CORNELL UNIVERSITY FACILITIES CONTRACTS 121 HUMPHREYS SERVICE BUILDING ITHACA, NEW YORK 14853-3701

ADDENDUM NO. 2

January 16, 2024

This Addendum contains changes to the requirements of the Contract Documents and Specifications. Such changes are to be incorporated into the Construction Documents and shall apply to the work with the same meaning and force as if they had been included in the original document. Wherever this Addendum modifies a portion of a paragraph of the specifications or a portion of any Drawing, the remainder of the Paragraph or Drawing shall remain in force.

NOTE: Provisions of all Contract Documents apply.

GENERAL CONDITIONS

Item 1. GENERAL CONDITIONS, 12.03, A.

DELETE in its entirety.

A. "Retention in the amount of ten percent (10%) of the value of the Work done ..."

REPLACE with:

A. "Retention in the amount of **five percent (5%)** of the value of the Work done..."

GENERAL REQUIREMENTS

Item 2. SECTION 01 11 00 – SUMMARY OF WORK

DELETE Article 1.3, Schedule of Owner Furnished Items, in its entirety.

REPLACE with Article 1.3, Schedule of Owner Furnished Items, as follows:

- 1.3 <u>SCHEDULE OF OWNER FURNISHED ITEMS</u>
- A. Cornell will provide the building and electrical permits for this project.
- B. Two (2) CESR 85 process chilled water manifolds with valves and specialties shall be furnished by the owner for installation by the contractor. Each manifold furnished shall be pre-piped with a union, pressure gauge, and isolation valve. The supply manifold will also include a balance valve and control valve and the return manifold will also include a strainer. Refer to Detail 6 on H-200 for installation requirements.
- C. FCU-1, as identified on H-200, shall be furnished by the Owner for installation by the Contractor.
- D. The Contractor shall receive, unload, store and install Owner furnished equipment as shown on the plans and called for in the Specifications.

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- 1. The Contractor shall be responsible for logging in, checking and verifying receipt of items and shall be responsible for confirming that the quantities and condition of the materials are appropriate for installation and the completion of the Work of the project.
- 2. The Contractor shall note any damage and/or short count on the Bill of Loading for any Owner Furnished Equipment received at the storage facility, such listing of damages or short count being required to establish the Owner's potential claim against the carrier. The Contractor shall also notify the Owner directly on any such damage and/or short count.
- 3. Unload Owner Furnished Equipment at the job site using necessary care and equipment as required to handle the equipment in a safe manner.
- 4. Use adequate numbers of skilled workers necessary to handle, receive and install Owner Furnished Equipment.
- 5. Install Owner Furnished Equipment as called for in the Drawings or in these Specifications.
- E. Installation
 - 1. Install products in conformance with manufacturer's installation instructions.
 - 2. Provide interconnecting structures, equipment, piping, electrical and instrumentation work, finish painting, and appurtenances to achieve a complete and functional system.
- F. Use of Materials
 - 1. The Contractor shall be responsible for the use of Owner provide materials in an efficient manner in accordance with industry standards and best practices to reduce waste materials.

Item 3. SECTION 01 77 00 – PROJECT CLOSEOUT, 1.3. FINAL CLEAN UP, C

DELETE in its entirety.

TECHNICAL SPECIFICATIONS

Item 4. SECTION 21 13 00 - FIRE SUPPRESSION SPRINKLER SYSTEMS, 1.3. SYSTEM DESCRIPTION

DELETE Paragraph J in its entirety.

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Item 5. SECTION 23 21 10 - WATER SYSTEMS SPECIALTIES, 2.2. FLOW BALANCERS, A

DELETE in its entirety.

1. Iron body is not acceptable for sizes above 2". Stainless steel body and components is acceptable. Balancers must be suitable for use with deionized water.

REPLACE with:

1. Iron body is not acceptable for sizes above 2". **Stainless steel, brass or bronze** body and components is acceptable. Balancers must be suitable for use with deionized water.

DRAWINGS

Item 6.	Drawing G-000
	DELETE in its entirety.
	REPLACE with revised Drawing G-000R, attached.
Item 7.	Drawing S-001
	DELETE in its entirety.
	REPLACE with revised Drawing S-001R, attached.
Item 8.	Drawing A-420
	DELETE in its entirety.
	REPLACE with revised Drawing A-420R, attached.
Item 9.	Drawing P-000
	DELETE in its entirety.
	REPLACE with revised Drawing P-000R, attached.
Item 10.	Drawing P-111
	DELETE in its entirety.
	REPLACE with revised Drawing P-111R, attached.

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Item 11. Drawing P-112

DELETE in its entirety.

REPLACE with revised Drawing P-112R, attached.

Item 12. Drawing H-111

DELETE in its entirety.

REPLACE with revised Drawing H-111R, attached.

Item 13. Drawing H-112

DELETE in its entirety.

REPLACE with revised Drawing H-112R, attached.

