1. Section 095426
Suspended Wood Ceilings - USG
	1. PART 1  GENERAL
		1. SECTION INCLUDES
			1. Wood veneer panels.
			2. Linear wood veneer panels.
			3. Wood grilles.
			4. Metal suspension system.
		2. RELATED REQUIREMENTS
2. *The paragraph below is optional text*
	* + 1. Section 016116 - Volatile Organic Compound (VOC) Content Restrictions.
3. *The paragraph below is optional text*
	* + 1. Section 031000 - Concrete Forms and Accessories:  Execution requirements for placement of attachment anchors to structure above.
4. *The paragraph below is optional text*
	* + 1. Section 033000 - Cast-in-Place Concrete:  Execution requirements for placement of attachment anchors to structure above.
5. *The paragraph below is optional text*
	* + 1. Section 053100 - Steel Decking:  Execution requirements for placement of attachment anchors to structure above.
		1. REFERENCE STANDARDS
			1. ASCE 7 - Minimum Design Loads and Associated Criteria for Buildings and Other Structures; Most Recent Edition Cited by Referring Code or Reference Standard.
			2. ASTM A580/A580M - Standard Specification for Stainless Steel Wire; 2018.
			3. ASTM A492 - Standard Specification for Stainless Steel Rope Wire; 1995 (Reapproved 2019).
			4. ASTM A653/A653M - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process; 2022.
			5. ASTM A666 - Standard Specification for Annealed or Cold-Worked Austenitic Stainless Steel Sheet, Strip, Plate, and Flat Bar; 2015.
			6. ASTM B209/B209M - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate; 2021a.
			7. ASTM C635/C635M - Standard Specification for Manufacture, Performance, and Testing of Metal Suspension Systems for Acoustical Tile and Lay-in Panel Ceilings; 2022.
			8. ASTM C636/C636M - Standard Practice for Installation of Metal Ceiling Suspension Systems for Acoustical Tile and Lay-In Panels; 2019.
			9. ASTM C665 - Standard Specification for Mineral-Fiber Blanket Thermal Insulation for Light Frame Construction and Manufactured Housing; 2017.
			10. ASTM E84 - Standard Test Method for Surface Burning Characteristics of Building Materials; 2022.
			11. ASTM E580/E580M - Standard Practice for Installation of Ceiling Suspension Systems for Acoustical Tile and Lay-in Panels in Areas Subject to Earthquake Ground Motions; 2022.
			12. ASTM E1264 - Standard Classification for Acoustical Ceiling Products; 2022.
			13. AWI/AWMAC/WI (AWS) - Architectural Woodwork Standards, 2nd Edition; 2014, with Errata (2016).
			14. CISCA (WC) - Wood Ceilings Technical Guidelines; 2009.
		2. ADMINISTRATIVE REQUIREMENTS
			1. Coordination:  Coordinate work of this section with installation of mechanical and electrical components and with other construction activities affected by work of this section.
			2. Preinstallation Meeting:  Convene one week before starting work of this section.
			3. Sequence work to ensure ceilings are not installed until building is enclosed, dust generating activities have terminated, and overhead work is completed.
		3. SUBMITTALS
			1. See Section 013000 - Administrative Requirements for submittal procedures.
			2. Shop Drawings:  Indicate grid layout and related dimensioning, attachment of wood ceiling components to grid, accessory attachments, junctions with other ceiling finishes, and mechanical and electrical items installed in the ceiling.
			3. Product Data:  Provide data on wood ceiling components and suspension system components.
			4. Samples:  Two full size samples illustrating material and finish of wood ceiling components.
			5. Samples:  Two samples each, [\_\_\_\_] inches ([\_\_\_\_] mm) long, of suspension system main runner, cross runner, and perimeter molding.
			6. Test Reports:  Certified test data from an independent test agency verifying that panels meet specified requirements for fire, acoustical, and seismic performance.
			7. Manufacturer's Installation Instructions:  Indicate special procedures and perimeter conditions requiring special attention.
			8. Designer's qualification statement.
			9. Manufacturer's qualification statement.
			10. Installer's qualification statement.
			11. Maintenance Materials:  Furnish the following for Owner's use in maintenance of project.
				1. See Section 016000 - Product Requirements for additional provisions.
				2. Wood Ceiling Components:  Provide a quantity equal to 2 percent of total product installed.
		4. QUALITY ASSURANCE
6. *The paragraph below is optional text*
	* + 1. Designer Qualifications for Seismic Design:  Under direct supervision of a Professional Structural Engineer experienced in design of this Work and licensed at the State in which the Project is located.
			2. Manufacturer Qualifications:  Company specializing in manufacturing the products specified in this section with minimum three years documented experience.
			3. Installer Qualifications:  Company specializing in performing the work of this section.
				1. Minimum [\_\_\_\_\_\_\_\_\_\_] years documented experience.
				2. Approved by wood ceiling manufacturer.
		1. MOCK-UPS
			1. Provide [\_\_\_\_] feet ([\_\_\_\_] m) by [\_\_\_\_] feet ([\_\_\_\_] m) mock-up including suspension members, trim, and wood ceiling components.
			2. See Section 014000 - Quality Requirements for additional requirements.
			3. Locate where directed.
			4. Mock-up may remain as part of the work.
		2. DELIVERY, STORAGE, AND HANDLING
			1. Deliver wood ceiling components to project site in original, unopened packages.
			2. Store in fully enclosed space, flat, level and off the floor.
			3. Allow wood  materials to acclimate to installed space in accordance with manufacturer’s recommendations.
			4. Protect from sunlight, excessive heat, cold, moisture, and relative humidity variations outside of tolerances specified for project conditions in compliance with AWI/AWMAC/WI (AWS).
		3. FIELD CONDITIONS
			1. Do not install suspended wood ceiling system until wet construction work is complete and permanent heat and air conditioning is installed and operating.
			2. Maintain room temperature between 60 degrees F (16 degrees C) and 75 degrees F (24 degrees C) and relative humidity between 35 to 55 percent before, during, and after installation.
	1. PART 2  PRODUCTS
		1. Suspended Wood CEILING ASSEMBLIES
			1. Refer to Room Finish Schedule and Reflected Ceiling Plans on drawings for additional ceiling assemblies information.
			2. Wood Panel [Ceiling] [Soffit] System:  Panels, suspension members, trim, and accessories as required to provide a complete system.
			3. Wood Panel Ceiling Assembly Type WPC-1:

*The paragraph below is optional text*

* + - * 1. Truewood Lay in grilles shall use intermediate or heavy duty grid - system shall comply with local code requirements. Truewood Modular grills shall only use heavy duty suspended grid USG DX/DXL.Ceiling Units:  [True Wood Lay-In Grilles] [True Wood Modular Grilles]
				2. Layout:  As indicated on drawings.
				3. Interior Suspension Grid:  Specified in Section 095100.
				4. Interior Suspension Grid Heavy duty or Intermediate:  [Donn DX/DXL 15/16-inch Suspension System] [Donn Centricitee DXT 9/16-inch Suspension System] .
		1. Performance Requirements
			1. Design for maximum deflection of 1/360 of span.
			2. Design to support imposed loads of indicated elements without eccentric loading of supports. Where supported elements may induce rotation of ceiling system components, provide stabilizing reinforcement.
1. *The paragraph below is optional text*
	* + 1. Seismic Performance:  Heavy duty DX/DXL or DXT ceiling systems designed to withstand the effects of earthquake motions determined according to ASCE 7 for Seismic Design Category D, E, or F and complying with the following:
2. *The paragraph below is optional text*
	* + - 1. Local authorities having jurisdiction.
3. *The paragraph below is optional text*
	* + - 1. ICC-ES Evaluation Report No. [\_\_\_\_\_\_\_\_\_\_].
			1. Surface Burning Characteristics:  Flame spread index of [\_\_\_\_], smoke developed index of [\_\_\_\_], when tested in accordance with ASTM E84.
			2. Wood-Based Materials:
4. *The paragraph below is optional text*
	* + - 1. Certified as sustainably harvested; see Section 016000.
				2. Solid Wood:  Clear, dry, sound, plain sawn, selected for compatible species, grain and color, no defects.
				3. Composite Wood Panels:  Containing no urea-formaldehyde resin binders.
		1. Component Products
			1. Wood Grilles:
				1. Wood Grilles: Pre-assembled grille units of solid wood with [battens], [integrated acoustical backer].

Lay-in Grille Size:  [24 by 48 inches (610 by 1219 mm)] [24 by 24 inches (610 by 610 mm)], nominal.

Slat Size:  1/2 by 1-1/2 inches (13 by 38 mm).

Slat Orientation:  [Vertical] [Horizontal].

Module Size:  12 by 96 inches (305 by 2432 mm), nominal.

Slat Design: [Batten and dowel] [Batten only].

Batten Only Modular Grille Slat Size and Spacing:

1. *The paragraph below is optional text*

Truewood Modular grills shall only use heavy duty suspended grid USG DX/DXL.

Slat Size :  [5/8 by 1-3/8 inches (16 by 35 mm)] [5/8 by 2-1/4 inches (16 by 57 mm)].

Slat Spacing: [7/8 inch (22 mm)] [1-3/8 inches (35 mm)].

