



## TOWN OF RIVER BEND

45 Shoreline Drive  
River Bend, NC 28562

T 252.638.3870  
F 252.638.2580

[www.riverbendnc.org](http://www.riverbendnc.org)

TO: Prospective Bidders

FROM: Delane Jackson

RE: Manhole Rehabilitation Project

Date: July 22, 2026

The Town of River Bend is soliciting informal bids for the rehabilitation of 3 manholes. The manholes are located at:

1. The intersection of Channel Run and Raft Road near 102 Channel Run.
2. The intersection of Sextant Court and Raft Road near 101 Sextant
3. Sextant Court near 104 Sextant Court

and are shown in the attached pics to help bidders locate them. Data sheets for all 3 are also attached. You may arrange a site visit to inspect all 3 manholes by coordinating with Public Works Director, Brandon Mills who can be reached at 252-638-3870, Option 7.

Project specifications are attached. Bids are due by 11 a.m. on August 18, 2025. Please submit bid on the attached Bid Sheet with a proposal for each manhole listed separately. The town desires to rehabilitate all 3 manholes but if the proposals are not within the budget, the town may select specific manholes to include in the project.



## **Bid Sheet**

Name of Firm \_\_\_\_\_

Address \_\_\_\_\_

Telephone \_\_\_\_\_

Contact Name \_\_\_\_\_

Prices submitted below shall represent the all inclusive costs to cover all job components listed in the Sanitary Sewer Manhole Interior Rehabilitation Specifications (02754-1).

Bidder to supply labor, material, equipment. Town to provide water for pressure washing. If by-pass pumping is required, the town and firm will negotiate a price for it prior to commencement of pumping. Bid winner will be required to begin project within 10 days of receiving notice to proceed from town and to substantially complete project within 60 days after receiving said notice.

Price for Manhole #1 \$ \_\_\_\_\_

Price for Manhole #2 \$ \_\_\_\_\_

Price for Manhole #3 \$ \_\_\_\_\_

TOTAL of all 3 \$ \_\_\_\_\_

\_\_\_\_\_  
Signature of person authorized to submit bid or behalf of firm

\_\_\_\_\_  
Date

The town reserves the right to reject any and all bids.

Bid Sheet may be submitted via email by submitting to [manager@riverbendnc.org](mailto:manager@riverbendnc.org) or via mail to Town of River Bend, Attn: Delane Jackosn, 45 Shoreline Drive, River Bend, NC 28562 or hand delivery.

## SANITARY SEWER MANHOLE INTERIOR REHABILITATION SPECIFICATIONS

### PART 1-GENERAL

#### DESCRIPTION OF WORK:

This specification shall govern all labor, materials, equipment and appliances necessary for the sanitary sewer manhole interior rehabilitation for the purpose of eliminating infiltration and inflow, providing corrosion protection, repair of cracks and voids and restoration of the structural integrity of the manhole prior to the application of a monolithic fiber-reinforced structural/structurally enhanced cementitious liner to the wall, ceiling and bench surfaces of concrete, brick or any other masonry construction material.

#### QUALITY ASSURANCE:

Codes and Standards: This specification references American Society of Testing and Materials (ASTM) standard specifications which are made a part hereof by such reference and shall be the latest edition.

Submittals: Submit manufacturer's product data, including physical properties, surface preparation, repair application, curing and field quality control.

Testing and Inspection: CONTRACTOR shall provide all necessary equipment and materials and shall perform the visual inspections, in conformance with the requirements of this section.

Manufacturer's & Installers Abilities and Experience: Selected bidder will be required to provide documentation that the proposed manhole rehabilitation process has a minimum 5-year history for reconstruction of sanitary sewer manholes on projects of similar size and scope.

### PART 2 – MATERIALS

Use, mix, apply, and cure all products in accordance with the manufacturer's recommendations and instructions.

#### GENERAL:

Manhole rehabilitation shall consist of a multi-step solution consisting of the following: (1) wastewater flow control, (2) manhole interior cleaning/surface preparation, (3) infiltration control, (4) application of concrete repair mortar, (5) surface preparation of repair mortar, and (6) epoxy top coat.

Infiltration Control:

A single component, moisture activated polyurethane injection resin specifically formulated and designed for infiltration control shall be used for sealing active water leaks in large cracks, joints or pipe penetrations in concrete manhole structures. Hydrophilic characteristics of the product shall allow it to absorb water to create a tough, impermeable foam with superb adhesive qualities. Use where required with resin rod or oakum backer to fill large cracks and joints. Hydrophilic polyurethane grout shall be Avanti 202, or approved equal by Sika, Cetco, etc.

Concrete Repair Mortar:

Concrete repair mortar for use in patching or lining interior of brick or concrete manhole surfaces shall be a blend of Portland cement, graded silica sand, fibers and silica fume. The material applied shall be a cementitious product formulated for the intended application and resistant to a sanitary sewer environment. The product will exhibit resistance to corrosion migration and enhance the structural integrity and leak resistance of the existing manhole.

Once applied, the mortar shall provide a dense matrix to accept an epoxy top coat. Concrete repair mortar shall be Cemtec Silatec MSM Microsilica Mortar, or approved equal by Sika, US Concrete Products, etc.

Water: Shall be clean and potable.

