ST. CLAIR CATHOLIC
DISTRICT SCHOOL BOARD

Lighting the Way ~ Rejoicing in Our Journey

Addendum # 004

TENDER NUMBER: 619-CP2003

Renovations and Atrium Project

Our Lady of Fatima Catholic School

545 Baldoon Road, Chatham, ON

Revised Submission Deadline and Location:

Thursday May 14, 2020
4:00:00 PM Local Time
Submission Via Email

ISSUED: April 6, 2020

ADDENDUM #004

This addendum forms part of the Contract Bid Documents and amends the original drawings and specifications issued for Bid on February 19, 2020.

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PART A – GENERAL

.1 SECTION 2.1 RFT SCHEDULE

As a result of the COVID-19 Pandemic, the schedule has been revised to:

For the purposes of this RFT, the Board has established the following timing deadlines for the completion of the RFT process. All times listed are Local Time (Eastern Standard Time).

Event	Date & Time
Notice of Project Issue Date:	February 14, 2020
Tender Issue Date:	February 19, 2020
Mandatory Site Visit:	February 21, 2020 at 11:00 a.m.
Revised Question Deadline:	**May 5, 2020 at 2:00 p.m.**
Revised Responses to Questions Received:	**May 7, 2020**
Revised Closing Date and Time:	**May 14, 2020 at 4:00:00 p.m.**

.2 SECTION 2.7 TIMING OF PROJECT

Insert the following to this clause.

It is the Board's intent to adhere to the schedule as set out in this tender documents. The successful bidder should make all reasonable efforts to attain the schedule as set out; however, due to limitations relating to Covid-19, the Board will work with the successful bidder on a revised schedule that is both reasonable and fair to both parties, including but not restricted to, changing the completion date that accommodates both parties.

.3 SECTION 2.9 BID SUBMISSION

As a result of the COVID-19 Pandemic, the Board has suspending in-person and hard copy submissions. This section has been revised to read:

Bids shall be submitted with the project clearly identified in the subject line of an email:

RFT #: 619-CP2003 Bid Submission – COMPANY NAME

The Bid Submission and any supplementary documentation must be returned to:

Purchasing Department: purchasing@st-clair.net

Bids MUST be received no later than the date and time specified in this RFT document. Any bid submissions received after the deadline will be rejected. It is the Bidder's responsibility to ensure their Bid Submission is received by a Board representative on or before the submission deadline.

Bidders are cautioned that the timing of their Bid Submissions is based on when the Bid is RECEIVED by the Board's Server not when a bid is submitted, as email transmissions can be delayed in an "Internet Traffic Jam" due to file transfer size, transmission speed, etc.

Bidders should submit all requested information in one email with multiple attachments. In the event that the size of the bid results in a large submission, responsibility is with the bidder to send the bid in multiple emails to ensure receipt by the Board, advising the Board as to the number of emails being submitted. The Purchasing department will reply to an email submission simply stating that that bid has been received.

For the above reasons, it is recommended that you give yourself sufficient time to complete your Bid Submission and to resolve any issues that may arise.

Bids shall be filled out in ink or typed, signed in longhand by a duly authorized company official (having authority to bind). Failure to provide all of the requested information on the Bid Form may result in disqualification of the bid. Please refer to REVISED Appendix A: Bidder's Response Guide included in Addendum #004.

Bids submitted by hardcopy, telephone, or fax will not be accepted.

After bid closing all submissions will be reviewed by the Board's evaluation team. Bid will not be opened publicly. Bids are considered unofficial until reviewed and deemed formal by the evaluation team.

Supplier's Bid Submission, all Bid Documents and CCDC2-2008 will form the agreement.

.4 SECTION 2.32 BONDING

Insert the following to this clause.

Bonding must be provided in a digitally verified format. A scanned version of a paper bond is not acceptable and may deem the bid submission informal.

.5 SECTION 2.33 INSURANCE

Insurance submission requirements have been revised to read:

The successful Proponent(s) must maintain, at the Proponent's expense for the entire term of the Contract or as otherwise required, all insurance as set out below. It is not mandatory to submit Proof of Insurance as part of the bid submission. The low bidder and second low bidder will be contacted after the tender opening and will be required to submit Proof of Insurance to the Board within 5 business days.

.6 SECTION 2.34 WORKPLACE SAFETY INSURANCE BOARD (WSIB)

WSIB submission requirements have been revised to read:

Successful Proponent(s) must ensure that all workers are covered by the Workplace Safety and Insurance Board coverage for the duration of this contract. It is not mandatory to submit Proof of WSIB coverage (clearance certificate) as part of the bid submission. The low bidder and second low bidder will be

contacted after the tender opening and will be required to submit Proof of Coverage to the Board within 5 business days.

.7 APPENDIX A: BIDDER'S RESPONSE GUIDE

Appendix A has been revised in accordance with the changes outlined in the Addenda. REVISED Appendix A is as follows:

REVISED APPENDIX A: Bidder's Response Guide

Each bid submission should be structured using only the criteria identified in this bid document.

1. A completed copy of REVISED APPENDIX B: Bid Form **must** be included in your bid submission. (Updated per Addendum #002)
2. ~~Proof of WSIB Coverage and proof of insurance **must** be included in your bid submission as specified in the Bid Documents~~. The low bidder and second low bidder will be contacted after the tender opening and will be required to submit Proof of Insurance and WSIB Coverage to the Board within 5 business days. (Updated per Addendum #004)
3. Digital Bonding **must** be included in your bid submission as specified in the Bid Documents. (Updated per Addendum #004)
4. Supplemental material will not qualify as substitutes for direct responses to the bid's requirements, except for specifically requested material.
5. The successful contractor must be prequalified under the contracted services program before an award is made.
6. **Bid Submission will only be accepted via email to purchasing@st-clair.net (Added per Addendum #004)**

.2 QUESTIONS AND ANSWERS

Q1: Can you tell me how many days the tender will be left open?

A1: Refer to RFT PROCESS, INSTRUCTIONS, TERMS & CONDITIONS 2.14. (page 8) Bid Form and Instructions. – sixty days.

Q2: Can you please confirm the roof system on this project. The drawings show from top down the following:

PEA STONE SET IN FLOOD COAT OF COLD ADHESIVEON TWO PLY MOD BIT ROOF MEMBRANE

ON 5MM PROTECTION BOARD

ON TAPERED INSULATION

ON VAPOR BARRIER

ON 13MM GYPSUM BOARD

The specifications have just a 2ply modified bitumen roof system (MOPPED BASE, TORCH CAP) no gravel.

A2: Roof assemblies are indicated on drawing A050 – Roof Types R1 and R2. Refer to revised specification section 07 52 00 provided as part of this Addendum #004. Pea stone application is required. Refer to 2.01.20 for gravel specification.

Q3: Please confirm the bids will be left open for 60 Days

A3: Refer to answer to question 1.

Q4: The bid form, both original and revised, instruct the GC to include the cash allowances in their base price. These cash allowances are from spec sections 23, 24, 25 & 26. The spec book lists the Mechanical & Electrical in the "old format" as sections 15 & 16. To not miss including any allowances, can they be listed by their spec section as it appears in the book? Or list all of the cash allowances by who is carrying them?

A4:
1. There is no specific cash allowance in the electrical section. There is a reference to the cash allowance #6 for the installation of the P.A. system.
2. There is a cash allowance in the mechanical section of $82,000.00.00 to be carried by the mechanical contractor.

Q5: Addendum #2 addressed the missing dimensions on parts of the drawings. A100 is partially dimensioned. Can drawings be issued, both Architectural and Structural, with all column lines dimensioned?

A5: Refer to all architectural drawings. Dimensions are provided and elevations provide datum heights above floor. Architectural drawings have dimensions for the layout of the structure.

Q6: The Structural drawings provide some specification for concrete mixes (Grade beams, Grout and Lean Mix). Please specify concrete mix requirements for: footings, foundation walls, exterior slabs, interior slabs, locker bases & interior piers [Spec Section 030 30 00]

A6: The concrete specification has all required concrete strengths in SECTION 03 10 00 – CONCRETE FORMING AND ACCESSORIES SECTION 2.2.11

Q7: Request to be named as approved helical pile contractor: Postech Screw Piles

A7: Approved.

Q8: The notes on this detail tell us that the Helical Piling Company will provide the dimensions for the concrete piers and all the concrete and reinforcing for these piers. Per all three of the specified companies, this will not be by them. Please specify the sizes for the piers at the pilings and confirm the strength of the concrete.

A8: Provide a 4'-0"x4'-0"x18" thick concrete pile cap w/5-15M bottom each way. Provide min. 25MPa concrete strength.

Q9: The Foundation Plan on S100 does not match the exterior walls on A100 at the addition. Please advise.

A9: All exterior wall dimensions and layout are as per architectural drawings. The structural drawings are a schematic design and are used for the foundation size and reinforcing. Architectural governs the layout of the addition.

Q10: Please confirm the cement faced insulation is applicable (not shown or noted on drawings, Architectural or Structural). If yes, please specify manufacturer and thickness of insulating boards.

A10: Cement Faced Insulation is not required for this project

Q11: Is there a specification for the Cross that was added to the East Elevation other than the note pointing at it? Can a detail be provided showing dimensions, mounting details, type of timber, etc.? [DWG A300]

A11: Refer to Addendum drawing A803 Detail 1/A803 for details. Also refer to drawing A1002 and elevation 16/A1002. For this detail the cross construction and dimensions are the same as detail 1/A803. Wood Species is to be based upon clear dimensional Western Red Cedar: Grade – select. The contractor is to carry the cost of connection details to be coordinated and engineered by the Aluminum Window Framing system contractor. Final detail to be confirmed in shop drawing process.

Q12: The elevation indicates a “free-standing” glazing unit with another cross on it. It doesn’t appear to be tagged for a window type, nor does it appear on the glazing detail drawing A1002. On section 1/A401 it appears to be attached to the bulkhead behind it. Please identify the glazing unit. Please indicate the manner of support for this glass wall. Please indicate the mounting detail for this cross.

A12: Refer to A11 above.

Q13: Door schedule on A1000, bottom of page, shows door schedule “alternate price. The bid form does not list this alternate price. Please advise on where to show it as an add.

A13: Door Schedule is revised to delete “Alternate Price”.

Q14: The drawings indicate the sliding security screen by others. The spec section indicates it is in contract for GC. Does spec section 08 35 00 refer to the security screen at Col. Line B2 in the opening to the Learning Commons? If yes, Is it by others? If no, please indicate the location for the Sliding grilles in this spec section. [08 35 00 DWG 10/A651, 2/A803]

A14: The sliding metal screen as specified is along Gridline B between the Atrium and learning commons and is to be included in bid/contract. Drawing detail 10/651 and 2/A803 are revised to delete note: “security screen by others”

Q15: In spec section 08 71 10, item # .1.5, it says “hardware by allowance”. There isn’t a hardware allowance, can you clarify?

A15: Refer to Specification 08 71 10, 1.1.5. Is revised to read: Hardware supply shall be by the selected hardware supplier and is part of the bid/contract.

Q16: Please confirm there are no lockers in the project

A16: No Lockers

Q17: Storage room #109C: existing millwork? If no, please provide a detail

A17: Room 109C is to have new millwork as shown. The construction is to conform to details 4/A500 and 5/A500.

Q18: New Change rooms: lease provide details of benches, or spec if they are to be purchased

A18: They are to be constructed and the detail is tagged as 4/A901.

Q19: Spec 06 20 00 refers to “Running wood trim” Please confirm if or where this trim goes? The installation portion of this section refers to door and window trim.

A19: There is no running wood trim. Section 06 20 00 - 3.03 .1 is deleted

Q20: RFS calls for "CSH" for the gymnasium flooring. CSH is not identified on the Finish Schedule. Please clarify.

A20: The gymnasium is resilient sports flooring governed by the specification Section 09 65 20 and approved alternates. Drawing A1000 Room Finish Schedule - is revised to reflect RSF – Resilient Sports Flooring for the gymnasium.

Q21: 113B Chair Storage - RFS shows as exposed concrete. Tag on drawings is VCT. Please clarify.

A21: Drawing A120 – Floor Finish Plan also shows Exposed concrete. Both references area correct.

Q22: 115 CUST - RFS shows as exposed concrete. Tag on drawings is VCT. Please clarify.

A22: Drawing A1000 Room Finish Schedule - is revised to reflect VCT – for room 115.

Q23: 09 30 13, 2.1.1.6 Spec calls for TEC 382 mortar. It also talks about keraply by Mapei as an additive for TEC382. Please confirm if this is necessary or if TEC382 can be used without any additives

A23: The TEC 382 can be used without any additives as it conforms to the ANSI standards.

Q24: 09 30 13, 2.1.1.7 Spec calls for TEC Accuccolour Grout (2.1.4), however, 2.1.1.7 talks about Kerapoxy by Mapei. Please confirm if TEC Accucolour can be used without Kerapoxy by Mapei.

A24:
1. Section 09 30 13 Section 2.1.1.7 is revised to read as follows: for grout: Powergrout or equal by Mapei – to ANSI A-118.7.
2. Section 09 30 13 Section 2.2.1.4.1 is revised to read as follows Powergrout or equal by Mapei – to ANSI A-118.7.

Q25: Please confirm that all porcelain/ceramic tile is supplied by owner

A25: All porcelain/ceramic is supplied under this bid/contract – Not supplied by Owner. Section 09 30 13 – 1.2.1. All material to be supplied for work of this section.

Q26: CR12 CORRIDOR - RFS shows ceramic wall tile on south wall. No elevations found showing wall tile in CR12. Please clarify that there is no wall tile or provide elevations of wall tile.

A26: Elevation drawing 5/A850 shows pattern of vertical accent tile one stack row to meet design intent, field colour stack over remaining area on one wall only.

Section 09 30 13 – 2.1.3.1 Grout Colour:927 Light Pewter. Revise number to 3.1.3.3

Section 09 30 13 – 2.1.3. The following Ceramic Wall tile is to be added:

2.1.3.4. CT 1 Field - Arkitekt Series 100 x 300 Stack Bond – Colour to be selected.
2.1.3.4. CT 2 Vertical Accent bands - Arkitekt Series 100 x 300 Stack Bond - Colour to be selected.
2.1.3.4. Any standard colours except for Red may be selcted.
2.1.3.4. Power grout or equal by Mapie. Colour to be selected.

Q27: RFS only shows WRs 156/157 as having wall tile. However, elevations on A152 show WC 117 - WC 120 as having wall tile. Please clarify.

A27: Refer to drawing A152 for plan and elevations for washroom group details. This drawing will govern for the purposes of Bid/Contract. The room finish schedule is revised to reflect the finishes on drawing A152.

Q28: RFS shows atrium 01 as having RB. Please confirm if this is the intent or if it should have PCT base.

A28: For all Porcelain Tile floors the perimeter base material is also porcelain tile. Refer to drawing A120 – Legend. The room finish schedule and interior elevations are revised to reflect Porcelain Base.

Q29: Request for approved alternate: Taraflex Sport Evolution

A29: Not approved. Board is prescriptive for standards on floor material for Gymnasium.

Q30: I need clarification on the Room Finish Schedule A1001. I have found several rooms that are not on the list as follows:

1) 133 Storage
2) 152 Univ. W/R
3) 144 Cust.
4) 144A Storage
5) 162A W/R
6) 162B Staff W/R
7) 164B W/R

A30:
1. 2) 152 Univ. W/R – previously finished – not in bid/contract.
   3) 144 Cust. – previously finished – not in bid/contract.
   4) 144A Storage – previously finished – not in bid/contract.
2. 1) 133 Storage - new floor, paint and ceiling in bid/contract.
   5) 162A W/R- new floor, paint and ceiling in bid/contract.
   6) 162B Staff W/R- new floor, paint and ceiling in bid/contract.
   7) 164B W/R- new floor, paint and ceiling in bid/contract.
3. 164A- new floor, paint and ceiling in bid/contract.
4. The Room Finish schedule is revised to include changes to: room 133, 162A, 162B, 164A and 164B.

Q31: The spec section [07 72 33] instructs to re-use the existing roof hatch and railing. The drawing [DWG A175] says “new roof hatch and relocated ladder”. Please clarify.

A31: Drawing A175 and A176 the intent is to re-use a new roof hatch and ladder and relocate to the new identified location. A175 and A176 is revised to read “Relocated roof hatch and access ladder”.

Q32: Request for approved alternate: Sun Glow Window Covering Products of Canada Ltd

A32: Approved

Q33: These are all cap piles that require helical piles (SC1 to SC7) or just those designated with the arrows on the S100 plan?

A33: All columns require helical piles SC1 to SC7.

Q34: Is the foundation wall to be avoided (Section 21 S302) applicable to all cap piles on this wall or for more than one wall?

A34: Where the wall is being demolished above then the pile cap can be placed over the existing foundation wall. However some pile caps will have to be placed inside the existing wall due to the new column placed within

the existing wall. The existing block would have to be shored and left in place or made good once the new column is placed.

Q35: Confirm that all the cap piles require 2 helical piles at 200 kN ?

A35: The number and size of all helical piles per pile cap is to be determined by the helical pile contractor based on the Column schedule loads in conjunction with the soils report bearing capacities.

Q36: Could you clarify if it is aluminium or Hollow Metal frame. Drawing A1000 shows W5, W4 and W3 as aluminium frame, but drawing 3-A400 and drawing A1000 on squedule doors for corresponding frame (D113.1 and D113.2) says it is H.M.

A36: Question is confusing but, Drawing A151 and A803 shows W3, W4 and W5 and are all hollow metal. The schedule is correct D113.1 and D113.2 are hollow metal.

Q37: Request for approved alternate: Locker/Partition Products – Scranton Products

A37: Approved but must meet the intent of the specifications. There are no lockers in the project now.

Q38: On A200, if you look at rooms 170,168,164,162. It appears to have an extra "1" symbol indicating blinds, but there are no windows where the extra symbols are. Please clarify.

A38: The "extra 1" not in front of a window is to be disregarded.

Q39: Related to Washroom Accessories 10 28 00, there are items specified but not shown on drawings (GB1, MIR2, MIR3). Please confirm if required.

A39: Provide only what is indicated on the elevation drawings.

Q40: Related to Washroom Accessories 10 28 00, please advise if any new washroom accessories are required in existing washrooms 152, 162B, 164B.

A40: No Washroom Accessories are to be provided in 152, 162B and 164B

Q41: Related to Athletic Equipment 11 67 00, section 3.1.3 references Soccer Equipment, there are no details or indication of soccer equipment on drawings. Please advise.

A41: No Soccer Equipment required.

Q42: Request for approved alternate: Roller Window Shades – Light Harvesting Shading Solutions Inc

A42: Approved.

Q43: Door schedule calls off 2 – 109A and 109B all glass walls with doors but I can only find 1 of each on the floor plan in room 109. Please advise location of the other 2.

A43: Refer to drawing A1000 Elevation 4, issued addendum #002. There are a total of two openings, one each for room 109A and 109B.

Q44: D-CR6 and D-CR10 are called off as aluminum on the door schedule. Please confirm this is correct as the frame profile indicated is a HM frame.

A44: This is correct.

Q45: Please confirm all interior aluminum framing is to receive insulated glazing units as marked on page A1002? If so the interior system must be changed in order to accept units.

A45: Refer to drawing A1002 reissued with this Addendum #004.

Q46: The spec 08 11 16 2.2.4.1 calls off Windspec 2200 series, this does not exist. Please advise.

A46: Revise to read 5400 series.

Q47: Are the spandrels to be units with back pans or single lites with back pan?

A47: Single lites with back pans

Q48: Could you please provide specific part number's for the hubbell iStation boxes and plates

A48: Removed in Addendum #2

Q49: Acoustic block in the gymnasium is tagged as 240 mm on wall types. Cross sections on A400 show 290 mm block. Should acoustic block be 290 mm?

A49: Where new full wall reconstruction is occurring in the north wall of the gymnasium the block is 290, refer to detail 1/A651 and 6/A651. The wall tag indicating W4 is a mistag.

Q50: Wall type FW1 calls for concrete block foundation. Structural foundations show poured concrete. Which is correct?

A50: Refer to Drawing A050. FW1 refers to existing foundation wall conditions. For the area of the new addition the wall type is poured concrete as set out in Structural Drawings

Q51: Are the new window sills shown on Building Elevation 3 on A301 to be Arris-Cast Sills; colour Blizzard; 76 mm H x 210 BD to match existing?

A51: Cast Stone Sill Units.

1.1.1.1. Cast Stone Sill, colour to match CSBU - Blizzard.
1.1.1.2. Smooth all exposed sides.
1.1.1.3. Size: 79mm x 210 mm x full lengths to span opening for each location. Allow 1 additional pieces in each length for damage and breakage in addition to the above.

Q52: Masonry finish outside classroom 112 calls for removal on demo drawings. New construction plans don't show new masonry; no elevation provided for reference. Please confirm if all or part of this wall requires removal and replacement.

A52: There is no required masonry demolition. Disregard note on AD100. Work was completed in previous stage.

Q53: Request for Alternate - Tarkett MultiFlex

A53: Not approved. Board is prescriptive for standards on floor material for Gymnasium.

Q54: There are currently no sprinklers in room 112 but the fire protection drawings show existing drawings. What should be included in the scope of work for this project?

A54: Sprinkler contractor is to include for installation of concealed sprinkler heads in this phase as per layout shown on Drawing M301.4.

PART B – SPECIFICATIONS

1. Revised Specification Section 07 52 00
   to replace previously issued. Revisions throughout. 12 Page(s)
2. Delete Specification Section 10 51 00 – No Longer a Requirement for this project.
3. Section 16712 is Reissued. 3 Page(s)

The follow changes to specifications are made without reissue of specifications.

1. **Specification 08 71 10, 1.1.5. Is revised to read: Hardware supply shall be by the selected hardware supplier and is part of the bid/contract.**

2. **Section 06 20 00 – Line 3.03 .1 is deleted.**

3. **Section 09 30 13 Section 2.1.1.7 is revised to read as follows: for grout: Powergrout or equal by Mapei – to ANSI A-118.7.**

4. **Section 09 30 13 Section 2.2.1.4.1 is revised to read as follows Powergrout or equal by Mapei – to ANSI A-118.7.**

5. **Section 09 30 13 – 1.2.1. Revise to read: All material to be supplied for work of this section.**

6. **Section 09 30 13 – 2.1.3.1 Grout Colour:927 Light Pewter. Revise number to read 3.1.3.3**

7. **Section 09 30 13 – 2.1.3. The following Ceramic Wall tile is added:**

   2.1.3.4. CT 1 Field - Arkitekt Series 100 x 300 Stack Bond – Colour to be selected.
   2.1.3.4. CT 2 Vertical Accent bands - Arkitekt Series 100 x 300 Stack Bond - Colour to be selected.
   2.1.3.4. Any standard colours except for Red may be selected.
   2.1.3.4. Powergrout or equal by Mapie. Colour to be selected.

8. **The spec 08 11 16 2.2.4.1 calls off Windspec 2200 series, Revise to read 5400 series.**

9. **Section 04 22 00 – 2.01- Add: 4 Cast Stone Sill Units.**

   1.1.1.4. **Cast Stone Sill, colour to match CSBU - Blizzard.**
   1.1.1.5. **Smooth all exposed sides.**
   1.1.1.6. **Size: 79mm x 210 mm x full lengths to span opening for each location. Allow 1 additional pieces in each length for damage and breakage in addition to the above.**

PART C – ARCHITECTURAL DRAWINGS

Refer to attached Drawings re-issued as part of Addendum No. 2 issued by Wilson Diaz Architects Inc. 7 Sheets(s)

The follow changes to drawings are made without reissue of drawing.

1. **Door Schedule is revised to delete "Alternate Price".**

2. **Drawing detail 10/651 and 2/A803 are revised to delete note: "security screen by others"**

3. **Drawing A1000 Room Finish Schedule - is revised to reflect RSF – Resilient Sports Flooring for the gymnasium.**

4. **Drawing A1000 Room Finish Schedule - is revised to reflect VCT – for room 115.**

5. **The room finish schedule is revised to reflect the finishes on drawing A152.**

6. **The room finish schedule and interior elevations are revised to reflect Porcelain Base on all walls abutted by porcelain tile.**

7. **The Room Finish schedule is revised to include changes to: room 133, 162A, 162B, 164A and 164B.**

8. **The room finish schedule is revised to reflect the finishes on drawing A152.**

ARCHITECTURAL SKETCHES

ASK -7 and ASK-8 — 2 Sheets(s)

PART D – STRUCTURAL DRAWINGS/SKETCHES

1. Reserved.

PART E – MECHANICAL / ELECTRICAL DRAWINGS

1. Refer to attached Mechanical Drawings re-issued as part of Addendum No. 4 issued by Chorley and Bisset Engineering Ltd. — 10 Sheet(s)

Mechanical Sketches — 6 Sheet(s)

1. Refer to attached Electrical Drawings re-issued as part of Addendum No. 4 issued by Chorley and Bisset Engineering Ltd. — 11 Sheet(s)

PART F – CIVIL AND SITE WORK DRAWINGS

1. Reserved

This concludes Addendum #004.

PART 1 - GENERAL

1.01 DESCRIPTION

.1 **General Requirements**

.1 Division 1 and General Requirements, is a part of this Section and shall apply as if repeated here.

.2 **Work Performed by Other Sections Related to this Section is specified in**

.1 Section 02 41 00 – Selective Demolition

.2 Section 06 10 00 – Rough Carpentry

.3 Section 07 62 00 - Flashing and Sheet Metal

.4 Section 07 72 33 - Roof Hatches

.5 Section 07 92 13 - Joint Sealants

.6 Mechanical Divisions - Roof Drains

.7 Mechanical Divisions - Vent Stack Covers and Flashing

.3 **This Section shall include performance of Work which is specified in**

Section 07 62 00 - For field quality control of flashing installation contiguous with the work of this Section.

.4 **Work Performed by this Section to Meet Requirements of the Following**

Section 07 26 00 – Vapour and Air Barrier

.5 **Scope of Work**

.1 To remove the existing roof membrane, insulation, metal flashing, wood cants, and materials down to existing roof deck on existing school.

.2 Preparation of new and existing decks to receive new roofing.

.3 Install a new 2-ply modified bitumen membrane roof to the new addition and existing roof areas, refer to roof drawings. Ensure proper tie in to existing roofing systems.

1.02 QUALITY ASSURANCE

.1 **Subcontractors Qualifications**

.1 Execute Work of this Section only by a Subcontractor approved by the membrane manufacturer and who has adequate plant, equipment and skilled tradesmen to perform it expeditiously, and is known to have been responsible for satisfactory installations similar to that specified during a period of at least the immediate past five years.

.2 Install membrane approved by the personnel who have been trained and who are approved by the membrane manufacturer.

.3 Ensure that the roofing Subcontractor's suppliers and subcontractors have the same qualifications.

.2 **Requirements of Regulatory Agencies**

.1 Ensure that materials, including adhesives, and roof anchorage meet requirements of jurisdictional authorities.

.2 Ensure that roofing materials, including adhesives and roof anchorage, are listed by Factory Mutual as approved roofing components; and that details of roofing anchorage conforms to Factory Mutual requirements.

.3 **Source Quality Control**

.1 Review Drawings and inform Architect of conditions which will not ensure a satisfactory installation.

.2 Arrange for a site meeting for review of installation procedures with a representative of membrane manufacturer.

.4 **Compatibility**

.1 Assure that all roofing components are compatible with each other.

.2 Ensure that all roofing components are compatible with other systems to which attachment or other physical interface is required.

1.03 REFERENCE STANDARDS

.1 ASTM International

.1 ASTM A653/A653M-18, Specification for Steel Sheet, Zinc Coated (Galvanized) by Hot Dip Process

.2 ASTM D3686-13 Standard Practice for Sampling Atmospheres to Collect Organic Compound Vapours (Activated Charcoal Tube Absorption Method)

.2 Canadian General Standards Board

.1 CGSB Specification 51-GP-20M, Thermal Insulation, Expanded Polystyrene.

.2 CGSB Specification 37-GP-56M, Membrane, Modified, Bituminous, Prefabricated and Reinforced for Roofing

.3 Canadian Standards Group

.1 CSA Standard A82.27-M1977, Gypsum Board Products

.2 CSA Standard A123.4-04(R2018), Asphalt for Constructing Built Up Roofing Coverings and Waterproof Systems

1.04 SUBMITTALS

.1 Inspection Company Reports

.1 Submit roof inspection reports as the Work progresses.

.2 Upon completion of roofing Work, submit duplicate certificates of acceptance issued by the roofing inspection company.

.2 Shop Drawings

.1 Submit shop drawings for approval of system and as required for composite membrane.

.3 Samples

.1 Submit samples and manufacturer's literature before ordering materials and proceeding with the Work.

1.05 DELIVERY STORAGE AND HANDLING

.1 Store materials in dry protected area as recommended by manufacturer to ensure that they are not damaged.

.2 Do not store roofing materials on roof. Store them under cover while roofing Work is not in progress.

.3 Package roofing materials and identify on attached labels the manufacturer, brand, contents, weight as applicable, and product and specification numbers.

.4 Store materials in dry protected areas between temperatures of 15°C (60°F) and 27°C (80°F), except for membrane. If materials are exposed to lower temperatures, restore them to specified range prior to use.

1.06 SITE CONDITIONS

.1 Environmental Requirements

.1 Do not apply any part of the roofing system over damp materials, nor during a period of damp weather, rain, snow, or otherwise inclement conditions.

.2 Apply membrane and components only when air and surface temperatures are within limits recommended by manufacturer and not less than 5°C (40°F).

1.07 WARRANTY

.1 Extended Warranty

.1 Warranty contained in GC24 is, with respect to Section 07 52 00, extended from 1 year to 10 years. Without restricting generality of warranty, defects shall include leaking, failure to stay in place, undue expansion, lifting, deformation, loosening, failure to adhere, splitting of same, deterioration, blisters, etc.

.2 Membrane manufacturer will issue a written document in the Owner’s name, valid for 15 years, stating that they will repair any leaks in the roofing membrane to restore the roofing system to a dry and watertight condition, to the extent that membrane manufacturing or installation defects caused water infiltration. The warranty must cover entire cost of repairs including labour and materials, for the full duration of the warranty period.

.3 Contractor will issue a written and signed document in the Owner’s name, certifying that the work executed will remain in place and free of any workmanship defect for a period of 10 years, starting from the date of acceptance.

.4 Contractor shall arrange with Architect and/or Owner, about 1 month before warranty expires, to visit site, examine roofing installation specified in this Section, and make necessary arrangement through no fault or neglect of Owner or Architect, then period of warranty shall extend to one month after such arrangement is made.

PART 2 - PRODUCTS

2.01 MATERIALS

Basis of specification is Soprema, equivalent products as supplied by Henry Company or IKO for torching application of the base sheet and torching of the cap sheet, will be accepted upon review and approval by consultants. The colour of the granular surface on the flashing membrane is to be selected by the Owner. Supply additional granules to be applied to bitumen outflows between membrane sheets. Use only compatible materials in roofing system.

.1 **Sheathing Board** – Silicone treated fibreglass-mat faced gypsum roof board to ASTM C1177/C1177M-04, 12.7 mm thick, 1219mm wide boards x 2438 mm long min. Ends cut square; DensDeck Prime as manufactured by Georgia-Pacific, or approved alternate.

.2 **Gypsum Board Tape** – Sopraguard Tape as manufactured by Soprema, "V-8086" Contractor's sheathing tape as manufactured by 3M Canada, "Tuck 20502" Contractor's Sheathing tape as manufactured by Canadian Technical Tape Ltd. or approved alternate.

.3 **Base Sheet Panel –** Soprasmart board 180 or approved equal - high-performance high-density support panel composed of SBS modified bitumen membrane with a non-woven polyester reinforcement, factory-laminated on asphaltic board (SOPRABOARD). The surface is covered with a minimum 4mm thermo-fusible plastic film.

.4 **Primer (for heat welded of asphalt adhered membranes)** – A blend of elastomeric bitumen, volatile solvents and adhesive enhancing additives used to prime, concrete, metal or gypsum board substrates prior to the application of torch applied or asphalt adhered membranes; Elastocol 500 by Soprema, or approved alternate.

.5 **Primer (for self-adhesive membranes)** – Composed of SBS synthetic rubber, volatile solvents, adhesive enhancing resins used to prime porous and nonporous substrates such as wood, concrete, metal or gypsum board to enhance the adhesion of self-adhered membranes at temperatures above -10°C; Elastocol Stick by Soprema, or approved alternate.

.6 **Duotack** – LOW-RISE two-part urethane adhesive to be used for the application of rigid insulation.

.7 **Roofing Asphalt** - Type 2 oxidized asphalt with a softening point between 75°C - 83°C conforming to CSA A123.4M.

.8 **Vapour Retarder (Steel deck areas)** – Self-adhesive air/vapour barrier membrane composed of bitumen modified with thermoplastic polymers and high density polyethylene film; Sopravap'r 40 by Soprema, or approved alternate.

.9 **Mechanical Fasteners** - Screw fasteners with 3" round galvanized metal stress plates, self-tapping corrosion resistant screw, length as required to ensure minimum 19 mm penetration into deck; Dekfast #14 screws complete with 3" round Galvalume steel insulation plates as manufactured by SFS Intec Inc. or approved alternate.

.10 **Membranes** -

.1 Membrane Base Sheet: A membrane sheet, composed of Styrene Butadiene Styrene (SBS) modified bitumen and reinforced with non-woven polyester mat, weight 180 g/m^2, thickness of 2.2 mm., with a thermofusible poly film top surface and a lightly sanded underside to meet CGSB 37-GP-56M, Type 2, Class C, Grade 2 for base sheets; Sopralene 180 PS, by Soprema, or other approved manufacturer.

.2 Self-Adhesive Membrane: A membrane sheet, composed of Styrene Butadiene Styrene (SBS) modified bitumen and reinforced with non-woven polyester mat, weight 180 g/m^2, thickness of 2.2 mm., with a poly upper surface to torch cap sheets and a self-adhered lower surface to meet CGSB 37-GP-56M Type 2 Class C, Grade 2. NP180 Tack Sheet by Henry, or other approved manufacturer.

.3 Base Sheet Flashings: A membrane sheet, composed of Styrene Butadiene Styrene (SBS) modified bitumen and reinforced with a heavy duty glass mat, weight 130 g/m^2, thickness of 2.5 mm., with a thermofusible poly film top surface and a self adhesive underside protected by a silicone release film, to meet CGSB 37-GP-56M, Type 2, Class C, Grade A for base sheets; Sopraflash Flam Stick as supplied by Soprema, or other approved manufacturer.

.4 Membrane Cap Sheet and Flashing Cap Sheet: A membrane sheet in the field of the roof, composed of Styrene Butadiene Stryrene (SBS) modified bitumen and reinforced with a non-woven polyester mat, weight 250 g/m^2, 3.5 mm thickness, with ceramic mineral granules embedded into top surface and a thermofusible poly film on the underside, meeting CGSB 37-GP-56M Type 1, Class A, Grade 2, for cap sheets; Sopralene Flam 250 GR supplied by Soprema, or as supplied by IKO Roofing Products, Bakor or other approved manufacturer.

.5 Base Sheet Perimeter Membrane: A membrane sheet, composed of Styrene Butadiene Styrene (SBS) modified bitumen and reinforced with a heavy duty combination of non-woven polyester with glass grid composite, weight 170 g/m^2, thickness of 2.2 mm., with a lightly sanded top and bottom surface and a 200mm wide selvedge on both sides of the roll, to meet CGSB 37-GP-56M, Type 2, Class C, Grade 2 for base sheets; Perimeter by Soprema, or as supplied by IKO Roofing Products, Bakor, or other approved manufacturer.

.6 Cap Sheet Starter - A membrane sheet, composed of Styrene Butadiene Stryrene (SBS) modified bitumen and reinforced with a non-woven polyester mat, weight 250 g/m^2, 4 mm thickness, with ceramic mineral granules embedded into top surface and a thermofusible poly film on the underside, meeting CGSB 37-GP-56M Type 1, Class A, Grade 2, for cap sheets; Starter Flam GR supplied by Soprema, or as supplied by IKO Roofing Products, Bakor or other approved manufacturer.

.11 **Waterproofing Mastic** – Composed of synthetic rubbers, plasticized with bitumen and solvents; Sopramastic by Soprema, or approved alternate.

.12 **Asphalt Kettles** - to have thermometer accurately measuring the temperature of the asphalt in the kettle.

.13 **Caulking** - CGE Silpruf or DOW 790 Low Modulus Silicone Sealant or approved alternate.

.14 **Vent Stack Covers** - Lexsuco insulated, tamper proof; Thaler Model # SJ-37, or approved alternate.

.15 **Roof Drain –** Roof Drain shall be Thaler Roof Specialties Products Inc. Model No. RD-4-RR or approved alternate with FURCO FOR DIRECT CONNECT. Outlet size shall be verified on site by the Roofing Contractor.

.16 **Rigid Insulation –** Insulation shall be roof insulation which is rigid closed cell, Polyiso Foam Insulation, integrally laminated to fiber-reinforced paper facers, thermal resistance of insulation shall be R-23.6 (L.T.T.R.) (4.0 inch) for the main roof area and R-11.4 (L.T.T.R.) (2.0 inch) around recessed roof drains, Resistance R-Value in accordance with ASTM C1289-11A. All insulation boards shall be 4 feet by 4 feet in size.

.17 **Tapered Insulation (Recessed Roof Drains) –** tapered insulation shall be faced Isocyanurate Boards conforming to CAN/CGSB-51.26-M86, meeting the requirements of ULC S126 Polyisocyanurate foam panels chemically bonded during the foaming process to facers on the top and bottom organic surfaces. Tapered panels shall not be less than 13m at any point of the roof to the slope indicated on the Roof Plan and Details.

.18 **Elastomeric Modified Bitumen Adhesive** – COLPLY EF or approved equal, low volatile organic compound (VOC), low odour, 100% solids and solvent-free polyether-based adhesive.

.19 **Sealants –** Sealants for metal flashing shall be one-part silicone to conform to CGSB 19 GP 96. Sealants shall be manufactured by Canadian General Electric, Dow Corning or approved equal. The colour of the sealant shall be identical to the colour of the metal flashing; the Owner is to approve the colour before ordering the sealant. This sealant shall be applied to all metal flashing joints including the reglet.

.20 **Roofing Gravel –** 1/4" to 5/8" size; water washed pea gravel, well graded, opaque, non-porous material free of fines, moisture, ice, and snow or long splinters and conforms to ASTM D1863-086.

.21 **Precast Pads –** Precast concrete pads shall be 24 inches by 24 inches by 2-inch-thick for additional walkway, etc. as shown on Roof Plan. Pads shall be placed on a 20 inch by 20 inches by 1-inch-thick sections of rigid Type 4 extruded polystyrene insulation.

PART 3 - EXECUTION

3.01 EXAMANATION

.1 Before proceeding with roofing application, ensure that:

.1 All existing roof membrane, insulation, metal flashing and cants have been removed from the designated roof area to receive new roofing systems.

.2 Existing roof deck is sound; in true planes; and level, or sloped to drains, whichever is design intent.

.3 New roof deck is constructed smoothly; in true planes, and level, or sloped to drains, whichever is design intent.

.4 Edges of all panels of metal roof deck are supported to prevent deflection.

.5 Roof drains have been set and anchored by others at a level to drain and are connected to drainage system.

.6 Roof decks are clean and sufficiently dry for application under specified warranty.

.7 Adjacent construction and installation of other work incorporated with roof is completed.

.8 Roofing surfaces are free of cracks that are wider than bridging ability of roofing materials.

.9 Preparations have been made for bases on which equipment will be installed.

.10 Work that penetrates roof has been installed.

.2 Defective roofing Work resulting from application to unsatisfactory previously completed Work will be considered the responsibility of those performing the Work of this Section.

3.02 PREPARATION

.1 Sweep roof deck completely free of dust, dirt and debris.

.2 Protection

.1 Ensure that stored porous materials absorb no moisture. Remove wet materials from Project site.

.2 When using adhesives and sealants containing petroleum distillates keep them away from open flames and do not breathe their fumes.

.3 Protect membrane from punctures by sharp materials on both their top and bottom sides.

.4 Protect surrounding work, and adjacent building and other property from damage during roofing operations.

.5 This Section shall make payment for repair of damage caused by its Work.

.6 Install temporary blocking and otherwise protect drains during roofing operations, and remove at completion of roofing Work.

.7 Protect insulation from sunlight at all times while in storage.

