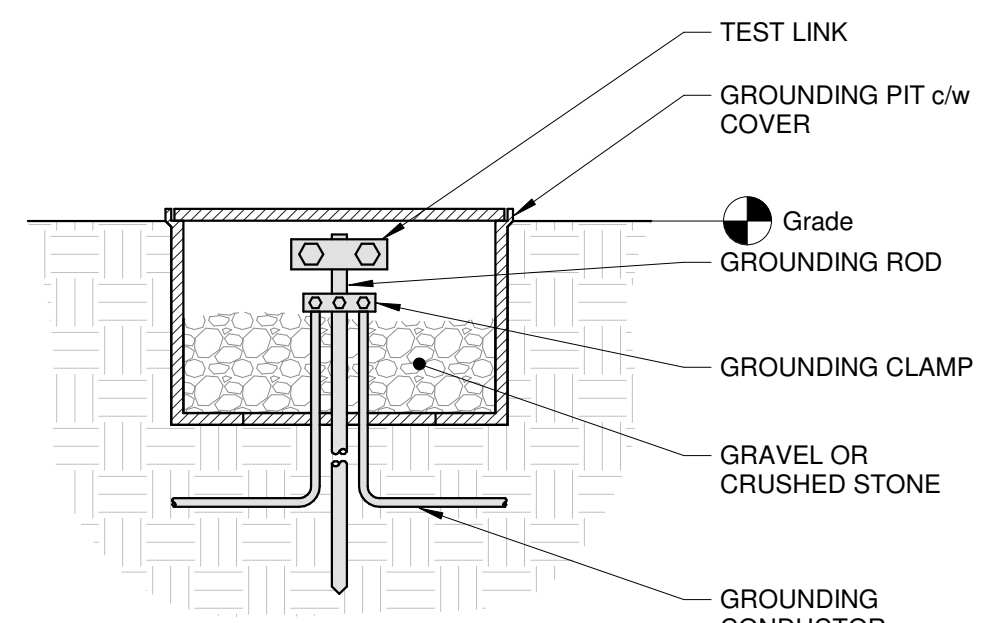


- NOTES:**
- BONDING CONDUCTORS TO BE SIZED AS PER TABLE 16 IN THE CANADIAN ELECTRICAL CODE/ ONTARIO ELECTRICAL SAFETY CODE.
 - THE INTENT OF THIS DETAIL IS TO OUTLINE GROUNDING & BONDING REQUIREMENTS. THIS DETAIL SHALL NOT BE INTERPRETED FOR QUANTITY OF PANELS, TRANSFER SWITCHES, LIFE-SAFETY LOADS, NON-LIFE-SAFETY LOADS, UTILITY SERVICE CONFIGURATION, OR UTILITY METERING CONFIGURATION.

4 Grounding Bonding Detail
 E-22 N.T.S.



6 Grounding Pit
 E-22 N.T.S.



(04322) PROJECT DRAWING REGISTER	
Sheet #	Sheet Name
E1M1/P1	Project Cover
E2M2/P2	Project Cover
M-3	HVAC - Specifications
M-4	HVAC - Specifications
M-5	HVAC - Scope of Work
M-6	HVAC - Scope of Work
M-7	HVAC - Bldg. 1
M-8	HVAC - Bldg. 2
M-9	HVAC - Bldg. 3
M-10	HVAC - Bldg. 4
M-11	HVAC - Bldg. 5
M-12	HVAC - Bldg. 6
M-13	HVAC - Isometric & Elevation Views
M-14	HVAC Details
P-3	Plumbing - Specifications
P-4	Plumbing - Specifications
P-5	Plumbing - Site Plan
P-6	Plumbing - Bldg. 1
P-7	Plumbing - Bldg. 2
P-8	Plumbing - Bldg. 3
P-9	Plumbing - Bldg. 4
P-10	Plumbing - Bldg. 5
P-11	Plumbing - Bldg. 6
P-12	Plumbing - Typical Building
P-13	Plumbing - Details
P-14	Plumbing - Water Schematic
P-15	Plumbing - Sanitary Schematic
E-3	Elec. Power - Specifications
E-4	Elec. Power - Specifications
E-5	Elec. Power - Scope of Work
E-6	Electrical Site Plan
E-7	Elec. - SLD
E-8	Power/Comm - Bldg. 1
E-9	Elec. Lighting - Bldg 1
E-10	Power/Comm - Bldg. 2
E-11	Elec. Lighting - Bldg 2
E-12	Power/Comm - Bldg. 3
E-13	Elec. Lighting - Bldg 3
E-14	Power/Comm - Bldg. 4
E-15	Elec. Lighting - Bldg 4
E-16	Power/Comm. - Bldg. 5
E-17	Elec. Lighting - Bldg. 5
E-18	Power/Comm - Bldg. 6
E-19	Elec. Lighting - Bldg 6
E-20	Elec. Typical Building
E-21	Electrical Schedules
E-22	Electrical Details

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 - CONTRACTOR/AGENT/OWNER TO REPORT ALL DISCOVERIES OF ERRORS, OMISSIONS OR DISCREPANCIES TO THE DESIGNER.
 - PROCEED WITH CONSTRUCTION ONLY USING THE LATEST REVISED DRAWINGS MARKED "ISSUED FOR CONSTRUCTION".
 - THIS DRAWING IS SPECIFIC TO THIS PROJECT AND CANNOT BE USED FOR OTHER "SIMILAR" PROJECTS.
 - THIS DRAWING IS THE PROPERTY OF NORTHSTAR ENGINEERING & TECHNOLOGIES LTD. UN-AUTHORIZED RE-PRODUCTION OR USE IS PROHIBITED.
 - SHOP DRAWINGS: BASED ON CONTRACT WITH OWNER, THE ENGINEER WILL REVIEW SHOP SUBMISSION DWGS FROM THE CONTRACTOR TO REVIEW THE ITEMS FOR GENERAL CONFORMANCE TO THE DESIGN DWGS. THE SHOP DWG REVIEW WILL NOT RELEASE THE CONTRACTOR FROM RESPONSIBILITY TO MAKE A FEASIBLE WORKING SYSTEM. THESE SHOP DRAWINGS SHALL CONSIST OF PLUMBING FIXTURES, HVAC EQUIPMENT, HVAC DIFFUSERS, MINIMUM 1/2 WEEKS FOR COMPLETION BASED ON COMPLEXITY.
 - THE DESIGNER DOES NOT ACCEPT RESPONSIBILITY FOR OTHER DESIGNERS WORK IN ASSOCIATION WITH THIS PROJECT.
 - RESPONSIBILITY FOR ANY FINAL ASSEMBLYS THAT VIOLATE APPLICABLE BUILDING CODES IS NOT ACCEPTED BY THE DESIGNER.
 - REQUESTS FOR CHANGES OR SUBSTITUTIONS TO EQUIPMENT, PLANS AND / OR SPECIFICATIONS WILL BE SUBJECT TO ADDITIONAL FEES CHARGED BY THE CONSULTANT.
 - SITE VISITS TO REVIEW IMPLEMENTED DESIGNS WITHIN THE SCOPE OF THIS PROJECT TO BE ARRANGED WITH THE OWNER.
 - MINIMUM FORTY EIGHT (48) HOURS PRIOR NOTICE TO BE PROVIDED FOR SITE VISITS - ONCE ARRANGED.
 - REQUESTS FOR THE RELEASE OF THIS DRAWING SET FROM NORTHSTAR ENGINEERING & TECHNOLOGIES LTD. FOR THE PURPOSE OF TENDERING PURPOSES BY ANY CONTRACTOR TO BE MADE BY THE OWNER OR ARCHITECT IN WRITING.
 - TENDER PRICING BY CONTRACTORS OF DRAWINGS TO BE BASED ON DWGS MARKED "ISSUED FOR TENDER" OR "ISSUED FOR CONSTRUCTION" ONLY.
 - ALL REQUESTS FOR DESIGN CHANGES / SUBSTITUTIONS TO BE MADE IN WRITING. ADDITIONAL FEES MAY APPLY. ALLOW MINIMUM (1) ONE WEEK TO REVIEW AND RESPOND TO CHANGE REQUESTS.

