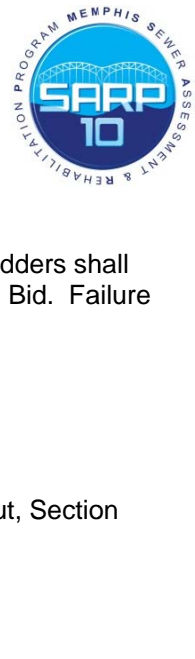




**Request for Bid  
Mainline Sewer Point Repair Addendum No. 1 to  
RFB No. 179821.71.0411  
July 23, 2014**



The following information encompasses Addendum No. 1 for the above referenced RFB. Bidders shall fully consider and acknowledge this Addendum in the preparation and submittal of its formal Bid. Failure to do so may result in the rejection of the Bid.

Section 1 – Mandatory Pre-Bid Meeting Notes and Sign-In Sheet

Section 2 – Additional Bidder Questions received to date

Section 3 – Updates to Article 00370 (Table 00370.3.1.1), Section 02540 updates throughout, Section 02950 Articles 4.01, 5.01 and 5.05 updated Pay Unit.

All other conditions and requirements remain unchanged.

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**Pre- Bid Meeting Notes**

**Q1:** Is a special internal lining required on the ductile iron pipe?

**SARP10:** Yes, the pipe lining is Protecto 401 and this is referenced in the RFB documents.

**Q2:** Would it be acceptable to use recycled concrete?

**SARP10:** Yes, the Subcontractor can use recycled concrete.

**Q3:** What is the average depth of the point repairs?

**SARP10:** The maximum depth is 20 feet, but there is no average depth.

**Q4:** Is the backfill material being used for the point repair crushed concrete or crushed limestone.

**SARP10:** Yes, recycled concrete or crushed limestone can be used as backfill under paved surfaces.

**Q5:** Can the waste material be sent to a fill site?

**SARP10:** Yes, as long as there is no reason to think it is contaminated.

**Q6:** Is asphalt to be paid by the square yard?

**SARP10:** Refer to Table 00370.3.1.1, which has been updated.

**Q7:** Does the 18,000LF in the bid item for CCTV include both the pre and the post video linear footage?

**SARP10:** The pre-repair inspection video is solely at the discretion of the Subcontractor to properly locate the defect to be repaired. SARP10 will make available the logs and videos that were used to make the point repair determination, but the Subcontractor is cautioned that these records may document an incomplete inspection. The Subcontractor needs to include any CCTV in the overall Subcontract price; however, the pre-repair inspection video will not be measured separately for payment and is not a deliverable.

The only inspection measured for payment will be the post-repair PACP video inspection and logs and this inspection must be produced in accordance with SARP10 specifications for PACP inspections and the deliverable must comply with existing specification guidance. No payment will be made for the post-repair inspection logs and videos until accepted by existing specification and deliverable standards. This direction is a revision to what was stated in the Pre-Bid Meeting.

**Q8:** Is the post-repair inspection, video and logs going to go through the same review and data process as data submittals for current SSES work.

**SARP10:** See Q7 response above.

**Q9:** How about if the Subcontractor encounters a service between a point repair. Is that a separate pay item?

**SARP10:** Refer to Table 00370.3.1.1, which has been updated.



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**Q10:** On the detail there is a minimum of 10 feet as a point repair length. Suppose the Subcontractor ends up chasing pipe during a point repair, will the additional length have a pay item per foot basis for any extra footage repaired?

**SARP10:** Refer to Table 00370.3.1.1, which has been updated.

**Q11:** There is no bypass pumping in the bid items? What happens when by-pass pumping cost goes beyond the anticipated cost during a project, how do we quantify that in our bid?

**SARP10:** Bypass pumping associated with the "6-inch through 10-inch" point repair shall be "incidental" and not measured for additional payment. For larger diameter point repairs, the Subcontractor shall present bypass pumping proposals from qualified bypass Sub-contractors and the cost will be negotiated for payment as a change order.

**Q12:** What about dewatering for any point repairs?

**SARP10:** The Subcontractor should include this cost in the unit prices and it will not be measured separately for payment.

