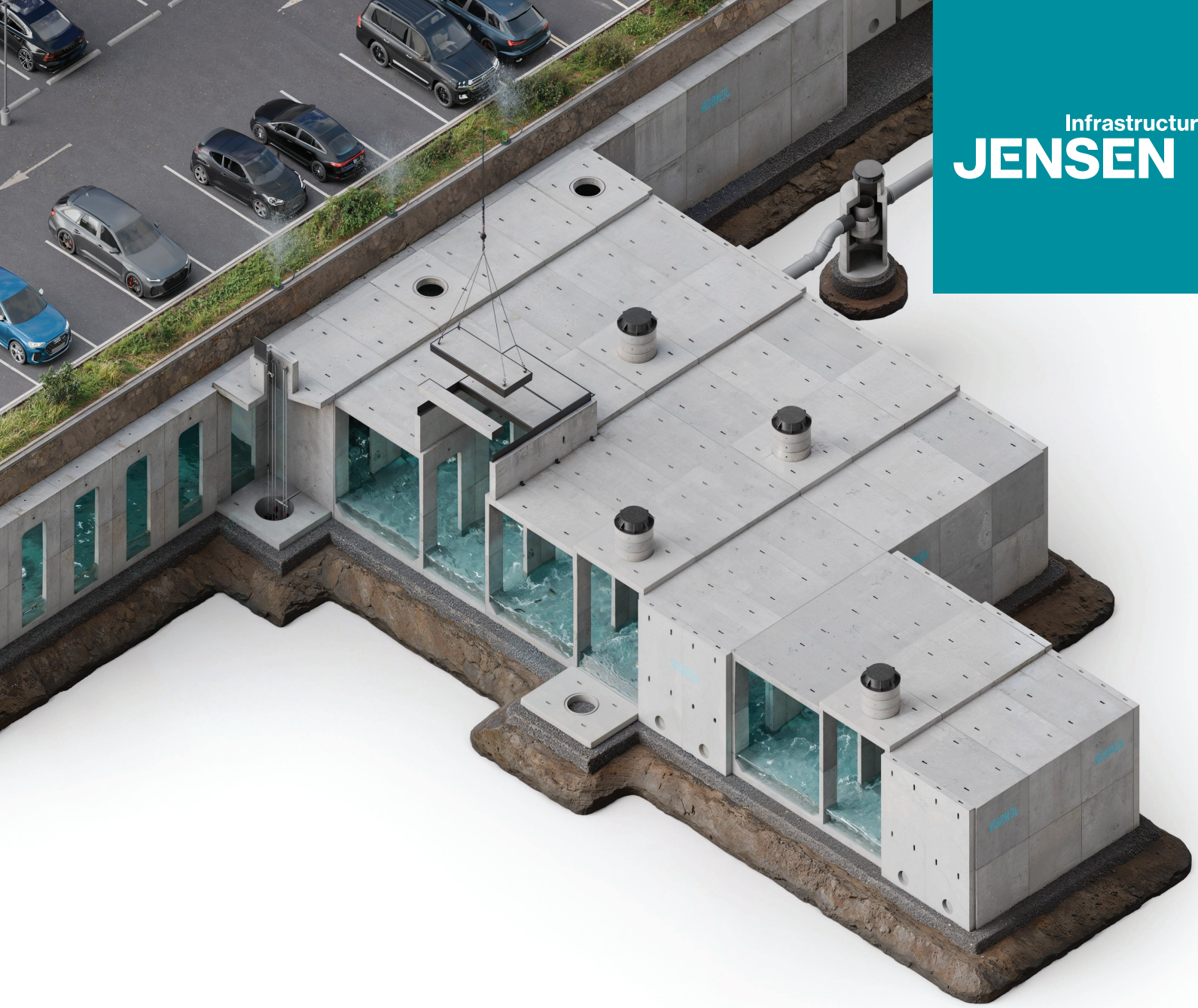
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StormVault