Epoxy Top Coat:

Epoxy top coat shall be a 100%-solids, high build, high strength, reinforced epoxy lining for use on concrete surfaces in severe service environments. The product shall exhibit long-term life expectancy with extremely low permeability, excellent chemical resistance, resistance to sulfuric acid formation, and ideally suited for coating or lining sanitary sewer manholes. The product shall meet the following minimum requirements:

| Test                       | Test Method | Result            |
|----------------------------|-------------|-------------------|
| Abrasion                   | ASTM D4060  | <90 mg loss       |
| Adhesion (Concrete)        | ASTM D7234  | Substrate Failure |
| Compressive Strength       | ASTM D695   | 15,000 psi        |
| Elongation %               | ASTM D638   | 4.8%              |
| Flexural Modulus           | ASTM D790   | 590,000 psi       |
| Flexural Strength          | ASTM D790   | 11,000 psi        |
| Hardness, Shore D          | ASTM 2240   | 83                |
| Impact Resistance          | ASTM D2794  | 30 in lbs         |
| Modulus of Elasticity      | ASTM D638   | 247,000 psi       |
| Severe Wastewater Analysis | ASTM G210   | <20% reduction    |
| Tensile Strength           | ASTM D638   | 5,600 PSI         |

|                          |            |                       |
|--------------------------|------------|-----------------------|
| Water Absorption         | ASTM D570  | 0.15%                 |
| Water Vapor Transmission | ASTM D1653 | 3.0/gm/m <sup>2</sup> |

Epoxy top coat shall be Sherwin Williams Dura-Plate 6100 High Performance Epoxy, or approved equal by Tnemec, Ameron, Carboline, etc.

### PART 3 - INSTALLATION

Traffic Control: CONTRACTOR shall conduct his work to interfere as little as possible with public travel, whether vehicular or pedestrian. Whenever it is necessary to cross, obstruct, or close roads, driveways and walks, whether public or private, CONTRACTOR shall provide and maintain suitable and safe detours for the accommodation of public and private travel, and shall give reasonable notice to owners of private drives before interfering with them.

All streets, roads, and other public thoroughfares which are closed to traffic shall be protected by effective barricades on which shall be placed acceptable warning signs. Barricades shall be located at the nearest intersecting public highway or street on each side of the blocked section.

All open manholes or obstructive equipment shall have suitable barricades, signs, and lights to provide adequate protection to the public. Barricades and obstructions shall be illuminated with warning lights from sunset to sunrise. Material and equipment staged alongside public streets shall cause the minimum obstruction and inconvenience to the traveling public. All barricades, signs, lights and other protective devices shall be installed and maintained in conformity with applicable statutory requirements and the authority having jurisdiction.

#### Preparation for Manhole Rehabilitation:

Wastewater Flow Control: Manholes shall be reconstructed with the use of by-pass pumping of wastewater flow, or by using a flow through plug. With the OWNER's permission, the wastewater flow may be plugged and contained within the capacity of the collection system. This shall only be done when it has been determined the system can accommodate the surcharging without any adverse impact.

Manhole Interior Cleaning/Surface Preparation: Clean and prepare interior concrete surfaces (walls, benches and inverts) to SSPC-SP13 surface preparation specifications to remove foreign, loose and unsound concrete and masonry material from the interior surfaces of the manhole by means of abrasive blast or mechanically abrade concrete to remove loose, unsound, and protruding concrete and masonry materials to ensure adhesion for subsequent grout/patching/liner applications. All waste residue, grease or other contaminant that would prevent good bonding between the existing manhole interior surface and the repair materials shall be removed.

Infiltration Control: Active leaks (infiltration) shall be stopped using the specially formulated and approved hydrophilic polyurethane grout. Larger cracks may be plugged with compatible resin rod or oakum backer materials in conjunction with the hydrophilic polyurethane grout. Prepare

cracks and voids to be filled, and apply grout by Expanded Gasket Placement (EPG) or Variable Pressure Application (VPA) crack injection methods in accordance with the product manufacturer's instructions and recommendations. Voids beyond the wall of manhole shall be filled with the grouting mix or other means acceptable to the OWNER. Areas of manholes that are found to be structurally damaged and in need of repair beyond the scope of this specification shall be brought to the attention of the OWNER. In that instance, a suitable repair method shall be developed and submitted to the OWNER for review prior to commencing the repair. Prepare, clean and repair manhole benches and inverts in the same manner as prescribed above.

Application of Concrete Repair Mortar and Curing: Concrete surfaces to receive repair mortar shall be in a Saturated Surface Dry (SSD) condition where the concrete pores are filled with water, but the outer surface is dry. Concrete repair mortar shall be mixed and applied pursuant to the manufacturer's requirements. Mix to proper consistency to apply by hand trowel or pressure sprayer. Apply to manhole ceiling, wall and bench surfaces in a SSD condition. Apply in successive lifts to achieve ½" – 2" depth. Brush, float or trowel to achieve the desired texture. Lining shall stop at bottom of the manhole ring. Ring is not to be covered with lining material.

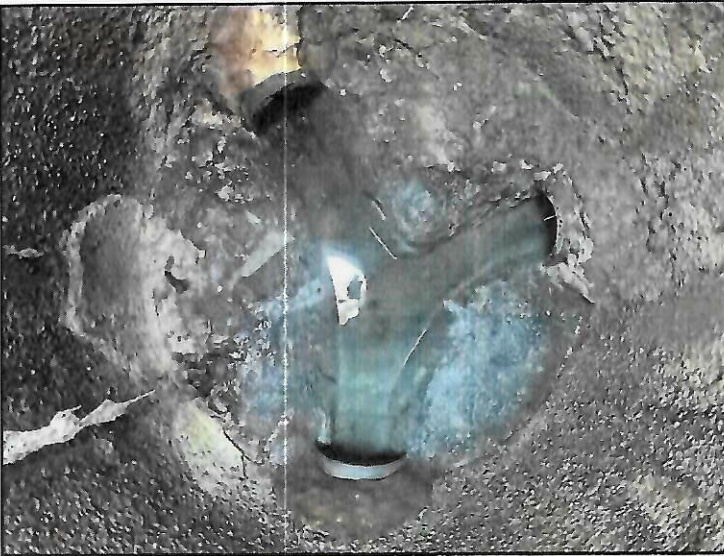
Liner application shall be ½" minimum thickness unless specified otherwise on project plans. The application shall be completed with a minimum of two coats. The first coat shall be applied at a thickness adequate to cover the substrate and be troweled to compact the material into voids and set the bond. The second coat shall be applied to ensure complete coverage at the specified minimum thickness. Inverts shall be lined with repair mortar, trowel applied in one coat to ½" minimum thickness. Do not apply materials if ambient temperature is below 40°F.

