1.0 PURPOSE

The purpose of this program is to specify requirements for the safe erection, use, and dismantling of scaffolding.

2.0 SCOPE

This program applies to all St. Francis Xavier University (StFX) work sites, including contractor operations. All legislative jurisdictional, StFX and contractor requirements will be reviewed, and the more stringent requirements will be applied.

3.0 RESPONSIBILITY

3.1 Managers

- Verify that all scaffolding is installed, used, and dismantled by competent and trained workers following applicable legislative jurisdictional requirements;
- Engage certified or other qualified workers to modify, inspect and maintain scaffolding; and
- Verify that scaffolding inspections are conducted in compliance with legislative jurisdictional requirements.

3.2 Supervisors

- Provide technical support;
- Assist crafts during the erection and use of scaffolding;
- Monitor scaffolding erection, use and dismantling operations for compliance with legislative jurisdictional requirements and this program; and
- Verify that scaffolding is inspected by a competent person and during regular jobsite inspections.

3.3 Erectors

- Comply with all regulations in force which pertain to scaffolding, and with the manufacturers' or suppliers' specifications or recommended procedures for erection;
- Implement an inspection and approval system for scaffolding prior to allowing workers to use them; and
- The inspection system will be utilized to monitor erected units to maintain compliance with legislative jurisdictional requirements.

3.4 Workers

- Must be familiar with the legislative jurisdictional requirements and the content of this Procedure;
- Shall be trained to safely work from a scaffolding;
- Will not expose the scaffolding to a load in excess of its capacity; and
- Comply with all scaffolding rules and procedures, and with the manufacturers' or suppliers specifications or recommended procedures for use.

4.0 REFERENCES

- Legislative Jurisdictional Requirements
- Manufacturer's specifications
- Applicable CSA or other locally-recognized Standards for scaffold in use
- Standard Operating Procedure for scaffold in use

5.0 DEFINITIONS

5.1 Bearer

A horizontal member of a scaffolding upon which the platform rests and which may be supported by ledgers.

5.2 Boatswain's Chair

A single-point adjustable suspension scaffolding consisting of a seat or sling designed to accommodate one workman in a sitting position.

5.3 Brace

A rigid connection that holds one scaffolding member in a fixed position with respect to another member or to a building or structure.

5.4 Bricklayer's Square Scaffolding

A scaffolding consisting of wood or metal brackets supporting a platform.

5.5 Competent Person

One who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has the authorization to take prompt corrective measures to eliminate them or as otherwise defined by applicable legislation.

5.6 Coupler

A device for locking together the component parts of a tubular metal scaffolding. (The material used for the couplers shall be of a structural type, such as a drop-forged steel, malleable iron, or structural grade aluminum).

5.7 Crawling Board or Chicken Ladder

A plank with cleats spaced and secured at equal intervals, for use by a worker on roofs, not designed to carry any material.

5.8 Double Pole or Independent Pole Scaffolding

A scaffolding supported from the base by a double row of uprights, independent of support from the walls and constructed of uprights, ledges, horizontal platform bearers, and diagonal bracing.

5.9 Float or Ship Scaffolding

A scaffolding hung from overhead supports by means of ropes and consisting of a substantial platform having diagonal bracing underneath, resting upon and securely fastened to two parallel plank bearers at right angles to the span.

5.10 Guardrail System

A vertical barrier consisting of, but not limited to toprails, midrails, toeboards, and posts erected to prevent employees from falling off a scaffolding platform or walkway to lower levels.

5.11 Heavy Duty Scaffolding

A scaffolding designed and constructed to carry a working load not to exceed 75 pounds per square foot.

5.12 Interior Hung Scaffolding

A scaffolding suspended from the ceiling or roof structure.

5.13 Ledgers (Stringers)

A horizontal scaffolding member which extends from post to post and which supports the putlogs or bearers forming a tie between the posts.

5.14 Light Duty Scaffolding

A scaffolding design and constructed to carry working load not to exceed 25 pounds per square foot.

5.15 Manually Propelled Mobile Scaffolding

A portable rolling scaffolding supported by casters.

5.16 Masons' Adjustable Multiple-Point Suspension Scaffolding

A scaffolding having a continuous platform supported by bearers suspended by wire rope from overhead supports, so arranged and operated as to permit the raising or lowering of the platform to desired working positions.

5.17 Maximum Rated Load

The total of all loads including the working load, the weight of the scaffolding, and such other loads as may be reasonably anticipated.

5.18 Medium Duty Scaffolding

A scaffolding designed and constructed to carry a working load not to exceed 50 pounds per square foot.

5.19 Midrail

A rail approximately midway between the guardrail and platform, secured to the uprights erected along the exposed sides and ends of platforms.

5.20 Mudsill

A support pad used to support a scaffolding leg. It is larger in area than the leg, and will prevent the leg from sinking into loose or wet ground. Mudsills must be labeled or marked to specify they are sills, and not to be used as scaffolding planks.

5.21 Needle Beam Scaffolding

A light duty scaffolding consisting of needle beams supporting a platform.

5.22 Outrigger Scaffolding

A scaffolding supported by outriggers or thrustouts projecting beyond the wall or face of the building or structure, the inboard ends of which are secured inside of such building or structure.

5.23 Putlog

A scaffolding member upon which the platform rests.

5.24 Roofing or Bearer Bracket

A bracket used in slope roof construction, having provisions for fastening to the roof or supported by ropes fastened over the ridge and secured to some suitable object.

5.25 Runner

The lengthwise horizontal bracing or bearing members or both.

5.26 Scaffolding

Any temporary elevated platform and its supporting structure used for supporting workmen or materials, or both.

5.27 Single-Point Adjustable Suspension Scaffolding

A manually or power-operated unit designed for light duty use, supported by a single wire rope from an overhead support so arranged and operated as to permit the raising or lowering of platform to desired working positions.

5.28 Single-Pole Scaffolding

Platforms resting on putlogs or cross beams, the outside ends of which are supported on ledgers secured to a single row of posts or uprights, and the inner ends of which are supported on or in a wall.

5.29 Stair Tower

A stair tower is a tower comprised of scaffolding components containing internal stairway units and rest platforms. These towers are used to provide access to scaffolding platforms and other elevated points such as floors and roofs.

5.30 Stone Setters' Adjustable Multiple-Point Suspension Scaffolding

A swinging type scaffolding having a platform supported by hangers suspended at four points so as to permit the raising or lowering of the platform to the desired working position by the use of hoisting machines.

5.31 Toeboard

A barrier secured along the sides and ends of a platform to guard against the falling of material.

5.32 Tube and Coupler Scaffolding

An assembly consisting of tubing which serves as posts, bearers, braces, ties, and runners, a base supporting the posts, and special couplers which serve to connect the uprights and to join the various members.

5.33 Tubular Welded Frame Scaffolding

A sectional panel or frame metal scaffolding substantially built-up of prefabricated welded sections which consists of posts and horizontal bearer with intermediate members.

5.34 Two-Point Suspension Scaffolding (Swinging Scaffolding)

A scaffolding, the platform of which is supported by hangers (stirrups) at two points, suspended from overhead supports so as to permit the raising or lowering of the platform to the desired working position by tackle or hoisting machines.

5.35 Window Jack Scaffolding

A scaffolding, the platform of which is supported by a bracket or jack which projects through a window opening.

5.36 Working Load

Load imposed by men, materials, and equipment.

6.0 PROCEDURE

6.1 Equipment Standards and Maintenance

- Red, yellow, or green scaffolding tags must be attached to all scaffolding and include information specifying what is needed for completion if the scaffolding is incomplete. The back of the tag will be utilized to document inspections before use.

- A Yellow "Caution" scaffolding tag will be attached if it is physically impossible to fully complete a scaffolding because of unavoidable interferences.

- A Green "Safe to Use" scaffolding tag will be used to indicate that a scaffolding is safe for anyone to use. Due to the typical changing conditions when using scaffolding, the placement of a green tag on scaffolding will be rare, and shall only be done with the Supervisor's approval.

- A Red "Danger Do Not Use" scaffolding tag will be attached to the scaffolding while being erected, dismantled or modified.

- Metal scaffolding shall be manufactured to the applicable legislative jurisdictional requirements. Metal tubular frame scaffolding, including accessories such as braces, brackets, trusses, screw legs, ladders, etc. shall be designed, constructed, and erected to safely support four times the maximum rated load.

- Scaffolding shall be installed, inspected, maintained, and repaired in accordance with the manufacturer's/engineering specifications and the applicable legislative jurisdictional requirements. This process is to be documented, dated, and signed by a competent person.

- All wood components and planking shall be structurally sound and free of visible defects. Wood used should be reasonably straight-grained, free of shakes, checks, splits, cross-grains, unsound knots, or knots in groups or any other condition which will materially decrease its strength. Wood used for planking shall be No.1 grade spruce or better, with a wane limited to 20% of the width of the wide face of the plank and the warp limited to maintain a flat surface. Other wooden scaffolding components shall be No. 2 grade spruce or better.

- Wood scaffolding components will not be painted with the exception of prefabricated plywood decks treated with a non-slip finish.

6.2 Erection and Dismantling

- When height and load requirements are stipulated by legislative jurisdictional requirements, scaffolding will be designed by a registered professional engineer.

- Prior to erection, a competent person shall verify that the scaffolding structure has been designed to:

    - Safely support the maximum allowable load to be placed upon it;
    - Provide a platform of sufficient size, at the correct height; and
    - Allow for seasonal weather effects.

- Prior to erection of metal scaffolding, the erector shall inspect all components for the following:

    - Rust – excessively rusted scaffolding shall be replaced;
    - Straightness of members – all members or parts of all metal scaffolding components must be straight and free of excessive bends, kinks, or dents;
    - Welds – damaged welds shall be repaired or component replaced;
    - Locking devices and other accessories – must be in good working order;
    - Casters – must be functioning properly and equipped with operable brakes;
    - Wood planking – shall be in accordance with “Equipment Standards and Maintenance” above;
    - All erectors will use a minimum of two planks to stand on while erecting and dismantling a scaffolding, or one 19” wide aluminum plank;
    - Scaffolding erectors must tie off whenever a danger of falling 10 feet or more exists; and
    - Wooden mud sills – minimum size shall be 51mm x 254mm, (2 x 10) or equivalent.

- Scaffolding components are to be erected on level foundations capable of supporting the load imposed upon it. On earth surfaces, wood mud sills and base plates shall be used to support the scaffolding with the base plates securely fastened and centered on the wood mud sills.

- Scaffolding is to be erected at the specified design spacing requirements.

- Adjusting screw jacks are to be used to adjust scaffolding where uneven grade conditions exist.

- Plumb and level all scaffolding as the erection proceeds. Level the scaffolding until braces fit without difficulty.

- Fasten all braces securely.
- Safe access and egress means shall be provided and used. Erectors shall not use cross braces for climbing or foothold support.
- Verify that metal scaffolding components are securely locked together using appropriate locking devices.
- Scaffolding shall be securely tied at vertical intervals as per manufacturer's specifications or legislative jurisdictional requirements. Push-pull ties shall be used, verifying that the tie tube is connected to both standards (or both ledgers near the standards) with right angle clamps. Scaffolding between vertical ties shall be horizontally cross braced. If push-pull ties cannot be used, sufficient outriggers shall be installed so that the height does not exceed three times the smallest base dimension.
- When the scaffolding is a free-standing tower, the tower structure must be restrained from tipping by guying, outriggers, or other means, and additional horizontal bracing shall be placed at the guying level.
- When free-standing mobile scaffolding towers are used, the height shall not exceed four times the minimum base dimension.
- Partially or fully enclosed scaffolding must have adequate ties, attached to the building or other sound structure, to withstand any wind or weather pressures, or forces, that may be experienced during the course of the project, as per legislative jurisdictional requirements. Attachments to the scaffolding frame or braces must be adequate for the increased load.
- All working levels will be fully planked and be protected with adequate guardrails, midrails, and toeboards.
- All scaffolding erected near power lines shall follow legislative jurisdictional requirements with respect to sufficient clearance to prevent contact between the power lines and the scaffolding or any workers, equipment, or materials on or near the scaffolding (check with the local power company).
- Scaffolding shall be erected to allow reach from a scaffolding platform to the maximum height required for the work without the use of ladders or other elevating devices in compliance with legislative and jurisdictional requirements.
- Vertical ladders, ladder cage, and rest platforms shall be installed on all scaffolding where they are required as per manufacturer's specifications and legislative jurisdictional requirements.

- Wood platform planking shall meet manufacturer's specifications and legislative jurisdictional requirements.

- Metal platform decking or planking of steel or aluminum shall meet manufacturer's specifications and legislative jurisdictional requirements.

- When erecting rolling scaffolding, the erector shall:

    - Attach casters with plain stems to the frames or screw jacks by pins or other suitable means;
    - Fall protection considerations shall be included as per the project-specific OHS plan;
    - Adjust screw jacks on rolling scaffolding in accordance with the manufacturer's recommended procedures. Do not over extend jacks;
    - Brace all rolling scaffolding horizontally;
    - Attach side brackets on rolling scaffolding in accordance with the manufacturer's recommended procedures; and
    - Verify that the working platform height of a rolling scaffolding shall not exceed three times the smallest base dimension.

- Erectors will have 100% fall protection in place.

- Erectors shall immediately report and red tag any visible defects in the scaffolding being erected to the project supervisor/superintendent or his designated representative.

- After erection of scaffolding and before workers are allowed to use scaffolding, a competent person shall conduct a check to verify the following:

    - There is adequate and correctly placed supports under each leg of the scaffolding structure, with particular attention to the possibility of washout due to rain;
    - Base plates and screw jacks are in firm contact with their supports. All adjustment nuts shall be snug against the legs of the scaffolding structure;
    - Frames are plumb in both directions;
    - Frames are braced to at least one adjacent frame;
    - Locking devices are in their closed position and are secured;
    - Planking and accessories are properly installed;

- Push-pull ties are secured between the structure and the scaffolding; and • Guardrails and toeboards are in place.

- The scaffolding shall be inspected by a competent person in accordance the Project Health & Safety Plan, manufacturer's specifications, and legislative jurisdictional requirements.
- When dismantling scaffolding, the components shall be handled in such a manner as to prevent damage to any components, and to eliminate hazards for workers.
- Scaffolding components shall be stored in such a manner so as not to create a hazard.
- Prior to erection of wood scaffolding, a competent person shall follow legislative jurisdictional requirements.

6.3 Worker Procedures

- The worker using the scaffolding shall check that the scaffolding is built safely and meets with all working requirements.
- At the beginning of each shift, the worker using the scaffolding shall be given sufficient time to check and verify that:
  - The base of the scaffolding is sound, level, and in adjustment – sills, screw jacks, bases;
  - The legs are plumb and that all braces are installed;
  - All locking devices are secured;
  - All cross members are level;
  - All ties are in place and secure; and
  - All planks, decks, guardrails, and necessary toeboards are secured and in good condition.
- When deficiencies are identified in the scaffolding, it shall be red tagged and immediately secured and the defects in scaffolding shall be reported to their supervisor and/or the project superintendent for correction.
- When working from scaffolding, a worker shall:
  - Climb the scaffolding using the proper means and shall never climb on the braces;

- Maintain good housekeeping practices in all work areas;
- Verify that a suitable means of raising and lowering equipment and materials is used; and
- No guardrail shall be removed temporarily without the consent of their supervisor and 100% fall protection is required, prior to removal.

- In addition to the foregoing, the worker shall **never**:
  - Remove any structural part of the scaffolding without first checking with the supervisor;
  - Place a load on the scaffolding greater than its design capacity;
  - Rest on or place equipment or material on the guardrails;
  - Undermine the base of the scaffolding; and
  - Stand on scaffolding horizontal members/cross braces to attain a higher work elevation.
- When working with rolling scaffolding, the worker shall:
  - Secure or remove all materials and equipment from the platform before moving the scaffolding;
  - Apply the caster brakes at all times when the scaffolding is stationary;
  - Have sufficient help available when moving a rolling scaffolding; and
  - Be alert for hazards – holes in the floor, overhead obstructions, slopes, and debris.
- Workers shall not ride on a rolling scaffolding unless legislative jurisdictional requirements are met.

6.4 Training

Users/Occupants
Each worker who uses a scaffolding (User/Occupant) will be trained by a person qualified in the subject matter so they are able to recognize the hazards associated with the type of scaffolding being used and to understand the procedures to control or minimize those hazards.

Scaffold Users/Occupants shall be trained in accordance with the manufacturer's specifications, the most current version of the CSA standard (CSA Z-797) and other provincially-recognized standards for the scaffolding in use.

The training shall include the following areas, as applicable:

- The nature of scaffolding hazards;
- The nature of any electrical hazards, fall hazards and falling object hazards in the work area;
- The correct procedures for dealing with electrical hazards and for erecting, maintaining, and disassembling the fall protection systems and falling object protection systems being used;
- Overview of the scaffolding tag program;
  - The proper use of the scaffolding, and the proper handling of materials on the scaffolding;
  - The maximum intended load and the load-carrying capacities of the scaffolding used;

Erectors

Each worker who is involved in erecting, disassembling, moving, operating, repairing, maintaining or inspecting a scaffolding (Erector) must be trained by a competent person to recognize any hazards associated with the work in question.

Scaffold Erectors shall be trained in accordance with the manufacturer's specifications, the most current version of the CSA standard (CSA-Z797) and other provincially-recognized standards for the scaffolding in use.

The training shall include the following topics, as applicable:

- The nature of scaffolding hazards;
- The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffolding in question; and
- The design criteria, maximum intended load-carrying capacity and intended use of the scaffolding.

7.0 ATTACHMENTS

OHS Form 000-000 Scaffolding Tags

REVISION SUMMARY		
DATE	**REVISION**	**SUMMARY**
28 May 2019	0	New program