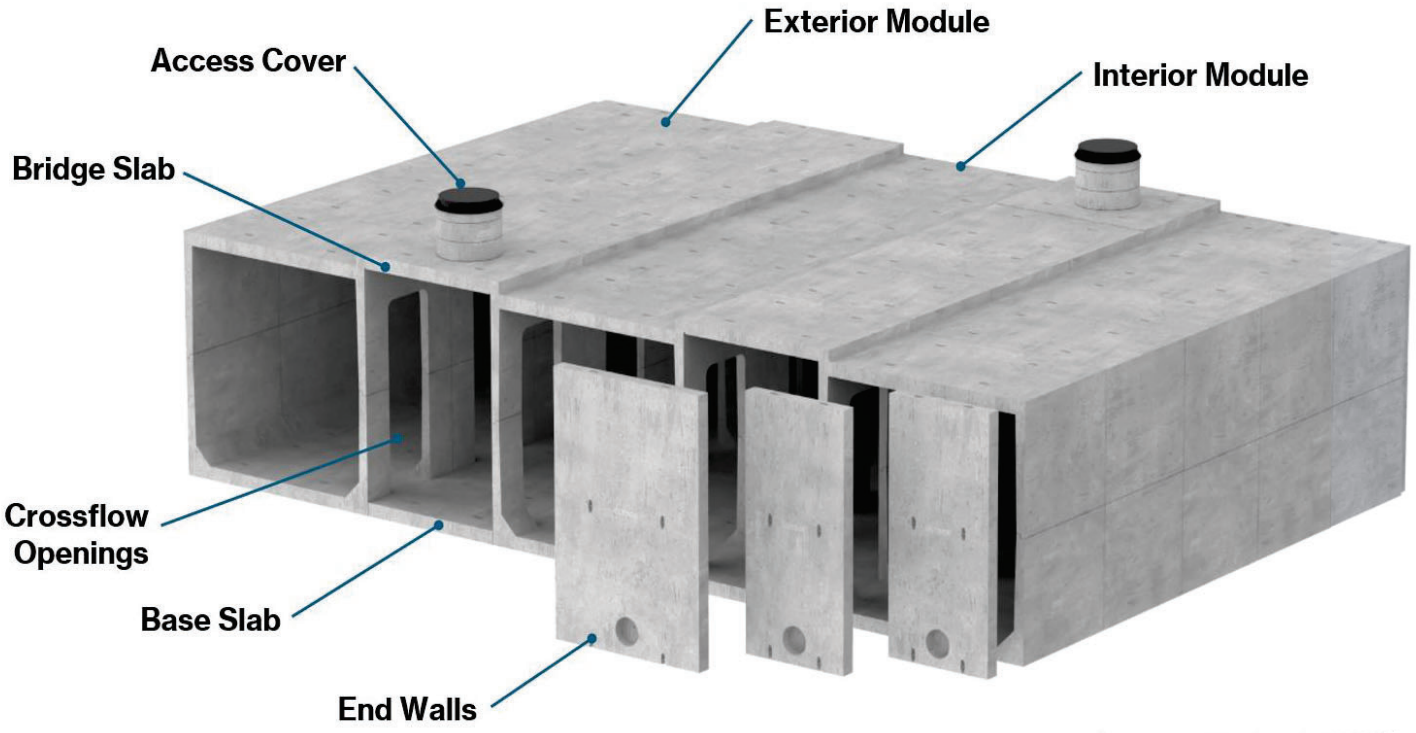
Maintenance Manual

Questions? Let's talk. Info@jensenprecast.com

JensenInfrastructure.com

OVERVIEW

This manual provides inspection and maintenance guidelines for the Jensen StormVault™, a modular box culvert underground detention system. Before beginning, please carefully review the instructions, safety, and equipment lists. Adherence to all relevant safety procedures in accordance with state and local regulations is crucial. For site-specific details, please contact Jensen Infrastructure.



NOTICE

Confined space entry may be necessary. The contractor must acquire all equipment and training to comply with local and OSHA regulations regarding confined space entry. It is the responsibility of the contractor or entry personnel to ensure safe procedures are followed at all times.

INTRODUCTION

StormVault is an underground modular storage system designed for stormwater detention and infiltration. Built from durable precast concrete, it provides long-lasting performance while requiring routine inspection and maintenance to ensure effectiveness over its service life.

Because StormVault is modular and highly configurable, ranging from 3' to 14' in height with custom options – inspection access and maintenance methods may vary by installation. Regardless of the configuration, regular inspection and proper upkeep are critical to prevent sediment buildup, maintain storage capacity, and protect downstream systems.

SAFETY ADVISORY AND PERSONAL PROTECTIVE GEAR

Inspection and maintenance activities in and around StormVault systems must always be conducted with safety as the highest priority. While comprehensive safety standards are governed by OSHA and all applicable federal, state/provincial, and local regulations, the reminders included here highlight key safety considerations specific to inspection and maintenance work.