Grille Slat Size and Spacing:

Slat Size : [5/8 by 3-1/4 inches (16 by 83 mm)] [1 by 2-1/4 inches (25 by 57 mm)] [1 by 3-1/4 inches (25 by 83 mm)] [1 by 4-1/4 inches (25 by 108 mm)] [1-1/4 by 3-1/4 inches (32 by 83 mm)] [1-1/4 by 4-1/4 inches (32 by 108 mm)] [1-1/4 by 5-1/4 inches (32 by 133 mm)]

Slat Spacing:  [1-3/8 inches (35 mm)] [2 inches (51 mm)] [2-3/4 inches (70 mm)].

Solid Wood Species:

Factory Finish:  Wood stain matching panels, clear sealer top coat.

Surface Veneer Species: [Dark Cherry], [Light Cherry], [Maple], [Red Oak], [Walnut].

Factory Finish: Clear sealer.

Batten Strips at Back of Modular Grilles:  Baltic birch plywood with black dyed finish.

Products:

USG Corporation; True Wood Lay-In Grilles:  www.usg.com/ceilings/#sle.

USG Corporation; True Wood Modular Grilles:  www.usg.com/ceilings/#sle.

Substitutions:  Not permitted.

1. Metal Suspension Systems:
	* + - 1. Metal Suspension Systems - General:  Complying with ASTM C635/C635M; die cut and interlocking components, with [hold down clips],[perimeter moldings],[seismic clips],[splices],[stabilizer bars] as required.

Materials:

Steel Grid:  ASTM A653/A653M [G30] coating, unless otherwise indicated.

* + - * 1. Exposed Acoustical Suspension System:  Hot-dipped galvanized steel grid and cap.

Application(s):  Seismic.

Structural Classification:   Heavy duty or Intermediate, when tested in accordance with ASTM C635/C635M.

1. *The paragraph below is optional text*

Recycled Materials Content:  Classified as containing greater than 50 percent total recycled content.  Available for specific sizes and lengths.

Profile:   Tee; 15/16 inch (24 mm) face width.

Finish:   Baked enamel.

Color:  White.

Products:

USG Corporation;  DX/DXL 15/16 Inch Suspension System:  www.usg.com/ceilings/#sle.

Substitutions:  Not permitted.

* + - * 1. Exposed Acoustical Suspension System:  Hot-dipped galvanized steel grid and cap.

Application(s):  Seismic.

Structural Classification:   Heavy duty or Intermediate, when tested in accordance with ASTM C635/C635M.

Recycled Materials Content:  Classified as containing greater than 50 percent total recycled content.  Available for specific sizes and lengths.

Profile:   Tee; 9/16 inch (14 mm) face width.

Finish:   Baked enamel.

Color:  White.

Products:

USG Corporation; Centricitee  DXT 916 Inch Suspension System:  www.usg.com/ceilings/#sle.

Substitutions:  Not permitted.

* + - 1. Moldings and Trim:
				1. Edge Molding, Expansion Joints and Splices: Same material, thickness, and finish as suspension grid, unless otherwise indicated.
				2. Perimeter (Wall) Moldings:  Same metal and finish as [Black], [White], [Custom].

Size:  As required for installation conditions [and specified Seismic Design Category] [None - N/A].

Angle Moldings:  L-shaped, for mounting at same elevation as face of grid.

* + - 1. Wood Veneer Perimeter Trim: Field cut matching wood veneer trim to match wood ceiling panels, height per manufacturer.
				1. Support: Steel L angle per manufacturer.
			2. Trim Accessories:  Manufacturer's standard clips, cleats splice plates, extension plates, closure plates, corner pieces, and similar accessories required for a complete installation.
		1. Accessories
			1. General:  Manufacturer's standard accessories for installation method indicated, seismic requirements and above-ceiling accessibility.
			2. Support Channels, Carriers, and Hangers:  Galvanized steel; size and type to suit application and ceiling system flatness requirement specified.
			3. Batten Clips: Standard accessories, as required by manufacturer or project coordination.
			4. Suspension Wire:  Size and type as required for application, seismic requirements, and ceiling system flatness requirement specified.
				1. Concealed Suspension:

Suspension Wire:  Steel, annealed, galvanized finish, 12 gage, 0.0808 (2.05 mm) diameter.

* + - * 1. Exposed (To View) Suspension:

Suspension Wire:  Stainless steel, 18 gage, 0.0403 (1.02 mm) diameter, complying with ASTM A580/A580M.

Suspension Rope:  1/32 inch (0.8 mm) stainless steel rope wire complying with ASTM A492, with loop and crimp-end or turnbuckle connection.

