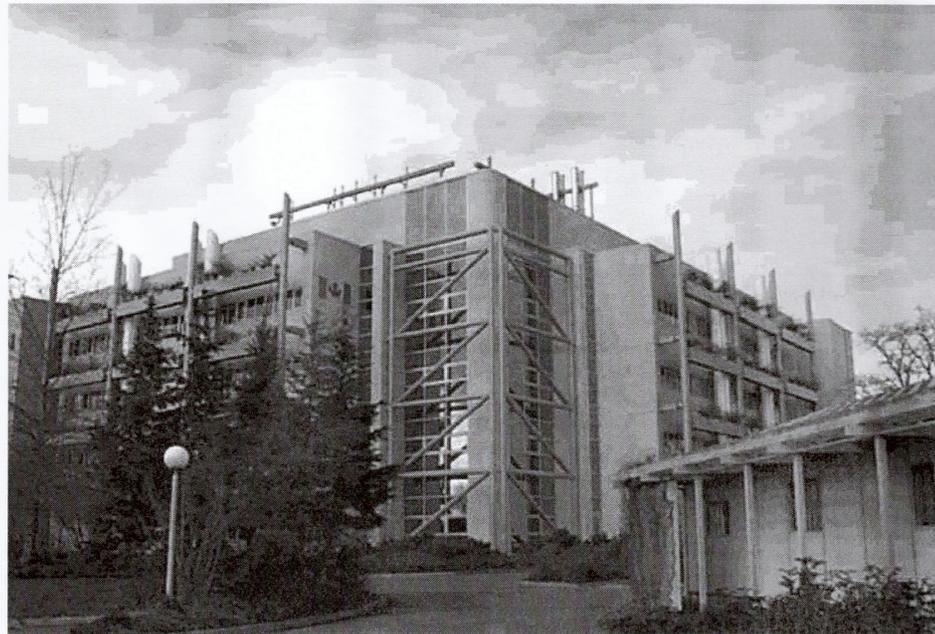


REAL PROPERTY SERVICES
Pacific Region
SERVICES IMMOBILIERS
Région de Pacifique

PUBLIC WORKS AND
GOVERNMENT SERVICES CANADA



VICTORIA, BC
506 WEST BURNSIDE ROAD
PACIFIC FORESTRY CENTRE

GREENHOUSE ENERGY MANAGEMENT SYSTEM
R.076293.001

ISSUED FOR TENDER
2016-06-29

ARCHITECT



IBI GROUP
ARCHITECTS (CANADA) INC.

MECHANICAL CONSULTANT



MCW CONSULTANTS LTD.

ELECTRICAL CONSULTANT



AES ENGINEERING SOLUTIONS LTD.



JUN 29 2016

ADDRESS:

506 West Burnside Road
 VICTORIA BC, V8Z 1M5

LEGAL DESCRIPTION:

LOT 1 SECTION 15A VICTORIA LAND DISTRICT PLAN 8423 EXCEPT PLAN RW, AND SECTION 77
 PID: 010-621-547

DISTRICT OF SAANICH

GENERAL NOTES:

- ALL WORK IS TO COMPLY WITH THE BRITISH COLUMBIA BUILDING CODE 2012 AND THE NATIONAL BUILDING CODE OF CANADA 2010 EDITION.
- VERIFY ALL DIMENSIONS ON SITE PRIOR TO STARTING THE RELATED WORK, MANUFACTURING AND/OR SHOP DRAWINGS.
- PROVIDE APPROVED FIRE STOPPING SYSTEMS AT ALL SERVICE PENETRATIONS THROUGH REQUIRED FIRE SEPARATIONS; ALL FIRE STOPPING IS TO BE REVIEWED AND ACCEPTED PRIOR TO COVERING WITH NEW FINISHES.
- GENERAL CONTRACTOR IS RESPONSIBLE FOR:
 - REMEDIAL WORK THAT WILL BE REQUIRED TO PERFORM THE SPECIFIC WORK.
 - HOARDING AND BARRICADES. CONTRACTOR TO PROVIDE HOARDING/BARRICADES PLAN IN ACCORDANCE WITH EACH PHASE TO DEPARTMENTAL REPRESENTATIVE FOR REVIEW AND APPROVAL PRIOR TO CONSTRUCTION.
 - SCAFFOLDING AND/OR LIFTING EQUIPMENT.
 - REPAIR ANY DAMAGE BY GENERAL CONTRACTOR AND HIS SUBCONTRACTORS TO ANY FACILITIES OR GROUNDS OF THIS CAMPUS AS A RESULT OF THIS WORK.
 - MAINTAIN USER ACCESS TO ALL EXITS THROUGH CONSTRUCTION SITE.
- MAKE GOOD ALL AREAS/SURFACES AFFECTED BY CONSTRUCTION.
- VERIFY ALL DIMENSIONS ON SITE AND REQUEST CLARIFICATION IF ANY DISCREPANCIES ARE FOUND BETWEEN DRAWINGS AND FIELD CONDITIONS.
- COORDINATE WITH DEPARTMENTAL REPRESENTATIVE THE CONSTRUCTION ACCESS, STAGING AREAS AND DESIGNATED WORK HOURS.

PROJECT TEAM DIRECTORY:

CLIENT: NATURAL RESOURCES CANADA
PROJECT MANAGER: PUBLIC WORKS AND GOVERNMENT SERVICES CANADA
ARCHITECT: IBI GROUP
MECHANICAL: MCW CONSULTANTS LTD.
ELECTRICAL: AES ENGINEERING SOLUTIONS LTD.

DRAWINGS LIST:

ARCHITECTURAL DRAWING LIST

A0.00	COVER PAGE	NTS
A0.01	GENERAL INFORMATION	NTS
A0.02	SITE PLAN - CONTRACTOR STAGING DIAGRAM	1:500
A1.01	CONSTRUCTION PHASING DIAGRAM AND EXISTING CONDITIONS	AS NOTED
A2.01	GREENHOUSE EXISTING GROUND FLOOR PLAN - NEW WORK	AS NOTED
A3.01	SECTION 1 - NEW WORK	1:50

MECHANICAL DRAWING LIST

M0.01	MECHANICAL SCHEDULE, LEGEND, AND DRAWINGS LIST	NTS
M1.01	MECHANICAL GROUND FLOOR PLAN DEMOLITION & CONSTRUCTION	1:100

ELECTRICAL DRAWING LIST

E1.0	EXISTING HEADER AND GREENHOUSE, POWER, SYSTEMS AND DETAILS	AS NOTED
E2.0	REVISED HEADER AND GREENHOUSE, POWER, SYSTEMS AND DETAILS	AS NOTED

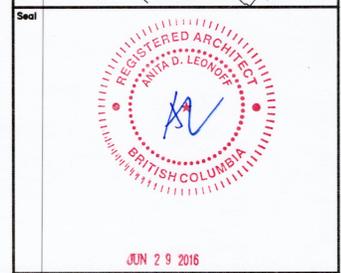
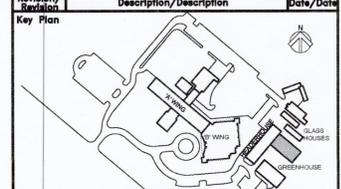
SYMBOL LEGEND

	TITLE Viewport/Scale
	BUILDING/WALL SECTION TAG UPPER PORTION INDICATES SECTION NO. LOWER PORTION INDICATES SHEET NO.
	EXTERIOR ELEVATION TAG UPPER PORTION INDICATES VIEW NO. LOWER PORTION INDICATES SHEET NO.
	INTERIOR ELEVATION TAG NUMBERS AROUND TAG INDICATE VIEW NO. CENTRE PORTION INDICATES SHEET NO.
	PHOTO TAG
	DETAIL TAG UPPER PORTION INDICATES DETAIL NO. LOWER PORTION INDICATES SHEET NO.
	GRID LINE
	REVISION NUMBER
	KEYNOTE
	ROOM NAME ROOM NO.
	WALL TYPE REFER TO WALL SCHEDULE
	DOOR NO.
	WINDOW NO.
	INTERIOR FINISH TYPE REFER TO ROOM FINISH SCHEDULE
	CEILING HEIGHT ABOVE FINISHED FLOOR
	ELEVATION IN SECTION
	EQUIPMENT NO.

ABBREVIATIONS

A/B, B/A	ABOVE & BELOW	MECH	MECHANICAL
AD	AREA DRAIN	MG	MECHANICAL GRILLE
ALUM	ALUMINUM	MIN	MINIMUM
ALT	ALTERNATE	MISC	MISCELLANEOUS
AP	ACCESS PANEL	MMS	METAL MESH FENCE/DOOR
ARCH	ARCHITECTURE	NIC	NOT IN CONTRACT
BD	BOARD	NO	NUMBER
BG	BUILDING GRADE	NTS	NOT TO SCALE
BM	BEAM	OC	ON CENTER
BM/A	BEAM ABOVE	OD	OUTSIDE DIAMETER/OVERFLOW DRAIN
BM/AB	BEAM ABOVE & BELOW	OFCl	OWNER FURNISHED, CONTRACTOR INSTALLED
BO	BIKKARD	OH	OPPOSITE HANDED
BO-S	BOLLARD STAINLESS STEEL	OPNG	OPENING
BOT, BTM	BOTTOM	OS	OVERFLOW SCUPPER
CB	CATCH BASIN	PAE	PERFORATED ALUM. EXTRUSIONS
CC/B	CONCRETE CURB BELOW	PD	PLANTER DRAIN
CG	CORNER GUARD	PL	PROPERTY LINE
CFL	CHAIN LINK FENCE DOOR	PLWD	PLYWOOD
CL	CENTERLINE	PR	PAIR
CLG, CLNG	CEILING	PT	PRESSURE TREATED
COL	COLUMN	PNT, PTD	PAINTED
CONST	CONSTRUCTION	QTY	QUANTITY
CONT	CONTINUOUS	R	RADIUS
DIA	DIAMETER	RD	ROOF DRAIN
DIM	DIMENSION	REF	REFERENCE
DN	DOWN	REINF	REINFORCING
DR	DRAIN	RM	ROOM
DET, DTL	DETAIL	RO	ROUGH OPENING
DWG	DRAWING	SC	SCUPPER
EL	ELEVATION	SCHED	SCHEDULE
ELECT, ELEC.	ELECTRICAL	SHR	SHOWER
ENCL	ENCLOSURE	SHT	SHEET
EP	ELECTRICAL PANEL	SIM	SIMILAR
EQ	EQUAL	SPEC	SPECIFICATIONS
EXT	EXTERIOR	SL	STORM LEADER
FD	FLOOR DRAIN	SQ	SQUARE
F.E.	FIRE EXTINGUISHER	ST. STL.	STAINLESS STEEL
FEC	FIRE EXTINGUISHER CAB	STD	STANDARD
FHC	FIRE HOSE CAB	STOR	STORAGE
FIN	FINISH	STR	STAIR
FLR	FLOOR	STL	STEEL
FMU	FLOOR MOUNTED UPLIGHT	STRUCT	STRUCTURE
FP	FIREPLACE	SUSP	SUSPENDED
FT	FLOOR	TEL	TELEPHONE
GA	GAUGE	THK	THICK
GALV	GALVANIZED	T.O.C.	TOP OF CURB/CONCRETE
GB	GRAB BAR	T.O.D.	TOP OF DRAIN
GL	GLASS	T.O.F.	TOP OF FINISH
GSL	GALV. STEEL LADDER	T.O.P.	TOP OF PARAPET
GYP, GWB	GYPSUM WALL BOARD	T.O.S.	TOP OF SLAB
HB	HOSE BIB	T.O.W.	TOP OF WALL
HGT, HT	HEIGHT	TYP	TYPICAL
HORIZ	HORIZONTAL	UNO	UNLESS NOTED OTHERWISE
IBG	INTERPOLATED BUILDING GRADE	VERT	VERTICAL
ID	INTERIOR DESIGN	VEST	VESTIBULE
INSUL	INSULATION	VIF	VERIFY IN FIELD
INT	INTERIOR	W	WITH
LP	LAMP POST	WD	WATER DISTRIBUTION PANEL
MAX	MAXIMUM	W/O	WITHOUT

Revision/Revision	Description/Description	Date/Date
3	ISSUED FOR TENDER	2016.06.29
2	95% DESIGN REVIEW	2016.06.17
1	50% DESIGN REVIEW	2016.05.20



Sub-Consultant

Prime Consultant
IBI GROUP ARCHITECTS (CANADA) INC.