SAFETY PRECAUTIONS DURING INSPECTION AND MAINTENANCE

- Ensure confined space entry procedures are followed where applicable.
- Provide proper ventilation, lighting, and monitoring equipment before and during entry.
- Use appropriate personal protective equipment (PPE) such as harnesses, hard hats, gloves, and respiratory protection where required.
- Follow traffic and site control measures when accessing structures in active roadways or public areas.
- Maintain and enforce fall protection and lifting safety when handling hatches or equipment.

INSPECTION AND MAINTENANCE EQUIPMENT

The following equipment is recommended to support inspection and maintenance of the StormVault system. This list is not exhaustive but serves as a general guideline, since site-specific conditions, system configuration, and access points will ultimately determine the exact tools and procedures required.

When vault entry is required, confined space entry gear such as a tripod, winch, harness, and an atmospheric gas monitor should be used in compliance with safety regulations. Personnel should always be equipped with proper personal protective equipment, including a hard hat, high-visibility vest, gloves, boots, eye protection, and respiratory protection if conditions warrant. Adequate lighting is essential, and portable, explosion-proof fixtures are recommended to ensure visibility inside the structure.

For maintenance tasks, sediment and debris removal typically requires specialized equipment such as a vacuum truck, jetting equipment, or portable pumps. Non-entry inspections may be supported with tools such as inspection cameras, mirrors, measuring rods, or even robotic crawlers and drones to reduce the need for confined space entry. Where StormVault access hatches are located in roadways or high-traffic areas, appropriate traffic control measures including cones, barricades, and signage are necessary to maintain a safe work environment.



Tripod with Winch



Entry Harness



PPE



Gas Meter



Ventilation System



Flashlights



Extension Ladders (8 to 16 ft)



Respirator (if required)



Vacuum Truck or Trailer



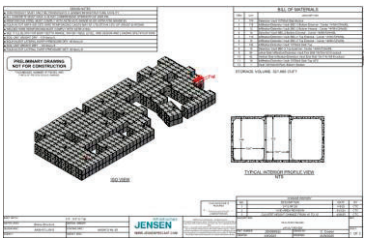
Power Washer Attachment



Rotary Hammer w/ 9/16" Dia. inch Concrete Bit



Broom & Shovel



Project Specific StormVault Drawings



Traffic Control



Manhole Hook



Skid Steer (requires crane)

INSPECTION CHECKLIST

Project Name: _____ **Location:** _____

Date/Time: _____ **Inspector:** _____

1. Pre-Inspection

- ☐ Traffic control and safety measures in place and appropriate PPE worn.
- ☐ Access hatches are located and safely opened.
- ☐ Atmospheric conditions checked (if confined space entry required).

2. Contributing Drainage Area

- ☐ Upstream inlets clear of trash, sediment, or blockages.
- ☐ No visible erosion or sediment-laden flows entering vault.

3. Vault Access Points

- ☐ Manway covers intact, secure, and free of damage.
- ☐ No evidence of leakage or improper sealing.

4. Pipes

- ☐ Inlet and outlet pipes unobstructed, aligned, and free of damage.
- ☐ No evidence of leakage around penetration.

5. Vault Interior (Visual Observation)

- ☐ Sediment depth measured: _____ inches. Sediment less than 6 inches (yes/no).
- ☐ Floatable debris present (yes/no).
- ☐ Structural condition of walls, slabs, joints acceptable (yes/no).

6. Pretreatment & Internal Components (if applicable)

- ☐ Baffles, weirs, or filtration devices intact and functioning.
- ☐ Pretreatment structures free of clogging or bypass.

7. System Performance

- ☐ If infiltration system: drains within design timeframe (48–96 hrs).
- ☐ No standing water beyond allowable drain-down period.

8. Maintenance Indicators

- ☐ Sediment exceeds 6 inches (maintenance required).
- ☐ Floatables excessive (maintenance required).
- ☐ Pipes obstructed/damaged (maintenance required).
- ☐ Pretreatment device clogged (maintenance required).

9. Recordkeeping

- ☐ Notes/observations: _____
- ☐ Recommended maintenance actions: _____
- ☐ Scheduled follow-up date: _____

Inspector Signature: _____ **Date:** _____

INSPECTION FREQUENCY

Stormwater systems experience variable pollutant loading depending on land use, soil conditions, and nearby activity. Establishing an appropriate inspection schedule is key to maintaining StormVault's performance. The points below summarize the recommended timing for inspections.

