awma

Water Control Solutions

PRODUCT FLYERS

PENSTOCKS | STOPBOARDS | BULKHEADS | FLOODGATES | SCREENS

www.awmawatercontrol.com.au

CONTENTS

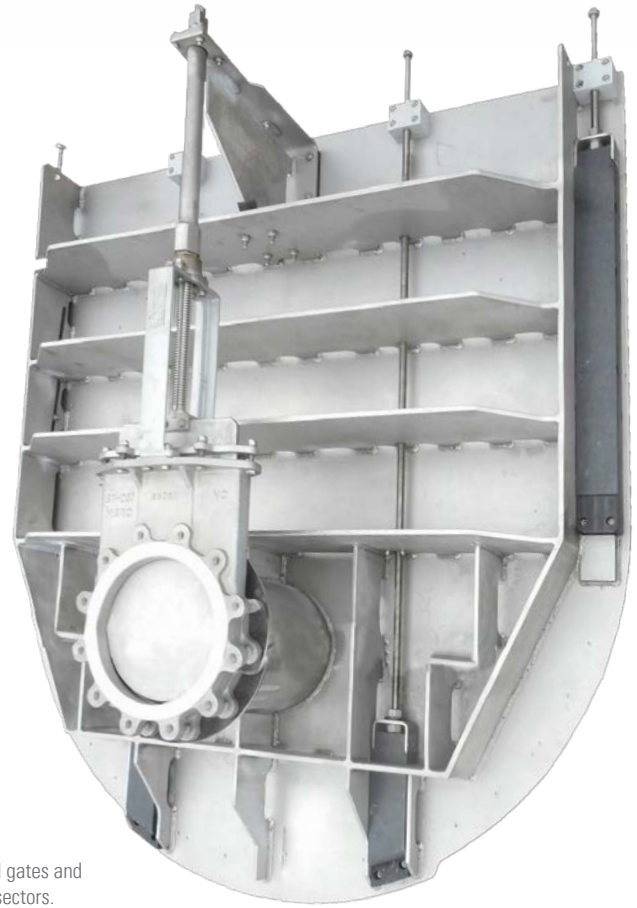
awma Water Control Solutions

Certified System Quality ISO 9001 SAI GLOBAL

HEAD OFFICE
Phone +61 3 5456 3331 Email info@awmawatercontrol.com.au
118 Roviras Road, PO Box 433, Cohuna Victoria 3568, Australia.
www.awmawatercontrol.com.au

SPECIALISED WATER CONTROL GATES

AWMA specialise in engineering one-off products for site specific water, effluent and odour control.



FEATURES

- Extremely high head pressure (proven up to 100 tonne)
- Full perimeter sealing
- Materials to withstand aggresive environments
- Diverse size orfices
- Accommodating short shut-down periods
- Unique retrofit site requirements
- Highly specified conditions
- Where no civil works are allowed
- Submerged installations
- Integration into fully automated processes
- Containment of dry, solid or gaseous mediums
- Chemical containment
- Underground (tunnelling or mining) applications
- Low impact designs to minimise injury to ecological assets
- Infrastructure with 100 year life expectancy
- Low whole of life costs

APPLICATIONS

- AWMA develop, design, manufacture and install specialised control gates and associated automation systems for applications across all industry sectors.

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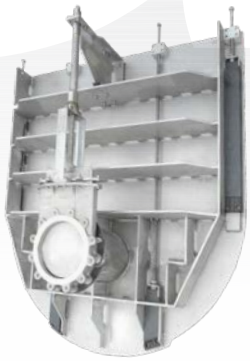

SPECIALISED WATER CONTROL GATES

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- All of AWMA's Water Control Systems are custom sized to ensure they meet specific site requirements.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- Materials used in the construction of AWMA's specialised gate range have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- The seal performance of AWMA Water Control Gates exceed that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- AWMA's gates typically have a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.

MANUFACTURE

QUALITY

- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All procedures are in accordance with AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation post approved installation.

INSTALLATION

MOUNTING OPTIONS

- Gate products are developed to meet specifications.
- Early project involvement ensures development of the most appropriate gate product and specifications for the application.

ACTUATION SYSTEMS

- AWMA offer numerous options for operation including manual, mechanical, automated, hydraulic, pneumatic, powered or electrically actuated systems.
- Staged upgrade programs are also available.

OPERATION SYSTEMS

- A range of options are available for control and operation of specialised gate systems:
  - Integration into new or existing SCADA systems optional.
  - Global, web based operating platforms for remote control and monitoring.
  - Solar, mains, pneumatic or hydraulically powered.
  - Variety of lifting mechanisms available, including AWMA's self-engaging lifting frame.
- Storage and transportation solutions available.
- Associated systems include warning lights, water level indicators, automated message systems, reflective signage, video feeds and battery backups.

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA flood defence systems.
- Comprehensive on and/or off site training available.

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ULF PENSTOCKS

AWMA's ULF Penstock range consists of undershot regulating penstocks for flow regulation, diversion, level control or isolation. The ULF Penstocks are also known as Sluice Gates, Slide Gates, Sluice Valves, Stop Gates or Water Gates.

FEATURES

- Resilient seals on three sides of the aperture (for full perimeter sealing see the TLF Penstock and WLF Penstock).
- Bi-directional sealing available.
- Both rising and non-rising spindle configurations available.
- Custom designed and fabricated to suit any size or shaped orifice.

APPLICATIONS

- The ULF Penstock range is commonly used for many applications across all industry sectors.
- Undershot isolation and regulation.
- Undershot regulation of open channel flow.

ULF PENSTOCKS

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Materials used for penstock door and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Materials used in the construction of the ULF Penstock range have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- The sealing ability of this gate exceeds that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- The ULF Penstock range has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site.

