

# Sprinkler System Replacement Government of Canada Building Athabasca, Alberta

**PRIME CONSULTANT**  
 RAE MCLEAN & ASSOCIATES LTD.  
 #207, 6036 3rd Street S.W.  
 Calgary, AB T2H 0H9  
 Ph. (403) 259-6716  
 Fax. (403) 252-0160  
 CONTACT: ROB RAE

**MECHANICAL ENGINEERS**  
 RAE MCLEAN & ASSOCIATES LTD.  
 #207, 6036 3rd Street S.W.  
 Calgary, AB T2H 0H9  
 Ph. (403) 259-6716  
 Fax. (403) 252-0160  
 CONTACT: ROB RAE

**ELECTRICAL ENGINEERS**  
 RAE MCLEAN & ASSOCIATES LTD.  
 #207, 6036 3rd Street S.W.  
 Calgary, AB T2H 0H9  
 Ph. (403) 259-6716  
 Fax. (403) 252-0160  
 CONTACT: ROB RAE

ARCHITECTURAL

- A0 COVER SHEET AND BUILDING ACCESS DETAILS
- A-1 CEILING AND WALL DEMOLITION
- A-2 ATTIC DEMOLITON
- A-3 CEILING AND WALL NEW CONSTRUCTION
- A-4 ATTIC NEW CONSTRUCTION

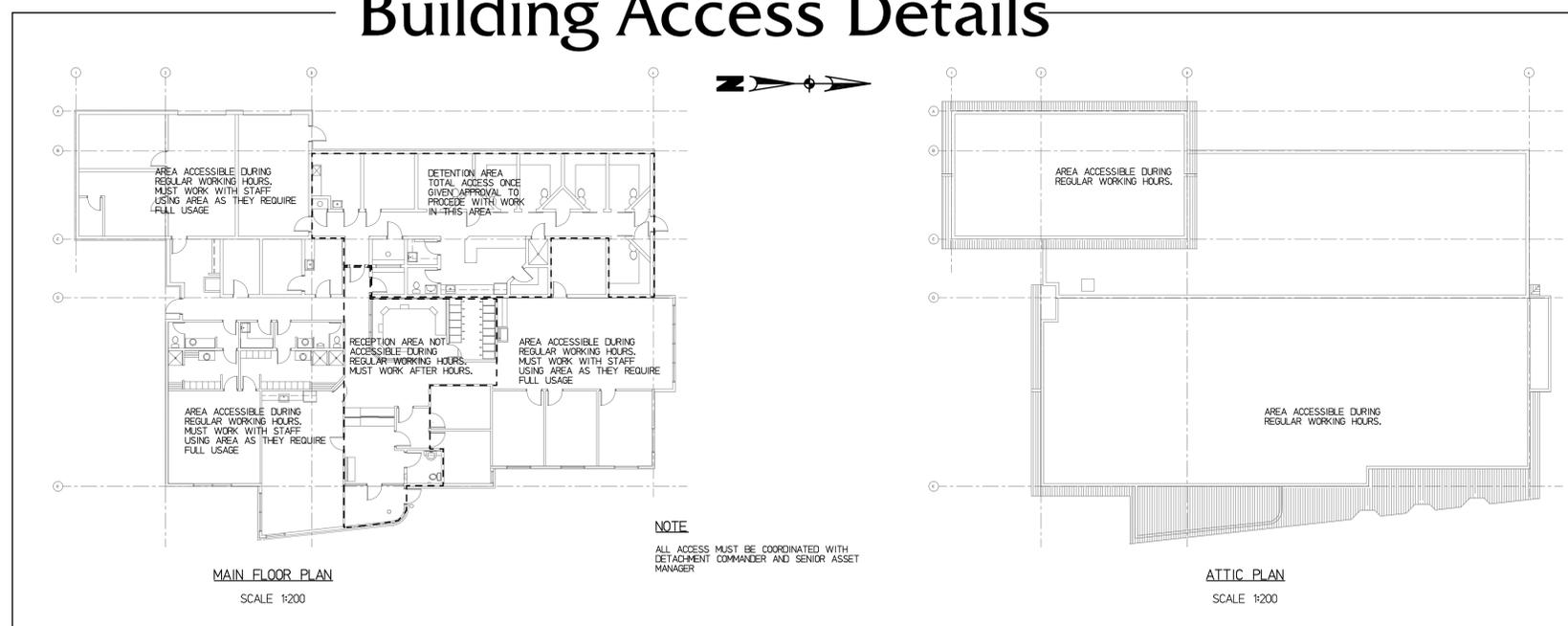
MECHANICAL

- SP-1 MAIN FLOOR PLAN EXISTING SPRINKLER SYSTEM
- SP-2 ATTIC PLAN EXISTING SPRINKLER SYSTEM
- SP-3 BUILDING SECTIONS EXISTING SPRINKLER SYSTEM
- SP-4 MAIN FLOOR PLAN NEW WET AND DRY SPRINKLER SYSTEM
- SP-5 ATTIC PLAN NEW DRY SPRINKLER SYSTEM

ELECTRICAL

- E-1 MAIN FLOOR PLAN ELECTRICAL

## Building Access Details



client / consultant logos

revisions

issued

stamp / permit

\* This drawing is the property of Rae Mclean & Associates Ltd. and unauthorized reproduction is prohibited under the Copyright Act.  
 \* Electronic files when provided are instruments of service and the sole property of Rae Mclean & Associates Ltd. No alteration or reproduction shall be made without written authorization from Rae Mclean & Associates Ltd.  
 \* The Contractor shall check and verify all dimensions and report any discrepancies to Rae Mclean & Associates Ltd. prior to construction; do not scale this drawing.  
 \* This drawing shall not be used for construction unless properly signed and sealed by the Engineer.  
 \* All dimensions are in inches unless noted otherwise.

project title  
**SPRINKLER SYSTEM  
 REPLACEMENT  
 GOVERNMENT OF CANADA  
 BUILDING ATHABASCA, AB.**

drawing title  
**COVER SHEET AND  
 BUILDING ACCESS DETAILS**

drawing info  
 drawn S.E.M.  
 date SEPTEMBER 2017  
 scale NOTED  
 checked S.E.M./R.G.R.