Client/Client
PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project Title/Titre du projet
 VICTORIA, BC
 506 WEST BURNSIDE ROAD
 PACIFIC FORESTRY CENTRE
GREENHOUSE ENERGY MANAGEMENT SYSTEM
 Consultant Signature Only
 Designed by/Concept par
 IBI GROUP
 Drawn by/Dessiné par
 LM
 PWSC Project Manager/Administrateur de Projets TPSGC
 Patrick Truong
 Regional Manager, Architectural and Engineering Services
 Gestionnaire régional, Services d'architecture et de génie, TPSGC
 Principal Paul
 Drawing Title/Titre du dessin
GENERAL INFORMATION

Project No./No. du projet R.076293.001	Sheet/Fauille A0.01 2 OF 6	Revision no./La Révision no. 3
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IBI PROJECT NUMBER: 39006.800

WORK AREA LEGEND

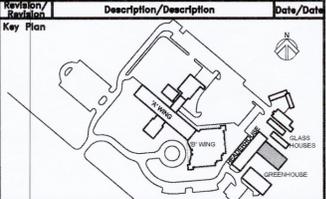
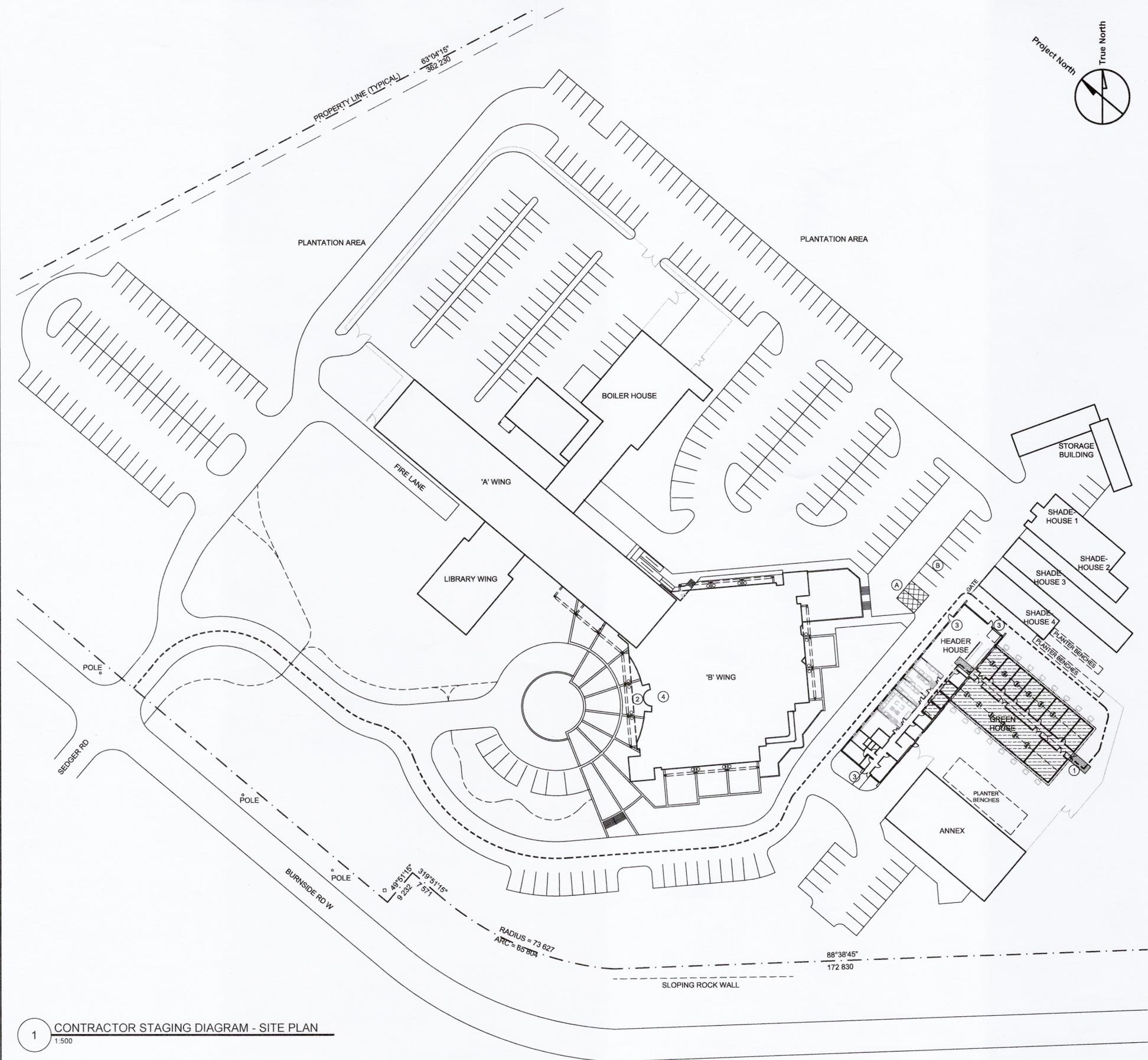
- CONTRACTOR ACCESS ROUTE
- WORK AREA
- CONTRACTOR STAGING AREA
- EXIT - ACCESS ROUTE DURING CONSTRUCTION
- (A) CONTRACTOR WASTE BIN LOCATION, CONFIRM WITH THE DEPARTMENTAL REPRESENTATIVE.
- (B) DESIGNATED CONTRACTOR PARKING, NUMBER OF STALLS TO BE ALLOCATED TBD WITH DEPARTMENTAL REPRESENTATIVE.

WORK AREA NOTES:

- ① EXIT/SERVICE ENTRY
- ② MAIN ENTRY
- ③ EXITS
- ④ DAILY SIGN IN - SIGN OUT REGISTRATION

NOTES

1. MAINTAIN ACCESS TO ALL BUILDING EXITS, ACCESS ROADS AND GATES THROUGHOUT THE CONSTRUCTION PERIOD.
2. DEMOLITION WORK TO BE REVIEWED AND SCHEDULED WITH DEPARTMENTAL REPRESENTATIVE. LARGE DEMOLITION MATERIAL TO BE REMOVED IN COVERED BINS WITH TARPS AND BROUGHT OUT THROUGH GREENHOUSE DOORS. ALL DEMOLITION MATERIAL BINS ARE TO BE COVERED AND REMOVED BY TRUCK.
3. MATERIALS ARE TO BE DELIVERED TO SITE; COVERED, CLEAN AND DRY.
4. THE DEPARTMENTAL REPRESENTATIVE WILL PROVIDE REGULAR CONSTRUCTION NOTIFICATIONS TO ALL ADJACENT DEPARTMENTS BESIDE, ABOVE AND BELOW THE WORK AREA BOUNDARY.
5. CONTRACTOR WILL LIMIT ACCESS INTO THE HEADER HOUSE ONLY AS REQUIRED TO PERFORM NECESSARY WORK AS REQUIRED FOR MECH/ELEC/CONTROLS RELATED WORK. THE HEADER HOUSE IS OTHERWISE NOT NORMALLY TO BE USED/ACCESSED.
6. CONTRACTOR FACILITIES TO BE CLEANED BY CONTRACTOR EVERY WORKING SHIFT. CLEAN THE AREA IN FRONT OF THE DOOR LEADING FROM THE WORK AREA INTO THE BUILDING ZONE AT THE END OF EACH SHIFT OR MORE FREQUENTLY IF THE AREA BECOMES SOILED.
7. COORDINATE THE DELIVERY AND ROUTING OF SUPPLIES WITH THE DEPARTMENTAL REPRESENTATIVE PRIOR TO CONSTRUCTION.
8. COORDINATE WITH THE DEPARTMENTAL REPRESENTATIVE WORKING SHIFTS AND ACCOMMODATE ACCESS FOR LABORATORY TECHNICIANS AS REQUIRED TO THE GREENHOUSE EXPERIMENTS.
9. COORDINATE CONTRACTOR PERSONNEL SITE ACCESS WITH THE DEPARTMENTAL REPRESENTATIVE PRIOR TO CONSTRUCTION, UNLESS DETERMINED OTHERWISE.
10. GENERAL CONTRACTOR SHALL COORDINATE WITH THE DEPARTMENTAL REPRESENTATIVE REGARDING THE FOLLOWING:
 - CONTRACTOR PARKING.
 - CONTRACTOR FACILITIES. (OFFICE/STAGING/STORAGE)
 - CONTRACTOR CIRCULATION IN THE VARIOUS FACILITIES AND ENTIRE CAMPUS.
 - CONTRACTOR SIGN-IN AND SIGN OUT PROCEDURE.
 - WORK HOURS AND SITE RESTRICTIONS.
 - TEMPORARY WASHROOM - CONTRACTOR SUPPLIED
 - TEMPORARY UTILITIES - CONTRACTOR SUPPLIED
11. CONSTRUCTION ACTIVITIES WITH NOISE AND VIBRATION MUST BE COORDINATED WITH THE DEPARTMENTAL REPRESENTATIVE. IT IS ANTICIPATED THAT CONSTRUCTION ACTIVITIES CREATING EXCESSIVE NOISE AND VIBRATION SHALL OCCUR WITH A TIME LIMITATION (APPROX. 15 TO 30 MINUTES) OF ACTIVITY FOLLOWED BY A TIME DURATION (APPROX. 15 MINUTES) WITHOUT EXCESSIVE NOISE AND VIBRATION.
12. CONTRACTOR SHALL COORDINATE WITH THE DEPARTMENTAL REPRESENTATIVE THE NEED FOR SYSTEM-WIDE SHUTDOWNS AND CONNECTION OF EXISTING SERVICES AND UTILITIES. PROVIDE MINIMUM 48 HOURS NOTICE OF SUCH WORK.



JUN 29 2016

Prime Consultant
IBI GROUP ARCHITECTS (CANADA) INC.

Client/Client
PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project title/Titre du projet
VICTORIA, BC.
506 WEST BURNSIDE ROAD
PACIFIC FORESTRY CENTRE

GREENHOUSE ENERGY MANAGEMENT SYSTEM

Consultant Signature Only
Designed by/Concept par
LMI
Drawn by/Dessiné par
LMI
PWSSC Project Manager/Administrateur de Projets TPSGC
Patrick Truong

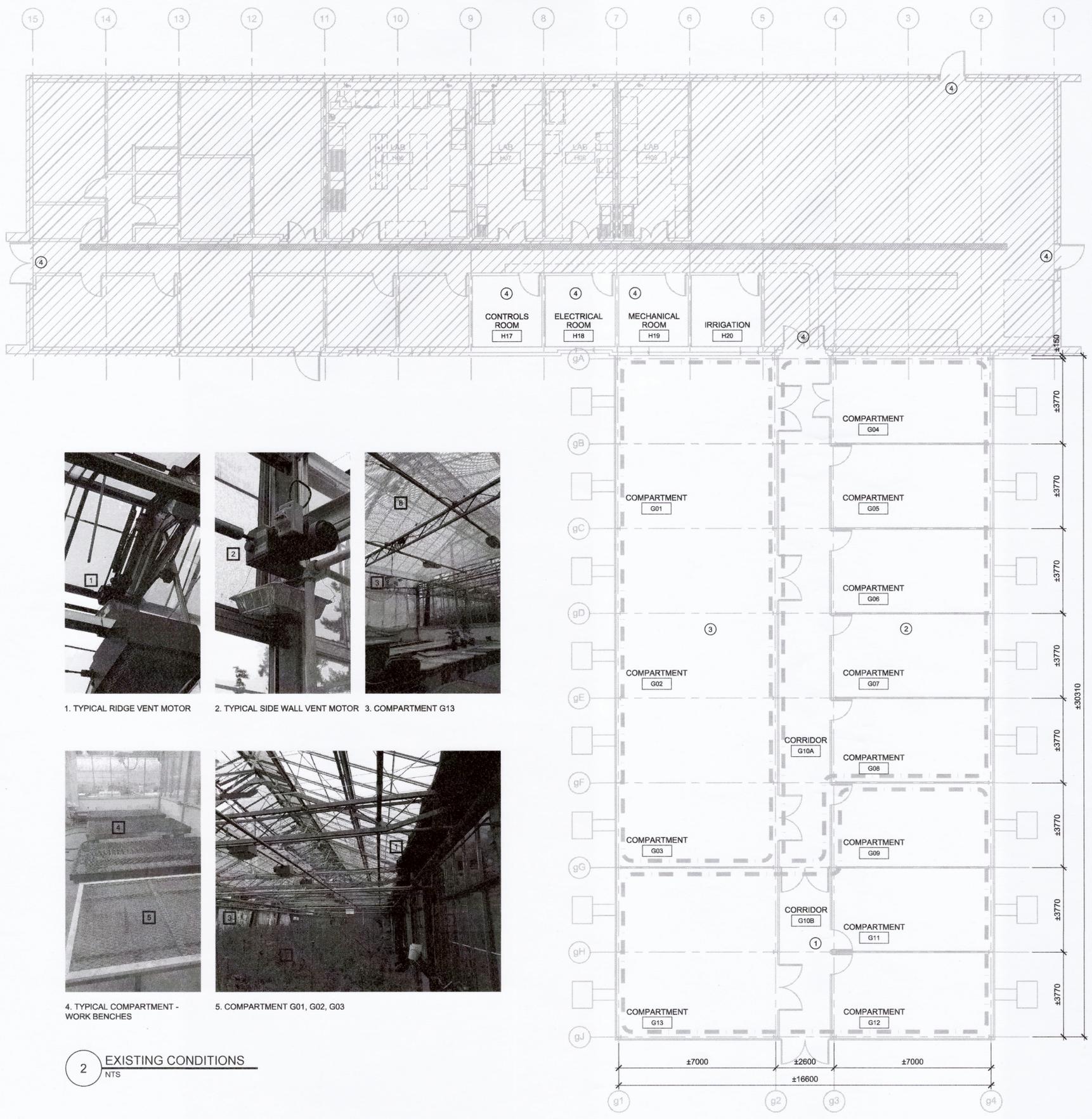
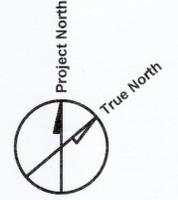
Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architecture et de génie, TPSGC

