SMITH TRENCH DRAIN SYSTEMS

9940/9960 ZIPTrench™ Technical Installation Guide

9940/9960 Zip Trench™

Installation Guide

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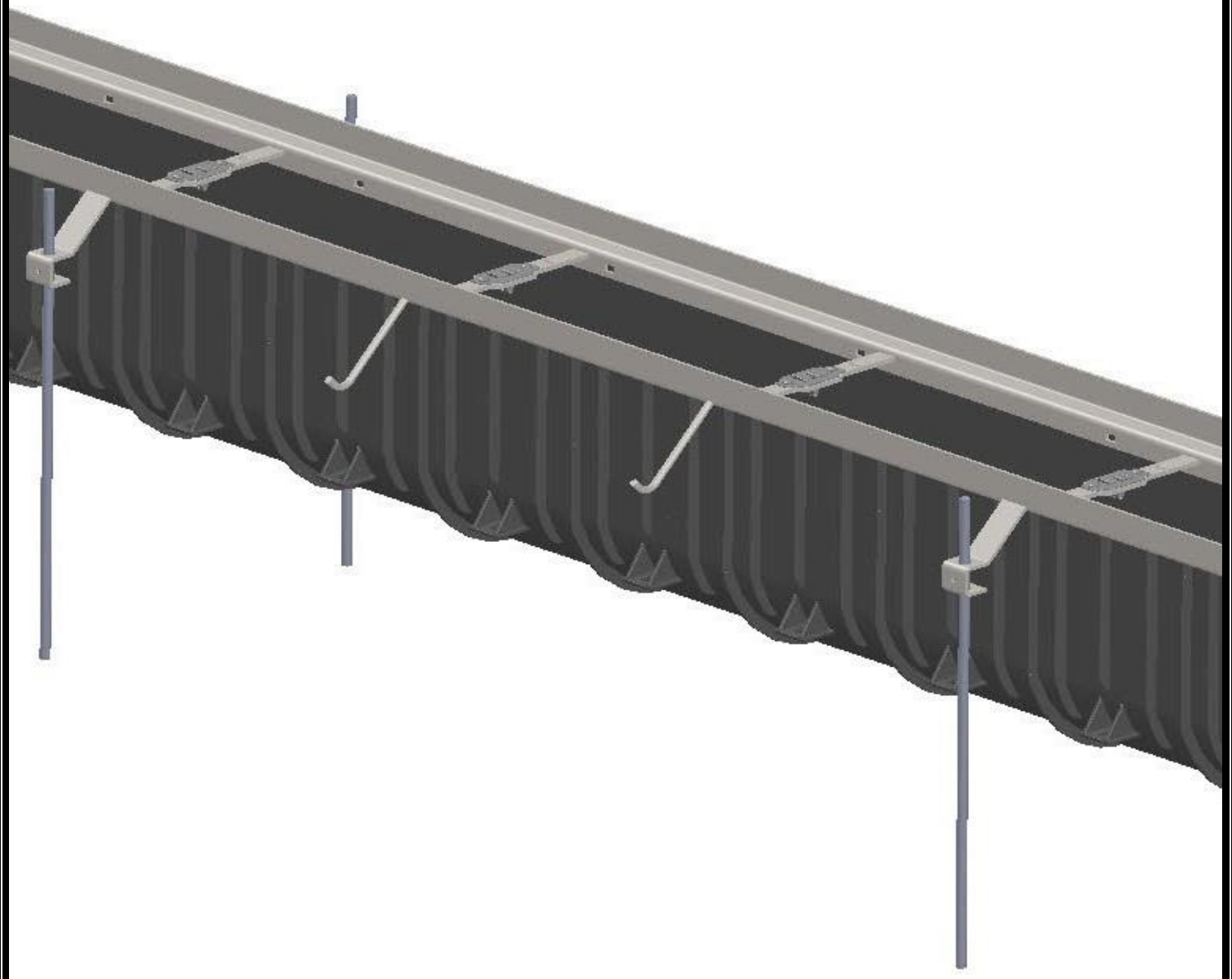


Smith Drainage Systems

Jay R. Smith Mfg. Co.® The leading manufacturer of quality engineered plumbing and drainage products in the non-residential construction industry. All Smith products are designed for adaptability, conformance to codes, ease of installation and maximum performance efficiency. Since our inception in 1926, we have been Customer Driven.

Smith ZIP Trench® Drain products are made from 100% polypropylene and provide economical and easy-to-install trench drainage systems which eliminate expensive and time-consuming cast-in-place form work.

Getting Started

Smith Drainage Systems consists of sequential modular channels with secured gratings and bottom or end outlets. End caps and other accessories are also available.

When installed correctly, Smith Drainage Systems products are designed to withstand a variety of loadings as classified by DIN 19850/EN 1433 (The only standards specifically for trench drain systems.)

Tools for Installation

- ☐ Sledge Hammer to Drive Rebar
- ☐ Screwdriver
- ☐ Drill/Hole Saw
- ☐ #4 or #5 Rebar or Threaded Rod
- ☐ Laser
- ☐ Concrete Vibrator
- ☐ String Line or Chalk Line
- ☐ 4 Foot Level
- ☐ Torpedo Level
- ☐ Caulk Gun
- ☐ Caulk Sealant
- ☐ Crescent Wrench
- ☐ Pipe Wrench
- ☐ Internal Wood Bracing Material

Installation Sections

An excavation must be provided that will ensure a minimum of 4 inches of bedding concrete on ALL sides of the ZIP Trench® Drain System. In every case, the excavation should be deep and wide enough to provide bedding concrete equal to slab thickness. Slope the edges of the excavation to provide a smooth transition to the slab subgrade. Slope the excavation to approximately follow the slope of the channels. Excavations should be made about the centerline of all proposed drainage runs. Prepare deeper and wider excavations for catch basins.

An installed Smith Drainage System should incorporate the following:

- Correct Grate type
- Correct channel type and size
- Minimum grade 3,000 psi compressive strength cement concrete surround.

The cement concrete surround dimensions should be equal to or greater than the thickness of the surrounding slab.

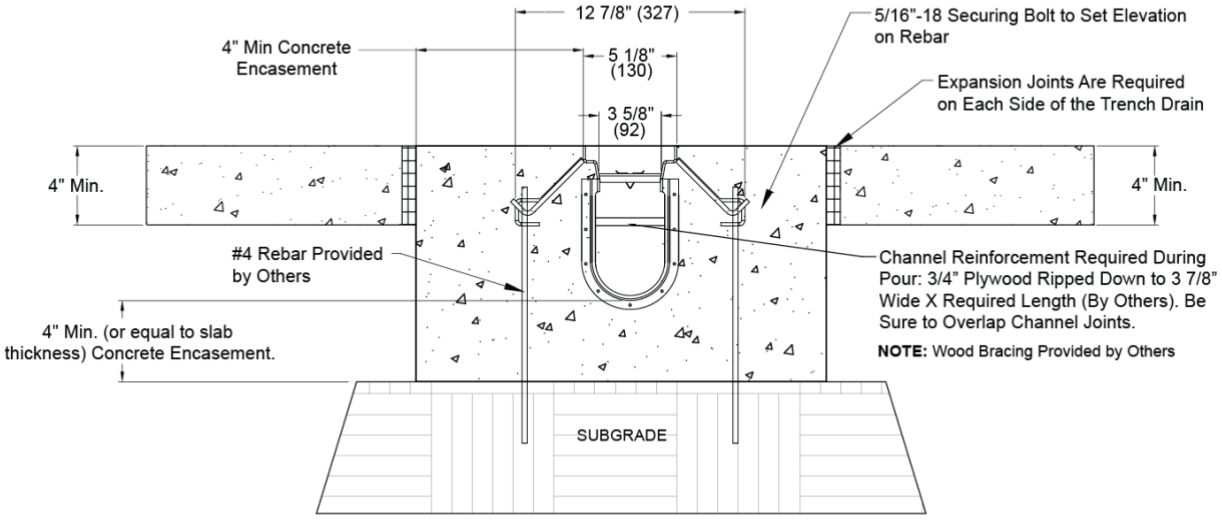
The following illustrations are a guide for average ground conditions only. Consult structural engineers' drawing for details.