Item 14. RFI Questions and Clarifications

See attached RFI Log (Items 1 - 14)

Attachments: Drawing G-000R Drawing S-001R Drawing A-420R Drawing P-000R Drawing P-111R Drawing P-112R Drawing H-112R Drawing H-112R RFI Log Response Worksheet

****END OF ADDENDUM****





Regional Map



Beamline Enabling -Phase 3

Construction Documents November 17, 2023

Synchrotron Drive Ithaca, NY 14853

Project Number # 21198.02

DRAWING LIST







MEP Consultant:

M/E Engineering 300 Trolley Blvd Rochester, NY 14606 585 288 5590



Architect

SWBR 387 East Main Street Rochester, NY 14604 585 232 8300 rochester@swbr.com





Not To Scale



GENERAL STRUCTURAL NOTES:

- 1. THE CONTRACTOR SHALL VERIFY ALL CONDITIONS, DIMENSIONS, ELEVATIONS, AND PLUMBNESS OF EXISTING CONSTRUCTION AS SHOWN AND IMMEDIATELY REPORT TO THE ARCHITECT ANY DISCREPANCIES OR OMISSIONS PRIOR TO CONSTRUCTION OR FABRICATION. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO ACCURATELY DETERMINE THE ACTUAL DIMENSIONS ELEVATIONS, AND PLUMBNESS OF EXISTING WORK.
- ALL EXISTING CONSTRUCTION ADJACENT TO NEW WORK IS TO BE ADEQUATELY SUPPORTED DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY NEW OR EXISTING WORK DAMAGED WHILE WORK IS IN PROGRESS TO THE SATISFACTION OF THE ARCHITECT
- THE CONTRACTOR SHALL COORDINATE THE LOCATION AND SIZE OF ALL MECHANICAL EQUIPMENT AND ANY FLOOR PENETRATIONS THAT THEY MIGHT REQUIRE WITH THE FRAMING PLANS. THE CONTRACTOR SHALL ADVISE THE ENGINEER OF LOCATIONS AND OPERATING WEIGHTS OF ALL SUCH EQUIPMENT FOR REVIEW. SUPPLEMENTAL FRAMING MAY BE REQUIRED. THE CONTRACTOR SHALL PROVIDE ANGLE FRAMES FOR OPENINGS PER THE CONSTRUCTION DOCUMENTS.
- 4. THE MECHANICAL UNIT SUPPORT FRAMING WAS DESIGNED TO SUPPORT A SPECIFIC UNIT WHICH MAY OR MAY NOT BE THE ACTUAL UNIT SUPPLIED DURING CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF ALL DIMENSIONS WITH THE ACTUAL UNIT SUPPORT REQUIREMENTS AND SHALL INFORM THE ARCHITECT OF ANY REQUIRED MODIFICATIONS PRIOR TO
- CONTRACTOR IS RESPONSIBLE TO COORDINATE REQUIRED SPECIAL INSPECTIONS WITH THE PROJECT SPECIAL INSPECTOR. THE PROJECT STATEMENT OF SPECIAL INSPECTIONS IS LOCATED AS AN ATTACHMENT TO SECTION 014000 OF THE PROJECT MANUAL.
- 6. SCOPE OF WORK IS DESIGNED TO MEET THE REQUIREMENTS OF THE 2020 BUILDING CODE OF NEW YORK STATE. DESIGN LOADS FOR THIS STRUCTURE ARE AS FOLLOWS: **DESIGN CRITERIA:**

1 1/2" UNTOPPED METAL DECK. FLOORING (1/8" STL PLATE).

LIVE LOAD (SECOND FLOOR)

SEISMIC IMPORTANCE FACTOR
MAPPED SPECTRAL RESPONSE ACCELERATIONS, S _s
S ₁
SOIL SITE CLASS
SPECTRAL RESPONSE COEFFICIENT, SDS
SPECTRAL RESPONSE COEFFICIENT, Sp1
SEISMIC DESIGN CATEGORY
BASIC SEISMIC FORCE RESISTING SYSTEM