**Q13:** Is SARP10 specifying the pavement thickness since you are not doing it by cubic yard?

**SARP10:** See Q6 response above.

**Q14:** I cannot find the mainline sewer point repair bid documents online.

**SARP10:** The RFB documents are located on the City website at the following link:

<http://www.memphistn.gov/Government/PublicWorks/UpcomingProjects.aspx>

**Q15:** What is the estimated cost of this project?

**SARP10:** It is in the \$325,000 – \$425,000 range.

**Q16:** For the wage rates does the Subcontractor use Davis Bacon or City of Memphis wage rates?

**SARP10:** The Subcontractor must comply with the Davis Bacon wage rates.

**Q17:** Will there be a construction easement for these point repairs?

**SARP10:** Typically it is left up to the Subcontractors to get easements. The Subcontractor can submit a specific question and the SARP10 Team will address on a case by case basis. The point repair locations are not currently identified so SARP10 does not know which point repairs require additional easement access for construction equipment.

**Q18:** If there are any repairs on TDOT maintained roads will the Subcontractor need to contact TDOT for permitting?

**SARP10:** TDOT has stated the City of Memphis has accepted our process and no additional TDOT permitting is needed.

**Q19:** Are Bid Bonds required for this project

**SARP10:** Yes, a 5% Bid Bond and 100% Performance/Payment Bonds as detailed in the RFB documents.



# SIGN-IN SHEET

<b>Project:</b> SARP10	<b>Meeting Date:</b> July 15, 2014
<b>Meeting:</b> Mainline Sewer Point Repair	<b>Time:</b> 3:00 - 5:00 PM
<b>Facilitator:</b> Brad Davis	<b>Place/Room:</b> 2714 Union Ext'd 5 <sup>th</sup> Floor Training Room

Name	Company	Phone	E-Mail
Hal Krag	H&K Plumbing	901-942-3158	pkrag1@comcast.net
Warren Payne	Payne Enterprise	901-351-2681	payneenterprise11@gmail.com
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Thomas Terry	AWP/INX	901-287-0113	Thomas@allworldmwr.com
Ben Morgan	Cor-bit	901-382-2594	benm@cor-bit.com
Bobby Allen	City	636-7131	bobby.allen@memphistn.gov
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John Brink	So-p 20	901-643-271	
Brent Hooks	SARP10		
Barbara Smith	Precise Contracting	901-493-9943 cell 901-774-8010 office	Barbara@precise.com
Ron Hall	Scott Contractors	901-386-1581	RONHALLSCI@YAHOO.COM
Terrell Richards	W&T Contracting	901-331-1780	terrellrichards250@gmail.com
Wiley Richards	W&T Contracting Corp	901-497-1291	wileyrichards@MSN.COM
Michael Hahn	AWOM	901-481-0357	MAH SR @ ALLWORLD MWR



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**Additional Bidder Questions**

**Q1:** Will SARP10 consider issuing maps showing locations of all point repairs to allow for site inspection prior to submitting bids?

**SARP10:** No, because all the manhole locations are not known.

**Q2:** Will SARP10 consider assisting the Subcontractor with access and/or right-of-entry in easement areas?

**SARP10:** No, it is the responsibility of the Subcontractor to obtain the access needed.

**Q3:** Will SARP10 consider adding unit prices, on a per linear foot (LF) basis, for each pipe size to be used when it's necessary to complete a point repair in excess of the 10' requirement?

**SARP10:** Yes, Table 00370.3.1.1 has been updated.

**Q4:** Will SARP10 consider adding unit prices for 4" & 6" bypass pumping on an hourly basis?

**SARP10:** Bypass pumping associated with the "6-inch through 10-inch" point repair shall be "incidental" and not measured for additional payment. For larger diameter point repairs, the Subcontractor shall present bypass pumping bids from qualified bypass Sub-contractors and the cost will be negotiated for payment as a change order.

**Q5:** Will SARP10 consider revising unit prices for asphalt and concrete replacement to cubic yards (CY) rather than square yards (SY) so that the Subcontractor can match existing thicknesses?

**SARP10:** Refer to Table 00370.3.1.1, which has been updated.

**Q6:** Will SARP10 consider assisting the Subcontractor with acquiring the necessary permitting when working in TDOT rights-of-way?

**SARP10:** No, it is the responsibility of the Subcontractor to obtain any permission or permits from TDOT. However, it is our understanding that as long as the requirements of the City are met, TDOT will not require additional permitting in most cases.

**Q7:** Will SARP10 consider having separate items for pre versus post CCTV inspection since they may be approached differently?

**SARP10:** See Q7 from the Pre-Bid Meeting Notes.

**Q8:** Will SARP10 consider either adding an item for mobilization/demobilization or amending the item for payment and performance bonds to include mobilization/demobilization, insurance, etc.?

**SARP10:** Performance/Payment Bonds are included as a separate line item. Mobilization/Demobilization and Insurance should be included in the sewer point repair costs unit prices.