Allow liner to damp cure or use a curing compound that complies with ASTM C-309 to prevent rapid drying of the mortar. Curing compounds shall be removed prior to top coating. Replace manhole cover as soon as troweling is finished. Cure in accordance with the product manufacturer's instructions and recommendations prior to preparing mortared surface for top coat application.

Surface Preparation of Repair Mortar: Prepare mortared surfaces (walls, benches and inverts) to SSPC-SP13 surface preparation specifications to remove laitance from the interior surfaces of the manhole by means of abrasive blast or mechanical means to ensure adhesion for subsequent to coat application. All residue that would prevent good bonding between the existing manhole interior surface and the epoxy top coat shall be removed.

Epoxy Top Coating:

Concrete surfaces must be clean, dry and free of old existing coatings. Application methods shall be according to the paint manufacturer's recommendation. Minimum allowable dry film thickness shall be 100 – 125 mils applied in one coat. Dry paint thickness in mils shall be checked by the use of a mil thickness gauge. Cure time shall be in accordance with manufacturer's recommendation based on applied coating thickness and ambient temperature requirements.

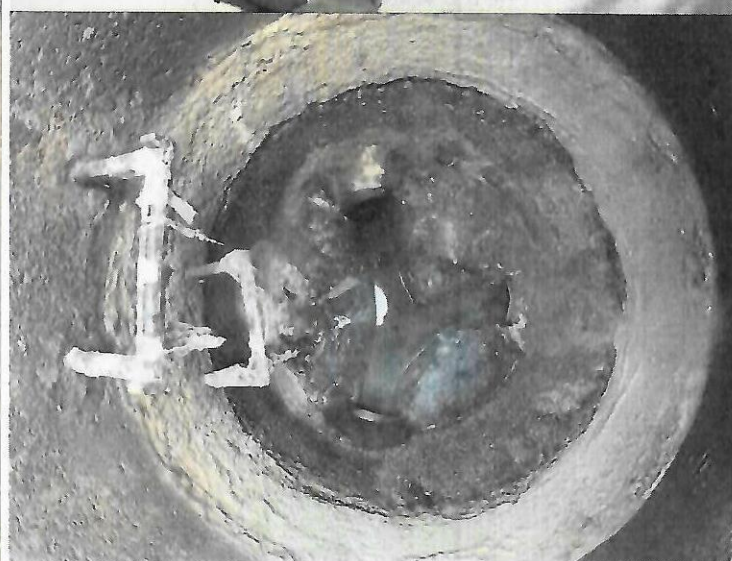
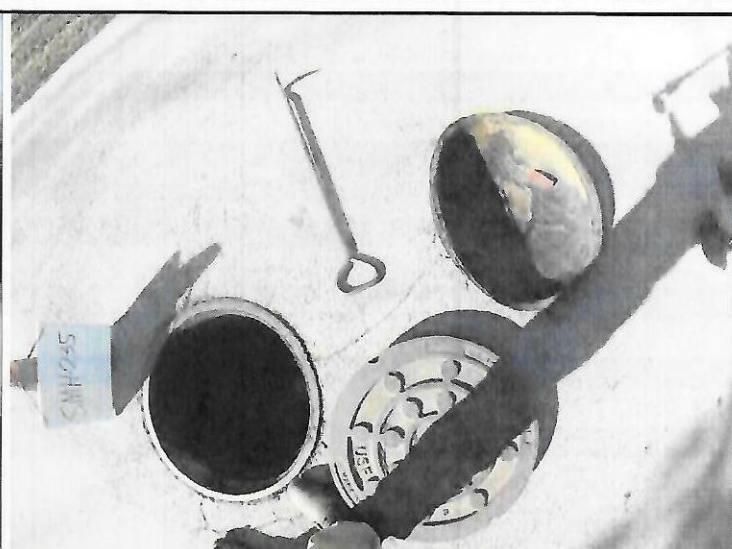
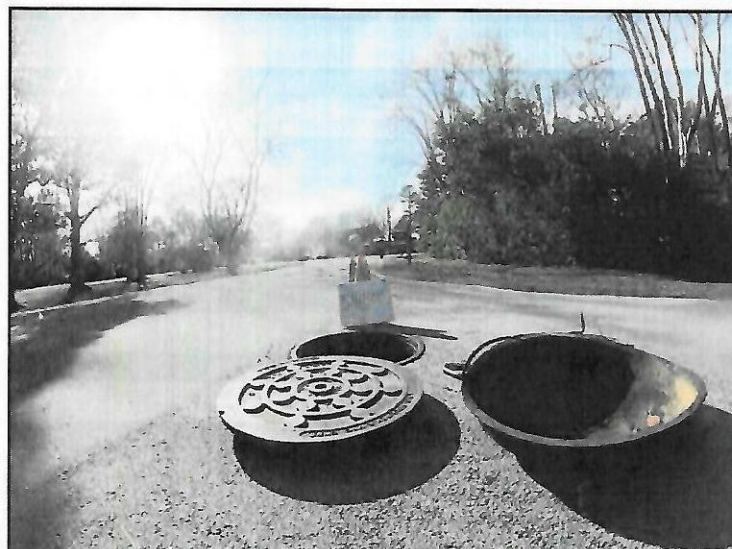