DESIGN BASE SHEAR ... SEISMIC RESPONSE COEFFICIENT, Cs **RESPONSE MODIFICATION FACTOR. R.**

- STRUCTURAL STEEL NOTES:
- ALL STRUCTURAL STEEL SHALL BE DETAILED, FABRICATED AND ERECTED IN STRICT ACCORDANCE WITH THE LATEST AISC SPECIFICATIONS.
- ALL STRUCTURAL STEEL SHAPES SHALL CONFORM TO ASTM A992, GRADE 50 UNLESS NOTED OTHERWISE. STEEL PLATES SHALL CONFORM TO ASTM A36. STEEL TUBE SECTIONS SHALL CONFORM TO ASTM A500, GRADE C. STEEL PIPE SECTIONS SHALL CONFORM TO ASTM A501 OR ASTM A53, TYPES E OR S, GRADE B.
- ALL BOLTED CONNECTIONS SHALL BE MADE WITH 3/4" DIAMETER ASTM F3125 GRADE A325 TYPE N HIGH STRENGTH BOLTS UNLESS OTHERWISE NOTED. ALL STANDARD BEARING, TENSION, OR COMBINED SHEAR-TENSION CONNECTIONS SHALL BE INSTALLED TO A "SNUG TIGHT" CONDITION UNLESS LOOSENING OR FATIGUE DUE TO VIBRATION OR LOAD FLUCTUATIONS ARE PRESENT. ALL OTHER CONNECTIONS SHALL BE TIGHTENED TO WITHIN 70% OF THEIR SPECIFIED MINIMUM TENSILE STRENGTH. THE CONTRACTOR SHALL USE INDICATOR WASHERS, LOAD INDICATOR BOLTS, OR STANDARD BOLTING WITH FIELD TESTING TO VERIFY PROPER INSTALLATION. TURN OF THE NUT METHOD IS ACCEPTABLE. NO FIELD BURNING OF HOLES WILL BE PERMITTED. LOAD INDICATOR BOLTS SHALL BE TIGHTENED UNTIL THE SPLINED END SNAPS OFF.
- 4. ALL CONNECTIONS IN STEEL FRAMING SHALL BE DESIGNED FOR AN END REACTION EQUAL TO ONE HALF (1/2) OF THE AISC ALLOWABLE UNIFORM LOAD CAPACITY FOR THE BEAM OR REACTION, IF NOTED, ON THE PLANS.
- THE FABRICATOR IS RESPONSIBLE FOR AND SHALL CERTIFY TO THE ADEQUACY OF ANY CONNECTIONS DESIGNED BY THE FABRICATOR TO THE PERFORMANCE STANDARDS ESTABLISHED IN THE CONTRACT DOCUMENTS. THE FABRICATOR SHALL SUBMIT CALCULATIONS TO THE ENGINEER USED IN THE DESIGN OF SUCH CONNECTIONS. IF UNACCEPTABLE TO THE ENGINEER, THE FABRICATOR SHALL MODIFY THE CONNECTION DESIGNS UNTIL ACCEPTANCE BY THE ENGINEER AT NO ADDITIONAL COST TO THE OWNER.
- 6. THE FABRICATOR MAY CERTIFY THE ADEQUACY OF CONNECTIONS BY STATING THAT THE SUPPLIED CONNECTIONS WERE PRE-ENGINEERED CONNECTIONS TAKEN FROM THE AISC MANUAL OF STEEL CONSTRUCTION, VOLUME I AND II, AISC PUBLICATION "ENGINEERING FOR STEEL CONSTRUCTION" AND/OR AISC PUBLICATION "DETAILING FOR STEEL CONSTRUCTION" WHILE NOTING ANY 7. THE FABRICATOR SHALL SUBMIT CALCULATIONS FOR THE DESIGN OF ANY CONNECTIONS THAT ARE
- NOT PRE-QUALIFIED IN THE ABOVE REFERENCED AISC PUBLICATIONS.
- 8. ALL WELDS SHALL BE MADE IN ACCORDANCE WITH THE LATEST REQUIREMENTS OF THE AWS, USING E70 ELECTRODES. PROVIDE FIELD TOUCH-UP PAINT TO MATCH SHOP-APPLIED PRIMER WHERE PAINT HAS BEEN BURNED OFF. 9. THE CONTRACTOR SHALL COORDINATE THE LOCATION AND SIZE OF ALL MECHANICAL EQUIPMENT,
- AND ANY FLOOR PENETRATIONS THAT THEY MIGHT REQUIRE, WITH THE FRAMING PLANS. THE CONTRACTOR SHALL PROVIDE ANGLE FRAMES FOR OPENINGS PER THE CONSTRUCTION
- 10. SUBMIT SHOP DRAWINGS FOR ALL STRUCTURAL STEEL AND METAL DECK. ALLOW SUFFICIENT TIME FOR REVIEW AND APPROVAL BY THE ENGINEER TO BE COMPLETED PRIOR TO BEGINNING
- 1. ALL STRUCTURAL STEEL SHALL RECEIVE ONE SHOP COAT OF PRIMER COMPATIBLE WITH FINISH COATING, UNLESS OTHERWISE NOTED. PROVIDE CUSTOM COLOR FINISH COAT - TO BE SELECTED BY

STRUCTURAL POST-INSTALLED ANCHOR NOTES:

1. EXCEPT WHERE INDICATED ON THE DRAWINGS, POST-INSTALLED ANCHORS SHALL CONSIST OF THE FOLLOWING ANCHOR TYPES OR APPROVED EQUIVALENT AND INSTALLED IN ACCORDANCE WITH THEIR RESPECTIVE ICC-ES REPORT AND MANUFACTURER'S PUBLISHED INSTALLATION INSTRUCTIONS:

APPLICATION	ANCHORING SYSTEM	ICC-ES REPORT
ANCHORAGE TO CONCRETE	HILTI HY 200 ADHESIVE	ESR-3187
	HILTI RE 500 V3 ADHESIVE	ESR-3814
	HILTI KWIK BOLT TZ	ESR-1917
	HILTI KWIK HUS EZ	ESR-3027
	HILTI HSL-3	ESR-1545
	HILTI HDA	ESR-1546
		•

