(54) **Title**  
Re-Useable Flood Shield (RUFS)

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(56) **Related Art**  
- US 6042301 A  
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- US 2015/0089888 A1
The disclosed Re-Useable Flood Shield (RUFS) has attached handles (3) for ease of movement, as well as integral male interrupted threads (2) that are located at the end of a reinforcement bracket (8), one located near each end of each Shield member (1), the male interrupted threads engage a female interrupted thread (12) affixed to the concrete footing (10) that also has a guiderail (9) that the Shield Base (6) engages and that also has attached the Main Rubber Seal (4) that ensures a watertight seal between the concrete footing (10) and the Shield member (1), whilst the Interlocking Rubber Seal (5) ensures a watertight seal between individual Shields (1), each Shield is also locked together by a Securing Clamp (13) that has a Securing Pin (14) at each end that engages with, and sits in the Recess (7) at either end of each Shield member (1), the Shields connecting to the wall/building (17) to be protected by flood shield attachment units (15) that are attached to the wall/building via a waterproof seal (16) and screws or bolts (25) with the attachment units being sealed into the concrete, the whole system, Shields and attachment units forming a continuous seal around the opening to be protected from flooding.
AUSTRALIA

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COMPLETE SPECIFICATION
INNOVATION PATENT

RE-USEABLE FLOOD SHIELD (RUFS)

The following statement is a full description of this invention, including the best method of performing, as we know it:
Re-Useable Flood Shield

In recent years, Australian cities and towns have been subjected to serious flooding that has caused millions of dollars’ worth of damage. This has then meant huge insurance payouts to repair the damage to the homes and businesses in each town affected. This innovation invention utilises previous innovation invention to quickly and effectively bolt down and secure steel shields that will act as a barrier to the flood waters and prevent properties being damaged by the flood waters.

This Innovation Invention uses multiple interrupted threads to secure parts that need to be quickly secured to, and released from, a base.

This Innovation Invention utilises steel (or another appropriate material) shield that is bolted to a wall or building via an attachment unit at each end that is permanently affixed to the wall/building via bolts or screws and includes a waterproof seal and is secured into a concrete footing that houses female interrupted threads as well as a guide that the shield units are positioned on and sealed using rubber seals that will prevent water from entering into houses and/or businesses that are subject to damage from rising water caused by flooding.

The RUFS is a system of interlocking waterproof shields that has its ends firmly anchored and sealed (to the wall or building that it is protecting from flooding) and several shield units that complete the waterproof shield wall. The shield units sit upon a guiderail that is encased in a concrete footing. The guiderail and the shield units makes a waterproof seal between the shields and the concrete footing via a guiderail and rubber seals. Each shield unit is secured to the next shield unit via an inverted U-shaped plate with two pins that sits over each end of the two adjoining units and with the pins fitting into a recess in each end of the adjoining units.

Each RUFS shield unit (RUFS) will have optimum dimensions, height of 1.5 m, length of up to 3m, such that it can be manhandled by two people, with the aid of two (or more) handles. The RUFS will have two brackets at right angles to the face of the RUFS that terminate with a male interrupted thread that will be bolted into the female interrupted threads affixed into the concrete pad at appropriate intervals. The RUFS will have a base with a recess that has a rubber seal affixed into the recess as well as a permanently affixed “H cross sectional” rubber seal to one side. The RUFS will fit over a guiderail that is affixed to the concrete and creates a waterproof seal via the guiderail and the “H Section” Rubber Seal, giving it watertight integrity over the full length and height of the shield. The RUFS will have a recess at each end that will accommodate a clamp that will secure one Unit to another.

A RUFS System will need to be attached to a wall/building that it is aiming to protect. This is done via a RUFS attachment unit that is affixed to the wall/building with securing bolts or screws and a waterproof seal that ensures waterproof integrity. The attachment unit is also embedded into the concrete footing providing further waterproof integrity. The RUFS attachment unit is angled such that it provides a firm base that is secured to the wall/building whilst allowing for the attachment of a RUFS to continue the construction of the shield.

