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STC PURIFICATION - HYDROCHLORINATION PACKAGE 465.C02

STEAM & CONDENSATE HIGHLINE FOUNDATIONS & GROUNDING CONSTRUCTION WORK PACKAGE SCOPE OF WORK

HEMLOCK SEMICONDUCTOR OPERATIONS LLC

Issued for Bid

Technical Approval – Hemlock Semiconductor

Project Manager – Mehdi Malekadehi

CSA – John York

Electrical – Kurt Gabriel

Initials

MM

JSY

KCG

Date

09/28/2023

09/28/2023

09/28/2023

Technical Approval – SSOE

Project Manager – Mike Kowalski

CSA – King Lau

Electrical – Don Birsén

Initials

MSK

KL

DB

Date

09/27/2023

09/27/2023

09/27/2023

REV X

RECORD OF CHANGES

00002

PART 1 GENERAL**1.01 INSTRUCTIONS**

- A. All Revisions to the Scope of Work will be referenced in this section.
- B. Deletions will have a strike line through the information. (e.g. ~~strike through~~)
- C. Pre-IFC changes will be BOLD underlined and Red (e.g. **BOLD**)
- D. For next revision, old changes will be un bolded, black and not underlined, whereas new changes will follow item C above.
- E. All revision will be noted by the revision letter at the left hand side of the page.
- F. When a revision is issued the cover letter and this section will indicate the current revision number.
- G. All revisions of this document prior to Contractor Release will be numeric (e.g., REV 1). At Contractor Release will be alphabetic (e.g., Rev A)

1.02 REVISION HISTORY

REV	DESCRIPTION	ISSUED FOR	PREPARED BY	APPROVED BY

PART 2 PRODUCTS – None**PART 3 EXECUTION – None****END OF SECTION**

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TABLE OF CONTENTS

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REFERENCE: 4973 SPECIFICATION CSA

DIVISION	SECTION	DESCRIPTION	APPLICABLE	NOT APPLICABLE
00	00001	Title page	X	
	00002	Table of Contents	X	
	00003	Record of Changes	X	
	00004	List of Drawings and Key Attachments	X	
01	01050	Field Survey Services		
	01010	Summary of Work	X	
	01300	Submittals	X	
	01410	Testing Laboratory Services	X	
	01600	Material and Equipment	X	
	01700	Contract Closeout	X	
02	02010	Subsurface Investigation		X
	02020	Temporary Erosion and Sediment Control		X
	02050	Demolition and Weather Protection		X
	02110	Site Clearing		X
	02200	Site Grading		X
	02224	Excavating/Trenching/Backfilling		X
	02360	Steel Piles		X
	02366	Steel Sheet Piling		X

	02370	Auger-Cast Piles		X
	02372	Helical Piers		X
	02380	Drilled Shafts	X	
	02500	Hot Mix Asphalt Paving		X
	02510	Utility Pipe Bursting		X
	02610	Underground Ductile Iron Fire and City Water Lines		X
	02620	PCCP Underground Service water		X
	02625	HDPE Pipe for Fire Protection		X
	02685	Underground Natural Gas Line		X
	02720	Storm Sewer		X
	02721	Gravity Containment Sewer		X
	02731	Sanitary Sewer		X
	02821	Chain Link Fences and Gates		X
	02900	Landscaping		X
03	03300	Cast-In-Place Concrete	X	
	03415	Precast Concrete Planks		X
	03450	Precast Concrete Wall Panels		X
04	04200	Unit Masonry System		X
05	05120	Structural Steel		X
	05210	Steel Joists		X
	05311	Steel Floor & Roof Deck		X