MANUFACTURE

QUALITY

- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All stainless steel welding is continuous to avoid crevice corrosion.
- All procedures are in accordance with AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation post approved installation.

INSTALLATION

MOUNTING OPTIONS

- The ULF Penstocks are typically wall mounted.
- The side frames can be face mounted or embedded.
- The sill is available in a raised or flat sill configuration.
- Mount to concrete headwalls, in a channel or within channel rebates.

ACTUATION SYSTEMS

- Choose from
  - Rising Spindle or
  - Non-Rising Spindle
- Handwheel, electric, hydraulic or pneumatic actuator.
- Portable 12VDC actuator and 240VAC actuator available.
- Accepts portable petrol power actuator system.

OPERATION SYSTEMS

- Integration into new or existing SCADA systems optional.
- Global, web based operating platforms for remote control and monitoring.

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

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TLF PENSTOCKS

AWMA's TLF Penstock range consists of an undershot gate with a full perimeter seal, providing flow isolation for fully submerged on or off seating applications.

FEATURES

- Resilient seals around all four sides of the aperture.
- Excellent sealing for med-high head applications.
- Bi-directional sealing optional.
- Both rising and non-rising spindle configurations available.
- Custom designed and fabricated to suit any size or shaped orifice.

APPLICATIONS

- Full perimeter seal provides excellent sealing performance for applications across all industry sectors.
- Isolation of pipe openings and orifices over 300mm in diameter.

TLF PENSTOCKS

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Materials used for penstock door and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Materials used in the construction of the TLF Penstock range have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- The sealing ability of this gate exceeds that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- The TLF Penstock range has a minimum 25year design life.
- Minimal maintenance is required offering low "whole of life costs".
- If required, all the wearing components can be changed, with ease, on site.

MANUFACTURE

QUALITY

- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All stainless steel welding is continuous to avoid crevice corrosion.
- All procedures are in accordance with AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation post approved installation.

INSTALLATION

MOUNTING OPTIONS

- Ideal for pit and headwall installations
- The TLF Penstocks are typically wall mounted.

ACTUATION SYSTEMS

- Choose from
  - Rising Spindle,
  - Non-Rising Spindle or
  - AWMA's Rising/Non-Rising Spindle Arrangement

OPERATION SYSTEMS

- Integration into new or existing SCADA systems optional.
- Global, web based operating platforms for remote control and monitoring.

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

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DLF PENSTOCKS

AWMA's DLF Penstock range consists of downwards opening, decant weirs.

FEATURES

- Accurate overshot flow and upstream pool level control.
- The unique design keeps spindles out of the open water way to eliminate obstruction and maintenance issues.
- Bi-directional sealing optional.
- Single and dual spindle configurations available.
- Both rising and non-rising spindle configurations available.
- Custom designed and fabricated to suit any size or shaped orifice.

APPLICATIONS

- The DLF Penstock range is utilised for applications across all industry sectors.
- Isolation and flow regulation.
- Small to medium decanting applications.

DLF PENSTOCKS

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.

* Materials used for penstock door and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.

- Materials used in the construction of the DLF Penstock range have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- The sealing ability of this gate exceeds that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- The DLF Penstock range has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site.

MANUFACTURE

QUALITY

- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All stainless steel welding is continuous to avoid crevice corrosion.
- All procedures are in accordance with AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation post approved installation.

INSTALLATION

MOUNTING OPTIONS

- The DLF Penstocks are typically wall mounted.

ACTUATION SYSTEMS

- Choose from
  - Rising Spindle,
  - Non-Rising Spindle or
- Handwheel, electric, hydraulic or pneumatic actuator.
- Portable actuation systems available.

OPERATION SYSTEMS

- Integration into new or existing SCADA systems optional.
- Global, web based operating platforms for remote control and monitoring.

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

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DECANT GATES

AWMA's Decant Gate is a high frequency modulating gate for decanting applications, featuring a specialised cable drive mechanism.

FEATURES

- Specialised AWMA positive drive cables mitigate risks associated with component wear in high frequency, modulating gate systems.
- Designed to extend the design life of decanting infrastructure.
- Designed in partnership with key stakeholders.
- Minimal risk of mechanical failure, common in equipment with high frequency duty cycles.

APPLICATIONS

- Medium to large decanting water and waste water applications.

DECANT GATES

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operationalrequirements.
- Customisation reduces installation and civil costs.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- Constructed from marine grade aluminium or stainless steel.
- Components designed for long term immersion in corrosive environments.
- Materials used in the construction of the DLF Penstock range have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- The sealing ability of this gate exceeds that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- The Decant Gate has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site.

MANUFACTURE

QUALITY

- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All stainless steel welding is continuous to avoid crevice corrosion.
- All procedures are in accordance with AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation post approved installation."

INSTALLATION

MOUNTING OPTIONS

- Decant Gates are typically mounted to a concrete headwall.

ACTUATION SYSTEMS

- Handwheel, electric, hydraulic or pneumatic actuator.
- Portable actuation systems available.

OPERATION SYSTEMS

- Integration into new or existing SCADA systems optional.
- Global, web based operating platforms for remote control and monitoring.

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

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WLF PENSTOCKS

AWMA's WLF Penstock range consists of a sluice type top sealing penstock featuring a wedge lock seal, designed for high head applications.

FEATURES

- Resilient seals around all four sides of the aperture.
- A unique design applies a positive seal pressure as the gate fully closes providing excellent sealing under high head pressures.
- Bi-directional sealing optional.
- Single and dual spindle configurations available.
- Both rising and non-rising spindle configurations available.
- Custom designed and fabricated to suit any size or shaped orifice.

APPLICATIONS

- Full perimeter sealing accommodates high head pressures for excellent sealing performance across all applications.
- Isolation of flow under high head applications.
- Suitable in corrosive environments.