MACB Inspection

| Inspection Date | Inspector | Location | Findings             | Remarks  |
|-----------------|-----------|----------|----------------------|----------|
| 10/12/2018      | John Doe  | Unit 101 | Minor leaks at valve | Repaired |
| 11/05/2018      | John Doe  | Unit 101 | No leaks observed    | Good     |
| 12/15/2018      | John Doe  | Unit 101 | Minor leaks at valve | Repaired |
| 01/20/2019      | John Doe  | Unit 101 | No leaks observed    | Good     |
| 02/28/2019      | John Doe  | Unit 101 | Minor leaks at valve | Repaired |
| 03/20/2019      | John Doe  | Unit 101 | No leaks observed    | Good     |
| 04/15/2019      | John Doe  | Unit 101 | Minor leaks at valve | Repaired |
| 05/10/2019      | John Doe  | Unit 101 | No leaks observed    | Good     |
| 06/05/2019      | John Doe  | Unit 101 | Minor leaks at valve | Repaired |
| 07/01/2019      | John Doe  | Unit 101 | No leaks observed    | Good     |
| 08/01/2019      | John Doe  | Unit 101 | Minor leaks at valve | Repaired |
| 09/01/2019      | John Doe  | Unit 101 | No leaks observed    | Good     |

## MACP Inspection Report

|                |                                                                                                                                                                                                                                                  |                  |                    |                        |                                |                      |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------|------------------------|--------------------------------|----------------------|
| Manhole Number | Access Type                                                                                                                                                                                                                                      | Drainage Area    | MH Use             | Owner                  | Customer                       |                      |
| SMH-235        | Manhole                                                                                                                                                                                                                                          | LS-2             | Sanitary           | TOWN OF RIVER BEND, NC | MUNICIPAL ENGINEERING SERVICE  |                      |
| Year Built     | Year Renewed                                                                                                                                                                                                                                     | City             | Street Address     | Location Details       |                                |                      |
|                |                                                                                                                                                                                                                                                  | RIVER BEND, NC   | 100 RAFT RD        | 18FT FROM MAILBOX      |                                |                      |
| Location Code  | Surface Type: <input checked="" type="checkbox"/> Asphalt <input type="checkbox"/> Concrete Pavement <input type="checkbox"/> Concrete Collar <input type="checkbox"/> Grass/Dirt <input type="checkbox"/> Gravel <input type="checkbox"/> Other |                  |                    |                        |                                |                      |
| Light Highway  |                                                                                                                                                                                                                                                  |                  |                    |                        |                                |                      |
| Surveyor       | Cert No.                                                                                                                                                                                                                                         | Project          | Work Order         | PO#                    | Purpose                        | Category             |
| SPHILLIPS_CES  | U-516-07008836                                                                                                                                                                                                                                   | 2715             |                    |                        | Sewer System Evaluation Survey |                      |
| Date           | Time                                                                                                                                                                                                                                             | Inspection Level | Inspection Status  | Evidence of Surcharge  | Weather                        | Potential for Runoff |
| 2023-12-13     | 12:25                                                                                                                                                                                                                                            | Level 2          | Surface Inspection | Yes                    | Dry                            | Sheeting             |
| Pre-Cleaning   | Date Cleaned                                                                                                                                                                                                                                     | Rim to Invert    | Grade to Invert    | Rim to Grade           | Additional Info                |                      |
| Not Known      |                                                                                                                                                                                                                                                  | 7                | 7                  | 0                      |                                |                      |
| GPS Accuracy   | Coordinate System                                                                                                                                                                                                                                | Northing         | Easting            | Elevation              | Additional Component Info      |                      |
| Sub-Meter      | EPSG:6543 - NAD 83 2011 N                                                                                                                                                                                                                        | 488278.27721557  | 2555097.3890325    |                        |                                |                      |



**Chimney**

Chimney Material1: Concrete (reinforced)

Chimney Material2:

Chimney I/I: None

Chimney Clear Opening:

Chimney Depth: 1.4

Chimney Lining Interior: None - No Coating

Chimney Lining Exterior:

**Cone**

Cone Type: Conical off centered

Cone Material: Concrete (reinforced)

Cone Depth: 4.1

Cone Lining Interior: None - No Coating

Cone Lining Exterior:

**Wall**

Wall Diameter: 48

Wall By Size:

Wall Material: Concrete (reinforced)

Wall Depth: 6.4

Wall Lining Interior: None - No Coating

Wall Lining Exterior:

**Bench**

Bench Present: Yes

Bench Material: Concrete (non-reinforced)

Bench Lining: None - No Coating

**Channel**

Channel Installer: Yes

Channel Material: Concrete (non-reinforced)

Channel Type: Formed

Channel Exposure: Fully Opened

**Steps**

Step Number: 3

Step Material: Plastic

Cover

Cover Type

- ☒ Solid
- ☐ Vented
- ☐ Gasketed
- ☐ Bolted
- ☐ Inner Cover
- ☐ Locking
- ☐ Hatch - Single
- ☐ Hatch - Double
- ☐ Lamphole

Cover Shape: Circular  
Cover Size: 23.5  
Cover Width:  
Cover Material: Cast Iron  
Hole Number:  
Hole Diameter:  
Cover Bearing Surface Dia: 23.3  
Cover Bearing Surface Width: 23.3  
Cover/Frame Fit: Good

Cover Condition

- ☒ Sound
- ☐ Cracked
- ☐ Broken
- ☐ Corroded
- ☐ Bolts Missing
- ☐ Missing
- ☐ Restraint Missing
- ☐ Restraint Defective

Cover Insert

Insert Type: Plastic

Insert Condition

- ☐ Sound
- ☒ Poorly Fitting
- ☐ Cracked
- ☐ Leaking
- ☐ Insert Fell
- ☐ Corroded

Adjustment Ring

Ring Type: None  
Ring Material:  
Ring Height:

Adjustment Ring Condition

- ☐ Sound
- ☐ Cracked
- ☐ Broken
- ☐ Corroded
- ☐ Leaking
- ☐ Poor Install

Frame

Material: Cast Iron

Frame Depth: 8

Frame Bearing Surface Width: 0.5

Frame Bearing Surface Depth: 1

Frame Clear Open Diam: 22.8

Frame Offset Distance: 0

Frame Seal Inflow: None

Frame Condition

- ☐ Sound
- ☐ Cracked
- ☐ Broken
- ☐ Missing
- ☒ Corroded
- ☐ Coated

Frame Seal Condition

- ☒ Sound
- ☐ Cracked
- ☐ Loose
- ☐ Offset
- ☐ Missing

## MH Connections

**Pipe #:** 2      **Clock:** 11      **Rim to Invert:** 6.9      **Direction:** In      **Material:** Reinforced Plastic Pipe (Truss Pipe)  
**Shape:** Circular      **Dia 1:** 8      **Dia 2:**      **Pipe Condition:** Sound  
**Seal Condition:** Defective      **Special Condition:** Gravity Relief Connection      **Pipe ID:** SGM-76  
**Comments:**



**Pipe #:** 3      **Clock:** 3      **Rim to Invert:** 6.7      **Direction:** In      **Material:** Reinforced Plastic Pipe (Truss Pipe)  
**Shape:** Circular      **Dia 1:** 8      **Dia 2:**      **Pipe Condition:** Sound  
**Seal Condition:** Sound      **Special Condition:** Gravity Relief Connection      **Pipe ID:** SGM-79  
**Comments:**



**Pipe #:** 1      **Clock:** 6      **Rim to Invert:** 7      **Direction:** Out      **Material:** Cast Iron  
**Shape:** Circular      **Dia 1:** 8      **Dia 2:**      **Pipe Condition:** Sound  
**Seal Condition:** Sound      **Special Condition:** Gravity Relief Connection      **Pipe ID:** SGM-80  
**Comments:**



## MH Conditions

Distance 0.7 MHI Component: Chimney Interior

MACP Code: Mortar Missing Small

Continuous:

1st Dimension:

2nd Dimension:

Percent:

At/From: 6

To: 6

☐ Joint

☐ Step

Remarks:



Distance 2.9 MHI Component: Wall Interior

MACP Code: Deposits Attached Ragging

Continuous:

1st Dimension:

2nd Dimension:

Percent: 5

At/From: 9

To:

☐ Joint

☒ Step

Remarks:



Distance 4.5 MHI Component: Wall Interior

MACP Code: Mortar Missing Medium

Continuous:

1st Dimension:

2nd Dimension:

Percent:

At/From: 6

To: 6

☐ Joint

☐ Step

Remarks:



Distance 5.8 MHI Component: Wall Interior

MACP Code: Infil Stain

Continuous:

1st Dimension:

2nd Dimension:

Percent:

At/From: 1

To: 11

☒ Joint

☐ Step

Remarks:



Distance 6.3      MH Component: Bench      MACP Code: Infil Weeper      Continuous:  
1st Dimension:      2nd Dimension:      Percent:      At/From: 11      To:      ☐ Joint      ☐ Step  
Remarks:



Distance 6.4      MH Component: Bench      MACP Code: Deposits Settled Compacted      Continuous:  
1st Dimension:      2nd Dimension:      Percent: 5      At/From: 11      To: 3      ☐ Joint      ☐ Step  
Remarks:

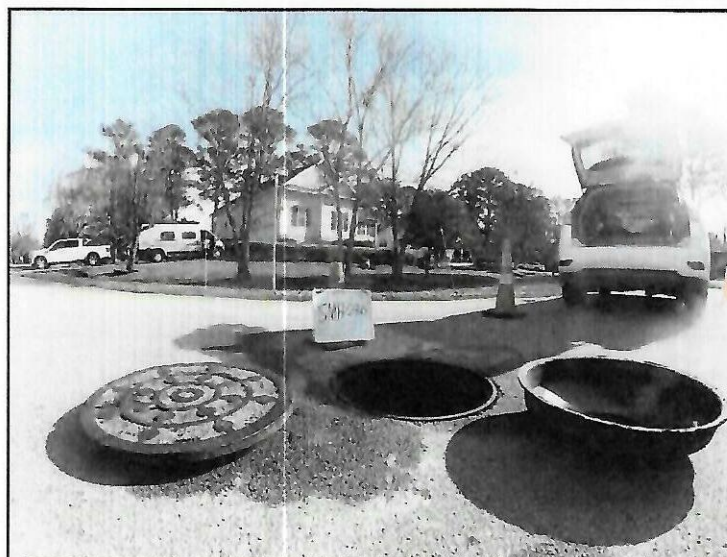


Distance 6.5      MH Component: Bench      MACP Code: Deposits Settled Fine      Continuous:  
1st Dimension:      2nd Dimension:      Percent: 5      At/From: 6      To: 10      ☐ Joint      ☐ Step  
Remarks:



## MACP Inspection Report

| Manhole Number | Access Type                                                                                                                                                                                                                                      | Drainage Area    | MH Use             | Owner                  | Customer                       |                      |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------|------------------------|--------------------------------|----------------------|
| SMH-236        | Manhole                                                                                                                                                                                                                                          | LS-2             | Sanitary           | TOWN OF RIVER BEND, NC | MUNICIPAL ENGINEERING SERVICE  |                      |
| Year Built     | Year Renewed                                                                                                                                                                                                                                     | City             | Street Address     | Location Details       |                                |                      |
|                |                                                                                                                                                                                                                                                  | RIVER BEND, NC   | 103 SEXTANT CT     | 12 FROM STREET SIGN    |                                |                      |
| Location Code  | Surface Type: <input checked="" type="checkbox"/> Asphalt <input type="checkbox"/> Concrete Pavement <input type="checkbox"/> Concrete Collar <input type="checkbox"/> Grass/Dirt <input type="checkbox"/> Gravel <input type="checkbox"/> Other |                  |                    |                        |                                |                      |
| Light Highway  |                                                                                                                                                                                                                                                  |                  |                    |                        |                                |                      |
| Surveyor       | Cert No.                                                                                                                                                                                                                                         | Project          | Work Order         | PO#                    | Purpose                        | Category             |
| SPHILLIPS_CES  | U-516-07008836                                                                                                                                                                                                                                   | 2715             |                    |                        | Sewer System Evaluation Survey |                      |
| Date           | Time                                                                                                                                                                                                                                             | Inspection Level | Inspection Status  | Evidence of Surcharge  | Weather                        | Potential for Runoff |
| 2023-12-13     | 11:17                                                                                                                                                                                                                                            | Level 2          | Surface Inspection | Yes                    | Dry                            | Sheeting             |
| Pre-Cleaning   | Date Cleaned                                                                                                                                                                                                                                     | Rim to Invert    | Grade to Invert    | Rim to Grade           | Additional Info                |                      |
| Not Known      |                                                                                                                                                                                                                                                  | 5.4              | 5.4                | 0                      |                                |                      |
| GPS Accuracy   | Coordinate System                                                                                                                                                                                                                                | Northing         | Easting            | Elevation              | Additional Component Info      |                      |
| Sub-Meter      | EPSG:6543 - NAD 83 2011 N                                                                                                                                                                                                                        | 488538.97989333  | 2554963.4999104    |                        |                                |                      |



**Chimney**

Chimney Material1: Concrete (reinforced)

Chimney Material2:

Chimney I/I: Infil Stained

Chimney Clear Opening:

Chimney Depth: 1.4

Chimney Lining Interior: None - No Coating

Chimney Lining Exterior:

**Cone**

Cone Type: Conical off centered

Cone Material: Concrete (reinforced)

Cone Depth: 4.1

Cone Lining Interior: None - No Coating

Cone Lining Exterior:

**Wall**

Wall Diameter: 48

Wall By Size:

Wall Material: Concrete (reinforced)

Wall Depth: 4.9

Wall Lining Interior: None - No Coating

Wall Lining Exterior:

**Bench**

Bench Present: Yes

Bench Material: Concrete (non-reinforced)

Bench Lining: None - No Coating

**Channel**

Channel Installed: Yes

Channel Material: Concrete (non-reinforced)

Channel Type: Formed

Channel Exposure: Fully Opened

**Steps**

Step Number: 2

Step Material: Plastic

## Cover

### Cover Type

- ☒ Solid  
☐ Vented  
☐ Gasketed  
☐ Bolted  
☐ Inner Cover  
☐ Locking  
☐ Hatch - Single  
☐ Hatch - Double  
☐ Lamphole

Cover Shape: Circular  
Cover Size: 23.5  
Cover Width:  
Cover Material: Cast Iron  
Hole Number:  
Hole Diameter:  
Cover Bearing Surface Dia: 23.3  
Cover Bearing Surface Width: 23.3  
Cover/Frame Fit: Good

### Cover Condition

- ☒ Sound  
☐ Cracked  
☐ Broken  
☐ Corroded  
☐ Bolts Missing  
☐ Missing  
☐ Restraint Missing  
☐ Restraint Defective

## Cover Insert

### Insert Condition

- ☒ Sound  
☐ Poorly Fitting  
☐ Cracked  
☐ Leaking  
☐ Insert Fell  
☐ Corroded

Insert Type: Plastic

## Adjustment Ring

### Adjustment Ring Condition

- ☐ Sound  
☐ Cracked  
☐ Broken  
☒ Corroded  
☐ Leaking  
☐ Poor Install
- Ring Type: Solid  
Ring Material: Cast Iron  
Ring Height: 3

## Frame

Material: Cast Iron

Frame Depth: 10

Frame Bearing Surface Width: 0.5

Frame Bearing Surface Depth: 1

Frame Clear Open Diam: 22

Frame Offset Distance: 0

Frame Seal Inflow: Infil Stained

### Frame Condition

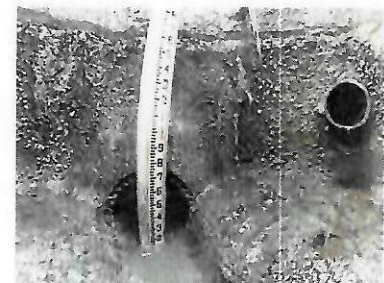
- ☐ Sound  
☐ Cracked  
☐ Broken  
☐ Missing  
☒ Corroded  
☐ Coated

### Frame Seal Condition

- ☒ Sound  
☐ Cracked  
☐ Loose  
☐ Offset  
☐ Missing

Pipe #: 1    Clock: 6    Rim to Invert: 5.4    Direction: Out    Material: Reinforced Plastic Pipe (Truss Pipe)  
 Shape: Circular    Dia 1: 8    Dia 2: 8    Pipe Condition: Sound  
 Seal Condition: Sound    Special Condition: Gravity Relief Connection    Pipe ID: SGM-79

Comments:



## MH Conditions

Distance 0.8    MH Component: Chimney Interior    MACP Code: Infil Stain    Continuous: ☐ Joint ☐ Step  
 1st Dimension:    2nd Dimension:    Percent:    At/From: 7    To: 8

Remarks:



Distance 0.8    MH Component: Chimney Interior    MACP Code: Mortar Missing Medium    Continuous: ☐ Joint ☐ Step  
 1st Dimension:    2nd Dimension:    Percent:    At/From: 6    To: 6

Remarks:

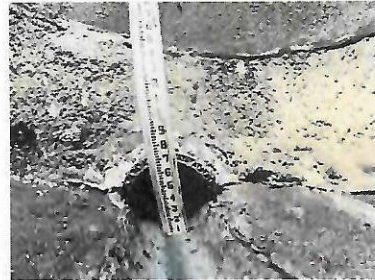


## MH Connections

Pipe #: 2      Clock: 8      Rim to Invert: 4.5      Direction: In      Material: Polyvinyl Chloride  
Shape: Circular      Dia 1: 4      Dia 2      Pipe Condition: Sound  
Seal Condition: Sound      Special Condition: Lateral to Building      Pipe ID:  
Comments:



Pipe #: 3      Clock: 11      Rim to Invert: 5.2      Direction: In      Material: Reinforced Plastic Pipe (Truss Pipe)  
Shape: Circular      Dia 1: 8      Dia 2      Pipe Condition: Sound  
Seal Condition: Sound      Special Condition: Gravity Relief Connection      Pipe ID: SGM-77  
Comments:

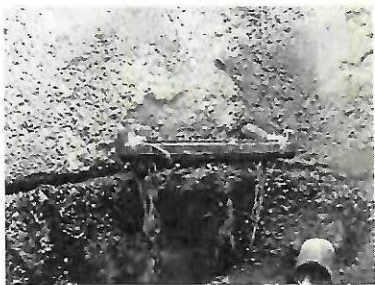


Pipe #: 4      Clock: 3      Rim to Invert: 5.2      Direction: In      Material: Reinforced Plastic Pipe (Truss Pipe)  
Shape: Circular      Dia 1: 8      Dia 2      Pipe Condition: Sound  
Seal Condition: Sound      Special Condition: Gravity Relief Connection      Pipe ID: SGM-78  
Comments:





Distance 3.1 MH Component: Wall Interior MACP Code: Deposits Attached Ragging Continuous:  
 1st Dimension: 2nd Dimension: Percent: 5 At/From: 6 To: 7 ☐ Joint ☒ Step  
 Remarks:



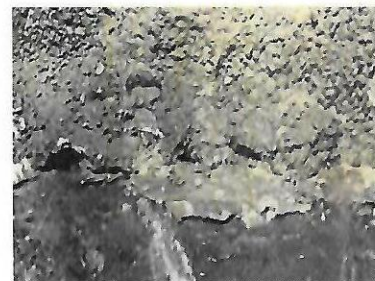
Distance 3.5 MH Component: Wall Interior MACP Code: Infil Stain Continuous:  
 1st Dimension: 2nd Dimension: Percent: At/From: 3 To: 8 ☒ Joint ☐ Step  
 Remarks:



Distance 3.5 MH Component: Wall Interior MACP Code: Mortar Missing Large Continuous:  
 1st Dimension: 2nd Dimension: Percent: At/From: 11 To: 8 ☐ Joint ☐ Step  
 Remarks:



Distance 5 MH Component: Bench MACP Code: Deposits Settled Compacted Continuous:  
 1st Dimension: 2nd Dimension: Percent: 5 At/From: 11 To: 1 ☐ Joint ☐ Step  
 Remarks:



## Cover

### Cover Type

- ☒ Solid
- ☐ Vented
- ☐ Gasketed
- ☐ Bolted
- ☐ Inner Cover
- ☐ Locking
- ☐ Hatch - Single
- ☐ Hatch - Double
- ☐ Lamphole

Cover Shape: Circular  
 Cover Size: 23.5  
 Cover Width:  
 Cover Material: Cast Iron  
 Hole Number:  
 Hole Diameter:  
 Cover Bearing Surface Dia: 23.3  
 Cover Bearing Surface Width: 23.3  
 Cover/Frame Fit: Good

### Cover Condition

- ☒ Sound
- ☐ Cracked
- ☐ Broken
- ☐ Corroded
- ☐ Bolts Missing
- ☐ Missing
- ☐ Restraint Missing
- ☐ Restraint Defective

## Cover Insert

### Insert Condition

- ☒ Sound
- ☐ Poorly Fitting
- ☐ Cracked
- ☐ Leaking
- ☐ Insert Fell
- ☐ Corroded

Insert Type: Plastic

## Adjustment Ring

### Adjustment Ring Condition

- ☐ Sound
- ☐ Cracked
- ☐ Broken
- ☐ Corroded
- ☐ Leaking
- ☐ Poor Install

Ring Type: None  
 Ring Material:  
 Ring Height:

## Frame

Material: Cast Iron

Frame Depth: 8

Frame Bearing Surface Width: 0.5

Frame Bearing Surface Depth: 1

Frame Clear Open Diam: 22.5

Frame Offset Distance: 0

Frame Sea Inflow: None

### Frame Condition

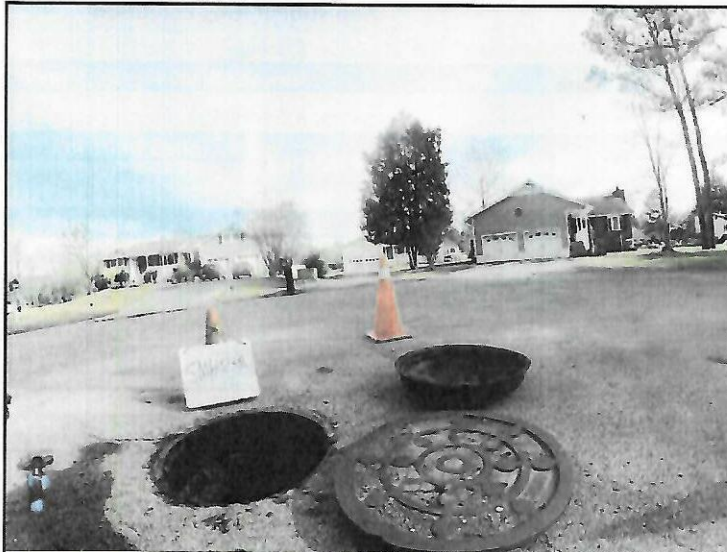
- ☒ Sound
- ☐ Cracked
- ☐ Broken
- ☐ Missing
- ☐ Corroded
- ☐ Coated