Refer to http://www.jrsmith.com for any further information.

**Please note: 1. Layout the trench drain system in sequential order to prior to beginning installation

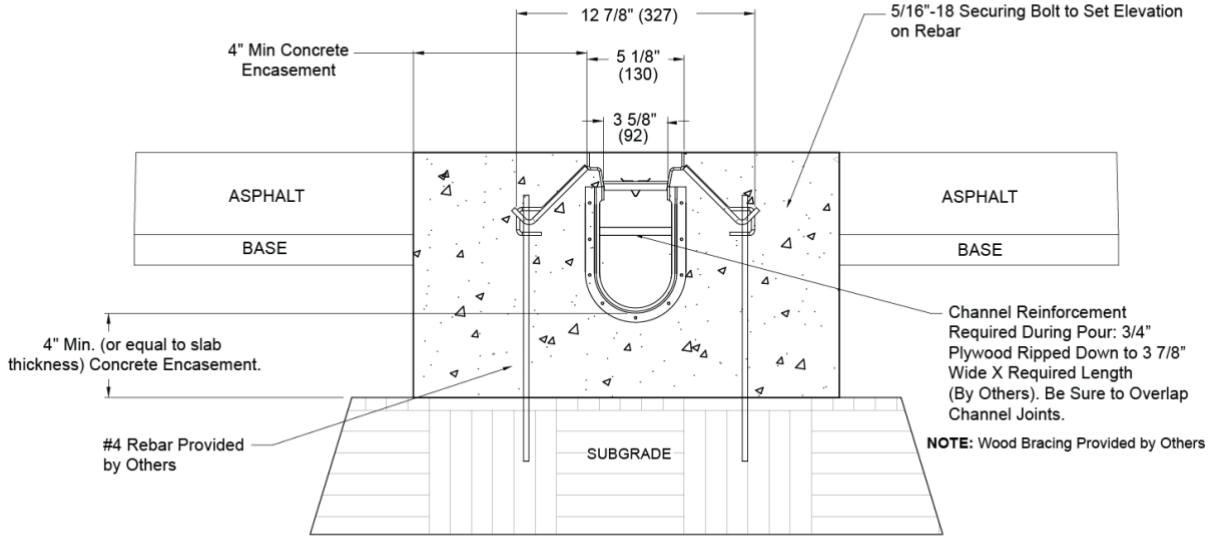
2. Always begin installation at the deep end either with a catch basin or channel.

LOAD CLASS A 9940



INSTALLATION IN CONCRETE

LOAD CLASS A 9940



INSTALLATION IN ASPHALT

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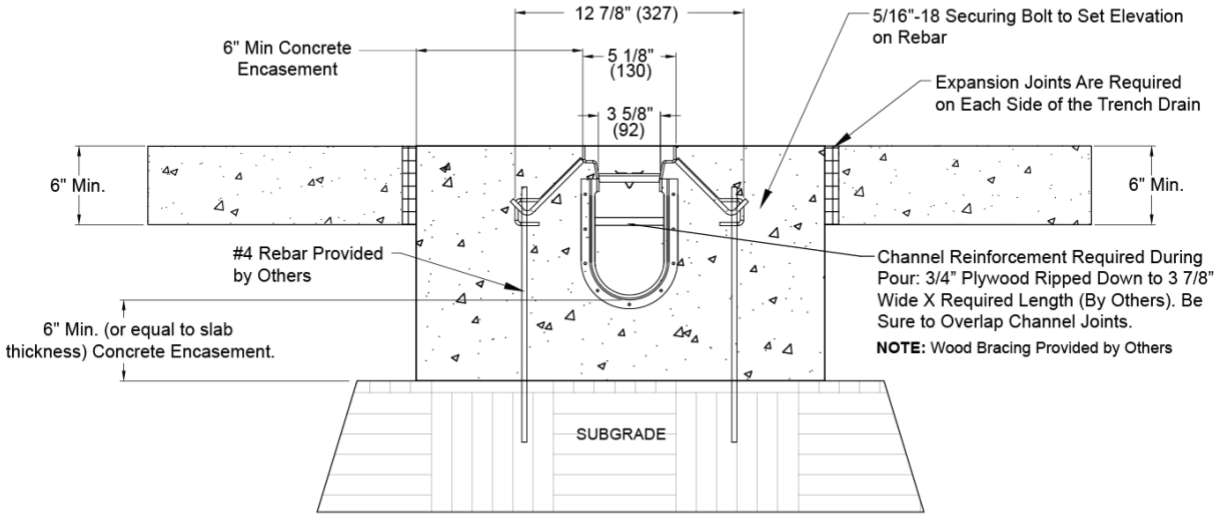

INSTALLATION IN CONCRETE

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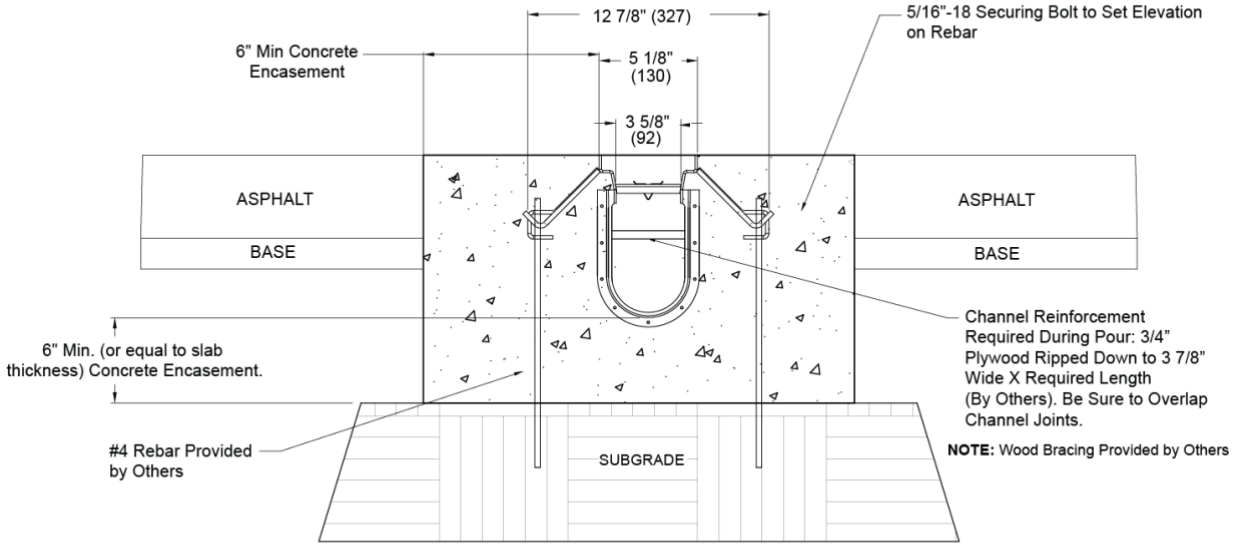