3.03 INSTALLATION

.1 **General**

.1 Apply roofing in accordance with Drawings, Specifications, requirements of jurisdictional authorities, and material manufacturer's printed directions which shall establish minimum requirements not otherwise specified.

.2 The installation of sheathing board is to be loose laid and on top of flutes of metal deck and mechanically fastened.

.3 Roofing system to be installed to meet requirements of Factory Mutual 1-90.

.4 Apply roofing as soon as possible after new roof has been installed.

.5 Make adjustments to specified roofing procedures caused by weather and site conditions only when approved.

.6 Maintain equipment in good working order to ensure control of roofing operations and protection of Work. Use only roofing equipment recommended and approved by membrane manufacturer.

3.04 VAPOUR RETARDER (Self-adhesive)

.1 Ensure substrate is suitable prior to installation of vapour retarder. The vapour retarder adhesion is based upon the written recommendations of the membrane manufacturer for the substrate type.

.2 Beginning at the bottom of the slope, without adhering the membrane, unroll onto the substrate for alignment. Do not immediately remove the silicone release sheet.

3. Align the roll parallel to the corrugations of the steel deck. Make sure the membrane overlaps are supported along their entire length. Place a thin sheet of metal spanning the flutes of the deck under any end laps of membrane as support for the lap.

4. Peel back approx. 12” at one end of the silicone release sheet and adhere this part of the membrane to the deck. Peel back the remaining release sheet at a 45° angle to avoid wrinkles in the membrane.
5. If the membrane is not properly aligned, do not try to adjust it. Instead, cut the roll and start again, making sure that it is properly aligned and that it overlaps the end of the misaligned piece by 150mm.
6. Overlap adjacent membranes by 75mm (3”). Overlap end laps by 150mm (6”). Stagger end laps by at least 300mm (12”).
7. The vapour retarder is to be carried up the vertical surfaces a minimum of 8 inches above roof deck.

3.05 VAPOUR RETARDER (Mopped)

.1 Ensure substrate is suitable prior to installation of vapour retarder.

.2 Apply a coat of asphalt primer to substrate at a rate of 0.15 to 0.25 L/m². All surfaces to primed must be free of rust, duct, or any residue that may hinder adhesion. Cover primed surfaces with roofing membrane as soon as possible. Allow primer to flash and dry sufficiently before application of membrane.

.3 Unroll vapour retarder membrane dry onto substrate for alignment purposes. Overlap side laps by 75 mm and end laps by 150 mm. Laps shall be staggered a minimum of 300 mm. Begin work at bottom of slopes.

.4 Unroll vapour retarder into layer of hot asphalt spread at a rate of 1 kg/m² to 1.5 kg/m².

.5 Apply asphalt on roof at a temperature of about 230°C and heat in kettle to approximately 250°C taking care to never exceed the asphalt flash point temperature. Follow supplier’s recommendations. In colder temperatures (below 10°C), warm membranes underside by sweeping a torch over rolls entire width.

.6 The roof vapour retarder must meet and overlap the air/vapour barrier on adjoining walls to ensure total air/vapour seal. Incorporate heat-resistant air/vapour barrier continuity strip at these overlaps.

.7 Install vapour retarder membrane at insulation perimeters and around each element piercing the insulation to ensure sealed connections with base sheet at upstands.

.8 The vapour retarder is to be carried up the vertical surfaces a minimum of 8 inches above roof deck.

3.06 RIGID INSULATION BOARDS

.1 Install boards with Duotack Adhesive to the vapour retarder. On all insulation surfaces intended for board coverage apply beads of 20mm (3/4”) wide on 200mm (8”) centers.

.2 Firmly set the rigid insulation boards in staggered fashion. All boards must be butted tightly together.

.3 Apply only as many boards as can be covered in the same day.

3.07 BASE SHEET PANEL (Soprasmart Board)

.1 Install with Duotack Adhesive to the rigid insulation as indicated. On all insulation surfaces intended for board coverage, apply continuous strips of 13 to 19 mm (½ to ¾ inch) on 150 mm (6”) centres for eight (8) feet around roof perimeter and 200 mm (8”) centres for the field of the roof.

.2 Firmly set into the strips of Duotack Adhesive. All boards must be evenly and tightly butted together in soldier fashion.

.3 Apply only as many boards as can be covered in the same day.

.4 Install Sopralap cover strips across the end laps on the panels by heat-welded with a propane torch.

3.08 ADDITIONAL PLYWOOD AND/OR WOOD BLOCKING

.1 Install all new wood blocking and plywood as detailed on the applicable Details.

Note: The new plywood detailed on the inside face of parapet wall is not to be installed until the first ply of base sheet roof membrane is applied 3 inches up the vertical surface of parapet wall.

3.09 PRIMER

.1 Apply primer to the wood blocking and plywood surfaces which will be in contact with the self - adhesive membranes at a rate of 0.2 to 0.3 l/m2. All surfaces to be primed must be free of rust, dust or any residue that may hinder adherence. Cover primed surfaces with roofing membrane as directed by the Manufacturer.

3.10 ROOF MEMBRANE

.1 Provide a 2-ply modified bitumen membrane (torch cap) over the overlay board.

.2 Base Sheet:

.1 Unroll base sheet dry onto substrate with first side lap lined up with centre of drain and parallel to edge of roof. Allow membrane to relax for 15 minutes prior to application. In cold weather (below 10°C) burn the plastic film on the top surface in zag-zag pattern with a propane torch to hasten relaxation.

.2 Overlap side laps by 75 mm, along lines provided for this purpose, and overlap end laps by 150 mm. Stagger end laps by at least 300mm.

.3 Re-roll base sheet and unroll again onto a bed of hot asphalt. Apply asphalt to one half of side only and seal the remaining outside half with a torch. Burn off the poly film at all end laps before adhering with asphalt.

.4 Pour hot asphalt in front of each roll at a temperature of about 230°C and heat in kettle to approx. 250°C taking care not to exceed the flash point of the asphalt. Minimum temperature at point of contact should be 220°C to 230°C. Ensure hot asphalt in kettle is in constant use to avoid distillation.

.5 Do not spread asphalt more than 3 metres in front of each roll. In colder weather (below 15°C) do not spread asphalt more than 1 metre in front of each roll.

.6 Below 10°C heat the membrane underside by sweeping a torch over entire roll's width. Be careful not to direct flame toward the bitumen.

.7 Hot asphalt must never be applied on vertical surfaces at levels higher than 25mm above horizontal base sheet roofing surface.

.8 Avoid forming wrinkles, air pockets or fishmouths.

.9 Install reinforcements at penetrations (drains, stack flashings, cone flashings) at 45° degree angle to the field membrane rolls and in accordance with manufacturer's recommendations.

.10 Always seal overlaps at the end of the workday with propane torch and hot trowel.

.3 Base Sheet Flashing

.1 Before applying primer or membranes, always remove the plastic film on the section of field membrane to be covered by overlaps.

.2 Apply a coating of primer to parapet, curb, upstand substrates including overlaps and allow to flash-off and dry.

.3 Pre-cut one (1) metre wide pieces of sufficient length to completely cover the parapet, curb, upstand detail complete with a minimum 100mm (4") overlap to the field membrane.

.4 Position pre-cut membrane piece. Peel back 100 to 150mm (4" to 6") of the silicone release paper and adhere this part of the membrane at the top of the parapet, curb or upstand. Gradually peel back the remaining silicone release paper, pressing down on the membrane with an aluminium applicator to ensure good adhesion. Use the applicator to ensure a perfect transition between the upstand and the field surface. Smooth the entire membrane surface with a roller for full adhesion. Fasten outside edge of membrane at face of parapet at 300mm (12") O.C. with round-top roofing nails.

.5 Overlap side laps 75mm (3") and stagger by at least 300mm (12") from base sheet side laps to prevent excessive layering.

.6 Cut off corners at end laps to be covered by the next roll.

.7 Install a reinforcing gusset at all inside and outside corners.

.8 Always seal overlaps at the end of the workday with propane torch and hot trowel.

.4 Cap Sheet:

.1 Prior to installing the cap sheet membrane, all insulated flanges are to be installed around each roof penetration and secured through the metal deck layer with four (4) fasteners per flange before applying base target section on top.

.2 Once base sheet is applied, the stripping has been completed and no defects are apparent, proceed with cap sheet installation.

.3 Begin application of the cap sheet at the lowest edge. Cap sheet shall be unrolled with care taken to ensure proper alignment of the first roll.

.4 Weld cap sheet onto base sheet with torch recommended by membrane manufacturer. During application, simultaneously melt both designated contact surfaces so a bead of bitumen is apparent as cap sheet unrolls.

.5 Avoid overheating.

.6 Unless overlap widths differ between cap and base sheets, make sure joints between the two layers are staggered by at least 300 mm.

.7 Overlap cap sheet side laps by 100mm (4") and end laps by 150 mm. Cut off corners at end laps to be covered by next roll. All overlap surfaces must be granule-free or degranulated.

.8 Care is to be taken to ensure heating is consistent across the width in order to avoid skips or voids. Bitumen should flow out from laps a minimum of 6mm (1/4") to ensure a tight seal.

.8 Complete perfect welds between two membranes. Leave no zone unwelded. In cold weather, adjust welding time to obtain homogenous seam (it may be necessary to slow down in certain cases.)

.9 Once cap sheet is installed, carefully check all overlapped joints.

.5 Cap Sheet Flashing Installation

.1 The cap sheet flashing must be installed in one (1) metre wide strips. The side laps must overlap by 75mm (3") and must be staggered by at least 100mm (4") with respect to the joints of the cap sheet on the field surface, to avoid areas of excessive layering. The overlaps to the field surface must be 150mm (6") minimum and exceed those of the base sheet flashing overlap by at least 50mm (2"). At end laps, angle cut the corners that will be covered by the following piece.

.2 Use chalk line to draw a straight line on the field surface 150mm (6") from the inside of the parapets, curbs, upstands, etc. Using a propane torch and round nose trowel, embed the surface of the granules in a layer of hot bitumen, starting from the chalk line on the field surface to the bottom edge of the parapet, curb or upstand.

.3 Heat weld cap sheet flashing directly to the base sheet membrane, proceeding from top to bottom. This technique softens both membranes in order to obtain an even, continuous weld.

.4 During installation be careful not to overheat the membrane or to create excessive bitumen bleed out at the joints.

3.11 FLOOD COAT AND GRAVEL COVER

.1 Apply a flood coat of cold roofing adhesive at the rate of 5 gallons/100ft² as recommended by Manufacturer.

.2 Then embed new approved pea stone gravel at 20 kg/m² (450 lbs/100ft²) while adhesive is still wet.

3.12 CONCRETE PAVERS

.1 Install concrete pavers as indicated on the Roof Plan on top of one-inch extruded polystyrene rigid insulation (Type 4).

3.13 METAL FLASHINGS

.1 Cap and counter flashings shall be jointed with a double S-type locked joint. Flashings shall be installed with continuous clips secured to wood capping blocking at 12 inches O.C.

.2 The inside face of the metal cap flashing between the S-locked joints is to be secured with three (3) fasteners matching the colour of the metal cap with a neoprene washer between the fastener head and inside face of the metal cap flashing.

.3 Replace any metal flashing removed from equipment fans, etc., and replace with new metal.

.4 Fabricate and install metal copings, fascias, and counter flashing as indicated on drawings.

.5 New counter flashing and cap flashings as detailed shall be coloured metal shapes to match existing flashing if any.

.6 Fabricate metal flashing and other sheet metal work in accordance with applicable CRCA FL series details. Make allowance for expansion at joints. In general, flat locked seams shall be used. Seal joints watertight with approved sealant. Form sections square, true and accurate to size, free from distortion and other defects. Double back exposed edges at least 12 mm. Flashings to be fastened with clips secured to masonry walls with nail-ins by competent mechanical fasteners or approved equal at 2'.

.7 Counter flashings shall be installed at all reglets and curbs with at least three (3) inches below the top of roof curb or reglet.

3.14 PROTECTION OF WORK

.1 At the completion of each day's work, all exposed edges of unfinished roof membrane system must be sealed by means of a temporary water cut off.

3.15 FIELD QUALITY CONTROL

.1 Arrange for a review of the complete roofing installation by a representative of the membrane manufacturer to ensure that work has been performed in compliance with specified requirements.

.2 Engage the roofing inspection company selected by the Architect to supervise installation of roofing and to verify its completion in accordance with this Specification for Work included in both Section 07 52 00 and 07 62 00.

.3 Provide supervision of roofing installation by a representative of the membrane manufacturer.

.4 Notify designated Owner's representative and roofing inspection company at least seventy-two hours before roofing operations commence, and arrange for a job site meeting to be held the day before the roofing starts with the following present: Owner's representative; Contractor's superintendent; roofing inspector; and a principal of the roofing Subcontractor's firm. Subsequently, give two working day's prior notice to the roofing inspector of the commencement of each phase of Work, and provide him with materials and installation information as required.

.5 Payment for roofing inspection will be made from Cash Allowance listed in Section 01 21 00.

3.16 ADJUSTMENT AND CLEANING

.1 Install membrane patches over punctures and tears in membrane in strict accordance with manufacturer’s written recommendations.

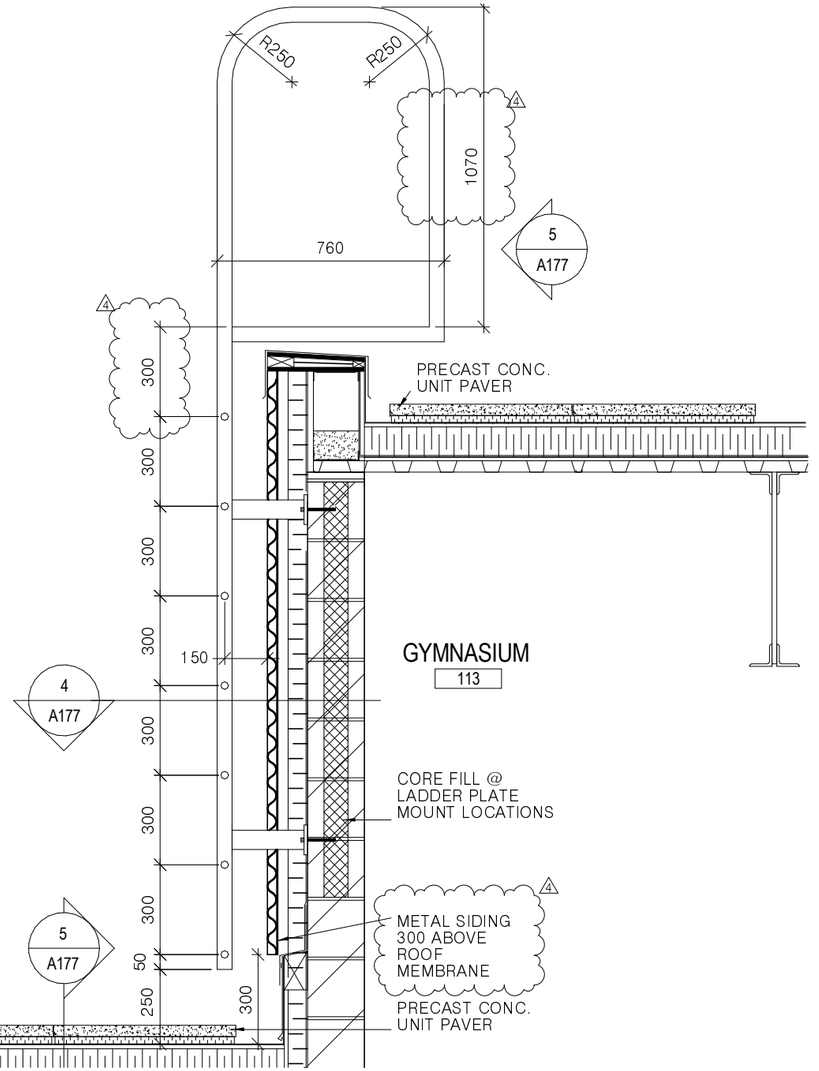
.2 Remove all roofer's equipment and debris as Work progresses, and at completion of roofer's Work.

.3 Remove all debris and soil from all areas and surfaces that was caused from roofing operations.

3.17 PROTECTION

.1 Coordinate work to ensure that special protection against damage from traffic or Work performed on top of completed roofing is installed as specified in Div 01.

END OF SECTION



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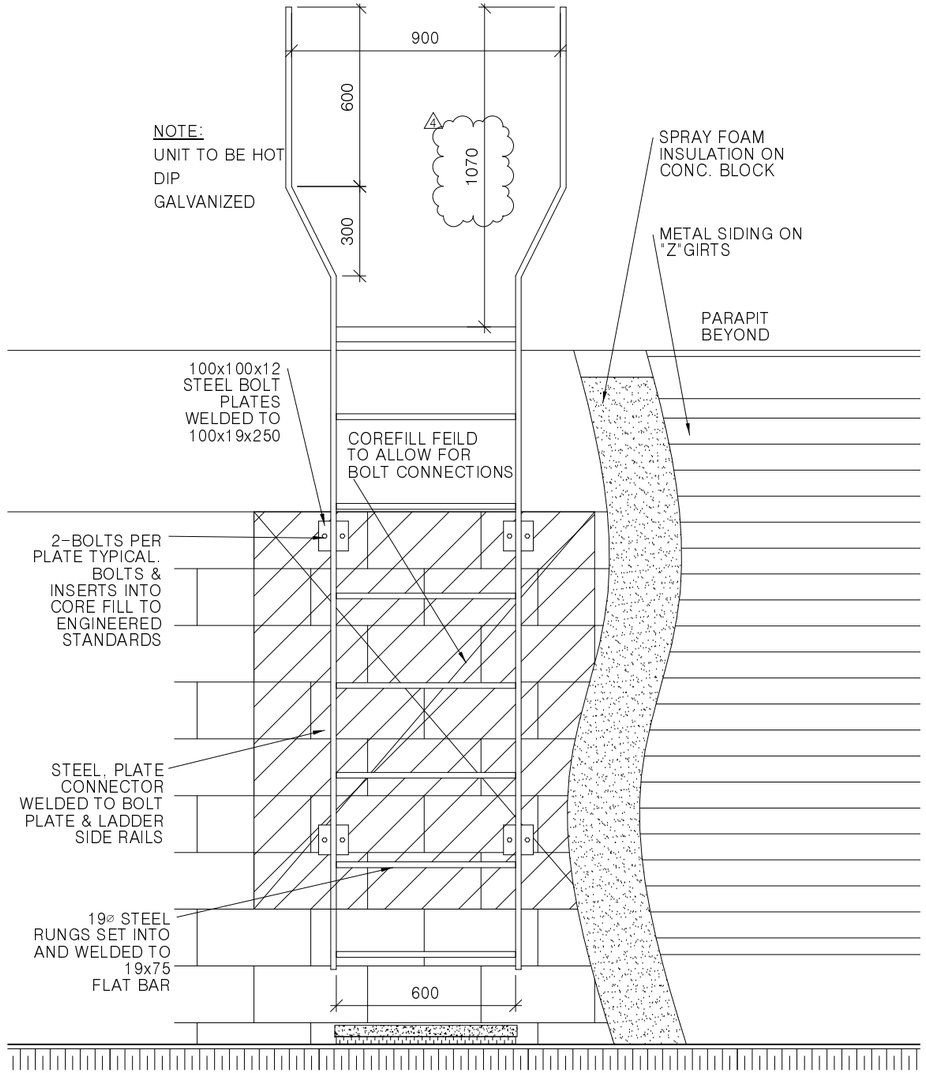

1 ACCESS LADDER ELEVATION
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NOTES

PROJECT TITLE: OUR LADY OF FATIMA - PHASE 4			DRAWING TITLE: REVISED ROOFING DETAILS
SCALE: 1 : 20	DRAWN BY: MFPU	CHECKED BY: RRW	REFERENCE PAGE No.: A177
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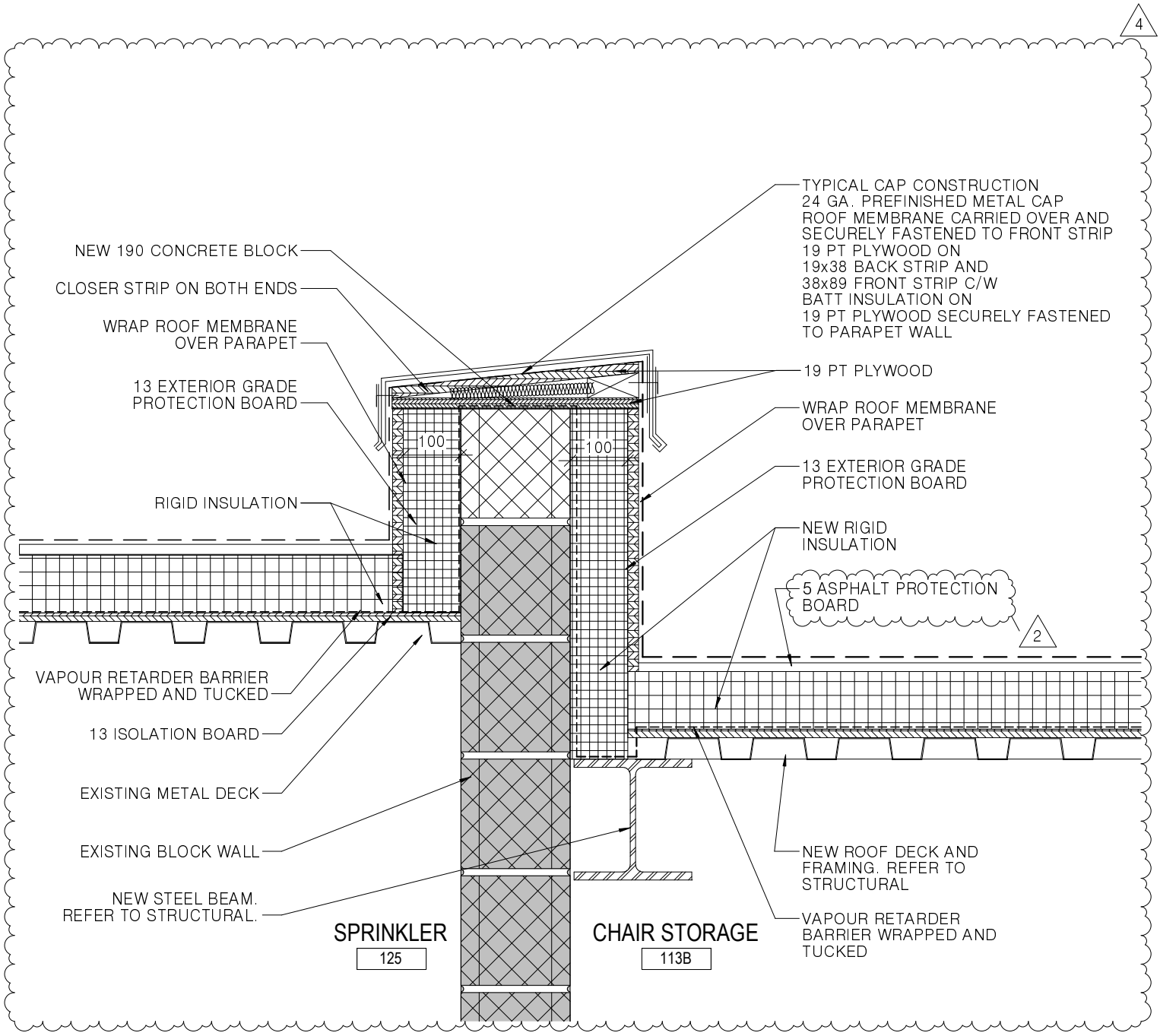

1 SECTION DETAIL AT ROOF
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PROJECT TITLE: OUR LADY OF FATIMA – PHASE 4			DRAWING TITLE: REVISED ROOFING DETAILS
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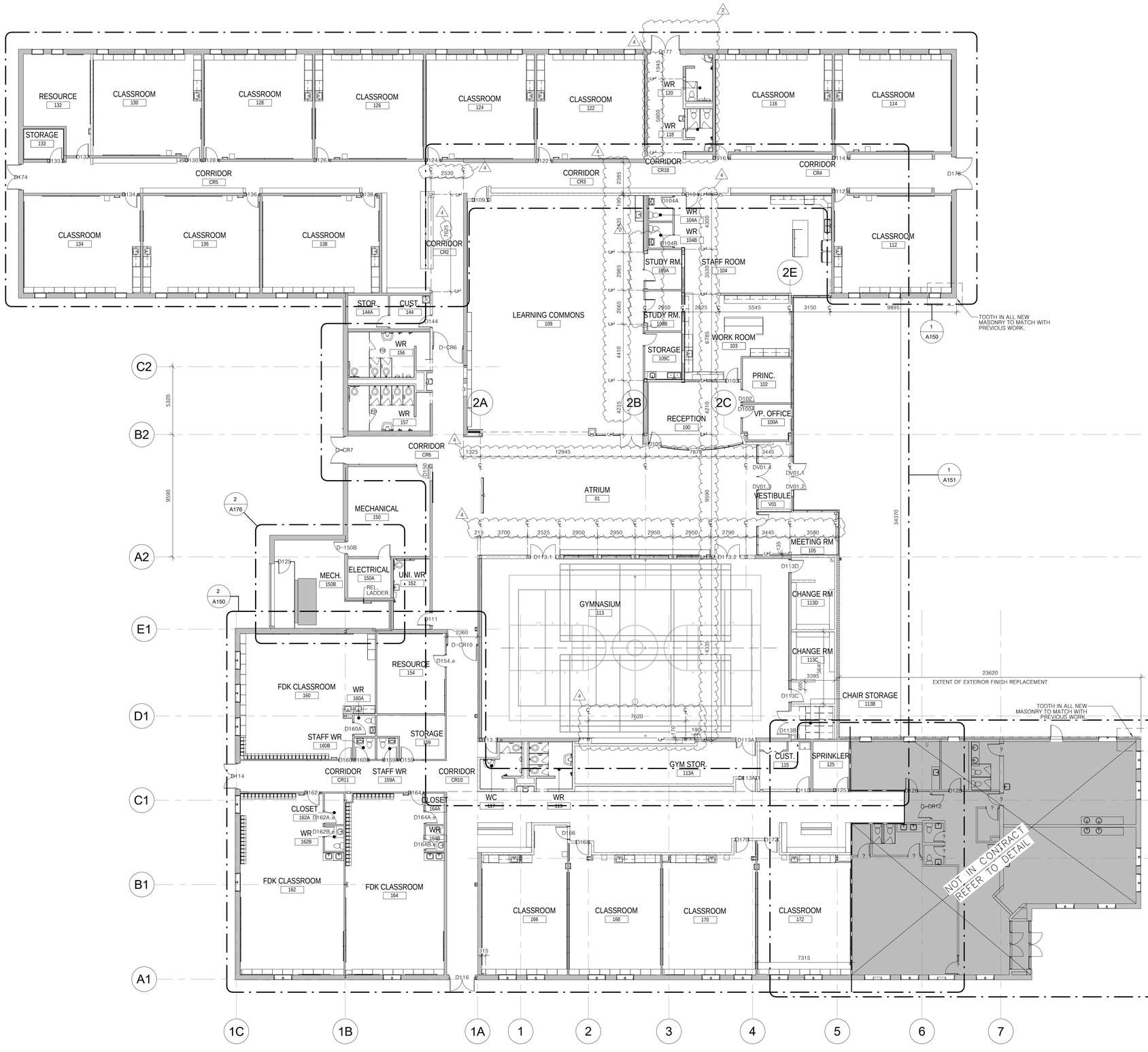

1 CONSTRUCTION FLOOR PLAN
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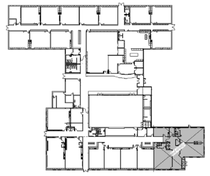

KEY PLAN

TRUE NORTH

CONSTRUCTION NORTH

NOTES

LEGEND

N. NUMBER INDICATES ADDENDUM #

No.	DATE MM/DD/YYYY	DESCRIPTION	REV. No.
4	20/03/2020	ADDENDUM 004	4
3	30/03/2020	ADDENDUM 003 – NO DRAWING CHANGES	
2	05/03/2020	ADDENDUM 002	2
1	19/02/2020	ISSUED FOR TENDER & PERMIT	

ONTARIO ASSOCIATION OF ARCHITECTS
RANDY R. WILSON
LICENCE
4000

PROJECT TITLE
OUR LADY OF FATIMA - PHASE 4

DRAWING TITLE
CONSTRUCTION FLOOR PLAN

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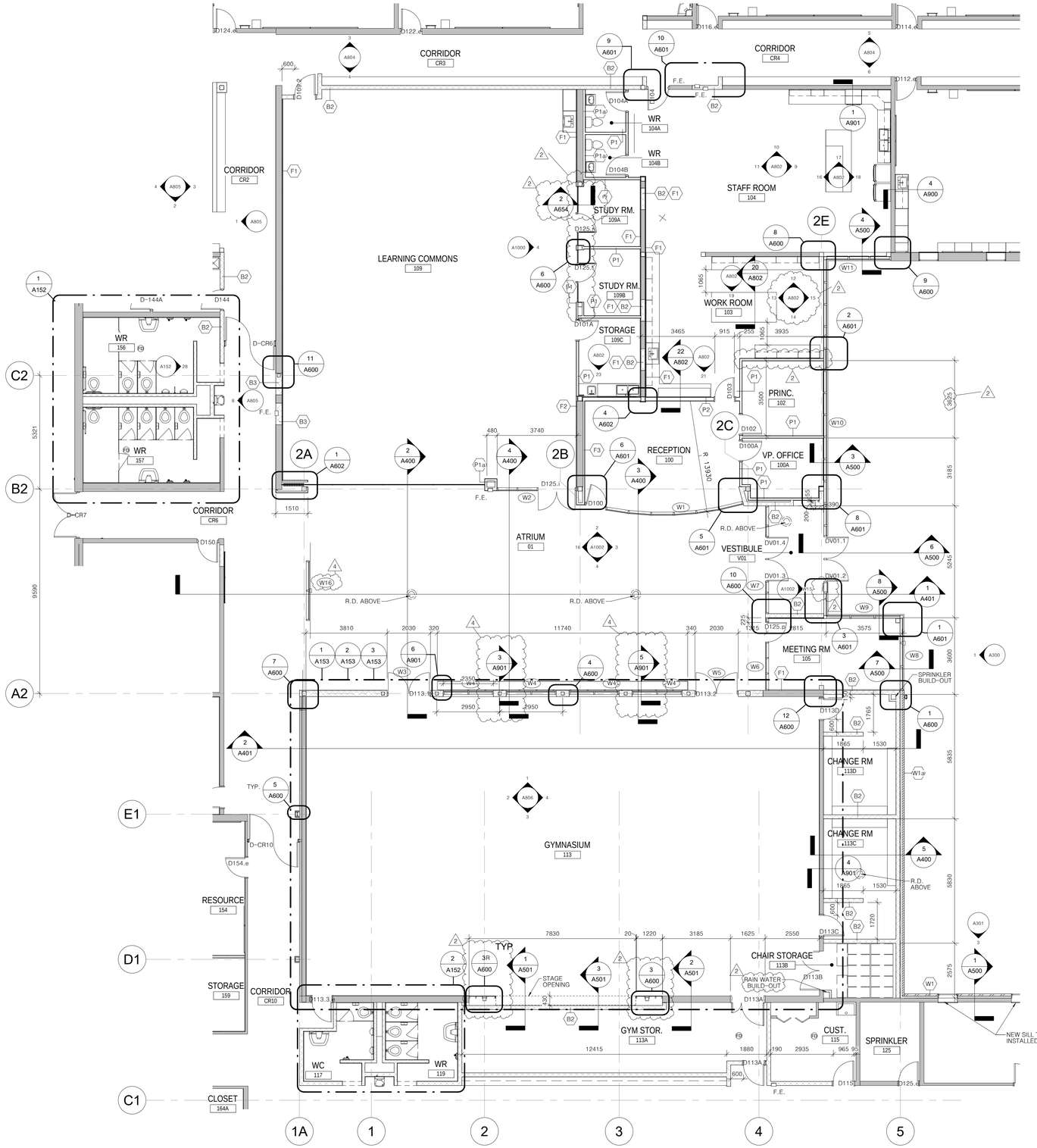
PROJECT No. 1901		



1 ENLARGED GYM & ENTRY FLOOR PLAN
SCALE 1 : 100

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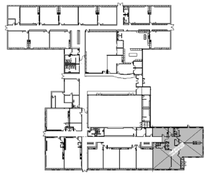
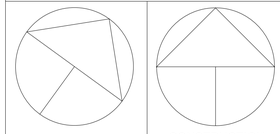


KEY PLAN



NOTES

LEGEND

- EXISTING WALLS REMAINING
- NEW BLOCK WALL
- NEW GYPSUM BOARD WALL
- FOLDING METAL GRILLES

NUMBER INDICATES ADDENDUM #

No.	DATE MM/DD/YYYY	DESCRIPTION	REV. No.
4	20/03/2020	ADDENDUM 004	4
3	30/03/2020	ADDENDUM 003 – NO DRAWING CHANGES	
2	05/03/2020	ADDENDUM 002	2
1	19/02/2020	ISSUED FOR TENDER & PERMIT	

ONTARIO ASSOCIATION OF ARCHITECTS
RANDY R. WILSON
LICENCE
4000

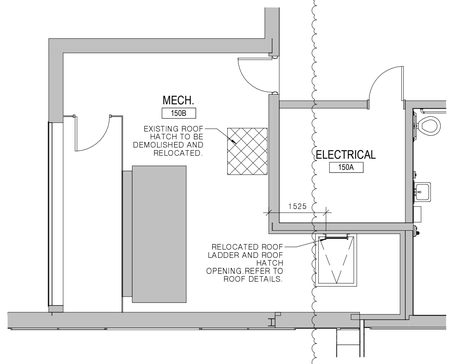
PROJECT TITLE

OUR LADY OF FATIMA - PHASE 4

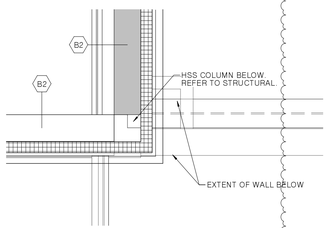
DRAWING TITLE

ENLARGED FLOOR PLANS

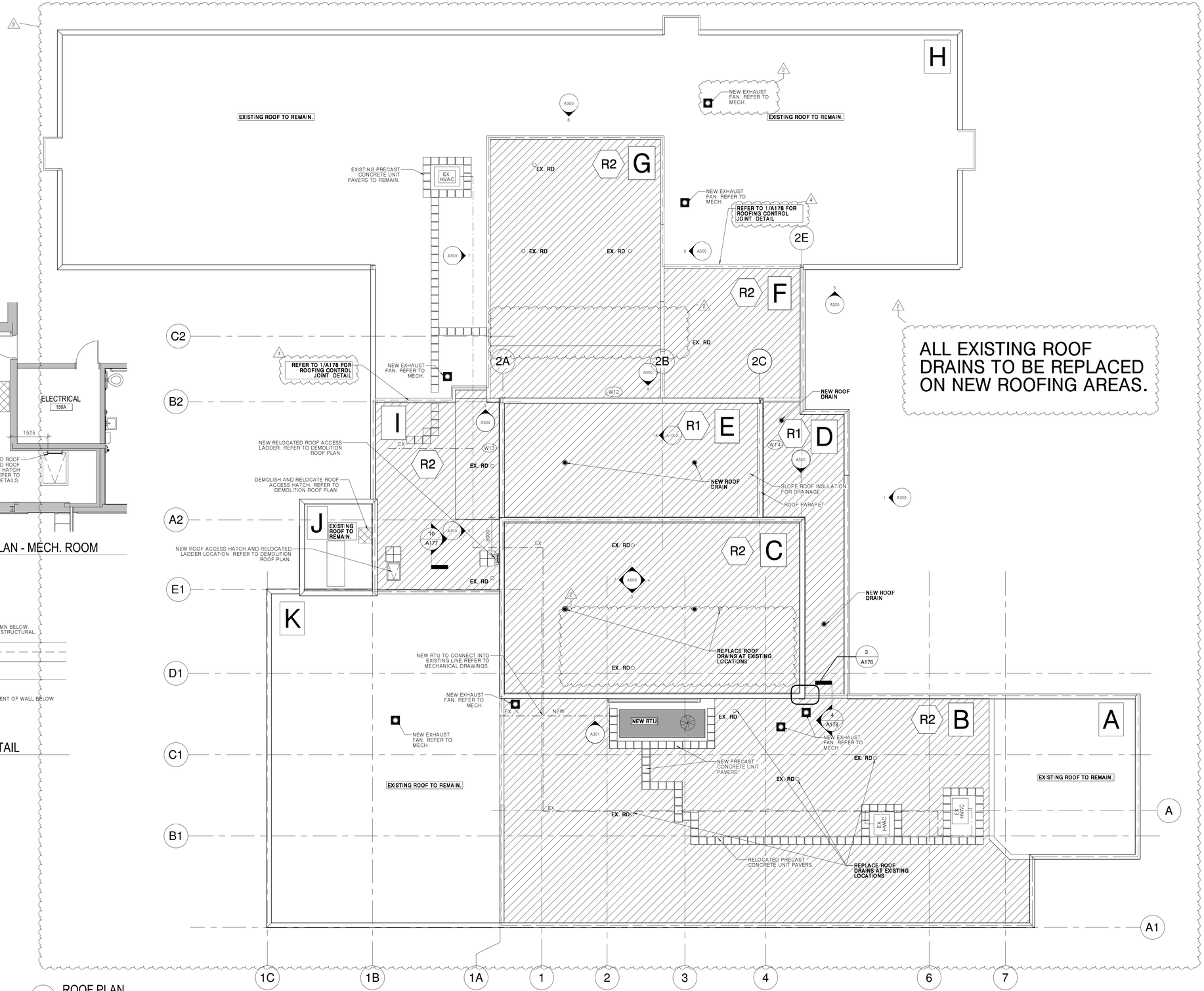
DATE PLOTTED	DRAWN BY	DRAWING No.
20/03/2020 1:15:14 PM	TJV/PC	A151
SCALE: As indicated	CHECKED BY: RRW	
PROJECT No.: 1901		



2 CONSTRUCTION FLOOR PLAN - MECH. ROOM
SCALE 1 : 75



3 EXTERIOR WALL PLAN DETAIL
SCALE 1 : 20



ALL EXISTING ROOF DRAINS TO BE REPLACED ON NEW ROOFING AREAS.