WLF PENSTOCKS

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Materials used for penstock door and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Alternative material options are available to suit the application and/or environment specific requirements.
- Materials used in the construction of the WLF Penstock range have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- The sealing ability of this gate exceeds that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- The WLF Penstock range has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site. The WLF Penstock has specifically been designed with the seals mounted on the gate leaf, rather than the frame, for ease of maintenance.

MANUFACTURE

QUALITY

- All fabrication is in accordance with the 'Australian Technical Specificationfor Fabricated Water Control Infrastructure'.
- All stainless steel welding is continuous to avoid crevice corrosion.
- All procedures are in accordance with AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation post approved installation.

INSTALLATION

MOUNTING OPTIONS

- Typically wall mounted.
- The WLF Penstocks are ideal for pit installations.

ACTUATION SYSTEMS

- Choose from
  - Rising Spindle,
  - Non-Rising Spindle or
  - AWMA's Rising/Non-Rising Spindle Arrangement
- Handwheel, electric, hydraulic or pneumatic actuator.
- Portable actuation systems available.

OPERATION SYSTEMS

- Integration into new or existing SCADA systems optional.
- Global, web based operating platforms for remote control and monitoring.

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

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STOPLOGS

AWMA's Stoplog range consists of fabricated modular segments of any size, joined to effectively isolate flows for maintenance, re-direction or containment.

FEATURES

- Stoplogs are typically designed for installation and removal under equalised head conditions (no flow). AWMA design options include equalisation valves and roller guides to allow the Stoplogs to be operated under flow conditions.
- Custom designed and fabricated to suit any size or shaped orifice.
- Uni-direction sealing as standard with bi-directional models available on request.
- Insertion and removal of boards via AWMA's self engaging Lifting Frame.
- Storage solutions available.

APPLICATIONS

- The Stoplog range is utilised for applications across all industry sectors.
- Isolation of open channel flow for maintenance purposes.

STOPLOGS

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Materials used for penstock door and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Alternative material options are available to suit the application and/or environment specific requirements.
- Materials used in the construction of the Stoplog range have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- The sealing ability of this gate exceeds that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- The Stoplog range has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site.

MANUFACTURE

QUALITY

- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All stainless steel welding is continuous to avoid crevice corrosion.
- All procedures are in accordance with AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation post approved installation.

INSTALLATION

MOUNTING OPTIONS

- The Stoplog range is typically wall mounted.
- The side frames can be face mounted or embedded.
- The sill is available in a raised or flat sill configuration.

ACTUATION SYSTEMS

- Mechanical lifting devices available.

OPERATION SYSTEMS

- Insertion and removal of boards via AWMA's self engaging Lifting Frame.

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

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BULKHEADS & ROLLER GATES

AWMA's range of Bulkheads and Roller Gates significantly reduce friction associated issues of in-flow insertion and containment for high head isolation applications.

FEATURES

- AWMA design options include equalisation valves and roller guides to allow Bulkhead Gates to be operated under flow conditions.
- Top seals are available for submerged apertures.
- Designed to withstand up to 30m head pressure.
- Uni-directional sealing as standard with bi-directional models available on request.
- Customised to withstand high head pressures.
- Variety of lifting mechanisms optional.
- Storage solutions available.

APPLICATIONS

- The Bulkhead Gate range is utilised for applications across all industry sectors.
- Isolation of open channel flow for maintenance purposes.
- Emergency isolation points.

BULKHEAD GATES

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Materials used for penstock door and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Alternative material options are available to suit the application and/or environment specific requirements.
- Materials used in the construction of the Bulkhead range have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- The sealing ability of this gate exceeds that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- The Bulkhead range has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site.

MANUFACTURE

QUALITY

- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All stainless steel welding is continuous to avoid crevice corrosion.
- All procedures are in accordance with AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation post approved installation.

INSTALLATION

MOUNTING OPTIONS

- The Bulkhead frames are designed for wall, channel or embedded side frame mounting.
- The sill is available in a raised or flat sill configuration.

ACTUATION SYSTEMS

- Mechanical lifting devices available.

OPERATION SYSTEMS

- Variety of lifting mechanisms available, including AWMA's self-engaging lifting frame.

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

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ROUND BOTTOM BULKHEADS

AWMA's Round Bottom Bulkheads are custom engineered for isolating benched profiles, incorporating integral equalisation valves, specialising in high head applications.

FEATURES

- AWMA design options include equalisation valves and roller guides to allow Bulkhead Gates to be operated under flow conditions.
- Top seals are available for submerged apertures.
- Designed to withstand up to 30m head pressure.
- Uni-directional sealing as standard with bi-directional models available on request.
- Customised to withstand high head pressures.
- Variety of lifting mechanisms optional.
- Storage solutions available.

APPLICATIONS

- The Bulkhead Gate range is utilised for applications across all industry sectors.
- Isolation of open channel flow for maintenance purposes.
- Emergency isolation points.

ROUND BOTTOM BULKHEADS

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Materials used for penstock door and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Alternative material options are available to suit the application and/or environment specific requirements.
- Materials used in the construction of the Bulkhead range have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- The sealing ability of this gate exceeds that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- The Bulkhead range has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site.

MANUFACTURE

QUALITY

- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All stainless steel welding is continuous to avoid crevice corrosion.
- All procedures are in accordance with AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation post approved installation.

INSTALLATION

MOUNTING OPTIONS

- The Bulkhead frames are designed for wall, channel or embedded side frame mounting.
- The sill is available in a raised or flat sill configuration.

ACTUATION SYSTEMS

- Mechanical lifting devices available.

OPERATION SYSTEMS

- Variety of lifting mechanisms available, including AWMA's self-engaging lifting frame.