DRAWING REVISIONS		
No.	Description	Date
1	Preliminary	May 19/22
5	Issued for Tender	May 18/23
6	Re-Issued for Tender	Dec. 20/24

Engineer's Seal:

Client: **WW Inc.**

Address: **Minden, ON**

Project Name: **Gull River Affordable Housing**

Dwg. Name: **Electrical Details**

NSET Project #: **04322**

Drawn by: Northstar Eng. Checked by: D.B.D.

Scale: As indicated Revision #: 6.0

Drawing #: **E-22**

Project Date: Jan. 14/22 Arch-D (24" x 36")

MECHANICAL HVAC - SCOPE OF WORK

CONTRACTOR TO VISIT THE SITE & FAMILIARIZE THEMSELVES WITH THE REQUIREMENTS OF THIS DESIGN.

OBTAIN ALL REQUIRED CLIENT TRAINING, HEALTH & SAFETY, ELEVATED WORK, HOT WORK TRAINING & CERTIFICATIONS.

REFER TO SPECIFICATION & GENERAL PROJECT NOTES & DETAILS INCLUDED IN THIS SET OF DWGS.

THE WORK SHALL CONSIST OF, BUT SHALL NOT BE LIMITED TO THE FOLLOWING:

TENDER - PHASE - MECHANICAL

M 1.0. THE CONTRACT SHALL BE GOVERNED BY THE LAWS OF THE CANADIAN PROVINCE BASED ON THE PROVINCIAL ADDRESS OF THE PROJECT.

M 1.1. CONTRACTOR TO BE FAMILIAR WITH AND FULLY ABIDE BY ALL CLIENT / SITE SAFETY & CONFIDENTIALITY REQUIREMENTS FOR ACCESSING THE SITE STIPULATED IN THE CLIENT'S SAFETY REGULATIONS, RULES, POLICIES & PROTOCOLS. ALL VISITS TO BE ARRANGED WITH THE LISTED CLIENT REPRESENTATIVE IN WRITING IN ADVANCE OF THE VISIT. ENTRANCE TO THE SITE IS NOT PERMITTED WITHOUT A PRE-ARRANGED APPOINTMENT. CONTRACTOR TO CARBON COPY (CC) THE ENGINEER TO NOTIFY OF AN IMPENDING SITE VISIT IN WRITING.

M 1.2. CONTRACTOR SHALL COMPLETE ALL REQUIRED TRAINING SUCCESSFULLY IN FULL ACCORDANCE WITH THE CLIENT'S SPECIFIED TRAINING PROGRAM / REQUIREMENTS. WRITTEN PROOF TO BE PROVIDED TO THE ENGINEER PRIOR TO ENTERING THE SITE.

M 1.3. CONTRACTOR TO BE FAMILIAR WITH AND FULLY ABIDE BY ALL PROVINCIAL AND CLIENT / SITE SAFETY PPE REQUIREMENTS WHILE AT THE CLIENT'S SITE.

M 1.4. CONTRACTOR TO VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH ALL OF THE REQUIREMENTS OF THIS PROJECT PRIOR TO THE TENDER PHASE TO REVIEW THE EXISTING CONDITIONS AND THE RELATIONSHIP TO THE NEWLY PROPOSED DESIGN. PARTICULAR ATTENTION TO BE PAID TO MODIFICATIONS TO EXISTING SERVICES (IF APPLICABLE).

M 1.5. CONTRACTOR TO VISIT THE SITE AND FAMILIARIZE THEMSELVES WITH ALL OF THE REQUIREMENTS OF THIS PROJECT.

M 1.6. THE SPECIFICATIONS TEXT LISTED IN THE TENDER DOCUMENTS SHALL HAVE PRIORITY OVER THE DRAWINGS AND PLANS. THIS MAY IN "SHEET" FORMAT OR "BOOK" FORMAT.

M 1.7. ANY AND ALL QUESTIONS RELATED TO THE SPECIFICATIONS AND/OR DESIGN DOCUMENTS PROVIDED BY NORTHSTAR ARE TO BE COMMUNICATED IN WRITING TO THE PRIME CONSULTANT AND CARBON COPIED TO NORTHSTAR IN A TIMELY MANNER WITHIN THE TENDER PERIOD. THE ENGINEER WILL NOT RESPOND TELEPHONE CALLS TO CLARIFY SCOPE. REASONABLE TIME SHALL BE ALLOWED FOR A WRITTEN RESPONSE FROM NORTHSTAR. NORTHSTAR WILL NOT PROVIDE INFORMATION OR SCOPE CHANGES ORALLY / OR IN WRITING, TO ANY ONE BIDDING PARTY WITHOUT THE PROVISIONS OF A FORMAL ADDENDUM.

M 1.8. SHOULD THERE BE A CONFLICT OR INCONSISTENCY WITHIN THE DRAWINGS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN A TIMELY MANNER WITHIN THE TENDER PERIOD.

M 1.9. THE DESIGN DRAWINGS PROVIDED BY NORTHSTAR ARE GENERAL LAYOUTS ONLY. THE CONTRACTOR SHALL PROVIDE A COMPLETE, WORKING INSTALLATION BASED ON THE GENERAL LAYOUTS PROVIDED BY NORTHSTAR. SHOULD COORDINATION OF THE ACTUAL INSTALLATION REQUIRE ADDITIONAL CONDUIT, MATERIAL, FITTINGS THAN SHOWN, THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COST OF PROCUREMENT AND INSTALLATION. EXTRAS FOR OFFSETS AND ROUTING CHANGES WILL NOT BE APPROVED.

M 1.10. EVERY EFFORT HAS BEEN MADE BY NORTHSTAR TO PROVIDE A WORKABLE CONCEPT FOR THIS PROJECT. THE CONTRACTOR IS REQUESTED TO REVIEW THE VIABILITY OF THE DESIGN CONCEPT AND LIST ANY CONCERNS OR OBSTACLES TO THE SUCCESS OF THE PROPOSED PLAN BEFORE ORDERING OF MATERIALS OR PLANNING IS BEGUN.

M 1.11. CONTRACTOR TO INCLUDE COORDINATING, SUPPLYING AND INSTALLING NECESSARY ELECTRICAL CONTROLS CONDUITS TO SERVICE MECHANICAL EQUIPMENT FOR LOW-VOLTAGE (UNDER 30VAC) AT ALL REQUIRED MECHANICAL CONTROLS.

M 1.12. NORTHSTAR WILL NOT PROVIDE VERBAL OR WRITTEN PERMISSION TO DEVIATE FROM THE CONTRACT DOCUMENTS DURING THE TENDER PERIOD UNLESS THROUGH A FORMAL ADDENDUM ISSUED BY NORTHSTAR AND/OR THE PRIME CONSULTANT.

M 1.13. CONTRACTOR TO FULLY REVIEW AND CONSIDER LISTED AND SPECIFIED TECHNICAL REPORTS PRIOR TO SUBMITTING THEIR BID.