drawing number  
**A-0**



client / consultant logos

revisions

issued

stamp / permit

\* This drawing is the property of Rae McLean & Associates Ltd. and unauthorized reproduction is prohibited under the Copyright Act. \* Electronic files when provided are instruments of service and the sole property of Rae McLean & Associates Ltd. No alteration or reproduction shall be made without written authorization from Rae McLean & Associates Ltd. \* The Contractor shall check and verify all dimensions and report any discrepancies to Rae McLean & Associates Ltd. prior to construction; do not scale this drawing. \* This drawing shall not be used for construction unless properly signed and sealed by the Engineer. \* All dimensions are in inches unless noted otherwise.

project title  
**SPRINKLER SYSTEM  
REPLACEMENT  
GOVERNMENT OF CANADA  
BUILDING ATHABASCA, AB.**

drawing title

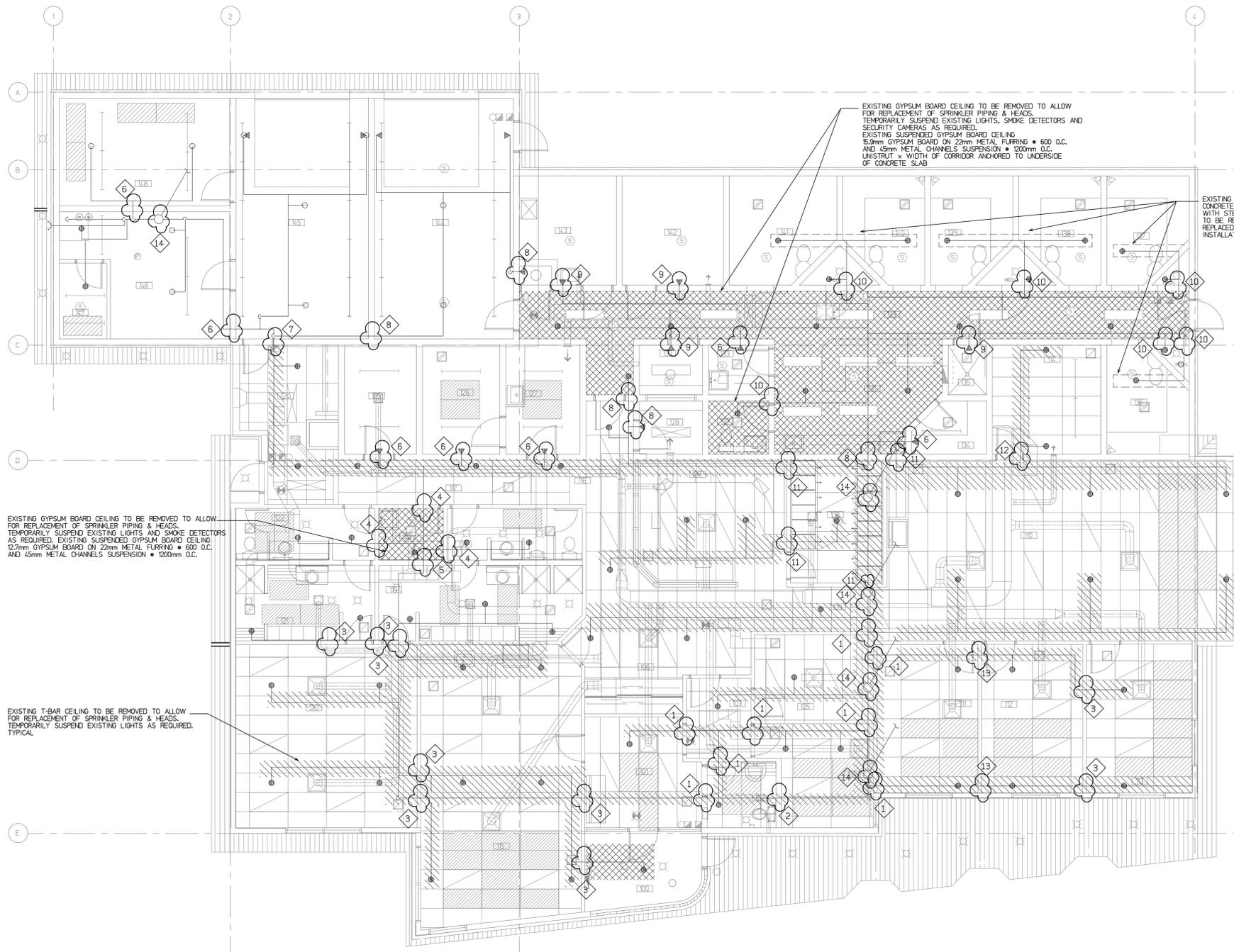
**CEILING AND WALL  
DEMOLITION**

drawing info

drawn S.E.M.  
date SEPTEMBER 2017  
scale NOTED  
checked S.E.M./R.G.R.

drawing number

**A-1**



**WALL & CEILING TYPES**

- 1 12.7mm GYPSUM WALL BOARD  
38x89 WOOD STUDS @ 600 O/C  
ACOUSTIC BATT INSULATION  
12.7mm GYPSUM WALL BOARD
- 2 12.7mm GYPSUM WALL BOARD  
38x40 WOOD STUDS @ 600 O/C  
ACOUSTIC BATT INSULATION  
12.7mm GYPSUM WALL BOARD
- 3 12.7mm GYPSUM WALL BOARD  
38x89 WOOD STUDS @ 600 O/C  
ACOUSTIC BATT INSULATION  
12.7mm GYPSUM WALL BOARD
- 4 15.9mm TYPE X GYPSUM WALL BOARD  
38x89 WOOD STUDS @ 600 O/C  
15.9mm TYPE X GYPSUM WALL BOARD
- 5 15.9mm TYPE X GYPSUM WALL BOARD  
38x40 WOOD STUDS @ 600 O/C  
15.9mm TYPE X GYPSUM WALL BOARD
- 6 190mm CONCRETE BLOCK PAINTED
- 7 190mm CONCRETE BLOCK PAINTED
- 8 190mm CONCRETE BLOCK PAINTED
- 9 190mm CONCRETE BLOCK PAINTED
- 10 190mm CONCRETE BLOCK PAINTED
- 11 12.7mm GYPSUM WALL BOARD  
19mm (16GA) SHEET STEEL PLUS WELD TO METAL STUDS  
@ 400 O.C. VERT @ 300 O.C. HORIZ THROUGH 35mm DIA HOLES  
15.2mmx6mm (18GA) METAL STUDS @ 300mm O.C.  
12.7mm GYPSUM WALL BOARD
- 12 12.7mm GYPSUM WALL BOARD  
METAL FLUORING CHANNELS @ 600 O/C  
190mm CONCRETE BLOCK PAINTED
- 13 12.7mm GYPSUM WALL BOARD  
38x89 WOOD STUDS @ 600 O/C  
12.7mm GYPSUM WALL BOARD
- 14 PRE-ENGINEERED ROOF TRUSSES  
R.S.J. 7 SPRAY INSULATION  
VAPOUR BARRIER  
12.7mm GYPSUM WALL BOARD