	05500	Metal Fabrications		X
06	06100	Rough Carpentry		X
	06200	Finish Carpentry		X
07	07210	Insulation Systems		X
	07250	Fireproofing Coatings		X
	07270	Firestopping		X
	07462	Translucent Panel System		X
	07465	Metal and Insulated Composite Siding		X
	07553	EPDM Roofing, Insulation, and Accessories		X
	07611	Sheet Metal Roofing		X
	07620	Sheet Metal Flashing and Trim		X
	07900	Joint Sealers		X
08	08111	Standard Steel Doors and Frames		X
	08210	Wood Doors		X
	08311	Access Dand Frames		X
	08331	Overhead Coiling Doors		X
	08332	Roll-Up Fabric Doors		X
	08710	Door Hardware		X
	08800	Glazing		X
	08870	Safety and Security Window Film		X

09	09110	Non-Load Bearing Steel Framing		X
	09260	Gypsum Board Systems		X
	09311	Ceramic Tile Floor and wall Finish		X
	09511	Suspended Acoustical Ceilings		X
	09650	Resilient Flooring		X
	09670	Epoxy Flooring		X
	09680	Carpet		X
	09720	Spill Pond Coating Repair System		X
	09730	Spill Pond Coating System		X
	09785	Floor Polishing		X
	09900	Painting		X
10	10800	Toilet and Bath Accessories		X
11	11160	Loading Dock Equipment		X
13	13125	Metal Building Systems		X

END OF SECTION

Reference: E/I Specification 3226

DIVISION	SECTION	DESCRIPTION	APPLICABLE	NOT APPLICABLE
00	00001	Title page	X	
	00000	Table of Contents	X	
13	13400	Instrumentation Basic Requirements		X
	13419	Instrumentation Identification		X
	13420	Wiring to Instruments and Valves		X
	13490	Instrument Testing		X
16	16000	General Electrical Conditions	X	
	16020	Grounding & Lighting Protection	X	
	16111	Conduit & Accessories	X	
	16112	Cable Tray		X
	16120	Wire, Cable & Accessories		X
	16140	Wiring Devices		X
	16195	Tagging & Identification		X
	16460	Dry Type Transformers		X
	16470	Panelboards		X
	16480	Motor Controllers		X
	16500	Lighting		X

DIVISION	SECTION	DESCRIPTION	APPLICABLE	NOT APPLICABLE
16	16600	Critical Control Systems		X
	16855	Electric Heat Tracing		X
	16950	Electrical Testing	X	
27	27052	Interior Communications Building Pathways		X
	27054	Exterior Communications Building Pathways		X
	27100	Low Voltage Communications Cabling Installation Practices		X
	27110	Communication Equipment Rooms		X
	27130	Communications Backbone Cabling		X
	27150	Communications Horizontal Cabling		X
	27800	Grounding and Bonding of Communication Systems		X
	27900	Communications System Testing		X
28	28140	Electronic Security System		X
	28240	CCTV System Installation Details		X
	28320	Fire and Life Safety Alarm System – SimplexGrinnell 4100ES Version		X
	28321	Fire and Life Safety Alarm System – Siemens XLS Version		X
Attachment A		List of Reference SSG Documents		

END OF SECTION

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DRAWINGS AND ATTACHMENT INDEX

00004

PART 1 - GENERAL

1.01 DRAWINGS

Drawing Number	Rev	Document Description	ATTACHED	NOT ATTACHED
HW1-INDEX-C02		Foundation & Grounding – STM/COND Package No. C02	X	
HW1-501766	1	Highline Pipe Rack Grounding Plan	X	
HW1-501767	1	Highline Pipe Rack Grounding Plan	X	
HX1-47402	1	Highline Pipe Rack General Notes	X	
HX1-47423	1	Highline Pipe Rack – Sheet 3 Partial Foundation Plan – Phase 2	X	
HX1-501687	1	Highline Pipe Rack Foundation Plan	X	
HX1-501688	1	Foundation Details	X	

1.02 CONTENTS

File Name	Rev	Document Description	ATTACHED	NOT ATTACHED
4973	1.0	Master Specifications for Civil/Structural/Architectural Work Packages	X	
3226	7	Electrical / Instrumentation / Communications Construction Performance Specification	X	
HSG-GDL-16021000	2	Grounding Materials and Details	X	
HSG-GDL-16022020	2	Equipment Static Grounding Test Method	X	
		Any updated SSGs, Spec list here as required.		