Drawing title/Titre du dessin
SITE PLAN - CONTRACTOR STAGING DIAGRAM

Project No./No. du projet: R.076293.001
Sheet/Fauille: A0.02
Revision no./Le Révision no.: 3

IBI PROJECT NUMBER: 39006.800

1 CONTRACTOR STAGING DIAGRAM - SITE PLAN
1:500



WORK AREA LEGEND

- CONSTRUCTION PHASING AREA OUTLINE
- /// EXISTING NOT IN CONTRACT

WORK AREA NOTES:

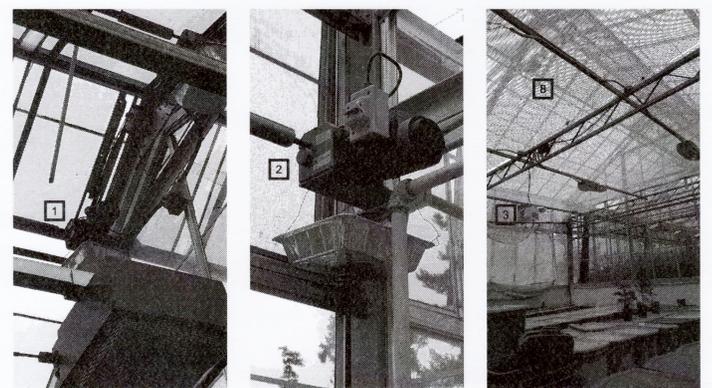
- ① PHASE 1
 WORK TO INCLUDE COMPARTMENTS G09, G11, G12, G13, AND CORRIDOR G10B.
 1. REPLACE EXISTING VENT MOTORS, DRIVES, SHAFTS, RACKS AND PINIONS WITH NEW
 2. REPLACE EXISTING VENT POSITION INDICATORS WITH NEW
 3. REPLACE EXISTING SENSORS WITH NEW
 4. PROVIDE NEW EXIT HARDWARE TO EXTERIOR DOORS. (NIC)
 5. REPLACE EXISTING SHADE MOTORS AND SYSTEM WITH NEW (NIC)
 6. ASSOCIATED ELECTRICAL WORK WITHIN PHASE BOUNDARY - SEE ELECTRICAL
 7. ASSOCIATED MECHANICAL WORK WITHIN PHASE BOUNDARY - SEE MECHANICAL
 8. COMMISSION, TEST AND VERIFICATION - PHASE 1
- ② PHASE 2
 WORK TO INCLUDE COMPARTMENTS G04, G05, G06, G07, AND G08, AND CORRIDOR G10A
 1. REPLACE EXISTING VENT MOTORS, DRIVES, SHAFTS, RACKS AND PINIONS WITH NEW
 2. REPLACE EXISTING VENT POSITION INDICATORS WITH NEW
 3. REPLACE EXISTING SENSORS WITH NEW
 4. REPLACE EXISTING SHADE MOTORS AND SYSTEM WITH NEW (NIC)
 5. ASSOCIATED ELECTRICAL WORK WITHIN PHASE BOUNDARY - SEE ELECTRICAL
 6. ASSOCIATED MECHANICAL WORK WITHIN PHASE BOUNDARY - SEE MECHANICAL
 7. COMMISSION, TEST AND VERIFICATION - PHASE 2
- ③ PHASE 3
 WORK TO INCLUDE COMPARTMENTS G01, G02, G03.
 1. REPLACE EXISTING VENT MOTORS, DRIVES, SHAFTS, RACKS AND PINIONS WITH NEW
 2. REPLACE EXISTING VENT POSITION INDICATORS WITH NEW
 3. REPLACE EXISTING SENSORS WITH NEW
 4. REPLACE EXISTING BLACKOUT SCREEN AND SHADE MOTORS AND SYSTEM WITH NEW (NIC)
 5. ASSOCIATED ELECTRICAL WORK WITHIN PHASE BOUNDARY - SEE ELECTRICAL
 6. ASSOCIATED MECHANICAL WORK WITHIN PHASE BOUNDARY - SEE MECHANICAL
 7. COMMISSION, TEST AND VERIFICATION - COMPLETE PROJECT
- ④ CONTRACTOR TO COORDINATE WORK REQUIRED IN ROOMS H-17, H-18, AND H-19 AND MISCELLANEOUS WORK IN THE HEADER HOUSE AS REQUIRED WITH THE APPROPRIATE PHASE OF GREENHOUSE WORK.

EXISTING CONDITIONS:

- 1 SIDEWALL VENT MOTOR AND SHAFT
- 2 RIDGE VENT MOTOR AND SHAFT
- 3 ZONE SENSOR
- 4 MOVABLE BENCH
- 5 FIXED BENCH
- 6 BLACKOUT CURTAINS
- 7 EXISTING RESEARCH SPECIMENS
- 8 OVERHEAD SHADE

NOTES:

1. CONTRACTOR SHALL COORDINATE ALL ARCHITECTURAL, MECHANICAL, ELECTRICAL, AND CONTROLS RELATED WORK TO BE CONDUCTED WITHIN EACH PRESCRIBED PHASE OF WORK.
2. THE GREENHOUSE CONDUCTS ONGOING RESEARCH AND THE CONTRACTOR IS TO SCHEDULE THE REQUIRED WORK IN ACCORDANCE WITH THE PHASING DIAGRAM AS INDICATED ON THIS SHEET.
3. PHASING DRAWING IS DIAGRAMMATIC. THE INTENT OF CONSTRUCTION PHASING IS TO ALLOW CONTINUAL COMPARTMENT OPERABILITY DURING CONSTRUCTION FOR ONGOING EXPERIMENTS.
4. WHERE HEATING, LIGHTING, OR EQUIPMENT SHUTDOWNS ARE REQUIRED THAT WILL AFFECT RESEARCH COMPARTMENTS, CONTRACTOR IS REQUIRED TO PROVIDE TEMPORARY PROVISIONS INCLUDING BUT NOT LIMITED TO TEMPORARY HEATING, LIGHTING, IRRIGATION. CONFIRM REQUIREMENTS WITH DEPARTMENTAL REPRESENTATIVE.
5. PROVIDE MINIMUM 48 HOURS NOTICE TO DEPARTMENTAL REPRESENTATIVE BEFORE COMPLETION OF EACH PHASE OF WORK TO ALLOW COORDINATION OF COMMISSIONING, TESTING AND VERIFICATION OF THAT PHASE.
6. ALLOW FOR A TRANSFER PERIOD BETWEEN PHASES THAT REQUIRE RELOCATING EXISTING RESEARCH SPECIMENS. COORDINATE WITH DEPARTMENTAL REPRESENTATIVE.
7. CONTRACTOR TO PROVIDE HOARDING/BARRICADES PLAN OF EACH PHASE, ILLUSTRATING PLAN TO MAINTAIN ACCESS FOR USERS TO EXPERIMENT COMPARTMENTS AND TO ALL EXITS OF THE FACILITY DURING ALL CONSTRUCTION PHASES.
8. MOVABLE AND FIXED WORK BENCHES MAY BE RELOCATED AS REQUIRED TO PERFORM THE WORK. THEY MUST BE REINSTATED TO THEIR EXISTING LOCATIONS UPON COMPLETION OF THE WORK.



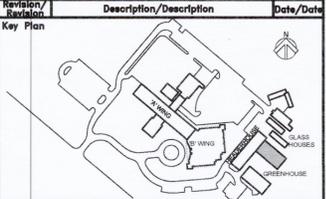
1. TYPICAL RIDGE VENT MOTOR 2. TYPICAL SIDE WALL VENT MOTOR 3. COMPARTMENT G13



4. TYPICAL COMPARTMENT - WORK BENCHES 5. COMPARTMENT G01, G02, G03

2 EXISTING CONDITIONS
 NTS

1 GREENHOUSE CONSTRUCTION PHASING PLAN
 1:100



JUN 29 2016

Prime Consultant
IBI GROUP ARCHITECTS (CANADA) INC.

Client/client
PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project title/Titre du projet
 VICTORIA, BC.
 506 WEST BURNSIDE ROAD
 PACIFIC FORESTRY CENTRE
GREENHOUSE ENERGY MANAGEMENT SYSTEM

Consultant Signature Only

Designed by/Concept par
 IBI GROUP

Drawn by/Dessiné par
 LM

PWGC Project Manager/Administrateur de Projets TPSC
 Patrick Truong

Regional Manager, Architectural and Engineering Services
 Gestionnaire régionale, Services d'architecture et de génie, TPSC
 Pretpat Paul

Drawing title/Titre du dessin
GREENHOUSE CONSTRUCTION PHASING PLAN AND EXISTING CONDITIONS

Project No./No. du projet
 R.076293.001

Sheet/Fauille
A1.01
 4 of 6

Revision no./
 no. Révision
3

IBI PROJECT NUMBER: 39006.800

LEGEND

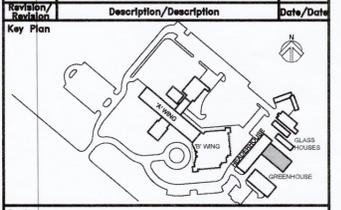
- EXISTING HEADER HOUSE/NOT IN CONTRACT
- P** EXISTING VENT POSITION INDICATOR - REPLACE WITH NEW.
- V** EXISTING RIDGE/SIDE WALL VENT MOTOR - REPLACE WITH NEW, INCLUDING ASSOCIATED DRIVES, SHAFTS, BEARINGS, RACKS, AND PINIONS.
- T** EXISTING ENVIRONMENTAL SENSOR - REPLACE WITH NEW
- B** EXISTING BLACKOUT SCREEN MOTOR - REPLACE WITH NEW (NIC)
- S** EXISTING SHADE SYSTEM MOTOR - REPLACE WITH NEW (NIC)
- FA** NEW FIRE ALARM PULL STATION. TIE IN TO EXISTING HEADER HOUSE FIRE ALARM SYSTEM. SEE ELECTRICAL. (NIC)

KEYNOTES:

- 1 INSTALL NEW LOCK AND EXIT/PANIC HARDWARE TO EXISTING GREENHOUSE DOOR. (NIC)
- 2 INSTALL NEW EXIT SIGN TO EXISTING HEADER FRAME ABOVE AND CENTRED ON EXISTING DOOR. SEE ELECTRICAL. (NIC)
- 3 REPLACE EXISTING BLACKOUT SCREEN SYSTEM, INCLUDING FABRIC, MOTORS, AND GUIDES WITH NEW. (NIC)
- 4 REPLACE EXISTING OVERHEAD BLACKOUT AND SHADING SYSTEMS, INCLUDING FABRICS, MOTORS, AND GUIDES WITH NEW. (NIC)
- 5 REPLACE EXISTING OVERHEAD SHADING SYSTEM, INCLUDING FABRIC, MOTORS, AND GUIDES WITH NEW. (NIC)
- 6 UPGRADE EXISTING GREENHOUSE CONTROLS SOFTWARE SYSTEM. CONDUCT ALL WORK REQUIRED, INCLUDING SOFTWARE UPGRADES, ALL REQUIRED CONNECTIONS, AND WIRING AS NECESSARY. ALL NEW REPLACED COMPONENTS ARE TO INTERFACE WITH THE UPGRADED GREENHOUSE CONTROLS.
- 7 EXISTING OVERHEAD CABLE RUN.
- 8 CONNECT GREENHOUSE CONTROLS TO BOILER SET POINT CONTROLS.
- 9 REPLACE EXISTING EXIT SIGNAGE - SEE ELECTRICAL. (NIC)
- 10 NEW GREENHOUSE CONTROLS CABINET - 500x600. EXACT LOCATION TBD BY CONTROLS CONTRACTOR.
- 11 REPLACE EXISTING EXTERNAL WEATHER STATION SENSORS WITH NEW EXTERNAL SENSORS. SENSORS ARE LOCATED ON A SINGLE MAST PROTRUDING APPROXIMATELY 1800 mm ABOVE THE GREENHOUSE ROOF. CONTRACTOR TO CONFIRM LOCATION.