**LEGEND**

- Existing 1x4' recessed fluorescent light fixture
- Existing 2x4' recessed fluorescent light fixture
- Existing 4'-0" strip light
- Existing pot light
- Existing camera
- Existing smoke detector
- Existing radiant ceiling panel
- Existing ceiling grille or diffuser
- Existing ductwork in ceiling space
- Existing upright sprinkler head
- Existing pendant sprinkler head
- Existing sidewall sprinkler head
- Existing T-bar ceiling
- Existing wall type
- Existing drywall ceiling to be removed as required
- Existing wall to be removed as required
- Existing tbar ceiling to be removed as required

MAIN FLOOR PLAN  
SCALE 1/75





client / consultant logos

revisions

issued

stamp / permit

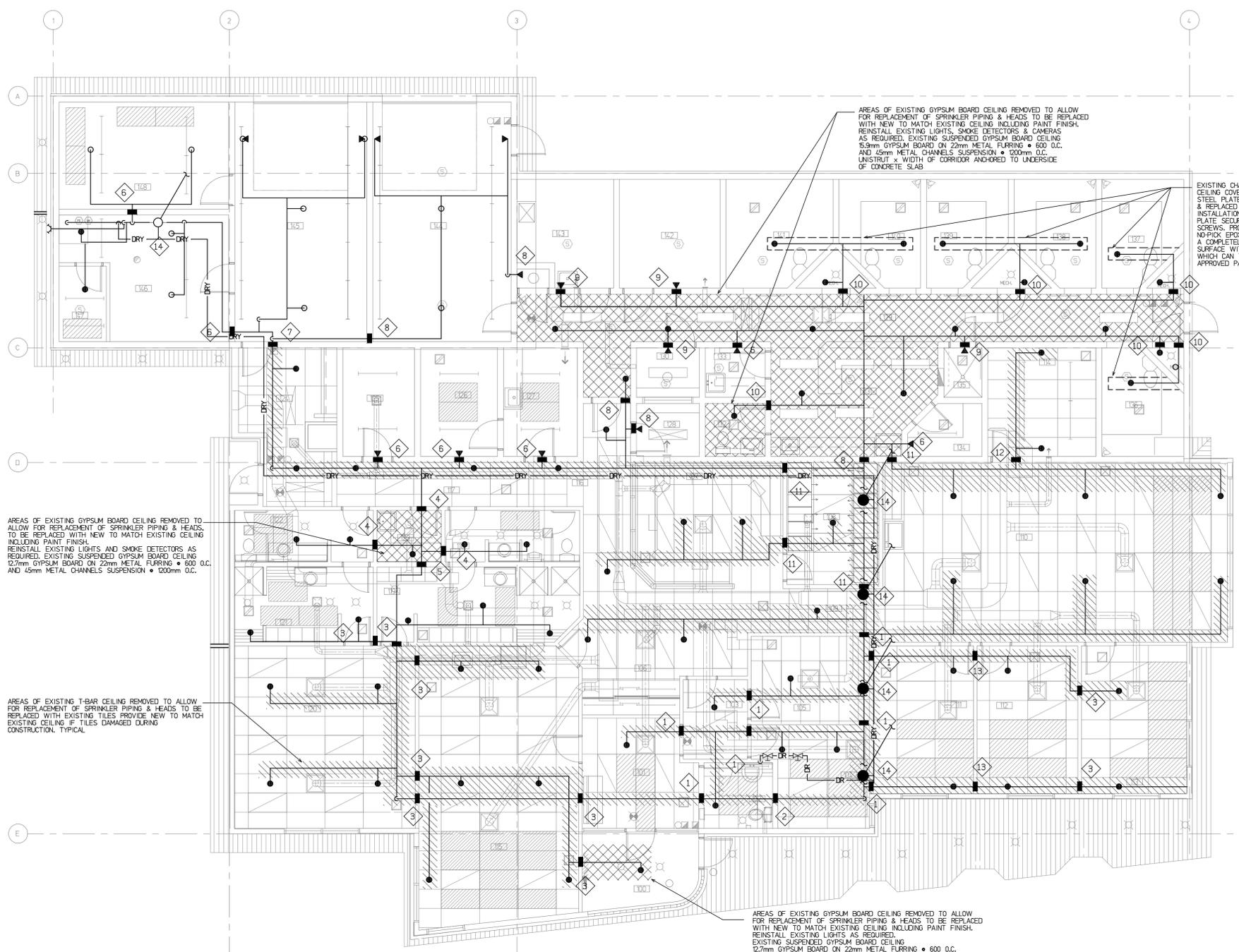
This drawing is the property of Rae McLean & Associates Ltd. and unauthorized reproduction is prohibited under the Copyright Act. Electronic files when provided are instruments of service and the sole property of Rae McLean & Associates Ltd. No alteration or reproduction shall be made without written authorization from Rae McLean & Associates Ltd. The Contractor shall check and verify all dimensions and report any discrepancies to Rae McLean & Associates Ltd. prior to construction; do not scale this drawing. This drawing shall not be used for construction unless properly signed and sealed by the Engineer. All dimensions are in inches unless noted otherwise.