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

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SEGMENTED STOPBOARDS

AWMA's Segmented Stopboard range consists of fabricated modular segments of any size, joined to effectively isolate flows for regulation, re-direction or containment.

FEATURES

- Modular segments are fabricated to suit project requirements.
- Designed to suit square and rectangular openings up to 6m wide.
- Allows overshot level regulation as well as flow isolation.
- Consists of dedicated extruded section with embedded seals.
- Uni-directional as standard. Bi-directional sealing designs available upon request.
- Storage solutions available.

APPLICATIONS

- The Segmented Stopboard range is utilised for applications across all industry sectors.
- Isolation of open channel flow for maintenance purposes.
- Isolation and regulation of open channel flow.
- Regulation of environmental flows.

SEGMENTED STOPBOARDS

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- Mostly constructed from marine grade aluminium.
- Materials used in the construction of the Segmented Stopboard range have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- The sealing ability of this gate exceeds that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- The Segmented Stopboard range has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site.

MANUFACTURE

QUALITY

- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All procedures are in accordance with AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation post approved installation.

INSTALLATION

MOUNTING OPTIONS

- The Stopboard frames are designed for wall, channel or embedded side frame mounting.
- The sill is available for use on either a flat or raised sill.

ACTUATION SYSTEMS

- Mechanical lifting devices available.

OPERATION SYSTEMS

- Insertion and removal of boards via the AWMA manual Lifting Ladder.

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

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LAYFLAT GATES

AWMA's LayFlat (Tilting Weir) Gate range incorporates downwards opening tilt gates for accurate regulation and isolation of flows.

FEATURES

- The design includes a gate leaf that is hinged across the bottom and actuated via a cable hoist mechanism.
- Single bay and multi-bay designs available.
- The LayFlat Gate range has a dedicated volumetric flow algorithm available that has been independently certified to guarantee an accuracy better than ± 5%.
- The modular design allows for the actuation system to be self contained or separately mounted.
- Accurate overshot flow and level control.
- Integrated emergency bulkhead guides.
- Suits structure openings of all sizes and are custom sized to suit their required application.

APPLICATIONS

- The LayFlat Gate range is utilised for applications across all industry sectors.
- To date, AWMA has manufactured Australia's largest tilting LayFlat Gates with five LayFlats 4mx4m in size, required to regulate environmental flows.
- Proven to accurately regulate irrigation, environmental and storm water flows.
- Fish-friendly, suitable for environmental applications.

LAYFLAT GATES

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Materials used for penstock door and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Alternative material options are available to suit the application and/or environment specific requirements.
- Materials used in the construction of the Bulkhead range have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- The sealing ability of this gate exceeds that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- The LayFlat range has a minimum 25 year design life.
- Minimal maintenance is required offering low "whole of life costs".
- If required, all the wearing components can be changed, with ease, on site.

MANUFACTURE

QUALITY

- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All stainless steel welding is continuous to avoid crevice corrosion.
- All procedures are in accordance with AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation post approved installation.

INSTALLATION

MOUNTING OPTIONS

- The LayFlat Gates can be mounted to the upstream or downstream side of new or existing structures to maintain 100% of the original open waterway.
- Alternatively they can be mounted inside the structures.
- Options include:
  - Upstream slab mount; self contained actuation
  - In structure mount; separately mounted actuation
  - In structure mount; separately mounted raised actuation.

ACTUATION SYSTEMS

- Handwheel, electric, hydraulic or pneumatic actuator.
- Portable actuation systems available.

OPERATION SYSTEMS

- Integration into new or existing SCADA systems optional.
- Global, web based operating platforms for remote control and monitoring.

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

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SIDEWINDERS

AWMA's SideWinder is a horizontal opening slide gate.

FEATURES

- Resilient seals along the bottom, sides and when required across the top of the aperture.
- Uni-directional as standard. Bi-directional sealing designs available upon request.
- Custom designed and fabricated to suit any size or shaped orifice.

APPLICATIONS

- The SideWinder range is typically used in vertical slot, fish way applications.
- Suits any application where vertical travel of the gate leaf is restricted.

SIDEWINDERS

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Materials used for penstock door and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Materials used in the construction of the SideWinder gate range have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- The sealing ability of this gate exceeds that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- The Sidewinder range has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site.

MANUFACTURE

QUALITY

- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All stainless steel welding is continuous to avoid crevice corrosion.
- All procedures are in accordance with AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation post approved installation.

INSTALLATION

MOUNTING OPTIONS

- SideWinders are typically wall mounted.

ACTUATION SYSTEMS

- Handwheel, electric, hydraulic or pneumatic actuator.
- Portable actuation systems available.

OPERATION SYSTEMS

- Integration into new or existing SCADA systems optional.
- Global, web based operating platforms for remote control and monitoring.

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

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HEAD & DISCHARGE GATES

AWMA's Head & Discharge Gate range is a dual leaf gate design consisting of overshot and undershot gates in the one frame.

FEATURES

- Regulate flows and water levels with the upper gate leaf.
- Set flow rate or fully drain the upstream pool with the lower gate leaf.
- Lift both gates leaves completely out of the water way to allow for unobstructed flow.
- Suitable for single and multi-bay sites.
- Uni-directional sealing as standard.
- Both rising and non-rising spindle configurations available.
- Accurate overshot and undershot flow and level control.
- Custom designed and fabricated to suit any size or shaped orifice.

APPLICATIONS

- The Head & Discharge Gate range is utilised for applications across all industry sectors.
- Most commly used for regulating and draining open channel systems.

HEAD & DISCHARGE GATES

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Materials used for gates and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Materials used in the construction of the Combination Gate range have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- The sealing ability of this gate exceeds that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- The Head & Discharge Gate has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site.

MANUFACTURE

QUALITY

- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All procedures are in accordance with AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation post approved installation.