**Q9:** Will SARP10 consider allowing the use of PVC pipe (C-900 if pipe stiffness is an issue) instead of ductile iron with Protecto 401 lining? Protecto 401 lining will be difficult to obtain in the small quantities of pipe necessary for this project and PVC pipe will be adequate particularly if the pipe segment will be subsequently lined with CIPP or another lining product.

**SARP10:** No, PVC pipe or C-900 will not be allowed.

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The Subcontractor shall complete the Work in accordance with Section 02540 herein and supplemented by the City of Memphis Standard Construction Specifications, which are available for viewing at the SARP10 Program Office.

**PART 1 - SCOPE**

This section covers the performance of point repairs on gravity sewer lines.

1.01 REFERENCES

- A. City of Memphis Standard Construction Specifications.
- B. American Standard for Testing and Materials (ASTM).
- C. American National Standards Institute (ANSI).

1.02 DEFINITIONS

A point repair as used in these Specifications shall mean repair of pipe segments ~~(up to 15 feet)~~ of existing sanitary sewer mains or service lines and connections which require excavation to accurately locate a defect and make the necessary repair.

**PART 2 - MATERIALS AND EQUIPMENT**

2.01 PIPE MATERIAL

All repairs to existing gravity sewer lines shall be made using ductile iron pipe. Ductile iron pipe for gravity sewer and service connections will conform to ASTM A 746. The pipe thickness design will conform to ANSI A 21.50. If no thickness class is specified on the Plans or Subcontract Documents, Class 50 or approved equivalent will be used. All ductile iron pipe will be lined with Protecto 401 Ceramic Epoxy, or approved equal. Linings will be applied according to manufacturer's recommendations. Fittings will conform to the requirements of ANSI A 21.10. Unless otherwise specified, joints will be push on gasket type conforming to the requirements of ANSI A 21.11. Mechanical joints will conform to the requirements of ANSI A 21.11. Flanged joints will conform to the requirements of ANSI A 21.15. Steel retainer rings will conform to ASTM A 148 for Grade 90 60.

2.02 ELASTOMERIC COUPLINGS

Elastomeric couplings for connecting replacement pipe to existing pipe shall be Fernco Series 5000 RC Shielded Couplings with nut and bolt clamp, Mission "Flex-Seal" adjustable shielded repair coupling or approved equal.

2.03 BACKFILL UNDER PAVEMENT

Backfill beneath all paved areas shall be either crushed limestone or recycled crushed concrete.

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Crushed limestone will be size No. 67 Coarse Aggregate meeting the requirements of the Tennessee DOT Standard Specifications for Road and Bridge Construction and the following gradation:

Size No.	Total Percent by Dry Weight, Passing Each Sieve (U.S. Standard)				
	1"	3/4"	3/8"	No. 4	No. 8
67	100	90-100	20-55	0-10	0-5

**PART 3 - CONSTRUCTION REQUIREMENTS**

**3.01 SITE PREPARATION AND RESTORATION**

**A. Rights-of-Way and Easements**

The Subcontractor will confine his construction activities to the existing rights-of-way or sanitary sewer easements. The Subcontractor will be responsible for obtaining written agreements for use of private property outside City acquired rights of way/easements for such purposes as storage of material and equipment and access to the construction site. The Subcontractor will immediately provide a copy of all such written agreements to the City upon obtaining the same.

**B. Clearing of Rights-of-Way and Easements**

The Subcontractor will confine his clearing of rights of way and easements to the least area necessary for construction of facilities shown on the Plans. The Subcontractor will protect as many trees and shrubs within the area as possible. Where necessary for construction, the Subcontractor will clear all live and dead vegetation and growth, pole stubs, logs, and other objectionable material. Cleared material will be removed to within 3 inches of existing ground. This work will be done well before excavation operations but only after erosion controls have been placed.

**C. Location of Existing Obstructions**

Locations of obstructions shown on the Plans are approximate and are not intended as an accurate location of such obstructions. Obstructions not shown on the Plans but encountered by the Subcontractor will be removed and replaced in their original state or protected by the Subcontractor at no additional cost to the City.

**D. Removal of Obstructions**

The Subcontractor will demolish and remove all structures and structure foundations, abandoned vehicles, appliances, and rubbish within the right of way/easement limits necessary for the performance of the work.

**E. Protection of Obstructions Outside Easement Limits**

The Subcontractor will protect and avoid damage to all trees, shrubs, plants, fences, structures, and all other objects outside the right of way/easement limits shown on the Plans and/or Plats due to construction operations. All damage will be repaired or restored at the Subcontractor's expense. Particular attention will

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be paid to avoid damage to trees, shrubs, bushes, and private property located next to rights of way/easements. No trees, plants, or other objects may be removed out-side such limits without written permission of the property owner.