project title  
**SPRINKLER SYSTEM  
REPLACEMENT  
GOVERNMENT OF CANADA  
BUILDING ATHABASCA, AB.**

drawing title  
**CEILING AND WALL  
NEW CONSTRUCTION**

drawing info  
drawn S.E.M.  
date SEPTEMBER 2017  
scale NOTED  
checked S.E.M./R.G.R.

drawing number  
**A-3**



AREAS OF EXISTING GYPSUM BOARD CEILING REMOVED TO ALLOW FOR REPLACEMENT OF SPRINKLER PIPING & HEADS TO BE REPLACED WITH NEW TO MATCH EXISTING CEILING INCLUDING PAINT FINISH. REINSTALL EXISTING LIGHTS, SMOKE DETECTORS & CAMERAS AS REQUIRED. EXISTING SUSPENDED GYPSUM BOARD CEILING 12.7mm GYPSUM BOARD ON 22mm METAL FURRING @ 600 O.C. AND 45mm METAL CHANNELS SUSPENSION @ 1200mm O.C. UNSTRUTTED WIDTH OF CORRIDOR ANCHORED TO UNDERSIDE OF CONCRETE SLAB

EXISTING CHANNEL IN CONCRETE CEILING COVERED WITH 50x50mm STEEL PLATE. PLATE TO BE REMOVED & REPLACED WHEN SPRINKLER INSTALLATION COMPLETE. PLATE SECURED WITH TAMPER PROOF SCREWS. PROVIDE OWNER APPROVED NO-DROCK EPOXY CAULKING TO CREATE A COMPLETELY SMOOTH FINISHED SURFACE WITH NO SHARP EDGES, WHICH CAN THEN BE PAINTED WITH OWNER APPROVED PAINT

AREAS OF EXISTING GYPSUM BOARD CEILING REMOVED TO ALLOW FOR REPLACEMENT OF SPRINKLER PIPING & HEADS TO BE REPLACED WITH NEW TO MATCH EXISTING CEILING INCLUDING PAINT FINISH. REINSTALL EXISTING LIGHTS AND SMOKE DETECTORS AS REQUIRED. EXISTING SUSPENDED GYPSUM BOARD CEILING 12.7mm GYPSUM BOARD ON 22mm METAL FURRING @ 600 O.C. AND 45mm METAL CHANNELS SUSPENSION @ 1200mm O.C.

AREAS OF EXISTING T-BAR CEILING REMOVED TO ALLOW FOR REPLACEMENT OF SPRINKLER PIPING & HEADS TO BE REPLACED WITH NEW TO MATCH EXISTING CEILING INCLUDING PAINT FINISH. REINSTALL EXISTING LIGHTS AS REQUIRED. EXISTING SUSPENDED GYPSUM BOARD CEILING 12.7mm GYPSUM BOARD ON 22mm METAL FURRING @ 600 O.C. AND 45mm METAL CHANNELS SUSPENSION @ 1200mm O.C.

AREAS OF EXISTING GYPSUM BOARD CEILING REMOVED TO ALLOW FOR REPLACEMENT OF SPRINKLER PIPING & HEADS TO BE REPLACED WITH NEW TO MATCH EXISTING CEILING INCLUDING PAINT FINISH. REINSTALL EXISTING LIGHTS AS REQUIRED. EXISTING SUSPENDED GYPSUM BOARD CEILING 12.7mm GYPSUM BOARD ON 22mm METAL FURRING @ 600 O.C. AND 45mm METAL CHANNELS SUSPENSION @ 1200mm O.C.

MAIN FLOOR PLAN  
SCALE 1/75

WALL & CEILING TYPES

- 1 12.7mm GYPSUM WALL BOARD  
38x89 WOOD STUDS @ 600 O/C  
ACOUSTIC BATT INSULATION  
12.7mm GYPSUM WALL BOARD
- 2 12.7mm GYPSUM WALL BOARD  
38x40 WOOD STUDS @ 600 O/C  
ACOUSTIC BATT INSULATION  
12.7mm GYPSUM WALL BOARD
- 3 12.7mm GYPSUM WALL BOARD  
38x89 WOOD STUDS @ 600 O/C  
ACOUSTIC BATT INSULATION  
12.7mm GYPSUM WALL BOARD
- 4 5.9mm TYPE X GYPSUM WALL BOARD  
38x89 WOOD STUDS @ 600 O/C  
5.9mm TYPE X GYPSUM WALL BOARD
- 5 5.9mm TYPE X GYPSUM WALL BOARD  
38x40 WOOD STUDS @ 600 O/C  
5.9mm TYPE X GYPSUM WALL BOARD
- 6 190mm CONCRETE BLOCK PAINTED
- 7 190mm CONCRETE BLOCK PAINTED
- 8 190mm CONCRETE BLOCK PAINTED
- 9 190mm CONCRETE BLOCK PAINTED
- 10 190mm CONCRETE BLOCK PAINTED
- 11 12.7mm GYPSUM WALL BOARD  
19mm (RGA) SHEET STEEL WELD TO METAL STUDS  
@ 400 O.C. VERT. @ 300 O.C. HORIZ. THROUGH 35mm DIA HOLES  
12.7mmx45mm (RGA) METAL STUDS @ 300mm O.C.  
12.7mm GYPSUM WALL BOARD
- 12 12.7mm GYPSUM WALL BOARD  
METAL FURRING CHANNELS @ 600 O/C  
190mm CONCRETE BLOCK PAINTED
- 13 12.7mm GYPSUM WALL BOARD  
38x89 WOOD STUDS @ 600 O/C  
12.7mm GYPSUM WALL BOARD
- 14 PRE-ENGINEERED ROOF TRUSSES  
0.5L1.7 SPRAY INSULATION  
VAPOUR BARRIER  
12.7mm GYPSUM WALL BOARD