GENERAL NOTES:

- a. GREENHOUSE ENCLOSURE, COMPARTMENT PARTITIONS, AND ALL DOORS SHOWN ARE EXISTING.
- b. MAINTAIN CLEAR ACCESS TO ALL BUILDING EXITS, ACCESS ROADS AND GATES THROUGHOUT THE CONSTRUCTION PERIOD.
- c. COORDINATE WORK AREAS/SCHEDULE AND WORKING SHIFTS WITH DEPARTMENTAL REPRESENTATIVE TO ALLOW LABORATORY TECHNICIANS/RESEARCHERS ACCESS TO GREENHOUSE COMPARTMENTS AS NECESSARY.
- d. DEMOLITION WORK TO BE REVIEWED AND SCHEDULED WITH DEPARTMENTAL REPRESENTATIVE. LARGE DEMOLITION MATERIAL TO BE REMOVED IN COVERED BINS WITH DAMP TARPS AND BROUGHT OUT THROUGH GREENHOUSE DOORS. ALL DEMOLITION MATERIAL BINS ARE TO BE COVERED AND REMOVED BY TRUCK.
- e. MATERIALS AND EQUIPMENT ARE TO BE DELIVERED TO SITE COVERED, CLEAN AND DRY, THROUGH GREENHOUSE.
- f. THE DEPARTMENTAL REPRESENTATIVE WILL PROVIDE REGULAR CONSTRUCTION NOTIFICATIONS TO ALL ADJACENT DEPARTMENTS BESIDE THE WORK AREA BOUNDARY.
- g. CONTRACTOR FACILITIES TO BE CLEANED BY CONTRACTOR EVERY WORKING SHIFT. CLEAN THE AREA IN FRONT OF THE DOOR LEADING FROM THE WORK AREA INTO THE BUILDING ZONE AT THE END OF EACH SHIFT OR MORE FREQUENTLY IF THE AREA BECOMES SOILED.
- h. COORDINATE THE DELIVERY AND ROUTING OF SUPPLIES WITH THE DEPARTMENTAL REPRESENTATIVE PRIOR TO CONSTRUCTION.
- i. COORDINATE CONTRACTOR PERSONNEL SITE ACCESS WITH THE DEPARTMENTAL REPRESENTATIVE PRIOR TO CONSTRUCTION, UNLESS DETERMINED OTHERWISE.
- j. GENERAL CONTRACTOR SHALL COORDINATE WITH THE DEPARTMENTAL REPRESENTATIVE REGARDING THE FOLLOWING:
 - CONTRACTOR PARKING.
 - CONTRACTOR FACILITIES. (OFFICE/STAGING/STORAGE)
 - CONTRACTOR CIRCULATION IN THE VARIOUS FACILITIES AND ENTIRE CAMPUS.
 - CONTRACTOR SIGN-IN AND SIGN OUT PROCEDURE.
 - WORK HOURS AND SITE RESTRICTIONS.
 - TEMPORARY WASHROOM - CONTRACTOR SUPPLIED
 - TEMPORARY UTILITIES - CONTRACTOR SUPPLIED
- k. CONSTRUCTION ACTIVITIES WITH NOISE AND VIBRATION MUST BE COORDINATED WITH THE DEPARTMENTAL REPRESENTATIVE. IT IS ANTICIPATED THAT CONSTRUCTION ACTIVITIES CREATING EXCESSIVE NOISE AND VIBRATION SHALL OCCUR WITH A TIME LIMITATION (APPROX. 15 TO 30 MINUTES) OF ACTIVITY FOLLOWED BY A TIME DURATION (APPROX. 15 MINUTES) WITHOUT EXCESSIVE NOISE AND VIBRATION.
- l. CONTRACTOR SHALL COORDINATE WITH THE DEPARTMENTAL REPRESENTATIVE SHUTDOWN AND CONNECTION OF EXISTING SERVICES AND UTILITIES.
- m. CONTRACTOR IS RESPONSIBLE FOR CONFIRMING LOCATIONS AND QUANTITIES OF COMPONENTS.



Sub-Consultant
 Prime Consultant
IBI GROUP
 ARCHITECTS (CANADA) INC.

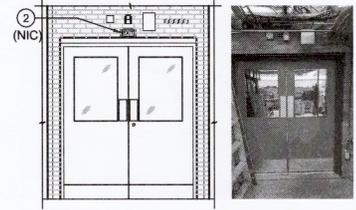
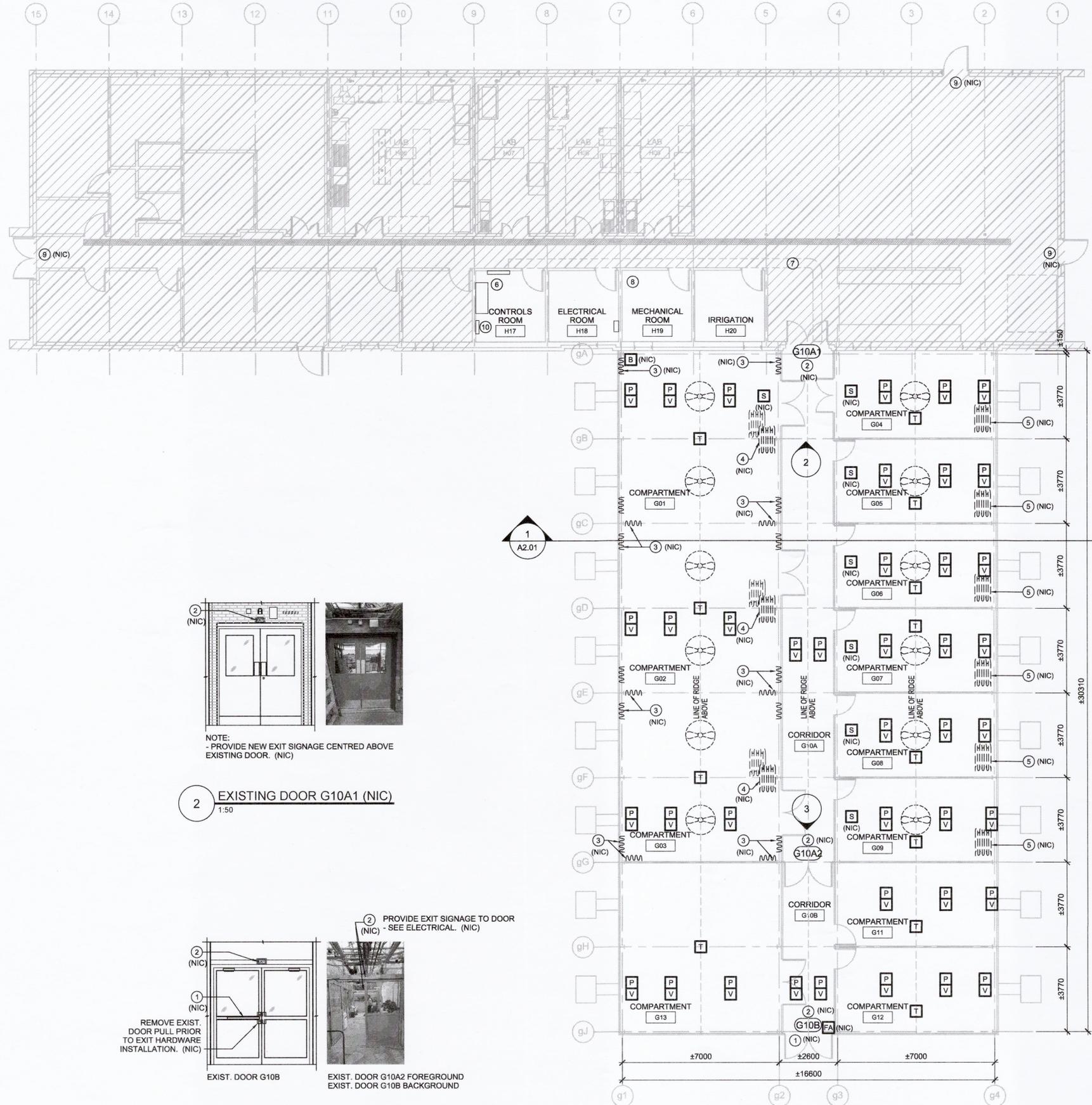
Client/client
PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project title/Titre du projet
 VICTORIA, BC.
 506 WEST BURNSIDE ROAD
 PACIFIC FORESTRY CENTRE
GREENHOUSE ENERGY MANAGEMENT SYSTEM

Consultant Signature Only
 Designed by/Concept par
 IBI GROUP
 Drawn by/Dessiné par
 LM
 PWGSC Project Manager/Administrateur de Projets TPSGC
 Patrick Truong
 Regional Manager, Architectural and Engineering Services
 Gestionnaire régionale, Services d'architectural et de génie, TPSGC
 Preestipal Paul

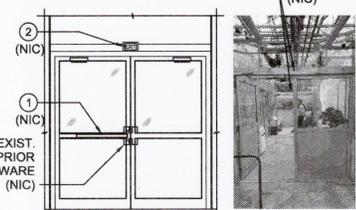
Drawing title/Titre du dessin
GREENHOUSE EXISTING GROUND FLOOR PLAN - NEW WORK

Project No./No. du projet
 R.076293.001
 Sheet/Feuille
A2.01
 5 OF 6
 Revision no./La Révision no.
3



NOTE:
 - PROVIDE NEW EXIT SIGNAGE CENTRED ABOVE EXISTING DOOR. (NIC)

2 EXISTING DOOR G10A1 (NIC)
 1:50

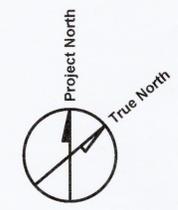


REMOVE EXIST. DOOR PULL PRIOR TO EXIT HARDWARE INSTALLATION. (NIC)

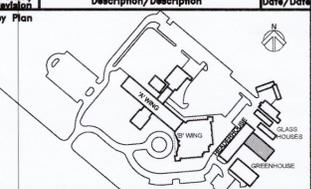
3 EXISTING DOOR G10A2 AND G10B (NIC)
 1:50

2 PROVIDE EXIT SIGNAGE TO DOOR - SEE ELECTRICAL. (NIC)

1 GREENHOUSE EXISTING GROUND FLOOR PLAN - NEW WORK
 1:100



Revision/Revision	Description/Description	Date/Date
3	ISSUE FOR TENDER	2016.06.29
2	99% DESIGN REVIEW	2016.06.17
1	50% DESIGN REVIEW	2016.05.20



Sub-Consultant

Prime Consultant
IBI GROUP ARCHITECTS (CANADA) INC.

