





Best Practices for Bidding CIPP and Spot Repairs

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Introduction to CIPP and Spot Repair Projects and Best Bidding Practices

- Overview of Cured-in-Place Pipe (CIPP)
- Overview of Cured-in-Place Spot Repairs
- Importance of Effective Bidding Practices
- Key Benefits of Successful Project Bidding
- Goals of the Presentation

What is Cured In Place Pipe

- Cured-In-Place-Pipe – CIPP
- The most common pipeline rehabilitation for **Gravity** applications - **Wastewater & Storm Drains**
- CIPP is a Fully STRUCTURAL rehabilitation methodology. A liner is formed inside an existing pipe to repair & rehabilitate the existing pipe. In this process, a tube impregnated with a thermosetting resin and is inserted into the host pipe, expanded, & cured to form a tight-fitting pipe within a pipe.
- Extends the life cycle of the pipeline.
- CIPP technology has expanded products & processes for **Pressure Force Mains & Potable Water** pipe applications



CIPP Lining Photos

Before CIPP Lining



After CIPP Lining





Cured In Place Pipe Curing Methods

- Water Cure vs Air Steam Cure vs UV Cure
- Benefits and When to Use Which Method
- Draw Backs and When Not to Use Each Method
- If Possible, Allow for All Curing Methods



CIPP Resins and Materials



- Air/Water vs UV Materials
- Styrene vs Styrene Free Resins
- Polyester, Vinylester, and Epoxy
- When to Use a Specific Resin
- Cost Associated With Each Resin
- Install Times Associated With Each Resin

Cured In Place Pipe Spot Repairs



- What is a Cured In Place Pipe Spot Repair
- Different Curing Methods for CIPP Spot Repairs
- When to Use a Cured In Place Pipe Spot Repair
- When Not to Use a Cured In Place Pipe Spot Repair

Photo of CIPP Spot Repair

Before CIPP Spot Repair



After CIPP Spot Repair





CIPP and CIPP Spot Repair Project Planning

- Consider Project Locations. Locations of Installs
- Access to Job Site
- Traffic Control Requirements
- Bypass Provide Flow Data if Possible
- Provide Pre-Video if Available
- Accurate Lateral Counts

What Should Be Shown On Project Plans

- Full Project Scope of Work
- Access Points, Easements, Notes Regarding Conditions
- Traffic Control Requirements
- Flow Data and Possible Diversion Routes
- Lateral Locations. Active vs Abandon
- Pipe Materials. Mainlines and Laterals
- Profiles Help but Aren't Always Necessary