1 ROOF PLAN
SCALE 1 : 150

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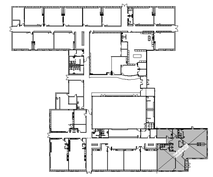
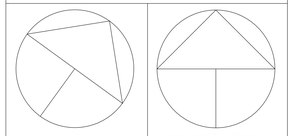


KEY PLAN



NOTES

LEGEND

AREA OF NEW ROOFING TYPE AS NOTED R1 R2

NUMBER INDICATES ADDENDUM #

No.	DATE MM/DD/YYYY	DESCRIPTION	REV. No.
4	20/03/2020	ADDENDUM 004	4
3	30/03/2020	ADDENDUM 003 – NO DRAWING CHANGES	
2	05/03/2020	ADDENDUM 002	2
1	19/02/2020	ISSUED FOR TENDER & PERMIT	

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PROJECT TITLE
OUR LADY OF FATIMA - PHASE 4

DRAWING TITLE
CONSTRUCTION ROOF PLAN

DATE PLOTTED	DRAWN BY	DRAWING No.
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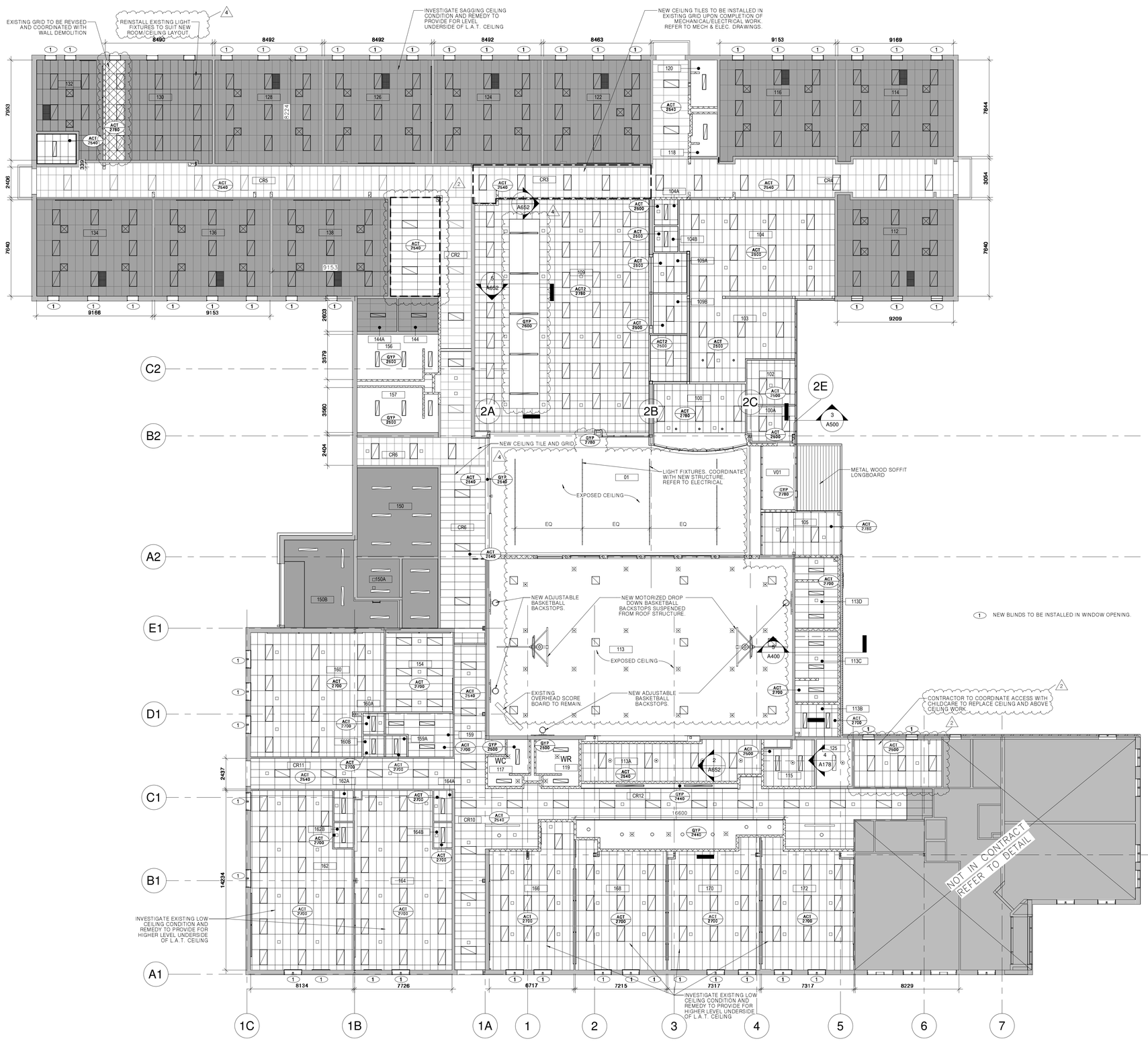
SCALE: As indicated	CHECKED BY: RW	
PROJECT No.: 1901		



1 REFLECTED CEILING PLAN
SCALE 1 : 150

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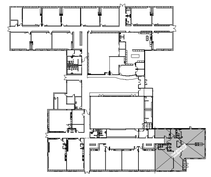

KEY PLAN

TRUE NORTH

CONSTRUCTION NORTH

NOTES

LEGEND

- □ CONCEALED SPRINKLER HEAD. REFER TO MECH. DWGS.
- ○ PENDANT SPRINKLER HEAD. REFER TO MECH. DWGS.
- ○ UPRIGHT SPRINKLER HEAD. REFER TO MECH. DWGS.
- ⊙ DRYPIPE SPRINKLER HEAD. REFER TO MECH. DWGS.
- ▩ ROOMS COMPLETE DURING PHASE 3 OF CONSTRUCTION.

N NUMBER INDICATES ADDENDUM #

No.	DATE MM/DD/YYYY	DESCRIPTION	REV. No.
4	20/03/2020	ADDENDUM 004	4
3	30/03/2020	ADDENDUM 003 – NO DRAWING CHANGES	
2	05/03/2020	ADDENDUM 002	2
1	19/02/2020	ISSUED FOR TENDER & PERMIT	

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PROJECT TITLE

OUR LADY OF FATIMA - PHASE 4

DRAWING TITLE

CONSTRUCTION
REFLECTED CEILING PLAN

DATE PLOTTED	DRAWN BY	DRAWING No.
3/26/2020 10:26:16 AM	TJV	A200
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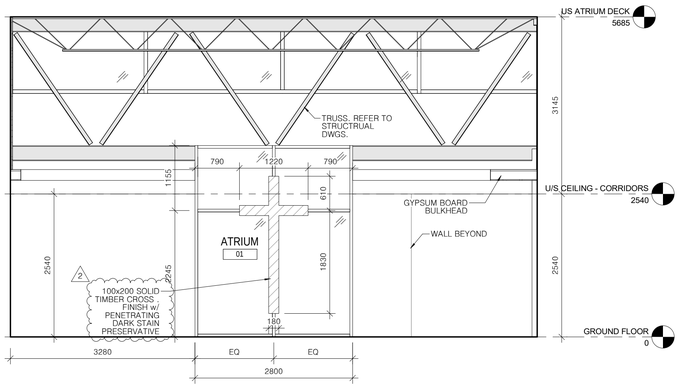
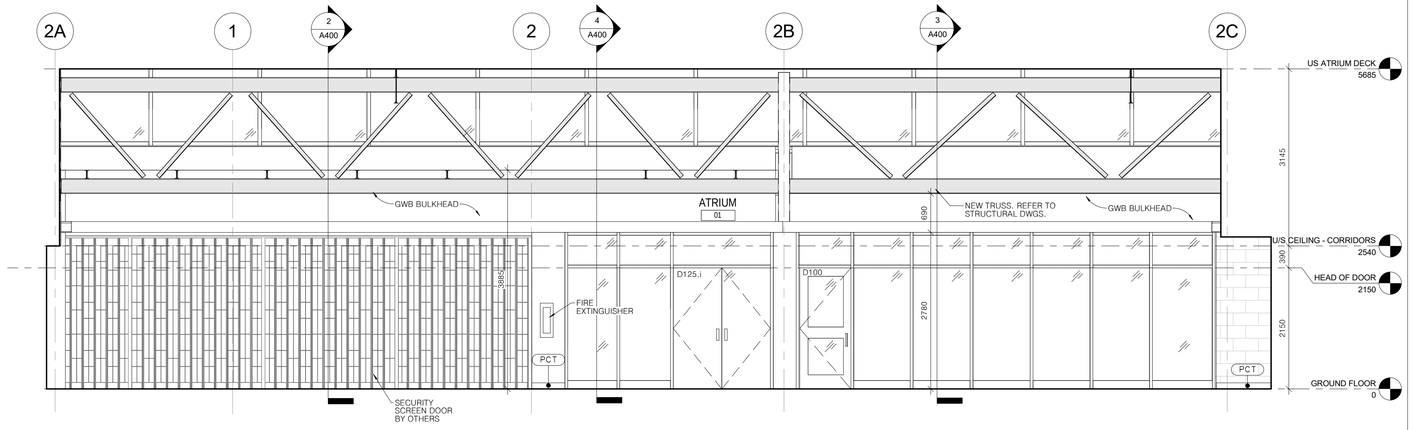
PROJECT No. 1901		



1 INTERIOR ELEVATION AT ATRIUM
SCALE 1 : 50



2 INTERIOR ELEVATION AT ATRIUM
SCALE 1 : 50

3 INTERIOR ELEVATION AT ATRIUM
SCALE 1 : 50

4 INTERIOR ELEVATION AT ATRIUM
SCALE 1 : 50

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KEY PLAN

NOTES

LEGEND

NUMBER INDICATES ADDENDUM #

No.	DATE MM/DD/YYYY	DESCRIPTION	REV. No.
4	20/03/2020	ADDENDUM 004	4
3	30/03/2020	ADDENDUM 003 - NO DRAWING CHANGES	
2	05/03/2020	ADDENDUM 002	2
1	19/02/2020	ISSUED FOR TENDER & PERMIT	

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PROJECT TITLE
OUR LADY OF FATIMA - PHASE 4

DRAWING TITLE
INTERIOR ELEVATIONS - ATRIUM

DATE PLOTTED	DRAWN BY	DRAWING No.
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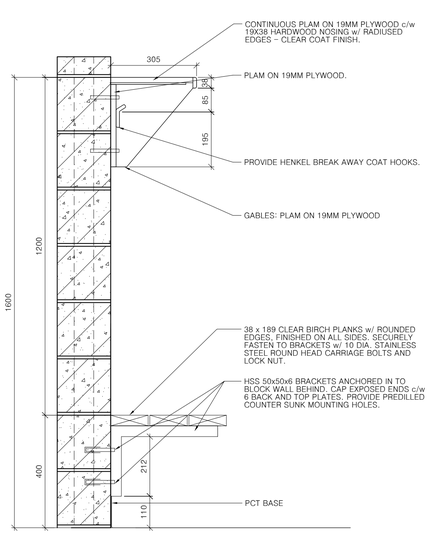
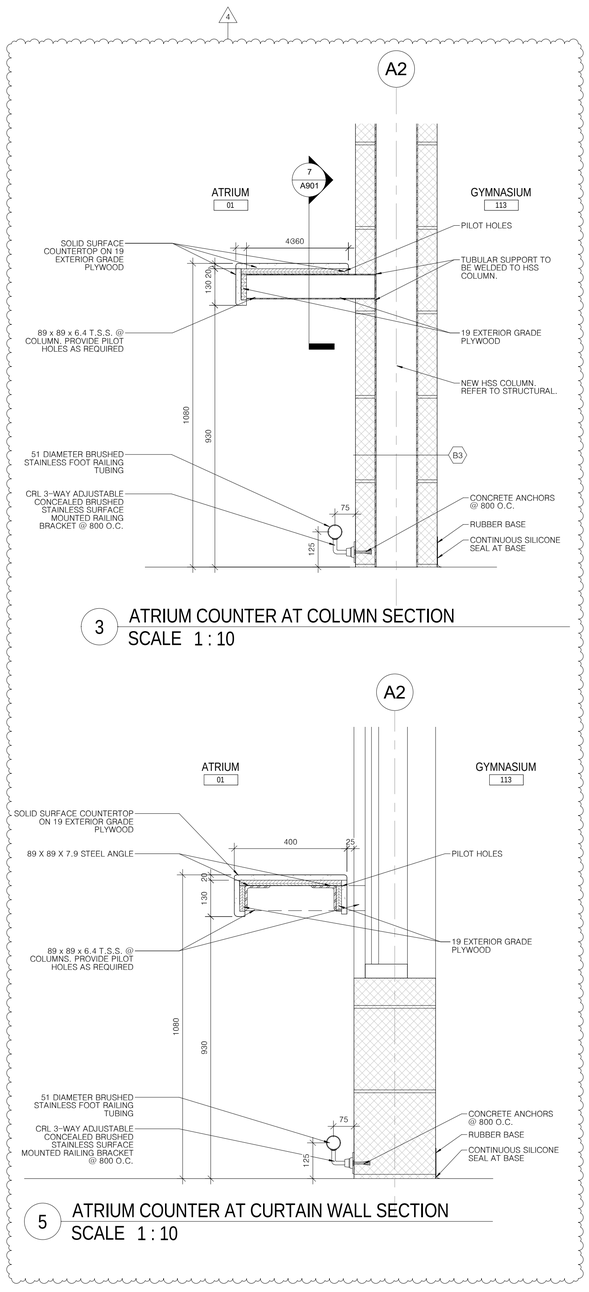
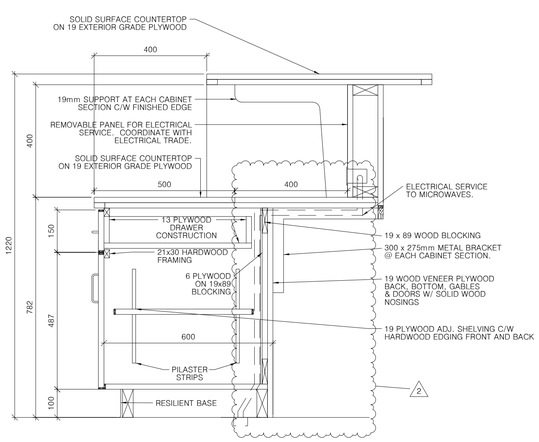
PROJECT No.: 1901		



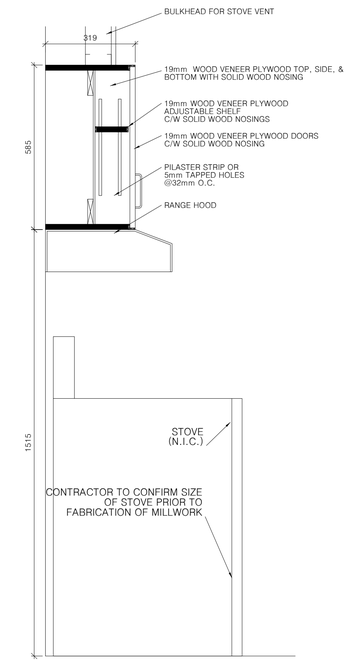
4 SHELF DETAIL
SCALE 1 : 10



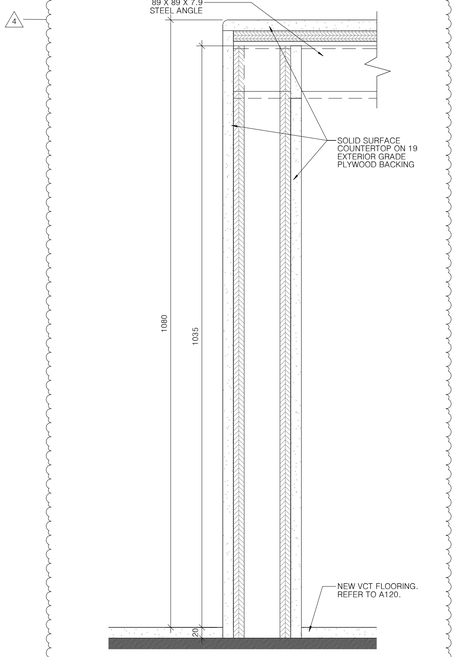
3 ATRIUM COUNTER AT COLUMN SECTION
SCALE 1 : 10



2 KITCHENETTE ISLAND SECTION
SCALE 1 : 10

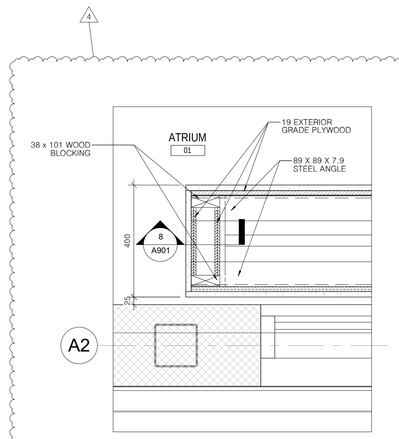


1 CUPBOARD @ RANGE HOOD
SCALE 1 : 10

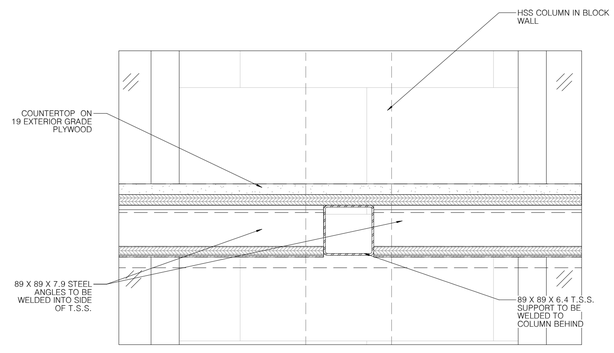


8 ATRIUM COUNTER SECTION DETAIL
SCALE 1 : 5

5 ATRIUM COUNTER AT CURTAIN WALL SECTION
SCALE 1 : 10



6 ATRIUM COUNTER PLAN DETAIL
SCALE 1 : 10



7 ATRIUM COUNTER SECTION DETAIL
SCALE 1 : 5

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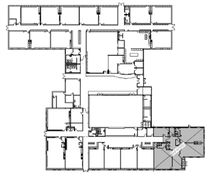

KEY PLAN

NOTES

LEGEND

N NUMBER INDICATES ADDENDUM #

No.	DATE MM/DD/YYYY	DESCRIPTION	REV. No.
4	20/03/2020	ADDENDUM 004	4
3	30/03/2020	ADDENDUM 003 - NO DRAWING CHANGES	
2	05/03/2020	ADDENDUM 002	2
1	19/02/2020	ISSUED FOR TENDER & PERMIT	

ONTARIO ASSOCIATION OF ARCHITECTS
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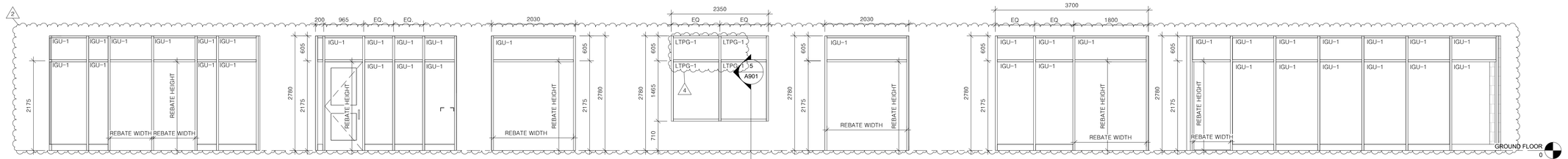
PROJECT TITLE
OUR LADY OF FATIMA - PHASE 4

DRAWING TITLE
MILLWORK DETAILS

DATE PLOTTED	DRAWN BY	DRAWING No.
20/03/2020 1:15:24 PM	PC	A901
SCALE: As indicated	CHECKED BY: RRW	
PROJECT No.: 1901		



W7 VEST. ENTRANCE
SCALE 1 : 50

W6 MEETING ROOM
SCALE 1 : 50

W5 GYM ENTRANCE 1
SCALE 1 : 50

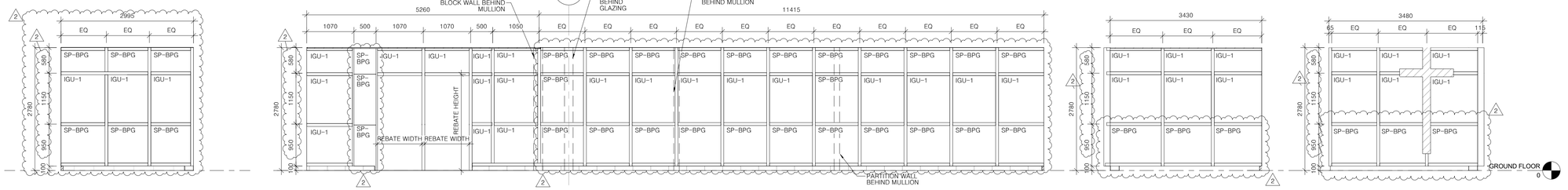
W4 GYM WINDOW
SCALE 1 : 50

W3 GYM ENTRANCE 2
SCALE 1 : 50

W2 CONFERENCE ROOM
SCALE 1 : 50

W1 RECEPTION
SCALE 1 : 50

INTERIOR ALUMINUM FRAMED CURTAIN WALL ELEVATIONS

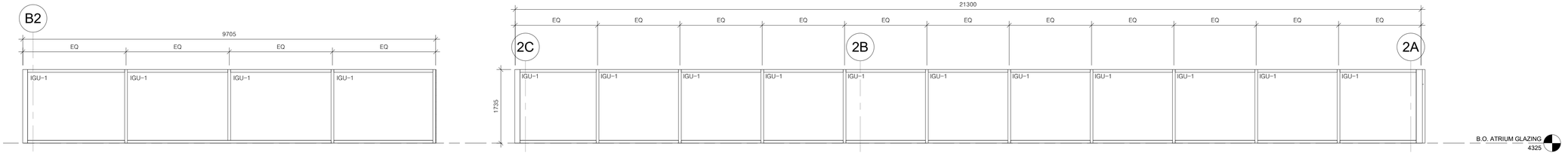


W11 STAFF ROOM
SCALE 1 : 50

W10 WORK ROOM
SCALE 1 : 50

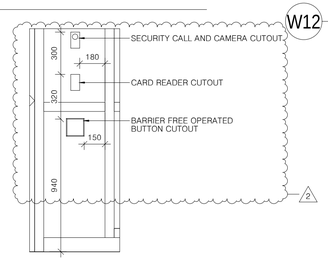
W9 MEETING ROOM 2
SCALE 1 : 50

W8 MEETING ROOM 1
SCALE 1 : 50

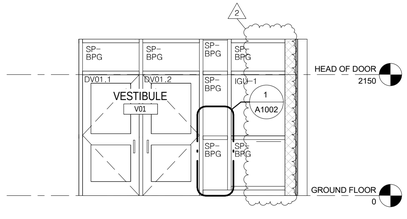


W13 WEST WINDOW @ ATTRIUM
SCALE 1 : 50

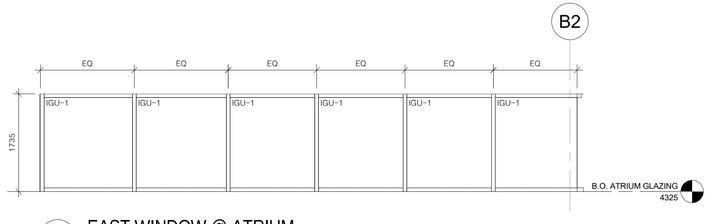
W12 NORTH WINDOW @ ATRIUM
SCALE 1 : 50



1 FRONT ENTRY CONTROL PANEL
SCALE 1 : 20

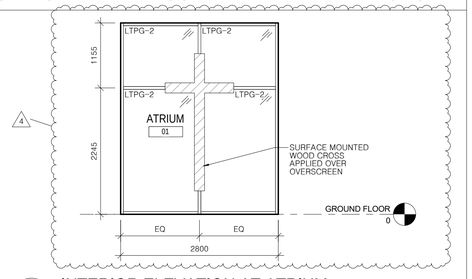


W15 VESTIBULE DOORS
SCALE 1 : 50



W14 EAST WINDOW @ ATRIUM
SCALE 1 : 50

EXTERIOR ALUMINUM FRAMED CURTAIN WALL ELEVATIONS



16 INTERIOR ELEVATION AT ATRIUM
SCALE 1 : 50

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KEY PLAN

NOTES

LEGEND

SP – SPANDREL PANEL
BPG – BACK PAINTED GLASS
IGU – INSULATED GLASS UNIT
LTPG-1 – LAMINATED TEMPERED PLATE GLASS (6MM PER PLATE AND 0.38mm INTER LAYER)
LTPG-2 – LAMINATED TEMPERED PLATE GLASS (6MM PER PLATE AND 0.38mm FROSTED FILM INTER LAYER)

NUMBER INDICATES ADDENDUM #

No.	DATE MM/DD/YYYY	DESCRIPTION	REV. No.
4	20/03/2020	ADDENDUM 004	4
3	30/03/2020	ADDENDUM 003 – NO DRAWING CHANGES	
2	05/03/2020	ADDENDUM 002	2
1	19/02/2020	ISSUED FOR TENDER & PERMIT	

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PROJECT TITLE
OUR LADY OF FATIMA - PHASE 4

DRAWING TITLE
GLAZING ELEVATIONS

DATE PLOTTED	DRAWN BY	DRAWING No.
20/03/2020 1:15:26 PM	TJV	A1002
SCALE: As indicated	CHECKED BY: RRW	
PROJECT No.: 1901		

Plus Revision Drawings MR-1 to MR-6, Reissued Drawings M202.4, M203.4, M501.4, M502.4, M601.4, M602.4, M703.4, M704.4, M709.4, M710.4, E102.4, E103.4, E201.4, E202.4, E301.4, E302.4, E401.4, E502.4, E504.4, E701.4, E702.4, Section 16712

ADDENDUM NO. 4

Make the following amendments and additions to the Drawings and Specifications, and include this cost in the Contract Price.

1. **MECHANICAL SPECIFICATIONS**

1. **Section 15001 - Mechanical General Provisions**

1. 1. Clause 3.28.1.1: Revise amount to $82,000.00.

2. **Section 15600 - Liquid Heat Transfer**

1. Insert Clause 2.13 as follows:

2.13 **STEEL PANEL RADIATORS**

2.13.1 Use Runtal steel panel radiators. Lengths, details and capacities are shown on the Schedule on the Drawings. Minimum 390 kPa (56 psi) working pressure at 93?C (200?F).

2.13.2 Manufacture radiators using one-piece all-welded steel construction, consisting of active flattened hot water heating tubes welded to headers at each end.

2.13.3 Within the panel, provide integral water channels. Where shown on the Schedule, provide steel corrugated fins welded to the active water tubes to increase the convective output of the unit. There shall be no less than 100 fins per metre. Fins shall start within 25 mm of the headers, and shall be spot-welded three times per tube.

2.13.4 Furnish panels with pressure welded tappings of the required sizes and locations to suit the arrangements shown on the Drawings. The headers

Plus Revision Drawings MR-1 to MR-6, Reissued Drawings M202.4, M203.4, M501.4, M502.4, M601.4, M602.4, M703.4, M704.4, M709.4, M710.4, E102.4, E103.4, E201.4, E202.4, E301.4, E302.4, E401.4, E502.4, E504.4, E701.4, E702.4, Section 16712

ADDENDUM NO. 4

Make the following amendments and additions to the Drawings and Specifications, and include this cost in the Contract Price.

1. **MECHANICAL SPECIFICATIONS**

1. **Section 15001 - Mechanical General Provisions**

1. 1. Clause 3.28.1.1: Revise amount to $82,000.00.

2. **Section 15600 - Liquid Heat Transfer**

1. Insert Clause 2.13 as follows:

2.13 **STEEL PANEL RADIATORS**

2.13.1 Use Runtal steel panel radiators. Lengths, details and capacities are shown on the Schedule on the Drawings. Minimum 390 kPa (56 psi) working pressure at 93?C (200?F).

2.13.2 Manufacture radiators using one-piece all-welded steel construction, consisting of active flattened hot water heating tubes welded to headers at each end.

2.13.3 Within the panel, provide integral water channels. Where shown on the Schedule, provide steel corrugated fins welded to the active water tubes to increase the convective output of the unit. There shall be no less than 100 fins per metre. Fins shall start within 25 mm of the headers, and shall be spot-welded three times per tube.

2.13.4 Furnish panels with pressure welded tappings of the required sizes and locations to suit the arrangements shown on the Drawings. The headers

shall include all necessary inlet, outlet and vent connections as required.

2.13.5 Furnish radiators complete with wall mounting brackets.

2.13.6 Radiators to be cleaned and phosphatized in preparation for powder coat finish, then finish painted with a gloss powder coat finish, for a total paint thickness of 0.05 - 0.08 mm (0.002? - 0.003?). Colour to be selected by Architect from manufacturer's optional colour chart (minimum 100 colours to choose from). All radiators to be delivered wrapped in protective cardboard packaging.

2.13.7 Radiators to be furnished with matching trim covers to provide a finished installation.

2.13.8 For interconnection of steel panel radiators, or where inactive expansion section is noted on the Schedule, use Flexonics or equivalent custom hose assemblies, 810 mm (32?) long, including stainless steel flexible metal hose with stainless steel braid and threaded carbon steel schedule 40 90? elbows welded on to each end. Minimum 860 kPa (125 psi) working pressure at 93?C (200?F). Use line sized connectors. Provide expansion sections as required to suit overall unit length.

2.13.9 The radiators shall include an integral heavy gauge (0.09" minimum) all-welded perforated top grille, which will cover the top of all of the finned and non-finned areas.

2.13.10 The following manufacturer of the above equipment will be considered equal, subject to requirements of Clause "Material and Equipment":

Rittling

2. Revise title of clause 3.4 to read, "CONVECTORS AND STEEL PANEL RADIATORS".

3. **Section 15900 - Controls**

1. Revise title of clause 3.11 to read, "CONVECTORS AND STEEL PANEL RADIATORS".

2. Insert Clause 3.13 (and revise subsequent numbering to suit):

3.13 **Exterior Lighting Control and Monitoring**

3.13.1 Provide an outdoor light level sensor and relays for control of lighting relays provided by Division 16. Implement time of day schedule to override sensor operation and shut off lights during the day. Locate outdoor light level sensor on North side of building.

3.13.2 Exterior Building Mounted Lighting: To operate dusk-to-dawn with a time of day schedule override. One relay is located in Custodial Room 115 and the other relay is located in Storage 159.

3.13.3 Parking Lot Lighting: To operate from dusk to 11:00 p.m. and from 6:00 a.m.

to sunrise, with a time of day schedule override. One relay is located in Custodial Room 115 and the other relay is located in Storage 159.

2. **MECHANICAL DRAWINGS**

1. **Drawing M101.4 - Mechanical Legend, Abbreviations and Drawing List**

1. Refer to revision drawing MR-1, attached.

2. **Drawing M102.4 - Schedules**

1. Revise "Exhaust Fans" Schedule as follows:

Drawing Reference	-	EF-1
Service	-	117/119 WASHROOM EXHAUST
Drawing Reference	-	EF-2
Catalog Number	-	101C17DEC
Drawing Reference	-	EF-3
Catalog Number	-	101C17DEC
Drawing Reference	-	EF-6
Catalog Number	-	100C17DEC

3. **Drawing M201.4 - Part Ground Floor Plan - Drainage North**

1. Remove section markers.

2. Refer to revision drawing MR-2, attached.

4. **Drawing M202.4 - Part Ground Floor Plan - Drainage South**

1. Refer to re-issued drawing, attached.

5. **Drawing M203.4 - Part Ground Floor Plan - Plumbing North**

1. Refer to re-issued drawing, attached.

6. **Drawing M302.4 - Part Ground Floor Plan - Fire Protection South**

1. Refer to revision drawing MR-2, attached.

7. **Drawing M401.4 - Part Ground Floor Plan - Heating**

1. Room 138: Revise pipe label from 100 ST(E) UP to 40 CD(E) DN.

2. Room 112: Revise pipe label from 100 ST(E) UP to 40 CD(E) DN.

3. Room 120: Add leader from heater A-1 to thermostat.

8. **Drawing M402.4 - Part Ground Floor Plan - Heating South**

    1. Refer to revision drawing MR-4, attached.

    2. Refer to revision drawing MR-5, attached.

9. **Drawing M501.4 - Part Ground Floor Plan - Air Distribution North**

    1. Refer to re-issued drawing, attached.

10. **Drawing M502.4 - Part Ground Floor Plan - Air Distribution South**

    1. Refer to re-issued drawing, attached.

11. **Drawing M601.4 - Roof Plan - Mechanical**

    1. Refer to re-issued drawing, attached.

12. **Drawing M602.4 - Roof Plan - Mechanical Demolition**

    1. Refer to re-issued drawing, attached.

13. **Drawing 701.4 - Part Ground Floor Plan - Drainage Demolition**

    1. Remove section markers.

14. **Drawing 703.4 - Part Ground Floor Plan - Plumbing North Demolition**

    1. Refer to re-issued drawing, attached.

15. **Drawing 704.4 - Part Ground Floor Plan - Plumbing South Demolition**

    1. Refer to re-issued drawing, attached.

16. **Drawing 706.4 - Part Ground Floor Plan - Drainage Demolition**

    1. Fire extinguishers show are existing to remain.

17. **Drawing 707.4 - Parr Ground Floor Plan - Heating North Demolition**

    1. Refer to revision drawing MR-6, attached.

18. **Drawing 709.4 - Part Ground Floor Plan - Air Distribution Demolition**

    1. Refer to re-issued drawing, attached.

19. **Drawing 710.4 - Part Ground Floor Plan - Air Distribution South Demolition**

    1. Refer to re-issued drawing, attached.

3. **ELECTRICAL SPECIFICATIONS**

1. **Section 16001 - Electrical General Provisions**

1. Add the following clauses, adjust numbering to suit.

3.21.2 The following are descriptions of each cash allowance carried by the General Contractor in 01 20 00:

3.21.2.1 Install owner supplied PA system including new wiring, clocks and call switches.

3.21.2.2 The General Contractor will pay all fees to the appropriate vendors for each allowance. The Electrical Contractor will coordinate all work with each vendor. Include the cost for this coordination in the base bid price.

2. **Section 16705 - Security and Access Control System**

1. Add the following clauses adjust numbering to suit.

3.2.6.5 Building Automation System Integration

3.2.6.5.1 Interface security system with building automation system. Security contractor to program new zones to match existing BAS zones and confirm naming and quantity with Owner prior to commissioning. Controls Contractor to provide contact closures at the security panel for each alarm point.

3.2.6.5.2 Provide independent alarm points for the following:

-Loop Pump
-Tower Temp
-Low Space
-Low Header
-BAS Power Failure
-Phase Loss

3. **Section 16712 - Intercom System**

1. Reissue Section 16712 attached in its entirety.

4. **ELECTRICAL DRAWINGS**

1. **Drawing E101.4 - Luminarie Schedule**

1. Make the following revisions to the luminaire schedule:

Type A2/B2: Add "Pioneer" as an equal manufacturer.
Type L8/L20P: Add "Neo-Ray" as an equal manufacturer.
Type J2: Add Type J2 as follows: Manufacturer: “Gotham Lighting Cat # EVO4-35/10-AR-WD-LSS-MVOLT-GZ1, 103mm (Round) Aperture Downlight, 3500K, 0-10V Dimming to 1%”, Mounting Type: “Recessed”, Mounting Height: “Ceiling”, Lamps:

"1000 LU LED", Volts: "120", System Watts: "9W", Equal Manufacturers: "Calculite, Portfolio".

2. **Drawing E102.4 - Panel Schedules**

    1. Reissue Drawing E102.4 attached in its entirety.

3. **Drawing E103.4 - Panel Schedules**

    1. Reissue Drawing E103.4 attached in its entirety.

4. **Drawing E201.4 - Part Ground Floor Plan North - Lighting and Fire Alarm**

    1. Reissue Drawing E201.4 attached in its entirety.

5. **Drawing E202.4 - Part Ground Floor Plan South - Lighting and Fire Alarm**

    1. Reissue Drawing E202.4 attached in its entirety.

6. **Drawing E301.4 - Part Ground Floor Plan North - Power and Systems**

    1. Reissue Drawing E301.4 attached in its entirety.

7. **Drawing E302.4 - Part Ground Floor Plan South - Power and Systems**

    1. Reissue Drawing E302.4 attached in its entirety.

8. **Drawing E401.4 - Electrical Risers**

    1. Reissue Drawing E401.4 attached in its entirety.

9. **Drawing E502.4 - Electrical Details**

    1. Reissue Drawing E502.4 attached in its entirety.

10. **Drawing E503.4 - Lighting Control Details**

    1. Revise Note 3 specification section reference to 16550.

    2. Revise Note 5 to "Not used."

11. **Drawing E504.4 - Lighting Control Details**

    1. Reissue Drawing E504.4 attached in its entirety.

12. **Drawing E701.4 - Part Ground Floor Plan North - Power and Systems Demolition**

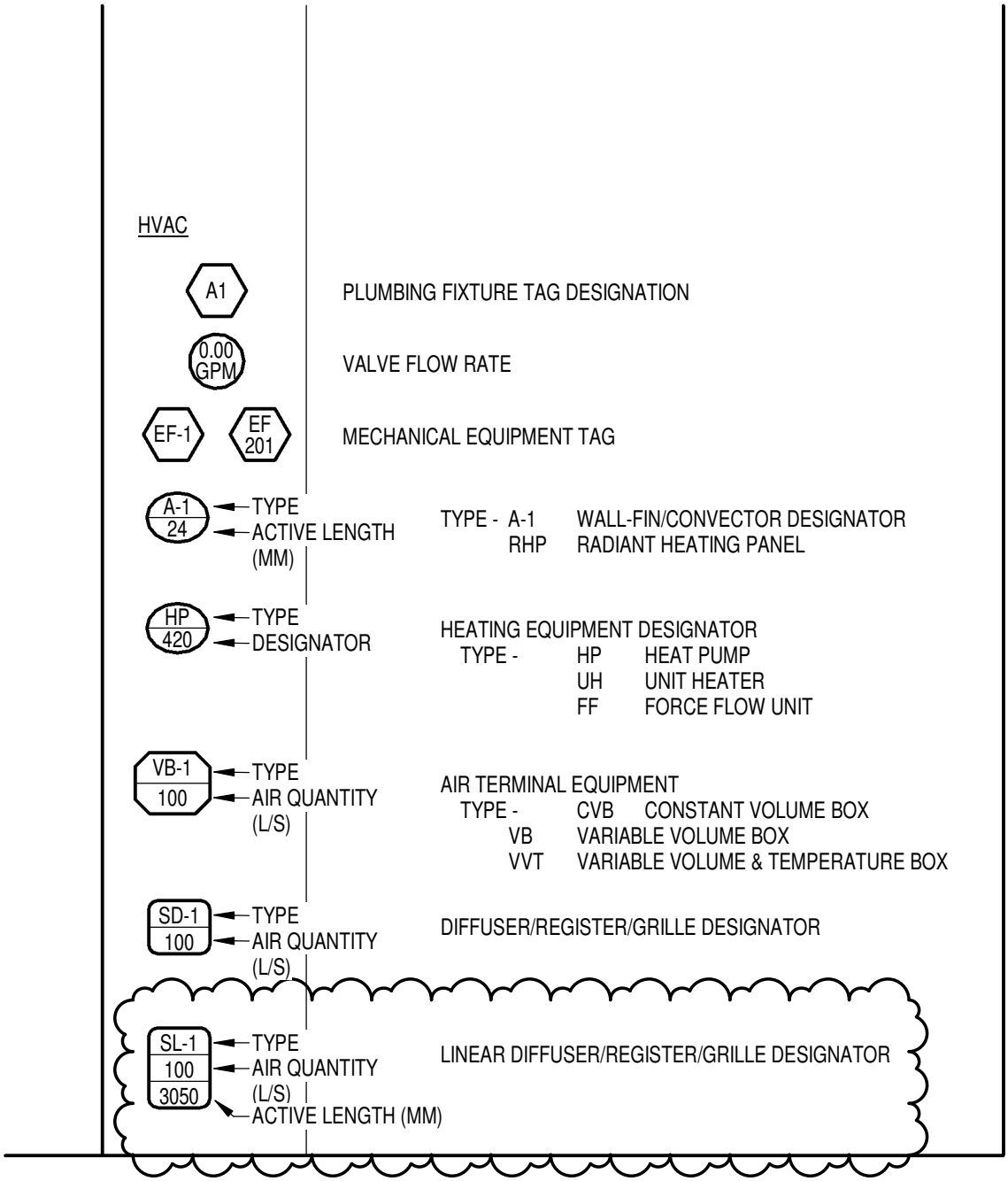
    1. Reissue Drawing E701.4 attached in its entirety.