Client/client
PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project title/Titre du projet
 VICTORIA, BC.
 506 WEST BURNSIDE ROAD
 PACIFIC FORESTRY CENTRE
GREENHOUSE ENERGY MANAGEMENT SYSTEM

Consultant Signature Only

Designed by/Concept par
 IBI GROUP

Drawn by/Dessiné par
 LM/RGC
 PWGSC Project Manager/Administrateur de Projets TPSGC
 Patrick Truong

Regional Manager, Architectural and Engineering Services
 Gestionnaire régionale, Services d'architecture et de génie, TPSGC
 Preetipal Paul

Drawing title/Titre du dessin
SECTION 1 - NEW WORK

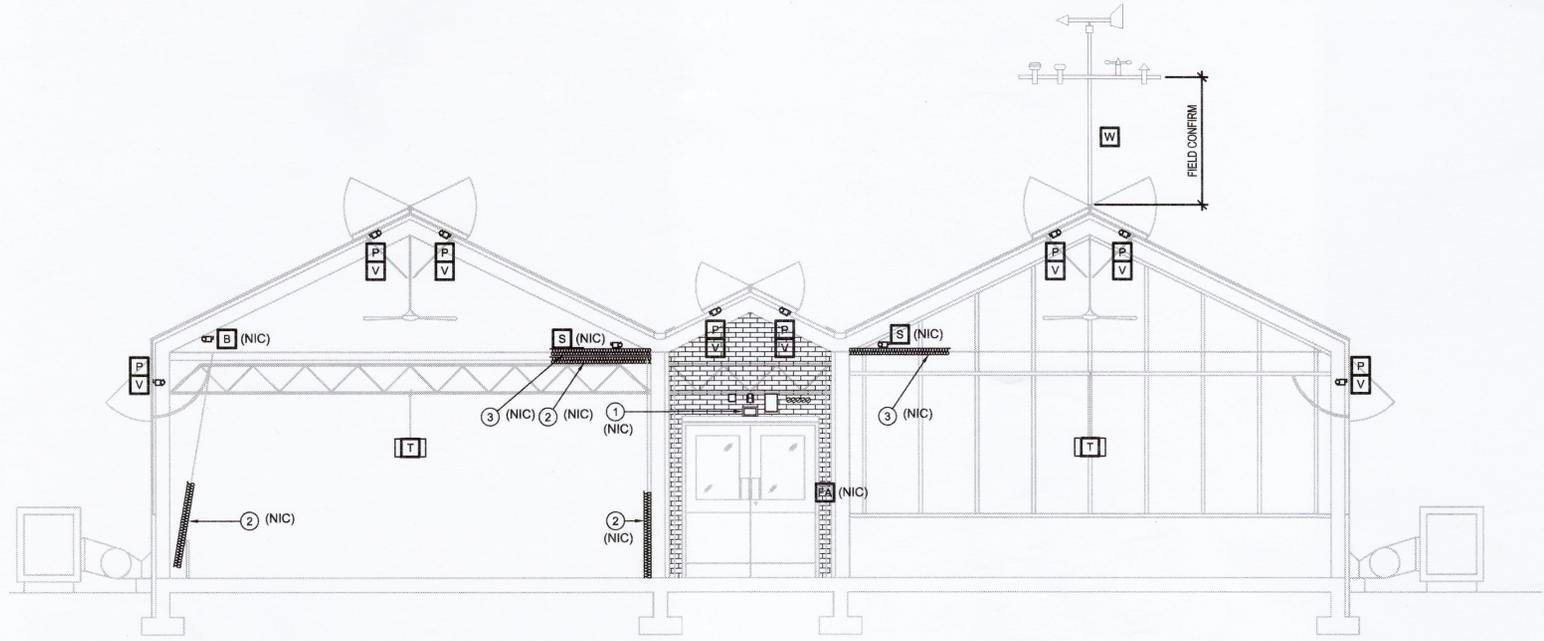
Project No./No. du projet R.076293.001	Sheet/Fauille A3.01 6 OF 6	Revision no./La Révision no. 3
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LEGEND

- P** EXISTING VENT POSITION INDICATOR - REPLACE WITH NEW.
- V** EXISTING RIDGE/SIDE WALL VENT MOTOR - REPLACE WITH NEW, INCLUDING ASSOCIATED DRIVES, SHAFTS, BEARINGS, RACKS, AND PINIONS.
- T** EXISTING ENVIRONMENTAL SENSOR - REPLACE WITH NEW
- B** EXISTING BLACKOUT SCREEN MOTOR - REPLACE WITH NEW (NIC)
- S** EXISTING SHADE SYSTEM MOTOR - REPLACE WITH NEW (NIC)
- FA** NEW FIRE ALARM PULL STATION. TIE IN TO EXISTING HEADER HOUSE FIRE ALARM SYSTEM. SEE ELECTRICAL. (NIC)
- W** EXISTING EXTERNAL WEATHER STATION. REPLACE EXISTING SENSORS WITH NEW. EXACT LOCATION TO BE CONFIRMED BY CONTRACTOR

KEYNOTES:

- ① INSTALL NEW EXIT SIGN TO EXISTING HEADER FRAME ABOVE AND CENTRED ON EXISTING DOOR. SEE ELECTRICAL. (NIC)
- ② REPLACE EXISTING BLACKOUT SCREEN SYSTEM, INCLUDING FABRIC, MOTORS, AND GUIDES WITH NEW. (NIC)
- ③ REPLACE EXISTING OVERHEAD SHADING SYSTEM, INCLUDING FABRIC, MOTORS, AND GUIDES WITH NEW. (NIC)



SECTION 1
1:50

PUMP SCHEDULE (NIC)

TAG	DESCRIPTION	SERVICE	LOCATION	MANUFACTURER	MODEL	FLOW		HEAD		MECHANICAL REMARKS	RPM	POWER		POWER SUPPLY				STARTER			CONTROLS	
						L/S	GPM	KPa	FT			W	HP	VOLTS	PHASE	EM	NORM	SUPPLIED BY	INSTALLED BY	TYP	MAN	AUTO
PP-1	SECONDARY CIRCULATION	GREENHOUSE HEATING ZONE	GLASS HOUSE	GRUNDFOS	SEE REMARKS					NOTES 1, 2			120	1						HOA	DDC	
PP-2	SECONDARY CIRCULATION	GREENHOUSE HEATING ZONE	GLASS HOUSE	GRUNDFOS	SEE REMARKS					NOTES 1, 2			120	1						HOA	DDC	
PP-3	SECONDARY CIRCULATION	GREENHOUSE HEATING ZONE	GLASS HOUSE	GRUNDFOS	SEE REMARKS					NOTES 1, 2			120	1						HOA	DDC	
PP-4	SECONDARY CIRCULATION	GREENHOUSE HEATING ZONE	GLASS HOUSE	GRUNDFOS	SEE REMARKS					NOTES 1, 2			120	1						HOA	DDC	
PP-5	SECONDARY CIRCULATION	GREENHOUSE HEATING ZONE	GLASS HOUSE	GRUNDFOS	SEE REMARKS					NOTES 1, 2			120	1						HOA	DDC	
PP-6	SECONDARY CIRCULATION	GREENHOUSE HEATING ZONE	GLASS HOUSE	GRUNDFOS	SEE REMARKS					NOTES 1, 2			120	1						HOA	DDC	
PP-7	SECONDARY CIRCULATION	GREENHOUSE HEATING ZONE	GLASS HOUSE	GRUNDFOS	SEE REMARKS					NOTES 1, 2			120	1						HOA	DDC	
PP-8	SECONDARY CIRCULATION	GREENHOUSE HEATING ZONE	GLASS HOUSE	GRUNDFOS	SEE REMARKS					NOTES 1, 2			120	1						HOA	DDC	
PP-9	SECONDARY CIRCULATION	GREENHOUSE HEATING ZONE	GLASS HOUSE	GRUNDFOS	SEE REMARKS					NOTES 1, 2			120	1						HOA	DDC	
PP-10	SECONDARY CIRCULATION	GREENHOUSE HEATING ZONE	GLASS HOUSE	GRUNDFOS	SEE REMARKS					NOTES 1, 2			120	1						HOA	DDC	
PP-11	SECONDARY CIRCULATION	GREENHOUSE HEATING ZONE	GLASS HOUSE	GRUNDFOS	SEE REMARKS					NOTES 1, 2			120	1						HOA	DDC	
PP-12	SECONDARY CIRCULATION	GREENHOUSE HEATING ZONE	GLASS HOUSE	GRUNDFOS	SEE REMARKS					NOTES 1, 2			120	1						HOA	DDC	

NOTES:
 1. NEW SELECTION TO MATCH EXISTING, ON-SITE SELECTION: GRUNDFOS UMC 50-40 MODEL A TYPE
 2. C/W DRAIN PAN TO ROUTE TO FLOOR OR NEAREST DRAIN

CONTROL MIXING VALVES SCHEDULE

TAG	SERVICE	LOCATION	MECHANICAL REMARKS	BASIS OF DESIGN
CV-Z1	EXISTING PUMP P-1 (NEW PUMP PP-1 NIC)	GREENHOUSE	REPLACING EXISTING CONTROL VALVE CV-7 3/4" MIXING VALVE C/W ACTUATOR	VALVE: BARBER COLMAN VB9313-6 ACTUATOR: BARBER COLMAN MP485
CV-Z2	EXISTING PUMP P-2 (NEW PUMP PP-2 NIC)	GREENHOUSE	REPLACING EXISTING CONTROL VALVE CV-8 3/4" MIXING VALVE C/W ACTUATOR	VALVE: BARBER COLMAN VB9313-6 ACTUATOR: BARBER COLMAN MP485
CV-Z3	EXISTING PUMP P-3 (NEW PUMP PP-3 NIC)	GREENHOUSE	REPLACING EXISTING CONTROL VALVE CV-9 3/4" MIXING VALVE C/W ACTUATOR	VALVE: BARBER COLMAN VB9313-6 ACTUATOR: BARBER COLMAN MP485
CV-Z4	EXISTING PUMP (NEW PUMP PP-4 NIC)	GREENHOUSE	REPLACING EXISTING CONTROL VALVE 3/4" MIXING VALVE C/W ACTUATOR	VALVE: BARBER COLMAN VB9313-6 ACTUATOR: BARBER COLMAN MP485
CV-Z5	EXISTING PUMP (NEW PUMP PP-5 NIC)	GREENHOUSE	REPLACING EXISTING CONTROL VALVE 3/4" MIXING VALVE C/W ACTUATOR	VALVE: BARBER COLMAN VB9313-6 ACTUATOR: BARBER COLMAN MP485
CV-Z6	EXISTING PUMP (NEW PUMP PP-6 NIC)	GREENHOUSE	REPLACING EXISTING CONTROL VALVE 3/4" MIXING VALVE C/W ACTUATOR	VALVE: BARBER COLMAN VB9313-6 ACTUATOR: BARBER COLMAN MP485
CV-Z7	EXISTING PUMP P-4 (NEW PUMP PP-7 NIC)	GREENHOUSE	REPLACING EXISTING CONTROL VALVE CV-10 3/4" MIXING VALVE C/W ACTUATOR	VALVE: BARBER COLMAN VB9313-6 ACTUATOR: BARBER COLMAN MP485
CV-Z8	EXISTING PUMP P-5 (NEW PUMP PP-8 NIC)	GREENHOUSE	REPLACING EXISTING CONTROL VALVE CV-11 3/4" MIXING VALVE C/W ACTUATOR	VALVE: BARBER COLMAN VB9313-6 ACTUATOR: BARBER COLMAN MP485
CV-Z9	EXISTING PUMP P-6 (NEW PUMP PP-9 NIC)	GREENHOUSE	REPLACING EXISTING CONTROL VALVE CV-12 3/4" MIXING VALVE C/W ACTUATOR	VALVE: BARBER COLMAN VB9313-6 ACTUATOR: BARBER COLMAN MP485
CV-Z10	EXISTING PUMP P-7 (NEW PUMP PP-10 NIC)	GREENHOUSE	REPLACING EXISTING CONTROL VALVE CV-13 3/4" MIXING VALVE C/W ACTUATOR	VALVE: BARBER COLMAN VB9313-6 ACTUATOR: BARBER COLMAN MP485
CV-Z11	EXISTING PUMP P-8 (NEW PUMP PP-11 NIC)	GREENHOUSE	REPLACING EXISTING CONTROL VALVE CV-14 3/4" MIXING VALVE C/W ACTUATOR	VALVE: BARBER COLMAN VB9313-6 ACTUATOR: BARBER COLMAN MP485
CV-Z12	EXISTING PUMP P-9 (NEW PUMP PP-12 NIC)	GREENHOUSE	REPLACING EXISTING CONTROL VALVE CV-15 3/4" MIXING VALVE C/W ACTUATOR	VALVE: BARBER COLMAN VB9313-6 ACTUATOR: BARBER COLMAN MP485

NOTES: 1.