1.03 REFERENCE DOCUMENTS

File Name	Rev	Document Description	ATTACHED	NOT ATTACHED
HSG-GDL-160210000 01.dgn	1.0	Grounding Materials	X	
HSG-GDL-160210000 02.dgn	1.0	Grounding Materials	X	
		List any other reference documents(if required)		

1.04 FORMS

File Name	Rev	Document Description	ATTACHED	NOT ATTACHED
HSG-GDL-1602002100 1		Ground Resistance Test and Results Submittal Form	X	
		Any additional Forms as applicable		

1.05 VENDOR DRAWINGS AND DOCUMENTS

File Name	Rev	Document Description	ATTACHED	NOT ATTACHED
As shown on trans.				

PART 2 - PRODUCTS - None

PART 3 - EXECUTION - None

END OF SECTION

REV X

GENERAL PROVISIONS

01000

PART 1 GENERAL

1.01 INTENT

- A. This Specification covers specific structural and electrical work including any unique requirements. It is to be used in conjunction with CSA Specification 4973 and E/I Specification 3226, for the Hemlock Semiconductor Operations LLC to describe material, installation and testing requirements for the Structural & Electrical work covered within the Scope of Work Specification and related drawings and documents.
- B. Order of Precedence:
 - 1. Contractor shall immediately notify Owner's Representative should there be any conflict between this document and other contract documents PRIOR TO BIDDING. If there is a conflict between this document and the Master Construction Contract, the Master Construction Contract shall govern.
 - 2. Where conflicts exist between the requirements of the Specification, CSA Specification 4973 & E/I Specification 3226, Design Drawings and this Scope of Work Specification, the Design Drawings and this Scope of Work Specification shall govern.
- C. Statement of terminology used in this specification – The word "None" implies that there are no special considerations outside the realm of Specifications 4973 & 3226 which is to be followed explicitly for all topics that apply per that particular matching section.

1.02 PROPRIETARY

- A. This specification and its attachments are CONFIDENTIAL to Hemlock Semiconductor Operations LLC.

1.03 SCHEDULE

- A. The successful bidder shall submit a detailed schedule to the Owner's Representative after award of contract. The contractor's schedule will be reviewed at regular meetings to assess the progress of the project.

1.04 CONTACTS

- A. Contact the Owner's Representative with all questions pertaining to this project manual. The Owner's Representative shall be contacted prior to contacting anyone else.

PART 2 PRODUCTS – None

PART 3 EXECUTION – None

END OF SECTION

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SUMMARY OF WORK

01010-2

PART 1 GENERAL

1.01 DISCLAIMER

- A. This section is provided only as an aid and should not be considered inclusive of the other following sections. The Contractor shall conduct a thorough review of the site, all attachments, drawings and specifications. Materials to be provided and work to be performed by the Contractor are described in this section.
- B. The attached specifications, together with other Contract documents and applicable design drawings, cover the WORK required for construction services, as indicated herein.
- C. The Contractor shall be responsible for the complete installation, as shown on the drawings, including all material, labor, equipment and accessories required. The scope is further defined in the following sections, drawings, attachments and specifications referenced in the Attachments.
- D. Note: HOLDS are indicated for construction and bid purposes only. Do not include items marked as "HOLD" in estimate unless otherwise noted.
- E. Contractor shall take extreme precautions during work around existing construction. Any damage incurred by the Contractor to the existing construction shall be repaired fully to the satisfaction of the Owner's representative by the Contractor at his own expense.