- 2. ANCHOR CAPACITY USED IN DESIGN SHALL BE BASED ON THE TECHNICAL DATA PUBLISHED BY HILTI OR SUCH OTHER METHOD AS APPROVED BY THE STRUCTURAL ENGINEER OF RECORD. SUBSTITUTION REQUESTS FOR ALTERNATE PRODUCTS MUST BE APPROVED IN WRITING BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO USE. CONTRACTOR SHALL PROVIDE CALCULATIONS DEMONSTRATING THAT THE SUBSTITUTED PRODUCT IS CAPABLE OF ACHIEVING THE PERFORMANCE VALUES OF THE SPECIFIED PRODUCT INCLUDING AN ICC-ES REPORT SHOWING COMPLIANCE WITH THE RELEVANT BUILDING CODE, SEISMIC USE, LOAD RESISTANCE, INSTALLATION CATEGORY, IN-SERVICE TEMPERATURE, INSTALLATION
- 3. AS PER OSHA 29 CFR 1926.1153, DRILLED HOLES FOR POST INSTALLED ANCHORS SHALL BE INSTALLED USING HILTI SAFE SET INSTALLATION WHICH CONSISTS OF DRILLING WITH A CODE APPROVED HILTI HOLLOW DRILL BIT ATTACHED TO A HILTI VACUUM SO NO FURTHER HOLE CLEANING IS REQUIRED FOR THREADED RODS AND/OR REBAR. IF A HILTI HIT-Z ROD IS USED WITH HY 200 ADHESIVE, NO HOLE CLEANING IS REQUIRED FOR BASE MATERIAL TEMPERATURES ABOVE 41 F. ALTERNATE OPTION IS DRILLING HOLES WITH AN APPROVED DUSTLESS SYSTEM AND THEN CLEANING HOLES WITH WIRE BRUSH AND COMPRESSED AIR THROUGH APPROVED ADAPTER THAT CAPTURES ALL DUST INTO A HEPA FILTERED VACUUM.
- 4. ADHESIVE ANCHORS INSTALLED IN A HORIZONTALLY OR UPWARDLY INCLINED ORIENTATION INTO CONCRETE AND SUPPORTING A SUSTAINED TENSION LOAD SHALL BE INSTALLED BY A CERTIFIED ADHESIVE ANCHOR INSTALLER. INSTALLER SHALL BE CERTIFIED THROUGH THE ACI/CRSI ADHESIVE ANCHOR INSTALLER CERTIFICATION PROGRAM OR APPROVED EQUAL.
- 5. CONTRACTOR SHALL ARRANGE FOR AN ANCHOR MANUFACTURER'S REPRESENTATIVE TO PROVIDE ON-SITE ANCHOR INSTALLATION TRAINING FOR ALL OF THEIR ANCHORING PRODUCTS SPECIFIED. CONTRACTOR SHALL SUBMIT DOCUMENTED CONFIRMATION THAT ALL OF THE CONTRACTOR'S PERSONNEL INSTALLING ANCHORS HAVE RECEIVED THE REQUIRED TRAINING PRIOR TO THE COMMENCEMENT OF WORK.
- 6. ANCHOR CAPACITY IS DEPENDANT UPON SPACING BETWEEN ADJACENT ANCHORS AND PROXIMITY OF ANCHORS TO EDGE OF CONCRETE. INSTALL ANCHORS IN ACCORDANCE WITH SPACING AND EDGE CLEARANCES INDICATED ON THE DRAWINGS.
- 7. CONTINUOUS OR PERIODIC SPECIAL INSPECTION FOR POST INSTALLED ANCHORS SHALL BE PERFORMED IN ACCORDANCE WITH SECTION 4.3/4.4 OF THE ICC-ES REPORT FOR THE INDIVIDUAL ANCHOR. SPECIAL INSPECTOR SHALL BE NOTIFIED PRIOR TO COMMENCEMENT OF WORK TO COORDINATE INSPECTION EFFORTS.

PSF

PSF

5 PSF

2 PSF

15 PSF

5 PSF

125 PSF

0.208g 0.058g

0.174q

0.081g

1 KIP

0.058

30

SEISMIC RESISTANCE

STRUCTURAL STEEL SYSTEM NOT SPECIFICALLY DETAILED FOR

EQUIVALENT LATERAL FORCE



387 East Main Street Rochester NY 14604 585 232 8300 | rochester@swbr.com SWBR NYS Certificate of Authorization #: 235221

REGISTRATION EXPIRES 12/31/2025

LDCO Drawn Bv: MEK Checked By: Project Manager: JMB These documents and all the ideas, arrangements

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Beamline Enabling - Phase 3 Synchrotron Drive lthaca, NY 14853 SWBR Project Number 21198.02

Cornell University Ithaca, NY 14853

S-001R STRUCTURAL GENERAL NOTES FRAMING PLANS & DETAILS





DUL	E								
ION	SERVICE	GPM	HEAD FT	MOTOR				TYPE	DESIGN MAKE
			WATER	HP	VOLTAGE	PHASE	RPM		
ROOM	INDIRECT WASTE	-	-	1/30	115	1	-	DRAIN	LIBERTY MODEL LC-20

JOINT	SCHEDULE -	PIPING										-
CATION	TYPE	APPLICATION	MATERIAL	LINE	MAX.	MIN.	MAX.	MINIMUM	MINIMUM	TOTAL	MANUFACTURER & MODEL NO.	REMARK
				SIZE	PRESS.	TEMP.	TEMP.	COMPRESSION	EXTENSION	AXIAL		
					(PSIG).	(DEG. F)	(DEG. F)	TRAVEL	TRAVEL	MOVEMENT		
T FLOOR	CLEAN AIR	-	SS HOSE, CARBON STEEL NIPPLE	1"	400 @ 250 DEG. F	-	-	4	4	4	MASON VMN	1, 2
T FLOOR	CLEAN AIR	-	SS HOSE, CARBON STEEL NIPPLE	1"	400 @ 250 DEG. F	-	_	4	4	4	MASON VMN	1, 2