MECHANICAL LEGEND

GENERAL

	EXISTING MECHANICAL EQUIPMENT TO REMAIN ARE SHOWN USING LIGHT AND/OR DASHED LINES.		NEW MECHANICAL EQUIPMENT ARE SHOWN USING BOLD LINES AND/OR 'N' DESIGNATION.
	EXISTING MECHANICAL SERVICES TO BE RELOCATED ARE SHOWN USING BOLD HATCHES AND CROSS SYMBOLS.		EXISTING MECHANICAL EQUIPMENT TO BE RELOCATED ARE SHOWN USING DARK RELOCATION ARROWS AND 'R' DESIGNATION.

AIR DISTRIBUTION

	SUPPLY, RETURN, EXHAUST DUCTING		DUCT CAP
	SPIN-ON CONNECTION C/W BD		RECTANGULAR TAKEOFF C/W BD
	EXTERNALLY INSULATED DUCTWORK		INTERNALLY LINED DUCTWORK
	SQUARE TO ROUND TRANSITION		DUCT TRANSITION/REDUCER
	BALANCING DAMPER BDD: BACK DRAFT DAMPER DI: INLET SD: SPLITTER DAMPER		FIRE DAMPER CFSO: COMBINED FIRE AND SMOKE DAMPER
	DOOR GRILLE		TURNING VANES
	FLEXIBLE DUCTWORK		DUCT FLEX CONNECTION
	THERMOSTAT C/W CONTROL WIRING		VARIABLE SPEED CONTROLLER C/W 120V WIRING
	SENSOR C/W CONTROL WIRING T: TEMPERATURE H: HUMIDITY		[XX] DENOTES AIR FLOW RATE (CFM) FOR EXISTING/RELOCATED DIFFUSERS AND OUTDOOR AIR DUCTWORK
	LINEAR/PLENUM SLOT DIFFUSER		SQUARE/ROUND SUPPLY DIFFUSER
	RETURN/EXHAUST GRILLE		VAV TAG A: TAG B: INLET SIZE C: MIN FLOW D: MAX FLOW
	DIFFUSER/GRILLE TAG A: TAG B: INLET/FACE SIZE OR LENGTH C: AIR FLOW RATE		FOU OR FPB TAG A: TAG, B: INLET SIZE, C: S/A FLOW, D: CAPACITY, E: MIN P/A FLOW, F: MAX P/A FLOW

PLUMBING & MECHANICAL PIPING

	DOMESTIC COLD WATER		DOMESTIC HOT WATER
	SANITARY DRAIN ABOVE		SANITARY DRAIN BELOW
	STORM DRAIN ABOVE		STORM DRAIN BELOW
	CONDENSATE DRAIN		NATURAL GAS
	HEATING WATER SUPPLY		HEATING WATER RETURN
	CHILLED WATER SUPPLY		CHILLED WATER RETURN
	VENT		SPRINKLER
	REFRIGERANT		FLOW DIRECTION
	UNION JOINT		PIPE CAP
	CHECK VALVE		STRAINER
	ELBOW UP		ELBOW DOWN
	TEE UP		TEE DOWN
	ISOLATION VALVE		PRESSURE RELIEF VALVE
	BALL VALVE		GATE VALVE
	PIPE CONTINUATION		WATER METER
	DOUBLE CHECK VALVE ASSEMBLY		REDUCED PRESSURE BACKFLOW PREVENTER
	LINE CLEANOUT PLUG		FLOOR CLEANOUT PLUG
	DRAIN		P-TRAP

FIRE PROTECTION

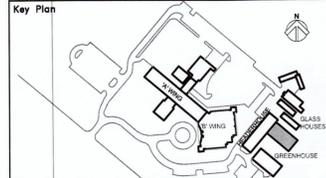
	CONCEALED TYPE SPRINKLER		NATIONAL FIRE EQUIPMENT MODEL CTE300-5 FULLY RECESSED CABINET AND FIRE EXTINGUISHER C/W STAINLESS STEEL FINISH
	SIDEWALL TYPE SPRINKLER		PENDENT TYPE SPRINKLER
	UPRIGHT TYPE SPRINKLER		SURFACE MOUNTED FIRE EXTINGUISHER

MECHANICAL DRAWINGS LIST

DWG NO.	DESCRIPTION
M0.01	MECHANICAL SCHEDULE, LEGEND & DRAWINGS LIST
M1.01	MECHANICAL GROUND FLOOR PLAN - DEMOLITION & CONSTRUCTION

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Revision/Revision	Description/Description	Date/Date
3	ISSUED FOR TENDER	2016.06.29
2	95% DESIGN REVIEW	2016.06.17
1	50% DESIGN REVIEW	2016.05.26
0	35% DESIGN REVIEW	2016.01.29

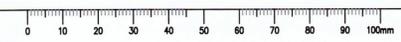


PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

GREENHOUSE ENERGY MANAGEMENT SYSTEM

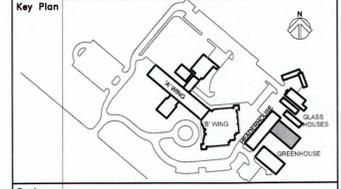
Consultant Signature Only
 Designed by/Concept par
 Drawn by/Dessiné par
 PWGSC Project Manager/Administrateur de Projets TPSGC
 Patrick Truong
 Regional Manager, Architectural and Engineering Services
 Gestionnaire régionale, Services d'architecture et de génie, TPSGC
 Patrick Truong

Drawing Title/Titre du dessin
MECHANICAL SCHEDULE, LEGEND AND DRAWINGS LIST



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Revision/Revision	Description/Description	Date/Date
3	ISSUED FOR TENDER	2016.06.29
2	99% DESIGN REVIEW	2016.06.17
1	50% DESIGN REVIEW	2016.05.20
0	30% DESIGN REVIEW	2016.01.29



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 MCW Consultants Ltd.

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IBI
 IBI GROUP ARCHITECTS

Client/client
PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project title/Titre du projet
VICTORIA, BC GOVERNMENT SERVICES CANADA
GREENHOUSE ENERGY MANAGEMENT SYSTEM

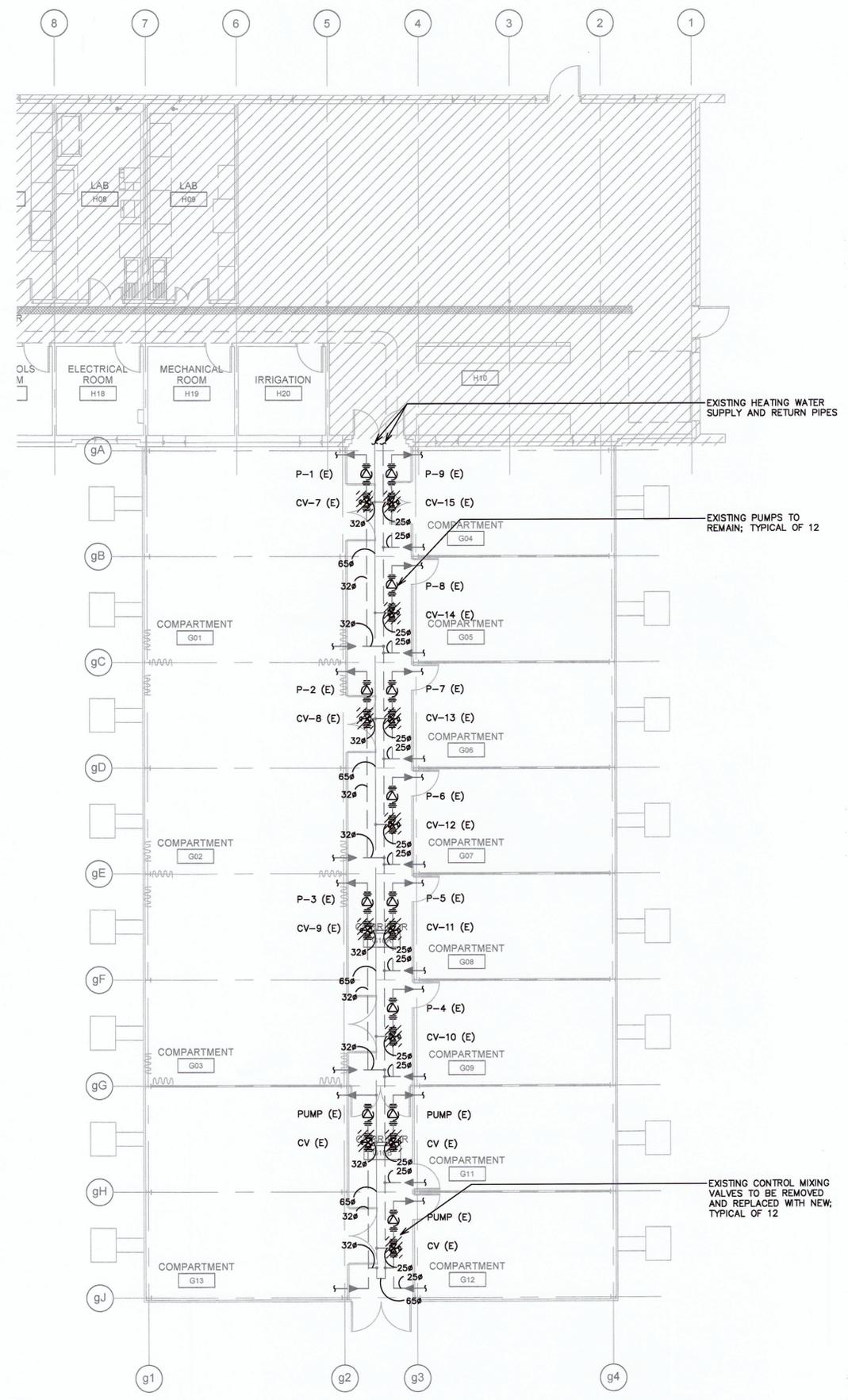
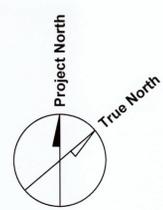
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 MCW Consultants Ltd.

Drawn by/Dessiné par
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 PWGSC Project Manager/Administrateur de Projets TPSC
 Patrick Truong

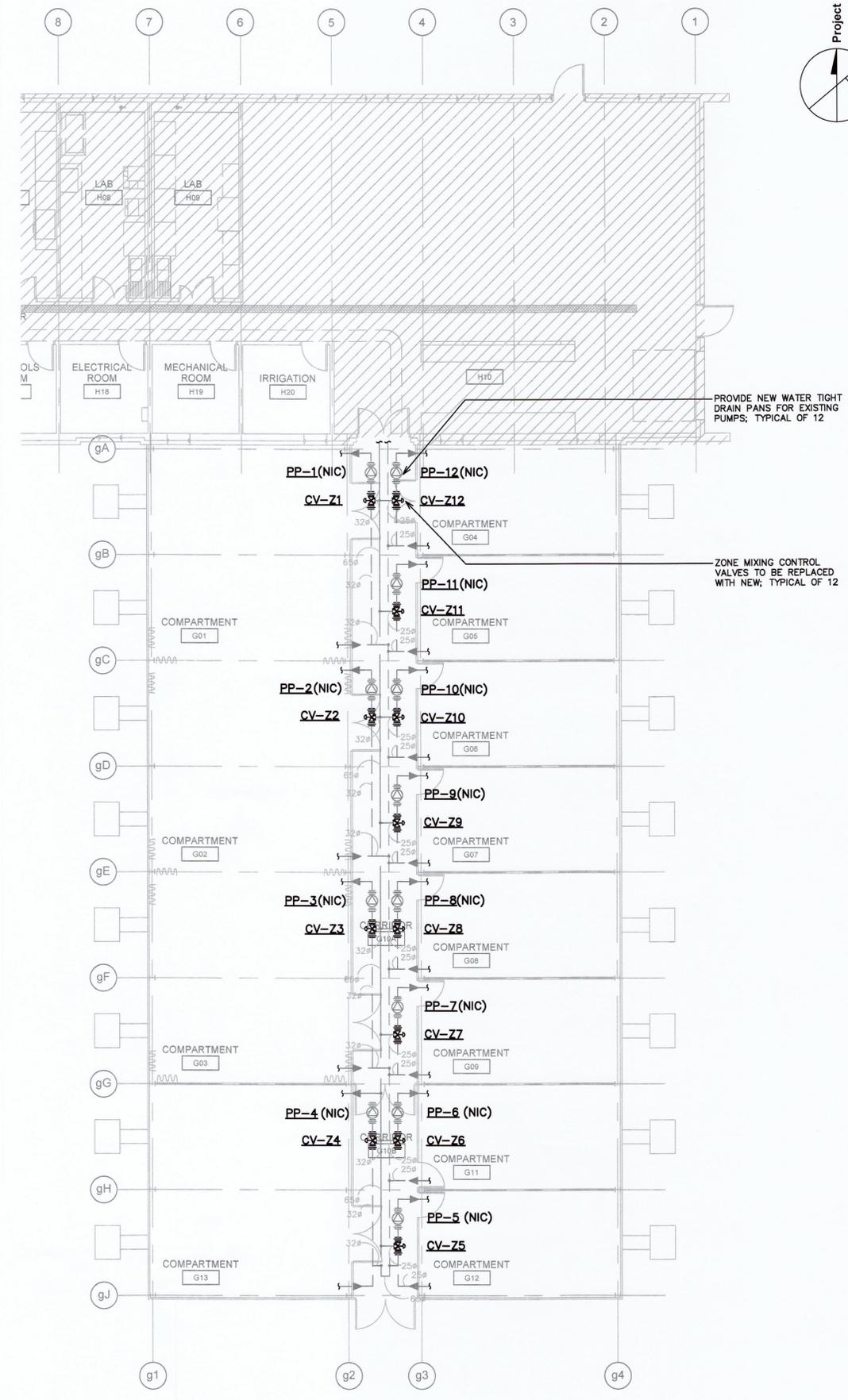
Regional Manager, Architectural and Engineering Services
 Gestionnaire régionale, Services d'architecture et de génie, TPSC
 Principal Paul