M 1.14. IT SHALL BE ASSUMED THAT ANY FINAL BID SUBMITTED ON OR BEFORE THE OFFICIAL TENDER DATE SHALL BE DEEMED TO CONTAIN AND INCLUDE COSTS FOR ALL OFFICIAL CHANGES AND ADDENDUMS ISSUED BY NORTHSTAR AND OR THE CONSULTANT TEAM.

M 1.15. NORTHSTAR RESERVES THE RIGHT TO APPROVE AND/OR DENY ANY CONTRACTOR SELECTED EQUIPMENT / MATERIALS / METHODS - INCLUDING SHOP DRAWINGS THAT DEVIATE FROM THE DESIGN PRESENTED.

M 1.16. CONTRACTOR SHALL FULLY DISCLOSE IN THEIR BID A LIST OF SUB-CONTRACTORS CARRIED AND PLANNED TO BE EMPLOYED FOR THIS PROJECT BY THE CONTRACTOR.

M 1.17. CONTRACTOR SHALL IDENTIFY LONG-LEAD ITEMS IN THEIR BID SUBMISSION.

M 1.18. CONTRACTOR MAY IDENTIFY AN ALTERNATE SOLUTION FROM THE CONTRACT DOCUMENTS FOR NORTHSTAR'S REVIEW - AS AN OPTIONAL PRICE.

M 1.19. CONTRACTOR SHALL BE RESPONSIBLE FOR PRICING ALL MATERIALS CONTAINED WITHIN THE CONTRACT DOCUMENTS. FAILURE OF THE PRIME CONSULTANT TO ORDER OR PROCURE THE SPECIFIED OR APPROVED ALTERNATE MATERIALS TO MEET THE PROJECT SCHEDULE IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR.

M 1.20. EVERY EFFORT HAS BEEN MADE BY NORTHSTAR TO PROVIDE A WORKABLE CONCEPT FOR THIS PROJECT. THE CONTRACTOR IS REQUESTED TO REVIEW THE VIABILITY OF THE DESIGN CONCEPT AND LIST ANY CONCERNS OR OBSTACLES TO THE SUCCESS OF THE PROPOSED PLAN ALONG WITH THE TENDER SUBMISSION.

M 1.21. ANY DEVICES THAT REQUIRE ELECTRICAL POWER OVER 50VAC ARE TO BE WIRED ENERGIZED AND COMMISSIONED BY THE ELECTRICAL CONTRACTOR.

M 1.22. CONTRACTOR TO OBTAIN PRICING AND CARRY THE COSTS OF ALL REQUIRED TESTING AND INSPECTION COMPANIES TO PERFORM ANY LISTED TESTING AND OR INVESTIGATIONS PRIOR TO CONSTRUCTION. FEES FOR ALL LISTED REPORTS TO BE INCLUDED IN THE TENDER.

M 1.23. THE ENTIRE INSTALLATION IS TO BE WARRANTED FOR A PERIOD OF NOT LESS THAN 1-YEAR INCLUDING PARTS AND LABOUR. THE WARRANTY PERIOD SHALL COMMENCE AT THE DATE OF SUBSTANTIAL COMPLETION GRANTED BY THE CONSULTANT.

M 1.24. CONTRACTOR TO PROVIDE PRICING ON ALL NORTHSTAR ISSUED OFFICIAL CHANGE ORDERS IN THE FORMAT REQUESTED BASED ON THE SPECIFIC ITEM NUMBERS LISTED ON THE NORTHSTAR CHANGE ORDER. ONE PRICE FOR EACH ITEM LISTED. PRICING TO INCLUDE ALL LABOUR AND MATERIALS REQUIRED FOR THE SCOPE REQUESTED. NORTHSTAR WILL NOT NECESSARILY APPROVE PRICING BASED UPON INDUSTRY PRICE GUIDES SUCH AS "ALLPRISE" OR SIMILAR. IF THE CONTRACTOR FEELS THAT THE ITEM WARRANTS AN ADDITIONAL COST TO THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING PRIOR TO PRICING THE ITEM.

M 1.25. NORTHSTAR OFFICIAL ISSUED SITE INSTRUCTIONS (OR SIS) ARE DIRECTIVES TO CHANGE THE INSTALLATION AND ARE NOT SUBJECT TO PRICING FROM THE CONTRACTOR. IF THE CONTRACTOR FEELS THAT THE ITEM WARRANTS AN ADDITIONAL COST TO THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING PRIOR TO PRICING THE ITEM.

M 1.26. SPECIFICATIONS AND DRAWINGS FORM AN INTEGRAL PART OF THE CONTRACT DOCUMENTS, ANY SUBJECT OR ITEM OMITTED FROM ONE BUT WHICH IS MENTIONED OR REASONABLY IMPLIED IN THE OTHER SHALL BE CONSIDERED AS PROPERLY AND SUFFICIENTLY SPECIFIED AND SHALL BE INCLUDED AS PART OF THE WORK.

M 1.27. THE CONTRACTOR'S SUBMITTED PRICING IS TO CLEARLY LIST ALL OPTIONAL PRICING REQUESTED FOR IN THIS TENDER TO BE CONSIDERED A VALID TENDER SUBMISSION.

M 1.28. THE CONTRACTOR'S SUBMITTED PRICING IS TO INCLUDE ALL APPLICABLE TAXES.

M 1.29. THE OWNER IS TO BE RESPONSIBLE FOR ANY UTILITY FEES RELATED TO SERVICE UPGRADES.

M 1.30. SUPPLY AND INSTALL ANY APPURTENANT FITTINGS OR MATERIALS NOT EXPRESSLY LISTED WITHIN THE DRAWINGS OR SPECIFICATIONS THAT ARE NECESSARY FOR THE PROPER OPERATION OF ANY OF THE LISTED SYSTEMS. THE CONTRACT DOCUMENTS ARE NOT INTENDED TO ENUMERATE EACH AND EVERY DETAIL THAT MAY BE NECESSARY TO FURNISH AND INSTALL THE COMPLETELY CONNECTED AND READY FOR SERVICE OPERATION. THE TENDER PRICE SHALL INCLUDE ALL SUCH DETAILS, AND ALL ASSOCIATED LABOUR AND MATERIALS, TO PROVIDE A COMPLETE AND WORKING SYSTEM.

M 1.31. ALL OF THE MATERIALS REQUIRED FOR THE PERFORMANCE OF THE WORK SHALL BE NEW, THE BEST QUALITY OF THEIR RESPECTIVE KIND, AND INSTALLED IN A GOOD, INDUSTRY STANDARD WORKMANSHIP.

M 1.32. CONTRACTOR SHALL CARRY THE COST OF ALL PERMIT APPLICATION FEES ASSOCIATED WITH THE WORK.

M 1.33. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO CAREFULLY REVIEW THE DRAWINGS, SPECIFICATIONS, AND OTHER INSTRUCTIONS AND NOTIFY THE CONSULTANT IN WRITING OF ANY ERRORS, OMISSIONS, OR DISCREPANCIES PRIOR TO THE CLOSING OF TENDERS. THE CONTRACTOR SHALL ABIDE BY THE DECISION GIVEN IN WRITING. THE WORK AS SHOWN IS INTENDED TO BE COMPLETED IN ALL RESPECTS, AND FAILURE TO NOTIFY THE CONSULTANT OF ANY DISCREPANCIES WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR COMPLETING THE WORK AS INTENDED. IN NO CASE SHALL THE CONTRACTOR PROCEED IN UNCERTAINTY

M 1.34. CONTRACTOR SHALL EXAMINE ALL SECTIONS AND DIVISIONS OF THE SPECIFICATIONS AND ALL OTHER RELATED CONTRACT DOCUMENTS IN CONTEXT OF THIS DESIGN INCLUDING THE ELECTRICAL, STRUCTURAL, CIVIL AND ARCHITECTURAL DRAWINGS. THIS SPECIFICATION IS TO BE READ IN CONJUNCTION WITH ALL OTHER SECTIONS AND DIVISIONS OF THE SPECIFICATIONS. IN THE EVENT OF CONFLICT BETWEEN DOCUMENTS, THIS SPECIFICATION SHALL GOVERN.

