FLOWABLE FILL
FOR URBAN USES

Road School
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What is Flowable Fill?
Flowable Fill Is:

An Engineered Backfill Material That:

- Is Self Leveling
- Obtains Total Compaction
- Requires No Consolidation (vibration)
- Makes Backfilling Faster
- Saves Contractors on Their Total In-Place Backfill Costs.
- DOES NOT FAIL!

What is Flowable Fill Made Of?

-Fine Aggregate
-Small Amount of Cement

-Flyash (not required)
-Water (2x concrete)

NO COARSE AGGREGATE

Are There Different Mixes?

**Standard Mixes**

Low or NO entrained air
Moderate Flow
Cement, Flyash, Sand & Water
Low, Medium & High Strengths
Quicker “Set”

**High Air Mixes**

High Air Content (>15%)
Excellent Flow
Cement, Flyash, Sand & Water + Entraining Admixture
Usually Lower Strengths
Slower “Set”
What Should I Know About Strength?

Hand Removable: < 75 psi

Machine Removable: 75 to 150 psi

Non Removable: >150 psi

How Is Flowable Fill Tested?

Flow
- open ended 3” diameter by 6” tall cylinder
- spread >= 8”

Strength
- currently INDOT uses cylinder
- will change to penetrometer

Only Flow is to be tested on site
Typical Street Cut

Steps to Successful Road Cuts:

1. Cut Pavement Surface
2. Cut Excavation
3. Install Pipe
4. Tie Down Pipe
5. Do Berm & Shoulder Work
6. Backfill with Flowable Fill
7. Patch Pavement
8. Open Road

Band (collar) to connect sections of pipe. Tie down at connection (will act as a hinge under buoyant stresses).

Pipe to be installed

Limits of excavation

Do berm & shoulder work before backfilling (will act as a dam).

Pipe to be backfilled

Fence post used to anchor down pipe. Easily installed with a backhoe bucket.

Notice narrow cut. Only need enough room to allow FF to surround the pipe.