COMPENSATOR PIPE GUIDE SCHEDULE						
AX. DISTANCE FROM EXPANSION COMPENSATOR TO FIRST GUIDE	MAX DISTANCE FROM FIRST GUIDE TO SECOND GUIDE					

GENERAL NOTES:

- A. THESE NOTES ARE APPLICABLE TO THE FULL SET OF CONTRACT DOCUMENTS.
- B. EXISTING CONDITIONS ARE TAKEN FROM FIELD OBSERVATIONS AND PRIOR CONSTRUCTION DOCUMENTS WHEN AVAILABLE. THE LOCATIONS SHOWN MUST BE CONSIDERED APPROXIMATE. OTHER SUCH WORK MAY EXIST, HOWEVER, LOCATION AND SIZE ARE NOT PRESENTLY KNOWN. IT IS STRONGLY ENCOURAGED TO VISIT SITE PRIOR TO BID TO REVIEW EXISTING CONDITIONS AND CONFIRM SCOPE OF WORK.
- WHEN EXISTING CONSTRUCTION IS DAMAGED DURING WORK BY THIS CONTRACTOR, REPAIR AND/OR REPLACE WITH SIMILAR MATERIALS AS MUCH AS POSSIBLE, SUBJECT TO ARCHITECTS APPROVAL.
- DISPOSE OF ALL DEMOLITION AND/OR OTHER WASTE MATERIALS CAUSED BY WORK OF THIS CONTRACTOR. LEGALLY DISPOSE ALL MATERIALS TO A LOCATION OFF SITE.
- E. COORDINATE AND SCHEDULE WORK AND SHUTDOWNS WITH THE OWNER AND OTHER TRADES PRIOR TO DEMOLITION.
- F. ALL EXISTING PIPING TO REMAIN SHALL BE RECONNECTED TO ACTIVE SERVICE PIPING.
- G. ALL PIPING TO BE REMOVED, SHALL BE REMOVED BACK TO ACTIVE PIPING AND CAPPED. VALVE AND CAP ALL WATER PIPING. REMOVE ALL INACTIVE PIPING UNLESS NOTED.
- H. ALL PIPING TO BE REMOVED AND LOCATED WITHIN A WALL TO REMAIN MAY BE ABANDONED IN PLACE UNLESS NOTED. REMOVE PIPING BACK TO BEHIND THE FINISHED WALL SURFACE AND CAP. PATCH HOLES IN EXISTING CONSTRUCTION LEFT BY THE REMOVAL
- OF PIPING OR EQUIPMENT WITH MATERIALS TO MATCH EXISTING CONSTRUCTION. MAINTAIN FIRE/SMOKE RATING.
- DEMOLITION SHALL INCLUDE, BUT NOT BE LIMITED TO: PIPING, VALVES, FIXTURES, EQUIPMENT, HANGERS, SUPPORTS, AND INSULATION EXCEPT ASBESTOS.
- K. REMOVE EXISTING CONSTRUCTION IN THE WAY OF NEW WORK. PROTECT BUILDING AND FURNISHINGS FROM DAMAGE.
- WHERE NEW WORK IS TO BE INSTALLED ABOVE AN EXISTING CEILING, PROVIDE FOR THE REMOVAL OF THE CEILING. UPON
- COMPLETION OF WORK, REPAIR ALL DAMAGED CEILING SURFACES, REPLACE ALL DAMAGED TILES. M. SLEEVE AND SEAL ALL WALL AND FLOOR PENETRATIONS. PROVIDE
- FIRESTOPPING FOR ALL PENETRATIONS. N. MAINTAIN SERVICE CLEARANCES OF ALL EQUIPMENT. ADVISE OTHER
- O. PROVIDE FOR THE DRAINING AND REFILLING OF PIPING SYSTEMS, INCLUDING AIR REMOVAL, RESETTING OF FLUSH VALVES, FLUSHING SYSTEMS OF DIRT AND SCALE CAUSED BY SHUTDOWNS AND STARTUPS.

TRADES OF THE REQUIRED SERVICE CLEARANCES.

- REFER TO EQUIPMENT/ FIXTURE SCHEDULE FOR FINAL CONNECTION SIZES.
- Q. PROVIDE CLEANOUTS AT THE BASE OF ALL STORM, SANITARY AND WASTE STACKS.
- R. PITCH 4" AND LARGER SANITARY AND WASTE PIPING AT 1/8" PER FOOT UNLESS OTHERWISE NOTED. FOR SANITARY AND WASTE PIPING 3" AND SMALLER PITCH AT 1/4" PER FOOT UNLESS OTHERWISE NOTED.
- S. COORDINATE LOCATION AND ELEVATION OF STORM AND SANITARY LATERALS AND WATER SERVICE WITH THE SITE CONTRACTOR. NO ALLOWANCE WILL BE MADE FOR ADDITIONAL COSTS DUE TO THE CONTRACTORS FAILURE TO COORDINATE TERMINATION POINTS. THE PLUMBING CONTRACTOR IS RESPONSIBLE FOR THE FINAL CONNECTION TO THE SITE UTILITIES.
- T. MINIMUM SIZE OF WASTE PIPING BELOW SLAB SHALL BE 3" EXCEPT PIPING SERVING FLOOR DRAINS SHALL BE 4". MINIMUM SIZE OF VENT PIPING BELOW SLAB SHALL BE 2".