INSTALLATION

MOUNTING OPTIONS

- Head & Discharge Gates are typically wall mounted.
- The side frames can be face mounted or embedded.
- The sill is available in a raised or flat sill configuration.

ACTUATION SYSTEMS

- Handwheel, electric, hydraulic or pneumatic actuator.
- Portable actuation systems available.

OPERATION SYSTEMS

- Integration into new or existing SCADA systems optional.
- Global, web based operating platforms for remote control and monitoring.

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

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COMBINATION GATES

AWMA's Combination Gate range is a dual leaf or multiple leaf gate design consisting of overshot and undershot gates in the one frame.

FEATURES

- Mulit-Leaf Gates allow many options for overshot and undershot flow regulation and control, within a single gate structure.
- Custom designed to meet flow regulation, operation and site requirements.
- Suitable for single and multi-bay sites.
- Uni-directional sealing as standard.
- Both rising and non-rising spindle configurations available.
- Accurate overshot and undershot flow and level control.
- Custom designed and fabricated to suit any size or shaped orifice.

APPLICATIONS

- The Combination Gate range is utilised for applications across all industry sectors.
- Multiple regulation and isolation options for medium-large applications.

COMBINATION GATES

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Materials used for gates and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Materials used in the construction of the Combination Gate range have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- The sealing ability of this gate exceeds that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- The Combination Gate has a minimum 25 year design life.
- Minimal maintenance is required offering low 'whole of life costs'.
- If required, all the wearing components can be changed, with ease, on site.

MANUFACTURE

QUALITY

- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All procedures are in accordance with AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation post approved installation.

INSTALLATION

MOUNTING OPTIONS

- Combination Gates are typically wall mounted.
- The side frames can be face mounted or embedded.
- The sill is available in a raised or flat sill configuration.

ACTUATION SYSTEMS

- Handwheel, electric, hydraulic or pneumatic actuator.
- Portable actuation systems available.

OPERATION SYSTEMS

- Integration into new or existing SCADA systems optional.
- Global, web based operating platforms for remote control and monitoring.

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
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FLAP GATES

The AWMA Flap Gate is a one way/ non-return flap gate designed to prevent backflow.

FEATURES

- Automatically isolates stormwater pipes from tidal and flood events.
- Effective backflow prevention device.
- Double pivot arms as standard, for consistent sealing.
- Low head loss.
- Full perimeter sealing.
- Suitable for up to 10m head pressure.
- Custom designed and fabricated to suit any size or shaped orifice.
- Requires minimal civil works to install.
- Gate sits on a 3degree angle to ensure reliable sealing.

APPLICATIONS

- The Flap Gate range is used for many applications across all industry sectors.
- Primarily used as a backflow prevention device on pipes and pits.
- Commonly used for tidal and flood mitigation as well as stormwater management.
- Flap gates can be incorporated into the body of a penstock as a failsafe measure.

FLAP GATES

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for penstock door guides and/or wedges to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals. These materials offer superior endurance in wastewater and freshwater applications.
- Materials used for penstock door and frames include marine grade aluminium and grades 304, 316, 2205 and 2507 stainless steel.
- Suitable for corrosive tidal environments.
- Materials used in the construction of the Flap Gate range have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- The Flaps are on a 3 degree angle to ensure sealing under low head differential.
- The sealing ability of this gate exceeds that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- The Flap Gate range has a minimum 25year design life.
- Minimal maintenance is required offering low "whole of life" costs.
- If required, the seal can be changed with ease, on site.

MANUFACTURE

QUALITY

- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All stainless steel welding is continuous to avoid crevice corrosion.
- All procedures are in accordance with AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation post approved installation.

INSTALLATION

MOUNTING OPTIONS

- Flap Gates are typically mounted to a culvert headwall or pipe.

ACTUATION SYSTEMS

- Self actuating device.

OPERATION SYSTEMS

- Gravity and head pressure automatically operate gate for one-way flow only.
- Lifting lugs or cable winch optional to raise the gate in emergency situations or to facilitate maintenance.

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

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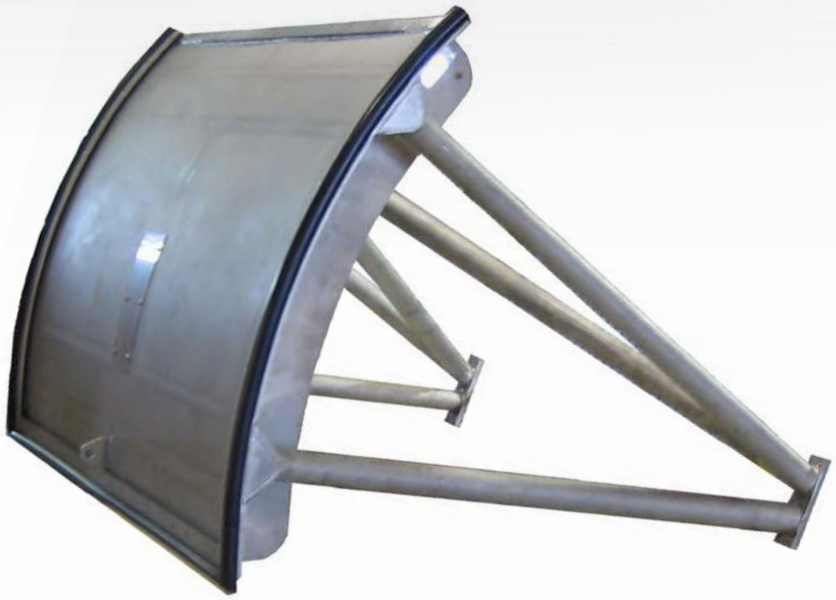
RADIAL GATES



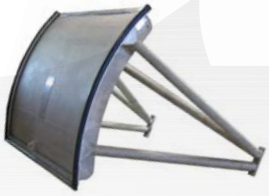
AWMA's Radial (Tainter) Gate is a rounded water control gate with long radial arms, usually fully automated.