Drawing title/Titre du dessin
MECHANICAL GROUND FLOOR PLAN DEMOLITION & CONSTRUCTION

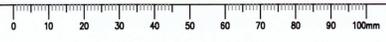
Project No./No. du projet	Sheet/Fauille	Revision no./Révision no.
R.076293.001	M1.01 2 OF 2	3



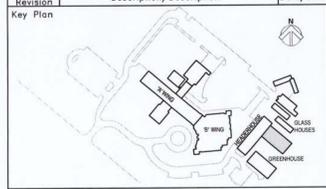
1 GREENHOUSE GROUND FLOOR PLAN - DEMOLITION
 SCALE: 1:100



2 GREENHOUSE GROUND FLOOR PLAN - CONSTRUCTION
 SCALE: 1:100



Revision/Revision	Description/Description	Date/Date
3	ISSUED FOR TENDER	16/06/29
2	99% REVIEW	16/06/10
1	50% REVIEW	16/04/16



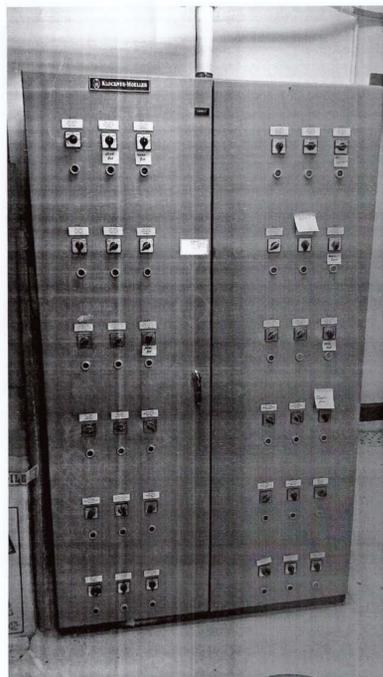
Prime Consultant
 Client/client
PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project title/Titre du projet
 VICTORIA, BC
 506 WEST BURNSIDE ROAD
 PACIFIC FORESTRY CENTRE
GREENHOUSE ENERGY MANAGEMENT SYSTEM

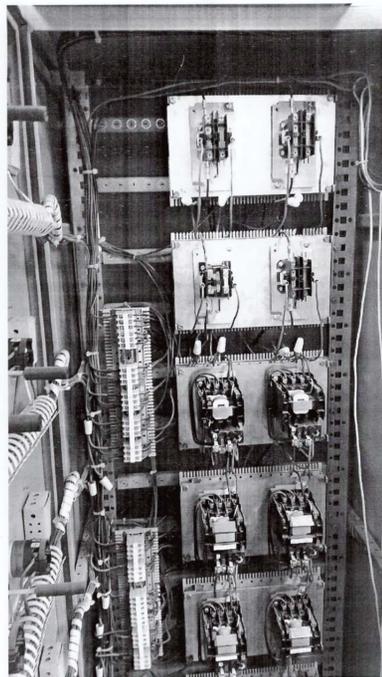
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 Drawn by/Dessiné par
 J.B.
 PWGSC Project Manager/Administrateur de Projets TP5GC
Patrick Truong
 Regional Manager, Architectural and Engineering Services
 Gestionnaire régional, Services d'architecture et de génie, TP5GC
Preetipal Paul

Drawing title/Titre du dessin
EXISTING HEADER AND GREENHOUSE POWER, SYSTEMS AND DETAILS

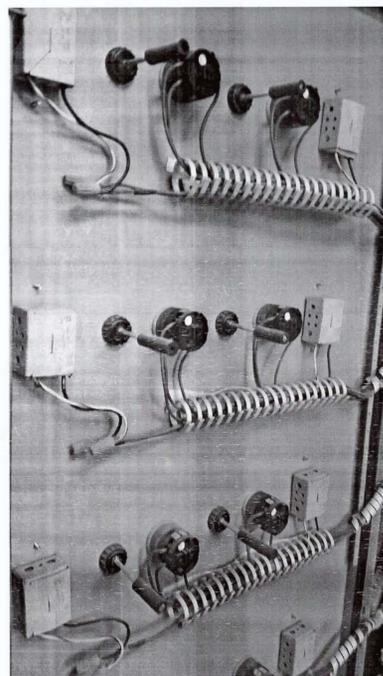
Project No./No. du projet R.076293.001	Sheet/Feuille E1.0 1 OF 2	Revision no./La Révision no. 3
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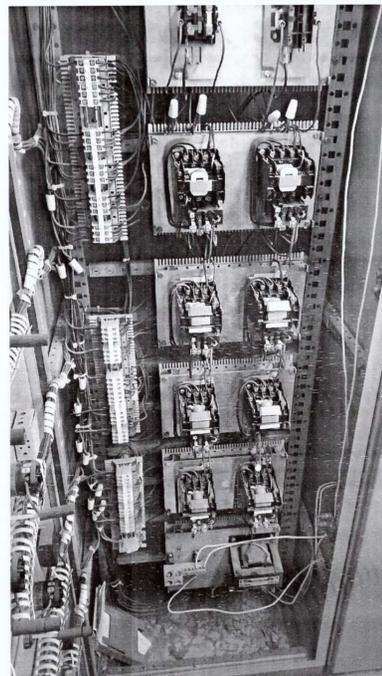
EXTERIOR ELEVATION



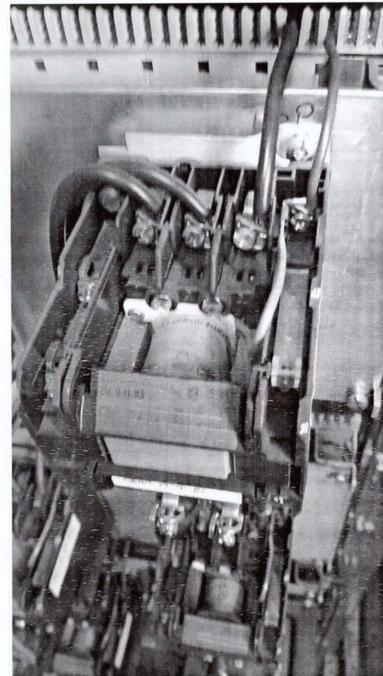
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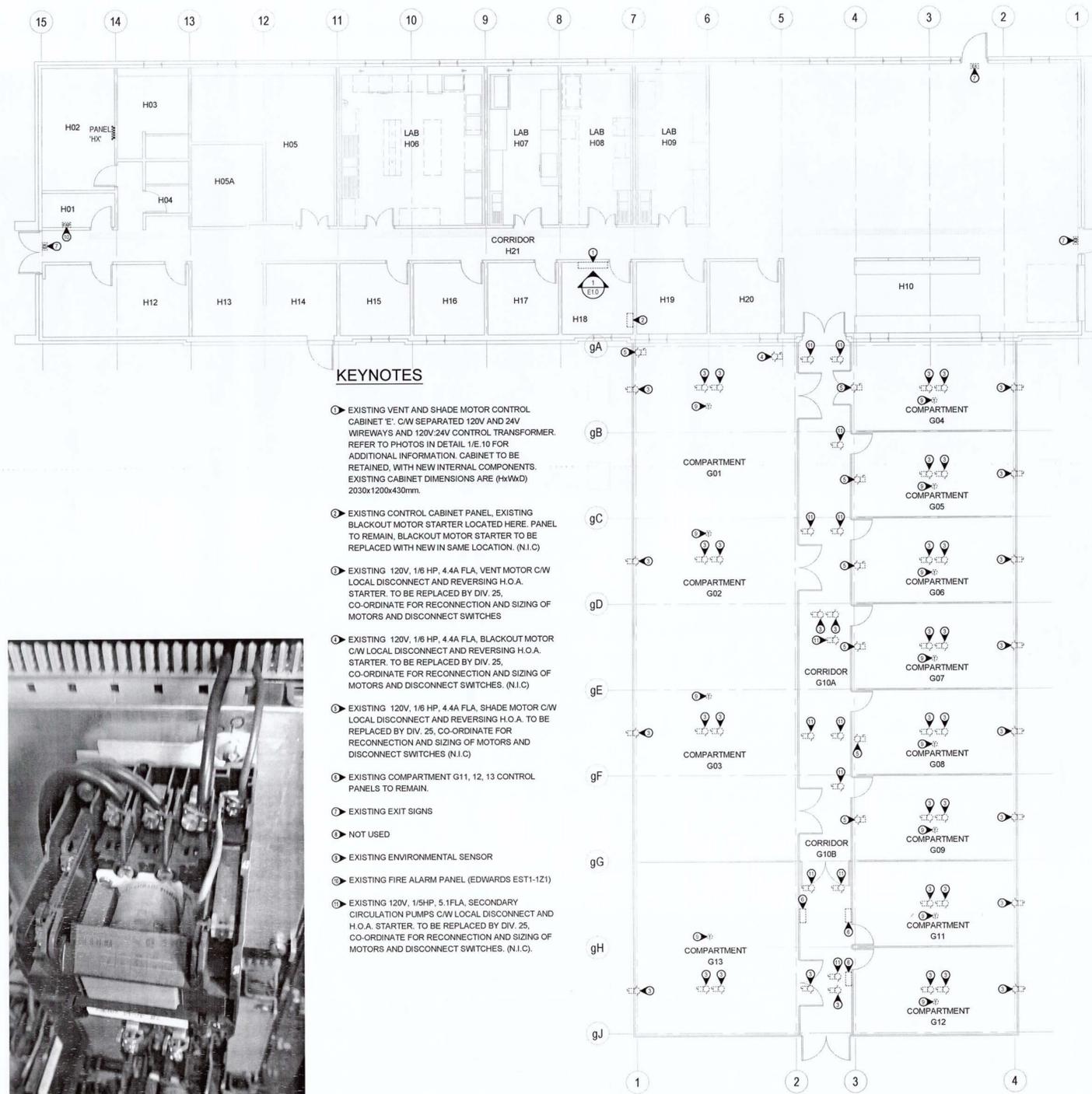
INTERIOR DETAILS#2



INTERIOR DETAILS#3

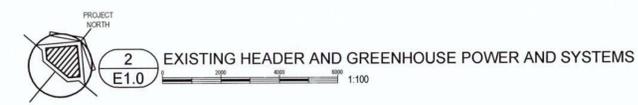


INTERIOR DETAILS#4



KEYNOTES

- 1 EXISTING VENT AND SHADE MOTOR CONTROL CABINET 'E'. C/W SEPARATED 120V AND 24V WIREWAYS AND 120V-24V CONTROL TRANSFORMER. REFER TO PHOTOS IN DETAIL 1/E.10 FOR ADDITIONAL INFORMATION. CABINET TO BE RETAINED, WITH NEW INTERNAL COMPONENTS. EXISTING CABINET DIMENSIONS ARE (HxWxD) 2030x1200x430mm.
- 2 EXISTING CONTROL CABINET PANEL. EXISTING BLACKOUT MOTOR STARTER LOCATED HERE. PANEL TO REMAIN. BLACKOUT MOTOR STARTER TO BE REPLACED WITH NEW IN SAME LOCATION. (N.I.C)
- 3 EXISTING 120V, 1/6 HP, 4.4A FLA, VENT MOTOR C/W LOCAL DISCONNECT AND REVERSING H.O.A. STARTER. TO BE REPLACED BY DIV. 25. CO-ORDINATE FOR RECONNECTION AND SIZING OF MOTORS AND DISCONNECT SWITCHES
- 4 EXISTING 120V, 1/6 HP, 4.4A FLA, BLACKOUT MOTOR C/W LOCAL DISCONNECT AND REVERSING H.O.A. STARTER. TO BE REPLACED BY DIV. 25. CO-ORDINATE FOR RECONNECTION AND SIZING OF MOTORS AND DISCONNECT SWITCHES. (N.I.C)
- 5 EXISTING 120V, 1/6 HP, 4.4A FLA, SHADE MOTOR C/W LOCAL DISCONNECT AND REVERSING H.O.A. TO BE REPLACED BY DIV. 25. CO-ORDINATE FOR RECONNECTION AND SIZING OF MOTORS AND DISCONNECT SWITCHES (N.I.C)
- 6 EXISTING COMPARTMENT G11, 12, 13 CONTROL PANELS TO REMAIN.
- 7 EXISTING EXIT SIGNS
- 8 NOT USED
- 9 EXISTING ENVIRONMENTAL SENSOR
- 10 EXISTING FIRE ALARM PANEL (EDWARDS EST1-1Z1)
- 11 EXISTING 120V, 1/5HP, 5.1FLA, SECONDARY CIRCULATION PUMPS C/W LOCAL DISCONNECT AND H.O.A. STARTER. TO BE REPLACED BY DIV. 25. CO-ORDINATE FOR RECONNECTION AND SIZING OF MOTORS AND DISCONNECT SWITCHES. (N.I.C).