CLEAN AIR TUBING PREPARATIONS:

- 1. REMOVE MANUFACTURER ENDS IF DAMAGED IN TRANSPORT
- 2. ISOPROPYL-SOAKED RAG PUSHED THROUGH ENTIRETY OF TUBING.
- 3. COVER ENDS AFTER CLEANING UP UNTIL FINAL INSTALLATION. (OPEN PIPE ENDS SHOULD BE PROTECTED ON DISTRIBUTION TIE-IN SIDE AS WELL.).
- 4. SYSTEM REQUIRES PURGING BY CUSTOMER AFTER ANY MODIFICATIONS (8HR).

			TION LABE	L
	+ + + + +	DOMESTIC COLD WATER		
_		FLOW DIRECTION LABEL. PF)

DEGREE WRAP OVERLAPPING BOTH ENDS OF THE PIPE FUNCTION LABEL AND MATCHING THE FLOW DIRECTION OF THE PIPE CONTENTS.

DETAIL NOTES:

- A. PROVIDE A PIPE LABEL FOR EACH PIPE FUNCTION.
- B. PROVIDE AT LEAST ONE LABEL ON EACH PIPE FOR EVERY ROOM THE PIPE PASSES THROUGH.
- PROVIDE LABELS IN LARGE SPACES ON MAXIMUM 20' CENTERS FOR
- EVERY PIPE UNLESS OTHERWISE NOTED IN THE SPECIFICATIONS. D. LABELS TO BE LOCATED IN AN EASILY VISIBLE LOCATION AS THEY
- WOULD NORMALLY BE SEEN. IE. ON THE BOTTOM HALF OF PIPES IN THE AIR AND ON THE TOP HALF OR SIDES OF PIPES MOUNTED LOW.
- E. LABELS SHALL BE, COLOR CODED, PRE-PRINTED, SELF ADHESIVE VINYL. F. SEE SPECIFICATION FOR OTHER REQUIREMENTS AND LIST OF PIPE FUNCTIONS.

> PIPING IDENTIFICATION LABEL DETAIL





SYMBOL DESCRIPTION EXISTING WORK TO BE REMOVED POINT OF CONNECTION POINT OF DISCONNECTION NTS NOT TO SCALE EXISTING EXISTING TO REMAIN (ETR) ABOVE FINISHED FLOOR AFF BFF BELOW FINISHED FLOOR VTR VENT THRU ROOF GENERAL CONTRACTOR MECHANICAL CONTRACTOR MC PLUMBING CONTRACTOR ELECTRICAL CONTRACTOR - EXISTING PIPING — (E) — NEW PIPING LOCATED ABOVE FLOOR/SLAB NEW PIPING LOCATED BELOW FLOOR/SLAB COLD WATER PIPING (CW) • -----HOT WATER PIPING (HW) ____•• - TW ------ TEMPERED HOT WATER PIPING (TW) WATER SERVICE - EXTERIOR — W — — DI— DEIONIZED WATER PIPING (DI) — DIR — DEIONIZED WATER RETURN PIPING (DIR) - NP -NON POTABLE WATER SANITARY SEWER PIPING - SAN ------ LAB WASTE PIPING (LW) — L W —— — IW ——— INDIRECT WASTE PIPING (IW) - - LV - - LAB VENT PIPING (AV) — ST——— STORM WATER SEWER PIPING (ST) — ST(2) —— SECONDARY STORM WATER SEWER PIPING (ST(2)) NATURAL GAS PIPING (G) WW COMPRESSED AIR PIPING (CA) —CA—— - WCA W COMPRESSED AIR PIPING (WCA) — A — CLEAN AIR PIPING (A) — PD — - PUMP DISCHARGE ELBOW DOWN 45°OFFSET _____ۍ___ ELBOW UP ____0 BOTTOM/TEE CONNECTION ____ ____U____ TOP TEE CONNECTION "P" TRAP PIPE CONTINUATION _____ CAP OR PLUG ____] ——ф DECK PLATE CLEANOUT (DPCO) WALL PLATE CLEANOUT (WPCO) CLEANOUT (CO) ______ FLOOR DRAIN (FD) / FLOOR SINK (FS) ROOF DRAIN WALL HYDRANT (WH) / HOSE BIBB (HB) STRAINER WATER METER SHUT OFF VALVE BALANCING VALVE CHECK VALVE PRESSURE REDUCING VALVE RELIEF VALVE **k⊢**► PIPE ANCHOR —X— PIPE GUIDE UNION BACKFLOW PREVENTER (BFP) SHOCK ABSORBER (SA) RECIRCULATION PUMP —|Ø|— THERMOMETER $-\Box$ -**i**-(>) PRESSURE GAUGE TRAP PRIMER (TP) DRAWING KEYNOTE DEMOLITION/REMOVAL KEYNOTE PIPE RISER CALLOUT