The RUFS Base
The RUFS will be seated upon concrete footing of an appropriate depth and width (to suit the ground conditions) providing a firm footing that houses the female interrupted threads as well as a guiderail that the Shield Units will engage to provide the waterproof seal.

Operation
People, such as State Emergency Service personnel, can get the RUFS out of storage, and quickly insert the initial RUFS into the attachment unit with each RUFS’ male interrupted thread being
located into the female interrupted thread and quickly secure the RUFS to the concrete footing. Another RUFS will then be slipped into the “H Cross-Section” rubber seal, and inserted into the female interrupted threads and secured. This process continuing until the full shield is installed. Where the shield needs to go around an object or turn a corner, the securing clamp will be made in the shape of a right other appropriate angle as will the guiderail.

The RUFS can be used to protect a shopping or business precinct with one end being anchored to a higher piece of ground, or, if necessary, can fully encircle the precinct, or can be used to cordon off two ends of a street. A RUFS can be used to encircle a dwelling, or, can be anchored in a higher piece of ground, such as a hill or rise and continue around the dwelling ending in higher ground.
The following Figures are included to give a better understanding of the invention.

Figure 1 shows a plan, profile and sectional view of the Re-Useable Flood Shield Unit.

Figure 2 shows a sectional view of RUFS Located on the Concrete Footings.

Figure 3 shows a plan and sectional view of Re-Useable Flood Shield Footings.

Figure 4 shows the plan and profile of Securing Clamp.

Figure 5 shows the Flood Shield Attachment Units.

Figure 6 shows details of the interrupted thread operation.

The following key applies to the numbered items in all figures:
1. Re-Useable Flood Shield
2. Male Interrupted thread
3. Handles
4. Main Rubber Seal
5. Interlocking Rubber Seal
5a. Cross-Section of Interlocking Rubber Seal
6. Re-Useable Flood Shield Base
7. Recesses for Securing Clamp
8. Reinforcing Bracket
9. Steel Guide Rail
10. Concrete Footing
11. Ground Level
12. Female Interrupted Thread
13. Securing Clamp
14. Securing Pin
15. Flood Shield Attaching Units
16. Attaching Point Seal
17. Wall/Building
18. Female Interrupted Thread
19. Male Interrupted Thread
20. Locking Arm
21. Locking Arm Extension
22. Male Interrupted Thread Locking Bolt
23. Male Interrupted Thread Shaft
24. Recess in Reinforcing Bracket for Operating the Locking Arm
25. Securing Bolts or screws
The claims defining the invention are as follows:

1. A Re-useable Flood Shield, in accordance with this invention, utilises a shield that incorporates handles for ease of movement, male interrupted threads that are integral to the flood shield unit and are positioned at the end of a reinforcing bracket located near each end of the shield, that aligns and is inserted into female interrupted threads affixed into a concrete footing with each shield having affixed to one side a rubber seal that ensures that when a flood shield unit is affixed to another, the two shields are fully waterproof, and also having a securing clamp locking the shields together, the whole collection of shields sitting on concrete footing that has a guiderail that assists in the engagement of the locking interrupted threads that secure the flood shield in place and provides a waterproof seal between the flood shield unit and the concrete footing.

2. The re-useable flood shield of claim 1 comprising flood shield attaching units of the same height and material as the Flood Shield units, one at each end of the shield system that are angled truncated shields that incorporate a waterproof seal between it and the wall/building and are permanently affixed to the wall/building and to the concrete footings via a waterproof seal.

WESTEN INNOVATIONS
Gerard Marinus Anthony Westenberg 29/09/2016
Figure 1

1.5 - 2m in height

Up to 3m in length

Section at A-A

Section at B-B
Figure 3

Plan View

Sectional View