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Technical Considerations GO AND GI PROJECTS

SECTION SP - SITE

TABLE OF CONTENTS

SP-6 TEMPORARY CONSTRUCTION & TEMPORARY SECURED CONSTRUCTION FENCES

SP-6 SITE – TEMPORARY CONSTRUCTION & TEMPORARY SECURED CONSTRUCTION FENCES

1. SCOPE

This section provides performance criteria and conforming specifications for all temporary construction fences associated with Minimum Institutions. This section also provides performance criteria and conforming specifications for two distinct options for Medium and Maximum Institutions. These options are:

- The **TEMPORARY CONSTRUCTION FENCE** having all its faces located inside the perimeter fences and out of the Buffer Zone (definition in SP-1: 6.1);

2. RELATED SECTIONS

2.1 *Technical Criteria Document sections:*

SP-1 - Site Development

SP-2 - Fences

SP-3 - Gates/Sallyports

SP-4 - Site Lighting

SP-5 - Traffic Circulation and Parking

2.2 *Other CSC document*

Statement of Technical Requirements – Temporary Construction Fences at Medium and Maximum Security Institutions, Correctional Service Canada, Technical Services Branch – Electronic Systems, Issue 3, April 8, 2011.

2.3 *National Master Specification section:*

01 35 13 – Security Requirements (prior to 2004: 01003 – Security Requirements)

01 56 26 – Temporary Fencing

01 56 36 – Temporary Security Enclosures

3. PERFORMANCE CRITERIA

3.1 *Temporary Construction Fence for Minimum Institution*

The fence for minimum institution is to act as a restricted casual access. The height of the fence must be 1200 mm high. The fence must be stable and self supporting. No other restrictions are imposed. The temporary construction fence shall be removed from the institution after construction is completed.

3.2 *Temporary Construction Fence for Medium & Maximum Institutions*

The temporary construction fence is used to enclose and delineate a construction zone within the institution. This fence must not come in contact with the perimeter fences. The fence shall not encroach into the 12-m restricted area inside the perimeter fence unless approved by Facilities Branch and Security. The temporary construction fence shall be removed from the institution after construction is completed.

3.3 *Temporary Secured Fence*

3.3.1 Temporary Security Fence encloses and isolates a construction zone within the institution. The fence is a single fence forming a polygon, preferably in the shape of a rectangle. The face of the polygon having the temporary opening uses the Inner Perimeter Fence as a construction zone delimiter. Therefore it intersects the Inner Perimeter Fence at two points. The Temporary Security

Construction Fence is a single fence of the same design as an Inner Perimeter Fence (see Plate SP-6-6) and adheres to the "Chapter SP-2 - Fences, Performance Criteria 4.1". However, anti-tunnelling measures are not required.

3.3.2 A Fence Detection System (FDS) is required and connected to the Main Communication Control Post (MCCP).

3.3.3 Cameras are required to monitor the fence line and connected to the MCCP.

3.3.4 A Temporary Vehicular Entrance is similar to a sallyport and comprises three (3) gates, namely (see Plate Sp-6-7, Detail 1):

a) Gate 1: Temporary gate in the Outer Perimeter Fence

b) Gate 2: Temporary gate in the Inner Perimeter Fence

c) Gate 3: Temporary gate in the Temporary Fence forming the Temporary Vehicular Entrance to the construction compound

At any time, at least two gates of the Temporary Vehicular Entrance (Construction Sallyport) are secured, with the keys under the control of the Corps of Commissionaires. The gate are operated one at the time or interlocked. The Commissionaires will provide access to and from the construction area according to the established procedures and only to authorized construction and consultant staff.

3.3.5 The Temporary Security Construction Fence must be cleared of any building by at least 12 m. When the temporary internal construction security fence/line must pass over and along buildings, or closer than 12 m of a building, a security detection system similar to the Senstar "Repel System ®" is required and must connect to the MCCP. Cameras are required to monitor the roof security detection line and must connect to the MCCP. No fence or concertina is required if the parapet of the building is 3600 mm or higher.

3.3.6 The Temporary Security Construction Fences shall be removed from the institution after the construction is completed. If the fence is not removed the FDS, cameras and concertinas must be removed.

4 CONFORMING SPECIFICATIONS

4.1 *Temporary Construction Fences for Minimum Institutions*

Other than the height requirement of 1200 mm (4') minimum, the fence can be any regular temporary fence for construction site. Rental construction fence or construction fence already own by the contractor can be used provided that they meet the 1200 mm (4') minimum requirement.