13. **Drawing E702.4 - Part Ground Floor Plan South - Power and Systems Demolition**

    1. Reissue Drawing E702.4 attached in its entirety.

END OF ADDENDUM NO. 4

HVAC



REVISION TO DRAWING M101.4

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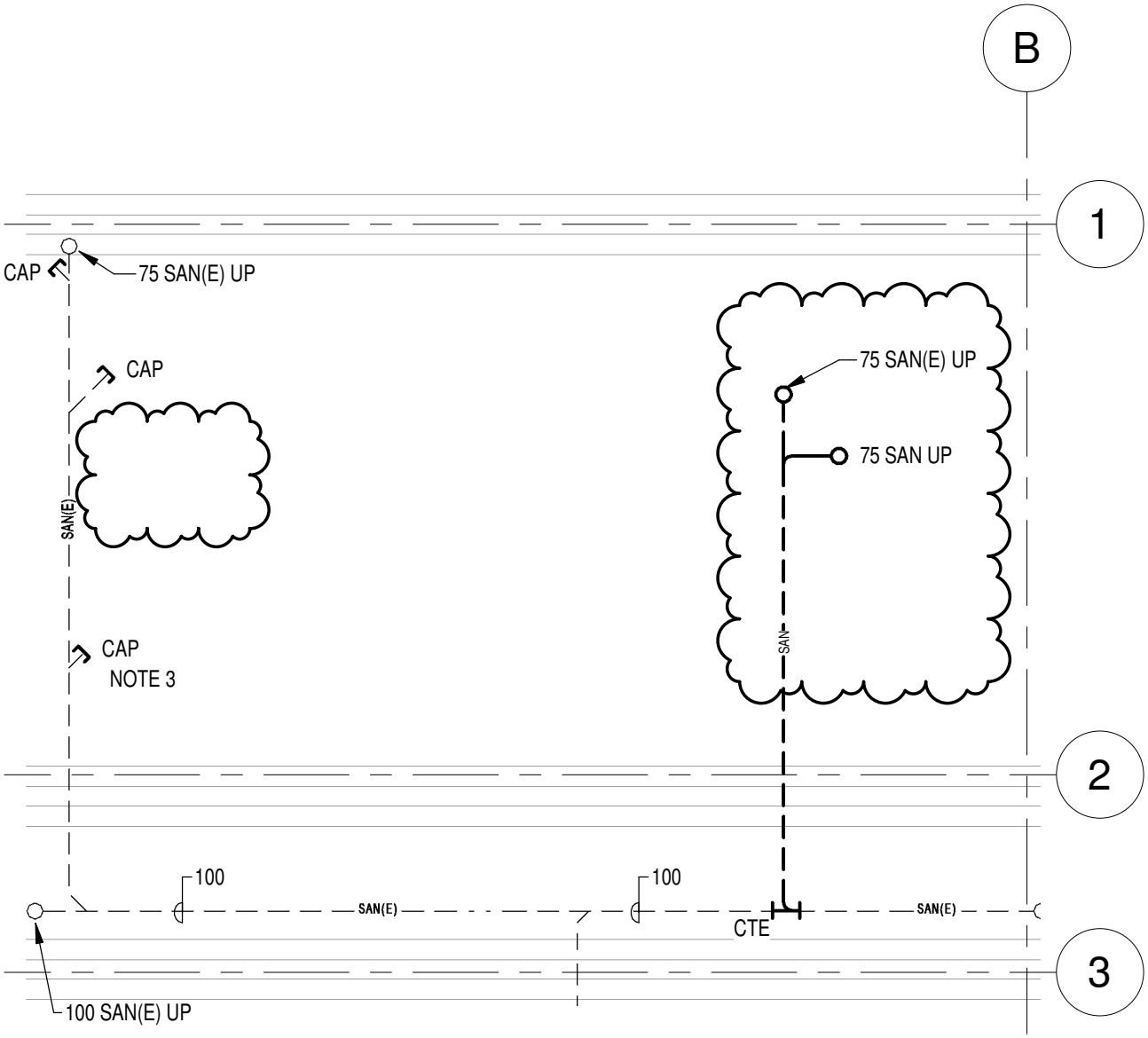
DATE PLOTTED: 2020-03-23 1:29:35 PM

Chorley + Bisset
CONSULTING ENGINEERS
201 QUEENS AVE., UNIT 800 LONDON, ON, N6A 1J1
250 CITY CENTRE AVE., SUITE 403 OTTAWA ON, K1R 6K7

Title: MECHANICAL LEGEND, ABBREVIATIONS AND DRAWING LIST	Drawn: BMD	Date: 3/17/2020
	Checked: JDF	Project No.: 8906
Project: OUR LADY OF FATIMA	Approved: JDF	Drawing No.: MR-1
	Scale:	



REVISION TO DRAWING M201.4

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DATE PLOTTED: 2020-03-23 1:29:35 PM

Chorley + Bisset
CONSULTING ENGINEERS
201 QUEENS AVE., UNIT 800 LONDON, ON, N6A 1J1
250 CITY CENTRE AVE., SUITE 403 OTTAWA ON, K1R 6K7

Title: PART GROUND FLOOR PLAN - DRAINAGE NORTH		Drawn: BMD	Date: 3/17/2020
		Checked: JDF	Project No.: 8906
Project: OUR LADY OF FATIMA		Approved: JDF	Drawing No.: MR-2
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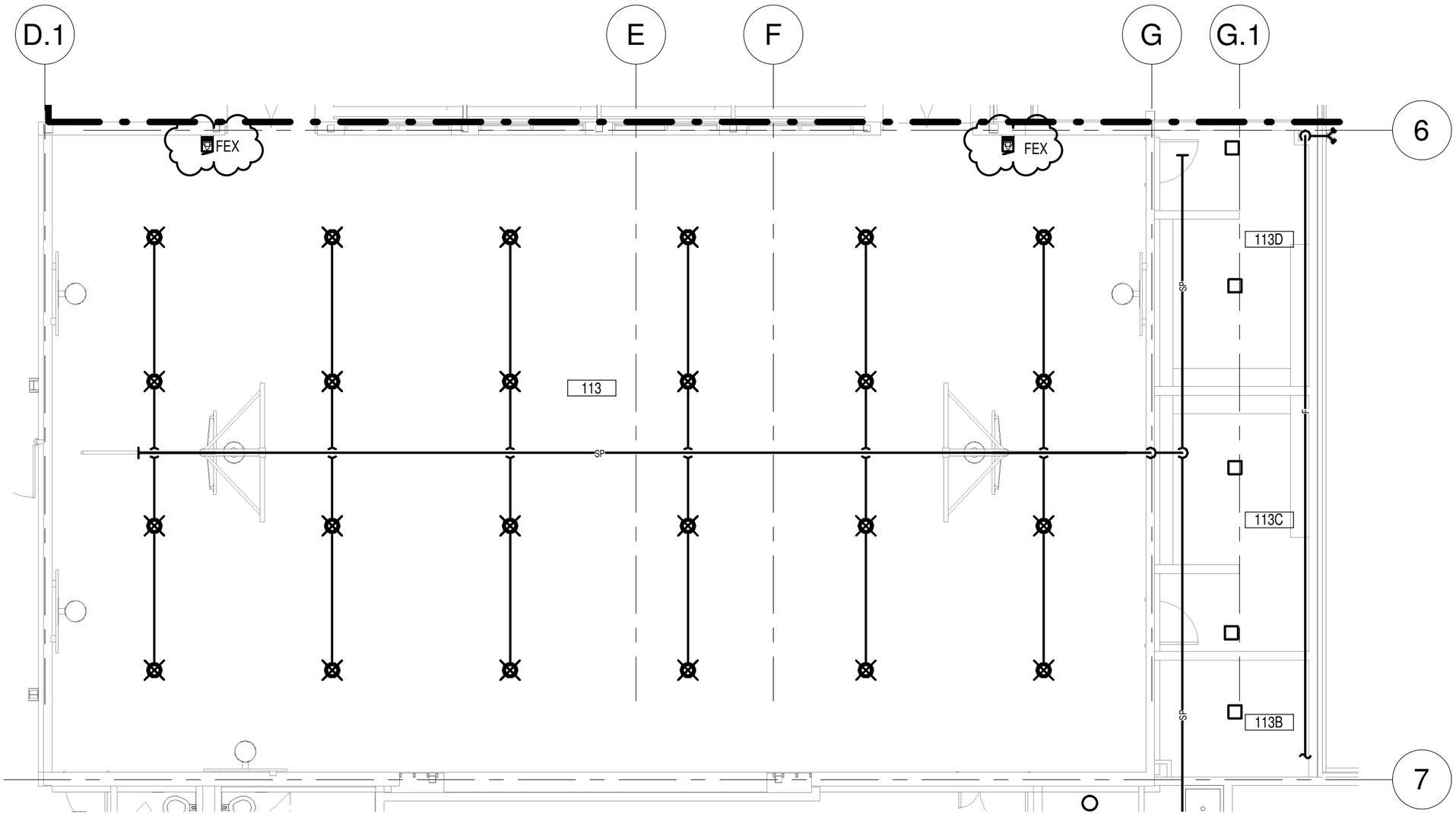

REVISION TO DRAWING M302.4

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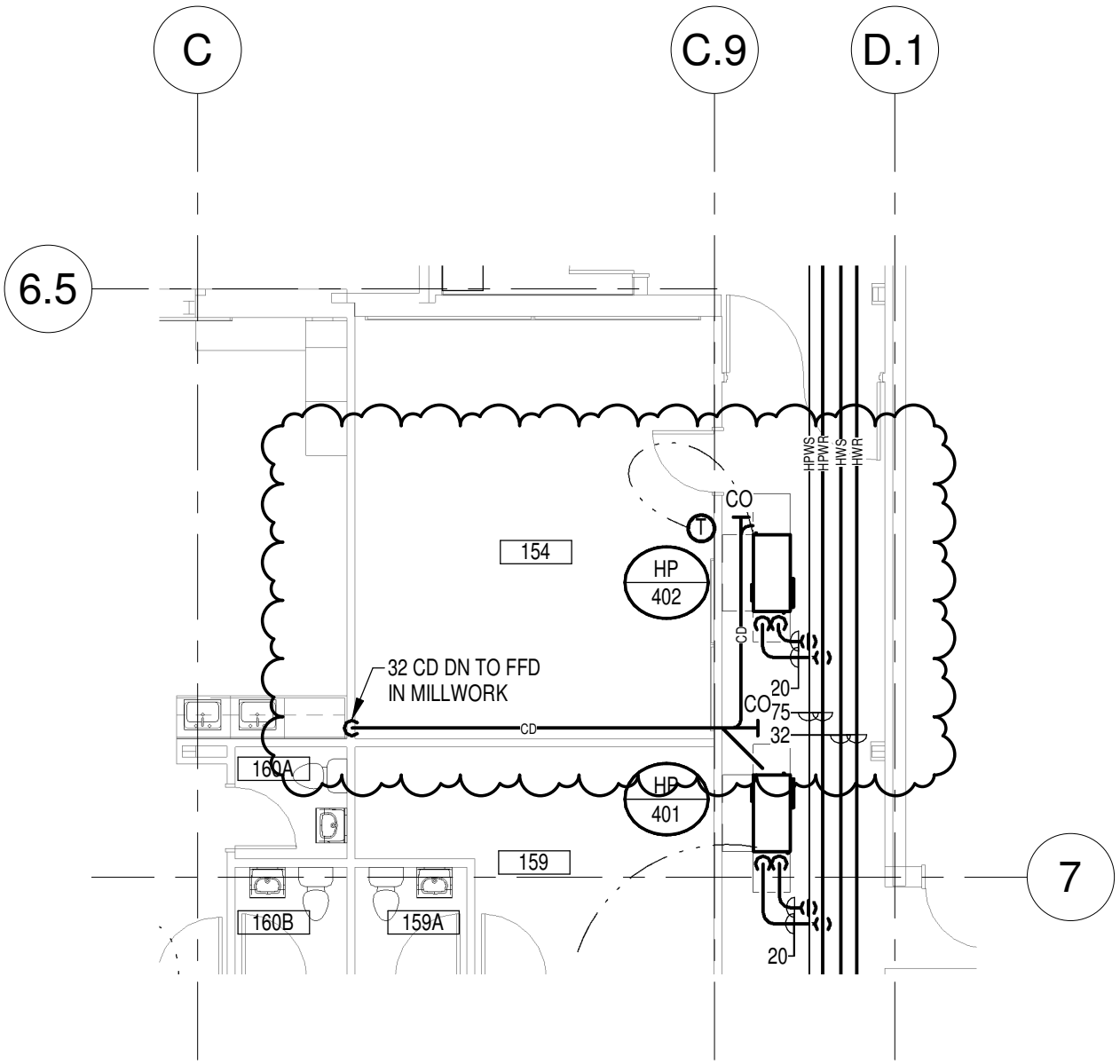
Chorley + Bisset
CONSULTING ENGINEERS
369 YORK ST., SUITE 2B
LONDON ON, N6B 3R4
250 CITY CENTRE AVE., SUITE 403
OTTAWA ON, K16 6K7

Title: PART GROUND FLOOR PLAN - FIRE PROTECTION SOUTH	Drawn: BMD	Date: 3/17/2020
	Checked: JDF	Project No.: 8906
Project: OUR LADY OF FATIMA	Approved: JDF	Drawing No.: MR-3
	Scale: 1:100	



REVISION TO DRAWING M402.4

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DATE PLOTTED: 2020-03-23 1:29:38 PM

Chorley + Bisset
CONSULTING ENGINEERS
201 QUEENS AVE., UNIT 800 LONDON, ON, N6A 1J1
250 CITY CENTRE AVE., SUITE 403 OTTAWA ON, K1R 6K7

Title: PART GROUND FLOOR PLAN - HEATING SOUTH		Drawn: BMD	Date: 3/17/2020
		Checked: JDF	Project No.: 8906
Project: OUR LADY OF FATIMA		Approved: JDF	Drawing No.: MR-4
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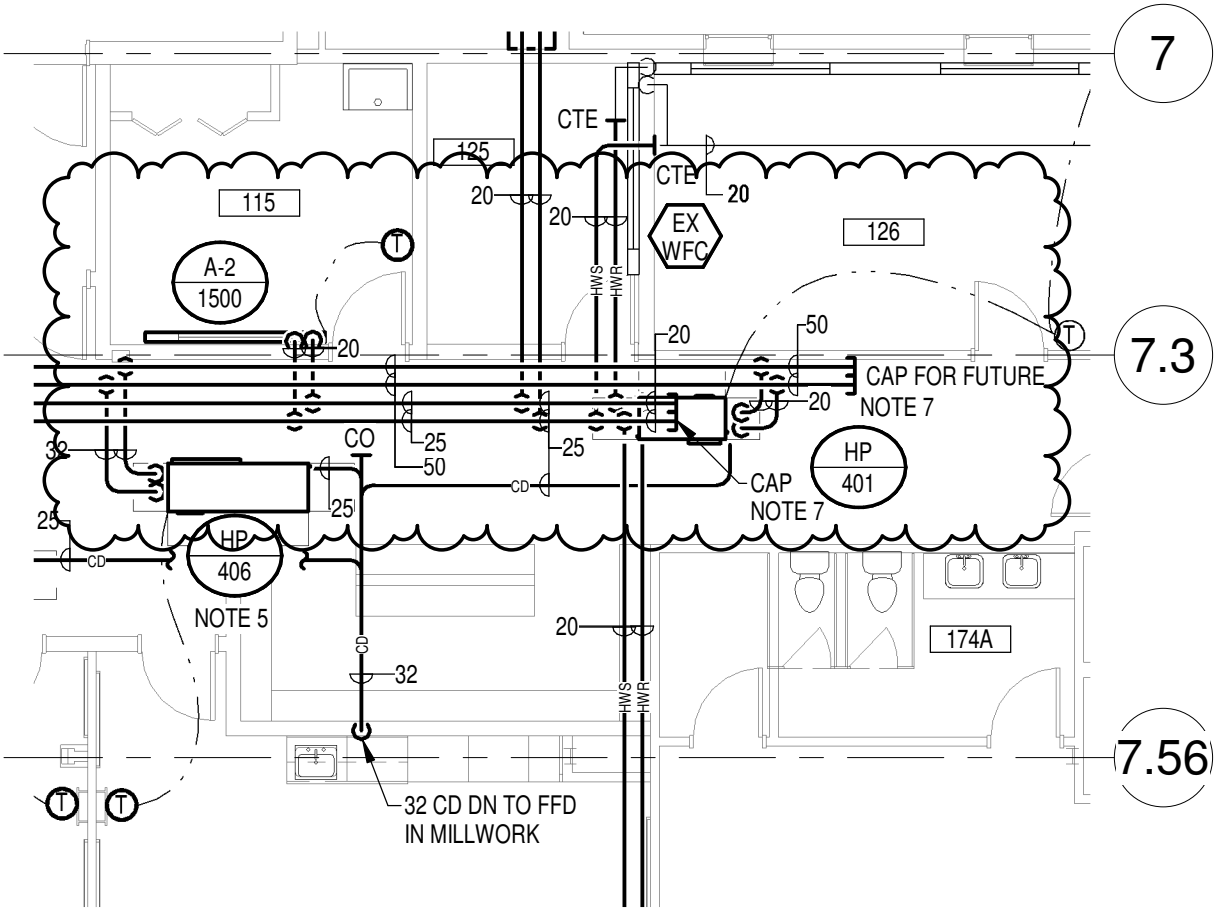

REVISION TO DRAWING M402.4

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DATE PLOTTED: 2020-03-23 1:29:40 PM

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201 QUEENS AVE., UNIT 800 LONDON, ON, N6A 1J1
250 CITY CENTRE AVE., SUITE 403 OTTAWA ON, K1R 6K7

Title: PART GROUND FLOOR PLAN - HEATING SOUTH		Drawn: BMD	Date: 3/17/2020
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Project: OUR LADY OF FATIMA		Approved: JDF	Drawing No.: MR-5
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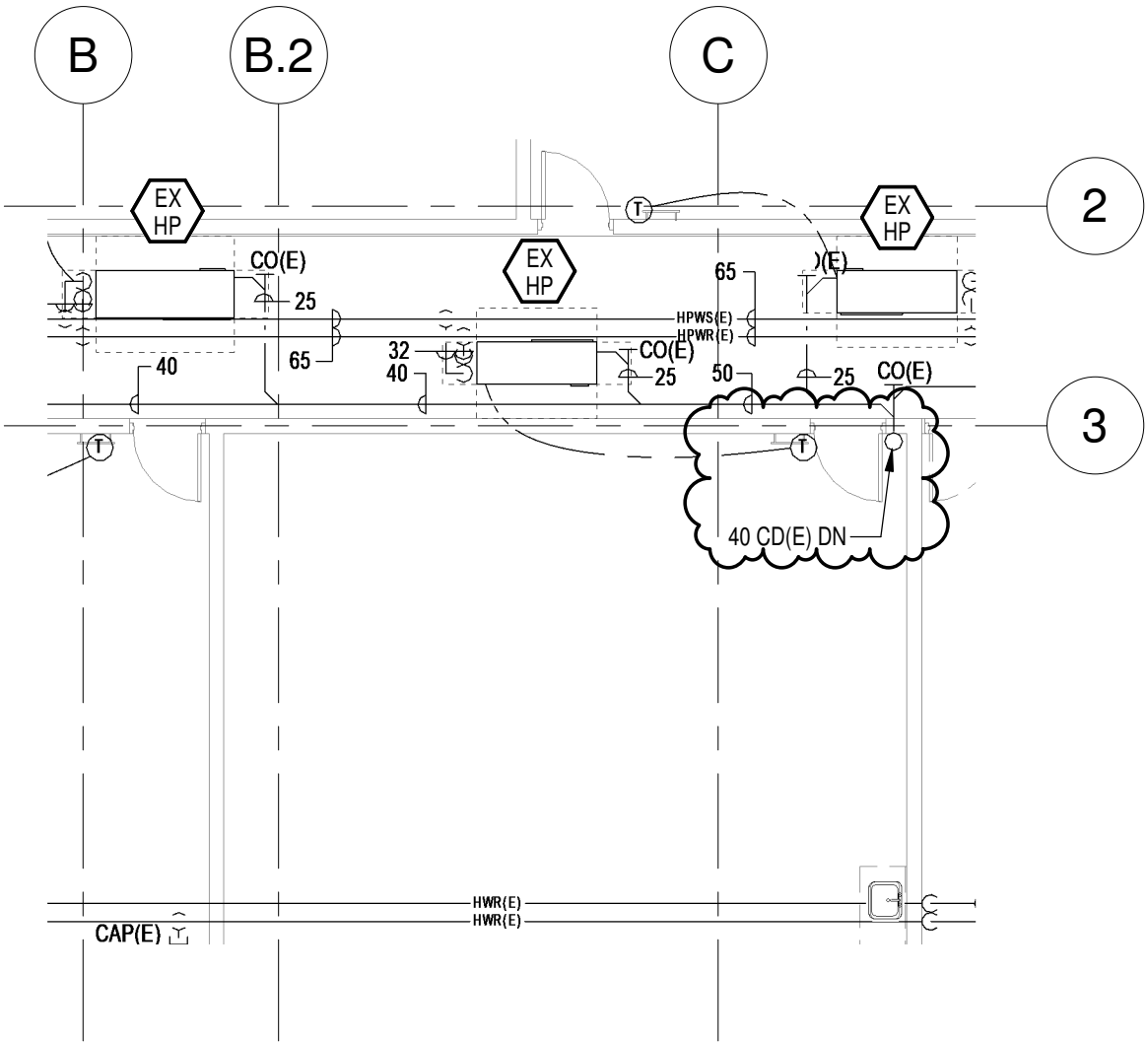

REVISION TO DRAWING M707.4

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DATE PLOTTED: 2020-03-23 1:29:43 PM

Chorley + Bisset
CONSULTING ENGINEERS
201 QUEENS AVE., UNIT 800 LONDON, ON, N6A 1J1
250 CITY CENTRE AVE., SUITE 403 OTTAWA ON, K1R 6K7

Title: PART GROUND FLOOR PLAN - HEATING NORTH DEMOLITION		Drawn: BMD	Date: 3/17/2020
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Project: OUR LADY OF FATIMA		Approved: JDF	Drawing No.: MR-6
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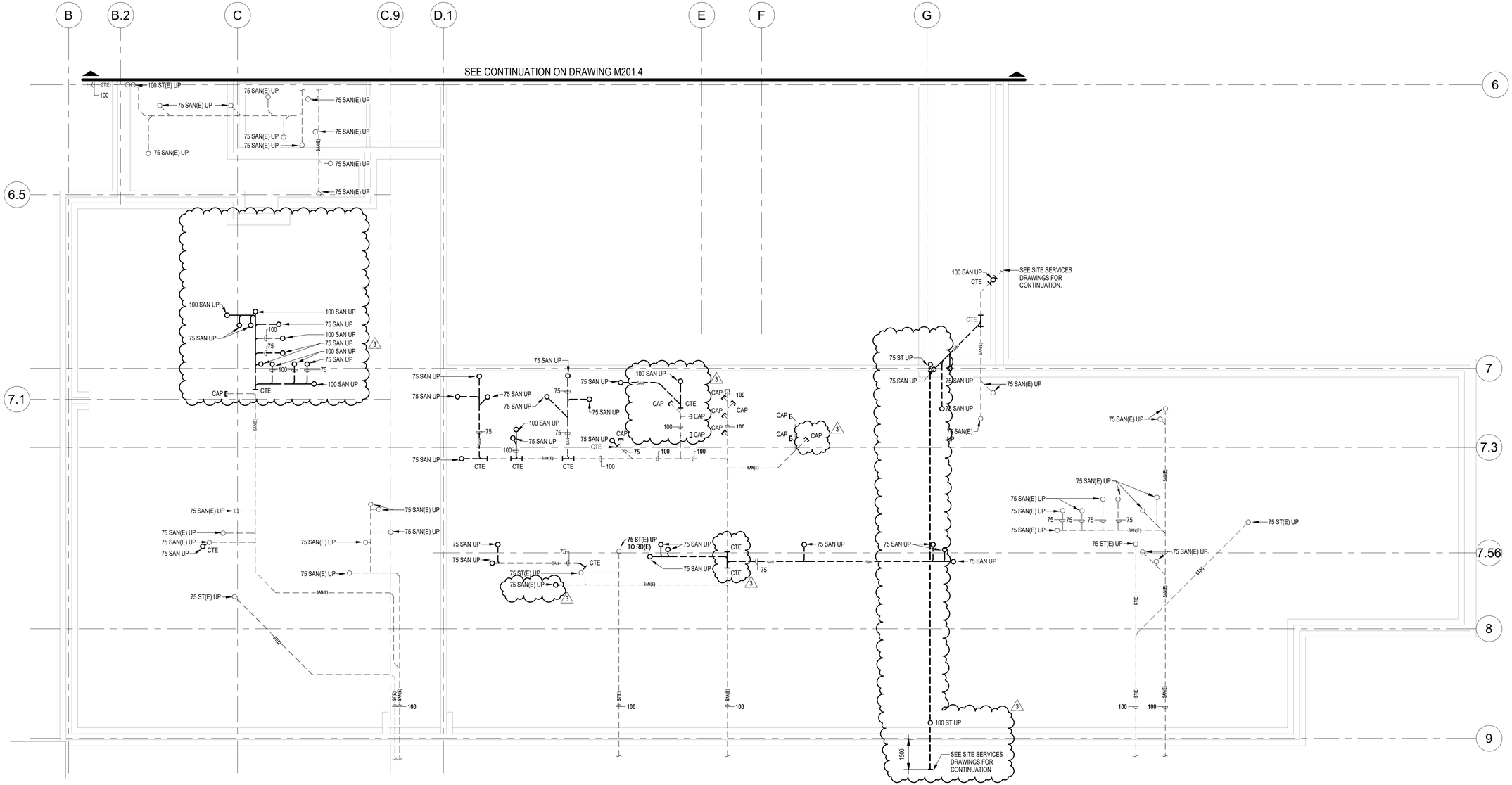

PART GROUND FLOOR PLAN - DRAINAGE SOUTH

SCALE 1 : 100

NOTES:

1. MINIMUM BELOW GRADE PIPE SIZE IS 75 mm.
2. SCAN/LOCATE ALL EXISTING BELOW GRADE SERVICES BEFORE EXCAVATION/CUTTING.

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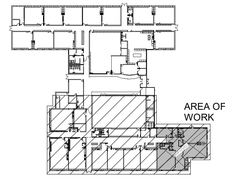


KEY PLAN

TRUE NORTH

CONSTRUCTION NORTH

NOTES

LEGEND

No.	DATE MM/DD/YYYY	DESCRIPTION	REV. No.
3	03/11/2020	RE-ISSUED AS PER ADDENDUM	
2	03/05/2020	REISSUED FOR ADDENDUM	
1	02/20/2020	ISSUED FOR TENDER & PERMIT	

LICENCED PROFESSIONAL ENGINEER
J. D. FOSTER
100148736
Feb 20/2020
PROVINCE OF ONTARIO

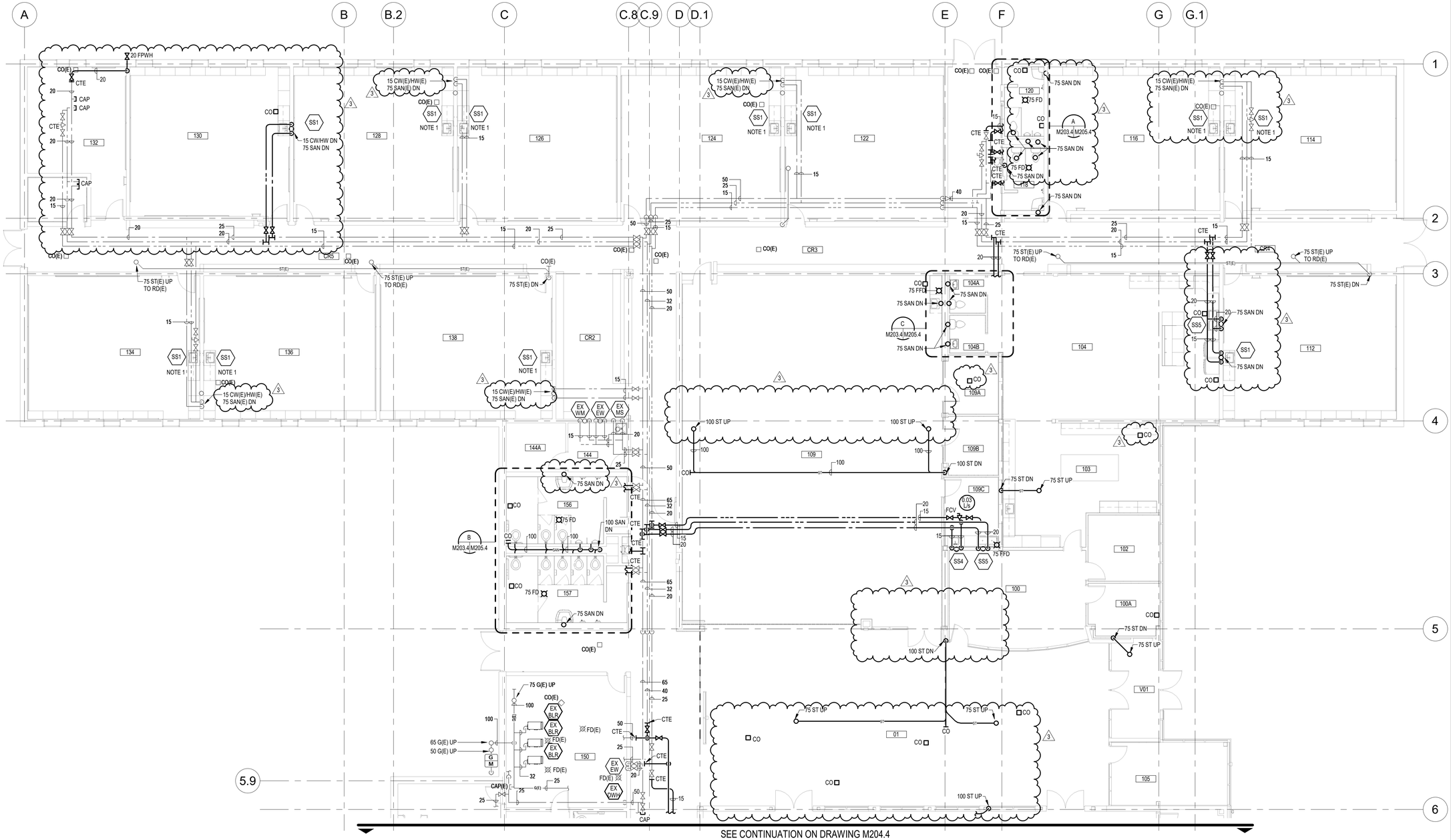
PROJECT TITLE

OUR LADY OF FATIMA

DRAWING TITLE

PART GROUND FLOOR PLAN - DRAINAGE SOUTH

DATE PLOTTED	DRAWN BY	DRAWING No.
2020-03-23 2:57:27 PM	BMD	M202.4
SCALE 1 : 100	CHECKED BY JDF	
PROJECT No. 8906		



PART GROUND FLOOR PLAN - PLUMBING NORTH

SCALE 1 : 100

NOTES:

1. REWORK CW, HW AND SANITARY PIPING TO SUIT NEW SINK LOCATION WITHIN MILWORK.

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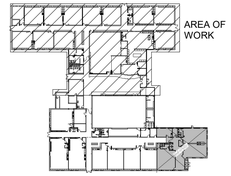

KEY PLAN

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NOTES

LEGEND

No.	DATE MM/DD/YYYY	DESCRIPTION	REV. No.
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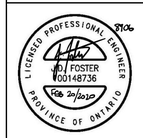
2	03/05/2020	REISSUED FOR ADDENDUM	
1	02/20/2020	ISSUED FOR TENDER & PERMIT	



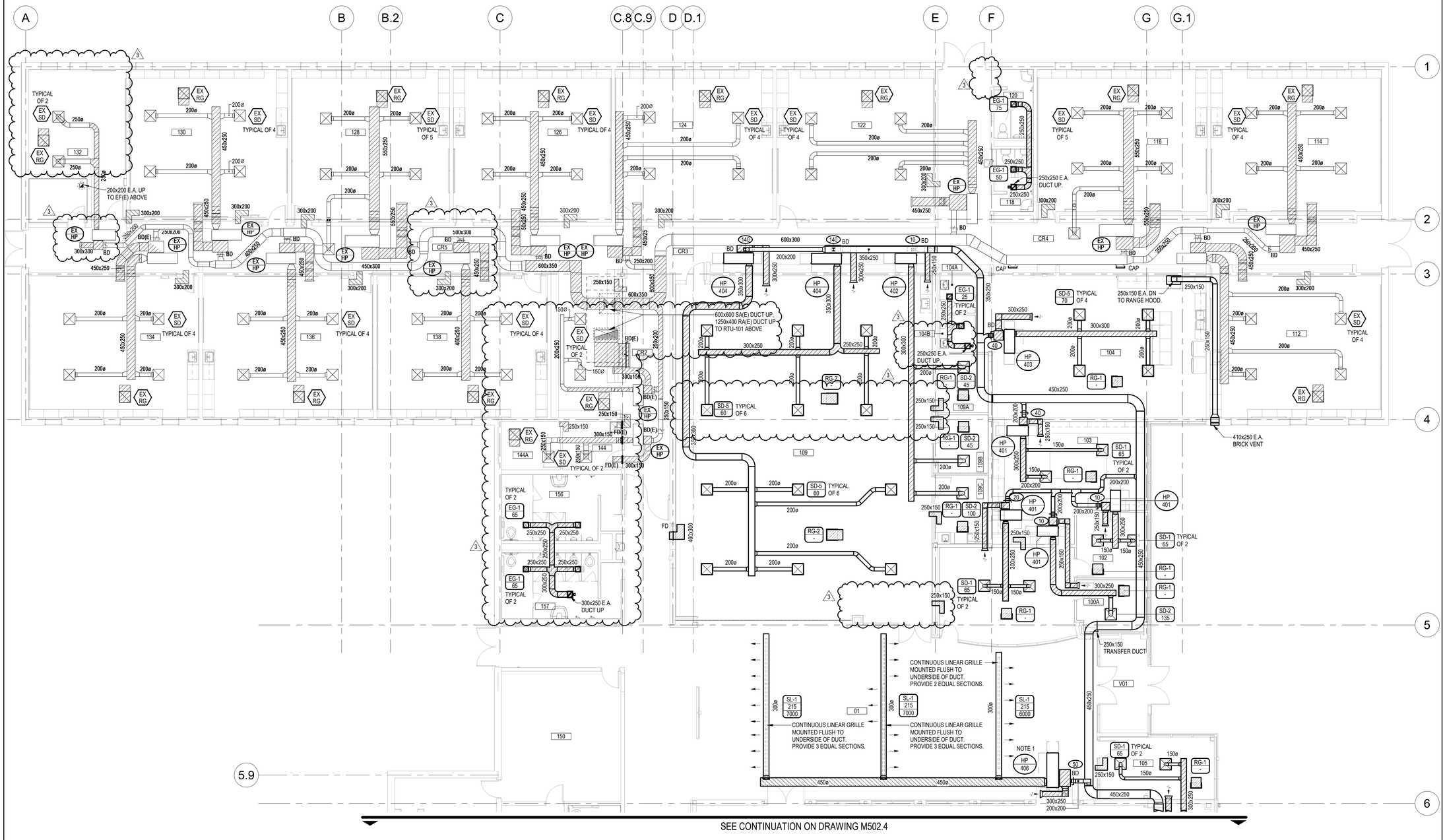
PROJECT TITLE

OUR LADY OF FATIMA

DRAWING TITLE

PART GROUND FLOOR PLAN - PLUMBING NORTH

DATE PLOTTED 2020-03-23 2:57:56 PM	DRAWN BY BMD	DRAWING No. M203.4
SCALE 1 : 100	CHECKED BY JDF	
PROJECT No. 8906		



PART GROUND FLOOR PLAN - AIR DISTRIBUTION NORTH

SCALE 1 : 100

NOTES:

1. ALLOW FOR PAINTING OF EXPOSED HEAT PUMP. ARCHITECT TO SELECT COLOUR.
2. PROVIDE BALANCING DAMPERS WHERE SPECIFIED. NOT ALL BALANCING DAMPERS SHOWN FOR CLARITY.
3. SEE HEAT PUMP INSTALLATION DETAILS ON DRAWING M103.4.
4. ENSURE NO MECHANICAL OR ELECTRICAL SERVICES ARE INSTALLED DIRECTLY BELOW HEAT PUMPS.

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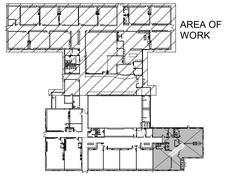

KEY PLAN

TRUE NORTH

CONSTRUCTION NORTH

NOTES

LEGEND

No.	DATE MM/DD/YYYY	DESCRIPTION	REV. No.
3	03/11/2020	RE-ISSUED AS PER ADDENDUM	
2	03/05/2020	REISSUED FOR ADDENDUM	
1	02/20/2020	ISSUED FOR TENDER & PERMIT	

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JOHN D. FOSTER
100148736
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Feb 20/2020

PROJECT TITLE

OUR LADY OF FATIMA

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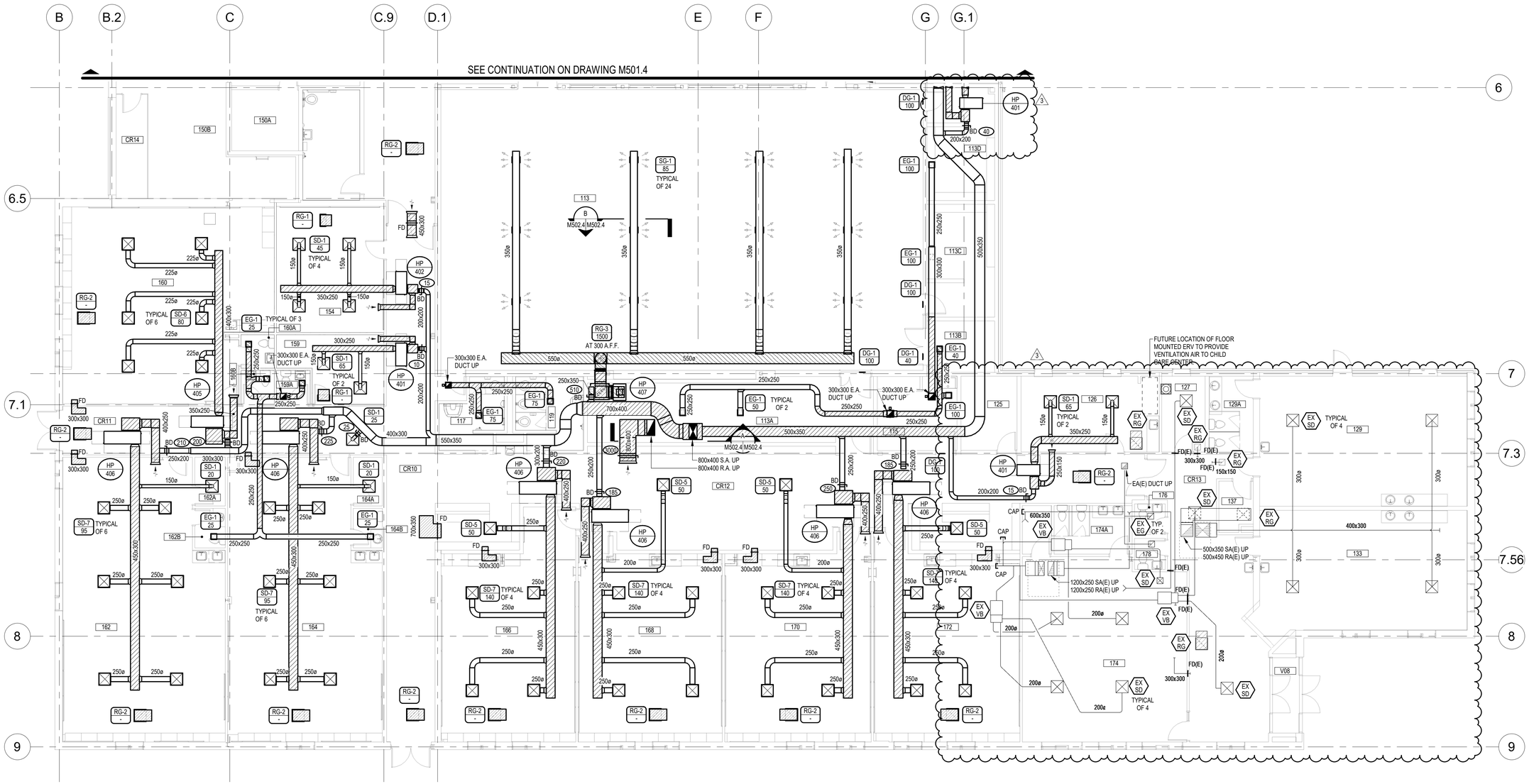
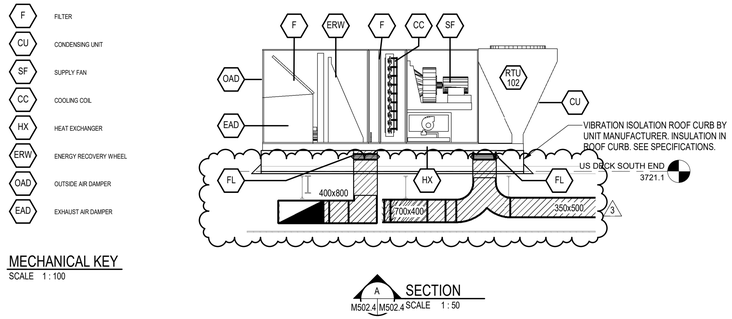
PART GROUND FLOOR PLAN - AIR DISTRIBUTION NORTH

DATE PLOTTED	DRAWN BY	DRAWING No.
2020-03-23 2:58:34 PM	BMD	M501.4
SCALE 1 : 100	CHECKED BY JDF	
PROJECT No. 8906		





A M502.4 | M502.4 SECTION
SCALE 1 : 50

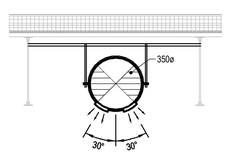
F FILTER
CU CONDENSING UNIT
SF SUPPLY FAN
CC COOLING COIL
HX HEAT EXCHANGER
ERW ENERGY RECOVERY WHEEL
OAD OUTSIDE AIR DAMPER
EAD EXHAUST AIR DAMPER

MECHANICAL KEY
SCALE 1 : 100

PART GROUND FLOOR PLAN - AIR DISTRIBUTION SOUTH
3
SCALE 1 : 100

NOTES:

1. ALLOW FOR PAINTING OF EXPOSED HEAT PUMP. ARCHITECT TO SELECT COLOUR.
2. PROVIDE BALANCING DAMPERS WHERE SPECIFIED. NOT ALL BALANCING DAMPERS SHOWN FOR CLARITY.
3. SEE HEAT PUMP INSTALLATION DETAILS ON DRAWING M103.4.
4. ENSURE NO MECHANICAL OR ELECTRICAL SERVICES ARE INSTALLED DIRECTLY BELOW HEAT PUMPS.