LEGEND

- Existing 1x4' recessed fluorescent light fixture
- Existing 2x4' recessed fluorescent light fixture
- Existing 4'-0" strip light
- Existing pot light
- Existing radiant ceiling panel
- Existing ceiling grille or diffuser
- Existing ductwork in ceiling space
- Existing upright sprinkler head
- Existing pendant sprinkler head
- Existing sidewall sprinkler head
- Existing T-bar ceiling
- Existing wall type
- Existing removed ceiling to be replaced with new to match
- New wall repair location, new wall to match existing including finish to match existing
- Existing tbar ceiling to be replaced as required





client / consultant logos

revisions

issued

stamp / permit

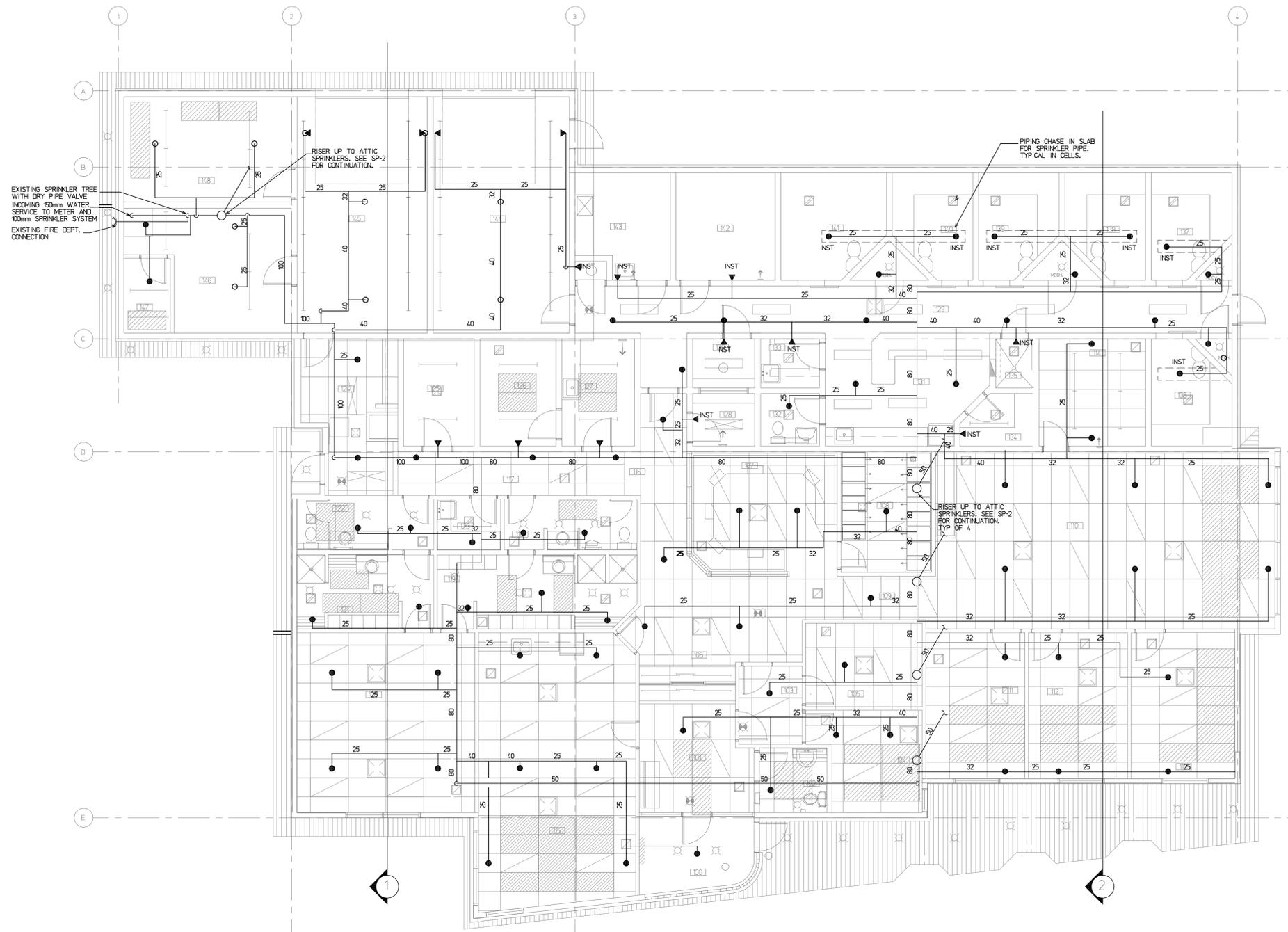
\* This drawing is the property of Rae McLean & Associates Ltd. and unauthorized reproduction is prohibited under the Copyright Act.  
 \* Electronic files when provided are instruments of service and the sole property of Rae McLean & Associates Ltd. No alteration or reproduction shall be made without written authorization from Rae McLean & Associates Ltd.  
 \* The Contractor shall check and verify all dimensions and report any discrepancies to Rae McLean & Associates Ltd. prior to construction; do not scale this drawing.  
 \* This drawing shall not be used for construction unless properly signed and sealed by the Engineer.  
 \* All dimensions are in inches unless noted otherwise.

project title  
**SPRINKLER SYSTEM  
 REPLACEMENT  
 GOVERNMENT OF CANADA  
 BUILDING ATHABASCA, AB.**

drawing title  
**MAIN FLOOR PLAN  
 EXISTING SPRINKLER SYSTEM  
 DEMOLITION**

drawing info  
 drawn S.E.M.  
 date SEPTEMBER 2017  
 scale NOTED  
 checked S.E.M./R.G.R.

drawing number  
**SP-1**



- LEGEND**
- Existing 2x4' recessed fluorescent light fixture
  - Existing 4'-0" strip light
  - Existing pot light
  - Existing radiant ceiling panel
  - Existing ceiling grille or diffuser
  - Existing upright sprinkler head to be removed and replaced
  - Existing pendant sprinkler head to be removed and replaced
  - Existing sidewall sprinkler head to be removed and replaced
  - Existing institutional style head to be removed and replaced
  - Existing sprinkler piping to be removed and replaced

