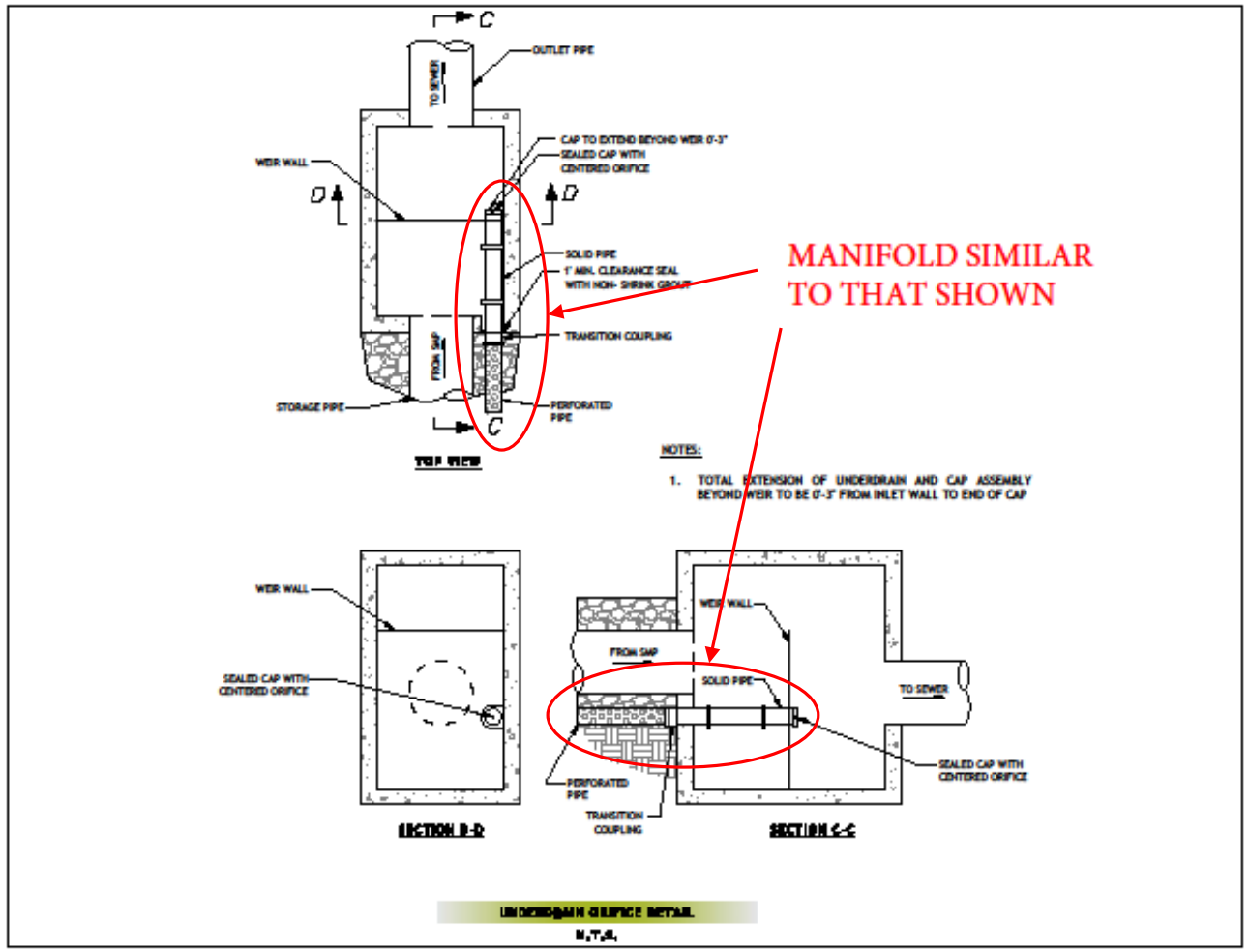
OUTLET CONTROL FOR SMALLER STORM EVENTS

- ARE WATER QUALITY DESIGN STORM AND SMALLER DESIGN STORMS (1 YR, 2 YR) OCCURRING MORE FREQUENTLY/INTENSELY?
- THESE SMALLER STORM EVENTS IMPACT FIRST FLUSH VOLUMES AND WATER QUALITY OF DISCHARGE IF NOT CONTROLLED PROPERLY
- CONTROL NEEDED FOR SMALLER STORMS, BUT CURRENTLY DIFFICULT TO MEET REDUCTIONS WITH LIMITED OUTLET OPTIONS (ESPECIALLY WITH TYPE 'A' SOILS)
  - 2.5" ORIFICE
  - V-NOTCH WEIR
- NEED ADDITIONAL OPTIONS FOR OUTLET STRUCTURES TO CONTROL SMALLER STORMS
  - MANIFOLD (SIMILAR TO PWD DETAIL)
  - HYDRO-BRAKE
  - SKIMMER (SIMILAR TO NJ SESC STDS)
  - OTHER METHODS
- CONSIDERATION FOR MAINTENANCE AND COST IMPORTANT

PWD MANIFOLD SYSTEM



Hydro-Brake® Vortex Flow Control

Sizing & Design

Three series of Hydro-Brake® Vortex Flow Controls are available to suit various applications and design constraints. Refer to the Hydro-Brake® Design Chart for typical sizing guidelines (Table 1).

Table 1. Hydro-Brake® Vortex Flow Control design chart.

Series	S Series	V Series	C Series
Typical Geometry			
Models	SH STH SXH SMH SMXH	SV SXV SMV	C CX CH
Typical Applications	• Flow control at the inlet of the storm drain system • Outlet flow control for stormwater detention systems	• Erosion control & energy dissipation • Roof runoff control for "Blue Roof" detention schemes	• Outlet flow control for flood dams and levees • Outlet flow control for stormwater detention systems
Typical Mount Style	Wall Mount	Downspout/Roof Mount Floor Mount Pipe Mount	Floor Mount
Typical Diameter Range*	2 - 16 in (5 - 41 cm)	2 - 16 in (5 - 41 cm)	3 - 20 in (7.5 - 51 cm)
Typical Flow Range**	0.05 - 5.6 cfs (1 - 157 L/s)	0.05 - 6.0 cfs (1 - 174 L/s)	0.18 - 14.3 cfs (5.3 - 405 L/s)

*Listed diameter ranges are typical guidelines only. Hydro-Brake® Vortex Flow Controls can be manufactured to any specified diameter up to 6'.
**Flow ranges listed are for 4' - 6.5' of head.
Contact Hydro International for site-specific sizing and design requirements.

Optional Design Accessories

Pivoting Bypass Door

For maintenance access to the outlet pipe.

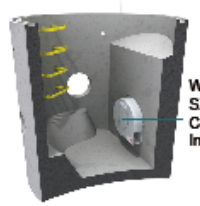
Curved Backplate

To allow for flush-mounting to the wall of a round manhole.

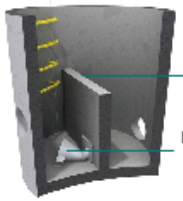
Vortex Suppressor Pipe

To eliminate air core for emergency bypass.

Typical Chamber Configurations

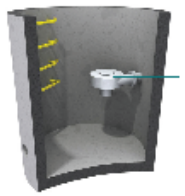


Wall Mounted SXH Model for Catch Basin Inlet Control



Large Storm Bypass Weir

Floor Mounted CH Model for Small Storm Flow Control



Pipe Mounted SXV Model for Energy & Velocity Dissipation

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