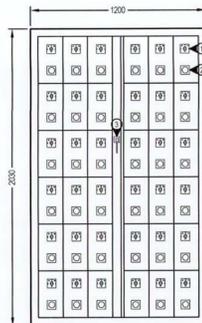


1 EXISTING CONTROL CABINET 'E'
 E1.0 NOT TO SCALE

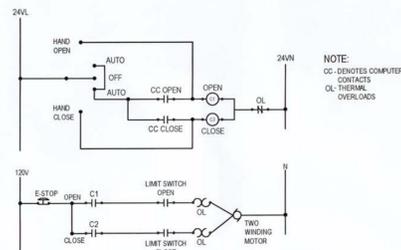


KEYNOTES 1/E2.0

- NEW 5 STATE SELECTOR SWITCH C/W LAMICOID LABELS FOR: HAND FORWARD, AUTO FORWARD, OFF, AUTO BACK, AND HAND BACK. REFER TO CONTROL AND POWER WIRING DIAGRAM FOR ADDITIONAL DETAILS (TYPICAL).
- EMERGENCY STOP BUTTON W/RED WIRE IN SERIES WITH MOTOR POWER CIRCUIT (TYPICAL).
- RETAIN EXISTING DOORS

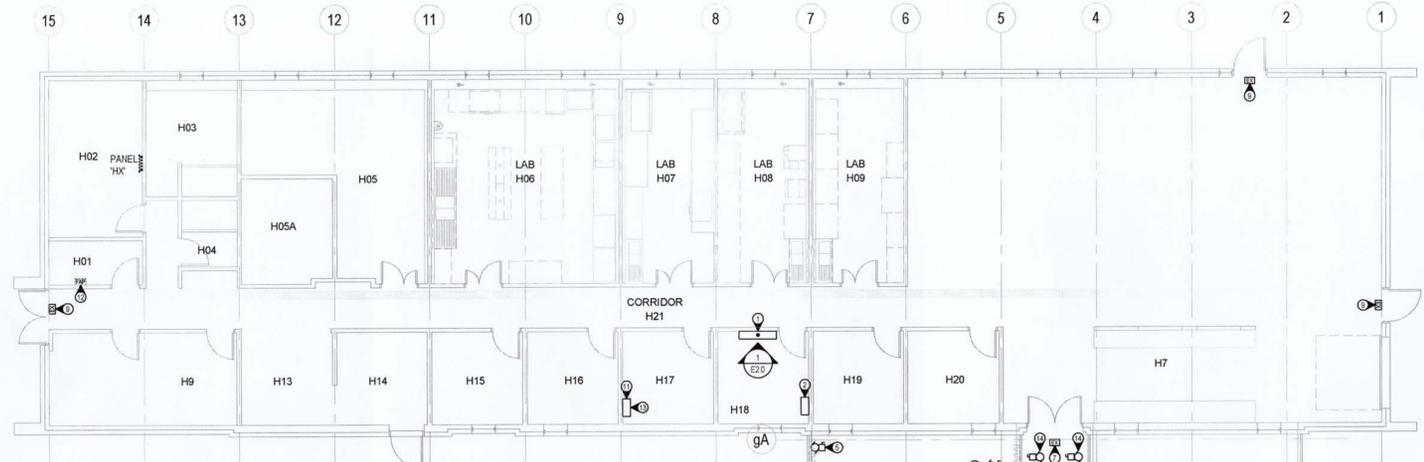


1 REVISED CONTROL CABINET 'E' ELEVATION E2.0 NOT TO SCALE



2 VENT, SHADE AND FAN MOTOR WIRING DIAGRAM E2.0 NOT TO SCALE

ELECTRICAL SYMBOL LEGEND	
ABBREVIATIONS	
NOTE	EQUIPMENT SHOWN DOTTED IS EXISTING AND TO REMAIN UNLESS INDICATED OTHERWISE
N.I.C.	NOT IN CONTRACT
LIGHTING	
(E)	EXIT SIGN
POWER	
(S)	ENVIRONMENTAL SENSOR
(M)	MECHANICAL MOTOR CONNECTION
(D)	DISCONNECT SWITCH
(PB)	PANEL BOARD
FIRE ALARM	
(P)	FIRE ALARM PULL STATION
(F)	FIRE ALARM PANEL
SINGLE LINE	
(-/-)	NORMALLY OPEN CONTACT
(-/+)	NORMALLY CLOSE CONTACT
(-C)	RELAY COIL
(-O)	OVERLOAD



KEYNOTES 3/E2.0

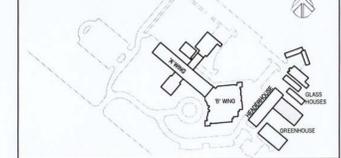
- NEW VENT AND SHADE MOTOR CONTACTORS IN EXISTING CABINET. REUSED SEPARATED 120V AND 24V WIRWAYS AND REPLACED 120V/24V CONTROL TRANSFORMER. CO-ORDINATE INSTALLATION WITH EXISTING LOCATIONS TO ALLOW REUSE OF EXISTING MOTOR CONTROL AND FEEDER CIRCUITS. ONLY VENT MOTOR EQUIPMENT TO BE REPLACED AT THIS TIME.
- EXISTING CONTROL CABINET C/W NEW BLACKOUT MOTOR STARTER. CO-ORDINATE INSTALLATION WITH EXISTING LOCATIONS TO ALLOW REUSE OF EXISTING MOTOR CONTROL AND FEEDER CIRCUITS. (N.I.C.)
- NEW 120V, 1/6 HP, 4.4A FLA, VENT MOTOR C/W LOCAL DISCONNECT WITH LOCKOUT HASP AND REVERSING H.O.A. STARTER.
- NEW 120V, 1/6 HP, 4.4A FLA, BLACKOUT MOTOR C/W LOCAL DISCONNECT WITH LOCKOUT HASP AND REVERSING H.O.A. STARTER. (N.I.C.)
- NEW 120V, 1/6 HP, 4.4A FLA, SHADE MOTOR C/W LOCAL DISCONNECT WITH LOCKOUT HASP AND REVERSING H.O.A. STARTER. (N.I.C.)
- EXISTING MOTOR CABINETS TO REMAIN.
- NEW 'RUNNING MAN' STYLE EXIT SIGNS MOUNTED ABOVE DOOR. WIRE INTO EXISTING BUILDING EXIT LIGHT CIRCUIT USING NEW 1x21mm SURFACE MOUNTED EMT. EXIT SIGN TO BE WIRE INTO EXISTING EMERGENCY POWER PANEL. (N.I.C.)
- NEW FIRE ALARM PULL STATION WALL MOUNTED AT INDICATED LOCATION. TIE INTO EXISTING BUILDING FIRE ALARM SYSTEM USING NEW 1x21mm SURFACE MOUNTED EMT BACK TO HEADER HOUSE PANEL. TIE INTO EXISTING ZONE. TEST AND CONFIRM OPERATION OF EXISTING SYSTEM AFTER MODIFICATION ARE MADE. (N.I.C.)
- REPLACE EXISTING EXIT SIGNS WITH NEW 'RUNNING MAN' STYLE EXIT SIGNS MOUNTED ABOVE DOOR. WIRE INTO EXISTING BUILDING EXIT LIGHT CIRCUIT USING EXISTING POWER CIRCUITS. EXIT SIGN TO BE WIRE INTO EXISTING EMERGENCY POWER PANEL 'HX'. (N.I.C.)
- EXISTING SENSORS TO BE REPLACED BY DIV. 25.
- NEW GREENHOUSE CONTROL SYSTEMS PANEL. TO BE INSTALLED BY OTHERS. SUPPLY ELECTRICAL CONNECTIONS AS REQUIRED. CO-ORDINATE WITH OTHER TRADES TO DETERMINE EXACT REQUIREMENTS.
- EXISTING EDWARDS EST1-1Z1 FIRE ALARM PANEL TO REMAIN. NEW FIRE ALARM PULL STATIONS TO BE COMPATIBLE WITH EXISTING PANEL. ADD NEW PULL STATIONS INTO EXISTING GREENHOUSE ZONE AND TEST SYSTEM TO ENSURE IT OPERATES CORRECTLY. (N.I.C.)
- REPLACE EXISTING EXTERIOR WEATHER STATION SENSORS WITH NEW. CONTRACTOR TO FIELD CONFIRM EXACT LOCATION ON HEADER HOUSE/GREENHOUSE ROOF. CONFIRM NEW SENSORS ARE ABLE TO INTERFACE WITH CONTROL SYSTEMS.
- NEW 120V, 1/5HP, 5.1FLA, SECONDARY CIRCULATION PUMPS C/W LOCAL DISCONNECT WITH LOCKOUT HASP AND H.O.A. STARTER. TO BE REPLACED BY DIV. 25. CO-ORDINATE FOR RECONNECTION AND SIZING OF MOTORS AND DISCONNECT SWITCHES. (N.I.C.)
- EXISTING 208V 1Ø, 1/2HP, 4.9FLA, PRIMARY CIRCULATION PUMPS C/W LOCAL DISCONNECT WITH LOCKOUT HASP AND COMBINATION STARTER. TO BE REPLACED BY DIV. 25. CO-ORDINATE FOR RECONNECTION AND SIZING OF MOTORS AND DISCONNECT SWITCHES. (N.I.C.)

3 REVISED HEADER AND GREENHOUSE POWER AND SYSTEMS E2.0 1:100

GENERAL NOTES

- ALL NEW ELECTRICAL DEVICES AND FITTING INSIDE GREENHOUSE TO BE NEMA 3R RATED C/W WATERPROOF FITTINGS AND SEALS.

Revision/Revision	Description/Description	Date/Date
3	ISSUED FOR TENDER	19/06/29
2	99% REVIEW	19/06/10
1	50% REVIEW	19/04/16



Prime Consultant

Client/client
PUBLIC WORKS AND GOVERNMENT SERVICES CANADA

Project title/Titre du projet
VICTORIA, BC
506 WEST BURNSIDE ROAD
PACIFIC FORESTRY CENTRE
GREENHOUSE ENERGY MANAGEMENT SYSTEM

Consultant Signature Only
Designed by/Concept par I.A.B.
Drawn by/Dessiné par J.B.
PWGSC Project Manager/Administrateur de Projets TPSSC
Patrick Truong
Regional Manager, Architectural and Engineering Services
Gestionnaire régionale, Services d'architectural et de génie, TPSSC
Prestipal Paul

Drawing title/Titre du dessin
REVISED HEADER AND GREENHOUSE POWER, SYSTEMS AND DETAILS

Project No./No. du projet R.076293.001	Sheet/Faillie E2.0 2 OF 2	Revision no./La Révision no. 3
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