INSTALLATION IN ASPHALT

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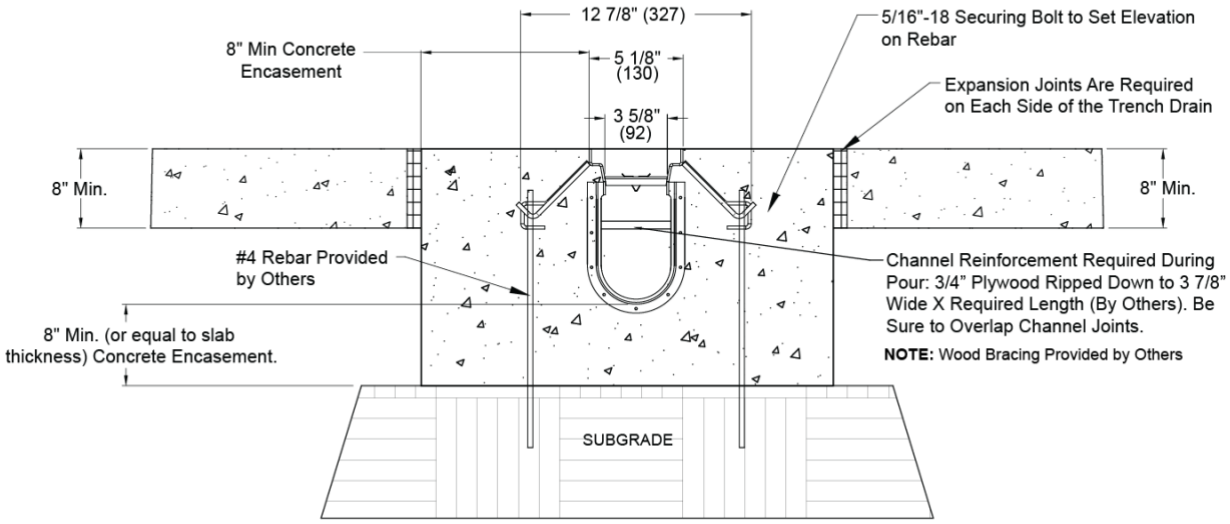

INSTALLATION IN CONCRETE

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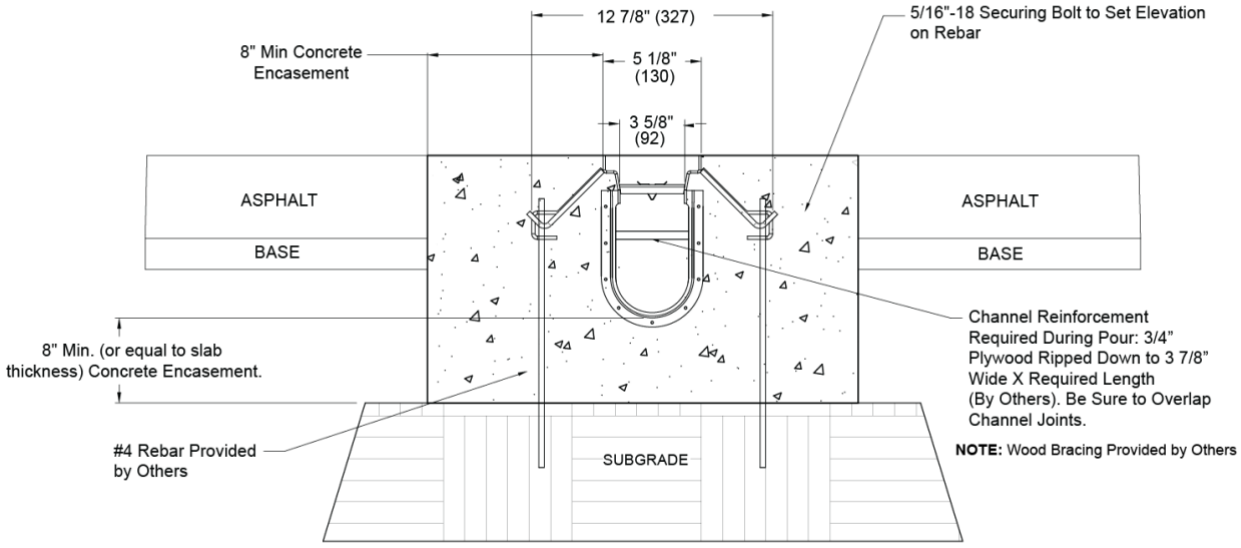
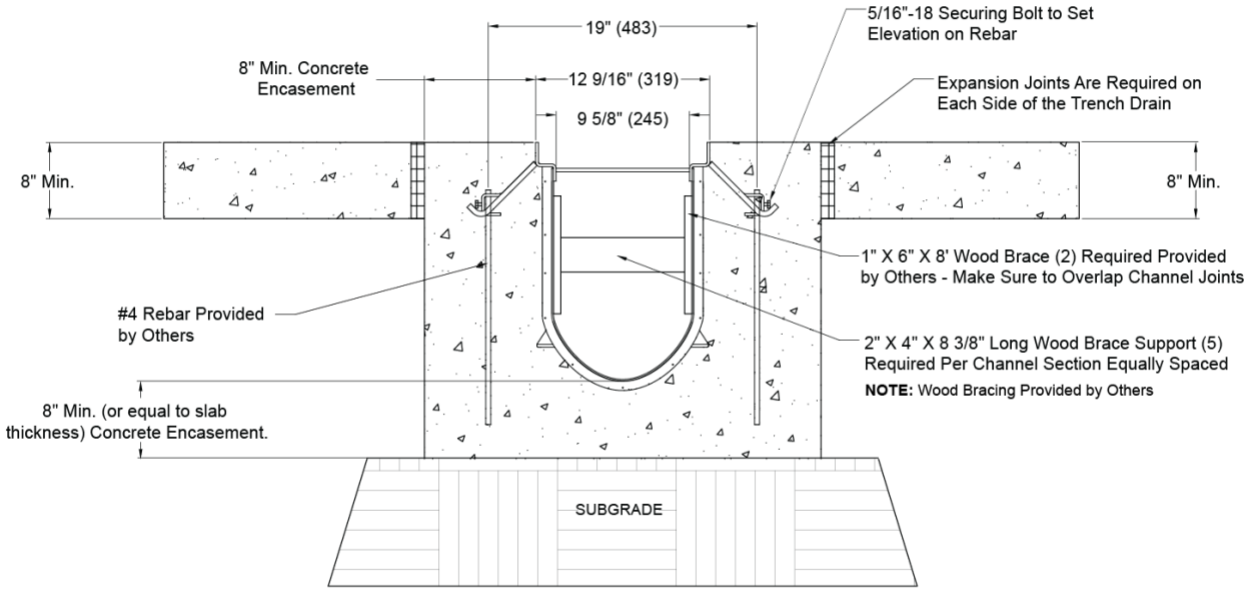