4.2 *Temporary Construction Fences for Medium & Maximum Institutions*

The fence for medium and maximum institutions is to restrict casual access and impede deliberate access to the construction site. The fence must be self supporting.

4.2.1 **Site preparation**

4.2.1.1 The fence will be in straight lines from corner post to corner post to allow adequate viewing by security staff.

4.2.1.2 Special attention must be paid to sloped sites to ensure gaps do not develop between the existing grade and the bottom of the fence. This "tight-fit" configuration under the fence has to be maintained throughout all the construction duration.

4.2.1.3 Anti-tunnelling measures are not required.

4.2.2 Fence dimension

The height of the fence should be a minimum of 2275 mm high (7'-6") with a minimum panel width of 1200 mm (4') to a maximum of 3000 mm (10'). The gap between the bottom of the fence and the existing grade will not exceed 125 mm. The mounting plate should be fastened to the ground to deter causal lifting and movement. Joints between the fence panels should not exceed 125 mm and should be clamped at every joint top and bottom. The fence should be supported by a buttress 90° to the main fence every 9.0 m (30'). The buttress shall consist of a 1200 mm (4') fence panel, two fence clamps, one mounting base plate and two retaining spikes.

4.2.3 Security panel specifications

4.2.3.1 Welded wire mesh wire which shall conform to the following specifications (see plate SP-6-3):

- a) Wire size: Minimum - 4.2 mm (6 gauge).
- b) Opening size: Maximum - width 50 mm and height 200 mm.
- c) Wire to be spot welded together at all wire joints.
- d) Wire to be spot welded to metal vertical and horizontal supports at every wire joint.
- e) Wire to be fabricated so that the vertical wire is spiked on the top and bottom (extend beyond the horizontal bars), also referred as "spiked security fence". Other "no climb" measure may be acceptable.
- f) Wire Breaking strength to be at least 10,000 N.
- g) The wire is preferably galvanized.

4.2.3.2 Horizontal and vertical steel tube supports which shall conform to the following specifications (See plate SP-6-3):

- a) Supports (horizontal/vertical): Minimum - 1.3 mm (16 gauge), 32 mm (1.25") Square Steel tube.
- b) All joints shall be welded.
- c) There will be a minimum of 2 horizontal and 2 vertical supports per panel.
- d) The wire is preferably galvanized.

4.2.4 Mounting base specifications (see plate SP-6-5)

4.2.4.1 The external dimensions of the steel plate shall be a minimum 10 mm (3/8") thick, 76 mm wide and 813 mm long.

4.2.4.2 Two 300 mm x 25 mm tubular steel posts are welded in parallel relation to each other approximately 200 mm from one end of the steel plate and 25 mm from the edge. This provides securing two panels on one base. During installation, the vertical support of the panel slides over the steel post on the base.

4.2.4.3 There shall be two 13 mm diameter holes, centered on the width approximately 25 mm from each end of the base plate. These holes must be dimensioned with enough tolerance to receive 12.5 mm diameter restraining spike.

4.2.4.4 The extension of the mounting base must project on the construction side of the fence.

4.2.4.5 The wire is preferably galvanized.

4.2.4.6 Concrete mounting bases are not acceptable.

4.2.5 Spikes specifications

4.2.5.1 The spike shall be a 12.5 mm diameter steel spike with a 50 mm head.

4.2.5.2 Spike length has to be determined by an engineer to prevent fence toppling and based on soil/rock condition.

4.2.5.3 The spike is preferably galvanized.

4.2.6 Fence clamps specifications (See plate SP-6-4)

4.2.6.1 The clamp consists of two plates with a carriage bolt and nut to tighten the plate together.

4.2.6.2 The steel clamp plate shall be 12.5 mm thick, 51 mm wide and 152 mm long.

4.2.6.3 There shall be one 13 mm diameter hole centered on each plate. This hole must be dimensioned with enough tolerance to receive a 12.5 mm diameter carriage bolt.