B M502.4 | M502.4 SECTION
SCALE 1 : 25

NOTES:

1. COORDINATE LOCATION OF SUPPLY GRILLES SUCH THAT AIR FLOW IS NOT OBSTRUCTED BY STRUCTURAL FRAMING.

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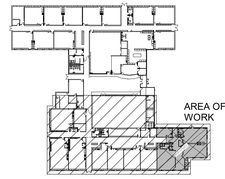

KEY PLAN

TRUE NORTH

CONSTRUCTION NORTH

NOTES

LEGEND

No.	DATE MM/DD/YYYY	DESCRIPTION	REV. No.
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2	03/05/2020	REISSUED FOR ADDENDUM	
1	02/20/2020	ISSUED FOR TENDER & PERMIT	

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JDF FOSTER
100148736
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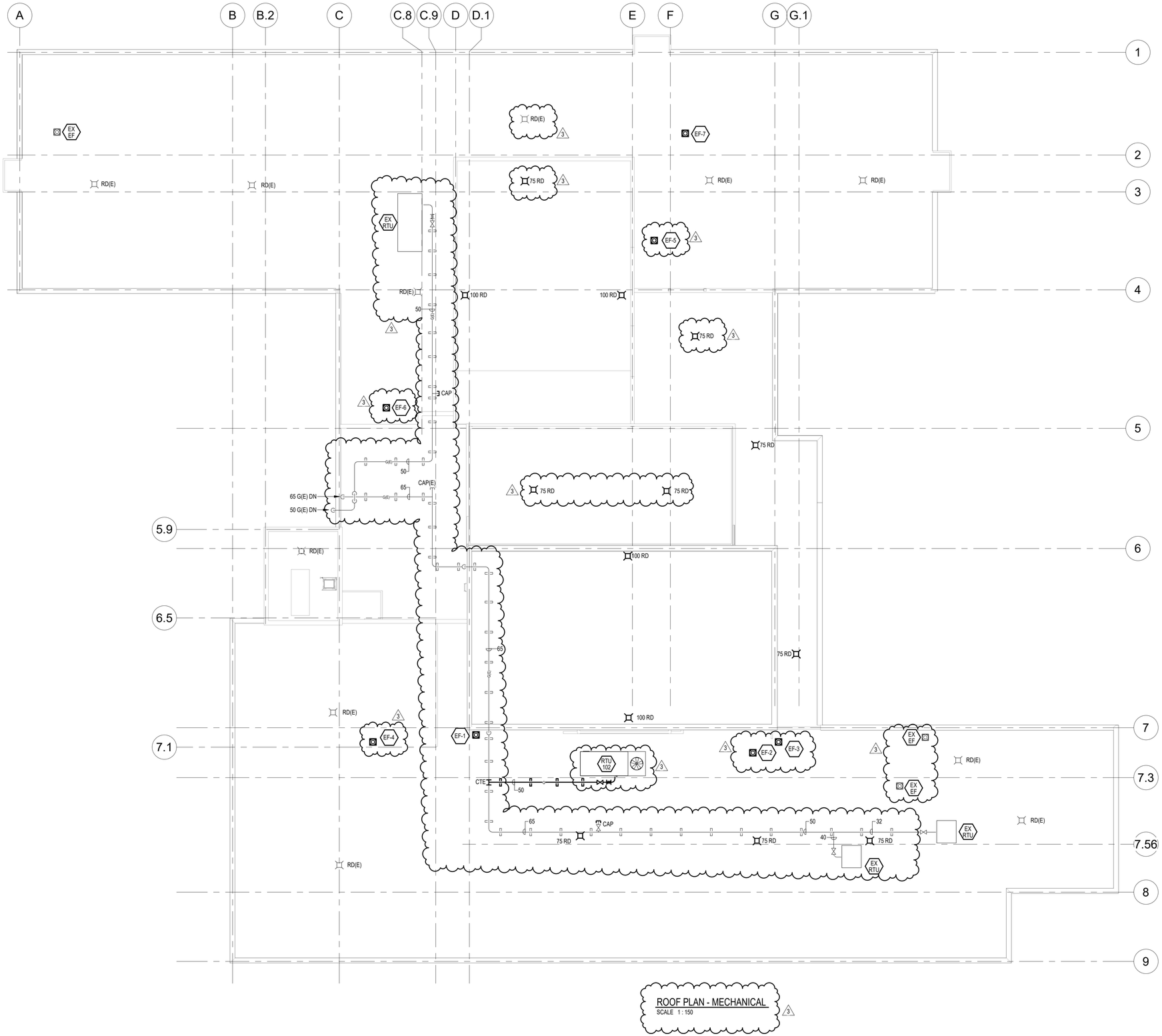
PROJECT TITLE

OUR LADY OF FATIMA

DRAWING TITLE

PART GROUND FLOOR PLAN - AIR DISTRIBUTION SOUTH

DATE PLOTTED	DRAWN BY	DRAWING No.
2020-03-23 2:59:27 PM	BMD	M502.4
SCALE: As indicated	CHECKED BY: JDF	
PROJECT No.: 8906		



ROOF PLAN - MECHANICAL
SCALE 1 : 150

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LONDON ON, N6A 1J1

250 CITY CENTRE AVE., SUITE 403
OTTAWA ON, K1R 8K7

TRUE NORTH

CONSTRUCTION NORTH

NOTES

LEGEND

No.	DATE MM/DD/YYYY	DESCRIPTION	REV. No.
3	03/11/2020	RE-ISSUED AS PER ADDENDUM	
2	03/05/2020	REISSUED FOR ADDENDUM	
1	02/20/2020	ISSUED FOR TENDER & PERMIT	

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JD FOSTER
100148736
Feb 20/2020
PROVINCE OF ONTARIO

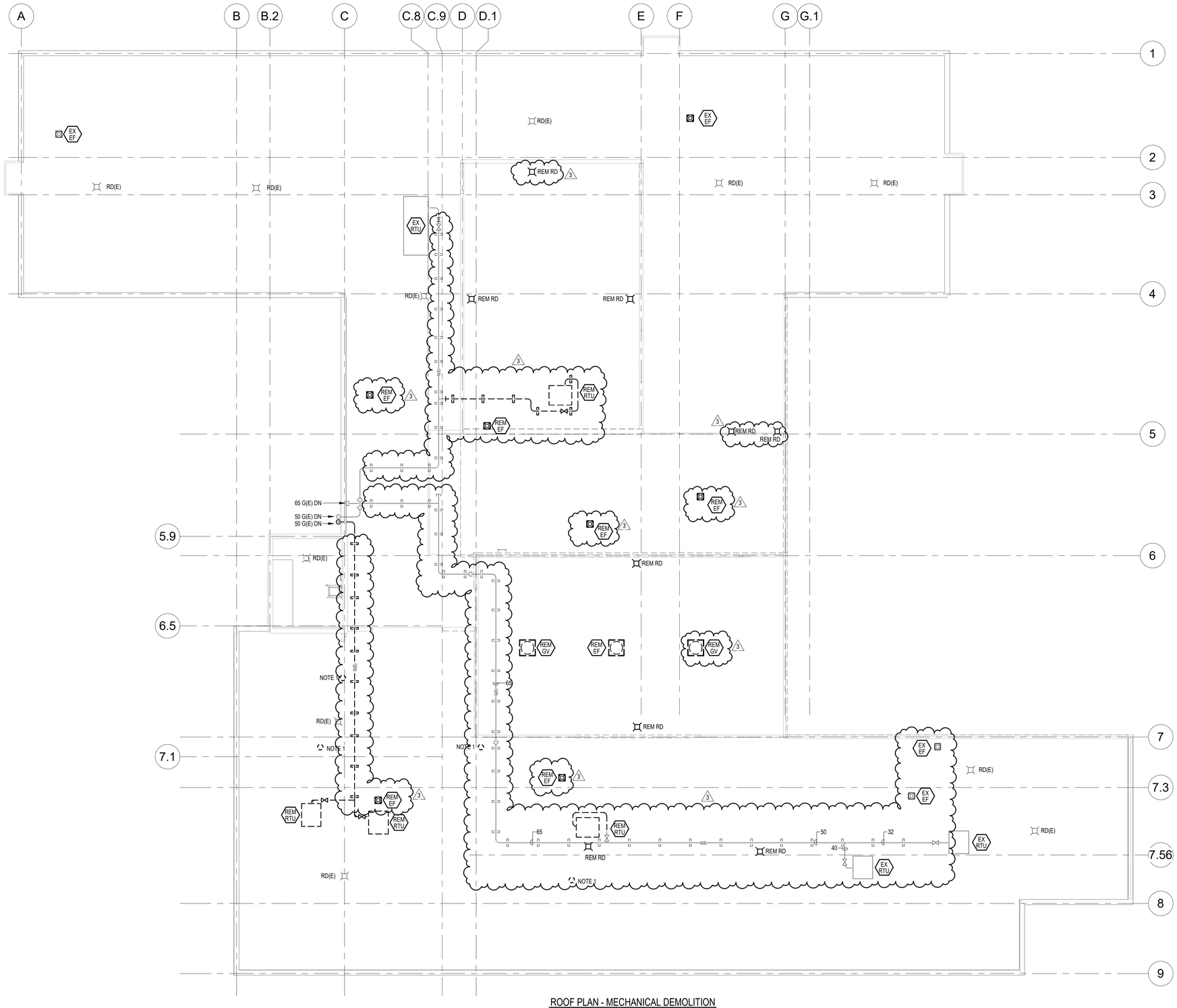
PROJECT TITLE

OUR LADY OF FATIMA

DRAWING TITLE

ROOF PLAN - MECHANICAL

DATE PLOTTED	DRAWN BY	DRAWING No.
2020-03-23 3:00:08 PM	BMD	M601.4
SCALE 1 : 150	CHECKED BY JDF	
PROJECT No. 8906		



ROOF PLAN - MECHANICAL DEMOLITION

SCALE 1 : 150

NOTES:

1. REMOVE EXISTING VENT AND ASSOCIATED VENTING AND EQUIPMENT AND ACCESSORIES WITHIN BUILDING.

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OTTAWA ON, K1R 6K7

TRUE NORTH

CONSTRUCTION NORTH

NOTES

LEGEND

No.	DATE MM/DD/YYYY	DESCRIPTION	REV. No.
3	03/11/2020	RE-ISSUED AS PER ADDENDUM	
2	03/05/2020	REISSUED FOR ADDENDUM	
1	02/20/2020	ISSUED FOR TENDER & PERMIT	

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JD FOSTER
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2020/03/20

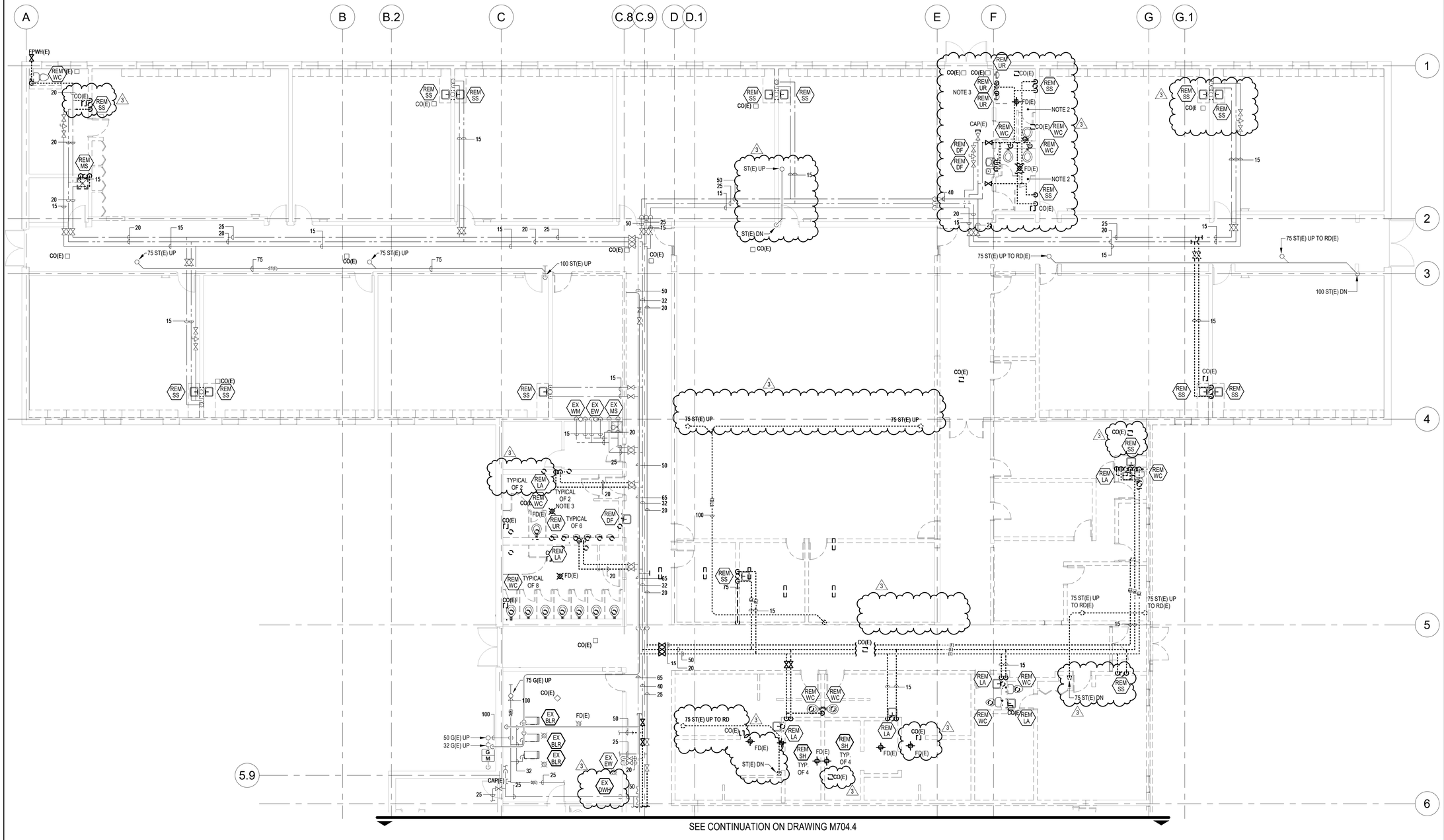
PROJECT TITLE

OUR LADY OF FATIMA

DRAWING TITLE

ROOF PLAN - MECHANICAL DEMOLITION

DATE PLOTTED	DRAWN BY	DRAWING No.
2020-03-23 3:00:27 PM	BMD	M602.4
SCALE 1 : 150	CHECKED BY JDF	
PROJECT No. 8906		



PART GROUND FLOOR PLAN - PLUMBING NORTH DEMOLITION

SCALE 1 : 100

NOTES:

1. SERVICES TO BE CUT BACK AND CAP CONCEALED WITHIN WALL OR UNDERGROUND.
2. REMOVE ALL EXISTING CW,HW AND SANITARY PIPING SERVING EXISTING PLUMBING FIXTURES BEING REMOVED. MODIFY EXISTING SERVICES TO SUIT NEW LAYOUT AS SHOWN ON PLUMBING AND DRAINAGE DRAWINGS. CAP REDUNDANT SERVICES IN WALL OR BELOW FLOOR.
3. REMOVE EXISTING FLOOR MOUNT URINALS AND WALL MOUNT FLUSH TANKS AND ALL ACCESSOIRES AND PLUMBING SERVICES.

Chorley + Bisset
CONSULTING ENGINEERS

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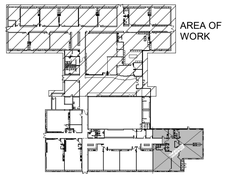
250 CITY CENTRE AVE., SUITE 403
OTTAWA ON, K1R 6K7



KEY PLAN

TRUE NORTH

CONSTRUCTION NORTH

NOTES

LEGEND

No.	DATE MM/DD/YYYY	DESCRIPTION	REV. No.
3	03/11/2020	RE-ISSUED AS PER ADDENDUM	
2	03/05/2020	REISSUED FOR ADDENDUM	
1	02/20/2020	ISSUED FOR TENDER & PERMIT	

LICENSED PROFESSIONAL ENGINEER
JDJ FOSTER
100148736
PROVINCE OF ONTARIO
2020/03/20

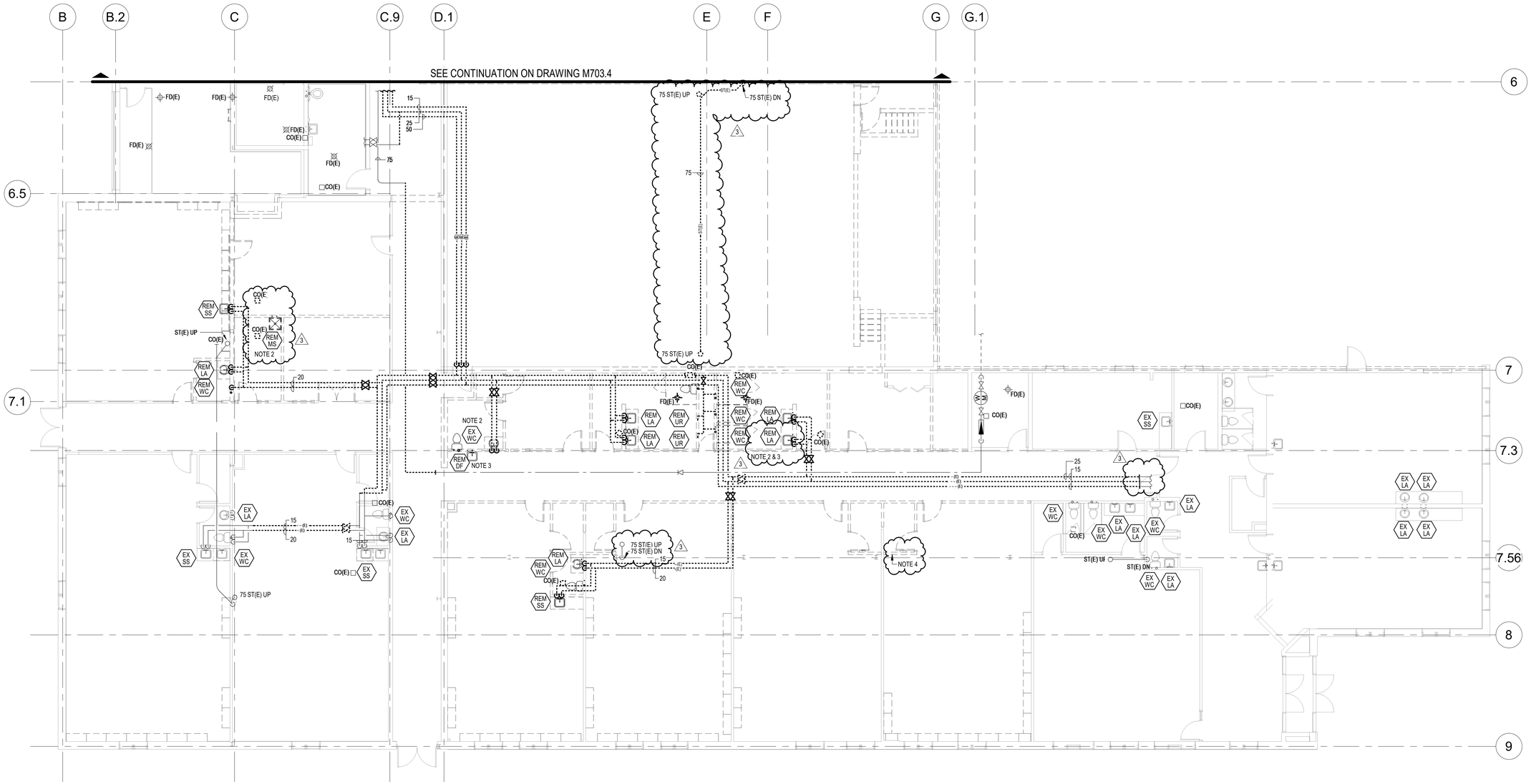
PROJECT TITLE

OUR LADY OF FATIMA

DRAWING TITLE

PART GROUND FLOOR PLAN - PLUMBING NORTH DEMOLITION

DATE PLOTTED	DRAWN BY	DRAWING No.
2020-03-23 3:00:50 PM	BMD	M703.4
SCALE 1 : 100	CHECKED BY JDF	
PROJECT No. 8906		



PART GROUND FLOOR PLAN - PLUMBING SOUTH DEMOLITION

SCALE 1 : 100

NOTES:

1. SERVICES TO BE CUT BACK AND CAP CONCEALED WITHIN WALL OR UNDERGROUND.
2. REMOVE ALL REDUNDANT CW, HW AND SANITARY PIPING. CAP BEHIND WALL OR BELOW FLOOR.
3. REMOVE EXISTING DRINKING FOUNTAIN.
4. REMOVE EXISTING STORM PIPING TO WHERE IT DROPS BELOW GRADE AND CAP PIPING.

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CONSULTING ENGINEERS

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LONDON ON, N6A 1J1

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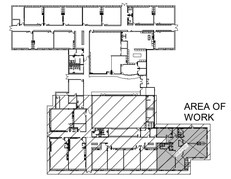
OTTAWA ON, K1R 6K7



KEY PLAN

TRUE NORTH

CONSTRUCTION NORTH

NOTES

LEGEND

No.	DATE MM/DD/YYYY	DESCRIPTION	REV. No.
3	03/11/2020	RE-ISSUED AS PER ADDENDUM	
2	03/05/2020	REISSUED FOR ADDENDUM	
1	02/20/2020	ISSUED FOR TENDER & PERMIT	

LICENCED PROFESSIONAL ENGINEER
JD FOSTER
100148736
PROVINCE OF ONTARIO
8906
Feb 20/2020

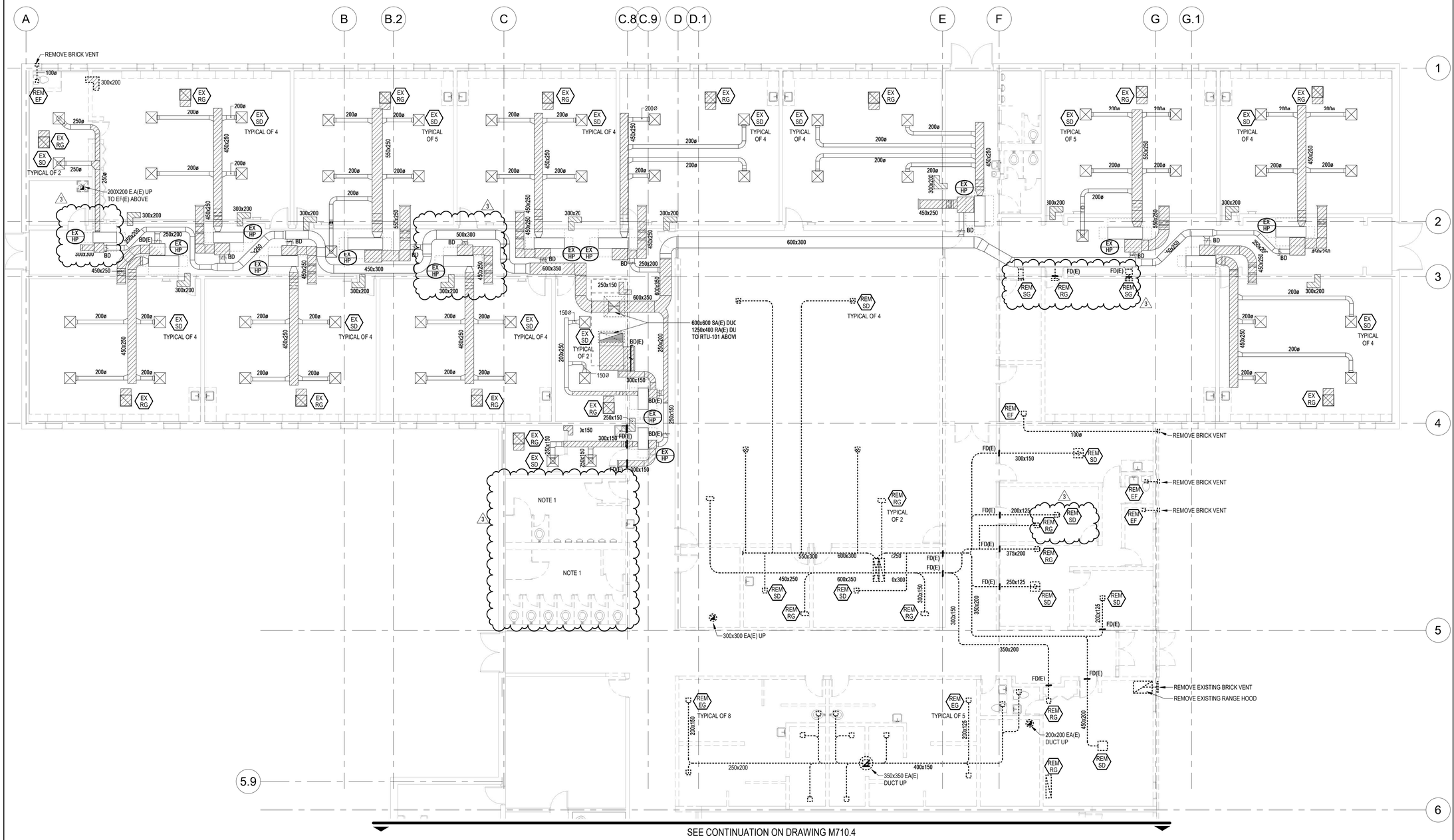
PROJECT TITLE

OUR LADY OF FATIMA

DRAWING TITLE

PART GROUND FLOOR PLAN - PLUMBING SOUTH DEMOLITION

DATE PLOTTED	DRAWN BY	DRAWING No.
2020-03-23 3:01:23 PM	BMD	M704.4
SCALE 1 : 100	CHECKED BY JDF	
PROJECT No. 8906		



PART GROUND FLOOR PLAN - AIR DISTRIBUTION NORTH DEMOLITION

SCALE 1 : 100

NOTE:

1. REMOVE ALL EXISTING EXHAUST DUCTWORK AND ASSOCIATED EXHAUST GRILLES.

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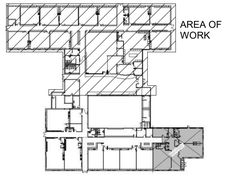


KEY PLAN

TRUE NORTH

CONSTRUCTION NORTH

NOTES

LEGEND

No.	DATE MM/DD/YYYY	DESCRIPTION	REV. No.
3	03/11/2020	REVISED AS PER ADDENDUM	
2	03/05/2020	REISSUED FOR ADDENDUM	
1	02/20/2020	ISSUED FOR TENDER & PERMIT	

LICENCED PROFESSIONAL ENGINEER
J.D. FOSTER
100148736
Feb 20/2020
PROVINCE OF ONTARIO

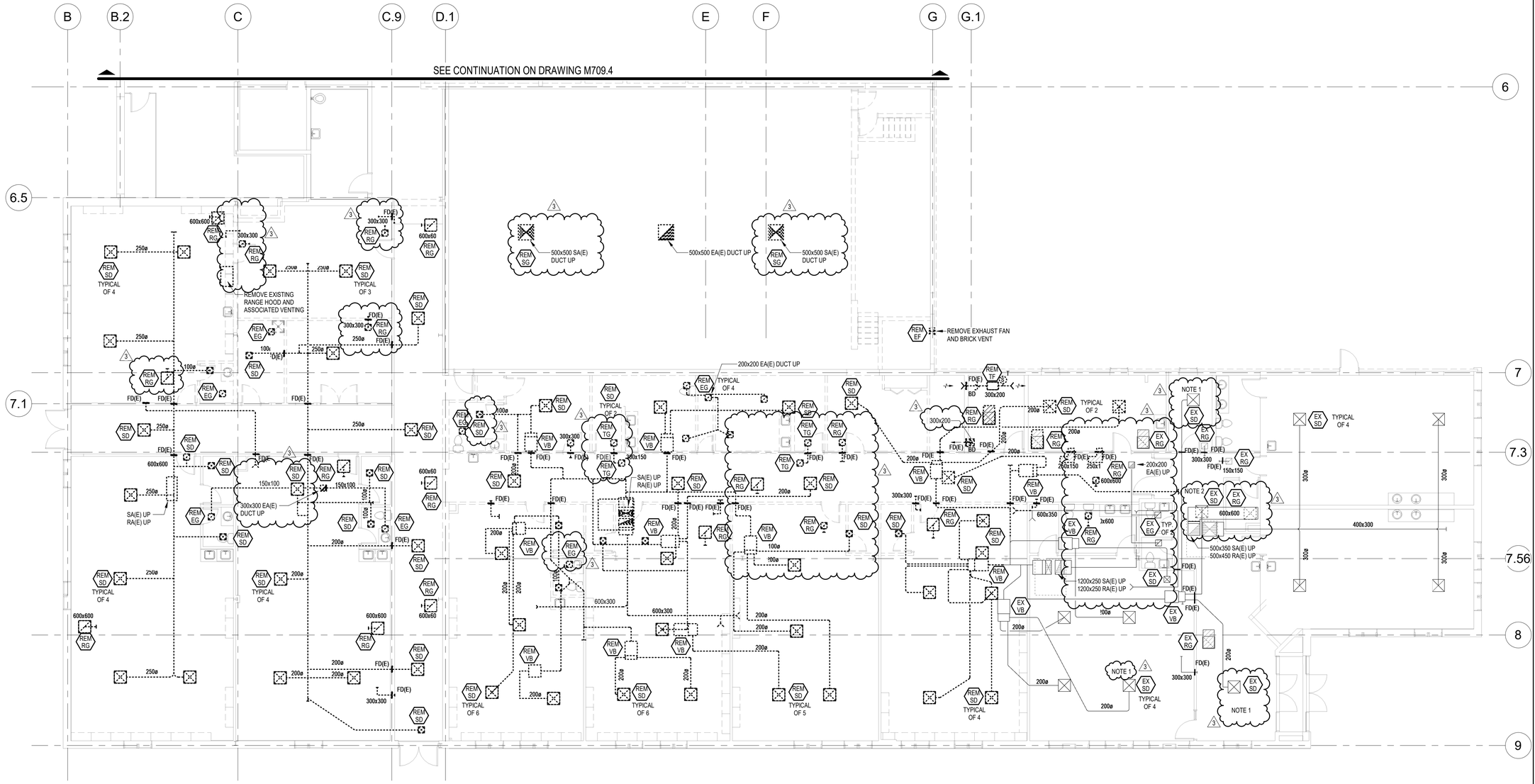
PROJECT TITLE

OUR LADY OF FATIMA

DRAWING TITLE

PART GROUND FLOOR PLAN - AIR DISTRIBUTION NORTH DEMOLITION

DATE PLOTTED	DRAWN BY	DRAWING No.
2020-03-31 5:02:03 PM	BMD	M709.4
SCALE 1 : 100	CHECKED BY JDF	
PROJECT No. 8906		



PART GROUND FLOOR PLAN - AIR DISTRIBUTION SOUTH DEMOLITION

SCALE 1 : 100

NOTES:

1. MEASURE AND RECORD EXISTING AIRFLOWS. AFTER RENOVATION BALANCE AIRFLOWS TO MATCH AIRFLOW PRIOR TO RENOVATIONS.
2. OPEN ENDED DUCT.
3. IN GENERAL, REMOVE ALL DUCTWORK AND ACCESSORIES ASSOCIATED WITH AIR DISTRIBUTION SYSTEMS BEING REMOVED.

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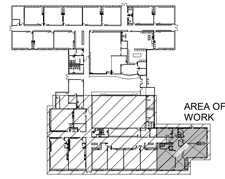
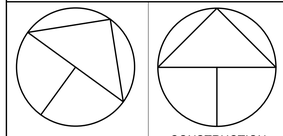
OTTAWA ON, K1R 6K7



KEY PLAN



NOTES

LEGEND

No.	DATE MM/DD/YYYY	DESCRIPTION	REV. No.
3	03/11/2020	RE-ISSUED AS PER ADDENDUM	
2	03/05/2020	REISSUED FOR ADDENDUM	
1	02/20/2020	ISSUED FOR TENDER & PERMIT	

LICENCED PROFESSIONAL ENGINEER
J. D. FOSTER
100148736
PROVINCE OF ONTARIO
Feb 20/2020

PROJECT TITLE

OUR LADY OF FATIMA

DRAWING TITLE

PART GROUND FLOOR PLAN - AIR DISTRIBUTION SOUTH DEMOLITION

DATE PLOTTED	DRAWN BY	DRAWING No.
2020-03-23 3:01:56 PM	BMD	M710.4
SCALE 1 : 100	CHECKED BY JDF	
PROJECT No. 8906		

Panel ID: A

Location: CORRIDOR CR6 (3)
Fed From:
Mounting: Flush
Voltage: 120/208 Wye, 3PH, 4W
Mains: 225 A
Number of CKT: 78

CKT	Circuit Description	Trip	Poles	Poles	Trip	(3) Circuit Description	CKT
1	EXISTING CIRCUIT	20 A	1	1	20 A	EXISTING CIRCUIT	2
3	EXISTING CIRCUIT	20 A	1	1	20 A	EXISTING CIRCUIT	4
5	EXISTING CIRCUIT	20 A	1	1	20 A	EXISTING CIRCUIT	6
7	EXISTING CIRCUIT	20 A	1	1	20 A	EXISTING CIRCUIT	8
9	EXISTING CIRCUIT	20 A	1	1	20 A	EXISTING CIRCUIT	10
11	EXISTING CIRCUIT	20 A	1	1	20 A	EXISTING CIRCUIT	12
13	EXISTING CIRCUIT	20 A	1	1	20 A	EXISTING CIRCUIT	14
15	EXISTING CIRCUIT	20 A	1	1	20 A	EXISTING CIRCUIT	16
17	EXISTING CIRCUIT	20 A	1	1	20 A	EXISTING CIRCUIT	18
19	EXISTING CIRCUIT	20 A	1	1	15 A	EXISTING CIRCUIT	20
21	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	22
23	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	24
25	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	26
27	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	28
29	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	30
31	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	32
33	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	34
35	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	36
37	RM 156 HAND DRYER	20 A	1	1	20 A	EXISTING CIRCUIT	38
39	RM 156 HAND DRYER	20 A	1	1	20 A	EXISTING CIRCUIT (3)	40
41	RM 157 HAND DRYER	20 A	1			(3)	42
43	RM 157 HAND DRYER	20 A	1	1	15 A	EXISTING CIRCUIT	44
45	(3)			1	15 A	EXISTING CIRCUIT	46
47				1	15 A	EXISTING CIRCUIT	48
49	RM 122 COUNTER REC	* 20 A	1	1	15 A	EXISTING CIRCUIT	50
51	RM 124 COUNTER REC	* 20 A	1			(3)	52
53	TM 126 COUNTER REC	* 20 A	1	1	20 A	EXISTING CIRCUIT	54
55	RM 128 COUNTER REC	* 20 A	1	1	15 A	EXISTING CIRCUIT	56
57	RM 130 COUNTER REC	* 20 A	1	1	20 A	RM 144A DATA RACK REC	58
59	RM 134 COUNTER REC	* 20 A	1	1	15 A	RM 144A - PSHE	60
61	RM 136 COUNTER REC	* 20 A	1	1	20 A	RM 132 REC	62
63	RM 138 COUNTER REC	* 20 A	1	1	20 A	RM 133 REC	64
65							66
67							68
69	(3)						70
71	SPARE	20 A	1	1	20 A	SPARE	72
73	SPARE	20 A	1	1	20 A	SPARE	74
75	SPARE	20 A	1	1	20 A	SPARE	76
77	SPARE	20 A	1	1	20 A	SPARE	78

* GFCI BREAKER (5mA) ** GFCI BREAKER (30mA) + AFCI BREAKER

Notes:
1. PROVIDE NEW BREAKERS TO SUIT EXISTING SIEMENS PANEL.

(3)

Panel ID: B

Location: STAFF ROOM 104
Fed From:
Mounting: Flush (3)
Voltage: 120/208 Wye, 3PH, 4W
Mains: 225 A
Number of CKT: 72

CKT	Circuit Description	Trip	Poles	Poles	Trip	(3) Circuit Description	CKT
1	RM 103, 104, 112 LTG	20 A	1				
3	RM 114, 116, 118, 120, CR18, CR4 LTG	20 A	1	2	50 A	RM 104 RANGE REC	4
5	RM 101, 109 LTG (3)	20 A	1				
7	RM 101, 109, 105 LTG	20 A	1	2	40 A	RM 104 DISHWASHER	8
9	RM 104 MICROWAVE REC	20 A	1	1	20 A	RM 104 FRIDGE	10
11	RM 104 MICROWAVE REC	20 A	1	1	20 A	RM 104 FRIDGE	12
13	RM 104 COUNTER REC	20 A	1	1	20 A	RM 104 COUNTER REC	14
15	RM 104 COUNTER REC	20 A	1	1	20 A	RM 104 MICROWAVE REC	16
17	RM 104 MICROWAVE REC	20 A	1	1	20 A	RM 104 REC	18
19	RM 104 RANGE HOOD	15 A	1	1	15 A	EXISTING CIRCUIT	20
21	RM 104A,104B REC	* 20 A	1	1	15 A	EXISTING CIRCUIT	22
23	EXISTING CIRCUIT	15 A	1	1	20 A	EXISTING CIRCUIT	24
25	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	26
27	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	28
29	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	30
31	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	32
33	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	34
35	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	36
37	EXISTING CIRCUIT	20 A	1	1	20 A	EXISTING CIRCUIT (3)	38
39	RM 100A, 102 REC	20 A	1	1	20 A	EXISTING CIRCUIT	40
41	RM 101A REFRIGERATOR	20 A	1	1	20 A	OFFICE REC	42
43	RM 101A COUNTER REC	* 20 A	1	1	20 A		44
45	RM 101A REC	20 A	1	1	20 A	RM 109A,109B TV AND LAPTOP REC	46
47	RM 109 REC	20 A	1		20 A	RM 109 TV AND LAPTOP REC	48
49	RM 109,109A REC	20 A	1			(3)	50
51	RM 109 TV AND LAPTOP REC	20 A	1	1	20 A	RM 118 HAND DRYER	52
53	RM 109 COUNTER REC	* 20 A	1	1	20 A	RM 120 HAND DRYER	54
55				(3)			56
57				1	20 A *	RM 112 COUNTER REC	58
59				1	20 A *	RM 114 COUNTER REC	60
61				1	20 A *	RM 116 COUNTER REC	62
63	RM 103 COUNTER REC	* 20 A	1	1	20 A	RM 104 ISLAND REC	64
65							66
67	SPARE	15 A	1	1	20 A	SPARE	68
69	SPARE	15 A	1	1	20 A	SPARE	70
71	SPARE	15 A	1	1	20 A	SPARE	72

* GFCI BREAKER (5mA) ** GFCI BREAKER (30mA) + AFCI BREAKER

Notes:
1. NEW PANEL TO REPLACE EXISTING, TRACE OUT ALL EXISTING LOADS AND DO NOT PROVIDE NEW BREAKERS FOR LOADS THAT HAVE BEEN REMOVED.

Panel ID: C

Location: MECH. 150B
Fed From:
Mounting: Surface
Voltage: 120/208 Wye, 3PH, 4W
Mains: 225 A
Number of CKT: 78

CKT	Circuit Description	Trip	Poles	Poles	Trip	(3) Circuit Description	CKT
1	EXISTING CIRCUIT	20 A	1	1	20 A	EXISTING CIRCUIT	2
3	EXISTING CIRCUIT	20 A	1	1	20 A	EXISTING CIRCUIT	4
5	EXISTING CIRCUIT	20 A	1	1	20 A	EXISTING CIRCUIT	6
7	EXISTING CIRCUIT	20 A	1	1	20 A	EXISTING CIRCUIT	8
9	EXISTING CIRCUIT	20 A	1	1	20 A	EXISTING CIRCUIT	10
11	EXISTING CIRCUIT	20 A	1	1	20 A	EXISTING CIRCUIT (3)	12
13				1	20 A	EXISTING CIRCUIT	14
15	EXISTING CIRCUIT	15 A	3	1	15 A	VESTIBULE V01 - DOOR OPERATORS (NOTE 2)	16
17					15 A	EXISTING CIRCUIT	18
19	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	20
21	EXISTING CIRCUIT	15 A	1	1	20 A	EXISTING CIRCUIT	22
23	EXISTING CIRCUIT	15 A	1	1	20 A	EXISTING CIRCUIT	24
25	EXISTING CIRCUIT	15 A	1	1	20 A	EXISTING CIRCUIT	26
27	EXISTING CIRCUIT	15 A	1	1	20 A	EXISTING CIRCUIT	28
29	EXISTING CIRCUIT	50 A	2	1	15 A	EXISTING CIRCUIT	30
31				1	15 A	EXISTING CIRCUIT	32
33	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	34
35	EXISTING CIRCUIT	15 A	1	1	15 A	SPARE (3)	36
37	EXISTING CIRCUIT	15 A	1	1	20 A	RM 113 LTG (NOTE 2)	38
39	SPARE	20 A	2	1	20 A	RM 113A,B,C,D LTG (NOTE 2)	40
41				1	20 A	EXISTING CIRCUIT	42
43	EXISTING CIRCUIT	15 A	1	1	20 A	EXISTING CIRCUIT	44
45	EXISTING CIRCUIT	15 A	1	1	20 A	EXISTING CIRCUIT	46
47	EXISTING CIRCUIT	15 A	1	1	20 A	EXISTING CIRCUIT	48
49	EXISTING CIRCUIT	15 A	1	1	20 A	EXISTING CIRCUIT	50
51	EXISTING CIRCUIT (3)	15 A	1	1	20 A	EXISTING CIRCUIT	52
53	SPARE	15 A	1	1	20 A	EXISTING CIRCUIT	54
55	RM 113 - MOTORIZED BASKETBALL NET	15 A	1	1	20 A	RM 113A REC	56
57	RM 113 - MOTORIZED BASKETBALL NET	15 A	1	1	20 A	RM 113B, 113C, 113D REC	58
59	RM 105 TV AND LAPTOP REC	20 A	1	1	20 A	RM 113 REC	60
61	RM 105 TV REC	20 A	1	1	20 A	RM 113 REC	62
63	ATRIUM 01 REC	20 A	1	1	20 A	RM 113A REC	64
65	ATRIUM 01 TV REC	20 A	1				66
67							68
69							70
71							72
73	SPARE	15 A	1	1	20 A	SPARE	74
75	SPARE	15 A	1	1	20 A	SPARE	76
77	SPARE	15 A	1	1	20 A	SPARE (3)	78

* GFCI BREAKER (5mA) ** GFCI BREAKER (30mA) + AFCI BREAKER

Notes:
1. EXISTING PANEL 'C'. PROVIDE NEW BREAKERS TO SUIT EXISTING SIEMENS ELECTRICAL PANEL. MARK ALL LOADS MADE REDUNDANT BY THIS CONTRUCTION PHASE AS SPARE.
2. UTILIZE EXISTING SPARE BREAKER FOR NEW LOAD.

Panel ID: D

Location: CUST. 115
Fed From:
Mounting: Surface
Voltage: 120/208 Wye, 3PH, 4W
Mains: 225 A
Number of CKT: 66

CKT	Circuit Description	Trip	Poles	Poles	Trip	Circuit Description	CKT
1	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	2
3	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	4
5	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	6
7	EXISTING CIRCUIT	15 A	1	1	15 A	PANEL 'E' CCT 17 (NOTE 2)	8
9	EXISTING CIRCUIT	15 A	1	1	15 A	PANEL 'E' CCT 19 (NOTE 2)	10
11	EXISTING CIRCUIT	15 A	1	1	15 A	PANEL 'E' CCT 33 (NOTE 2)	12
13	RM 166 COUNTER REC (NOTE 2)	* 20 A	1	1	15 A	PANEL 'E' CCT 39 (NOTE 2)	14
15	RM 168 COUNTER REC (NOTE 2)	* 20 A	1	1	20 A	CR12,RM 115,117,119,126 LTG (NOTE 2)	16
17	RM 170 COUNTER REC (NOTE 2)	* 20 A	1	1	20 A	RM 166,168 LTG (NOTE 2)	18
19	RM 172 COUNTER REC (NOTE 2) (3)	* 20 A	1	1	20 A	RM 170,172 LTG (NOTE 2)	20
21	RM 168 REC (NOTE 2)	20 A	1	1	20 A	REDUNDANT	22
23	RM 168 REC (NOTE 2)	* 20 A	1	1	20 A	REDUNDANT	24
25	RM 170 REC (NOTE 2)	* 20 A	1	1	20 A	SPARE	26
27	RM 172 REC (NOTE 2)	* 20 A	1	1	20 A	SPARE	28
29				1	20 A	EXISTING CIRCUIT	30
31	SPARE	20 A	3	1	15 A	PANEL 'E' CCT 41 (NOTE 3)	32
33				1	15 A	PANEL 'E' CCT 43 (NOTE 2)	34
35	PANEL 'E' CCT 2	15 A	1	1	15 A	EXISTING CIRCUIT	36
37	PANEL 'E' CCT 4	15 A	1	1	15 A	PANEL 'E' CCT 12	38
39	PANEL 'E' CCT 6	15 A	1	1	15 A	PANEL 'E' CCT 14	40
41	PANEL 'E' CCT 8	15 A	1	1	15 A	PANEL 'E' CCT 16	42
43	PANEL 'E' CCT 10	15 A	1	1	15 A	PANEL 'E' CCT 18	44
45	PANEL 'E' CCT 42 (3)	15 A	1	1	20 A	RM 117 HAND DRYER (3)	46
47	RM 115 REC	20 A	1	1	20 A	RM 119 HAND DRYER	48
49	CR 12 LCD TV REC	20 A	1				50
51							52
53				1	20 A	CR 12 REC	54
55				1	20 A	CR 12 REC	56
57							58
59							60
61							62
63							64
65						(3)	66

* GFCI BREAKER (5mA) ** GFCI BREAKER (30mA) + AFCI BREAKER

Notes:
1. EXISTING PANEL 'D'. PROVIDE NEW BREAKERS TO SUIT EXISTING SIEMENS ELECTRICAL PANEL. MARK ALL BREAKERS MADE REDUNDANT BY THIS CONSTRUCTION PHASE AS SPARE.
2. UTILIZE EXISTING CIRCUIT MADE REDUNDANT BY THIS CONSTRUCTION PHASE.
3. UTILIZE EXISITING SPARE BREAKER.

Panel ID: E

Location: STORAGE 159
Fed From:
Mounting: Surface
Voltage: 120/208 Wye, 3PH, 4W
Mains: 225 A
Number of CKT: 66

CKT	Circuit Description	Trip	Poles	Poles	Trip	Circuit Description	CKT
1	PANEL 'G' CCT 2 (NOTE 2)	15 A	1	1	15 A	EXISTING CIRCUIT	2
3	PANEL 'G' CCT 4 (NOTE 2)	15 A	1	1	15 A	EXISTING CIRCUIT	4
5	PANEL 'G' CCT 6 (NOTE 2)	15 A	1	1	15 A	EXISTING CIRCUIT	6
7	PANEL 'G' CCT 36 (NOTE 2)	15 A	1	1	20 A	EXISTING CIRCUIT	8
9	PANEL 'G' CCT 38 (NOTE 2)	15 A	1	1	15 A	EXISTING CIRCUIT	10
11	RM 154, 159, 160 LTG (NOTE 2)	15 A	1	1	15 A	EXISTING CIRCUIT	12
13	CR10, CR11 LTG (NOTE 2)	15 A	1	1	15 A	EXISTING CIRCUIT	14
15	RM 162, 164 LTG (NOTE 2)	15 A	1	1	15 A	EXISTING CIRCUIT	16
17	SPARE	15 A	1	1	15 A	EXISTING CIRCUIT	18
19	SPARE	15 A	1	1	15 A	EXISTING CIRCUIT	20
21				1	15 A	SPARE	22
23	REDUNDANT	40 A	3	1	15 A	SPARE	24
25				2	15 A	PANEL 'G' CCT 32,34 (NOTE 3)	26
27	SPARE	15 A	1				28
29	REDUNDANT	15 A	1	2	15 A	SPARE	30
31	SPARE	15 A	1				32
33	SPARE	15 A	1	1	15 A	EXISTING CIRCUIT	34
35	SPARE	15 A	1	1	15 A	EXISTING CIRCUIT	36
37	SPARE	15 A	1	1	15 A	SPARE (3)	38
39	PANEL 'G' CCT 13	20 A	1	1	20 A *	RM 159A, 160A REC	40
41	RM 154 REC	20 A	1	1	20 A	RM 159 REC	42
43	RM 160 COUTER REC	* 20 A	1				44
45	RM 160 REC	20 A	1				46
47	RM 162 REC	20 A	1				48
49	RM 164 REC	20 A	1				50
51							52
53							54
55							56
57							58
59							60
61							62
63							64
65						(3)	66

* GFCI BREAKER (5mA) ** GFCI BREAKER (30mA) + AFCI BREAKER

Notes:
1. PREVIOUSLY PANEL 'H'. PROVIDE NEW BREAKERS TO SUIT EXISTING SIEMENS ELECTRICAL PANEL. MARK ALL BREAKERS MADE REDUNDANT BY THIS CONSTRUCTION PHASE AS SPARE.
2. UTILIZE EXISTING CIRCUIT MADE REDUNDANT BY THIS CONSTRUCTION PHASE.
3. UTILIZE EXISITING SPARE BREAKER.

Panel ID: DC

Location: CUST. 115
Fed From:
Mounting: Surface
Voltage: 120/208 Wye, 3PH, 4W
Mains: 225 A
Number of CKT: 66

CKT	Circuit Description	Trip	Poles	Poles	Trip	Circuit Description	CKT
1	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	2
3	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	4
5	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	6
7	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	8
9	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	10
11	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	12
13	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	14
15	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	16
17	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	18
19	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING DAYCARE CIRCUIT	20
21	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING DAYCARE CIRCUIT	22
23	EXISTING CIRCUIT	20 A	1	1	20 A	EXISTING CIRCUIT	24
25	EXISTING CIRCUIT	15 A	1	1	20 A	EXISTING CIRCUIT	26
27				1	15 A	EXISTING CIRCUIT	28
29	EXISTING CIRCUIT	20 A	3	1	20 A	EXISTING CIRCUIT	30
31				1	20 A	EXISTING CIRCUIT	32
33	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	34
35	EXISTING CIRCUIT	15 A	1	1	20 A	EXISTING CIRCUIT	36
37	EXISTING CIRCUIT	15 A	1	1	20 A	EXISTING CIRCUIT	38
39	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	40
41	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	42
43	EXISTING CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	44
45	EXISTING DAYCARE CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	46
47	EXISTING DAYCARE CIRCUIT	15 A	1	1	15 A	EXISTING CIRCUIT	48
49	EXISTING DAYCARE CIRCUIT	20 A	1	1	15 A	EXISTING CIRCUIT	50
51	EXISTING DAYCARE CIRCUIT	20 A	1				52
53							54
55							56
57							58
59							60
61							62
63							64
65						(3)	66

* GFCI BREAKER (5mA) ** GFCI BREAKER (30mA) + AFCI BREAKER

Notes:
1. PREVIOUSLY PANEL 'E'. PROVIDE NEW BREAKERS TO SUIT EXISTING SIEMENS ELECTRICAL PANEL. MARK ALL BREAKERS MADE REDUNDANT BY THIS CONSTRUCTION PHASE AS SPARE.

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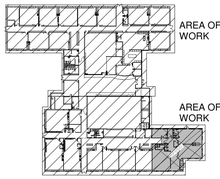

KEY PLAN

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LEGEND

No.	DATE MM/DD/YYYY	DESCRIPTION	REV. No.
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2	03/05/2020	REISSUED FOR ADDENDUM	
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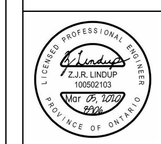

PROJECT TITLE

OUR LADY OF FATIMA

DRAWING TITLE

PANEL SCHEDULES

DATE PLOTTED	DRAWN BY	DRAWING No.
2020-03-31 3:47:02 PM	AIS	E102.4
SCALE	CHECKED BY	
	ZJRL	
PROJECT No.		
8906		

Panel ID: HPA

Location: CORRIDOR CR6 (3) **Voltage:** 120/208 Wye, 3PH, 4W
Fed From: **Mains:** 225 A
Mounting: Flush **Number of CKT:** 78

CKT	Circuit Description	Trip	Poles	Poles	Trip	Circuit Description	CKT
1	EXISTING CIRCUIT	15 A	2	3	20 A	EXISTING CIRCUIT	2
3							4
5	EXISTING CIRCUIT	20 A	3				6
7				3	20 A	EXISTING CIRCUIT	8
9							10
11	EXISTING CIRCUIT	30 A	3				12
13				3	20 A	EXISTING CIRCUIT	14
15							16
17	EXISTING CIRCUIT	20 A	3				18
19				3	20 A	EXISTING CIRCUIT	20
21							22
23	EXISTING CIRCUIT	15 A	2				24
25				3	20 A	EXISTING CIRCUIT	26
27	EXISTING CIRCUIT	15 A	2				28
29							30
31							32
33	EXISTING CIRCUIT	30 A	3	3	20 A	EXISTING CIRCUIT	34
35						(2)	36
37				1	15 A	ROOF - EF-6	38
39	EXISTING CIRCUIT (3)	20 A	3	1	20 A	RM 156, 157 BRADLEY REC	40
41				1	15 A	RM 156 VALVE TRANSFORMER	42
43	CORR CR5 - FF-421	15 A	1				44
45							46
47							48
49							50
51							52
53							54
55							56
57							58
59							60
61							62
63							64
65							66
67							68
69	SPARE	15 A	3	3	15 A	SPARE	70
71							72
73							74
75	SPARE	20 A	3	3	20 A	SPARE	76
77							78

* GFCI BREAKER (5mA) ** GFCI BREAKER (30mA) + AFCI BREAKER

Notes:
PROVIDE NEW BREAKERS TO SUIT EXISTING SIEMENS PANELBOARD

Panel ID: HPB

Location: STAFF ROOM 104 (3) **Voltage:** 120/208 Wye, 3PH, 4W
Fed From: **Mains:** 225 A
Mounting: Flush **Number of CKT:** 72

CKT	Circuit Description	Trip	Poles	Poles	Trip	Circuit Description	CKT
1	(3)			1	15 A	CORR CR18 - FF-421	2
3	CORR CR3 - HP-404	15 A	3	1	15 A	ROOF - EF-7	4
5				1	15 A	CORR CR4 - FF-421	6
7				1	15 A	ROOF - EF-5	8
9	CORR CR3 - HP-404	15 A	3	1	15 A	VESTIBULE V01 - FF-420	10
11							12
13	CORR CR3 - HP-402	15 A	2	3	20 A	ATRIUM 01 - HP-406 (3)	14
15							16
17	STAFF ROOM 104 - HP-403	15 A	2	2	15 A	WORK ROOM 103 - HP-401	18
19							20
21	WORK ROOM 103 - HP-401	15 A	2	2	15 A	WORK ROOM 103 - HP-401	22
23							24
25	WORK ROOM 103 - HP-401 (3)	15 A	2	2	15 A	CHANGE ROOM 113D - HP-401	26
27							28
29	RM 118, 120 BRADLEY REC	20 A	1				30
31	RM 120 TRANSFORMER VALVE	15 A	1			(3)	32
33							34
35							36
37							38
39							40
41							42
43							44
45							46
47							48
49							50
51							52
53							54
55							56
57							58
59							60
61							62
63	SPARE	15 A	3	3	20 A	SPARE	64
65							66
67							68
69	SPARE	20 A	3	3	30 A	SPARE	70
71							72

* GFCI BREAKER (5mA) ** GFCI BREAKER (30mA) + AFCI BREAKER

Notes:
1. NEW PANELBOARD

Panel ID: HPD

(3)

Location: CUST. 115 **Voltage:** 120/208 Wye, 3PH, 4W
Fed From: **Mains:** 225 A
Mounting: Surface **Number of CKT:** 66

CKT	Circuit Description	Trip	Poles	Poles	Trip	Circuit Description	CKT
1				1	15 A	ROOF - EF-1	2
3	CORR CR12 - HP-406	20 A	3				4
5				3	50 A	GYM STOR 113A - HP-407	6
7							8
9	CORR CR12 - HP-406	20 A	3				10
11							12
13							14
15	CORR CR12 - HP-406	20 A	3	1	15 A	ROOF - EF-2	16
17				1	15 A	ROOF - EF-3	18
19				1	15 A	CORR CR12 - FF-421	20
21	CORR CR12 - HP-406	20 A	3				22
23				1	20 A	CR 12 DRINKING FOUNTAIN	24
25							26
27	CORR CR12 - HP-401	15 A	2				28
29	ROOF - REC - WP	20 A	1				30
31	RM 117, 119 BRADLEY REC	20 A	1				32
33	RM 117 - VALVE TRANSFORMER	15 A	1				34
35							36
37							38
39							40
41							42
43							44
45							46
47							48
49							50
51							52
53							54
55							56
57	SPARE	15 A	3	3	20 A	SPARE	58
59							60
61							62
63	SPARE	20 A	3	3	30 A	SPARE	64
65							66

* GFCI BREAKER (5mA) ** GFCI BREAKER (30mA) + AFCI BREAKER

Notes:
1. NEW PANEL TO REPLACE EXISTING. DO NOT PROVIDE NEW BREAKERS FOR REWORKED OR REDUNDANT LOADS.
2. UTILIZE EXISTING CIRCUIT MADE REDUNDANT BY THIS CONSTRUCTION PHASE.

Panel ID: HPE

Location: STORAGE 159 **Voltage:** 120/208 Wye, 3PH, 4W
Fed From: **Mains:** 225 A
Mounting: Surface **Number of CKT:** 66

CKT	Circuit Description	Trip	Poles	Poles	Trip	Circuit Description	CKT
1	CORR CR10 - HP-402 (NOTE 2) (3)	15 A	2	3	20 A	CORR CR11 - HP-405 (NOTE 2)	2
3							4
5	CORR CR10 - HP-401 (NOTE 2)	15 A	2				6
7				3	20 A	CORR CR11 - HP-406 (NOTE 2)	8
9							10
11	CORR CR11 - HP-406 (NOTE 2)	20 A	3				12
13				1	15 A	ROOF - EF-4 (NOTE 2) (3)	14
15	CORR CR-11 - FF-421 (NOTE 2)	15 A	1	2	15 A	SPARE	16
17							18
19	SPARE	70 A	3	2	50 A	SPARE	20
21							22
23				1	15 A	WR 160A VAVLE TRANSFORMER (NOTE 2)	24
25	SPARE (3)	40 A	3	1	15 A	SPARE	26
27				1	15 A	SPARE	28
29	SPARE	15 A	2	1	15 A	SPARE	30
31							32
33	SPARE	15 A	2	2	15 A	SPARE	34
35							36
37	SPARE	20 A	1	1	15 A	SPARE	38
39	SPARE	20 A	1	1	15 A	SPARE	40
41				1	15 A	SPARE	42
43							44
45							46
47							48
49							50
51							52
53							54
55							56
57							58
59							60
61							62
63							64
65							66

* GFCI BREAKER (5mA) ** GFCI BREAKER (30mA) + AFCI BREAKER

Notes:
1. PREVIOUSLY PANEL 'G', PROVIDE NEW BREAKERS TO SUIT EXISTING SIEMENS ELECTRICAL PANEL. (3)
2. UTILIZE EXISTING CIRCUIT MADE REDUNDANT BY THIS CONSTRUCTION PHASE.

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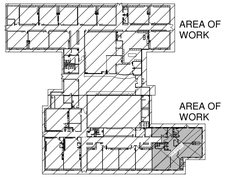

KEY PLAN

NOTES

LEGEND

No.	DATE MM/DD/YYYY	DESCRIPTION	REV. No.
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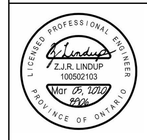

PROJECT TITLE

OUR LADY OF FATIMA

DRAWING TITLE

PANEL SCHEDULES

DATE PLOTTED	DRAWN BY	DRAWING No.
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SCALE	CHECKED BY	
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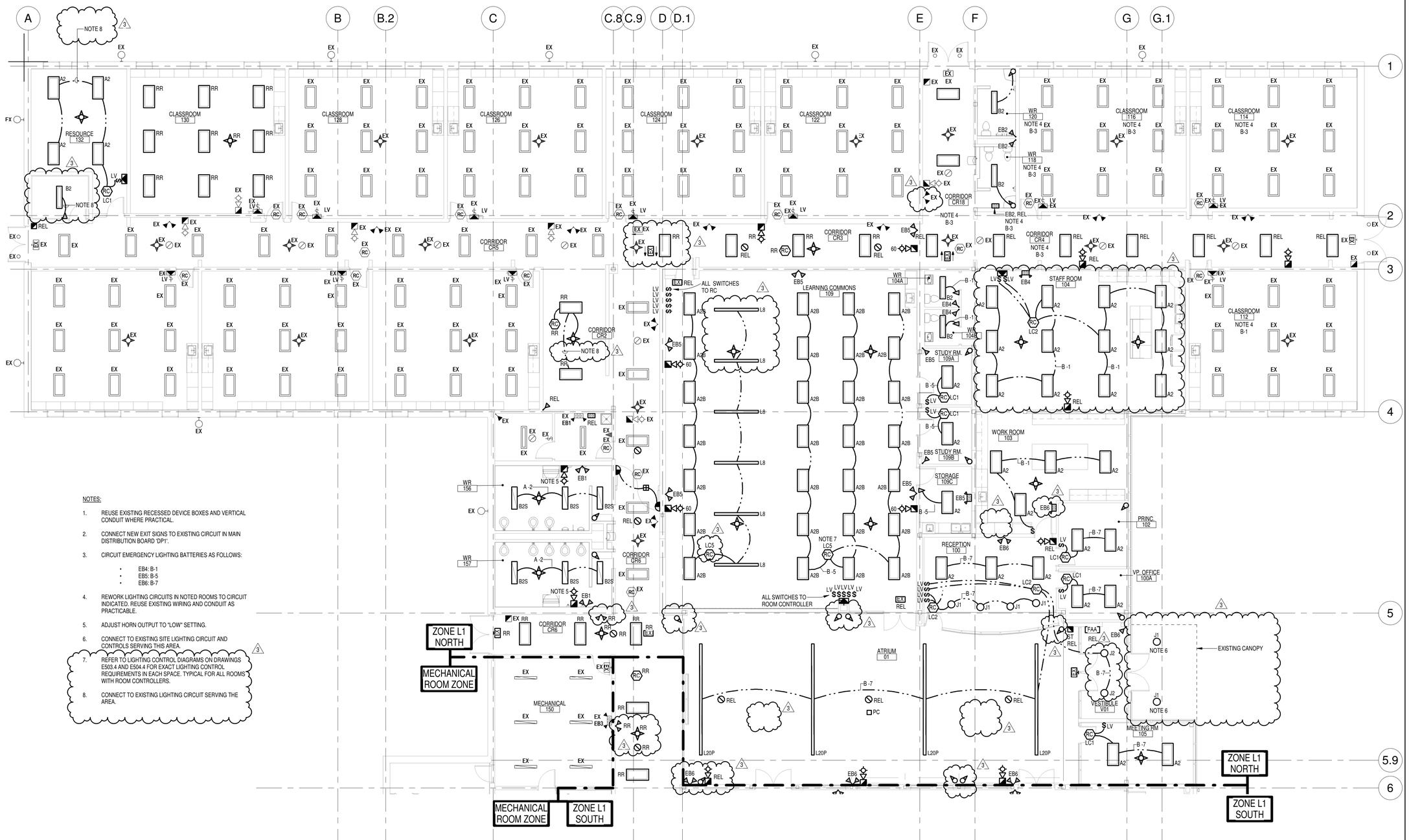
PROJECT No.		
8906		



NOTES:

1. REUSE EXISTING RECESSED DEVICE BOXES AND VERTICAL CONDUIT WHERE PRACTICAL.
2. CONNECT NEW EXIT SIGNS TO EXISTING CIRCUIT IN MAIN DISTRIBUTION BOARD 'DP1'.
3. CIRCUIT EMERGENCY LIGHTING BATTERIES AS FOLLOWS:
   - EB4: B-1
   - EB5: B-5
   - EB6: B-7
4. REWORK LIGHTING CIRCUITS IN NOTED ROOMS TO CIRCUIT INDICATED. REUSE EXISTING WIRING AND CONDUIT AS PRACTICABLE.
5. ADJUST HORN OUTPUT TO "LOW" SETTING.
6. CONNECT TO EXISTING SITE LIGHTING CIRCUIT AND CONTROLS SERVING THIS AREA.
7. REFER TO LIGHTING CONTROL DIAGRAMS ON DRAWINGS E503.4 AND E504.4 FOR EXACT LIGHTING CONTROL REQUIREMENTS IN EACH SPACE. TYPICAL FOR ALL ROOMS WITH ROOM CONTROLLERS.
8. CONNECT TO EXISTING LIGHTING CIRCUIT SERVING THE AREA.

PART GROUND FLOOR PLAN - NORTH - LIGHTING AND FIRE ALARM
SCALE 1 : 100

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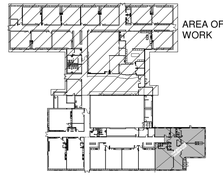

KEY PLAN

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LEGEND

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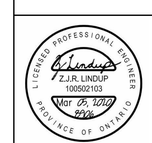

PROJECT TITLE

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DRAWING TITLE

PART GROUND FLOOR PLAN - NORTH - LIGHTING AND FIRE ALARM

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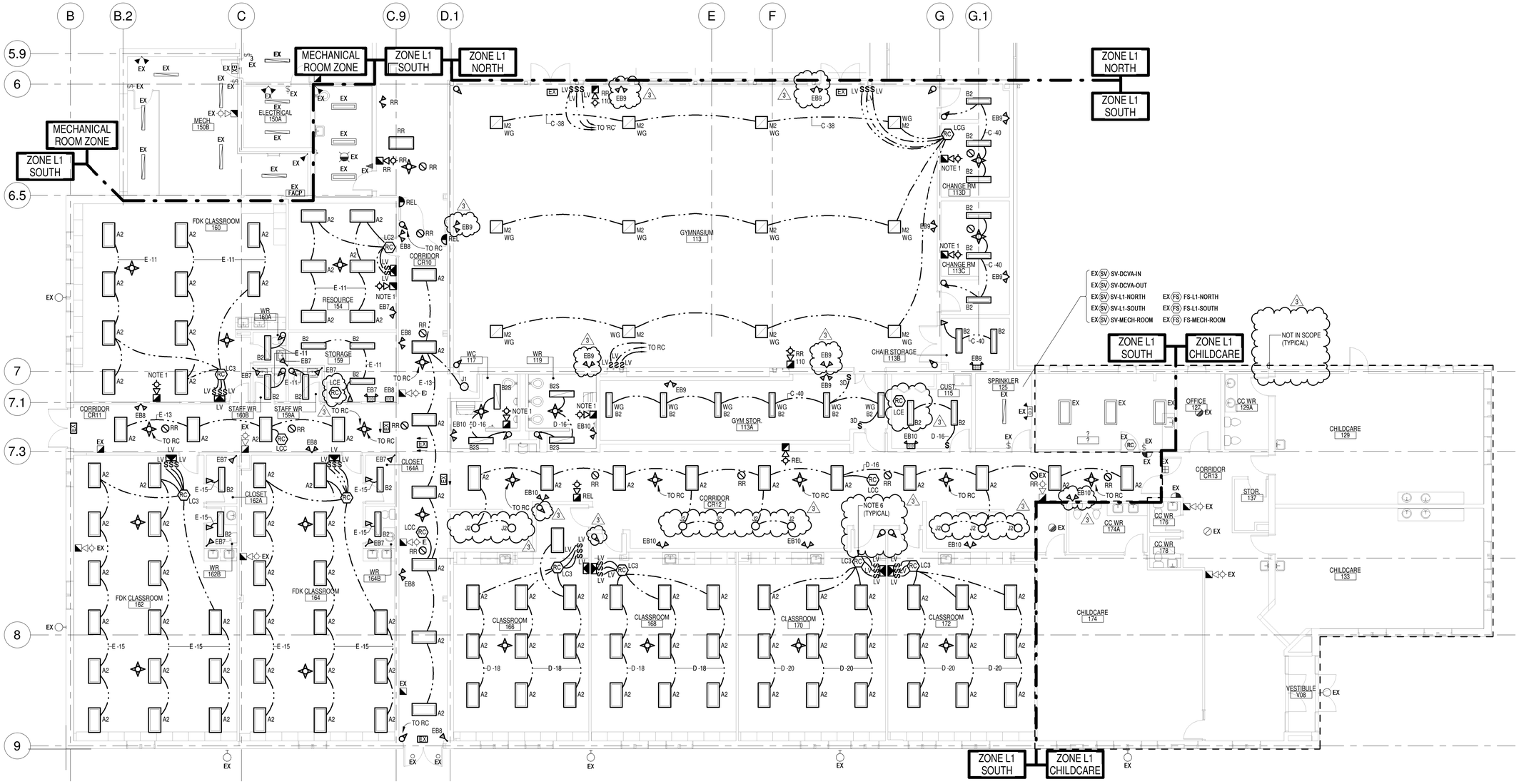
PROJECT No. 8906		



PART GROUND FLOOR PLAN - SOUTH - LIGHTING AND FIRE ALARM

SCALE 1 : 100

NOTES:

1. ADJUST HORN OUTPUT TO "LOW" SETTING.
2. REUSE EXISTING RECESSED DEVICE BOXES AND VERTICAL CONDUIT WHERE PRACTICAL.
3. CONNECT NEW EXIT SIGNS TO EXISTING CIRCUIT IN MAIN DISTRIBUTION BOARD 'DP1'.
4. CIRCUIT EMERGENCY LIGHTING BATTERIES AS FOLLOW:
   - EB7: E-11
   - EB8: E-13
   - EB9: C-38
   - EB10: D-16
5. PROVIDE WIREGUARDS FOR ALL DEVICES IN ROOMS 113, 113A, 113B, 113C, 113D, AND 115.
6. REFER TO LIGHTING CONTROL DIAGRAMS ON DRAWINGS E503.4 AND E504.4 FOR EXACT LIGHTING CONTROL REQUIREMENTSIN EACH SPACE. TYPICAL FOR ALL ROOMS WITH ROOM CONTROLLERS.

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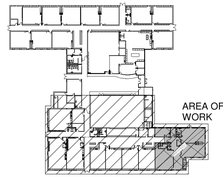

KEY PLAN

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LICENSED PROFESSIONAL ENGINEER
Z.J.R. LINDUP
100502103
Mar 31, 2020
PROVINCE OF ONTARIO

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DRAWING TITLE

PART GROUND FLOOR PLAN - SOUTH - LIGHTING AND FIRE ALARM

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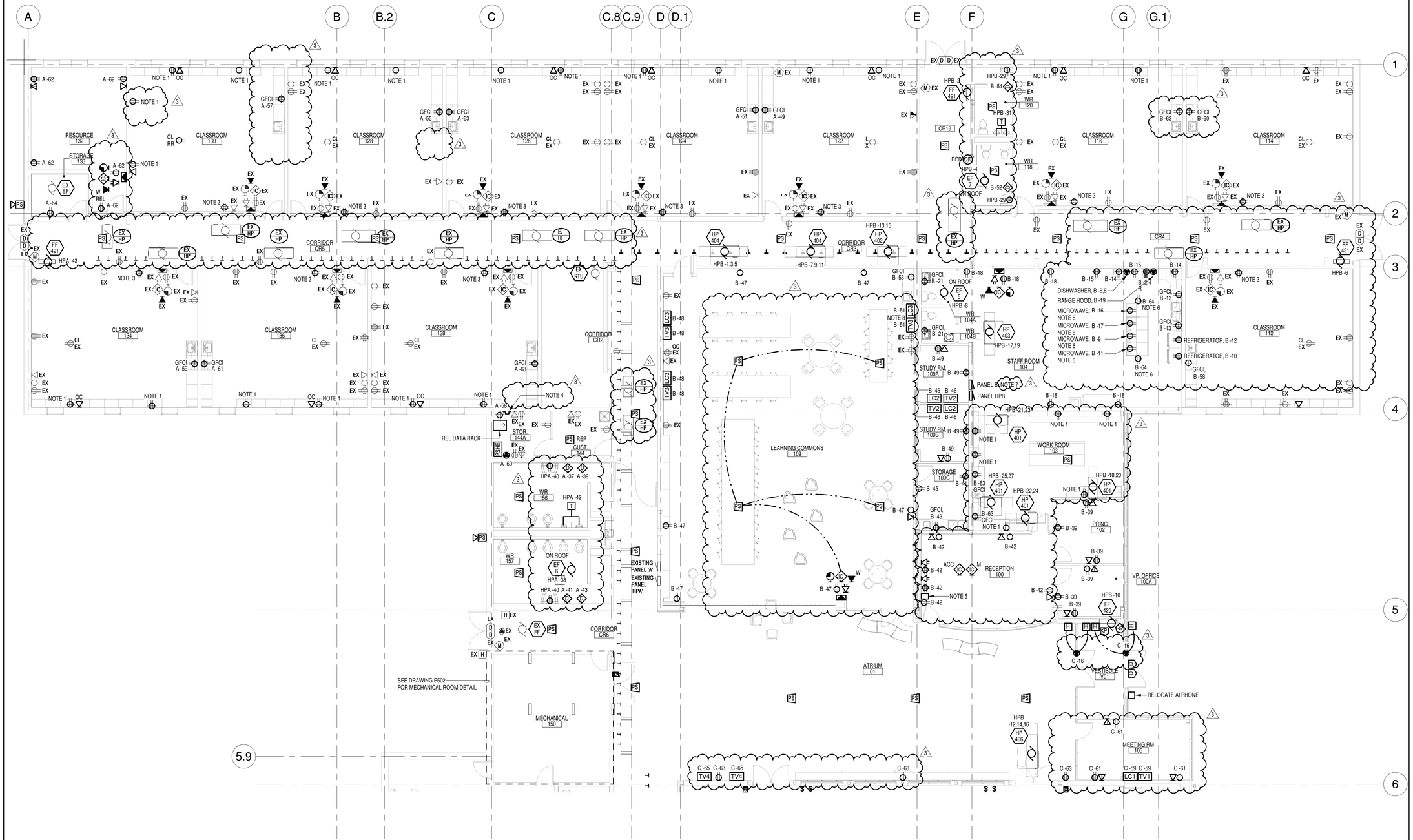

PART GROUND FLOOR PLAN - NORTH - POWER AND SYSTEMS

SCALE 1 : 100

NOTES:

1. CONNECT TO EXISTING CIRCUIT SERVING EXISTING RECEPTACLES IN THIS ROOM.
2. REUSE EXISTING VERTICAL CONDUIT AND RECESSED DEVICE BOXES WHERE PRACTICABLE.
3. CONNECT TO EXISTING CIRCUIT SERVING RECEPTACLE IN CLASSROOM MODULE IN THIS ROOM.
4. REFER TO GROUNDING BONDING ARRANGEMENT ON DRAWING E502.4 FOR WIRING AND MOUNTING REQUIREMENTS.
5. PROVIDE RED LOCKDOWN MUSHROOM BUTTON C/W AUXILIARY CONTACT FOR CONNECTION TO ACCESS CONTROL AND PAGING SYSTEM. COORDINATE EXACT LOCATION WITH OWNER PRIOR TO ROUGH-IN.
6. COORDINATE EXACT LOCATION OF RECEPTACLES FOR MICROWAVES AND KITCHEN ISLAND PRIOR TO ROUGH-IN.
7. REWORK EXISTING LOADS INTO NEW PANEL IN NEW LOCATION. PROVIDE JUNCTION BOXES ABOVE CEILING AS REQUIRED.
8. LOCATE LAPTOP CONNECTION AT LEAST 1500mm AWAY FROM SINK.

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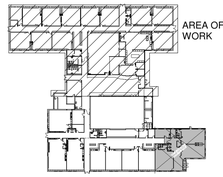

KEY PLAN

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LEGEND

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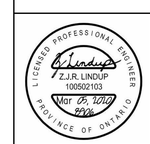

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PART GROUND FLOOR PLAN - NORTH - POWER AND SYSTEMS

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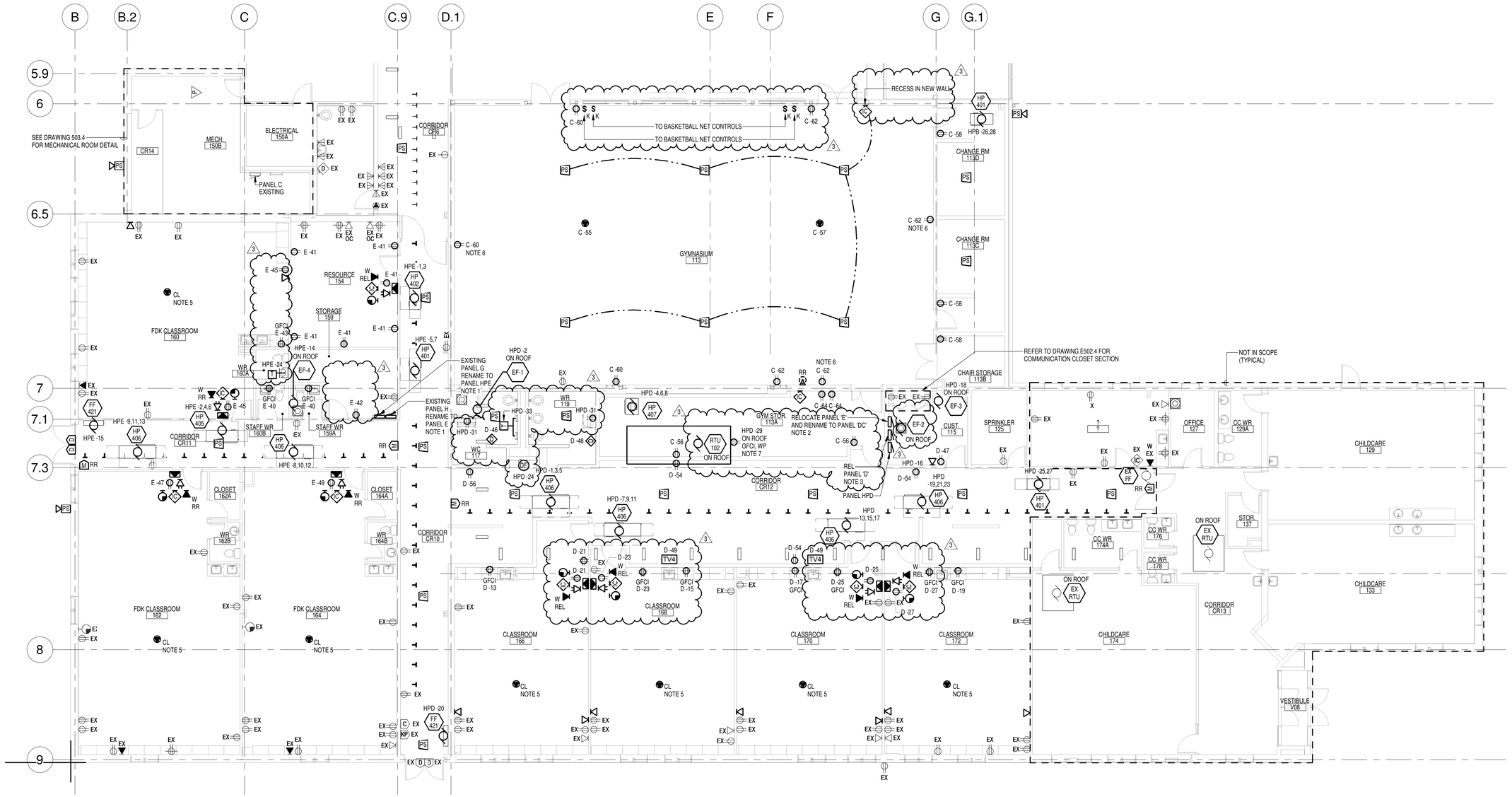

PART GROUND FLOOR PLAN SOUTH - POWER AND SYSTEMS

SCALE 1 : 100

NOTES:

1. REWORK EXISTING LOADS FED FROM EXISTING PANEL 'G' TO EXISTING PANEL 'H'. PROVIDE JUNCTION BOXES ABOVE CEILING AS REQUIRED. RENAME PANEL 'H' TO PANEL 'E' AND PANEL 'G' TO PANEL 'HPE'. TRACE OUT ALL EXISTING DEVICES AND PROVIDE NEW LABELS AS PER SPECIFICATIONS FOR ALL EXISTING DEVICES.
2. REWORK EXISTING LOADS SERVING DAYCARE YO EXISTING PANEL 'E' RENAMED TO 'DC' IN NEW LOCATION. REWORK NON-MECHANICAL LOADS TO EXISTING PANEL 'D'. REWORK MECHANICAL LOADS NOT SERVING DAYCARE TO NEW PANEL 'HPD'. PROVIDE JUNCTION BOXES IN CEILING SPACE AS REQUIRED.
3. REWORK EXISTING LOADS TO EXISTING PANEL IN NEW LOCATION. PROVIDE JUNCTION BOXES IN CEILING SPACE AS REQUIRED.
4. REUSE EXISTING VERTICAL CONDUIT AND RECESSED DEVICES BOXES WHERE PRACTICABLE.
5. DIRECT CONNECTION FOR FUTURE PROJECTOR. CONNECT TO EXISTING CIRCUIT SERVING RECEPTACLES IN THE AREA. JUNCTION BOX TO BE LOCATED IN CEILING SPACE. DO NOT INSTALL IN CEILING TILE.
6. CHIP OUT WALL AND RECESS NEW RECEPTACLE IN EXISTING BLOCK WALL. FISH WIRING AND CONDUIT IN EXISTING BLOCKBALL.
7. GFCI RECEPTACLE CONNECTED TO STANDARD BREAKER. REFER TO RECEPTACLE ROOF MOUNTING DETAIL FOR EXACT MOUNTING REQUIREMENTS.

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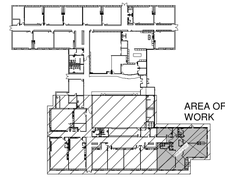

KEY PLAN

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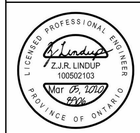

PROJECT TITLE

OUR LADY OF FATIMA

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PART GROUND FLOOR PLAN - SOUTH - POWER AND SYSTEMS

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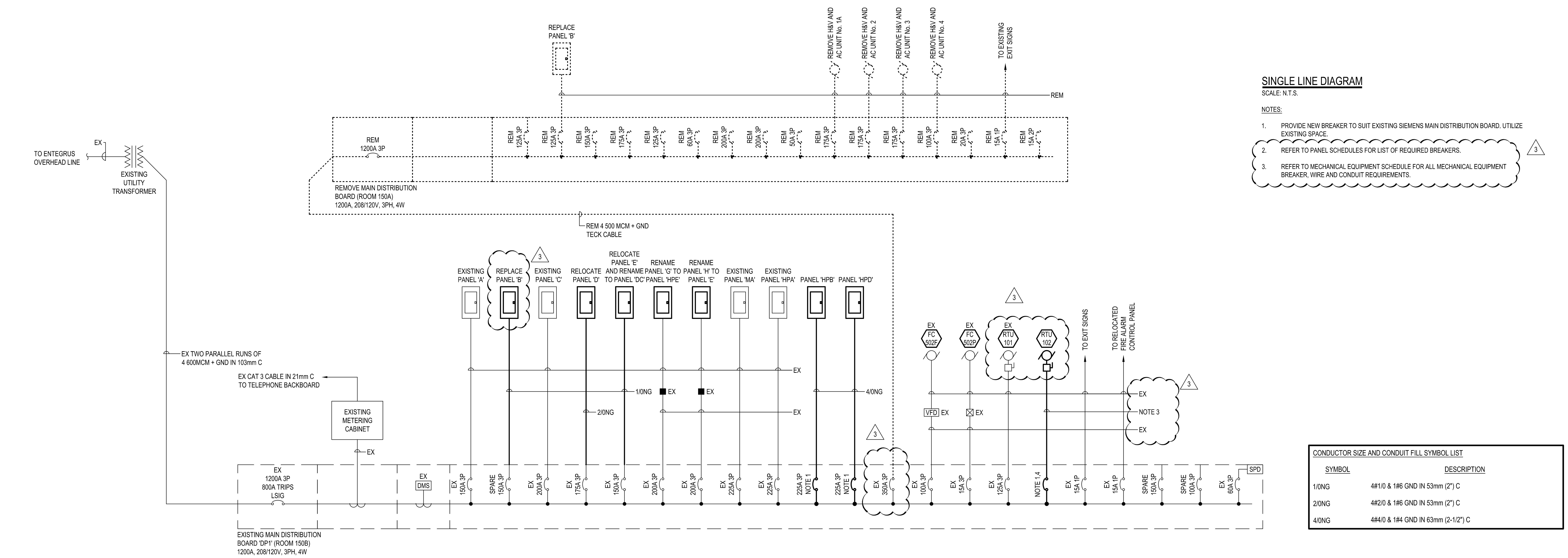
PROJECT No. 8906		



SINGLE LINE DIAGRAM

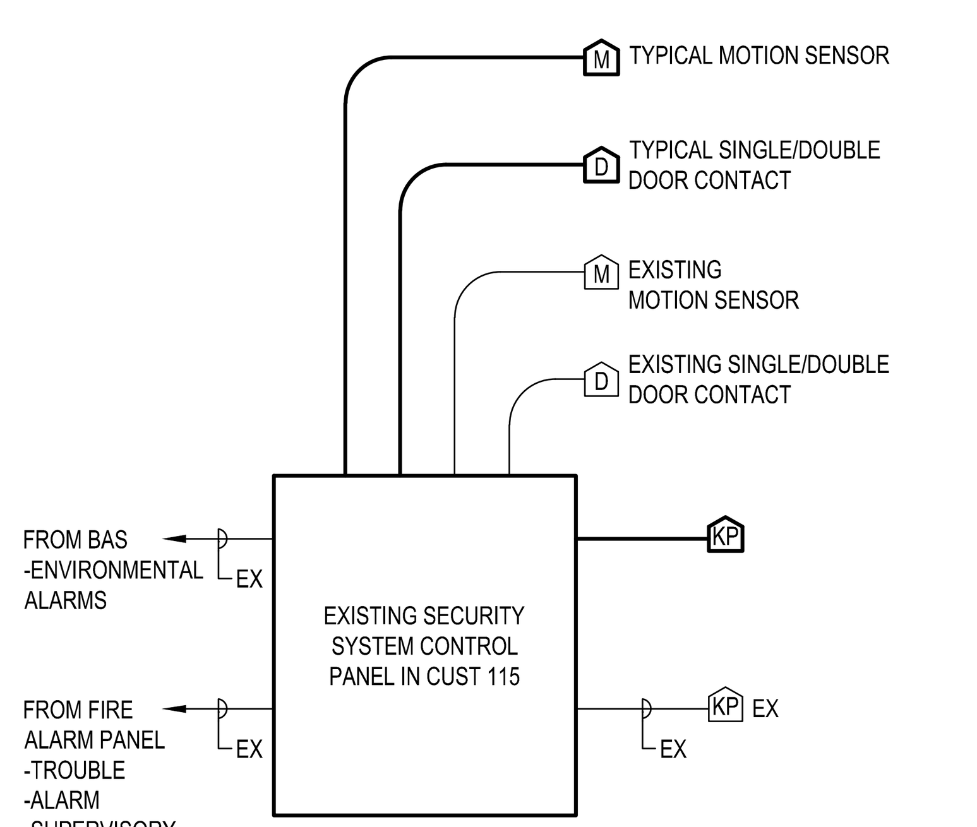
SCALE: N.T.S.

NOTES:

1. PROVIDE NEW BREAKER TO SUIT EXISTING SIEMENS MAIN DISTRIBUTION BOARD. UTILIZE EXISTING SPACE.
2. REFER TO PANEL SCHEDULES FOR LIST OF REQUIRED BREAKERS.
3. REFER TO MECHANICAL EQUIPMENT SCHEDULE FOR ALL MECHANICAL EQUIPMENT BREAKER, WIRE AND CONDUIT REQUIREMENTS.

CONDUCTOR SIZE AND CONDUIT FILL SYMBOL LIST

SYMBOL	DESCRIPTION
1/0NG	4#1/0 & 1#6 GND IN 53mm (2") C
2/0NG	4#2/0 & 1#6 GND IN 53mm (2") C
4/0NG	4#4/0 & 1#4 GND IN 63mm (2-1/2") C

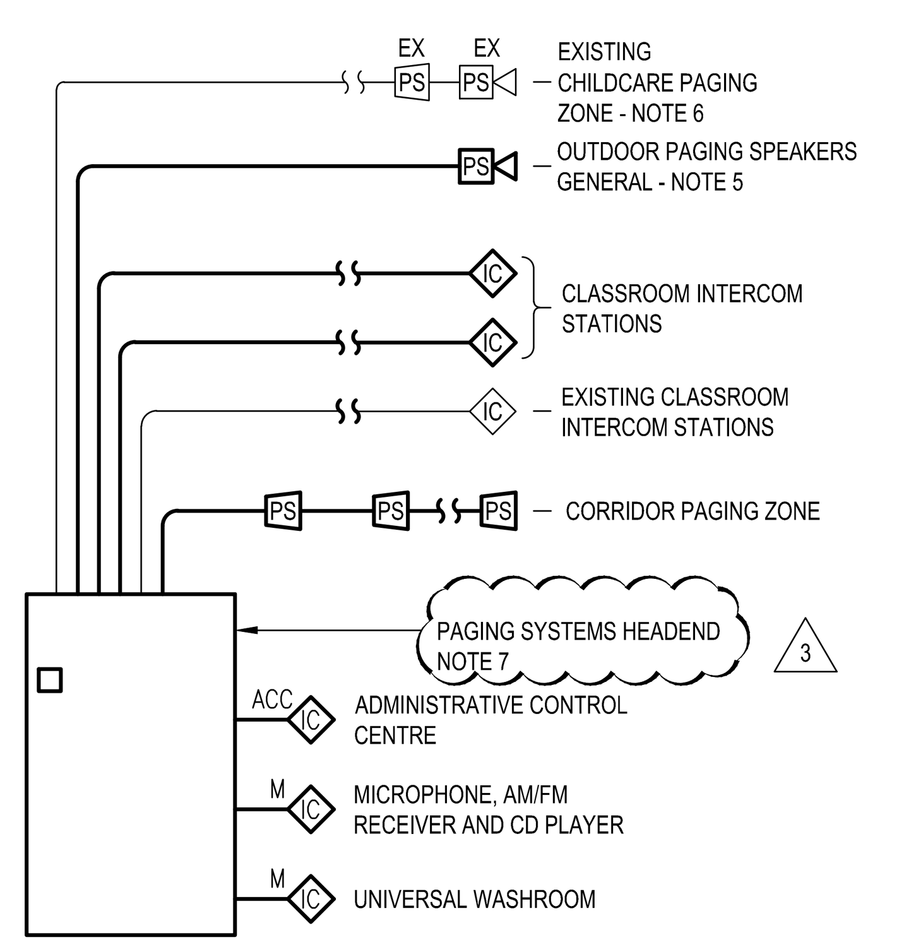


SECURITY RISER

N.T.S.

NOTES:

1. EACH DOOR/DOUBLE DOOR SET IS TO BE MONITORED AND ALARMED AS A SEPARATE ZONE.
2. EACH MOTION DETECTOR IS TO BE MONITORED AND ALARMED AS A SEPARATE ZONE.
3. REFER TO FLOOR PLANS FOR EXACT LOCATION AND QUANTITY OF DEVICES.
4. WIRE AND CONNECT SECURITY SYSTEM AS REQUIRED BY THE MANUFACTURER.

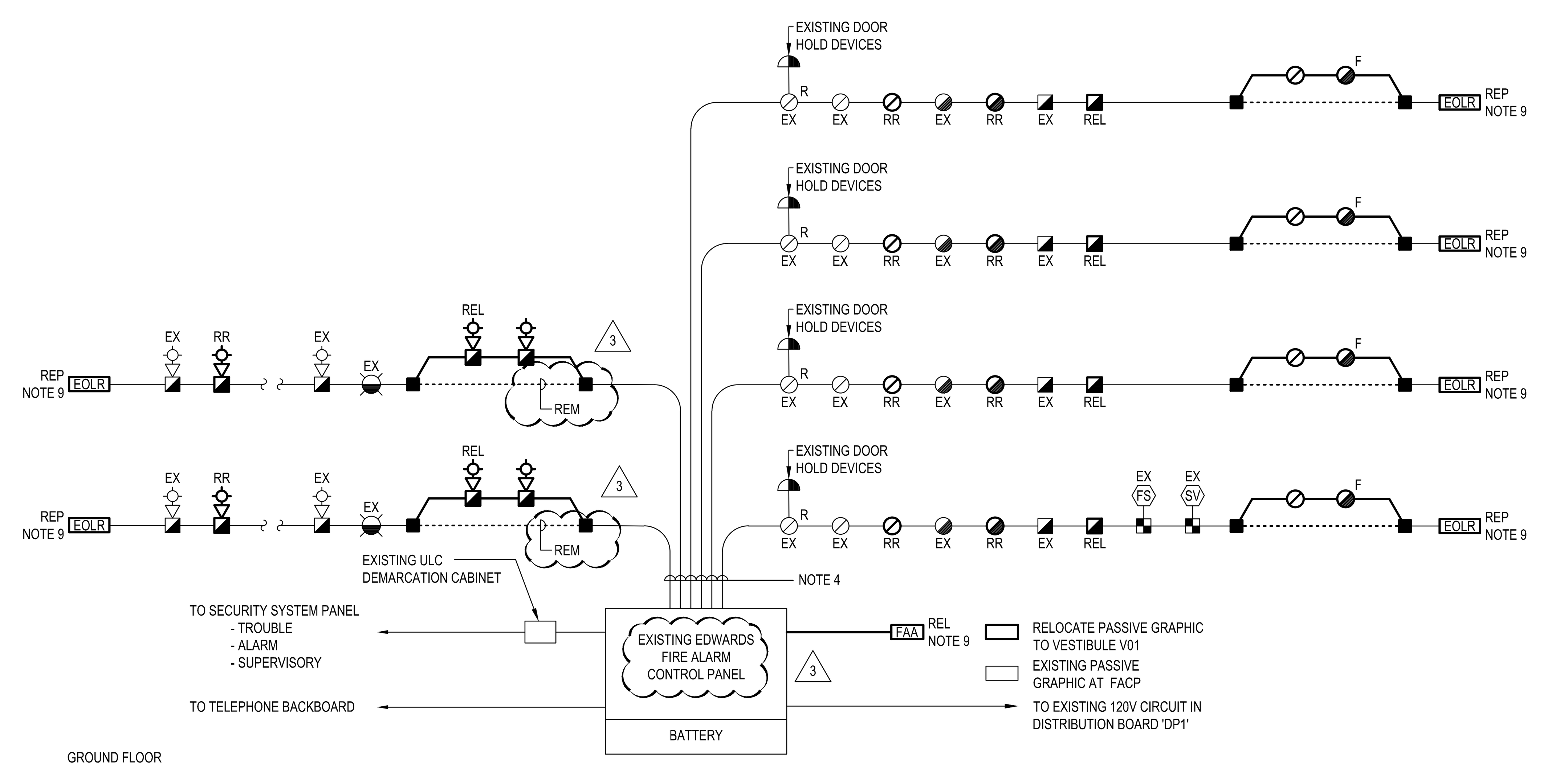


P.A. SYSTEM RISER

N.T.S.

NOTES:

1. REFER TO FLOOR PLANS FOR QUANTITY AND LOCATION OF NEW STATIONS.
2. RUN CABLES IN CORRIDOR COMMUNICATION HANGERS OR NEATLY BUNDLE WITH VELCRO STRAPS.
3. PROVIDE WIRING AND CONNECTIONS AS REQUIRED BY THE MANUFACTURER.
4. REFER TO SPECIFICATIONS FOR ADDITIONAL DETAILS.
5. PROVIDE DEDICATED ZONE WITH SEPARATE VOLUME CONTROL. PROGRAM PAGING ZONE TO DISABLE AUDIO INPUT BROADCAST OUTSIDE OF SCHOOL HOURS.
6. PROGRAM THIS PAGING ZONE FOR EMERGENCY PAGE ONLY. PROGRAM BELLS, GENERAL PAGING AND AUDIO INPUT ARE NOT TO BROADCAST INTO THIS ZONE.
7. NEW PA HEADEND TO BE PROVIDED BY OWNER. REFER TO CASH ALLOWANCE IN SPECIFICATIONS. 3



FIRE ALARM RISER

N.T.S.

NOTES:

1. REWORK EXISTING FIRE ALARM WIRING TO SUIT NEW DEVICES.
2. WIRE AND CONNECT ALTERNATE SIGNAL HORNS TO SEPARATE SIGNAL CIRCUITS SO ADJACENT HORNS ARE NOT CONNECTED TO THE SAME CIRCUIT. MOUNT END OF LINE RESISTORS BESIDE LAST DEVICE. DOCUMENT LOCATION OF END OF LINE RESISTORS AND PLACE INSIDE FIRE ALARM CONTROL PANEL.
3. NOT USED. 3
4. NOT USED.
5. WIRE AND CONNECT FIRE ALARM SYSTEM AS REQUIRED BY THE MANUFACTURER.
6. REFER TO FLOOR PLANS FOR DEVICE LOCATIONS AND QUANTITIES AND ZONE LOCATIONS AND QUANTITIES. UPDATE PROGRAMMING TO SUIT NEW ZONE REQUIREMENTS.
7. RELOCATE ISOLATION MODULES AS REQUIRED AT ZONE BOUNDARIES AND BY MANUFACTURER.
8. PROVIDE PTOUCH LABELS ON END OF LINE RESISTOR COVER PLATES TO IDENTIFY ZONE/CIRCUIT CONTAINED WITHIN.
9. REPLACE EXISTING END-OF-LINE RESISTOR AS REQUIRED TO ENSURE THAT NEW SYSTEM CAN CORRECTLY MONITOR EXISTING ZONES.

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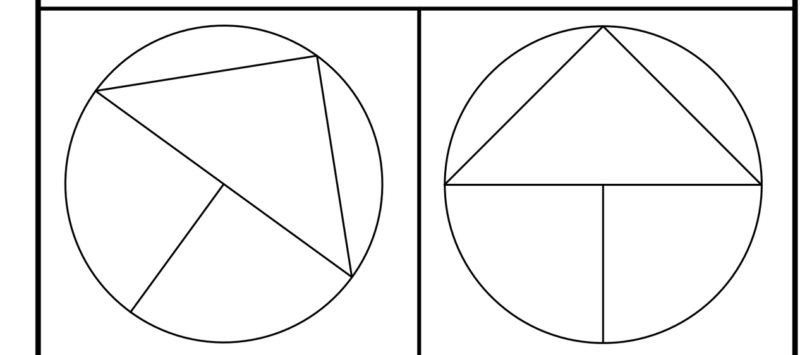
KEY PLAN



TRUE NORTH

CONSTRUCTION NORTH

NOTES

LEGEND

NO.	DATE MM/DD/YYYY	DESCRIPTION
3	04/01/2020	REISSUED FOR ADDENDUM
2	03/05/2020	REISSUED FOR ADDENDUM
1	02/25/2020	ISSUED FOR TENDER & PERMIT

LICENSED PROFESSIONAL ENGINEER
Z.J.R. LINDUP
100502103
Mar 5, 2020
PROVINCE OF ONTARIO

PROJECT TITLE

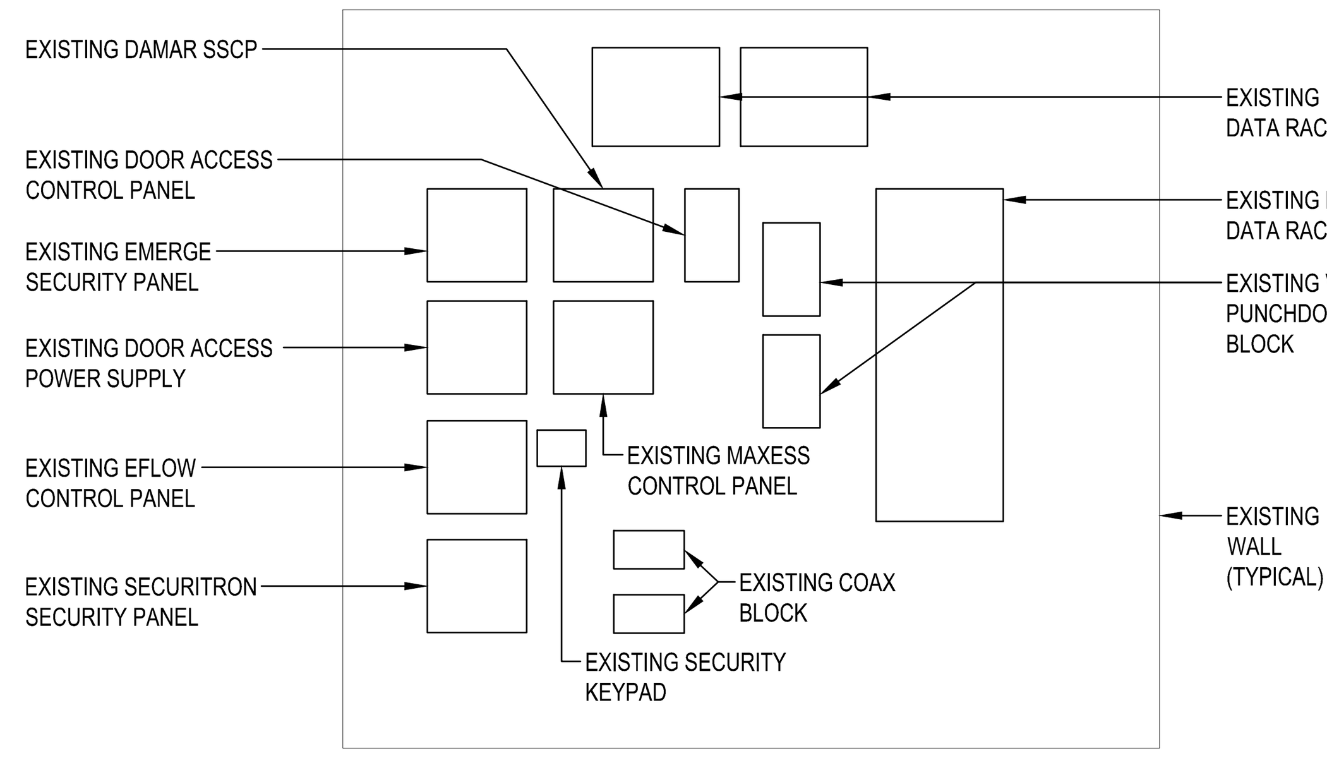
OUR LADY OF FATIMA

DRAWING TITLE

ELETRICAL RISERS

DATE PLOTTED	DRAWN BY	DRAWING No.
01/11/2020	AIS	E401.4
SCALE	CHECKED BY	
AS NOTED	ZJRL	
PROJECT No.		
8906		

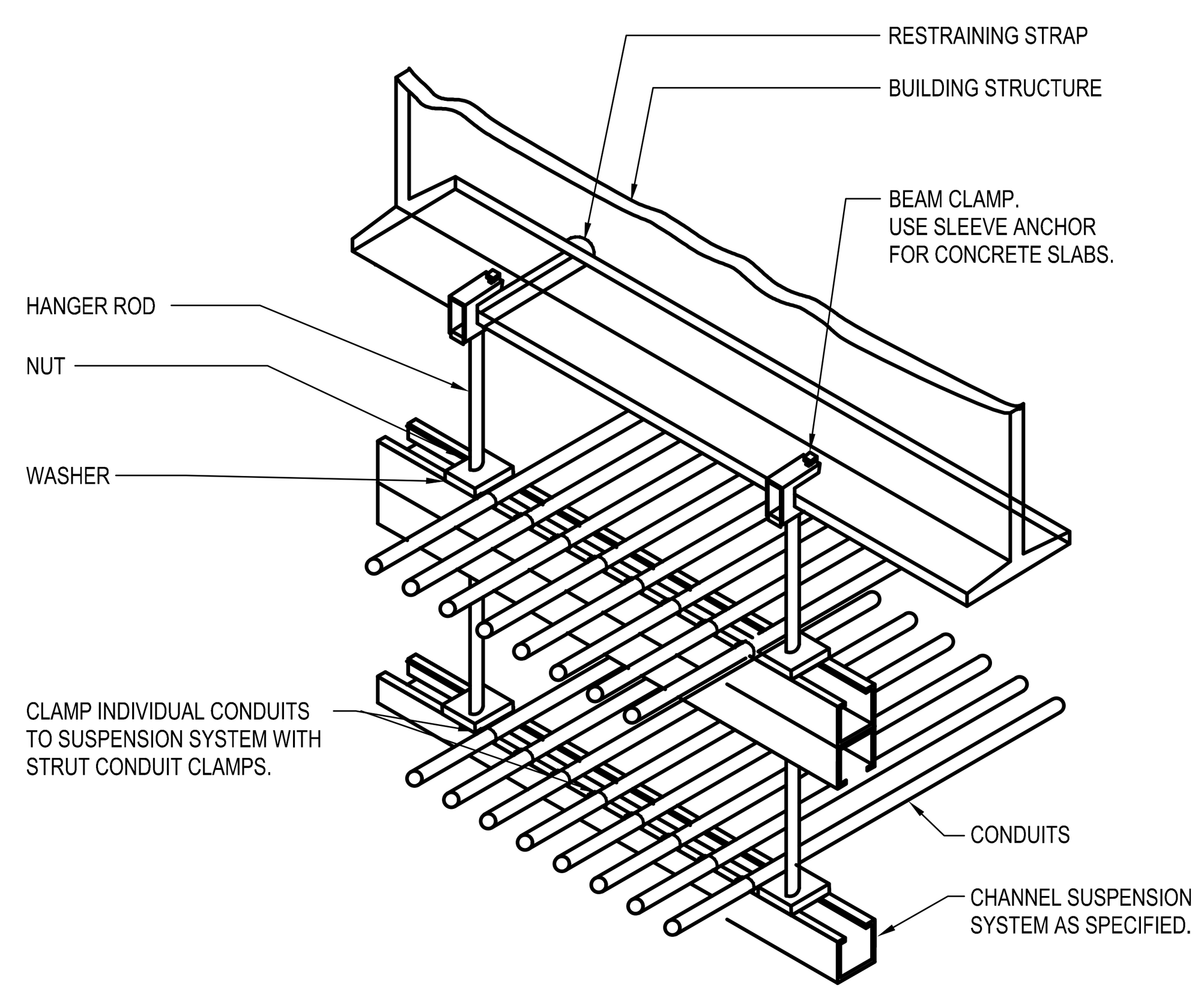
24x36



TELEPHONE CLOSET SECTION

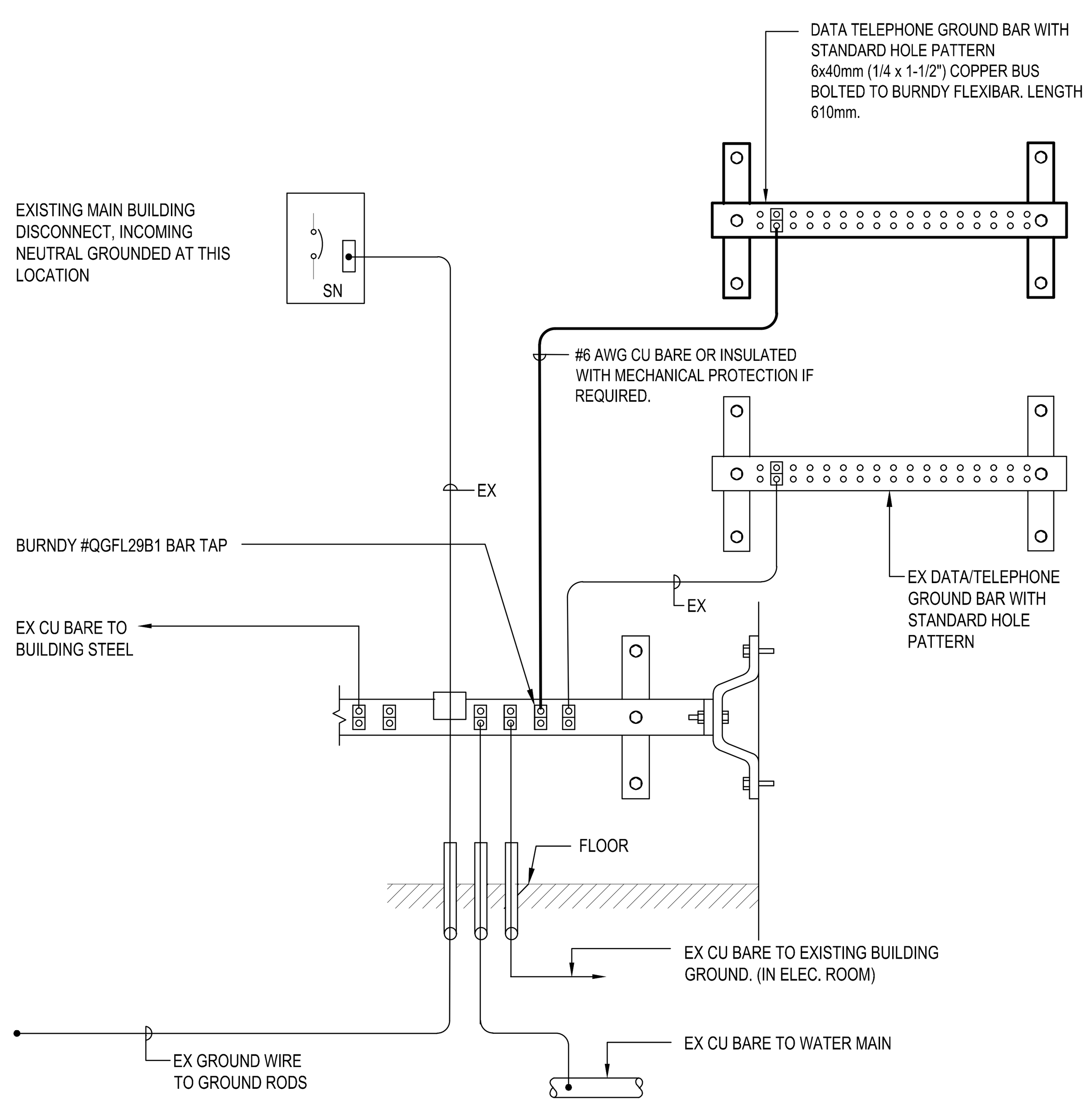
N.T.S.

1
E302/ E502
E702



TRAPEZE SUSPENSION FOR FEEDER CONDUITS (TYPICAL)

N.T.S.

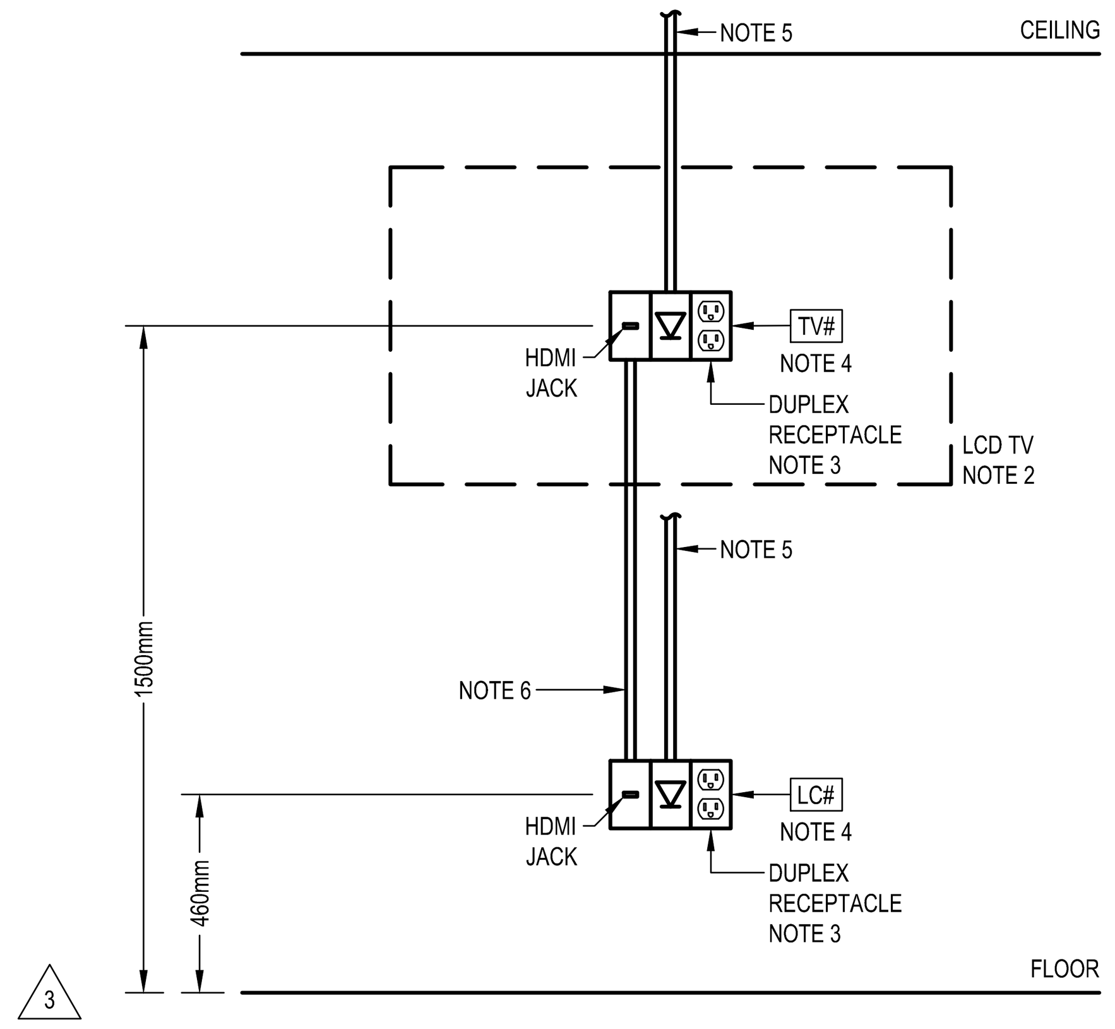


GROUNDING BONDING ARRANGEMENT

N.T.S.

NOTES:

1. USE LARGE RADIUS BENDS ON ALL GROUNDING AND BONDING CONDUCTORS.
2. REFER TO FLOOR PLANS FOR LOCATIONS OF GROUND BUS.



3

TV1 TV2 TV3
LC1 LC2 LC3

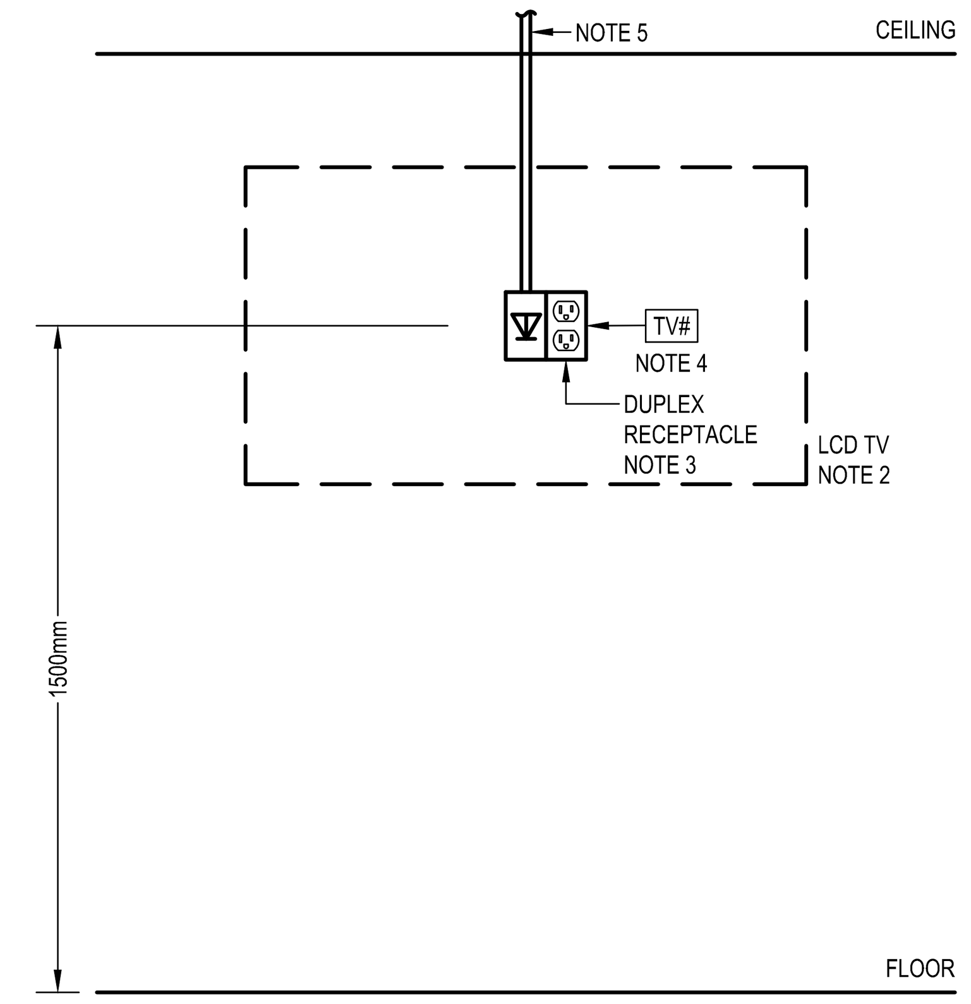
LAPTOP / TELEVISION CONNECTION DETAIL

N.T.S.

NOTES:

1. PROVIDE PULL STRINGS IN ALL EMPTY CONDUITS.
2. LCD TV'S PROVIDED BY OWNER.
3. REFER TO FLOOR PLANS FOR CIRCUIT.
4. PROVIDE HUBBELL iSTATION BACKBOX c/w ASSOCIATED COVERPLATE AND DIVIDER BETWEEN POWER AND DATA/AV COMPARTMENTS.
5. PROVIDE CONDUIT TO ACCESSIBLE CEILING SPACE FOR DATA AS SPECIFIED.
6. PROVIDE 41mm C FOR HDMI CABLING.

3



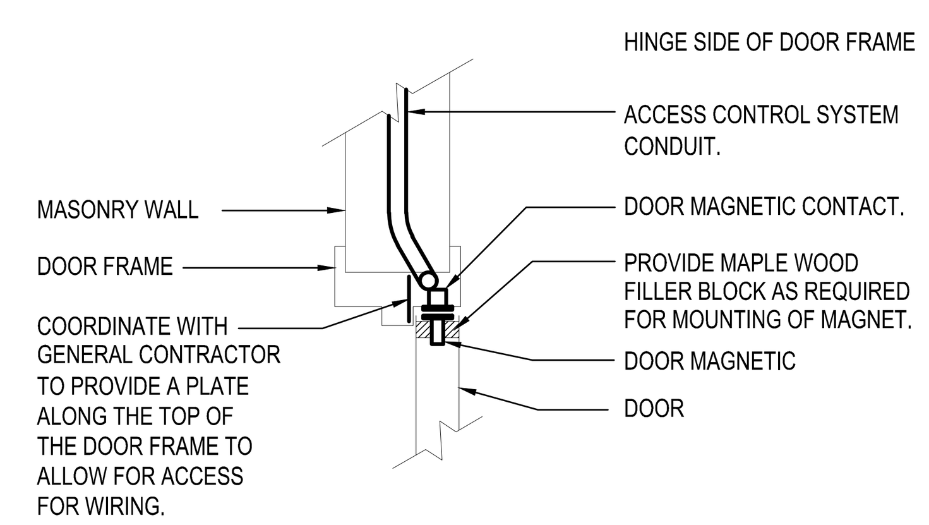
TV4

LAPTOP / TELEVISION CONNECTION DETAIL

N.T.S.

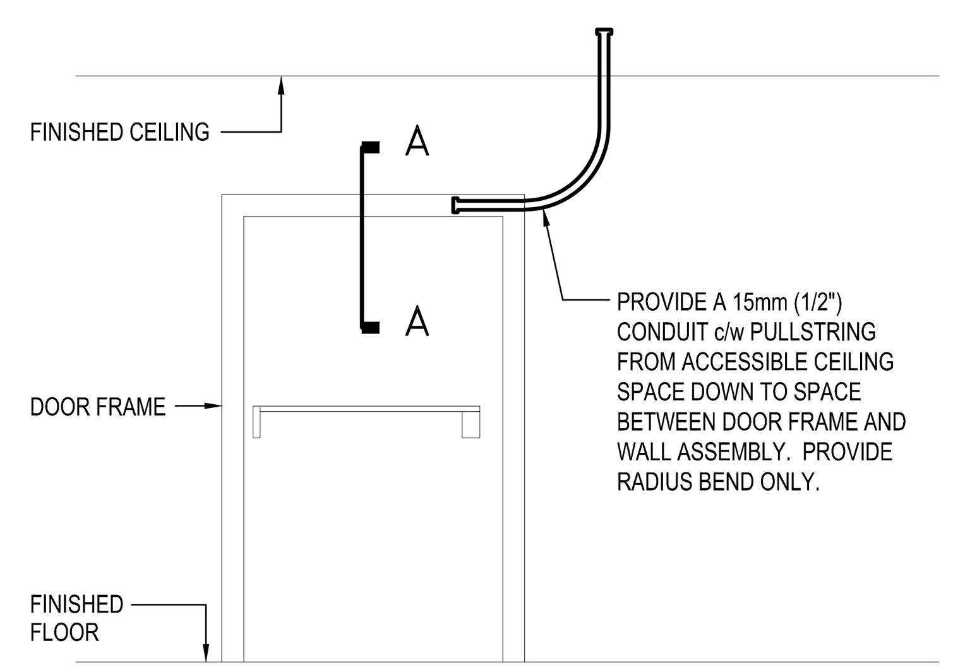
NOTES:

1. PROVIDE PULL STRINGS IN ALL EMPTY CONDUITS.
2. LCD TV'S PROVIDED BY OWNER.
3. REFER TO FLOOR PLANS FOR CIRCUIT.
4. PROVIDE HUBBELL iSTATION BACKBOX c/w ASSOCIATED COVERPLATE AND DIVIDER BETWEEN POWER AND DATA/AV COMPARTMENTS.
5. PROVIDE CONDUIT TO ACCESSIBLE CEILING SPACE FOR DATA AS SPECIFIED.



SECTION A-A

N.T.S.



ELEVATION

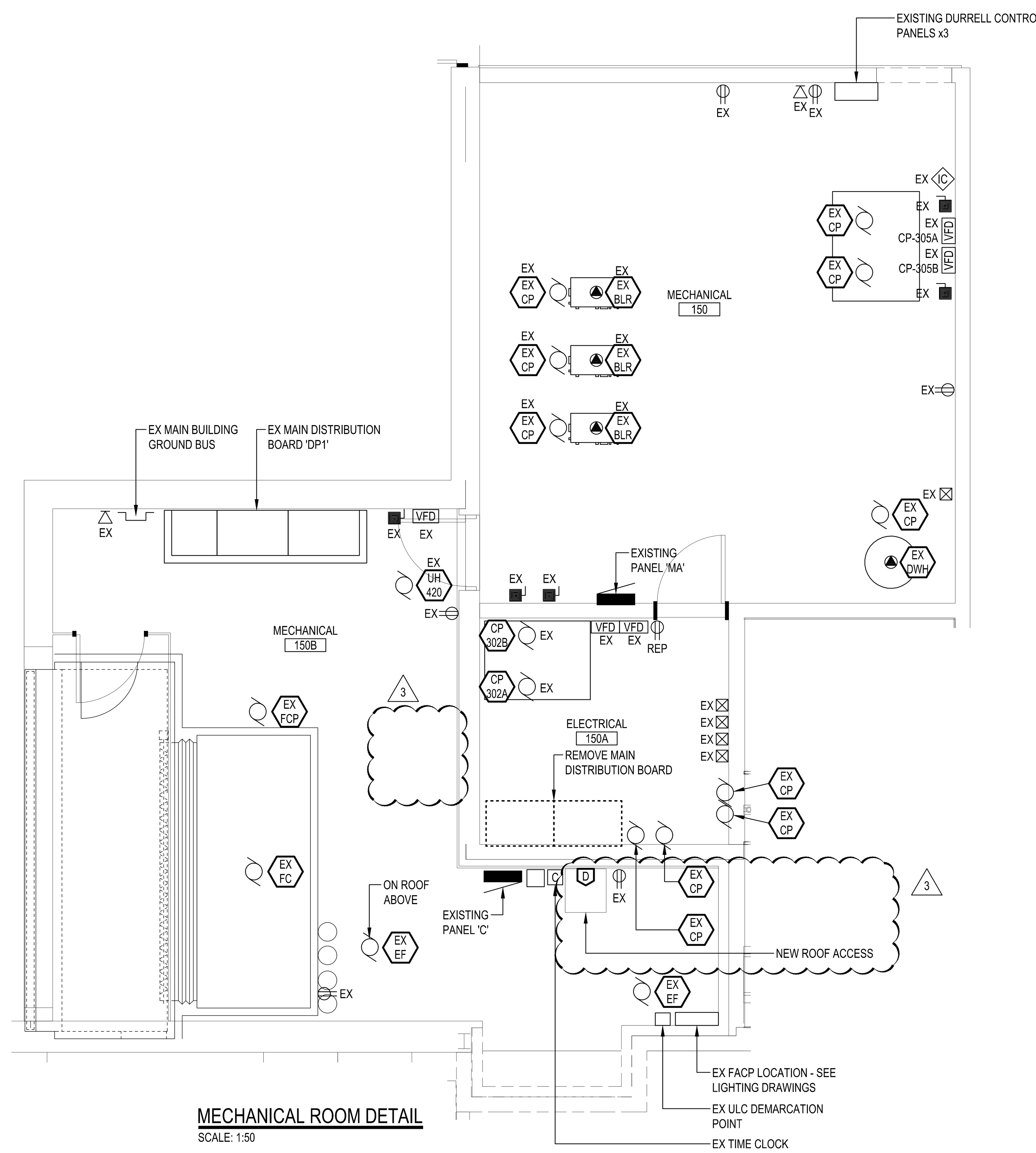
N.T.S.

DOOR CONTACT ROUGH-IN

N.T.S.

NOTES:

1. CONDUIT ROUGH-IN TYPICAL FOR ALL DOORS WITH ACCESS CONTROL AND DOOR CONTACT ROUGH-IN. REFER TO FLOOR PLANS FOR LOCATION.



MECHANICAL ROOM DETAIL

SCALE: 1:50

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KEY PLAN

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CONSTRUCTION NORTH

NOTES

LEGEND

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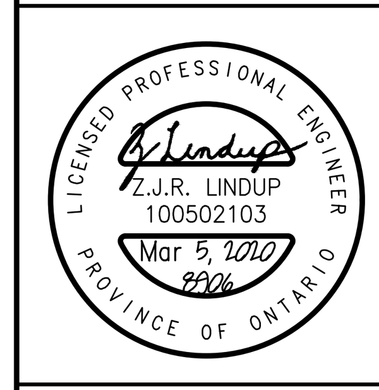

PROJECT TITLE

OUR LADY OF FATIMA

DRAWING TITLE

ELECTRICAL DETAILS

DATE PLOTTED	DRAWN BY	DRAWING No.
01/11/2020	AIS	E502.4
SCALE	CHECKED BY	
AS NOTED	ZJRL	
PROJECT No. 8906		

FILE NAME: 8906DE502.DWG
DATE SAVED: 31-Mar-2020 1:40 PM
DATE PLOTTED: 31-Mar-2020 4:09 PM

24x36

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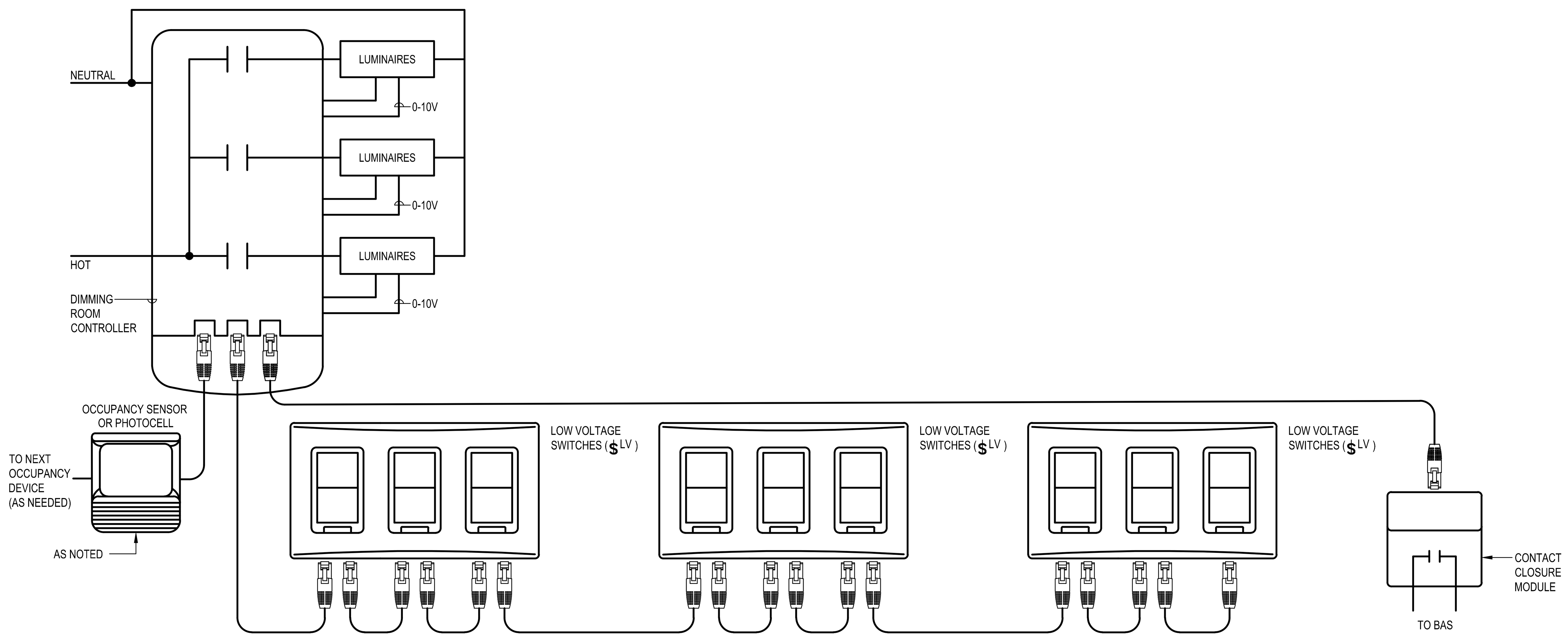
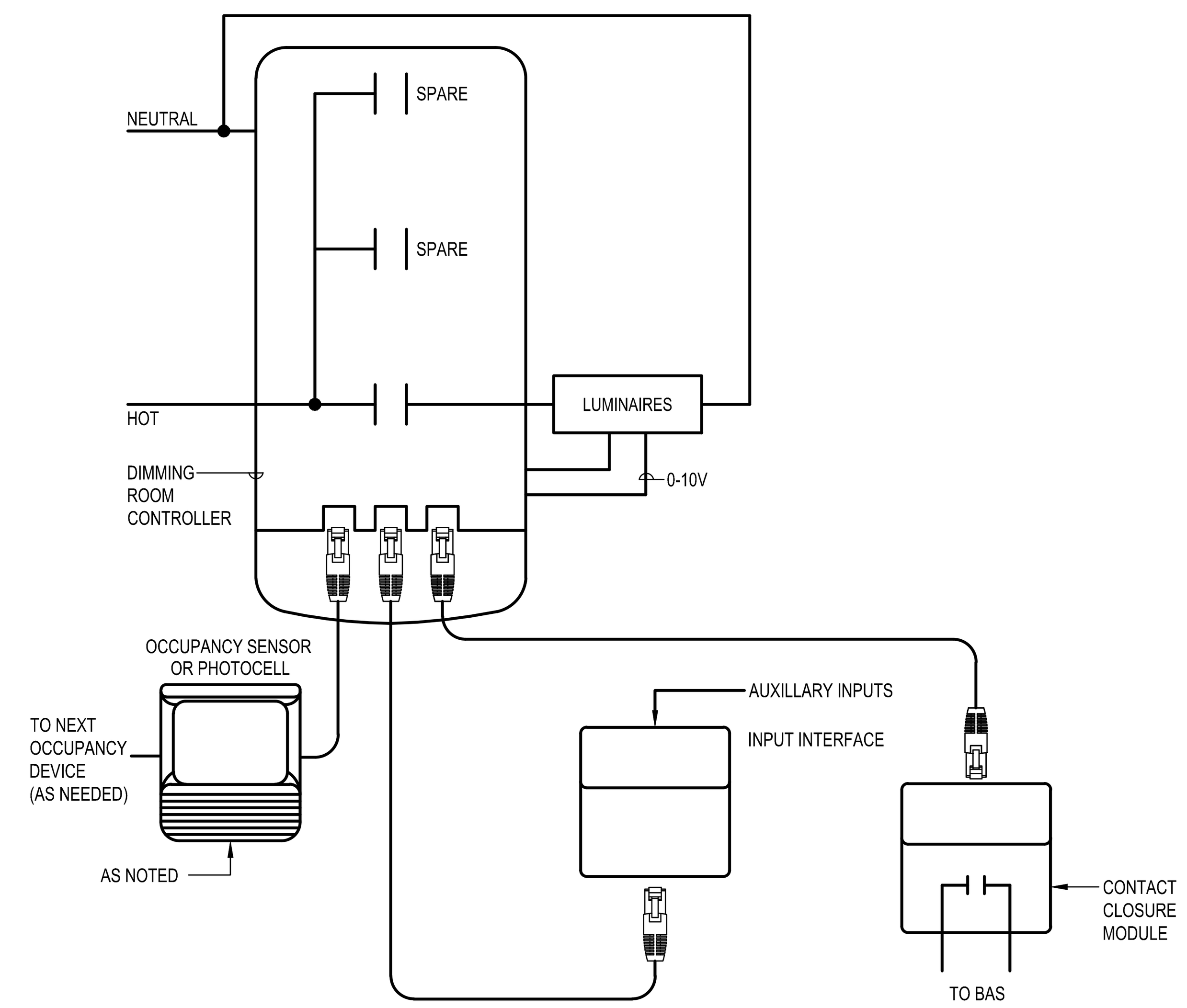
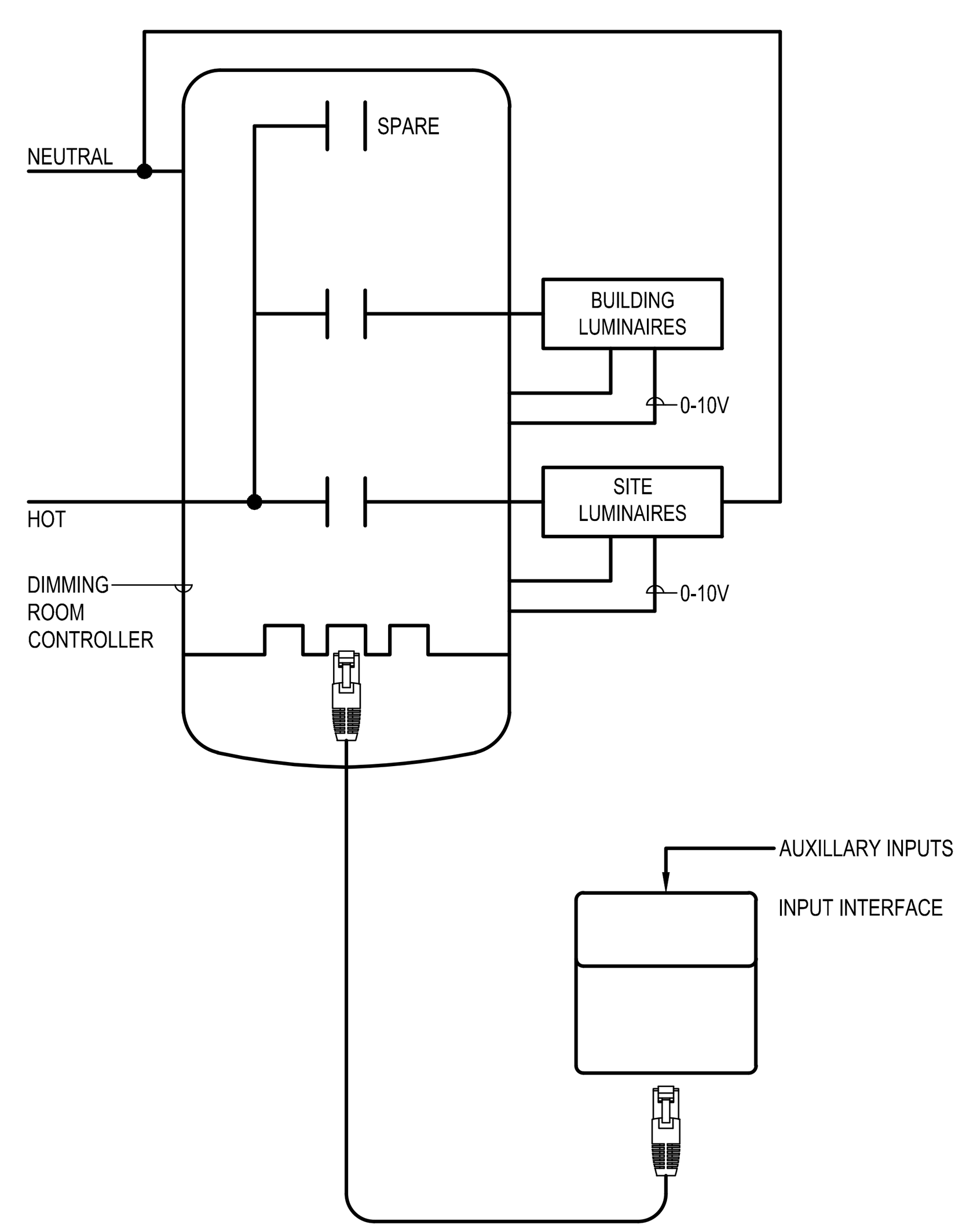


DIMMING ROOM CONTROLLER
LCG - LIGHTING CONTROL DIAGRAM
N.T.S.



DIMMING ROOM CONTROLLER
LCC - LIGHTING CONTROL DIAGRAM
N.T.S.

3



DIMMING ROOM CONTROLLER
LCE - LIGHTING CONTROL DIAGRAM
N.T.S.

ROOM CONTROLLER GENERAL NOTES

1. TYPICAL FOR ALL ROOMS WITH A ROOM CONTROLLER (RC). REFER TO FLOOR PLANS.

2. ELECTRICAL CONTRACTOR TO INSTALL CONTROLLERS ABOVE SWITCH IN ACCESSIBLE CEILING SPACE. WHERE LOCATED IN EXPOSED CEILING, ELECTRICAL CONTRACTOR TO INSTALL CONTROLLER IN 305mm x 305mm D BOX.

3 — 3. ALL LOW VOLTAGE WIRING TO BE IN CONDUIT. CONDUIT AND WIRING SUPPLIED AND INSTALLED BY ELECTRICAL CONTRACTOR. REFER TO SPECIFICATION SECTION 16550 FOR ACCEPTABLE WIRING METHODS.

4. CONTRACTOR TO TEST ALL CIRCUITS WITH MANUAL ON/OFF BUTTONS ON RELAY PACKS PRIOR TO INSTALLATION OF LOW-VOLTAGE WIRING.

3 — 5. NOT USED.

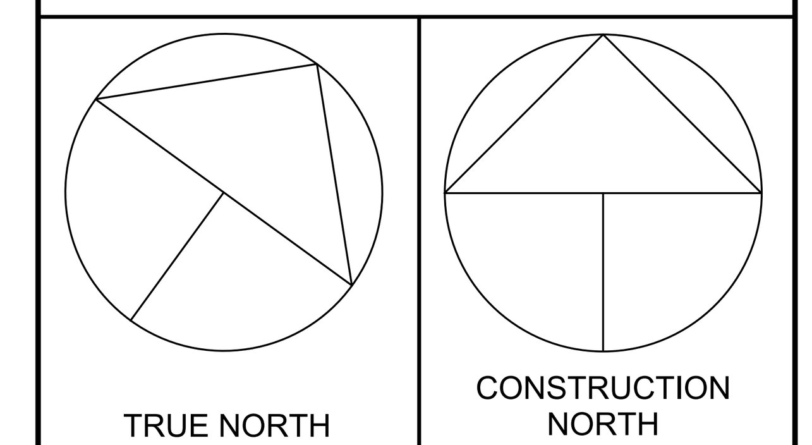
6. PROVIDE THE FOLLOWING CONTROL SEQUENCE IN EACH OF THE FOLLOWING SPACES:

6.1. CORRIDORS: AUTO ON TO 100%, AUTO OFF AFTER 5 MINUTES
6.2. GYMNASIUM: AUTO ON TO 100%, AUTO OFF AFTER 5 MINUTES
6.3. ALL REMAINING ROOMS: AUTO ON TO 50%, AUTO OFF AFTER 5 MINUTES

3 — 7. PROVIDE INPUT INTERFACE FOR ALL CORRIDORS AND EXTERIOR LIGHTING. PROGRAM CORRIDOR ROOM CONTROLLERS AS FOLLOWS:

7.1. INTERIOR LIGHTING IS SHUT OFF WHEN SECURITY SYSTEM IS ARMED
7.2. INTERIOR LIGHTING TO TURN ON UPON ACTIVATION OF SECURITY SYSTEM OR FIRE ALARM
7.3. INTERIOR LIGHTING TO TURN ON WHEN SECURITY SYSTEM IS DISARMED
7.4. EXTERIOR LIGHTING TO BE CONTROLLED BY BAS. REFER TO SECTION 15900 FOR DETAILS.

KEY PLAN



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LEGEND

No.	DATE MM/DD/YYYY	DESCRIPTION	REV. No.
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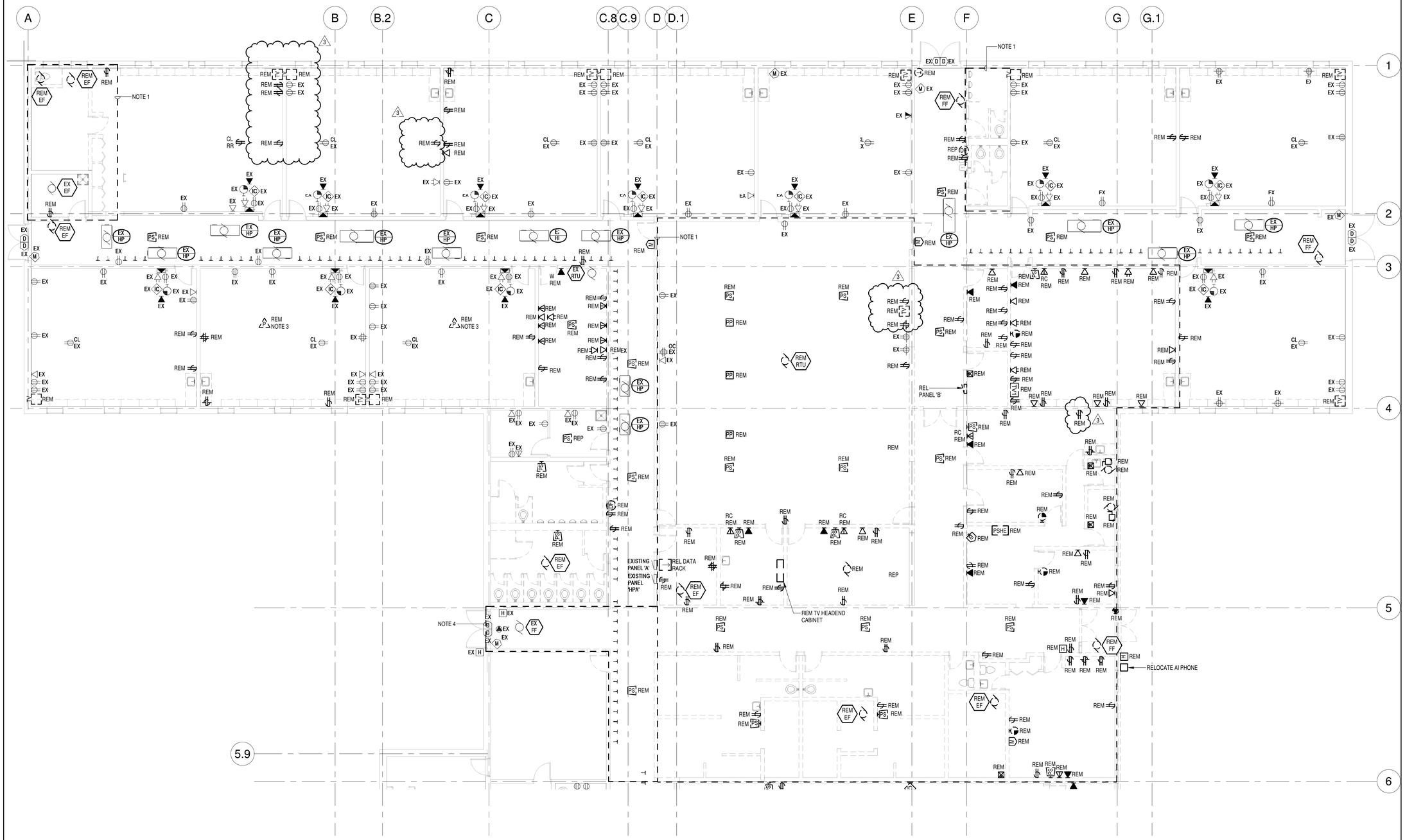
2	03/05/2020	REISSUED FOR ADDENDUM	
1	02/20/2020	ISSUED FOR TENDER & PERMIT	

LICENSED PROFESSIONAL ENGINEER
Z.J.R. LINDUP
100502103
Mar 5, 2020
PROVINCE OF ONTARIO

PROJECT TITLE
OUR LADY OF FATIMA

DRAWING TITLE
LIGHTING CONTROL DETAILS

DATE PLOTTED	DRAWN BY	DRAWING No.
01/11/2020	AIS	E504.4
SCALE: AS NOTED	CHECKED BY: ZJRL	
PROJECT No.: 8906		



PART GROUND FLOOR PLAN - NORTH - POWER AND SYSTEMS DEMOLITION

SCALE 1 : 100

NOTES:

1. EXISTING DEVICES ARE SHOWN FOR REFERENCE ONLY. COMPLETELY REMOVE ALL POWER AND SYSTEMS DEVICES WITHIN THE OUTLINED AREA UNLESS OTHERWISE NOTED. REMOVE ALL REDUNDANT CABLING AND CONDUIT BACK TO SOURCE. MAINTAIN SERVICE TO AREAS NOT UNDER CONSTRUCTION.
2. COMPLETELY REMOVE ALL EXISTING PAGING SPEAKERS, INTERCOM STATIONS, CALL SWITCHES, PROGRAM BELLS, AND PULL CORDS UNLESS OTHERWISE NOTED. REMOVE ALL REDUNDANT WIRING, CONDUIT, AND ACCESSORIES.
3. REMOVE EXISTING OVERHEAD PROJECTOR AND ALL ASSOCIATED WIRING AND CONDUIT. PROJECTOR TO BE TURNED OVER TO OWNER.
4. COMPLETELY REMOVE AND REINSTALL ALL CEILING MOUNTED POWER AND SYSTEMS DEVICE WITHIN THE OUTLINED AREA UNLESS OTHERWISE NOTED.

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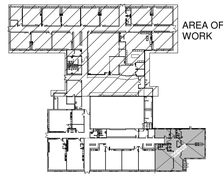

KEY PLAN

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LEGEND

No.	DATE MM/DD/YYYY	DESCRIPTION	REV. No.
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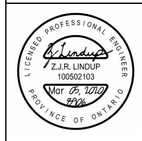


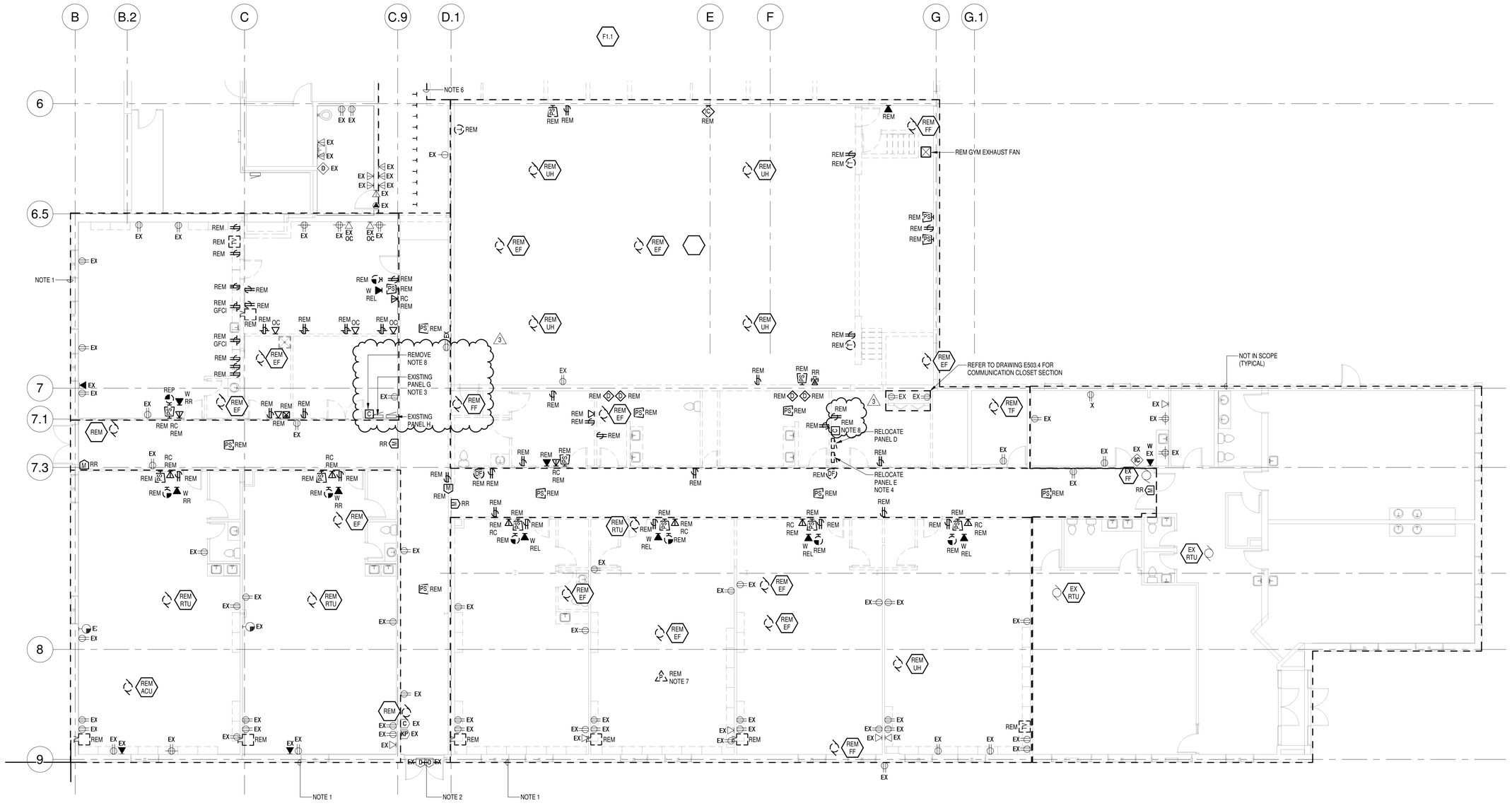
PROJECT TITLE

OUR LADY OF FATIMA

DRAWING TITLE

PART GROUND FLOOR PLAN - NORTH - POWER AND SYSTEMS DEMOLITION

DATE PLOTTED	DRAWN BY	DRAWING No.
2020-03-31 3:47:44 PM	AIS	E701.4
SCALE: 1 : 100	CHECKED BY: ZJRL	
PROJECT No.: 8906		



PART GROUND FLOOR PLAN SOUTH - POWER AND SYSTEMS DEMOLITION

SCALE 1 : 100

3

NOTES:

1. EXISTING DEVICES ARE SHOWN FOR REFERENCE ONLY. COMPLETELY REMOVE ALL POWER AND SYSTEMS DEVICES WITHIN THE OUTLINED AREA UNLESS OTHERWISE NOTED. REMOVE ALL REDUNDANT CABLING AND CONDUIT BACK TO SOURCE. MAINTAIN SERVICE TO AREAS NOT UNDER CONSTRUCTION.
2. EXISTING DEVICES ARE SHOWN FOR REFERENCE ONLY. COMPLETELY REMOVE ALL CEILING MOUNTED POWER AND SYSTEMS DEVICES WITHIN THE OUTLINED AREA UNLESS OTHERWISE NOTED. REMOVE ALL REDUNDANT CABLING AND CONDUIT BACK TO SOURCE. MAINTAIN SERVICE TO AREAS NOT UNDER CONSTRUCTION.
3. EXISTING LOADS TO BE REWORKED TO EXISTING PANEL 'H'. REFER TO DRAWING E302.4 AND PANEL SCHEDULES FOR ADDITIONAL DETAILS.
4. EXISTING LOADS NOT SERVING DAYCARE TO BE REWORKED INTO EXISTING PANEL 'D' IN NEW LOCATION. REFER TO DRAWING E302.4 AND PANEL SCHEDULES FOR ADDITIONAL DETAILS.
5. COMPLETELY REMOVE ALL EXISTING PAGING SPEAKERS, INTERCOM STATIONS, CALL SWITCHES, PROGRAM BELLS, AND PULL CORDS UNLESS OTHERWISE NOTED. REMOVE ALL REDUNDANT WIRING, CONDUIT, AND ACCESSORIES.
6. COMPLETELY REMOVE AND REINSTALL ALL CEILING MOUNTED POWER AND SYSTEMS DEVICE WITHIN THE OUTLINED AREA UNLESS OTHERWISE NOTED.
7. REMOVE EXISTING OVERHEAD PROJECTOR AND ALL ASSOCIATED WIRING AND CONDUIT. PROJECTOR TO BE TURNED OVER TO OWNER.
8. REMOVE EXISTING EXTERIOR LIGHTING CONTACTOR. EXISTING WIRING AND CONDUIT TO REMAIN FOR REWORK INTO NEW ROOM CONTROLLER.

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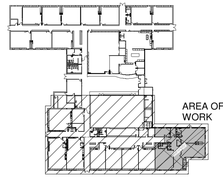
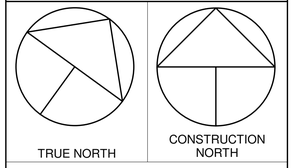


KEY PLAN



NOTES

LEGEND

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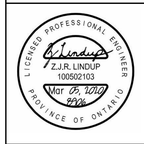

PROJECT TITLE

OUR LADY OF FATIMA

DRAWING TITLE

PART GROUND FLOOR PLAN - SOUTH - POWER AND SYSTEMS DEMOLITION

DATE PLOTTED	DRAWN BY	DRAWING No.
2020-03-31 3:47:48 PM	AIS	E702.4
SCALE 1 : 100	CHECKED BY ZJRL	
PROJECT No. 8906		

1 General

1.1 **GENERAL REQUIREMENTS**

1.1.1 The requirements of the Instructions to Bidders, the Contract Forms, the General Provisions as hereinbefore written will form a part of the following Specifications and the Contractor will consult them in detail for instructions governing the work.

1.2 **DESCRIPTION OF SYSTEMS**

1.2.1 **Intercom System**

1.2.1.1 Supply and install all equipment and accessories to extend the existing intercom system provided by the owner as described herein and as shown on plans. Existing intercom system is by Telecor.

1.2.1.2 Provide new wiring, speakers and intercom stations as indicated on the drawings.

1.2.1.3 **A copy of the PA/Intercom software must be turned over to the Owner complete with all passwords, etc., required to make programming modifications to the system. Proprietary programming software will not be acceptable.**

1.3 **SPRINKLER SHIELDS**

1.3.1 This building will be fully sprinklered. All surface mounted panels and enclosures will include sprinkler shields. Ensure all conduit and fittings in sprinklered areas meet the requirements outlined in 16001 clause "Sprinkler Proof Equipment"

2 Products

2.1 **MATERIALS**

2.1.1 Use materials specified herein or approved equal.

2.1.2 Conceal all wiring above finished suspended ceilings, except where otherwise noted.

2.2 **INTERCOM SYSTEM**

2.2.1 Existing Intercom System is by Telecor.

2.2.2 Consult with intercom system manufacturer to determine accessories and wiring diagrams required to extend the existing intercom system. Extras will not be granted for failure to consult with intercom system manufacturer.

2.2.3 All equipment and component assemblies will be CSA certified or bear evidence of submission to "Special Inspection" procedures.

2.2.4 **Materials**: The Administrative Desktop base unit to include:

2.2.4.1 Administrative desk unit LCD display located at Secretary's desk (master station).

2.2.4.2 PTT desk microphone. Location as shown or as directed.

2.2.5 **Speaker Assemblies**

2.2.5.1 **Classroom Modules**: Provide McBride 8LS822-19 speaker assembly, complete with white square baffle, 25/70 volt transformer and speaker. Provide McBride MCSW-1 call switch assembly with rocker selection of Call or Privacy, on MCWP13SW stainless steel single gang wall place, mounted on classroom control panel.

2.2.5.2 **Ceilings**: Provide McBride 8LS822-19 speaker assembly, complete with white round baffle, 25/70 volt transformer and speaker. Unit to be installed in AEG E10 backbox in ceiling tiles.

2.2.5.3 **Gymnasiums**: Provide McBride 8LS822-19 speaker assembly, complete with white square baffle, 25/70 volt transformer and speaker. Unit to be installed in McBride MC20E recessed backbox for new applications or an McBride SMC20E backbox for retro-fit applications. Provide McBride MCSW-1 call switch assembly with rocker selection of Call or Privacy mounted at light switch height below speaker assembly.

2.2.5.4 **Washroom Station**: Provide McBride 8LS822-19 speaker assembly and McBride MC10E recessed backbox in conjuction with the Camden CX-WEC10 kit (installed by door hardware contractor). Refer to drawings for additional details.

2.2.5.5 **Outdoors (existing walls)**: Provide Fourjay Industries IS4-T16 speaker assembly, complete with stainless steel grille cover, 25/70 volt transformer and 16W speaker.

2.2.5.6 **Mechanical Rooms**: Provide Fourjay Industries 205 Series 5 watt re-entrance horn with McBride MCSW-1 call switch assembly with rocker selection of Call or Privacy, on MCWP13SW stainless steel single gang wall plate with telephone handset.

2.2.6 The following manufacturers will be considered equal :

Telecor

3 Execution

3.1 **INTERCOM SYSTEM**

3.1.1 Provide a complete functioning intercom system as specified and as indicated on the Drawings.

3.1.2 Provide all conduits, outlet and wiring for a complete system. All cable to be CMP rated. CMR cable will not be permitted.

3.1.3 Cables to be colour coded to manufacturer's recommendation.

3.1.4 **Testing**

3.1.4.1 Entire system is to be installed and tested by a qualified sound technician.

3.1.4.2 Upon complete, test each station and provide a comprehensive room-by-room report

to the Consultant.

3.1.4.3 Allow for a minimum of two hour's instruction of operation on two different occasions. (Total of four hours). First training session to be completed during the week before School starts, at a time suitable to the Users.

3.1.4.4 In addition to the above, provide a qualified person familiar with the operation of the system to assist the School Administration in the operation of the system between 0800 hours and 1000 hours on the first day of school.

END OF SECTION