INSTALLATION IN ASPHALT

LOAD CLASS C 9960



INSTALLATION IN CONCRETE

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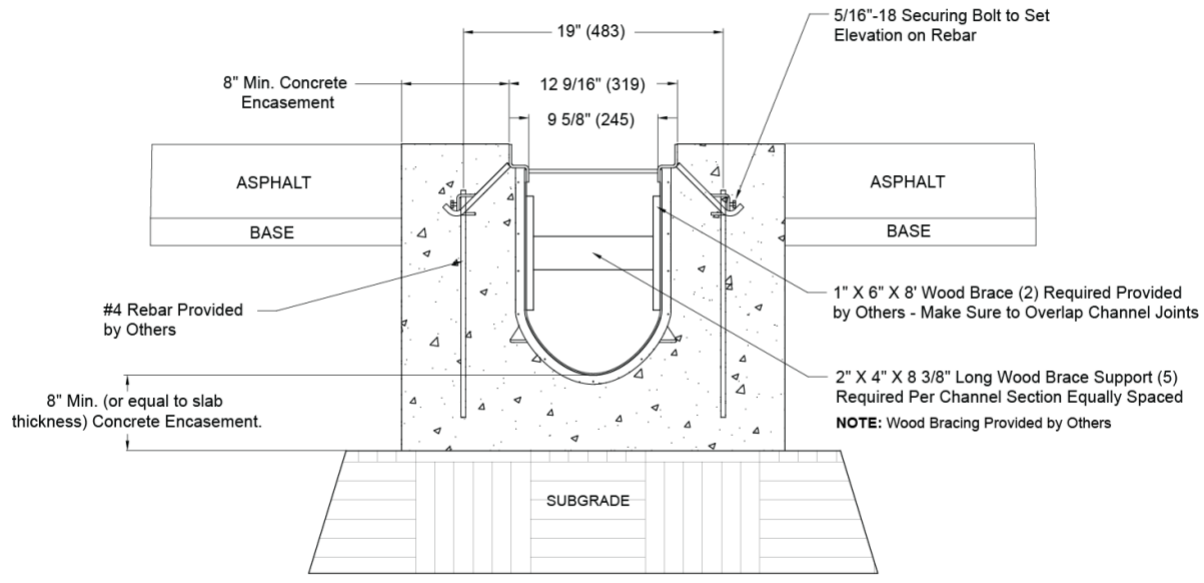

INSTALLATION IN ASPHALT

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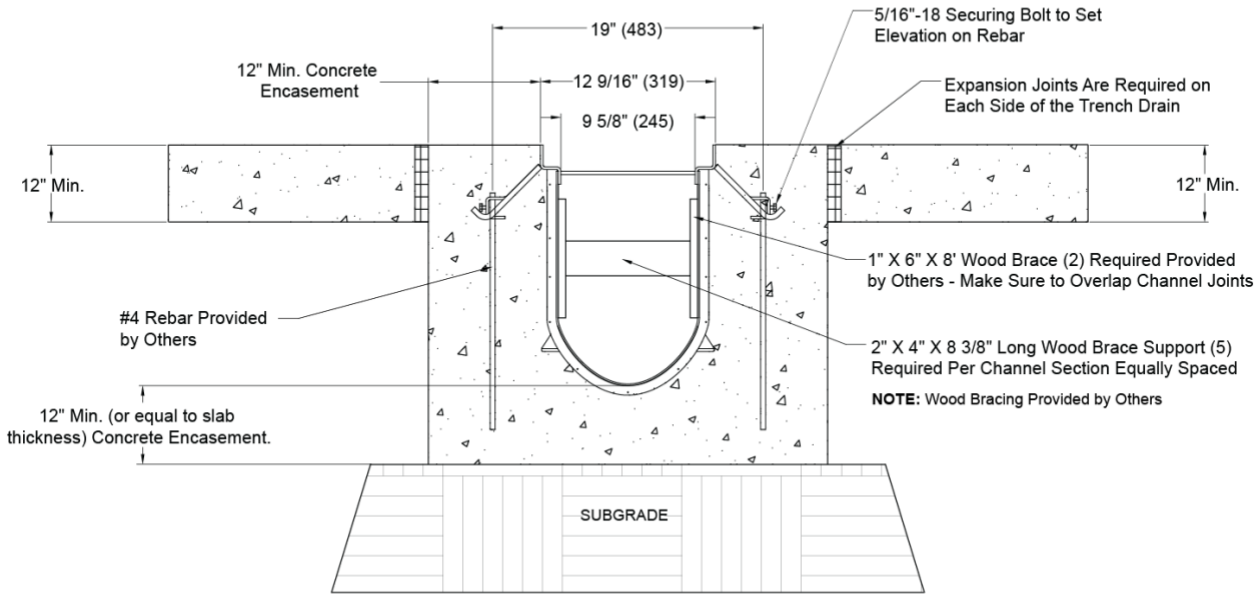

INSTALLATION IN CONCRETE

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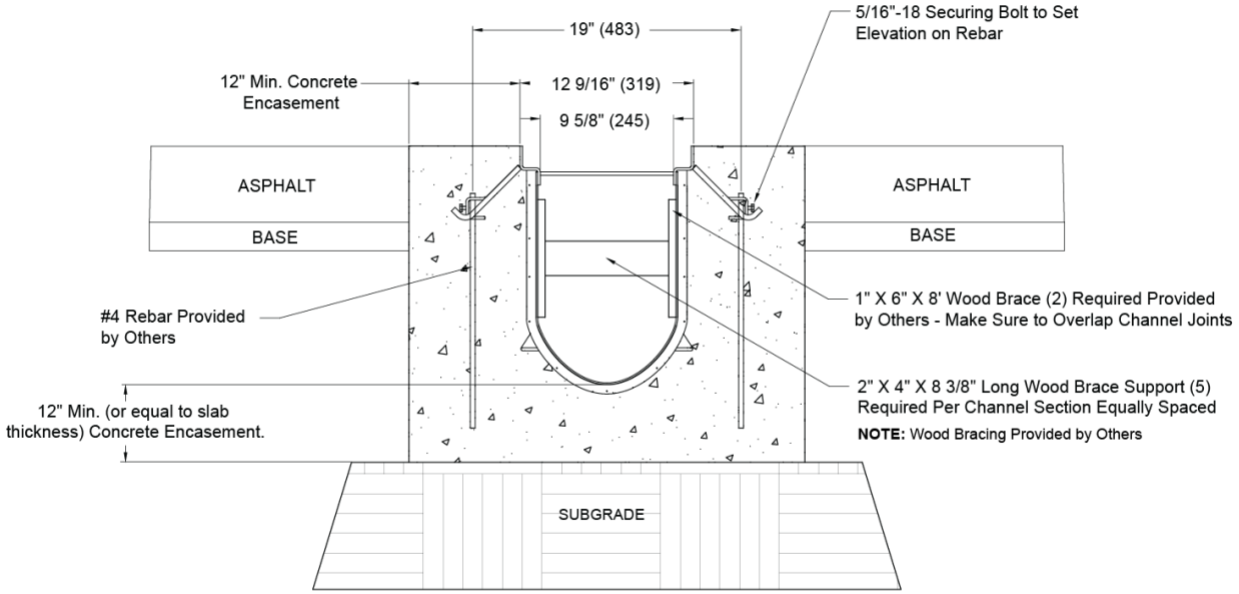


INSTALLATION IN ASPHALT

System Layout

Each channel displays a number on the outside of the channel identifying its sequential location in the system. Arrows on both sides of the channel indicate flow direction. Channels should be laid out, in numerical order along-side the completed excavation. To assure proper alignment and grade elevation use a string line.