Examples of Access Needed For CIPP

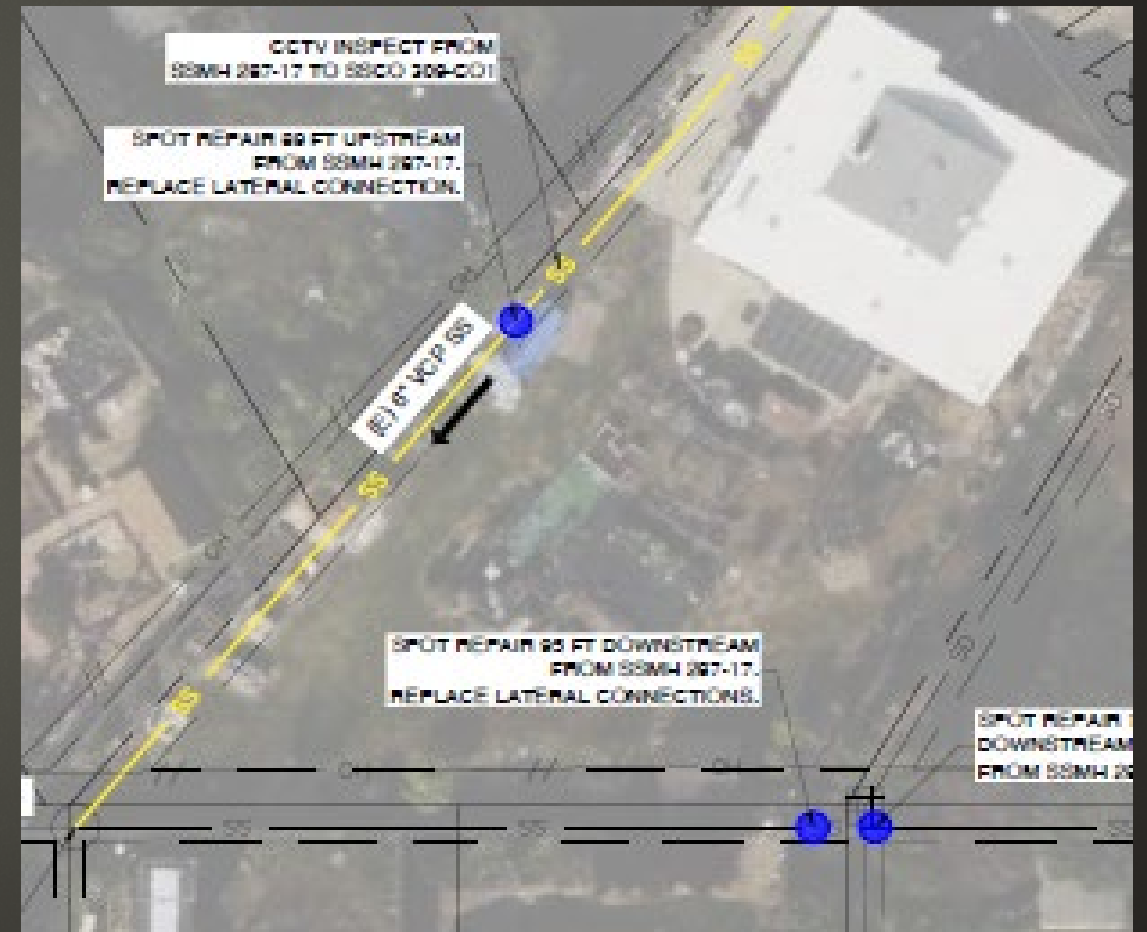
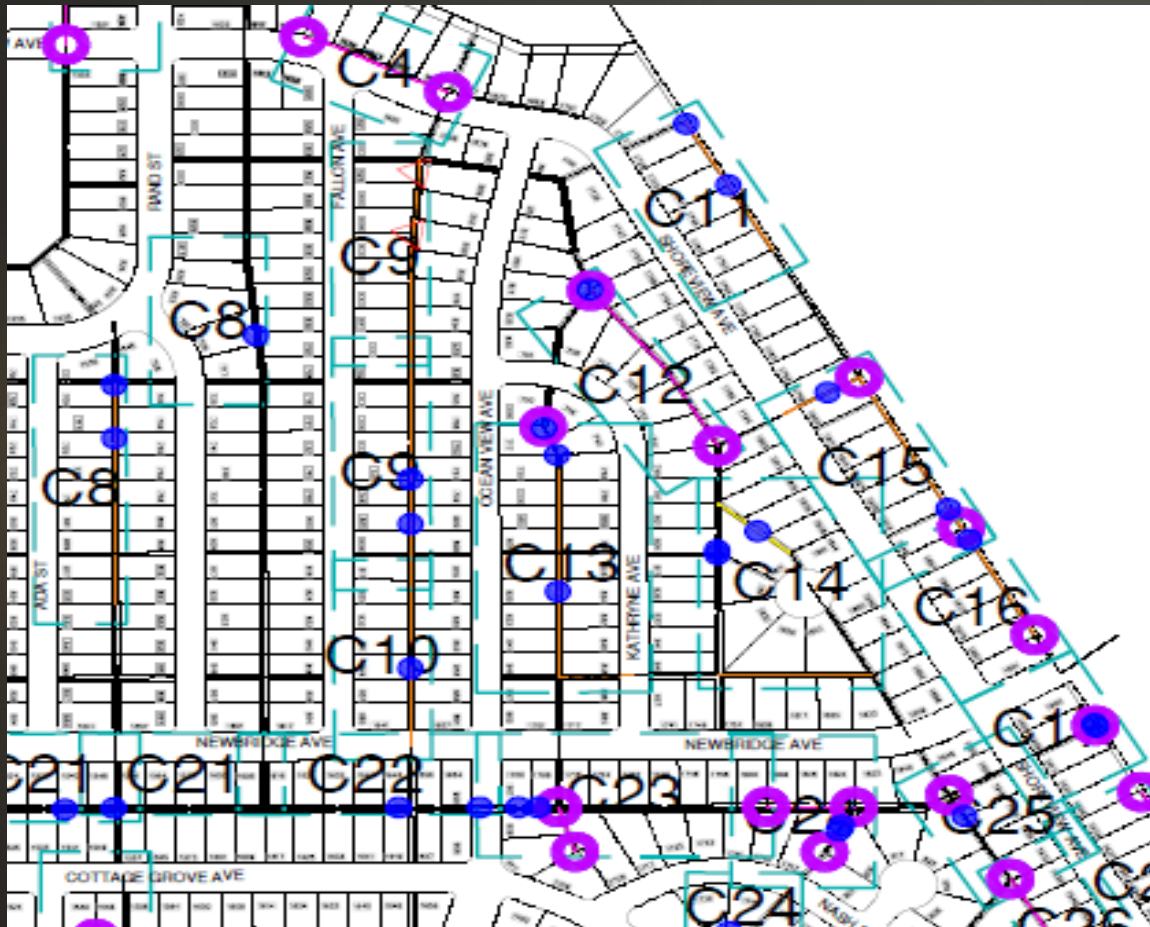
Examples of Access Needed For CIPP