M 1.35. ALL MECHANICAL WORK SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS, STANDARDS & REGULATIONS OF CSA, NFPA, NATIONAL BUILDING CODES, ALL MUNICIPAL BY-LAWS, REGULATIONS, AND ANY RELEVANT AUTHORITIES HAVING JURISDICTION (AHJ).

M 1.36. CONTRACTOR SHALL INCLUDE LABOUR & MATERIAL THAT MAY BE REQUIRED TO RELOCATE ANY MECHANICAL UNIT UP TO 10 FEET (3M) FROM THE LOCATION INDICATED IN THE PLANS.

M 1.37. CONTRACTOR TO HOST A BI-WEEKLY SUB-TRADE MEETING ONSITE WITH THE OWNER TO UPDATE THE OWNER ON ALL ACTIVITIES. THIS IS TO BE DURING ALL CONSTRUCTION PHASES OF THE PROJECT FOR ALL UNIT REPLACEMENTS. DETAILED MEETING MINUTES ARE TO BE ISSUED TO THE OWNER AND ENGINEER, COORDINATE & REPORT TO THE BUILDING OWNER AT ALL TIMES DURING THE PROJECT.

M 1.38. ALL SHIPPING COSTS FOR ALL MATERIALS NEEDED FOR THE PROJECT ARE THE RESPONSIBILITY OF THE CONTRACTOR.

M 1.39. THE CONTRACTOR SHALL CARRY THE COST FOR A FACTORY OR FIELD TEST INCLUDING THE COST OF THE CONTRACTOR TO ORDER AND PROCURE THE SPECIFIED START-UPS AND PROVIDE ASSISTANCE FOR THE COMMISSIONING OF THEIR EQUIPMENT. ALL EQUIPMENT AND SYSTEMS TO BE INSTALLED IN STRICT ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND MANUALS.

M 1.40. CAN/ULC S1001 COORDINATION WILL NOT BE PROVIDED BY NORTHSTAR. THE OWNER OR PRIME CONSULTANT IS TO RETAIN A CERTIFIED, QUALIFIED, INDUSTRY PROFESSIONAL ENGINEER AND SUBSEQUENT REPORT. THIS IS TO BE COMPLETED AT THE FINAL STAGE OF THE PROJECT AND IS TO BE COORDINATED BY THE CONSULTANT RETAINED. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY LABOR, MATERIALS & RESOURCES TO SUPPORT ALL TESTING AND COMMISSIONING OF THE INTEGRATED SYSTEMS BASED ON THE CONSULTANT'S TESTING SCHEDULE.

M 1.41. CONTRACTOR TO CLEARLY LIST ALL ITEMS/SYSTEMS/REQUIREMENTS THAT ARE NOT SPECIFICALLY NOT QUOTED WITHIN THEIR TENDER SUBMISSION, UNLESS EXCEPTIONS ARE SPECIFICALLY NOTED AT THE TIME OF TENDER. THE SUBMISSION OF A TENDER CONFIRMS THAT THE CONTRACTOR HAS ACCEPTED ALL SPECIFICATIONS, DRAWINGS, CONTRACT DOCUMENTS, AND CONDITIONS WITHOUT QUALIFICATION. THE OWNER MAY NOT APPROVE ANY EXTRA CHARGES SUBSEQUENT TO THE ACCEPTANCE OF THE TENDER.

M 1.42. WHERE THE DRAWINGS OR SPECIFICATIONS ASSIGN WORK TO A PARTICULAR TRADE, IT IS THE INTENT THAT THIS BE USED AS A GUIDE ONLY TO ASSIST THE CONTRACTOR TO BE SHARED WITH THE PRIME CONSULTANT AS WELL AS NORTHSTAR.

M 1.43. CONTRACTOR IS TO ALLOW FOR COSTS FOR ALL CUTTING AND PATCHING PERTAINING TO THE MECHANICAL SYSTEMS INSTALLATION UNLESS NOTED OTHERWISE. THIS SHALL INCLUDE ALL CUTTING AND PATCHING OF ROOFS, PARTITION WALLS, CEILING, FLOORS, AND OUTSIDE WALLS. ALL CUTTING AND PATCHING SHALL BE PERFORMED BY WORKERS SPECIALIZED IN THIS TYPE OF WORK AND CAPABLE OF PERFORMING TO GOOD COMMERCIAL STANDARDS. ALL WORK SHALL BE DONE SO AS TO MAINTAIN ANY FIRE SEPARATIONS, SOUND TRANSMISSION CLASS RATINGS, VAPOR RETARDANT PERFORMANCE, INSULATION VALUES, ETC.

M 1.44. THE OPTIONAL ITEMS LISTED BELOW ARE TO BE INDICATED IN THE CONTRACTORS BID SUBMISSION.

M 1.45. THE CONTRACTOR IS TO ABIDE BY THE CONTRACT DOCUMENTS AS DETAILED IN THE 'BID FORM' & 'VENDOR POLICY' PROVIDED BY THE CLIENT.

M 1.46. ALL CONTRACT DOCUMENTS WHERE THE WORD "NORTHSTAR" APPEARS, REFERS TO THE ENGINEERING CONSULTANT, NORTHSTAR ENGINEERING & TECHNOLOGIES LTD.

M 1.47. THERE MAY BE ADDITIONAL SCOPES OF WORK THAT THE OWNER MAY REQUIRE RELATED TO OUR CONSTRUCTION DOCUMENTS CONTAINED IN THE TENDER. THE CONTRACTOR IS ENCOURAGED TO CONTACT THE CONTRACTOR THE OWNER OR OWNERS REPRESENTATIVE TO ENQUIRE ABOUT ADDITIONAL WORK RELATED TO - BUT NOT CONTAINED IN THIS TENDER.

M 1.48. CONTRACTOR TO PROVIDE THE PRICE FOR THE WORK WITH REASONABLE DETAILED CONSIDERATION OF ALL OF THE CONSTRUCTION DOCUMENTS PROVIDED BY ALL CONSULTANTS ON THIS PROJECT. THIS INCLUDES CIVIL, SITE SERVICING, PLANNING, ARCHITECTURAL, STRUCTURAL, MECHANICAL & ALL ASSOCIATED CONTROLS CONTRACTORS.

M 1.49. CONTRACTOR TO CARRY THE COST OF ALL CRANE & RIGGING SERVICES FOR THE PROJECT COMPLETION. THE CONTRACTOR TO COORDINATE THE LIFTS AND WORK TO BE EFFICIENT AND COST EFFECTIVE. LOGISTICS TO BE ORGANIZED BY THE CONTRACTOR AND RE-SCHEDULING CRANE SERVICES TO INCLUDE ADDITIONAL LIFTS IS TO BE THE RESPONSIBILITY OF THIS CONTRACTOR. COST TO BE INCLUDED ARE FOR ANY POLICE PAY-DUTY, MUNICIPAL TRAFFIC INTERRUPTION OR SHUT-DOWN.