1.02 DEFINITIONS & TERMS (Instruction: Update this if additional def. or terms used)

- A. Owner: Hemlock Semiconductor Operations LLC
- B. Engineering Partner (EP): Engineering Design Firm for each project and also Engineer of Record for the Project. SSOE is the EP or Engineer of Record for this Project.
- C. Owner's Representative or Rep: Person or entity authorized by Owner to act in representative capacity for Owner in all contract matters.
- D. Contractor: Owner-awarded successful bidder, referred to as the Contractor.
- E. Contract: Purchase order issued by Owner for the work
- F. CWP: Construction Work Package. This includes this document and attachments.
- G. Shall: This indicates a requirement. Owner's approval required for deviation.
- H. Provide: Material supplied and installed ready for end use.
- I. Install or Erect: Place material in position for service or use.
- J. Furnish: To supply.
- K. Fabricate: To manufacture material for service or use.
- L. Demolish: To remove, detach, dismantle, cut, excavate, disconnect, and legally dispose of demolished materials off-site unless otherwise specified and backfill the resulting excavation or void.

1.03 GENERAL WORK REQUIREMENTS (Instruction: Update as per specific package to cover general work requirement)

- A. Contractor shall coordinate his activities to allow for all tests and inspections to be witnessed by or performed by the Owner.
- B. Contractor shall provide access to all inspection, fabrication, installation and rework associated with this work package.
- C. Contractor shall provide temporary supports, spacers, material and equipment as necessary to install equipment, lines, insulation, and work contained in this package.

1.04 SCOPE OF WORK

A. PERMITS

- 1. HSC has submitted drawings to the Township for review. The Contractor is responsible for the permit fees and pulling the permit.

B. STRUCTURAL

1. General

- a. The HSC CSA 4973 Master Specification is to be followed.
- b. The scope of this contract includes the foundation plan and details of the foundation.
- c. All underground utilities should be field verified prior to soil excavation.
- d. Provide and install highline pipe rack foundations and anchor bolts as shown on the design drawings.
- e. Temporary cables and handrail or other barricades at construction boundaries necessary for the safety of building personnel are a part of this contract.
- f. Concrete and materials testing is part of this contract.

C. ELECTRICAL WORK

1. General

- a. The HSC Electrical Master 3226 Specification is to be followed.
- b. The scope of this contract includes installation of a single ground rod at each T-Post location and short pipe rack section.
- c. Install a steel tab and bar-tap connector at each T-post and a bonding conductor from the ground rod to the bar-tap connector.
- d. Perform ground test procedure for each ground rod.

END OF SECTION

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SUBMITTAL

01300-1

PART 1 GENERAL**1.01 SCOPE**

- A. Contractor shall refer to CSA Specification 4973 or E/I Specification 3226, Section 01300 – Submittals
- B. Submittal shall be sent to Owner's Representative through construction representative.
- C. Contractor shall also refer to individual sections of CSA Specification 4973 or E/I Specification 3226 and provide submittals accordingly. Additional submittals that Contractor shall provide are listed below.

- 1. Detailed Construction and Installation Schedule within time allowed by Project.

1.02 EXCEPTIONS AND CLARIFICATIONS:

- A. Submittals shall be sent to SSOE at the following address: submittals@ssoe.com

(Instructions: Add scope exception and/or clarifications here as needed. If no, say none. Author should read 4973 & 3226 first to understand what is not covered in 4973 & 3226 and then update this section to cover additional items such as additional work, exception and/or any clarification for Contractor. If key/ important scope items for contractor emphasis/ease are required, those items can be added here for highlight purpose but care must be taken not to conflict the verbiage with that of 4973 & 3226. All applicable sections of the package should follow these guidelines.)

PART 2 PRODUCTS -

None

PART 3 EXECUTION -

None

END OF SECTION

REV X

CONCRETE

03001

PART 1 GENERAL

1.01 SCOPE:

- A. Contractor shall provide concrete work in accordance with CSA Specification 4973 Section 03001 Part 1, design drawings and this document.