9940 Series Accessories

Horizontal Cap

End Cap

4" No-Hub Vertical Outlet Fitting (Snaps on anywhere on the channel)

OPERATIONS AND MAINTENANCE

9940 / 9960 ZIP TRENCH™ DRAIN SYSTEMS

FINAL INSPECTIONS

	Remove any debris in system and grate seat. Ensure outlet pipes are clear.
	Install trash buckets in catch basins, if required.
	Flush trench run to check for pipe work blockages, unblock if necessary.
	Empty trash buckets and clean out pipe connections, if necessary. Replace trash buckets.
	Install grating in proper position ensuring they are securely locked down.

MAINTENANCE

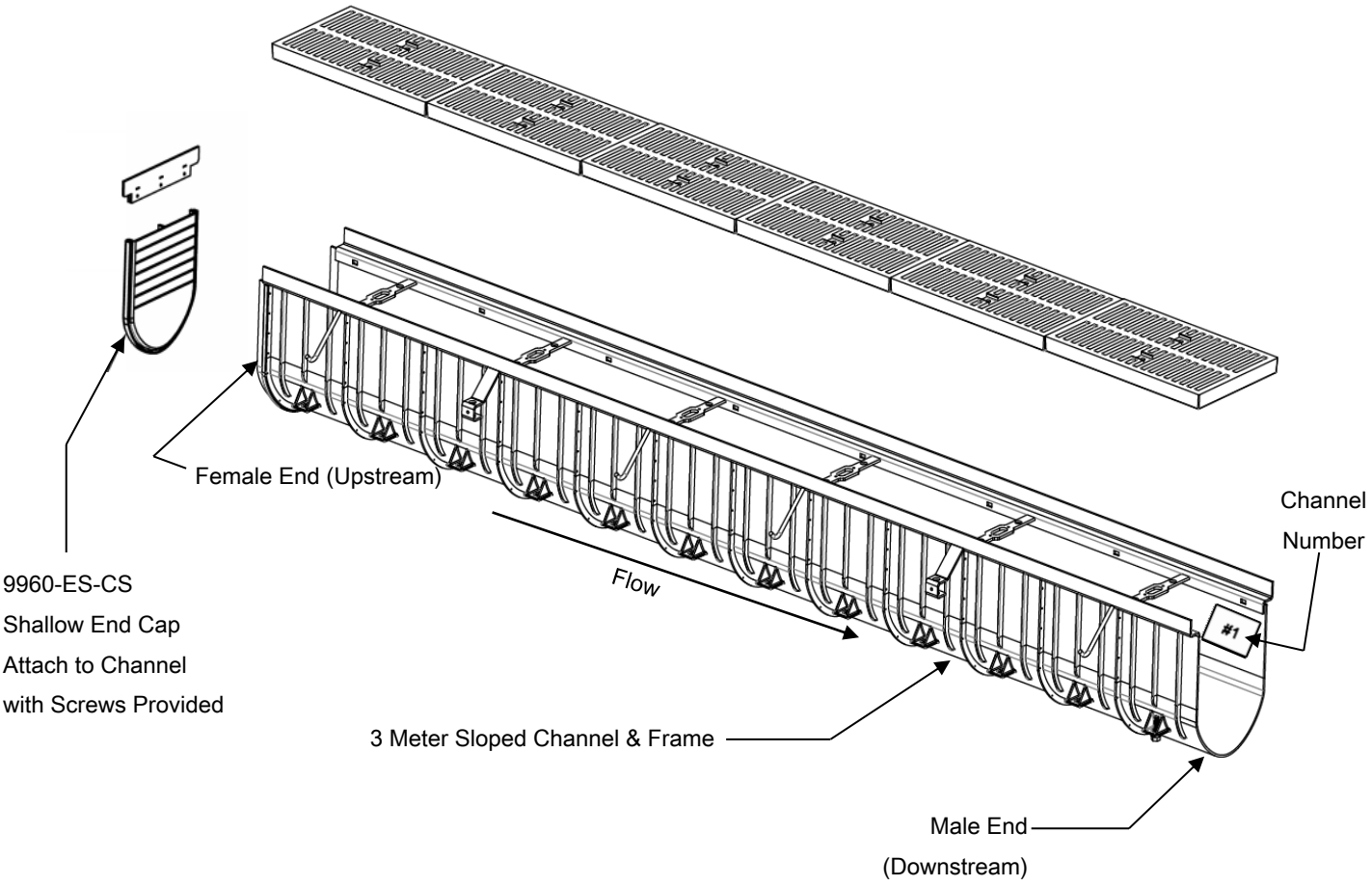
	Remove grates.
	Remove debris from channel.
	Flush channels with water or high-pressure washer.
	Repair damaged surfaces, if necessary, with an appropriate repair kit.
	Renew joint seals as required.
	Empty trash buckets and clean out pipe connections. Re-install grates, ensuring they are locked in place.

ADDITIONAL MAINTENANCE INFORMATION

Inspections should cover:

- Grates and locking devices
- Catch basins and trash buckets
- Concrete surround and adjacent paving
    - ♦ Regular inspections of trench drain systems are recommended. Frequency will depend on local conditions and environment, but should be inspected annually to ensure maximum efficiency.
    - ♦ All items should be inspected for damage, blockage, or movement. Compare with site drawings if necessary.
    - ♦ Systems with grates that have wide slots may be cleaned with the use of pressured water applied through the grate.
    - ♦ Debris will be washed to catch basin for removal. (Empty and replace trash bucket.)