MAIN FLOOR PLAN - EXISTING SPRINKLER SYSTEM DEMOLITION  
 SCALE 1/75



client / consultant logos

revisions

issued

stamp / permit

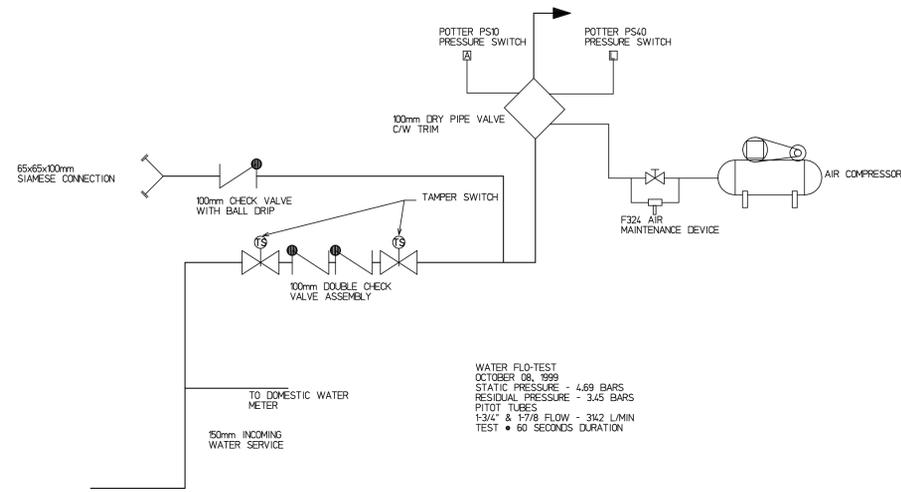
\* This drawing is the property of Rae McLean & Associates Ltd. and unauthorized reproduction is prohibited under the Copyright Act.  
 \* Electronic files when provided are instruments of service and the sole property of Rae McLean & Associates Ltd. No alteration or reproduction shall be made without written authorization from Rae McLean & Associates Ltd.  
 \* The Contractor shall check and verify all dimensions and report any discrepancies to Rae McLean & Associates Ltd. prior to construction; do not scale this drawing.  
 \* This drawing shall not be used for construction unless properly signed and sealed by the Engineer.  
 \* All dimensions are in inches unless noted otherwise.

project title  
**SPRINKLER SYSTEM  
 REPLACEMENT  
 GOVERNMENT OF CANADA  
 BUILDING ATHABASCA, AB.**

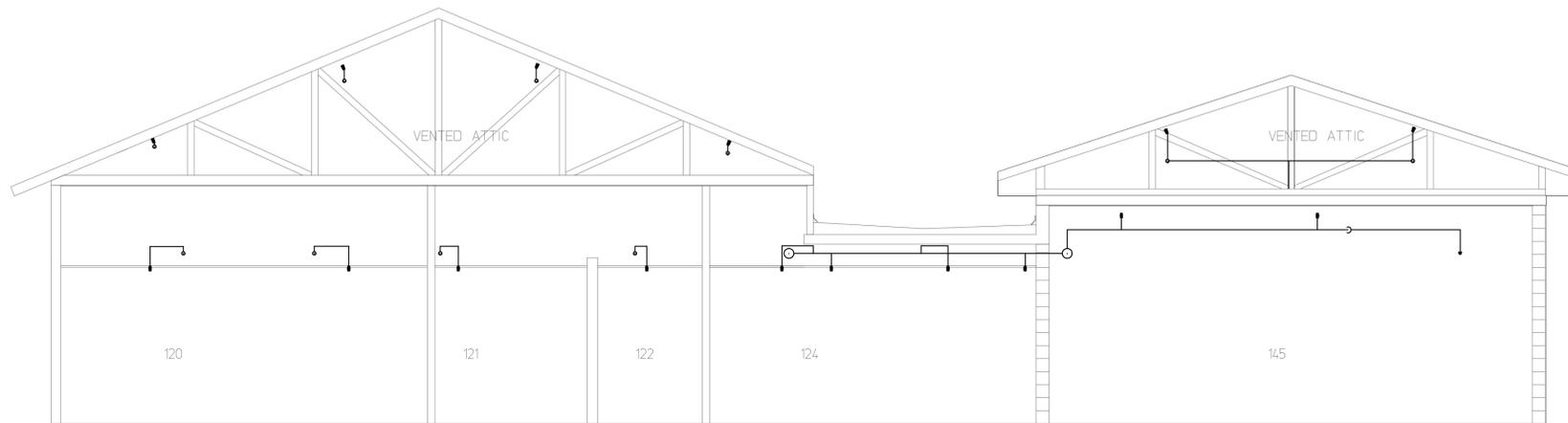
drawing title  
**BUILDING SECTIONS  
 EXISTING SPRINKLER SYSTEM**

drawing info  
 drawn S.E.M.  
 date SEPTEMBER 2017  
 scale NOTED  
 checked S.E.M./R.G.R.

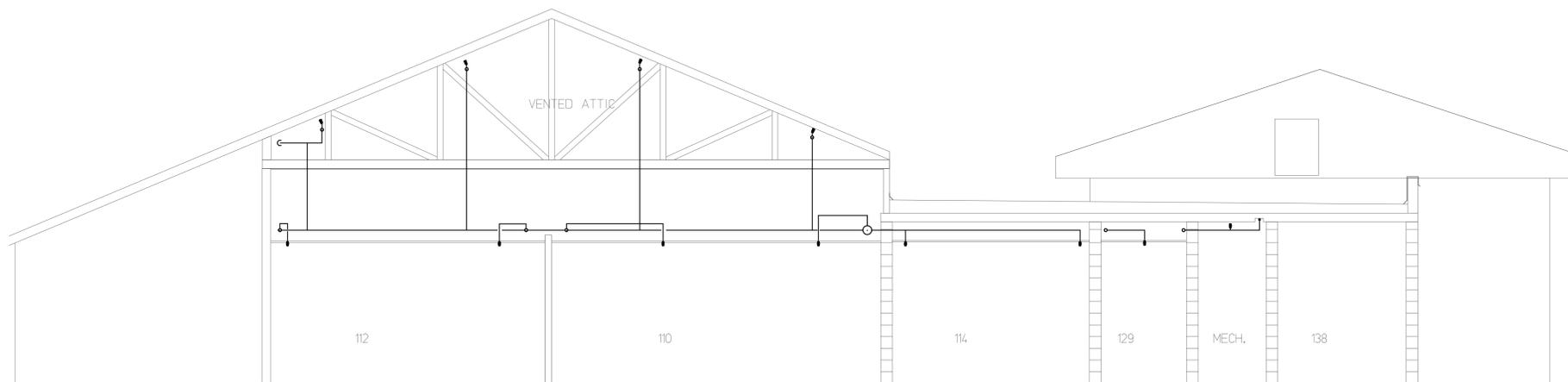
drawing number  
**SP-3**



EXISTING SPRINKLER TREE PIPING SCHEMATIC  
 N.T.S.