1.02 EXCEPTIONS AND CLARIFICATIONS:

(Instructions: Add scope exception and/or clarifications here as needed. If no, say none. Author should read 4973 first to understand what is not covered in 4973 and then update this section to cover additional items such as additional work, exception and/or any clarification for Contractor. If key/ important scope items for contractor emphasis/ease are required, those items can be added here for highlight purpose but care must be taken not to conflict the verbiage with that of 4973. All applicable sections of the package should follow these guidelines.)

PART 2 PRODUCTS

2.01 Owner Furnished Products

- A. None
- B. Refer to Section 01019 Part 2, article 2.01 of this document for any exceptions.

2.02 Contractor Furnished Products

- A. Refer to CSA Specification 4973 Section 03001 Part 2, article 2.02 for items furnished by contractor.
- B. Refer to Section 01010 Part 2, article 2.01 Paragraph B of this document for items Contractor shall also furnish as part of this work package.

PART 3 EXECUTION

3.01 REQUIREMENTS

- A. Contractor shall execute concrete work in accordance with CSA Specification 4973 Section 03001 Part 3 and design drawings.

(Instructions: Add execution requirements as needed and applicable to package and not covered in spec 4973)

END OF SECTION

REV X

METAL FABRICATION**05500****PART 1 GENERAL****1.01 SCOPE**

- A. Contractor shall provide work in accordance with CSA Specification 4973 Section 05500 Part 1, design drawings and this document.
- B. Field fabrication and installation of metal components.
 - 1. Field fabrication and installation of pipe supports.
 - 2. Field modifications of grating panels – additional penetrations.

1.02 EXCEPTION AND CLARIFICATIONS

(Instructions: Add scope exception and/or clarifications here as needed. If no, say none)

PART 2 PRODUCTS**2.01 OWNER FURNISHED ITEMS**

- A. None

2.02 CONTRACTOR FURNISHED ITEMS

- A. Refer to CSA Specification 4973, Section 05500, Metal Fabrication Part 2.
- B. In addition, refer to Section 01010, Part 2 of this document for items contractor shall also furnish as part of this work package.

PART 3 EXECUTION**3.01 REQUIREMENTS**

- A. Contractor shall perform work in accordance with CSA Specification 4973, Section 05500.
- B. Dirt and rust shall be removed from all wear plates, pipe support shoes and pipe support surfaces being used for sliding (including the sliding surfaces of restraints). A commercially available, graphite-grease mixture (Never-Seez or equal) shall be provided on metal-to-metal slide surfaces. In DPHOST areas, Molykote P-40 shall be used in place of Never-Seez. Compound shall be nickel based, copper based is not allowed.

(Instructions: Add execution requirements as needed and applicable to package and not covered in spec 4973)

END OF SECTION

REV X

PAINT

09900

PART 1 GENERAL

1.01 SCOPE

Contractor shall provide paint work in accordance with CSA Specification 4973 Section 09900 Part 1, design drawings, and this document.

1.02 EXCEPTIONS AND CLARIFICATIONS

(Instructions: Add scope exception and/or clarifications here as needed. If no, say none)

PART 2 PRODUCTS

2.01 Owner Furnished Products

- A. None.
- B. Refer to Section 01019 Part 2 article 2.01 of this document for any exceptions.

2.02 Contractor Furnished Products

- A. Refer to CSA Specification 4973, Section 09900 Part 2.
- B. Refer to Section 01010 Part 2 article 2.01 paragraph B of this document.

PART 3 EXECUTION

3.01 REQUIREMENTS

- A. Contractor shall perform work in accordance with CSA Specification 4973, Section 09900 Part 3.
- B. Contractor shall complete the required Quality Inspection Certificate (SSG 09900014 page 14) and submit to the Owner's Representative.
- C. Contractor shall complete the Coatings QA/QC Report Forms, attached, as required and submit to the Owner's Representative:

[Coatings Project Daily QA/QC Report Form](#)

(Instructions: Add execution requirements as needed and applicable to package and not covered in spec 4973)

END OF SECTION