Examples of Access Needed For CIPP



Example of a CIPP Spot Repair Plans



Bid Schedule Preparation

- Provide Unit Price Bid Items
- Each Item Should Have a Specific Defined Scope
- Avoid Conditional or As Needed Bid Items
- Utilize Force Accounts
- Utilize a Mobilization Bid Item

BID SCHEDULE

Item	Description	Quantity	Units	Unit Price	Amount
1	Mobilization	1	Lump Sum		\$ _____
2	Demobilization and site clean up	1	Lump Sum		\$ _____
3	Traffic control (as needed)	1	Lump Sum		\$ _____
4	Bypass of flow (as needed)	1	Lump Sum		\$ _____
5	High velocity sewer main cleaning	6,062	Linear Foot		\$ _____
6	Pre- and post- lining video inspections	12,124	Linear Foot		\$ _____
7	Trimming of protruding lateral (as needed) (None anticipated, line item to establish price)	0	Each		\$ _____
8	Install CIPP liner	6,062	Linear Foot		\$ _____
9	Robotic reconnection of service laterals	63	Each		\$ _____
				Grand Total:	\$ _____

Example of CIPP Bid Schedule

Example of CIPP/ Excavation Bid Schedule

BID ITEM NO.	ITEM DESCRIPTION	EST. QTY.	UNIT	UNIT COST	EXTENDED TOTAL AMOUNT
1	Mobilization/Demobilization	1	LS	\$	\$
2	Traffic Control	1	LS	\$	\$
3	Temporary Sewer Bypassing of Mains Less Than 42"	1	LS	\$	\$
4	Temporary Sewer Bypassing of 42" Sewer Main	1	LS	\$	\$
5	Pipe Cleaning and CCTV	6,070	LF	\$	\$
6	CIPP Lining of 6" VCP	1,375	LF	\$	\$
7	CIPP Lining of 8" VCP	700	LF	\$	\$
8	CIPP Lining of 10" VCP	2,100	LF	\$	\$
9	CIPP Lining of 12" VCP	1,030	LF	\$	\$
10	CIPP Lining of 42" VCP	865	LF	\$	\$
11	Rehab of (E) Lateral (CIPP Lining)	63	EA	\$	\$
12	Replacement of (E) Lateral (Bursting/Dig and Replace)	22	EA	\$	\$
13	Installation of (N) Lateral	4	EA	\$	\$
14	Reinstate (E) Lateral	15	EA	\$	\$
15	Installation of (N) Manhole	1	EA	\$	\$
16	Installation of (N) Lateral in Broadway	1	EA	\$	\$

Example of an As-Needed CIPP Bid Schedule

Item No.	Item Description	Quantity	Unit	Unit Price	Lump Sum	Total Price
BASE BID						
1	12-inch Sewer Main CIPP Lining, complete	2,825	LF	\$		\$
2	CCTV 6-inch to 12-inch Mains	13,350	LF	\$		\$
3	Prelining Internal Repairs	2	EA	\$		\$
4	Mobilization	1	LS		\$	\$
TOTAL BASE BID AMOUNT:						\$
ADDITIVE ALTERNATES						
5	6-inch Sewer Main CIPP Lining, complete	3,320	LF	\$		\$
6	8-inch Sewer Main CIPP Lining, complete	4,750	LF	\$		\$
7	10-inch Sewer Main CIPP Lining, complete	2,660	LF	\$		\$
8	Prelining Internal Repairs	4	EA	\$		\$
TOTAL ADDITIVE ALTERNATES AMOUNT:						\$