PLUMBING SYMBOL LIST





- A. S NEW PIPING SHALL NOT BE SUPPORTED BY THE HIGH BAY ROOF STRUCTURE. EXISTING WALL MOUNTED UNISTRUT IS INSTALLED THROUGHOUT THE HIGHBAY. UNISTRUT IS LOCATED ON THE NORTH, WEST AND EAST WALLS, 4'-0" ON CENTER, FROM 10'-0" AFF TO \checkmark 26'-6" AFF. REFER TO ARCHITECTURAL DRAWINGS FOR NEW LOCATIONS OF UNISTRUT.
- B. LABYRINTHS ARE RADIATION SHIELDING INSTALLED BY OWNER AT ANY PENETRATION INTO SPACES WITH RADIATION (HUTCH AND CAVES). ALL UTILITIES SHOWN IN THE HUTCH OR CAVES SHALL BE ROUTED THROUGH THE LABYRINTH AND REQUIRE A
- BE SUPPORTED FROM THE STRUCTURE ABOVE, REFER TO STRUCTURAL PLAN FOR
- D. ALL ABOVE FINISHED FLOOR(AFF) ELEVATIONS ARE REFERENCED FROM THE FIRST
- E. SCOPE WHICH INCLUDES SURFACE MOUNTING UTILITIES OR SUPPORT BRACKETS TO ID5A HUTCH AND/ OR SECTOR 5 CAVE 2 WILL REQUIRE FINAL FIELD VERIFICATION OF ALL DIMENSIONS AND A PREINSTALLATION MEETING WITH THE OWNER TO REVIEW. COORDINATE AND ADDRESS ANY POTENTIAL OBSTRUCTIONS AND MODIFICATION REQUIREMENTS THAT MAY BE REQUIRED PRIOR TO FABRICATION AND INSTALLATION.

- 1 1/2" CA & 1/2" A DOWN. PROVIDE SHUT OFF VALVE AND QUICK CONNECT. QUICK CONNECT
- 3 PROVIDE IW CONNECTION TO HVAC EQUIPMENT. PROVIDE CONDENSATE PUMP CP-1. ROUTE
- 4 PROVIDE PIPING EXPANSION JOINT. REFER TO SCHEDULE FOR MORE INFORMATION. INSTALL PER MANUFACTURERS REQUIREMENTS AT THE HIGH BAY WALL PENETRATION.
- 7 1/2" A WITH SHUT OFF VALVE AND QUICK CONNECT. QUICK CONNECT SHALL BE LOCATED 5'-0"







Drawn By: CMD THK Checked By: Project Manager: GDD

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Revisions 1 01/12/2024 Addebdum #2

Beamline Enabling - Phase 3 Synchrotron Drive lthaca, NY 14853 SWBR Project Number 21198.02

Cornell University lthaca, NY 14853







A. { NEW PIPING SHALL NOT BE SUPPORTED BY THE HIGH BAY ROOF STRUCTURE. EXISTING } WALL MOUNTED UNISTRUT IS INSTALLED THROUGHOUT THE HIGHBAY. UNISTRUT IS LOCATED ON THE NORTH, WEST AND EAST WALLS, 4'-0" ON CENTER, FROM 10'-0" AFF TO 26'-6" AFF. REFER TO ARCHITECTURAL DRAWINGS FOR NEW LOCATIONS OF UNISTRUT. B. ALL ABOVE FINISHED FLOOR(AFF) ELEVATIONS ARE REFERENCED FROM THE FIRST





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Drawn By: Checked By: Project Manager: GDD

CMD THK

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Revisions 1 01/12/2024 Addebdum #2

Beamline Enabling - Phase 3 Synchrotron Drive lthaca, NY 14853 SWBR Project Number 21198.02

Cornell University Ithaca, NY 14853

P-112R SECOND FLOOR PLAN - PLUMBING

N







ENGINEERING Mechanical/Electrical Engineering Consultants Rochester | Buffalo | Syracuse | Schenectady 300 TROLLEY BOULEVARD ROCHESTER, NY 14606 585.288.5590 www.meengin



Drawn By: ATC NMT Checked By: Project Manager: GDD

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- 1 TIE PIPING INTO EXISTING. PROVIDE ALL PIPING MODIFICATIONS AS REQUIRED TO MAKE THE CONNECTION. ROUTE PIPING TIGHT TO WALL DOWN TO THE FLOOR BELOW.
- PIPING SHALL BE STACKED AND ROUTED TIGHT TO THE WALL. PROVIDE WALL MOUNTED PIPE SUPPORTS PER THE DETAIL. PIPING SHALL NOT BE SUPPORTED FROM THE ROOF
- ROUTE PIPING THROUGH OPENING IN PLATFORM. LOCATION SHALL BE BASED ON THE
- 5 PROVIDE PRESSURE GAUGE AND THERMO WELL IN SUPPLY AND RETURN PIPING.