FEATURES

- Undershot regulation.
- Suitable for all water types and loading.
- Reduced actuation load.
- Custom designed and fabricated to suit any size orifice.

APPLICATIONS

- The Radial Gate range is utilised for applications across all industry sectors.
- Typically used for large dam applications.
- Applications requiring isolation of large openings or undershot regulation.



RADIAL GATES

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- All AWMA water control gates are custom sized to ensure they meet specific site and operational requirements.
- Customisation reduces installation costs.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- Most commonly constructed from marine grade aluminium.
- Materials used in the construction of the Radial Gate range have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- The sealing ability of this gate exceeds that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- The Radial Gate range has a minimum 25 year design life.
- Minimal maintenance is required offering low "whole of life costs".

MANUFACTURE

QUALITY

- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All procedures are in accordance with AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation post approved installation.

INSTALLATION

MOUNTING OPTIONS

- Radial Gates are mounted in concrete channels or to concrete headwalls.

ACTUATION SYSTEMS

- Electric, hydraulic or pneumatic actuator.
- Portable actuation systems available.

OPERATION SYSTEMS

- Integration into new or existing SCADA systems optional.
- Global, web based operating platforms for remote control and monitoring.

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

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SELF-REGULATING TIDAL GATES

AWMA's Self-Regulating Tidal Gate operates via floatation to autonomously manage storm, flood and/or tidal water intrusion.

FEATURES

- Typically used to prevent upstream saline intrusion in storm water retention basins.
- Self-regulating, according to a pre-determined head differential.
- A 25 year design life in demanding conditions.
- The gate is centrally hinged and operates via floatation for automatic positioning, enabling optimal stormwater retention or flow requirements.
- Instantaneous response time.
- Guaranteed failsafe opening.
- Functions autonomously without operator intervention.

APPLICATIONS

- Wetland entry/exit points
- Storm Water Harvesting
- Tidal Water Intrusion Zones
- Flood Water Diversions

SELF-REGULATING TIDAL GATES

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- All AWMA Systems are custom sized to ensure they meet specific site requirements.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- Gates and frames are manufactured from marine grade aluminium.
- AWMA use ultra high molecular weight polyethylene (UHMWPE) for barrier guides to provide maintenance free bearing surfaces.
- Plasticised PVC or EPDM are used for the manufacture of seals.
- Materials used have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- The seal performance exceeds that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- The Gate has a minimum 25 year design life.
- Minimal maintenance is required ensuring low 'whole of life costs'.

MANUFACTURE

QUALITY

- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All procedures are in accordance with AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation post approved installation.

INSTALLATION

MOUNTING OPTIONS

- AWMA Tidal Gates are designed to retrofit existing infrastructure or 'green field sites'.
- AWMA offer install supervision for all turn-key installations.

ACTUATION SYSTEMS

- Not applicable. The AWMA Self-regulating Tidal Gate is designed to operate automatically.

OPERATION SYSTEMS

- Not required. The AWMA Self-regulating Tidal Gate is designed to operate automatically, without operator intervention, for instantaneous protection.

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance is available for all AWMA systems.
- Comprehensive on and/or off site training available.

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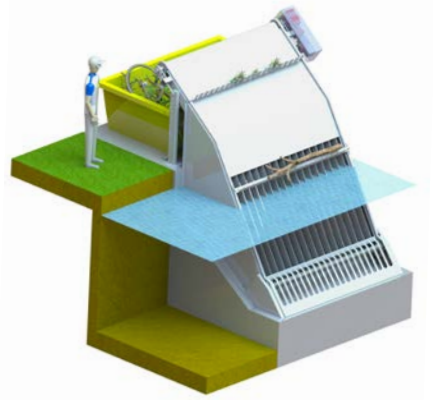
TRASH SCREENS

Mechanical Trash screens remove bulk debris from waterways, often protecting downstream systems and minimising OH&S risks.

FEATURES

- Designed and customised to suit application size and shaped orifice.
- Captures floating and submerged debris within waterways.
- Reliable self-cleaning system.
- Customised bar spacing to suit debris loading.
- Reduces OH&S risks by eliminating manual cleaning.
- Requires minimal civil works to install.
- Protects downstream infrastructure such as pumps, valves and pipework.
- Designed to require minimal maintenance.
- Improved downstream water quality.
- Mechanical trash screens can be either AC or DC powered.
- Low noise level.
- Long life fully sealed polymer bearings.
- Optional spill trays.
- Designs meet safety regulations on pipes, syphons, pumps and culverts.
- Suitable for exclusion of fish, weed, rubbish, branches and animals.



APPLICATIONS

- Pipes
- Pump Intakes
- Syphons
- Stormwater Systems
- Floodways
- Channels
- Water Distribution Systems
- Wetlands
- Environmental protection

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TRASH SCREENS

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- All AWMA screens are custom sized to ensure they meet specific site and operational requirements.

MATERIALS

- AWMA's mechanical Trash Screens are constructed from 304 stainless steel as standard.
- Screens can be fabricated from higher grade materials if required to suit aggressive environments or extended design life requirements.

MAINTENANCE

- Trash Screens are designed to achieve high duty cycles with minimal downtime.
- Mechanical screens can be easily accessed and cleaned out of the waterway, without the need to dewater or bypass the structure.
- Minimal maintenance is required offering low 'whole of life costs'.

MANUFACTURE

QUALITY

- All procedures are in accordance with AWMA's accredited ISO 9001 Quality Management System to ensure each screen is manufactured to a high standard, tested and ready for trouble free operation post approved installation.

OPTIONS

- Customised spill trays and hungry boards are available, subject to application.