SECTION 1  
 SCALE 1:50



SECTION 2  
 SCALE 1:50

client / consultant logos

revisions

issued

stamp / permit

\* This drawing is the property of Rae McLean & Associates Ltd. and unauthorized reproduction is prohibited under the Copyright Act.  
 \* Electronic files when provided are instruments of service and the sole property of Rae McLean & Associates Ltd. No alteration or reproduction shall be made without written authorization from Rae McLean & Associates Ltd.  
 \* The Contractor shall check and verify all dimensions and report any discrepancies to Rae McLean & Associates Ltd. prior to construction; do not scale this drawing.  
 \* This drawing shall not be used for construction unless properly signed and sealed by the Engineer.  
 \* All dimensions are in inches unless noted otherwise.

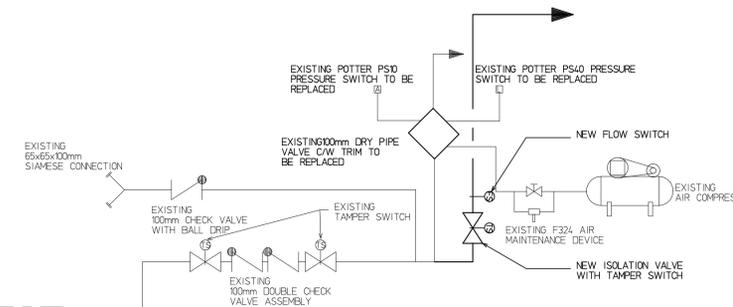
project title  
**SPRINKLER SYSTEM  
 REPLACEMENT  
 GOVERNMENT OF CANADA  
 BUILDING ATHABASCA, AB.**

drawing info  
**MAIN FLOOR PLAN  
 NEW WET AND DRY SPRINKLER  
 SYSTEM**

drawing info  
 drawn S.E.M.  
 date SEPTEMBER 2017  
 scale NOTED  
 checked S.E.M./R.G.R.

drawing number

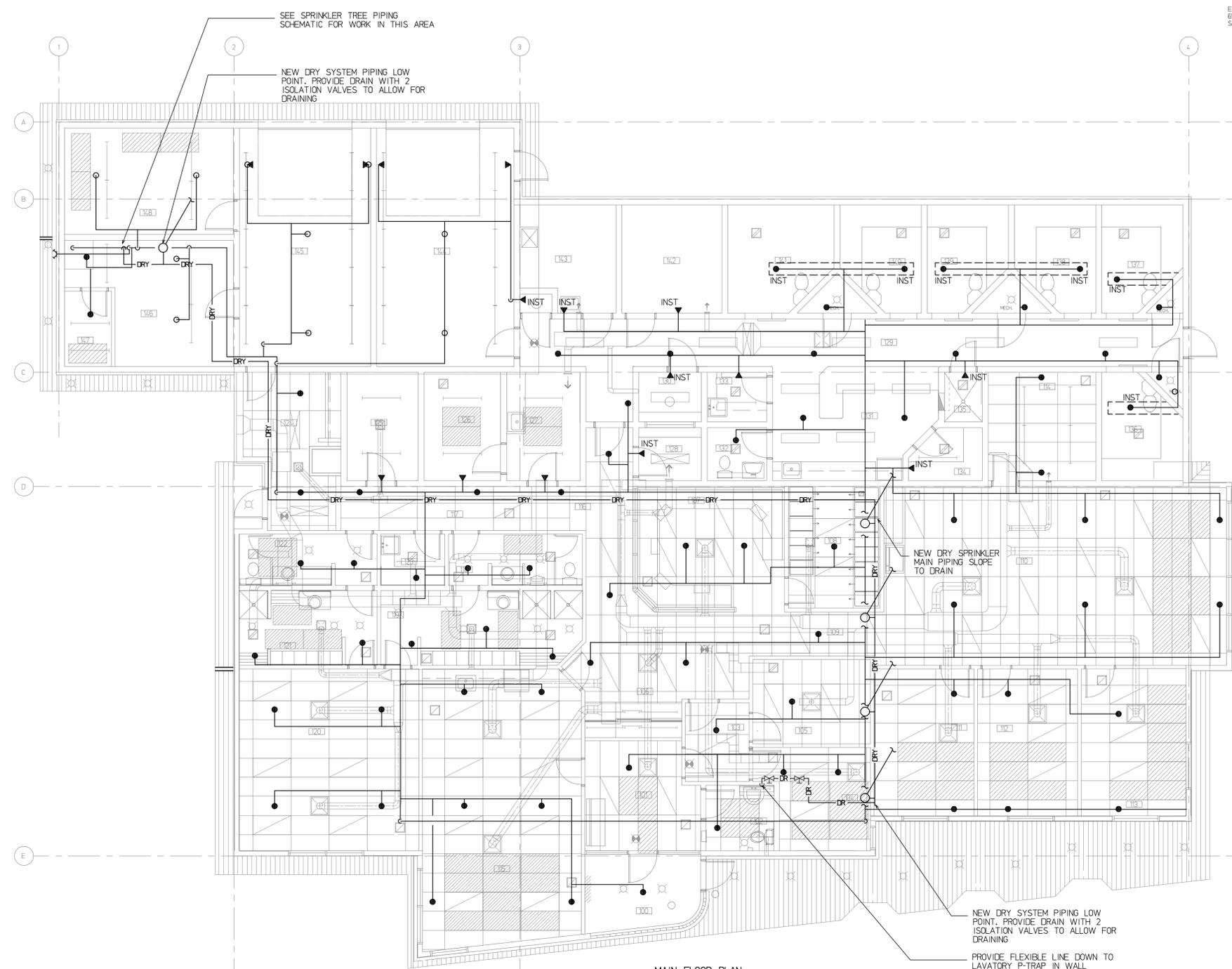
SP-4



NEW SPRINKLER TREE PIPING SCHEMATIC  
 N.T.S.