* + - 1. Panel Fixing Brackets:  Manufacturer's standard PFB accessory items.
1. *The paragraph below is optional text*
	* + 1. Seismic Clips:  Manufacturer's standard clips designed to provide a rigid connection between suspension grid tees and wall moldings.
			2. Unopposed Tee Attachment Clip:  Manufacturer's standard clip designed to create code-compliant cross tee connections when a cross tee is installed in a main tee without another cross tee directly opposite.
			3. Compasso Standard clip.
			4. Compasso Celebration clip.
			5. Compasso Elite clip.
			6. Celebration Compasso Elite clip.
			7. Acoustical Backer: Felt backer in roll from.
				1. Thickness:  1 inch (25 mm).
				2. Size:  To fit acoustical suspension system.
			8. Touch-Up Paint for Exposed Surfaces:  Type and color to match panels and suspension system grid and trim elements.
			9. Touch-Up Paint For Concealed Items:  Zinc rich type, as recommended by ceiling system manufacturer.
		1. Fabrication
			1. Shop fabricate wood ceiling components to the greatest extent possible.
			2. Shop fabricate wood ceiling components to accommodate mechanical and electrical items.
			3. Fabricate components to allow access to ceiling plenum as required.
	1. PART 3  EXECUTION
		1. EXAMINATION
			1. Verify existing conditions before starting work.
			2. Verify that layout of hangers will not interfere with other work.
			3. Verify that field measurements are as indicated on shop drawings.
			4. Do not install ceiling until after interior wet work is dry.
			5. Start of installation constitutes acceptance of project conditions.
		2. Preparation
			1. Coordinate the location of hangers with other work.
2. *The paragraph below is optional text*
	* + 1. Provide hanger clips during steel deck erection.  Provide additional hangers and inserts as required.
			2. Install after major above-ceiling work is complete.
			3. Lay out wood ceiling components in pattern according to reflected ceiling plan and as indicated on shop drawings.
			4. Acclimate wood ceiling materials by removing from packaging in installation area a minimum of 72 hours prior to installation.
		1. Installation - Suspension System
			1. Install in accordance with ASTM C636/C636M and manufacturer's instructions and as supplemented in this section.
3. *The paragraph below is optional text*
	* + 1. Install suspended wood ceiling system in accordance with CISCA (WC).
			2. Install hangers and inserts coordinated with overhead work.  Provide additional hangers and supports as required.
			3. Rigidly secure system, including integral mechanical and electrical components, for maximum deflection of 1:360.
			4. Lay out system to a balanced grid design with edge units no less than 50 percent of acoustical unit size.
			5. Locate system on room axis according to reflected ceiling plan.
			6. Suspension System, Non-Seismic:  Hang suspension system independent of walls, columns, ducts, pipes and conduit.  Where carrying members are spliced, avoid visible displacement of face plane of adjacent members.
4. *The paragraph below is optional text*
	* + 1. Seismic Suspension System, Seismic Design Category C:  Hang suspension system independent of walls, columns, ducts, pipes and conduit.  Maintain a 3/8 inch (9 mm) clearance between grid ends and wall.
5. *The paragraph below is optional text*
	* + 1. Seismic Suspension System, Seismic Design Categories D, E, F:  Hang suspension system with grid ends attached to the perimeter molding on two adjacent walls; on opposite walls, maintain a 3/4 inch (19 mm) clearance between grid ends and wall.
			2. Where ducts. facility services, or equipment prevent the regular spacing of hangers, reinforce the nearest affected hangers and related carrying channels to span the extra distance.
			3. Do not support components on main runners or cross runners if weight causes total dead load to exceed deflection capability.
			4. Support fixture loads using supplementary hangers located within 6 inches (152 mm) of each corner, or support components independently.
			5. Do not eccentrically load system or induce rotation of runners.
			6. Form expansion joints as detailed.  Form to accommodate plus or minus 1 inch (25 mm) movement.  Maintain visual closure.
			7. Install unopposed tee attachment clips at appropriate locations to enable installation of acoustical units in an ashlar pattern.
			8. Edge Moldings:  Install at intersection of ceiling and vertical surfaces and penetrations, using components of maximum length, set level. Provide edge moldings at junction with other ceiling finishes. Miter corners. Provide preformed edge closures to match bullnosed cornered partitions.
				1. Use longest practical lengths.
				2. Overlap and rivet corners.
		1. Installation - Wood Panels
			1. Install panels in accordance with manufacturer's instructions.
			2. Fit wood components in place, free from damaged edges or other defects detrimental to appearance and function.
			3. Install panels in uniform plane, and free from twist, warp, and dents.
			4. Cut to fit irregular grid and perimeter edge trim.
			5. Make field-cut edges of same profile as factory edges, seal and finish according to manufacturer.
			6. Install [clips] [other attachments], [clips] [other attachments], and [clips] [other attachments] as indicated to secure wood ceiling components tight to the grid system.
			7. Install acoustical backer above wood ceiling components; fit tight between grid members.
		2. TOLERANCES
			1. Maximum Variation from Flat and Level Surface:  1/8 inch in 10 feet (3 mm in 3 m).
		3. Cleaning
			1. Clean and touch up minor finish damage.  Remove and replace components that cannot be successfully cleaned and repaired.
6. END OF SECTION