M 1.50. CONTRACTOR TO PROVIDE ALL NECESSARY STANDS, BRACKETS, HANGERS AND SUPPORTS NECESSARY FOR A ROBUST, CODE COMPLIANT INSTALLATION. THIS INCLUDES ALL STANDS AND SUPPORTS OUTLINED (AND NOT OUTLINED) IN THE MECHANICAL DRAWINGS.

M 1.51. ALL MECHANICAL SERVICE ROOMS ARE TO BE CONSTRUCTED WITH CONCRETE PADS UNDER ALL MECHANICAL EQUIPMENT CONFORMING TO CSA STANDARDS "A3000" SERIES INCLUDING A23-1 - CONCRETE MATERIALS AND METHODS OF CONCRETE CONSTRUCTION. MINIMUM HEIGHT TO BE 4" (100MM). REFER TO PLANS FOR EQUIPMENT LOCATIONS PROPOSED.

PRE-CONSTRUCTION - PHASE - MECHANICAL

M 2.0. CONTRACTOR SHALL BE RESPONSIBLE FOR PRICING ALL MATERIALS CONTAINED WITHIN THE CONTRACT DOCUMENTS. FAILURE OF THE CONTRACTOR TO ORDER AND PROCURE THE SPECIFIED OR APPROVED ALTERNATE MATERIALS TO MEET THE PROJECT SCHEDULE IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR. NORTHSTAR WILL NOT APPROVE EXTRA COSTS FOR THE CONTRACTOR'S FAILURE TO ORDER THE REQUIRED MATERIALS & EQUIPMENT IN A TIMELY MANNER IN ORDER TO MAINTAIN THE PROJECT SCHEDULE.

M 2.1. EVERY EFFORT HAS BEEN MADE BY NORTHSTAR TO PROVIDE A WORKABLE CONCEPT FOR THIS PROJECT. THE CONTRACTOR IS REQUESTED TO REVIEW THE VIABILITY OF THE DESIGN CONCEPT AND LIST ANY CONCERNS OR OBSTACLES TO THE SUCCESS OF THE PROPOSED PLAN BEFORE ORDERING OF MATERIALS OR PLANNING IS BEGUN.

M 2.2. EVERY EFFORT HAS BEEN MADE BY NORTHSTAR TO PROVIDE A WORKABLE DESIGN CONCEPT FOR THIS PROJECT. THE CONTRACTOR IS TO REVIEW THE VIABILITY OF THE DESIGN CONCEPT AND REPORT ANY CONFLICTS OR CONSTRUCTION ABILITY ISSUES CONCERNS OR OBSTACLES TO THE TO THE ENGINEER BEFORE ORDERING OF MATERIALS OR DETAILED PLANNING IS BEGUN.

M 2.3. CONTRACTOR IS TO APPLY FOR AND PAY FOR ANY AND ALL NECESSARY PERMITS REQUIRED TO PERFORM THE WORK LISTED.

M 2.4. CONTRACTOR AS WELL AS SUBCONTRACTORS ARE TO PERFORM A DETAILED CONSIDERATION OF ALL OF THE CONSTRUCTION DOCUMENTS PROVIDED BY ALL MECHANICAL EQUIPMENT, COMPONENTS AND SITE SERVICING, PLANNING, ARCHITECTURAL, STRUCTURAL, MECHANICAL & ALL ASSOCIATED CONTROLS CONTRACTORS. ANY DISCREPANCIES OR CONFLICTS ARE TO BE REPORTED IN A TIMELY MANNER ABOUT THE MATERIALS & RESOURCES TO SUPPORT ALL TESTING AND COMMISSIONING OF THE INTEGRATED SYSTEMS BASED ON THE CONSULTANT'S TESTING SCHEDULE.

M 2.5. CONTRACTOR TO REGULARLY (AND AT PROJECT MILESTONES), REQUEST ELECTRICAL SAFETY INSPECTIONS AND PROVIDE TO THE ENGINEER THE INSPECTOR'S REPORT IN A TIMELY MANNER.

M 2.6. CONTRACTOR TO CONTACT AND COORDINATE THE LOCATING AND DISCOVERY OF ALL UNDERGROUND SERVICES RELATED TO THE PROJECT (IN THE VICINITY OF THE WORK). PAYMENT FOR ALL SERVICES ARE TO BE MADE BY THE CONTRACTOR. ALL RECEIVED REPORTS ON LOCATES ARE TO BE ISSUED TO THE ENGINEER IN A TIMELY MANNER.

M 2.7. CONTRACTOR TO CONTACT, COORDINATE, AND MEET WITH ALL LOCAL SERVICE UTILITY REPRESENTATIVES AS PART OF THE PROJECT ACTIVITIES. ANY INFORMATION PROVIDED TO THE CONTRACTOR TO BE SHARED WITH THE PRIME CONSULTANT AS WELL AS NORTHSTAR.

M 2.8. CONTRACTOR TO RETAIN QUALIFIED COMPANIES TO PERFORM ANY LISTED TESTING AND OR INVESTIGATIONS PRIOR TO CONSTRUCTION. ALL REPORTS TO BE ISSUED TO THE ENGINEER IN A TIMELY MANNER. FEES FOR ALL LISTED REPORTS TO BE INCLUDED IN THE TENDER.

M 2.9. REFER TO THE ARCHITECTURAL DRAWINGS FOR ALL LOCATIONS OF MECHANICAL FIXTURES. OUR DRAWINGS ARE NOT TO BE SCALED TO DETERMINE LOCATIONS OF EQUIPMENT.

M 2.10. THE CONTRACTOR IS TO WORK COOPERATIVELY WITH THE GENERAL CONTRACTOR AS WELL AS ANY OTHER SUB-TRADE ON THE PROJECT. ALL WORK IS TO BE REVIEWED WITH THE GENERAL CONTRACTOR FOR STAGING, ORDER OF OPERATIONS, ROUTING AND COORDINATION WITH OTHER SERVICES.

M 2.11. THE CONTRACTOR TO DEMOLISH ANY REQUIRED SERVICES ONLY AFTER THE STIPULATED TESTING IS COMPLETE. THE GENERAL CONTRACTOR PROVIDES THE APPROVAL AND THE OWNER & NORTHSTAR HAS BEEN NOTIFIED IN WRITING. ALL DEMOLISHED EQUIPMENT AND MATERIALS ARE TO BE DISPOSED OF IN A PROPER MANNER, COMPLETE WITH RECEIPTS. ANY CONTAMINATED FLUIDS ARE TO BE REMOVED FROM THE SITE AND DISPOSED OF BY A PROBER AGENCY. A RECEIPT OF SAME IS TO BE FURNISHED UPON REQUEST OF NORTHSTAR.

M 2.12. CONTRACTOR TO SEFELY STORE ALL MATERIALS NECESSARY FOR THE PROJECT IN A SUPERVISED, SECURE AREA UNTIL SUCH TIME AS THE MATERIALS ARE TO BE INSTALLED. ADEQUATE INSURANCE IS TO BE PAID FOR TO PROTECT ALL MATERIALS.

M 2.13. ANY FRAGILE OR SENSITIVE SHIPMENTS HAVING TIP-TO-TELL INDICATORS ARE TO BE MONITORED AND MAY BE INSPECTED BY THE CONTRACTOR TO ENSURE THE INTEGRITY OF THE EQUIPMENT.

