



ENG-060 - SOW - STATEMENT OF WORK

NSTX-U LABYRINTH-INSTALL STRUCTURAL SUPPORTS, FALL PROTECTION ANCHORS & PAINTING

NSTXU_1-8-1-1-4_SOW_102

Rev. 1

Work Planning #: **2334**
Effective Date: **01/21/2020**
Prepared By: **Tom Jernigan**

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Approved By	Leslie Hill, Project Manager	01/21/2020 15:56:10 PM



**JOB ORDER STATEMENT OF WORK
FOR
BASIC ORDERING AGREEMENT (BOA)**

NSTXU_1-8-1-1-4_SOW_102

**Title: NSTX-U Labyrinth - Install Structural Supports, Fall Protection Anchors &
Painting**

CAT: A3

Requisition No.: 422025

Revision 1: January 17, 2020

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**PRINCETON PLASMA PHYSICS LABORATORY
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Approved 01/21/2020

NSTXU_1-8-1-1-4_SOW_102, Rev. 1
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RECORD OF CHANGES

Rev #	Date	Description of Changes
0	1/7/2020	Initial Release
1	1/17/2020	Revision to delete requirement for 10K shoring and document deliverable for 28-day concrete compressive strength test results.

1.0 SCOPE OF WORK

1.1 The Subcontractor shall provide all materials, labor, supervision, equipment, and expertise required to complete Work prescribed herein:

- 1.1.1 Installation of labyrinth roof angle supports to existing building wall.
- 1.1.2 Installation of two (2) fall protection anchors.
- 1.1.3 Installation and final anchoring of roof block interior support angles.
- 1.1.4 Final anchoring of roof angle supports and exterior straps to roof blocks.
- 1.1.5 Patching painting the labyrinth and (partial) south building wall.
- 1.1.6 Clean work areas and dispose of all trash and debris.

2.0 ATTACHMENT(S)

Attachment 1 - Deliverables List

Attachment 2 – Technical Requirements

3.0 REFERENCE(S)

- 3.1 C/D-SOW-FAC-313 dated February 11, 2019, Rev. 0
- 3.2 PPPL Drawing E-AE2019 (4 sheets), South High Bay Labyrinth with Structural Design, Plans & Details

4.0 GENERAL REQUIREMENTS:

Upon receipt of an appropriate BOA Job Order, Subcontractor agrees to perform the Work required by this Job Order Statement of Work, and any other documents included or referenced therein or elsewhere in this Job Order Statement of Work.

5.0 SPECIAL REQUIREMENTS:

- 5.1 Prior to submitting price quotation for this work, the Subcontractor shall visit the work site to ensure he/she understands the full scope of work and site conditions.
- 5.2 Use of scaffolding shall require inspection from a Competent Person.
- 5.3 Refer to Attachment 2 for additional Technical Requirements for installation of labyrinth supports, fall protection anchors, and painting.

Attachment 1 - Deliverables List

#	Physical Deliverables Required	When Deliverable Is Required	Deliverable Received (✓)
1	Install 5K rated Mega Swivel concrete anchors	Work execution	
2	Install two (2) Roof Support Angles	Work execution	
3	Install five (5) Interior angle supports and five exterior straps	Work execution	
4	Patch, prime and Paint interior and exterior surfaces of labyrinth wall	Work execution	
5	Patch, prime and Paint existing south wall up to 8'0" above ground floor level	Work execution	
Exceptions: None			

#	Document Deliverables Required	When Deliverable Is Required	Deliverable format (paper, electronic etc.)	Storage Location for Deliverable	Deliverable Received (✓)
1	Job-specific Job Hazard Analysis (JHA)	Before start of work	Electronic or paper	Ops Center	
2	Product data sheet for concrete anchors	Before start of work	Electronic or paper	Ops Center	
3	Product data sheet for concrete patching mixture	Before start of work	Electronic or paper	Ops Center	
4	Product data sheet for Block filler	Before start of work	Electronic or paper	Ops Center	
5	Product data sheet for Topcoat	Before start of work	Electronic or paper	Ops Center	
Exceptions: None					

Princeton Technical Representative:

(Sign-off and provide to the Operations Center when job is completed and deliverables are dispositioned and placed/filed in Operations Center (or other Project, Department or Division designated file center)

Attachment 2 – Technical Requirements
Installation of Roof Block Supports, Fall Protection Anchor Points & Painting

Notes:

1. Subcontractor Work will be performed in two (2) phases, sequenced as follows as detailed on PPPL drawing E-AE2019:
 - a. Phase 1 will be installation of two (2) Roof Support Angles.
 - b. PPPL will install the five (labyrinth roof blocks) after installation of the two (2) Roof Support Angles.
 - c. Phase 2 Work will be installation of five (5) exterior straps, five (5) interior support angles and installation of the final anchors in the two (2) roof support angles, and painting of labyrinth and South Shield walls.
2. The Mega Swivel anchors may be installed during either Phase 1 or 2 at the Subcontractor's discretion.
3. Subcontractor may perform wall patching and partial priming/painting at his/her discretion.

1. **Materials:**

- a. PPPL will provide the following structural components to the Subcontractor for installation:

Description	Reference Drawing	Qty
Roof Support Angle – Assembly 1	E-AE2019, Sheet 2	1
Roof Support Angle – Assembly 2	E-AE2019, Sheet 2	1
Interior Angle Supports	E-AE2019, Sheet 2	5
Exterior Straps	E-AE2019, Sheet 2	5

- b. With exception of materials identified in 1.a above, the Subcontractor is responsible for providing all other materials required to complete the Work prescribed herein, including, but not limited to:
 - i. 5K rated Mega Swivel concrete anchors: Guardian 00293, or equal.
 - ii. All anchors for roof supports & interior angle supports identified in 1.a above: Hilti® HIT-Z with HIT-HY adhesive.
 - iii. Concrete patch mixture: SAKRETE® Fast Setting Cement Patcher, or equal.
 - iv. Block filler: Sherwin-Williams "LOXON" Concrete & Masonry Primer/Sealer, or equal.
 - v. Topcoat: Sherwin-Williams Pro "Industrial Pre-Catalyzed Water Based Epoxy," or equal, tinted to match existing wall surfaces.

2. Work Execution

- a. Phase 1 – Installation of Roof Support Angles
 - i. Referring to Sheet 2 of PPPL Drawing E-AE2019, install the two (2) Roof Support Angles.
 - ii. (PPPL HOLD POINT) Verify roof block bearing surface of each of the angles aligns with the companion bearing surface in the concrete labyrinth wall.

DANGER

Personnel shall not enter the labyrinth floor area beneath the roof blocks until the five (5) exterior straps have been installed.

- b. Phase 2 – Installation of interior support angles- After installation of Roof Blocks by PPPL
 - i. Referring to Sheet 2 of PPPL Drawing E-AE2019, install the five (5) Exterior Straps, then
 - ii. Install the final roof block-to-roof support angle anchors, then
 - iii. Install the five (5) interior support angles.
- c. Final Priming & Painting of Labyrinth Shield Wall and (Partial) Existing South Shield Wall
 - i. Thoroughly clean surfaces to be painted.
 - ii. Patch existing/abandoned anchor holes with cement repair mixture, SAKRETE® Fast Setting Cement Patcher, or equal.
 - iii. Prime all surfaces of the newly-constructed wall with one coat of block filler, Sherwin-Williams “LOXON” Concrete & Masonry Primer/Sealer, or equal.
 - iv. After primer has cured, apply two (2) topcoats tinted to match existing, Sherwin-Williams Pro “Industrial Pre-Catalyzed Water Based Epoxy,” or equal.