9960 Shown Below



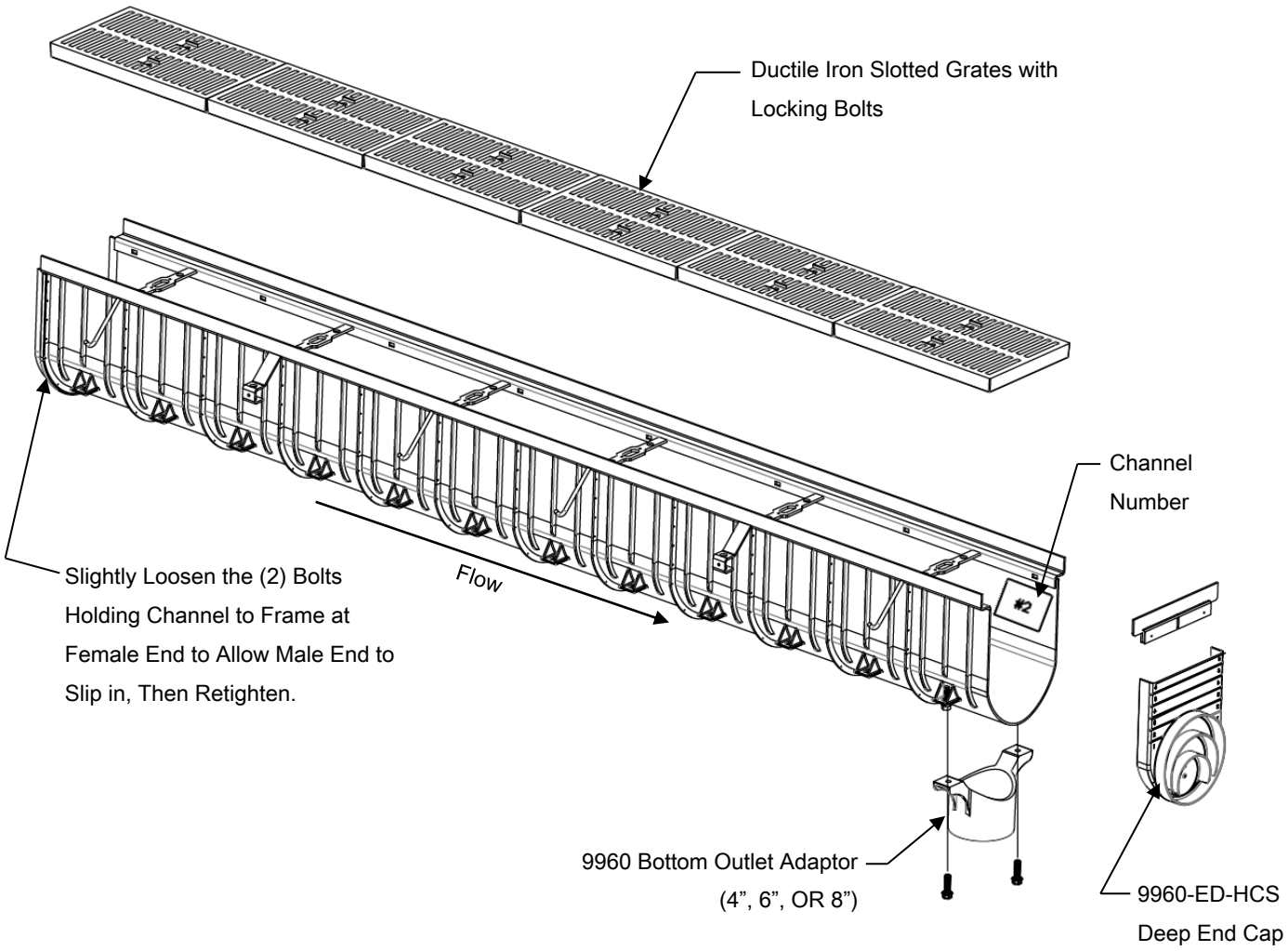
NOTE: Channel Section Shipped Factory with Frame Assembled.

NOTE: Internal Wood Bracing Required Before Pouring Concrete.

9940 and 9960 Systems

- Make sure arrows on stickers at each end of channels all point in the intended direction of flow. (Toward outlet point)
- Brace channels internally with lumber (by others) to keep concrete from collapsing the channel. Use #4 or #5 rebar to support channel sections during concrete pour
- Pour equal amounts of concrete on sides to prevent shifting.
- Pour in 4-6” lifts at a time to properly vibrate air out of concrete. For good consolidation consult concrete installer recommendations.

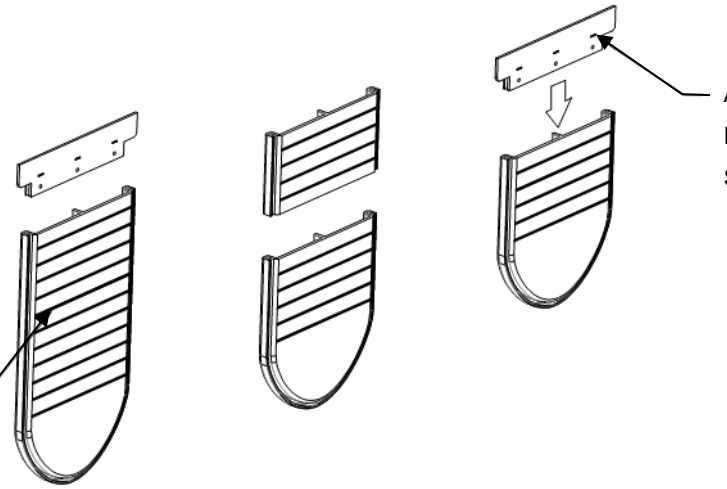
9960 Shown Below



NOTE: Internal Wood Bracing Required Before Pouring Concrete.

9940 and 9960 Systems

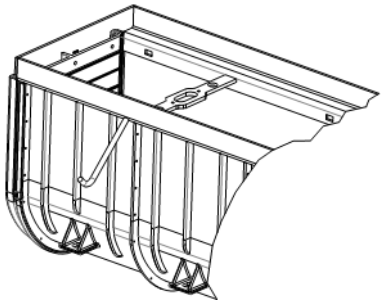
SHALLOW END CAP INSTALLATION DETAIL



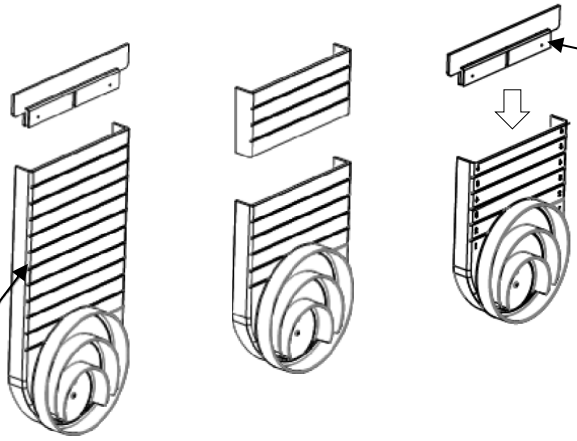
Attach End Frame to Top of End Cap as Shown with Self-tapping Screws Provided.

Cut Along Line Corresponding to the Channel Number You Are Attaching the End Cap to. Lines Are Marked #1 Through #12

1. Slide End Cap Over Female End of Channel
2. Secure in Place with Supplied Self-tapping Screws Through Side of End Cap into Channel
3. Seal Cap to Channel with Chemcalk 915 Sealant from the Inside