M 2.14. GENERALLY, NORTHSTAR WILL ONLY REVIEW AND CERTIFY PAYMENTS FOR EQUIPMENT AFTER IT IS INSTALLED IN POSITION IN THE BUILDING.

M 2.15. CONTRACTOR TO PROVIDE SHOP DRAWINGS FOR ALL LISTED ITEMS WITHIN DRAWING SCHEDULES CONTAINED IN THE PLANS. IN ADDITION, NORTHSTAR MAY PROVIDE A SPECIFIC LIST OF REQUIRED SHOP DRAWINGS. ALTERNATES MAY OR MAY NOT BE ACCEPTABLE. IT IS RECOMMENDED THAT THE CONTRACTOR PRE-APPROVE THE SHOP DRAWINGS WITH NORTHSTAR IN ORDER TO EXPEDITE AND TO AVOID SCHEDULE TIME NOTE: REVIEW OF SHOP DRAWINGS BY NORTHSTAR DOES NOT IMPLY RESPONSIBILITY FOR THE PRODUCTS SELECTED. NORTHSTAR'S REVIEW ID TO DETERMINE "GENERAL CONFORMANCE" WITH OUR DESIGN. THE CONTRACTOR SHALL ENSURE THAT ALL PRESENTED SHOP DRAWINGS ARE VISIBLE AND SUITABLE PRODUCTS FOR THE INSTALLATION AND THEREFORE BARE THE RESPONSIBILITY FOR THE SELECTION OF THE PRODUCTS CONTAINED THEREIN. NORTHSTAR DOES NOT WARRANT AS TO QUANTITIES. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ASSESS AND ORDER THE REQUIRED QTY. OF PRODUCTS AND MATERIALS. COMPLEX ALTERNATES PRESENTED MAY INVOLVE SIGNIFICANT WORK BY NORTHSTAR IN ORDER TO APPROVE WHICH MAY RESULT IN AN ADDITIONAL CHARGE TO THE OWNER. IF THE OWNER IS NOT AGREEABLE, THE ADDITIONAL COST OF REVIEWING THE DESIGN MAY BE CHARGEABLE TO THE CONTRACTOR. THE CONTRACTOR SHALL ENSURE THAT ALL ALTERNATIVE EQUIPMENT MEETS THE MECHANICAL SPECIFICATIONS AND IS SIMILAR IN DIMENSIONS, STABILITY, QUALITY, WEIGHT, EASE OF MAINTENANCE, PERFORMANCE, AND THAT IT WILL FIT IN THE SPACE PROVIDED WITHIN THE BUILDING. ALTERNATIVE SYSTEMS OR MATERIALS INSTALLED WITHOUT THE CONSULTANT'S WRITTEN APPROVAL, WILL BE REMOVED AND REPLACED AT THE CONTRACTOR'S EXPENSE. IT SHALL BE CLEARLY UNDERSTOOD THAT IF NO ALTERNATIVES ARE INDICATED FOR 'BASE BID' PRODUCTS AT THE TIME OF BIDDING, THE 'BASE BID' ITEM SHALL BE SUPPLIED. 'PROVIDE' MEANS TO SUPPLY AND INSTALL THE PRODUCTS AND SERVICES SPECIFIED.

M 2.16. CARRY THE COST OF PROFESSIONAL LABORATORY WATER QUALITY TESTING PRIOR TO THE INSTALLATION. FURNISH THE REPORT TO THE ENGINEER & OWNER FOR REVIEW.

M 2.17. ALL PRESENTLY OPERATIONAL COMMUNICATION, ELECTRICAL, MECHANICAL, LIFE SAFETY FEATURES ARE TO BE FULLY OPERATIONAL BEFORE THE DEMOLITION WORK IS BEGUN. A DETAILED REPORT IS TO BE PROVIDED OUTLINING THE FINDINGS OF THE SITE REVIEW. THE CONTRACTOR IS TO CONFIRM THE PRESENT OPERATIONAL REQUIREMENTS WITH THE OWNER.

M 2.18. CONTRACTOR SHALL RETAIN AND PAY FOR THE SERVICES OF A PROFESSIONAL STRUCTURAL ENGINEER TO DESIGN & COORDINATE ALL REQUIRED STRUCTURAL MOUNTS, BRACKETS, ROOF INSTALLATIONS, STAGING ACTIONS, LIFTS AND SUPPORTS. NO STRUCTURAL MEMBER SHALL BE CUT WITHOUT THE KNOWLEDGE AND CONSENT OF THE PROJECT STRUCTURAL ENGINEER OF RECORD.

CONSTRUCTION - PHASE - MECHANICAL

M 3.0. CONTRACTOR IS TO SUPPLY AND INSTALL ALL MECHANICAL EQUIPMENT, COMPONENTS AND COMMISSION ALL SYSTEMS CONTAINED IN THE CONSTRUCTION DOCUMENTATION PROVIDED BY NORTHSTAR SO AS TO PROVIDE TO THE OWNER A COMPLETE, WORKING INSTALLATION THAT FUNCTIONS AS INTENDED. THE ENGINEER'S PLANS FOR THE WORK TO BE COMPLETED TO THE SATISFACTION OF THE OWNER AS WELL AS NORTHSTAR.

M 3.1. ALL INSTALLATION METHODS AND WORK SHALL CONFORM WITH CURRENT APPLICABLE STANDARDS, CODES, BY-LAWS AND REGULATIONS - AS WELL AS THE LATEST EDITION OF THE PROVINCIAL & NATIONAL BUILDING CODES.

M 3.2. THE DESIGN DRAWINGS PROVIDED BY NORTHSTAR ARE TO BE VERIFIED BY THE CONTRACTOR. THE CONTRACTOR SHALL PROVIDE A COMPLETE, WORKING INSTALLATION THAT FUNCTIONS AS INTENDED. THE ENGINEER'S PLANS FOR THE WORK TO BE COMPLETED TO THE SATISFACTION OF THE OWNER AS WELL AS NORTHSTAR.

M 3.3. CONTRACTOR TO READ THE INSTALLATION MANUAL OF ANY COMPONENT PRIOR TO INSTALLATION. ALL EQUIPMENT AND PURCHASED PRODUCTS USED IN THE INSTALLATION SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH THE RELEVANT MANUFACTURER'S INSTRUCTION INSTALLATION MANUAL FOR THE RESPECTIVE PRODUCT. MFG. WARRANTIES ARE TO BE PRESERVED IN PREPARATION FOR HANDING THE COMPLETED PROJECT OVER TO THE OWNER ONCE SUBSTANTIAL COMPLETION IS DETERMINED BY NORTHSTAR.

M 3.4. THE CONTRACTOR SHALL REVIEW THE PLANS IN CONJUNCTION WITH THIS PROJECT SPECIFICATION TO PROVIDE A COMPLETED PROJECT. ANY DISCREPANCIES SHALL BE REPORTED TO NORTHSTAR IN WRITING IN A TIMELY MANNER SO AS TO DELAY THE SCHEDULE. THE NORTHSTAR PROJECT SPECIFICATION SHALL TAKE PRECEDENCE OVER THE NORTHSTAR PLANS.

M 3.5. THE CONTRACTOR SHALL ORGANIZE AND CREATE A CONSTRUCTION SCHEDULE WITH ALL NECESSARY SUB-TRADES REQUIRED TO COMPLETE THE WORK. NORTHSTAR IS NOT RESPONSIBLE FOR 'GAPS' OR UNCLEAR CONTRACT REQUIREMENTS BETWEEN THE GENERAL CONTRACTOR, ELECTRICAL CONTRACTOR OR ANY OTHER CONTRACTS RELATED TO THIS PROJECT.