INSTALLATION

MOUNTING OPTIONS

- Trash Screens are typically wall mounted.

OPERATION

- AWMA's mechanical screens utilise cleaning rakes attached to a rotating chain system. This is driven by a motor and gearbox coupled to a drive shaft. The result is a reliable, autonomous, self-cleaning system. This process removes bulky objects from the front of the screen to avoid blockages. Debris is transported upwards, out of the waterway into removable disposal bins, conveying chutes or troughs. Automated cleaning of the screen eliminates risk to operators in performing manual raking processes. No additional consumables (such as brushes and service water) is required.
- Trash screens can be operated via local, remote or automated control.

COMMISSIONING

- Trash Screens are pre-commissioned in the factory prior to dispatch.
- AWMA offer a full site commissioning service where required.

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance is provided with all AWMA water control solutions.
- Comprehensive on and/or off site training available.

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FLOOD FREE

CUSTOM FLOOD GATES

AWMA's FLOOD FREE range includes tailored-made flood defence gates, barriers and equipment that is specifically designed, manufactured and installed to meet site and operational requirements.

FEATURES

- Engineered and innovative suite of solutions.
- Isolates property and assets from rising storm and flood waters.
- Devices to suit openings of any size or shape.
- Isolate or re-direct flows with head pressures up to 20m.
- Designs for new structures or retrofit existing infrastructure.
- Storage, transportation and deployment options.
- Proven solutions.

APPLICATIONS

- Basement carparks
- Driveways
- Doorways
- Building entrances
- Loading docks
- Pedestrian walkways
- Fixed plant and infrastructure
- Road crossings
- Levee openings and extensions
- Stormwater network backflow
- Storm surge and tidal inundation
- Commercial and residential buildings

FLOOD FREE

CUSTOM FLOOD GATES

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- All AWMA Flood Free Systems are custom sized to ensure they meet specific site requirements.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- Materials used in the construction of AWMA's Flood Defence Systems have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- The seal performance of AWMA Flood Systems exceed that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- AWMA Flood Free Systems have a minimum 25 year design life.
- Minimal maintenance is required ensuring low 'whole of life costs'.

MANUFACTURE

QUALITY

- All procedures are developed within AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation.
- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

INSTALLATION

MOUNTING OPTIONS

- Barriers are designed to retrofit existing infrastructure or 'green field sites'.
- AWMA offer install supervision for all turn-key installations.

ACTUATION SYSTEMS

- AWMA offer numerous options for operation including manual, mechanical, automated, hydraulic, pneumatic, powered or electrically actuated systems.

OPERATION SYSTEMS

- A range of manual, automated and automatic options are available for the control of AWMA's customised flood gates.
- Associated systems include warning lights, water level indicators, automated message systems, reflective signage, video feeds and battery backups.

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA flood defence systems.
- Comprehensive on and/or off site training available.

awma Water Control Solutions

Certified System Quality ISO 9001 SAI GLOBAL

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FLOOD FREE

DEMOUNTABLE FLOOD BARRIERS

AWMA's Demountable Flood Barriers allow property and asset owners to manually deploy their own protection barrier to isolate flood and storm waters in and around existing infrastructure.

FEATURES

- Proven flood protection.
- Designed to suit square and rectangular openings of an infinite length.
- Modular segments are fabricated in 100mm high increments.
- Side frames and barrier post footings permanently installed for rapid deployment.
- Segments consist of extruded section with embedded seals.
- Storage solutions and transportation trolleys available.
- Economical, proven flood prevention solution.

APPLICATIONS

- Residential and commercial building protection.
- Boundary protection.
- Liftwell barriers.
- Driveway barriers.
- Doorway barriers.
- Ventailation outlet isolation.
- Basement barriers.
- Access barriers.
- Protection of alfesco and outdoor entertainment areas.

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FLOODFREE

DEMOUNTABLE FLOOD BARRIERS

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- Fabricated up to 3m high.
- All AWMA Flood Barriers are custom sized to ensure they meet specific site requirements.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- Marine grade aluminium barrier segments and posts.
- Materials used in the construction of AWMA's Flood Barrier range have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- The seal performance of AWMA Flood Barriers exceeds that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- The AWMA Flood Free range has a minimum 25 year design life.
- Minimal maintenance is required ensuring low 'whole of life costs'.

MANUFACTURE

QUALITY

- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All procedures are in accordance with AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation.

INSTALLATION

MOUNTING OPTIONS

- Barriers are designed to retrofit existing infrastructure or 'green field sites'.
- AWMA offer install supervision for all turn-key installations.

ACTUATION SYSTEMS

- The AWMA Demountable Flood Barriers are designed to be manually deployed by a single operator.

OPERATION SYSTEMS

- The barrier posts and barrier segments can be typically installed by a single operator.

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA flood defence systems.
- Comprehensive on and/or off site training available.

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FLOOD FREE

RETRACTABLE FLOOD BARRIERS

AWMA's Retractable Flood Barrier is a sliding floodgate designed specifically to isolate large openings as part of a total flood defence system.

FEATURES

- Effective solution for large openings up to 10m wide and 3m high.
- Proven AWMA side-winding gate design.
- Low maintenance design ensures the flood barrier remains ready to deploy at all times.

APPLICATIONS

- Typically installed on driveway entry points
- Residential and commercial building protection
- Property boundarys
- Liftwells
- Driveways
- Doorways
- Basement entry
- Ventation points
- Pedestrian access

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FLOODFREE

RETRACTABLE FLOOD BARRIERS

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- Customisable to suit specific site requirements.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- Marine grade aluminium, stainless steel or coated mild steel construction.
- Materials used in the construction of AWMA's Flood Free range have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- The seal performance of AWMA Flood Gates exceeds that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- The AWMA Flood Free range has a minimum 25 year design life.
- Minimal maintenance is required ensuring low 'whole of life costs'.