PROJECT: Wilson Lab Beamline Enabling - Phase 3

Date: January 16, 2024

RFI/ Response	Page/ Dwg./Spec./Rep.	Section/		Design Team
Index	Number	Paragraph/Topic	RFI	Response
1	Pre-Bid Walkthrough	Steel Fabricator	Please advise contact name and number for Cornell Steel Fabricator.	Bill Bavagnoli with Specialized Storage Solutions, Email: Billb@specializedstorage.com, Phone: (973) 227-0018
2	Pre-Bid Walkthrough	Sole Sourced Spec	We are not seeing a sole sourced specification for Cornell Steel Fabricator, please advise if this is sole sourced and what materials are considered sole sourced.	The platform (deck/ floor, beams, columns, guardrails, gate and accessories) is intended to be single sourced utilizing the Owner's preferred steel fabricator. The fabricator of choice has provided similar structural equipment platforms for the Owner previously and understands their preferred methods & materials. They are not the sole fabricator able to provide this platform structure but are preferred for the reasons mentioned above.
3	Pre-Bid Walkthrough	Steel Supplier Scope	Please confirm all materials listed under Specification sections 051200, Structural Steel Framing, 053100 Steel Decking, 0550000 Metal Fabrications, and 055213 Pipe and Tube Railing is being supplied by Cornell Steel Supplier including all hardware and fasteners.	The General Contractor shall confirm division of scope of work with the preferred steel fabricator and obtain a proposal that outlines materials and/ or work to be provided by said steel fabricator.
4	-	Pre-Action System	Please provide a responsibility matrix for the pre-action system. Please include responsibilities for providing of equipment, devices, raceways, wiring, terminations, testing, commissioning, certifying and warranty.	No responsibility matrix shall be provided. The complete pre-action fire protection system shall be included in the fire protection contract, unless noted otherwise by the GC.
5	FP-111 & FP-112	Heat Detectors	Heat detectors are shown to be installed for actuation of pre- action systems - Are these devices to be connected to an existing system? If so, please provide make and model of existing system, part number for any new devices to be added to the existing and wiring type (ex. class A, class B).	Yes, these are connected to the existing system. Heat Detector make and model: System Sensor 5601P. Wiring Class A.
6	Spec Section 21 1300-3 (J)	Electrical Connections to Sprinkler	Indicates Electrical connection to sprinkler system - No electrical connections or fire alarm connections are shown on the electrical drawings. Please advise.	See Addendum No. 2, Item 4. Spec Section 21 1300- 3 (J) has been removed.
7	E-300	Electric Panel Labeling	Please confirm that the two electrical panel to be installed are labeled correctly.	Electrical panels to be installed are labeled correctly. Previous project had designated now-panelboard LNP- 2-3 as panelboard LNP-1-10. This panelboard is shown to be installed on the 2nd level and has been redesignated to reflect the corresponding level on which it will be installed. Provide updated label for owner-furnished panelboard.
8	Specifications	BIM Coordination	Is BIM Coordination required for this project? If so, please provide specification.	BIM Coordination is not required.
9	H-200 / Spec Section 01 11 00.1.3	Owner Furnished FCU-1	H-200 shows FCU-1 to be furnished by Owner. This item is not included in the list of items in specification 01 11 00, 1.3. Please verify that the FCU-1 is Owner furnished.	See Addendum No. 2, Item 2. FCU-1 will be furnished by the Owner, and installed by the Contractor.
10	P-111 & H-000	Attachment Requirements to Hutch & Cave	Drawings P-111 & H-000. General Notes E & K indicate we are to attach to the ID5A hutch or S5 Cave. We have to assume there are special requirements when doing this. Please provide a detail and specifications for the support brackets needed in these locations.	Utilities shall be surface mounted on unistrut, refer to architectural drawings for approximate attachment locations to be reviewed with Owner. Refer to P-000 and H-000 for piping support details.
11	Spec Section 01 77 00.1.3.C	Duct Cleaning	Per specification 01 77 00, 1.3C Duct cleaning is called out. Please advise if this is required and if so, delineate duct to be cleaned per specification.	See Addendum No. 2, Item 3. Duct Cleaning is not required

RFI Form

RFI/	Page/			
Response	Dwg./Spec./Rep.	Section/		Design Team
Index	Number	Paragraph/Topic	RFI	Response
12	H-111 & H-200	FCU-1 Duct Tie-In	Does FCU-1 have any duct associated with the install. If so, please provide drawing indicting tie in point. H-111, H-200	No, ductwork associated with FCU-1.
13	Spec Sections 22 05 00 & 23 05 00	Penetration Firestopping	Would rectorseal /metacaulk firestopping systems be an acceptable manufacturer for penetration firestopping on both the plumbing and HVAC systems?	The suggested firestopping system manufacturers are acceptble; pending compliance with performance requirements outlined in Section 07 84 13 of the Project Manual
14	H-112	First Floor Chilled Water Tie-ins	H-112, Note 1 tells us to tie-in piping to existing at floor below, assuming this is the 3/4" chilled water previously installed. Where are we to tie into the First Floor?	Note 1 on H-112 reads "Tie Piping into Existing. Provide all piping modifications as required to make the connection. Route piping tight to the wall down to the floor below. The piping tie in is on the 2nd floor as shown on H-112 at the existing 3/4" taps approx. 15' AFF (second floor). New piping is routed down to the 1st floor.