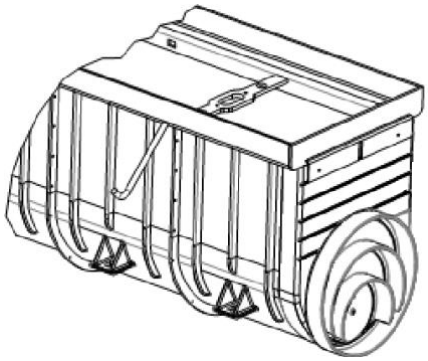
DEEP END CAP INSTALLATION DETAIL



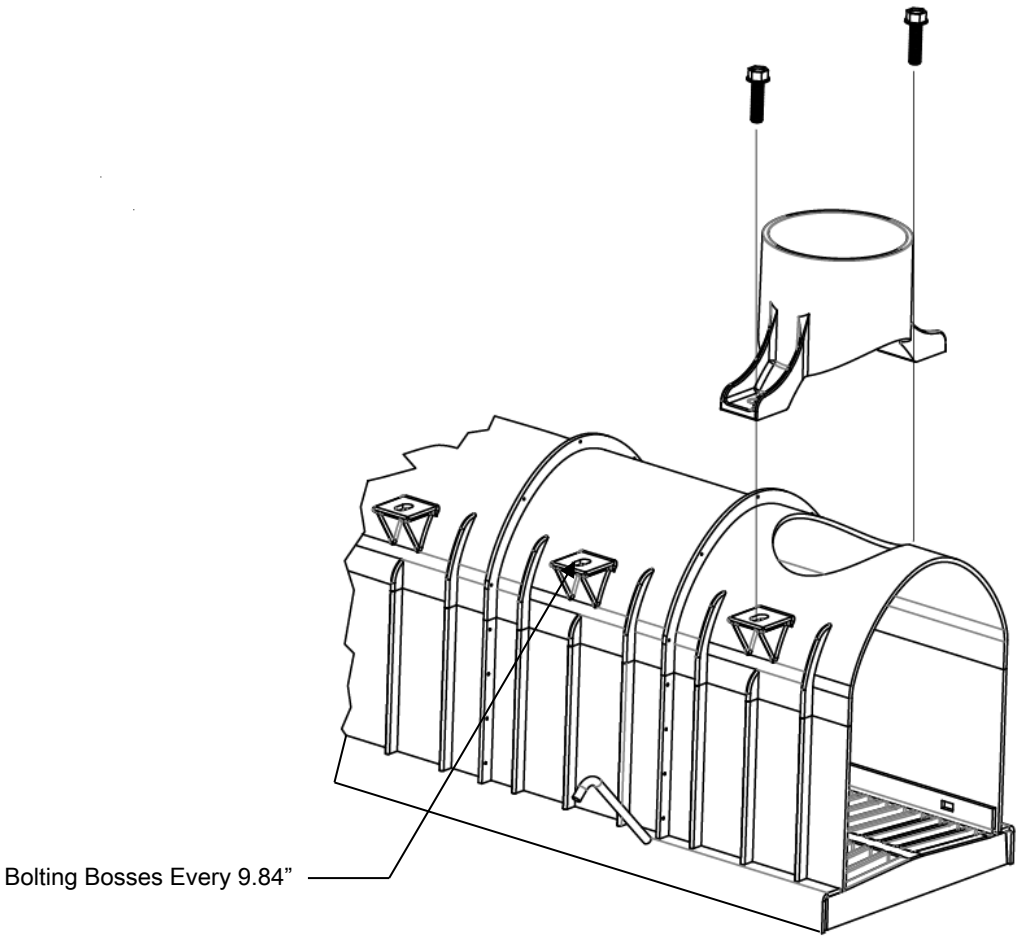
Attach End Frame to Top of End Cap as Shown with Self-tapping Screws Provided.

Cut Along Line Corresponding to the Channel Number You Are Attaching the End Cap to. Lines Are Marked #1 Through #12

1. Slide End Cap Over Male End of Channel
2. Secure End Cap in Place with Supplied Self-tapping Screws Through Side of End Cap into Channel.
3. Seal Cap to Channel with Chemcalk 915 Sealant from the Inside.