- **First Year:** Inspect after the first storm event and quarterly thereafter.
- **Ongoing:** Conduct at least one inspection annually.
- **High-Risk Sites:** Inspect semi-annually or quarterly where sediment or pollutant loads are higher.

INSPECTION PROCEDURES

Inspection procedures should be systematic, beginning outside the system and moving inward to the vault itself. Each inspection should document the current condition of the system, sediment levels, and any structural concerns.

- Verify safety and traffic control measures are in place.
- Open hatches carefully and ensure ventilation.
- Inspect contributing drainage areas for debris or erosion.
- Observe vault interior with a flashlight or camera.
- Check pipe connections for blockage or leaks.
- Measure sediment depths and record findings.
- Examine joints and concrete for cracking or spalling.
- Confirm drain-down occurs within design limits (48–96 hours).

MAINTENANCE INDICATORS

Routine inspections will reveal whether maintenance is required. The following conditions indicate that cleaning or repairs are necessary to restore full performance.

- Sediment accumulation exceeding 6 inches.
- Excessive floatables or trash within the vault.
- Damaged or obstructed inlet and outlet pipes.
- Pretreatment devices showing clogging or bypass.
- Drain-down performance outside permitted limits.
- Concrete damage including cracking or joint failures.

MAINTENANCE PROCEDURES

StormVault should be cleaned methodically to restore storage capacity and flow pathways. The following procedures describe the proper order and techniques to follow.

- Schedule cleaning three to four days after the last storm.
- Implement safety and traffic control measures.
- Remove sediment, water, and floatables using a vacuum truck.
- Use pressure washing only on concrete slabs (not infiltration stone).
- Sweep loosened sediment toward manways for removal.
- Progress systematically from upstream to downstream bays.
- Replace all covers securely after cleaning.
- Dispose of all collected material according to local regulations.

RECORDKEEPING

Maintaining detailed inspection and maintenance records provides proof of compliance and helps establish future maintenance intervals. The following data should be documented at each visit.

- Date and time of inspection or cleaning.
- Name and company of inspector/contractor.
- Sediment and debris levels observed.
- Structural condition of the vault.
- Actions taken during maintenance.
- Method and location of debris disposal.

DISCLAIMER

This Maintenance Manual is provided as a general overview of recommended inspection and maintenance practices for the StormVault system. It is not intended to replace project-specific recommendations, or the judgment of the maintenance provider. Final responsibility for inspection and maintenance methods, safety compliance, and performance lies solely with the maintenance provider. Jensen Infrastructure makes no representations or warranties, expressed or implied, regarding the completeness, accuracy, or suitability of this document for any project. Jensen Infrastructure expressly disclaims all liability for damages, losses, or claims arising out of or in connection with the improper use of this manual, faulty inspection or maintenance procedures, site conditions, workmanship, or subsequent malfunction of the system. Use of this manual constitutes acceptance of these terms.

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Inspection & Maintenance Report for StormVault Underground Detention

Project Name _____

Project Address _____
(city) (Zip Code)

Owner / Management Company _____

Contact _____ Phone ( ) –

Inspector Name _____ Date ____ / ____ / ____ Time _____ AM / PM

Type of Inspection ☐ Routine ☐ Follow Up ☐ Complaint ☐ Storm Storm Event in Last 72-hours? ☐ No ☐ Yes

Weather Condition _____ Additional Notes _____

For Office Use Only
(Reviewed By)
(Date)
For internal auditing perposes only

Site Map #	GPS Coordinated of Vault	Internal Height	Inspection of Inlet and Outlet Pipes, Joints, and Connections Between Modules, Intergrated pumps, treatment, filtration, etc.	Trash or Sediment Accumulation (lbs) & Depth (inches)	Structural Notes	Operational Per Manufacturer's Specifications (If not, why?)
	Lat: Long:					
	Lat: Long:					
	Lat: Long:					

Comments:

Take the next step.

Talk to a Jensen stormwater expert to find the best solution for your project.

Contact Us

Connect with our team to discuss your project needs and get expert guidance.

Request a Lunch & Learn

Schedule an educational session for your team on detention, treatment, and biofiltration solutions.

Contact Information

Phone: (775) 352-2700
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Web: jenseninfrastructure.com

About Jensen Infrastructure

Jensen Infrastructure is a second-generation, family-run business that's been helping build America's infrastructure since 1968. We bring deep engineering expertise, multi-material capabilities, and personal support to every project – so you get the right solution delivered by a team that stands behind it.

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