### Frame Seal Condition

- ☒ Sound
- ☐ Cracked
- ☐ Loose
- ☐ Offset
- ☐ Missing

## MACP Inspection Report

| Manhole Number | Access Type                                                                                                                                                                                                                                      | Drainage Area    | MH Use             | Owner                  | Customer                       |                      |
|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------------------|------------------------|--------------------------------|----------------------|
| SMH-238        | Manhole                                                                                                                                                                                                                                          | LS-2             | Sanitary           | TOWN OF RIVER BEND, NC | MUNICIPAL ENGINEERING SERVICE  |                      |
| Year Built     | Year Renewed                                                                                                                                                                                                                                     | City             | Street Address     | Location Details       |                                |                      |
|                |                                                                                                                                                                                                                                                  | RIVER BEND, NC   | 104 SEXTANT CT     | 15 FT FROM MAILBOX     |                                |                      |
| Location Code  | Surface Type: <input checked="" type="checkbox"/> Asphalt <input type="checkbox"/> Concrete Pavement <input type="checkbox"/> Concrete Collar <input type="checkbox"/> Grass/Dirt <input type="checkbox"/> Gravel <input type="checkbox"/> Other |                  |                    |                        |                                |                      |
| Light Highway  |                                                                                                                                                                                                                                                  |                  |                    |                        |                                |                      |
| Surveyor       | Cert No.                                                                                                                                                                                                                                         | Project          | Work Order         | PO#                    | Purpose                        | Category             |
| SPHILLIPS_CES  | U-516-07008836                                                                                                                                                                                                                                   | 2715             |                    |                        | Sewer System Evaluation Survey |                      |
| Date           | Time                                                                                                                                                                                                                                             | Inspection Level | Inspection Status  | Evidence of Surcharge  | Weather                        | Potential for Runoff |
| 2023-12-13     | 10:30                                                                                                                                                                                                                                            | Level 2          | Surface Inspection | No                     | Dry                            | Sheeting             |
| Pre-Cleaning   | Date Cleaned                                                                                                                                                                                                                                     | Rim to Invert    | Grade to Invert    | Rim to Grade           | Additional Info                |                      |
| Not Known      |                                                                                                                                                                                                                                                  | 5                | 5                  | 0                      |                                |                      |
| GPS Accuracy   | Coordinate System                                                                                                                                                                                                                                | Northing         | Easting            | Elevation              | Additional Component Info      |                      |
| Sub-Meter      | EPSG:6543 - NAD 83 2011 N                                                                                                                                                                                                                        | 488660.92511381  | 2555099.1229325    |                        |                                |                      |



## MH Connections

Pipe #: 2 Clock: 11 Rim to Invert: 4.8 Direction: In Material: Polyvinyl Chloride  
 Shape: Circular Dia 1: 6 Dia 2: Pipe Condition: Sound  
 Seal Condition: Sound Special Condition: Lateral to Building Pipe ID:

Comments:



Pipe #: 3 Clock: 12 Rim to Invert: 4.7 Direction: In Material: Polyvinyl Chloride  
 Shape: Circular Dia 1: 6 Dia 2: Pipe Condition: Sound  
 Seal Condition: Sound Special Condition: Lateral to Building Pipe ID:

Comments:



Pipe #: 1 Clock: 6 Rim to Invert: 5 Direction: Out Material: Reinforced Plastic Pipe (Truss Pipe)  
 Shape: Circular Dia 1: 8 Dia 2: Pipe Condition: Sound  
 Seal Condition: Sound Special Condition: Gravity Relief Connection Pipe ID: SGM-78

Comments:



## MH Conditions

**Chimney**

Chimney Material1: Brick

Chimney Material2: Concrete (reinforced)

Chimney I/I: None

Chimney Clear Opening:

Chimney Depth: 1.9

Chimney Lining Interior: Cementitious

Chimney Lining Exterior:

**Cone**

Cone Type: Flattop

Cone Material: Concrete (reinforced)

Cone Depth: 1.9

Cone Lining Interior: None - No Coating

Cone Lining Exterior:

**Wall**

Wall Diameter: 48

Wall By Size:

Wall Material: Concrete (reinforced)

Wall Depth: 4.5

Wall Lining Interior: None - No Coating

Wall Lining Exterior:

**Bench**

Bench Present: Yes

Bench Material: Concrete (non-reinforced)

Bench Lining: None - No Coating

**Channel**

Channel Installed: Yes

Channel Material: Concrete (non-reinforced)

Channel Type: Formed

Channel Exposure: Fully Opened

**Steps**

Step Number: 1

Step Material: Plastic

Distance 1.4 MH Component: Chimney Interior MACP Code: Infil Stain Continuous:  
 1st Dimension: 2nd Dimension: Percent: At/From: 12 To: 1 ☐ Joint ☐ Step  
 Remarks:



Distance 1.9 MH Component: Wall Interior MACP Code: Infil Stain Continuous:  
 1st Dimension: 2nd Dimension: Percent: At/From: 2 To: ☐ Joint ☐ Step  
 Remarks:



Distance 1.9 MH Component: Wall Interior MACP Code: Infil Stain Continuous:  
 1st Dimension: 2nd Dimension: Percent: At/From: 9 To: ☐ Joint ☐ Step  
 Remarks:



Distance 1.9 MH Component: Wall Interior MACP Code: Infil Stain Continuous:  
 1st Dimension: 2nd Dimension: Percent: At/From: 7 To: ☐ Joint ☐ Step  
 Remarks:



Distance 4.5 MH Component: Bench MACP Code: Deposits Settled Compacted Continuous:  
1st Dimension: 2nd Dimension: Percent: 5 At/From: 7 To: 5 ☐ Joint ☐ Step  
Remarks:

