

## PART 1 - ADDENDUM

### 1.1 TITLE

- .1 This Addendum shall be known as:

Addendum 2  
TFM-052-24 – MTS Chiller Fit Up

- .2 The Date of the Addendum is Friday, December 13, 2024

### 1.2 PRECEDENCE

- .1 This amendment to the bid documents is effective immediately.
- .2 This Addendum shall form an integral part of the original bid documents and is to be read in conjunction therewith.
- .3 The Addendum shall take precedence over previously issued bid documents with which it may prove to be at variance.

### 1.3 GENERAL

- .1 The General Conditions shall govern all phases of the Work covered by this Addendum.
- .2 Acknowledge receipt of this addendum in the Tender and Acceptance form.

### 1.4 PURPOSE

- .1 The purpose of the Addendum is to inform bidders of the changes, deletions and additions to be added to the bid documents.

### 1.5 CHANGES TO DRAWINGS

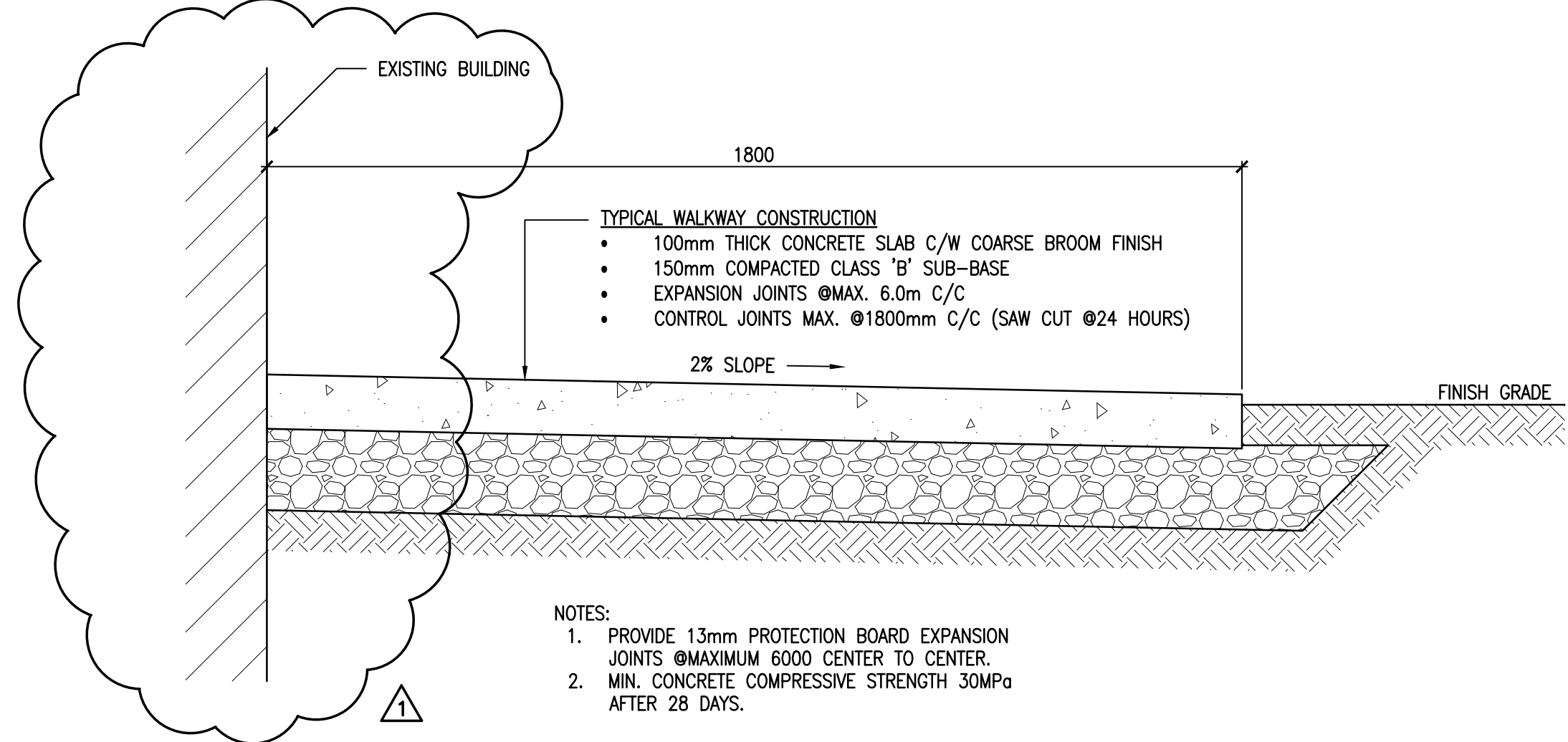
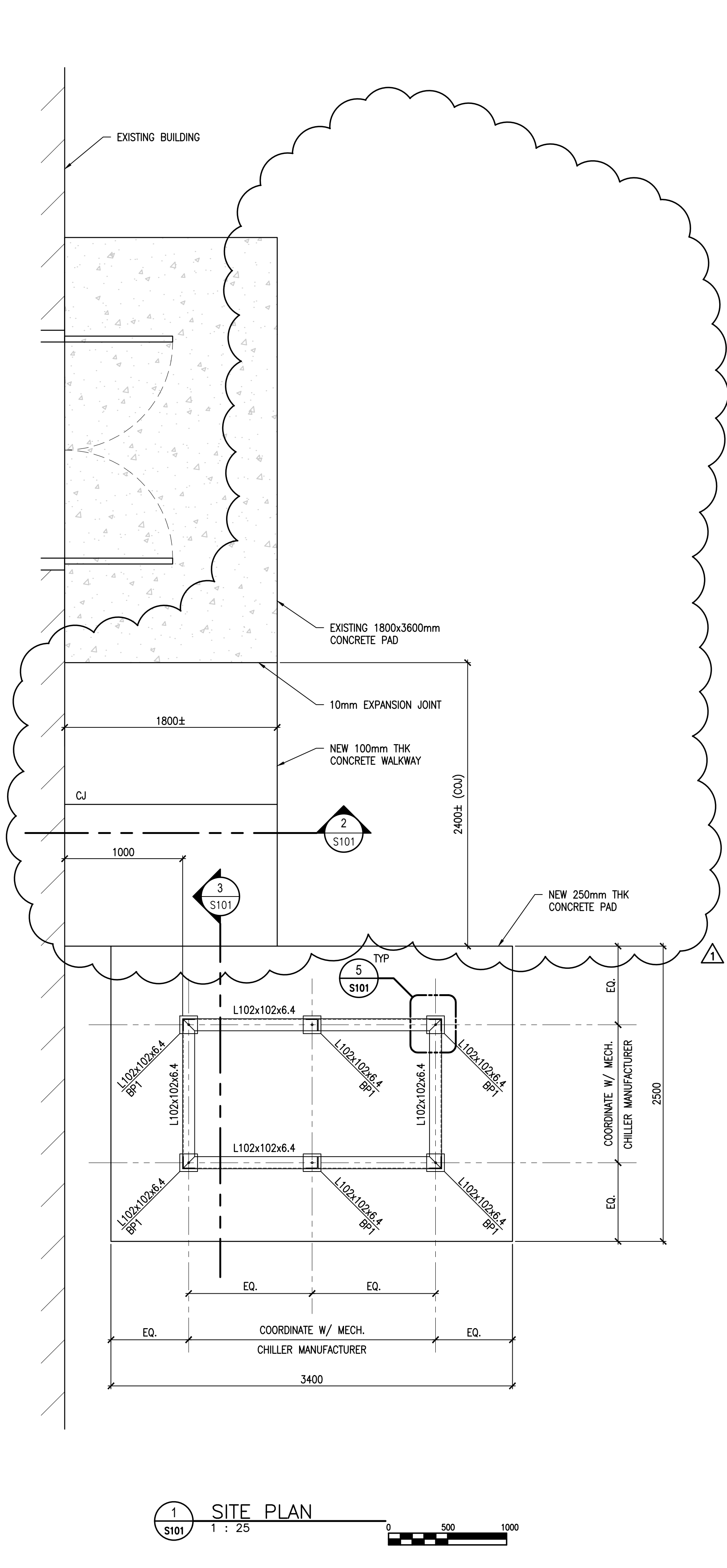
- .1 Revisions to S101 – See Attached.

### 1.6 CLARIFICATIONS -

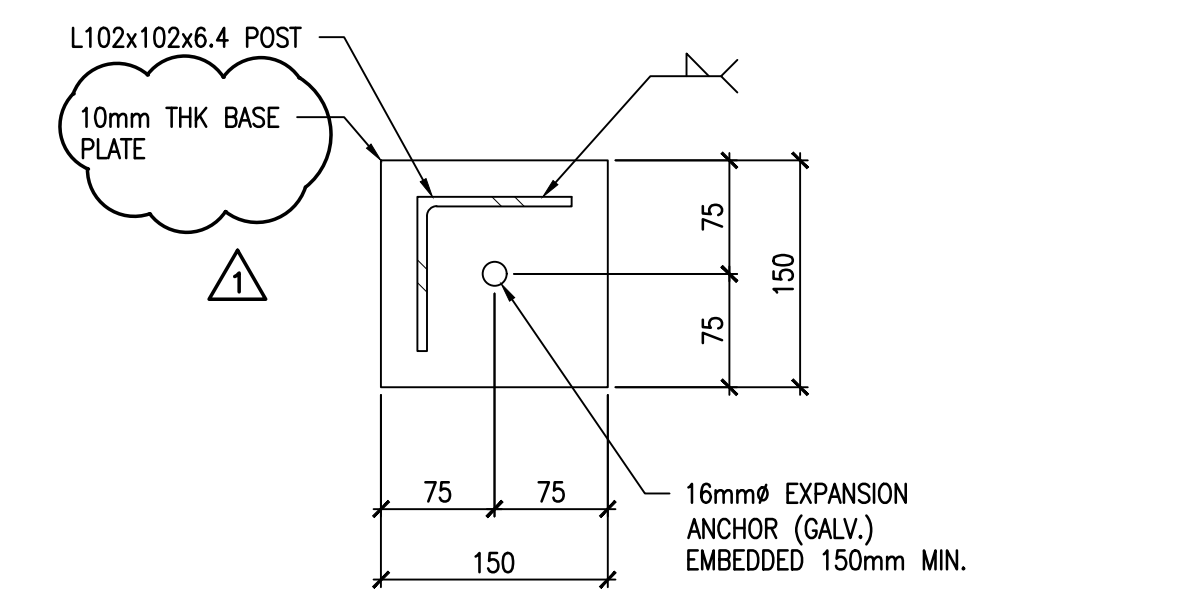
**Trench Conduit Grounding:** Provide 21mm rigid galvanized steel conduit, bonded / grounded, terminate with liquid tight flexible metal conduit at the HPU and Chiller, limit flexible conduit to 1 meter in length.

**Trench support structure, additional detail:** The picture is from the construction phase of the project

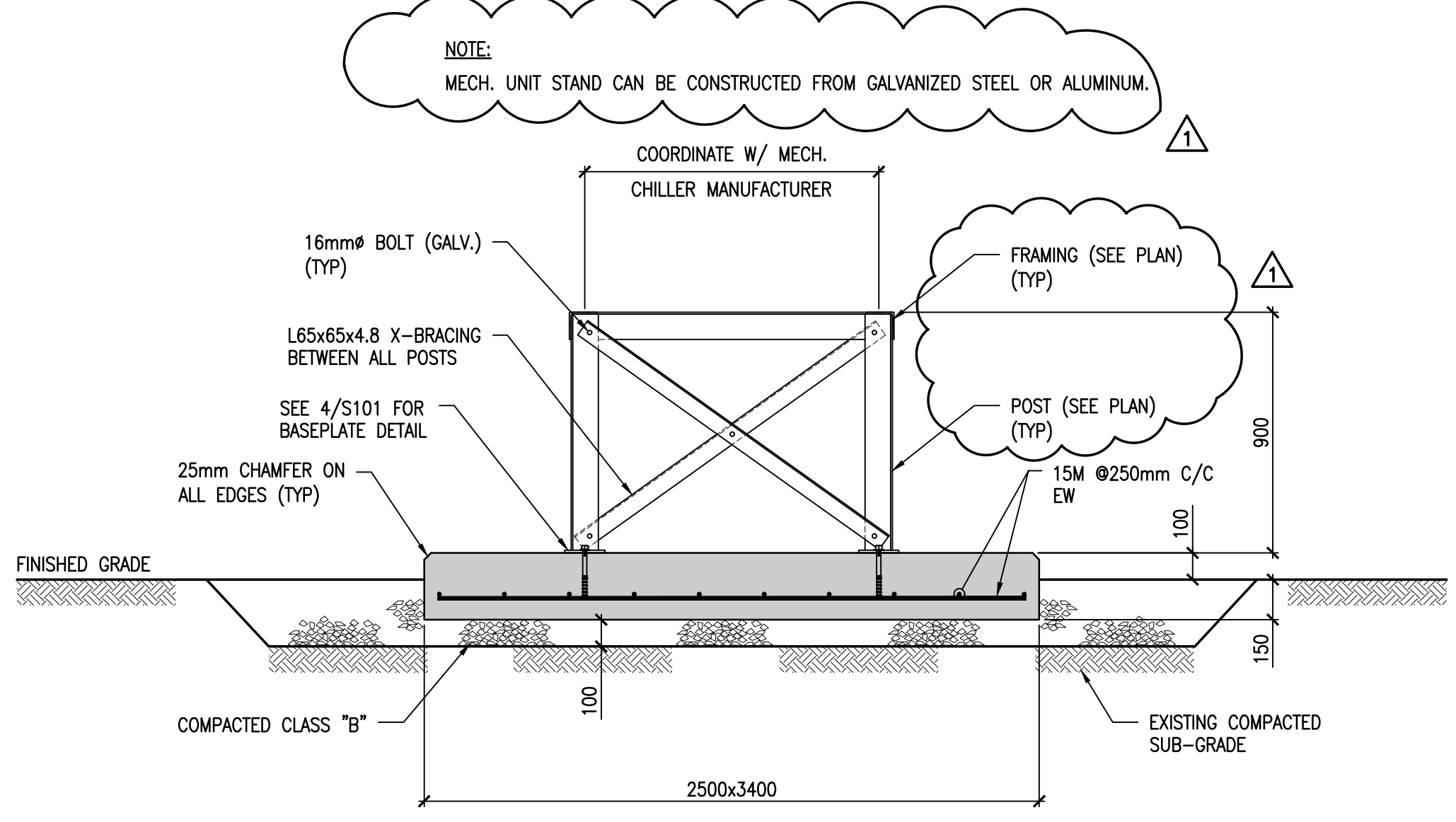




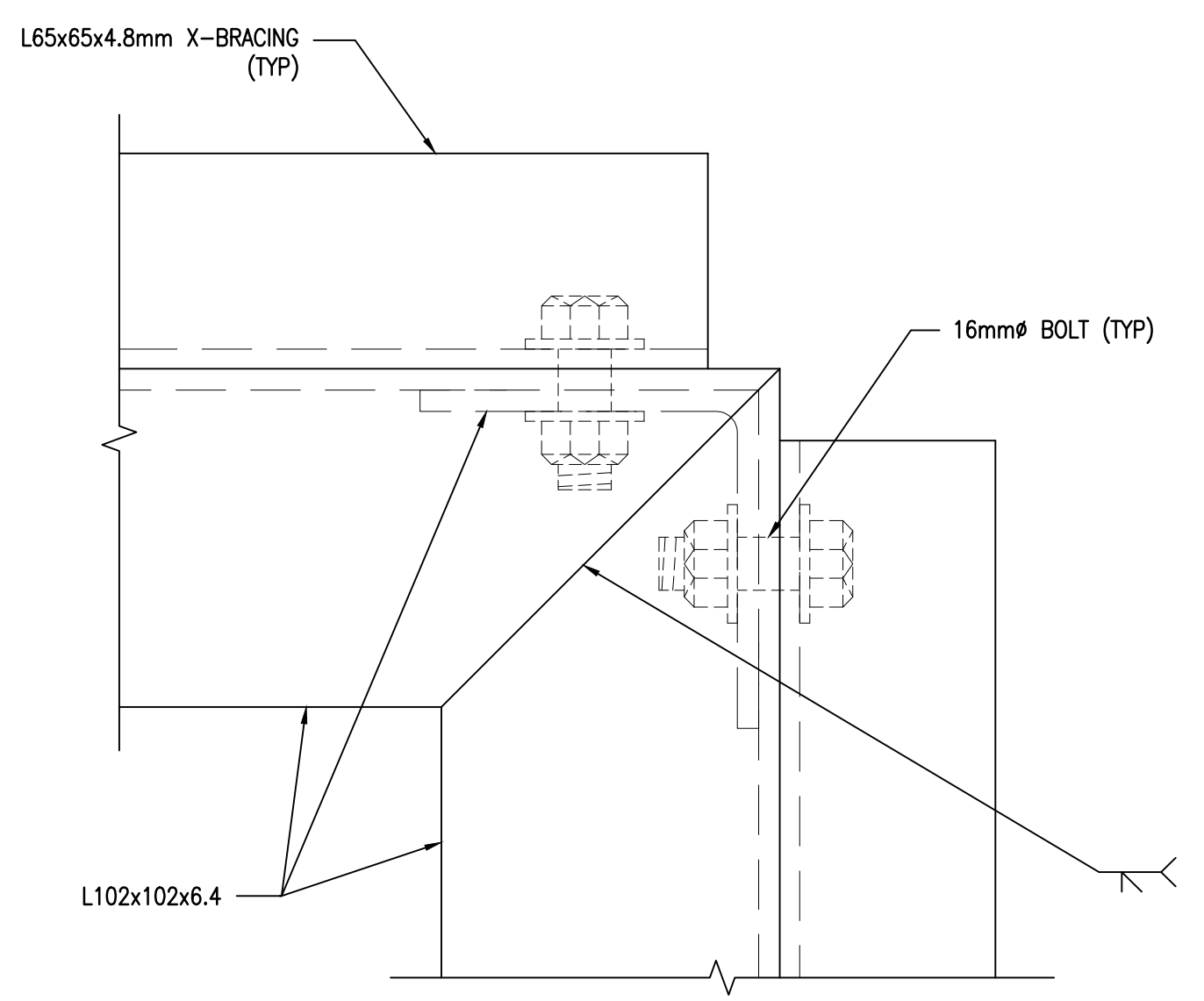
2 TYPICAL CONCRETE WALKWAY SECTION  
S101 1 : 10



4 BASE PLATE 'BP1' DETAIL  
S101 1 : 5



3 TYPICAL SECTION @ MECH. UNIT STAND  
S101 1 : 20



5 FRAMING DETAIL  
S101 1 : 2

**GENERAL REQUIREMENTS**

- USE DRAWINGS ONLY FOR THE PURPOSE INDICATED IN THE REVISIONS COLUMN. ONLY DRAWINGS 'ISSUED FOR CONSTRUCTION' MAY BE USED FOR CONSTRUCTION.
- READ STRUCTURAL DRAWINGS IN CONJUNCTION WITH OTHER CONTRACT DOCUMENTS.
- REFER TO ARCHITECTURAL, MECHANICAL AND ELECTRICAL DRAWINGS FOR COORDINATION.
- CONTRACTOR MUST VERIFY ALL DIMENSIONS AND CONDITIONS ON SITE BEFORE PROCEEDING WITH ANY PORTION OF THE WORK.
- DO NOT IMPOSE LOADS ON THE STRUCTURE IN EXCESS OF THE DESIGN LOADS.
- COMPLY WITH NATIONAL BUILDING CODES, STANDARDS, LOCAL BY-LAWS, CANADIAN CONSTRUCTION SAFETY CODES AND ALL REGULATIONS SET BY AUTHORITIES HAVING JURISDICTION. IN THE CASE OF CONFLICT OR DISCREPANCY THE MOST STRINGENT REQUIREMENTS SHALL APPLY.
- ALL CSA AND ASTM STANDARDS REFERENCED THROUGHOUT REFER TO THE LATEST EDITION AND/OR REVISIONS OF NOTED STANDARDS.

**FOUNDATION NOTES**

- REFERENCE GEOTECHNICAL REPORT (IF APPLICABLE) FOR SOIL AND FOUNDATION CONDITIONS.
- NO FOOTING SHALL BE POURED WITHOUT PRIOR APPROVAL OF THE OWNER'S REPRESENTATIVE.
- REMOVE ALL LOOSE AND UNSUITABLE SOIL UNDER FOUNDATIONS DOWN TO UNDISTURBED TILL MATERIAL. BACKFILL WITH APPROVED MATERIAL AND COMPACT TO 100% CORRECTED MAXIMUM DRY DENSITY.
- ALL FOOTING TO REST ON BEDROCK OR UNDISTURBED SOIL HAVING A MINIMUM BEARING CAPACITY OF 150 kPa UNLESS NOTED OTHERWISE.
- PROTECT FOUNDATIONS FROM FROST ACTION DURING CONSTRUCTION.
- DO NOT PLACE FOOTINGS ON FROZEN GROUND.
- ANY OVER EXCAVATION OF FOUNDATION GRADES MUST BE MADE GOOD WITH CONCRETE FOR FOOTINGS ON ROCK OR WITH COMPACTED STRUCTURAL FILL TO ACHIEVE THE ALLOWABLE SAFE DESIGN BEARING CAPACITIES.

**CONCRETE NOTES**

- ALL CONCRETE WORK SHALL CONFORM TO CSA STANDARDS A23.1, A23.2 & A23.3 LATEST EDITIONS.
- DETAILING, FABRICATION AND PLACEMENT OF ALL REINFORCEMENT SHALL BE IN CONFORMANCE TO THE LATEST EDITION OF 'REINFORCING STEEL MANUAL OF STANDARD PRACTICE' BY THE REINFORCING STEEL INSTITUTE OF CANADA.
- ALL REINFORCEMENT SHALL BE DEFORMED BARS CONFORMING TO CSA G30.18. MINIMUM YIELD STRENGTH OF 400 MPa.
- ALL REINFORCING STEEL SHALL BE LAPPED A MINIMUM OF 36 BAR DIAMETERS UNLESS NOTED OTHERWISE.
- CLEAR CONCRETE COVER TO REINFORCING TO BE 75 MM UNLESS NOTED OTHERWISE.
- DESIGN, CONSTRUCT AND REMOVE FORMWORK, FRAMING SUPPORTS AND BRACING TO CONFORM TO REQUIREMENTS SPECIFIED IN CSA A23.1 AND CSA S269.1 TO PROVIDE FINISHED POURED CONCRETE SURFACES WITHIN SPECIFIED TOLERANCES.
- FORMWORK MUST NOT BE REMOVED UNTIL CONCRETE HAS ATTAINED SUFFICIENT STRENGTH TO SUSTAIN ALL LOADING IN ACCORDANCE WITH CSA A23.1.
- UNLESS OTHERWISE NOTED LEAVE ALL FORMWORK IN PLACE FOR THE FOLLOWING MINIMUM PERIODS OF TIME AFTER PLACING CONCRETE:
  - FOOTINGS - 1 DAY
- REMOVE FORMWORK WHEN THE CONCRETE HAS ATTAINED 70% OF ITS DESIGN STRENGTH OR MINIMUM PERIODS NOTED ABOVE, WHICHEVER COMES LATER.
- CHAMFER ALL EXPOSED CORNERS OF CONCRETE 25 MM UNLESS NOTED OTHERWISE.
- USE ONLY NON-SHRINK GROUT UNDER BASE PLATES.
- CONCRETE REQUIREMENTS:
 

LOCATION	STRENGTH	CLASS	SLUMP	AIR CONTENT	W/C RATIO
FOOTING	30MPa	F2	100mm	4 - 7%	.55
- CONTRACTOR TO SUBMIT CURING PROCEDURES PRIOR TO COMMENCING WORK.
- WET CURE CONCRETE FOR A MINIMUM OF 7 DAYS.
- CONCRETE FINISH: BROOM FINISH.

**MISCELLANEOUS STEEL NOTES**

- DESIGN, FABRICATION AND ERECTION SHALL CONFORM TO CAN/CSA S16-09.
- ALL STRUCTURAL STEEL SHALL CONFORM TO CSA G40.21:
  - CHANNELS, ANGLES GRADE 300W
- ALL WELDING SHALL BE PERFORMED BY QUALIFIED WELDERS OF COMPANIES IN COMPLIANCE WITH CSA W47.1 AND IN ACCORDANCE WITH CSA W59.
- WELDING ELECTRODES TO BE E49XX UNLESS NOTED OTHERWISE.
- ALL WELDS TO BE CONTINUOUS 6 MM FILLET WELDS UNLESS NOTED OTHERWISE.
- ALL BOLTS SHALL CONFORM TO ASTM A325 SPECIFICATIONS UNLESS NOTED OTHERWISE. (GALV.)
- PROVIDE ALL NECESSARY DETAILS, MATERIALS AND CONNECTIONS IN ACCORDANCE WITH CISC STANDARD DETAILS.
- ALL STRUCTURAL STEEL TO BE HOT DIPPED GALVANIZED TO CSA G164.
- ALL SUPPORT FRAME CONNECTIONS SHALL BE SHOP WELDED.

**STRUCTURAL ALUMINUM NOTES**

- DESIGN SHALL CONFORM TO CAN/CSA S157.
- ALL WELDING SHALL BE PERFORMED BY QUALIFIED WELDERS OF COMPANIES IN COMPLIANCE WITH:
  - CSA W47.2 CERTIFICATION OF COMPANIES FOR FUSION WELDING OF ALUMINUM
  - CSA W59.2 WELDING ALUMINUM CONSTRUCTION
- ALL ALUMINUM SECTIONS TO BE 6061-T4 STOCK. Fy= 110 MPA.
- ALL FABRICATORS TO SUBMIT SHOP DRAWINGS STAMPED AND SIGNED BY AN ENGINEER LICENCED TO PRACTICE IN THE PROVINCE OF NEWFOUNDLAND AND LABRADOR.
- PROVIDE ALL NECESSARY DETAILS, MATERIALS AND CONNECTIONS IN ACCORDANCE WITH INDUSTRY STANDARD DETAILS.
- ALL BOLTS SHALL CONFORM TO ASTM A325 SPECIFICATIONS UNLESS NOTED OTHERWISE.
- ALL BOLTS TO BE GALVANIZED.
- PREVENT CONTACT OF DISSIMILAR METALS BY USE OF ISOLATION MATERIALS.

Mechanical Prime Consultant

Discipline: **STRUCTURAL**

Sub-Consultant: Structural

Sub-Consultant: Mechanical

Sub-Consultant: Electrical

Sub-Consultant: Civil

Client: **MEMORIAL UNIVERSITY OF NEWFOUNDLAND**

Drawn: G. MARSH Checked: R. BAILEY

Designed: R. BAILEY Approved: R. BAILEY

Consultants Project No. **JBC-23-C-168**

Professional Stamp & Permit:

PROVINCE OF NEWFOUNDLAND AND LABRADOR  
PERMIT HOLDER  
This Permit Allows  
JEWEL BAILEY CONSULTANTS ULC  
M.R.C.  
To practice Professional Engineering  
in Newfoundland and Labrador.  
Permit No. as issued by PEG N0540  
which is valid for the year 2024.

NOTES:

- DO NOT SCALE FROM THIS DRAWING. UNLESS OTHERWISE NOTED, ALL DIMENSIONS ARE IN MILLIMETRES.
- CONTRACTOR SHALL VERIFY ALL EXISTING CONDITIONS ON SITE PRIOR TO PROCEEDING WITH ANY PORTION OF THIS WORK. CONTRACTOR SHALL DO ALL WORK IN ACCORDANCE WITH THE APPLICABLE STANDARDS AND CODES INCLUDING, BUT NOT LIMITED TO, THE NATIONAL BUILDING CODE OF CANADA.

1	Issued for Addendum #1	2024.12.13
0	Issued for Tender	2024.11.21
No.	Revisions	MM/DD/YY

Drawing Nomenclature

Detail/Section No. **3** Dwg. No. **A-1** where detailed

PROJECT TITLE  
**MUN HARSH ENVIRONMENT RESEARCH FACILITY MTS CHILLER**

Client's Project No.: -

DRAWING TITLE  
**CONCRETE WALKWAY & CONCRETE PAD WITH STEEL MECH. UNIT STAND DETAILS**

SCALE: As Indicated

DATE: 2024.11.21

REVISION NO. **S101**

## PART 1 - ADDENDUM

### 1.1 TITLE

- .1 This Addendum shall be known as:

Addendum 1  
TFM-052-24 – MTS Chiller Fit Up

- .2 The Date of the Addendum is Thursday, December 05, 2024

### 1.2 PRECEDENCE

- .1 This amendment to the bid documents is effective immediately.
- .2 This Addendum shall form an integral part of the original bid documents and is to be read in conjunction therewith.
- .3 The Addendum shall take precedence over previously issued bid documents with which it may prove to be at variance.

### 1.3 GENERAL

- .1 The General Conditions shall govern all phases of the Work covered by this Addendum.
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### 1.4 PURPOSE

- .1 The purpose of the Addendum is to inform bidders of the changes, deletions and additions to be added to the bid documents.

### 1.5 CHANGES TO IN GENERAL

- .1 Non-Mandatory Site Visit –  
Wednesday, December 11th at 12:00-1:00 pm.  
Meet at MUN Engineering Annex (HERF Facility) – Sand Pits Road  
All Visitors are required to wear PPE

### 1.6 CHANGES TO SPECIFICATION

- .1 Modification to 01 10 00 1.7.3.3

Specification to read:

Electrical Fit Up for research equipment is ongoing. The permanent power feed for this scope of work is expected to be completed in November 2025. Temporary power is sufficient for system startup and testing. Full system performance testing may occur during the Summer of 2026. Refer to Drawing M002 – Mechanical Specifications for commissioning requirements.