Utilizing Clear Specification Language

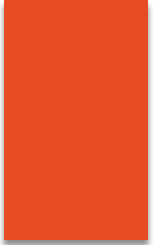
- Use Standardized Contract Templates for Your Organization
- Clearly Define Roles and Responsibilities
- Include Change Order Procedures
- Incorporate Liquidated Damages Provisions

Examples of Risky Specification Language

- *Conditional Bid Item: A Bid Item that involves significant uncertainties related to the item's eventual inclusion in, or deletion from, the work to be performed, and to the actual or eventual quantities of labor and/or materials required for that Bid Item. The actual or eventual quantity of a Conditional Bid Item may vary by more than 25% of the estimated quantity; therefore, the unit price adjustment guidelines do not apply*
- *Pre-liner tube/grout will be installed in every segment where infiltration is observed during the pre-lining CCTV inspection.*
- *It shall be the responsibility of the Contractor to clear the line of obstructions or collapsed pipe that will prevent the insertion of the linear or CCTV camera.*
- *The finished CIPP liner shall be continuous over the entire length of an insertion run and be free from visual defects such as foreign inclusions, dry spots, pinholes, leaks, cracks, delamination, lifts, unsecured joints, serious abrasion, kinking, flattening, holes, blisters, wrinkles, and other defects.*

Developing Technical Provisions

- Provide Design Requirements. Min Thickness or Design Parameters
- Try Not to Cut and Paste
- Specify Proposed Installation Techniques
- Identify Testing/Sampling Requirements. Keep Industry Standard (F 1216)
- When it Comes to CIPP Design/Spec Requirements consider Contractor's advice



8.1 For each inversion length designated by the owner in the Contract documents or purchase order, the preparation of a CIPP sample is required, using one of the following two methods, depending on access and the size of the host pipe.

8.1.1 For pipe sizes of 18 in. or less, the sample ~~should~~shall be cut from a section of cured CIPP at an intermediate manhole or at the termination point that has been inverted through a like diameter pipe which has been held in place by a suitable heat sink, such as sandbags.

8.1.2 In medium and large-diameter applications and areas with limited access, the sample ~~should~~shall be fabricated from material taken from the tube and the resin/catalyst system used and cured in a clamped mold placed in the downtube when circulating heated water is used and in the silencer when steam is used. This method can also be used for sizes 18 in. or less, in situations where preparing samples in accordance with 8.1.1 can not be obtained due to physical constrains, if approved by the owner.

8.1.3 The samples for each of these cases ~~should~~shall be large enough to provide a minimum of three specimens and a recommended five specimens for flexural testing and also for tensile testing, if applicable. The following test procedures ~~should~~shall be followed after the sample is cured and removed.

ASTM F1216 Testing/Sampling Requirement

Conducting Pre-Bid Meetings



- Schedule Meetings Well in Advance
- Invite All Potential Bidders
- Provide Site Walkthrough Opportunities
- Address Questions and Clarifications At The Meeting
- Highlight Key Contract Terms
- Distribute Meeting Minutes Promptly

Managing Bidder Questions and Requests

- Assign a Single Point of Contact
- Don't have a Question Deadline
- Respond Promptly to Inquiries
- Issue Addenda for Major Changes
- Maintain Transparency in Communications (Send to All Bidders)
- Send Questions in Writing.



Qualification of Bidders

- Require Submission of Experience Records (After bid if qualification is extensive)
- Evaluate References and Project Experience
- Verify Licenses and Certifications

Leveraging Technology in Bidding

- Use Digital Bid Management Platforms
- Adopt GIS and Mapping Tools
- Track Progress with Project Management Software
- Secure Cloud Storage for Documentation, Plans, Videos, Bid Submissions, Etc..





Adapting to Market Changes

- Monitor Industry Trends and Innovations (Reach Out to Local Installers)
- Update CIPP Specifications for New Technologies. Utilize Nassco (Don't Cut and Paste)
- Adjust Pricing Models for Inflation (Year over Year Contracts)
- Listen to Contractors when it comes to Construction Techniques and Best Practices

Continuous Improvement Strategies

- Conduct Post-Project Evaluations
- Update Standard Operating Procedures
- Implement Lessons Learned Reviews
- Engage with Industry Groups
- Promote Innovation in Bidding Practices

Final Thoughts and Q&A

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