NOTE  
 NEW PIPING AND HEADS SHOWN MATCH EXISTING LAYOUT  
 CONTRACTOR TO PROVIDE NEW WET SYSTEM FOR AREAS  
 BELOW ATTIC AND DRY SYSTEM FOR ATTIC AREAS. PROVIDE  
 NEW ISOLATION VALVE AND FLOW SWITCH AT SPRINKLER TREE  
 TO ACCOMMODATE NEW SYSTEM PARAMETERS.

- LEGEND
- Existing 1x4' recessed fluorescent light fixture
  - Existing 2x4' recessed fluorescent light fixture
  - Existing 4'-0" strip light
  - Existing pot light
  - Existing radiant ceiling panel
  - Existing ceiling grille or diffuser
  - Existing ductwork in ceiling space
  - Existing upright sprinkler head
  - Existing pendant sprinkler head
  - Existing sidewall sprinkler head
  - Existing T-bar ceiling
  - New upright sprinkler head
  - New pendant sprinkler head
  - New sidewall sprinkler head
  - New dry system sprinkler piping
  - New Institutional Sprinkler Head to be TYCO Raven 5.6K. Escutcheons are to be ordered and installed with heads. All sprinklers must be stamped with manufacturer and model number on the faceplate of the sprinkler. NO ALTERNATE SPRINKLER HEADS ACCEPTED.



MAIN FLOOR PLAN  
 SCALE 1/75





client / consultant logos

revisions

issued

stamp / permit

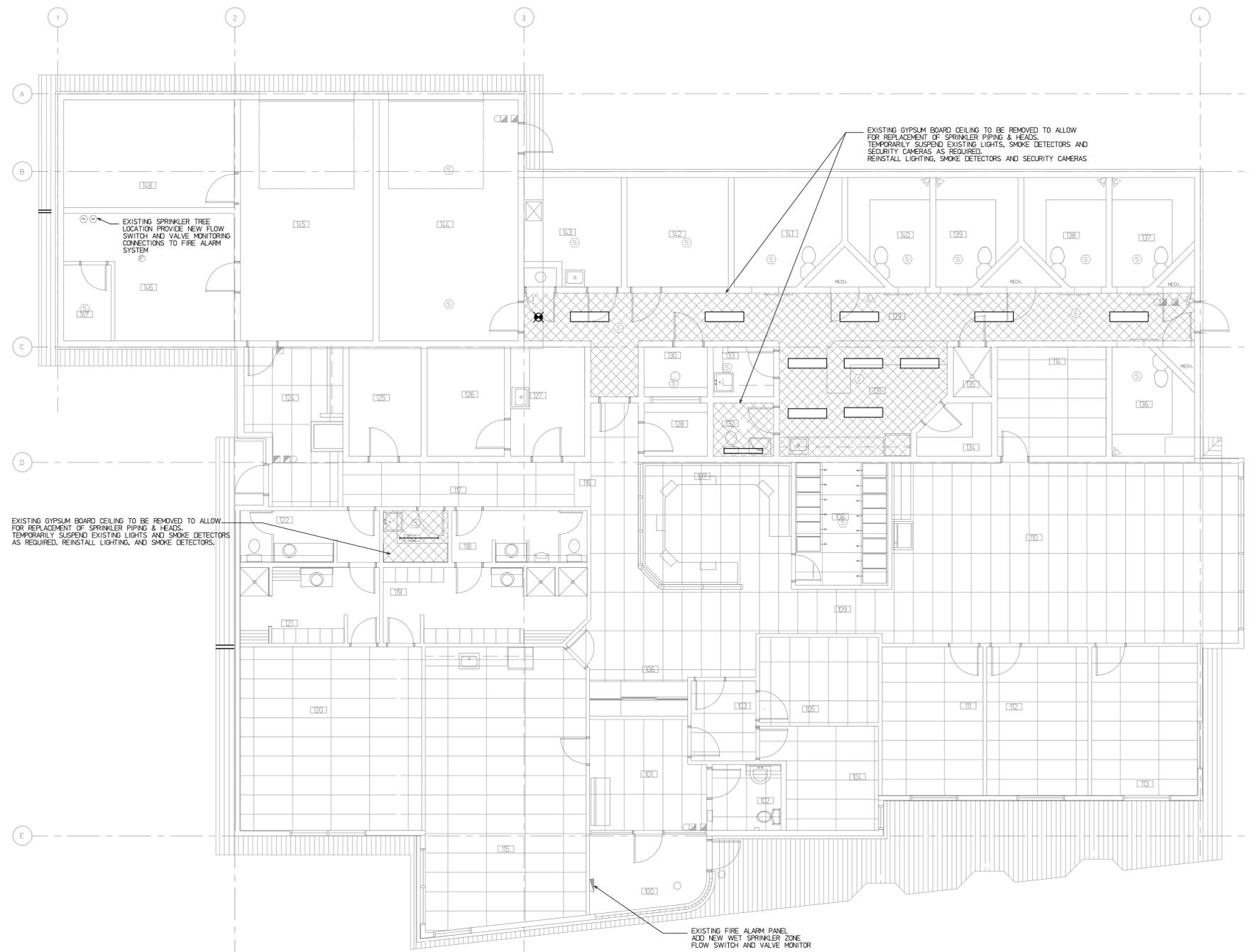
\* This drawing is the property of Rae McLean & Associates Ltd. and unauthorized reproduction is prohibited under the Copyright Act. Electronic files when provided are instruments of service and the sole property of Rae McLean & Associates Ltd. No alteration or reproduction shall be made without written authorization from Rae McLean & Associates Ltd. The Contractor shall check and verify all dimensions and report any discrepancies to Rae McLean & Associates Ltd. prior to construction; do not scale this drawing. This drawing shall not be used for construction unless properly signed and sealed by the Engineer. All dimensions are in inches unless noted otherwise.

project title  
**SPRINKLER SYSTEM  
REPLACEMENT  
GOVERNMENT OF CANADA  
BUILDING ATHABASCA, AB.**

drawing title  
**MAIN FLOOR PLAN  
ELECTRICAL**

drawing info  
drawn S.E.M.  
date SEPTEMBER 2017  
scale NOTED  
checked S.E.M./R.G.R.

drawing number  
**E-1**



MAIN FLOOR PLAN  
SCALE 1/75