M 3.6. COPIES OF ALL CONSTRUCTION DOCUMENTS PLANS AND SPECIFICATIONS ISSUED AND STAMPED BY AHJ ARE TO BE PRINTED AND AVAILABLE ONSITE AT ALL TIMES.

M 3.7. PRIOR TO COMMENCING CONSTRUCTION, A WORKING SECURITY CAMERA MONITORING SYSTEM IS TO BE INSTALLED AND TESTED FOR THE SITE AND STORAGE AND HOARDING AREAS OF THE CONSTRUCTION SITE.

M 3.8. PRIOR TO MOBILIZING, THE CONTRACTOR IS TO HAVE IN PLACE A SUITABLE INSURANCE POLICY TO COVER THE ACTIVITIES ON THE SITE.

M 3.9. CONTRACTOR TO HAVE A VALID WORKPLACE SAFETY INSURANCE CLEARANCE CERTIFICATES FOR ALL STAFF AND SUB-TRADES WORKING ON THE SITE AT ALL PHASES OF CONSTRUCTION.

M 3.10. CONTRACTOR TO POSITIVELY IDENTIFY ALL ITEMS TO BE DEMOLISHED BY USE OF PHOTOS AND EMAIL AS WELL AS VERIFY WITH THE OWNER AND ENGINEER PRIOR TO DEMOLITION.

M 3.11. ALL EQUIPMENT, FIXTURES AND ELEMENTS NOT REQUIRED TO BE DEMOLISHED IN THE PLANS ARE TO BE PROTECTED FROM DAMAGE DURING CONSTRUCTION.

M 3.12. PRIOR TO COMMENCING CONSTRUCTION, A WORKING SECURITY CAMERA MONITORING SYSTEM IS TO BE INSTALLED AND TESTED FOR THE SITE AND STORAGE AND HOARDING AREAS OF THE CONSTRUCTION SITE.

M 3.13. SUPPLY & INSTALL ALL REQUIRED DUCT & PIPE HANGERS TO INDUSTRY STANDARDS.

M 3.14. SUPPLY & INSTALL OBC COMPLIANT GUARD-RAILS ON THE ROOF FOR ANY LOCATIONS FOR THE RESPECTIVE MECHANICAL UNITS CLOSER TO THE ROOF EDGE THAN 8" (2.5M).

M 3.15. SUPPLY & INSTALL OBC COMPLIANT GUARD-RAILS ON THE MEZZANINE LOCATIONS INDICATED FOR THE HVAC CONDENSING UNITS FOR THE RESPECTIVE AREAS.

M 3.16. CONTRACTOR TO NOTIFY IN WRITING TO THE OWNER OR OWNER'S REPRESENTATIVE OF IMPENDING WORK THAT COULD AFFECT THEIR OPERATIONS WITH SUFFICIENT WARNING TIME (MIN. 48 HOURS). THIS INCLUDES POWER OUTAGES, MECHANICAL TESTING, SERVICE INTERRUPTIONS OF ANY KIND. THE CONTRACTOR IS TO SIMULTANEOUSLY NOTIFY THE OWNER OR OWNERS OFFICIAL REPRESENTATIVE OF ANY SUCH EVENT IN A TIMELY MANNER WITH ADEQUATE WARNING.

M 3.17. CONTRACTOR TO SAFELY REMOVE FROM THE SITE AND DISPOSE OF (IN A LEGAL RESPONSIBLE MANNER) OF ANY MECHANICAL MATERIALS FROM THE SITE.

M 3.18. CONTRACTOR TO PROVIDE COMPANY AND PERSONAL LOCKS AND TAGS ON ALL ELECTRICAL DISTRIBUTION EQUIPMENT REQUIRED TO BE DE-ENERGIZED DURING CONSTRUCTION AS REQUIRED.

M 3.19. CONTRACTOR TO INCLUDE THE COST OF ALL REQUIRED LIFTING AND CRANE OPERATIONS FOR THE PROJECT. THIS INCLUDES ALL NECESSARY RIGGING, LIFTING AIDS, SLINGS AND PAYS DUTIES OF POLICE DEPARTMENTS FOR ROAD SHUT-DOWNS.

M 3.21. CONTRACTOR TO OBTAIN, LIASON, AND COORDINATE THE DETAILED ENGINEERING, APPROVAL, AND PROCUREMENT OF ALL FIRE STOPPING PROVISIONS FOR THE PROJECT.

M 3.22. CONTRACTOR TO SUPPLY & INSTALL ALL REQUIRED FIRESTOPPING IN ACCORDANCE WITH THE ARCHITECT'S LISTED FIRE RESISTANCE RATED ASSEMBLIES. THE ENGINEER'S PLANS FOR A COMPLETE LIST. NORTHSTAR PLANS CAN ALSO BE OF ASSISTANCE FOR THIS. ALL SERVICE ROOMS SHALL BE FIRESTOPPED.

M 3.23. CONTRACTOR TO OBTAIN, LIASON, AND COORDINATE THE DETAILED PROFESSIONAL ENGINEERING SERVICES FOR STRUCTURAL ENGINEERING AND APPROVAL OF ANY LISTED SIEMSC SUPPORT PROVISIONS FOR THE PROJECT.

M 3.24. CONTRACTOR TO HOLD REGULAR TRADES COORDINATION MEETINGS ONSITE TO ENSURE SERVICES ARE INSTALLED IN AN ORDER THAT IS REQUIRED FOR ALL THE SERVICES. CHARGES FOR ANY OUT-OF-ORDER INSTALLATION WORK WILL NOT BE APPROVED BY THE ENGINEER.

M 3.25. ALL EQUIPMENT AND FIXTURES ARE TO BE INSTALLED SO AS TO BE EASILY SERVICEABLE AND NOT OBTAINED, ANY TEMPORARY CLEARANCE AS PER INDUSTRY STANDARDS AND MANUFACTURER'S INSTALLATION MANUALS TO BE STRICTLY ADHERED TO FOR ALL INSTALLATION WORK.

M 3.26. CONTRACTOR TO CONFIRM THE STRUCTURAL INTEGRITY OF THE ROOF OR FLOOR PRIOR TO STAGING AND STORING EQUIPMENT ONSITE. THIS MAY REQUIRE THE SERVICES OF A PROFESSIONAL STRUCTURAL ENGINEER TO BE RETAINED AT THE EXPENSE OF THE CONTRACTOR. ANY TEMPORARY STAGING THAT IS REQUIRED FOR EQUIPMENT ON THE ROOF SURFACE, OR SITE NECESSARY LOAD SPREADING RAILS TO PREVENT DAMAGE TO THE ROOF STRUCTURE IS TO BE PROVIDED. PROVIDE NECESSARY WEATHER TARPS SECURELY FIXED TO PREVENT WIND/RAIN DAMAGE.

M 3.27. CONTRACTOR TO PROVIDE A WEATHER-PROOF DURABLE SEAL TO ALL SERVICE PENETRATIONS ON THE ROOF. COORDINATE ALL ROOF CONES WITH THE DESIGN REQUIREMENTS. COORDINATE ALL ROOF CONE INSTALLATIONS WITH THE GENERAL CONTRACTOR AND/OR THE ROOFING CONTRACTOR.

M 3.28. CONTRACTOR TO PROVIDE A WEATHER-PROOF DURABLE SEAL TO ALL SERVICE PENETRATIONS THROUGH ALL EXTERIOR WALLS. COORDINATE ALL WALL PENETRATIONS WITH THE DESIGN REQUIREMENTS. COORDINATE ALL CORING WITH THE GENERAL CONTRACTOR. PROVIDE ALL NECESSARY MEASURE TO PREVENT GROUND WATER FROM ENTERING THE BUILDING THROUGH FOUNDATION PENETRATIONS AND PIPE / CONDUITS.