MANUFACTURE

QUALITY

- All procedures are developed within AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation.
- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

INSTALLATION

MOUNTING OPTIONS

- Barriers are designed to retrofit existing infrastructure or 'green field sites'.
- AWMA offer install supervision for all turn-key installations.

ACTUATION SYSTEMS

- The AWMA Retractable Flood Barrier is designed to function via manual and/or automated control.

OPERATION SYSTEMS

- The gate leaf will travel sideways to close the gap in the existing wall, completing the flood barrier to protect the property from rising water levels.

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA flood defence systems.
- Comprehensive on and/or off site training available.

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FLOOD FREE

CONCEALED FLOOD BARRIERS

AWMA's Concealed Flood Barrier is a self-actuating flood defence system that harnesses rising waters to automatically deploy a flood barrier via floatation.

FEATURES

- The gate is permanently installed below ground level at the isolation point, ready for deployment when required.
- Rising water levels cause an automatic response, elevating the isolation barrier via floatation.
- Gate system retracts below pavement as water levels decrease.
- Suitable for large openings up to 30m wide and 1.6m high.
- Low maintenance design.
- Low aesthetic impact.

APPLICATIONS

- Basement and carpark access points.
- Pedestrian access and pathways.
- Flood levees.
- Residential and commercial property protection.

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FLOOD FREE

CONCEALED FLOOD BARRIERS

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- Customisable to suit specific site requirements up to 30m wide, 1.6m high.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- Marine grade aluminium, stainless steel, galvanised steel.
- Materials used in the construction of AWMA's Flood Free range have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- The seal performance of AWMA Flood Gates exceeds that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- The AWMA Flood Gate range has a minimum 25 year design life.
- Minimal maintenance is required ensuring low 'whole of life costs'.

MANUFACTURE

QUALITY

- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All procedures are in accordance with AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation post approved installation.

INSTALLATION

MOUNTING OPTIONS

- Barriers are designed to retrofit existing infrastructure or 'green field sites'.
- AWMA offer install supervision for all turn-key installations.

ACTUATION SYSTEMS

- AWMA offer numerous options for operation including manual, mechanical, automated, hydraulic, pneumatic, powered or electrically actuated systems.

OPERATION SYSTEMS

- The AWMA Concealed Flood Barrier is designed to automatically close ahead of rising flood waters.
- No operator intervention is required.
- Variety of audio and visual warning systems available.

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA flood defence systems.
- Comprehensive on and/or off site training available.

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FLOOD FREE

TILTING FLOOD BARRIERS

AWMA's Tilting Flood Barrier is a flood gate that can be manually or automatically tilted to provide flood water protection.

FEATURES

- Typically used to prevent upstream saline intrusion in storm water retention basins.
- Self-regulating, according to a pre-determined head differential.
- A 25 year design life in demanding conditions.
- The gate is centrally hinged and operates via floatation for automatic positioning, enabling optimal stormwater retention or flow requirements.
- Instantaneous response time.
- Guaranteed failsafe opening.
- Functions autonomously without operator intervention.

APPLICATIONS

- Wetland entry/exit points
- Storm water harvesting
- Tidal water intrusion zones
- Flood water diversions

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FLOODFREE

TILTING FLOOD BARRIERS

DESIGN

DESIGN SUPPORT

- AWMA's design team will provide full support to ensure the most appropriate solution is developed and specified during the preliminary design.

SIZES

- Customisable to suit specific site requirements.

MATERIALS

- AWMA select materials to meet a minimum design life of 25 years. Where required, AWMA can offer higher grade materials, coatings and protection systems to extend the design life to 100+ years.
- Fabricated to suit project requirements including trafficable loads.
- Materials used in the construction of AWMA's Flood Free range have a high corrosion resistance and can be operated for many years with minimal maintenance.

SEALING

- Seals are UV stabilised and manufactured from plasticised PVC to provide optimal seal performance. Typically maintenance free.
- The seal performance of AWMA Flood Gates exceeds that required by the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.

MAINTENANCE

- The AWMA Flood Gate range has a minimum 25 year design life.
- Minimal maintenance is required ensuring low 'whole of life costs'.

MANUFACTURE

QUALITY

- All fabrication is in accordance with the 'Australian Technical Specification for Fabricated Water Control Infrastructure'.
- All procedures are in accordance with AWMA's accredited ISO 9001 Quality Management System to ensure each gate is manufactured to a high standard, tested and ready for trouble free operation post approved installation.

INSTALLATION

MOUNTING OPTIONS

- Barriers are designed to retrofit existing infrastructure or 'green field sites'.
- AWMA offer install supervision for all turn-key installations.

ACTUATION SYSTEMS

- Tilting Flood Barriers may be Passive or Actuated.

OPERATION SYSTEMS

- Manual operation via local control (base option)
- Automated operation to be triggered via rising water level
- Passive operation to be triggered via rising water level (recommended)
- Built in UPS to ensure operation should there be a loss of mains power (recommended for automated systems)
- Provision for warning lights on the either side of the flood barrier to alert drivers/pedestrians that the barrier is about to, or has been activated (recommended)
- Gate can only be opened post flooding via a manual reset from within the control cabinet (standard)
- Light curtain interlock that prevents gate operation to eliminate risk of property or injury (standard)
- SMS alarms (option) for key operational parameters including:
  - Flood barrier status (ready, activated, fault)
  - UPS status (ready, low battery, fault)
  - Water level status (Normal, High water level, Very high water level)

COMMISSIONING

DOCUMENTATION AND TRAINING

- Detailed documentation on operation, testing procedures and maintenance will be provided with all AWMA flood defence systems.
- Comprehensive on and/or off site training available.

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