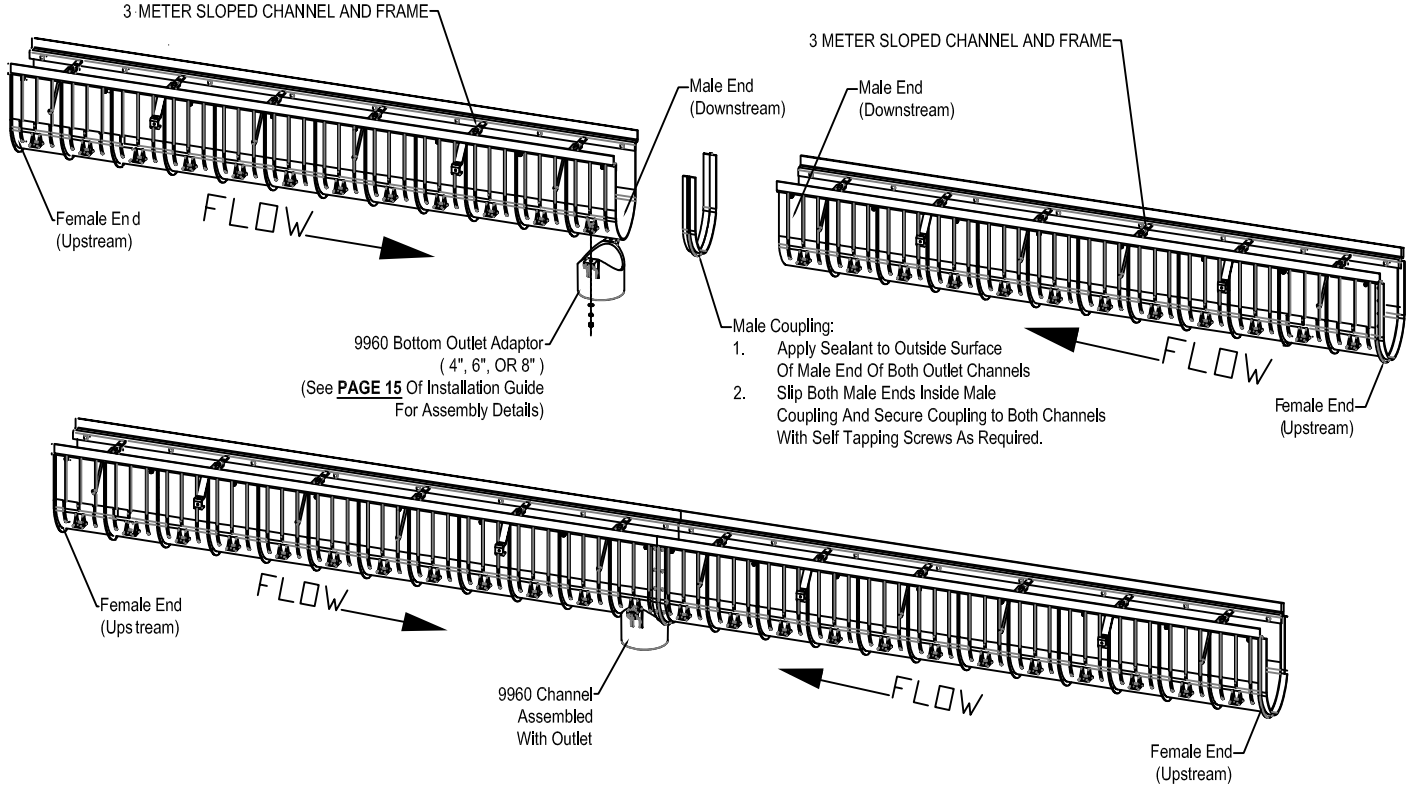


BOTTOM OUTLET INSTALLATION DETAIL

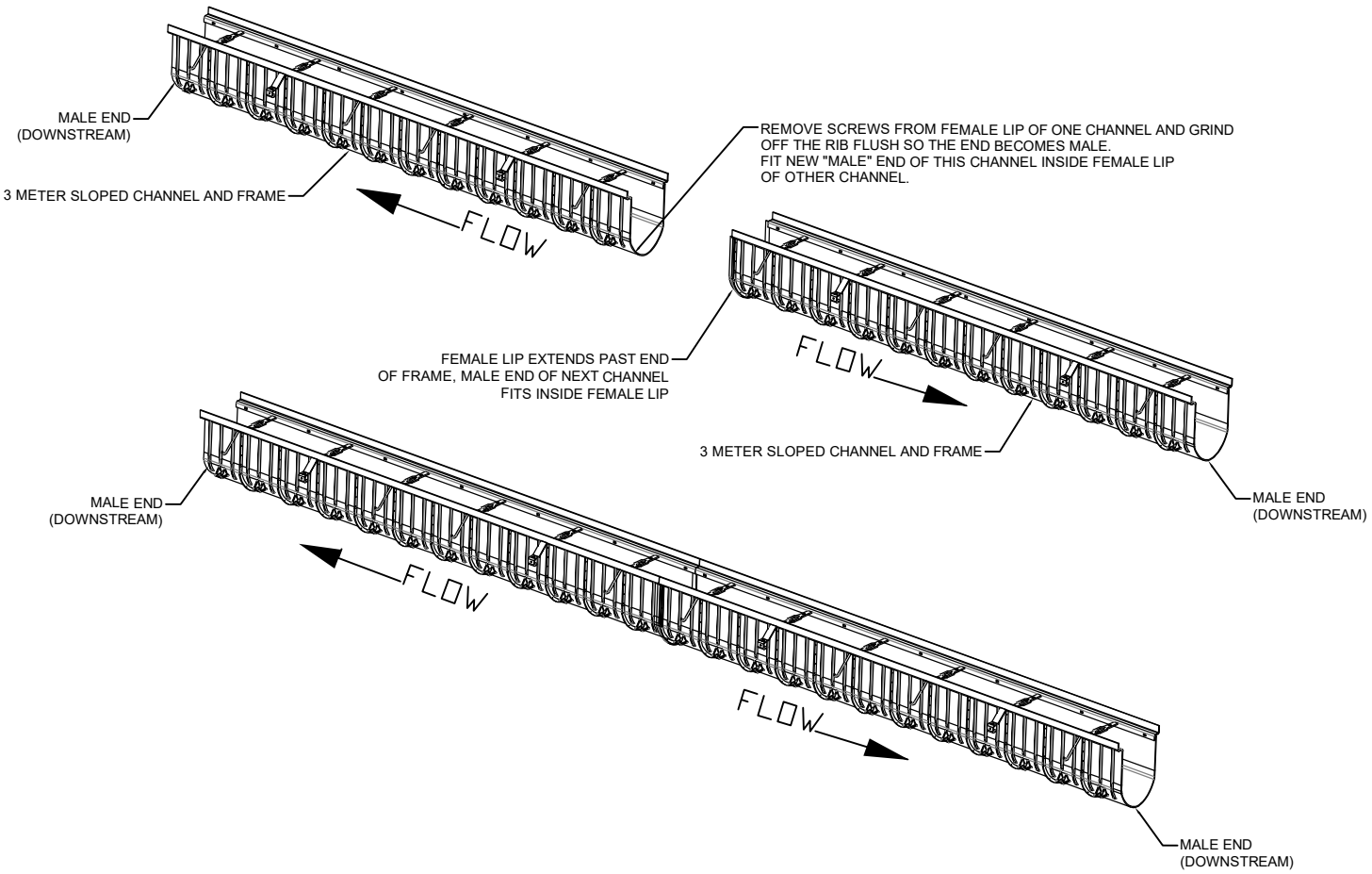


1. Align the Ears on the Vertical Outlet with the Bolting Bosses on the Side of the Channel Where You Want the Outlet Located.
2. Trace the Interior of the Outlet onto the Channel with a Magic Marker.
3. Cut Out the Opening with a Hole Saw or Reciprocating Saw.
4. Bolt the Vertical Outlet to the Channel Over the Opening and Seal to the Channel with Chemcalk 915 Sealant as Required.

9940/9960 MALE COUPLING ASSEMBLY

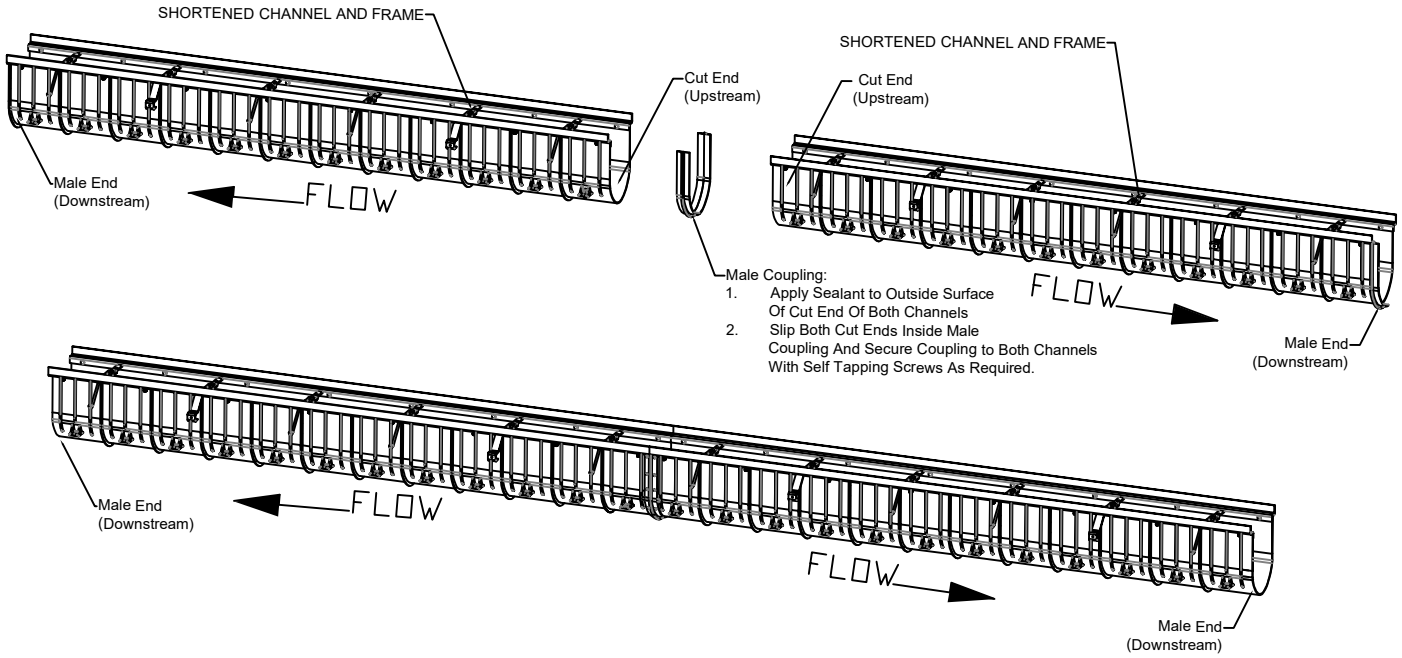


9940/9960 WITH HIGH POINT IN CENTER



9940/9960 DOUBLE FEMALE ASSEMBLY

CONNECTING TWO SHORTENED CHANNELS WITH FLOW GOING AWAY FROM CENTER



CALL FOR INSTALLATION ASSISTANCE

Jay R. Smith Manufacturing Co.®, is a world leader in the development and production of drainage products, including trench drain systems for a variety of drainage applications. Our manufacture representatives and distributors are willing to work with you to plan your drainage needs and support you with installation instructions and guidance.

JAY R. SMITH MFG CO.®

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