M 3.29. ANY COPPER PIPE PENETRATIONS OF MASONRY AND POURED CONCRETE STRUCTURES, WHERE REQUIRED, PREVENT DAMAGE TO THE MASONRY/POURED CONCRETE WITH THE COPPER PIPING. SLEEVES ARE NOT REQUIRED PROVIDED THAT DIRECT CONTACT OF COPPER AND MASONRY/POURED CONCRETE IS PREVENTED AND PROVIDED THE MASONRY/POURED CONCRETE SHALL BE NEW AND SHALL COMPLY WITH CSA STANDARDS AND BE APPROVED FOR INSTALLATION IN CANADA. THIS IS TO INCLUDE A THE SUPPLY AND INSTALLATION OF A NEW ADDRESSABLE FIRE ALARM SYSTEM INCLUDING TESTING AND CERTIFICATION. INSTALLATION SHALL CONFORM TO THE LATEST EDITION OF CAN/CSA S524. VERIFICATION SHALL BE PROVIDED DURING ACCORDANCE WITH THE LATEST EDITION OF CAN/CSA S537.

M 3.30. CONTRACTOR TO PROVIDE PRICING ON ALL NORTHSTAR ISSUED OFFICIAL CHANGE ORDERS IN THE FORMAT REQUESTED BASED ON THE SPECIFIC ITEM NUMBERS LISTED ON THE NORTHSTAR CHANGE ORDER. ONE PRICE FOR EACH ITEM LISTED. PRICING TO INCLUDE ALL LABOUR AND MATERIALS REQUIRED FOR THE SCOPE REQUESTED. NORTHSTAR WILL NOT NECESSARILY APPROVE PRICING BASED UPON INDUSTRY PRICE GUIDES SUCH AS "ALLPRISE" OR SIMILAR. IF THE CONTRACTOR FEELS THAT THE ITEM WARRANTS AN ADDITIONAL COST TO THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING PRIOR TO PRICING THE ITEM.

M 3.31. NOTIFY NORTHSTAR IN WRITING OF ANY PERMITS AND/OR INSURANCE REQUIREMENTS. PROVIDE A MINIMUM OF 48 HOURS NOTICE FOR ANY PERCEIVED OR REQUIRED NORTHSTAR SITE REVIEWS / MEETINGS.

M 3.32. NORTHSTAR OFFICIAL ISSUED SITE INSTRUCTIONS (OR SIS) ARE DIRECTIVES TO CHANGE THE INSTALLATION AND ARE NOT SUBJECT TO PRICING FROM THE CONTRACTOR. IF THE CONTRACTOR FEELS THAT THE ITEM WARRANTS AN ADDITIONAL COST TO THE PROJECT, THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING PRIOR TO PRICING THE ITEM.

M 3.33. INQUIRE WITH THE OWNER OR PROJECT MANAGER REGARDING THE DISPOSAL & HANDING OVER ANY EQUIPMENT OR CONTROLS ITEMS TO BE REMOVED FROM THE BUILDING (SCHEDULES TO BE DEMOLISHED) PRIOR TO DEMOLITION.

M 3.34. CONTRACTOR TO CONTACT, COORDINATE, AND MEET WITH ALL LOCAL SERVICE UTILITY REPRESENTATIVES AS PART OF THE PROJECT ACTIVITIES. ANY INFORMATION PROVIDED TO THE CONTRACTOR TO BE SHARED WITH THE CONSULTING TEAM INCLUDING NORTHSTAR.

M 3.35. NORTHSTAR WILL ONLY ATTEND MEETINGS ONSITE FOR CONTRACTOR COORDINATION ON AN AS-REQUESTED BASIS UNLESS SPECIFIED OTHERWISE IN THE CONTRACT WITH THE OWNER. OPPORTUNITIES TO DISCUSS COORDINATION OF THE INSTALLATION IS BEST HANDLED AND SCHEDULED BASED ON NORTHSTAR GENERAL REVIEW (GR) SCHEDULE.

M 3.36. GRR REFERS TO "GENERAL REVIEW REPORT". NORTHSTAR WILL VISIT THE SITE BASED ON THE CONTRACT AGREEMENT WITH THE OWNER. ADDITIONAL SITE VISITS ARE CHARGEABLE. THE CONTRACTOR MAY RETAIN NORTHSTAR AT THEIR DISCRETION FOR ADDITIONAL SITE REVIEWS, OPPORTUNITIES TO DISCUSS COORDINATION OF THE INSTALLATION IS BEST HANDLED AND SCHEDULED BASED ON NORTHSTAR GENERAL REVIEW (GR) SCHEDULE. THE CONTRACTOR IS TO PROVIDE A MINIMUM WRITTEN WARNING OF IMPENDING SITE VISITS OF 48 HOURS..

M 3.37. NORTHSTAR WILL MAKE EVERY EFFORT TO PUBLISH THEIR SITE VISIT REPORTS IN A TIMELY MANNER. THE REPORT WILL BE ISSUED TO THE PRIME CONSULTANT FOR REVIEW BEFORE ISSUING IT TO THE CONTRACTOR. NORTHSTAR SHALL NOT BE RESPONSIBLE FOR RE-WORK OR COSTS ASSOCIATED WITH A DELAY OF THE PROJECT DUE TO UNTIMELY RESPONSE OF THE PRIME CONSULTANT IN DELAY OF ISSUING NORTHSTAR REPORTS.

M 3.38. SHOULD THE CONTRACTOR WISH TO DEVIATE FROM THE LAYOUT PROVIDED BY NORTHSTAR, THE CONTRACTOR SHALL PROVIDE A DETAILED RATIONALE AND PLAN (IN A SKETCH AS MINIMUM) FOR DISCUSSION AND APPROVAL BY NORTHSTAR. ONLY AFTER NORTHSTAR APPROVES THE DESIGN CHANGE IN WRITING, CAN THE WORK BE PLANNED & INITIATED BY THE CONTRACTOR.

M 3.39. PROVIDE DE-ELECTRIC FITTINGS WHERE DISSIMILAR METALS ARE IN CONTACT. WHERE SUPPORTING COPPER PIPE, ISOLATE THE PIPE FROM THE HANGER WITH ELECTROLYTIC ACTION TAPE OR OTHER MEANS. IF COPPER/PLASTIC COATED SUPPORTS, DIRECT CONTACT BETWEEN COPPER PIPING AND CONCRETE OR MASONRY CONSTRUCTION WILL NOT BE PERMITTED.

M 3.40. CONTRACTOR TO SUPPLY & INSTALL ALL REQUIRED FIRESTOPPING. FIRESTOPPING SHALL BE ULC APPROVED FIRE STOP SEALANT/DEVICES OF A TYPE TO SUIT PIPING, BUILDING CONSTRUCTION, OPENING SIZE, ETC. INSTALL ACCORDING TO MANUFACTURER'S DETAILED INSTALLATION INSTRUCTIONS. NOTE: REFER TO MANUFACTURERS' DETAILED INSTALLATION DRAWINGS AND PROVIDE SHOP DRAWINGS OF ALL FIRE STOP SYSTEMS PRIOR TO THE APPLICATION OF FIRE STOPPING. SHOP DRAWINGS SHALL SHOW APPROVALS OF ALL GOVERNING AGENCIES. ALL