4.2.6.4 The clamp plate shall be bent to a 15° angle, 32 mm from each end of the plate.

4.2.6.5 The clamp is preferably galvanized.

4.2.7 Carriage clamp bolt specifications (See plate SP-6-4)

4.2.7.1 The carriage clamp bolt shall be 12.5 mm diameter and 75 mm long. The nut shall be a 12.5 mm carriage bolt nut.

4.2.7.2 The carriage clamp bolt are welded to one of the clamp plates so that the bolt can protrude through the other clamping plate and be tighten by the carriage nut. The Carriage nut must be on the construction side of the fence.

4.2.7.3 The bolt and nut are preferably galvanized.

4.2.8 Gates or doors specifications

4.2.8.1 The gates / doors consist of the typical fence panels as described above. The maximum width is 3000 mm.

4.2.8.2 The gates/doors are of the swing type. Sliding gates are not required.

4.2.8.3 The gates/doors must permit locking with chain and high security padlock. The padlocks are provided by the Institution. The gap between the fence and the gate/door or a double gate/door must not exceed 125 mm on both sides (lock side or swing side).

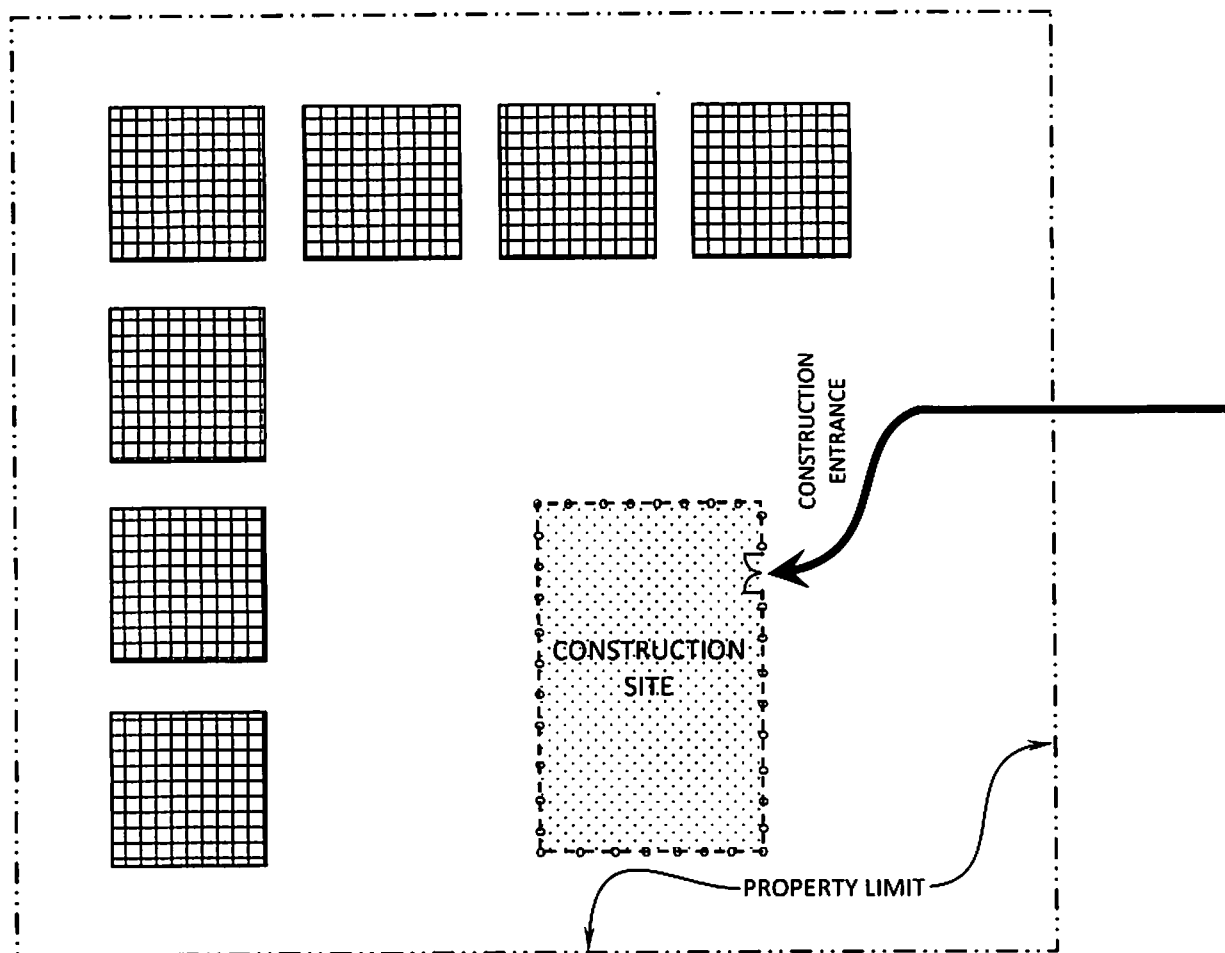


PLATE SP-6-1 – TEMPORARY CONSTRUCTION FENCES
FOR MINIMUM INSTITUTION

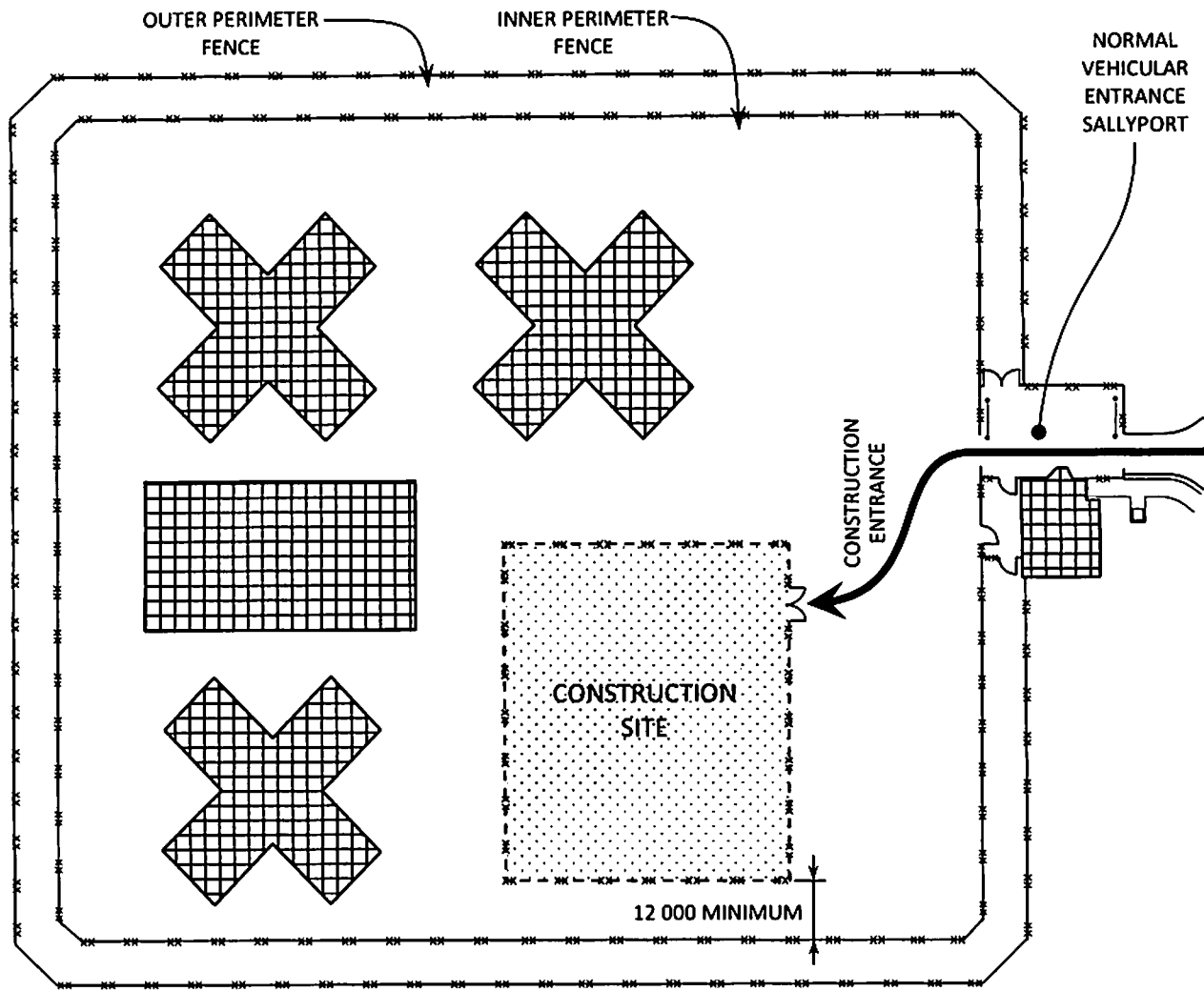
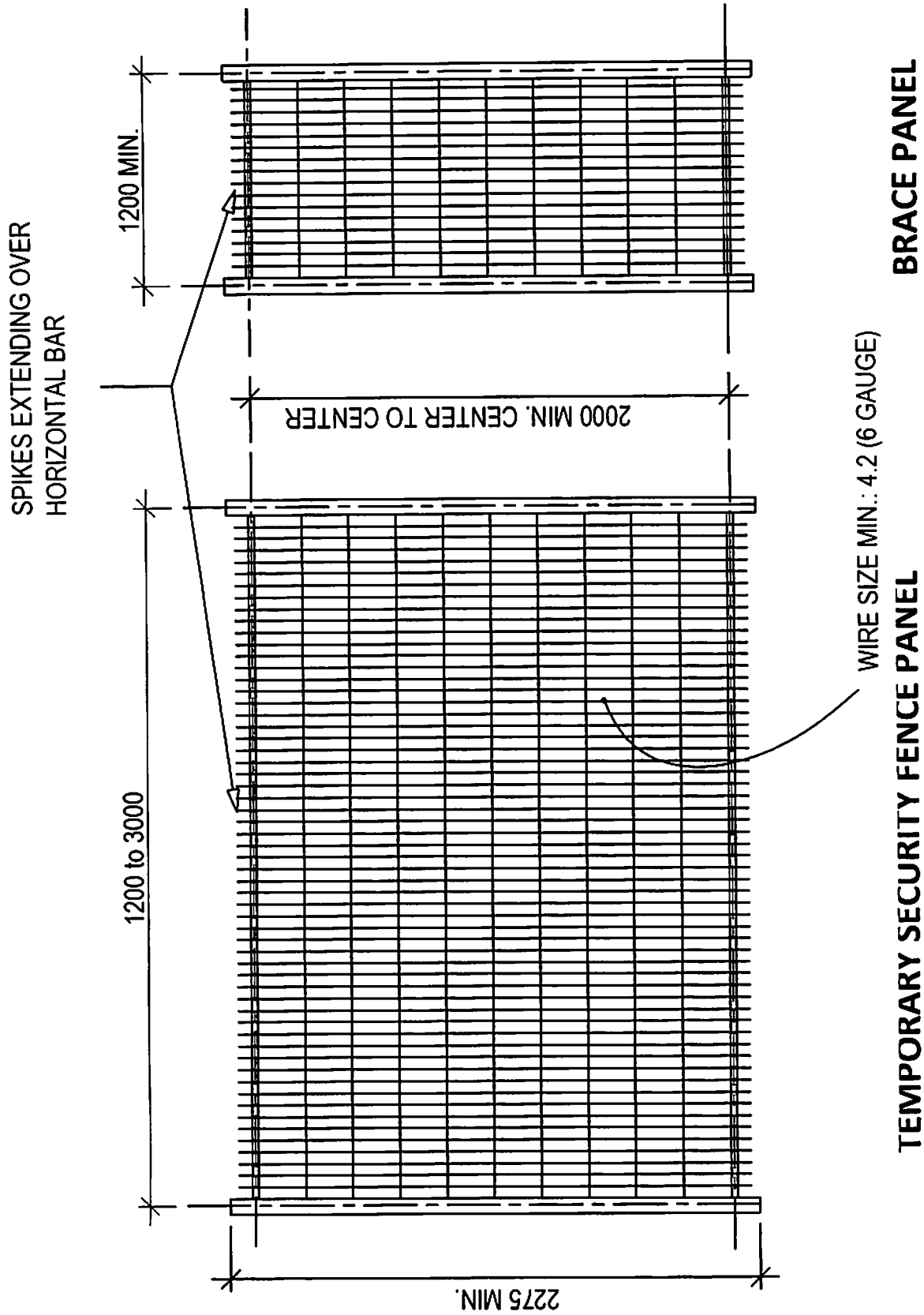


PLATE SP-6-2 – TEMPORARY CONSTRUCTION FENCES
FOR MEDIUM AND MAXIMUM INSTITUTIONS



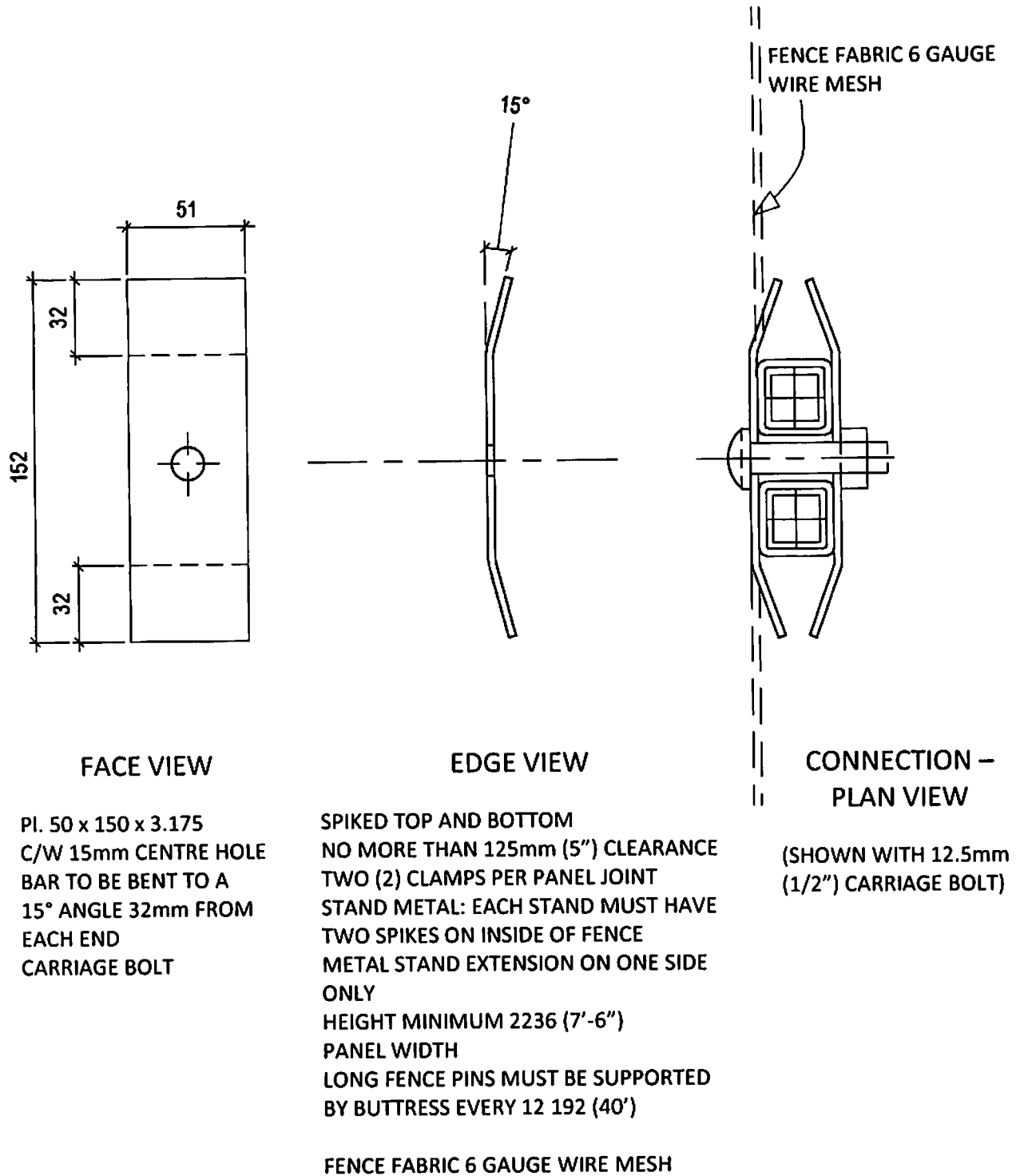
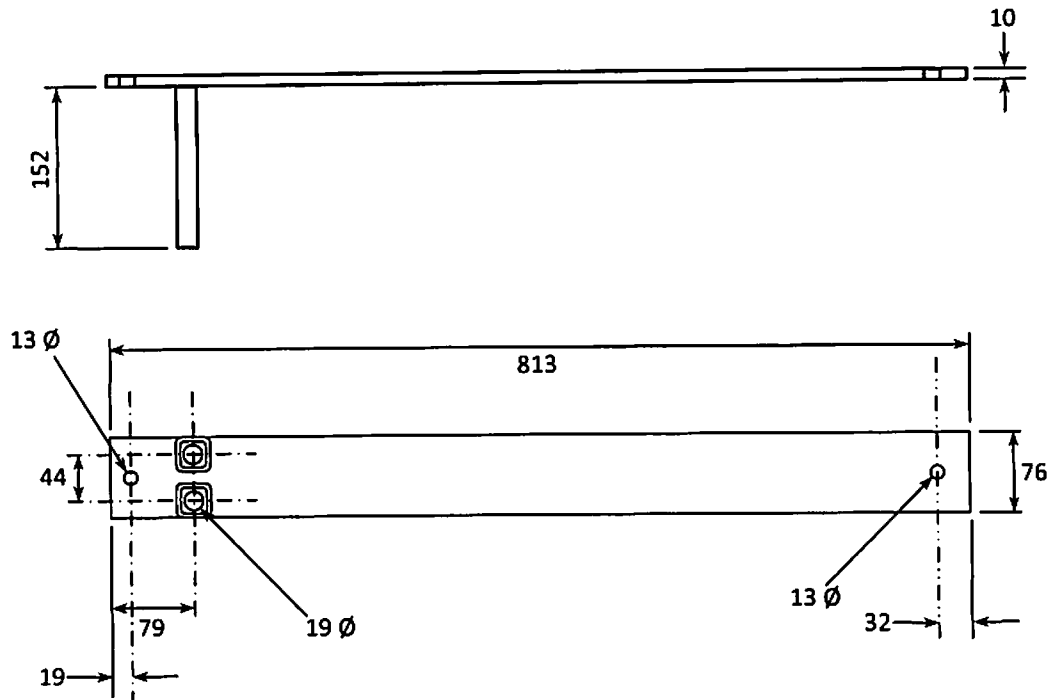
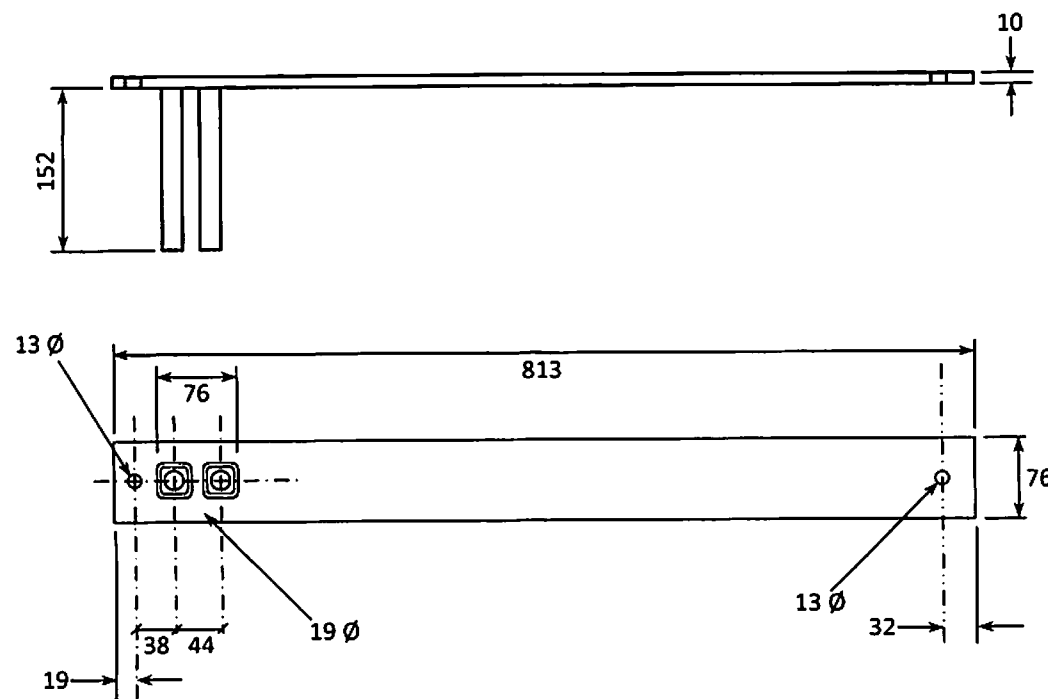


PLATE SP-6-4 – TEMPORARY FENCE DETAILS –
PLANEL CLAMP CONNECTION



WITH DOWELS AT RIGHT ANGLE



WITH IN LINE DOWELS

PLATE SP-6-5 – TEMPORARY CONSTRUCTION FENCE – BASE PLATE DETAILS