**F. Special Protection of Obstructions Inside Easement Limits**

Wherever the underground installation of sanitary sewer facilities will go through surface improvements previously made by the City, other governmental bodies, or property owners, the Subcontractor will be responsible for their protection and preservation. This responsibility includes the removal and storage of such improvements to allow replacement and restoration as close as possible to the undisturbed condition.

**G. Disposal of Debris**

All trees, brush, logs, snags, leaves, sawdust, bark, and refuse will be collected and disposed of according to the City Code of Ordinances at the expense of the Subcontractor. There will be no separate pay item for disposal of debris. Debris will be removed from the site when practical and will not be left until the completion of the contract. When material is to be disposed of outside the easement, the Subcontractor will first obtain written permission from the property owner on whose property the disposal is to be made and will file a copy with the Purchaser. Unless otherwise provided in the Subcontract Documents, the Subcontractor will arrange for disposing of such material outside the right of way/easement. No debris will be deposited in wetlands.

**H. Replacement of Fences**

Any fences disturbed inside the right of way/easement limits will be replaced or restored to their original or better condition. Any fences removed will be replaced in their original location. Fences in such poor condition that they cannot be taken down and rebuilt with the same material will be replaced with new fence material similar in original quality, size, and appearance to the removed fence. Exceptions to this requirement will be allowed if written releases are obtained from the property owners by the Subcontractor and submitted to the Purchaser.

**I. Disposition of Excavated Material**

1. Excavated material suitable for backfill will be stored no closer than 2 feet from the edge of the excavation. Excavated material will not obstruct crosswalks, side-walks, driveways, street intersections, nor interfere unreasonably with travel on streets. Gutters or other surface drainage facilities will not be obstructed. The Subcontractor must provide access to fire hydrants, mail boxes, sewer and conduit manholes and similar utility or municipal service facility as required. Excavated material intended for backfill will be stored in a way that minimizes loss of excavated material due to erosion. The Subcontractor shall comply with all applicable OSHA regulations and City of Memphis Storm Water Ordinances.
2. Unless otherwise directed, all excavated material that will not be used for backfilling or restoration will be removed from the site and disposed of by the Subcontractor. If the Subcontractor proposes to store or place such excess excavated material upon any private property, written consent of the property

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owner or owners must be obtained by the Subcontractor in advance. A certified copy will be given to the Purchaser. No surplus or excess material will be deposited in any stream channel nor anywhere that would change preconstruction surface drainage.

**J. Control of Water**

1. The Subcontractor will keep all excavations free of water. If the trench subgrade consists of good soil in good condition at the time of excavation, it will be the Subcontractor's responsibility to maintain it in suitable condition. Dams, flumes, channels, sumps, or other work and equipment necessary to keep the excavation clear of water will be provided by the contractor. Dewatering of trenches, will be incidental to trench excavation. The Subcontractor will avoid producing mud in the trench bottom by his operations. If necessary or so ordered by the Purchaser, the Subcontractor will re-move any soil that becomes unacceptable and replace it with limestone or other approved aggregate at his own expense to maintain a firm, dry base.
2. Pipe bedding, laying, jointing, and the placing of concrete or masonry will be done in a water free trench or excavation. Trenches will be kept clear of water until pipe joints, concrete and masonry have set and are resistant to water damage. The water will be disposed of in a manner acceptable to the Purchaser.
3. All gutters, pipes, drains, conduits, culverts, catch basins, storm water inlets, ditches, creeks, and other storm water facilities will be kept in operation, or their flows will be satisfactorily diverted and provided for during construction. Any facilities disturbed during construction will be restored to the satisfaction of the Purchaser.

**K. Excavation Around Obstructions**

1. The Subcontractor will perform all excavation by hand where excavation by machinery would endanger trees, structures, or utilities that otherwise might be saved by hand excavation.
2. The Subcontractor will cautiously excavate test holes to find the limits of underground obstructions anticipated within the excavation. When a water pipe, gas pipe, other sanitary sewer, storm drain, or similar utility comes within the limits of the trench, such facilities will be properly supported.

**L. Special Protection**

1. Treacherous Ground: When running sand, quicksand, or other treacherous ground is encountered, the work will be carried on with the utmost urgency and will continue day and night should the Purchaser so direct.
2. Sheet piling and Shoring: The Subcontractor will furnish, place, and maintain sheet piling and shoring as required to support the sides of any excavation to prevent earth movement that could endanger the workers or public and to prevent damage to the excavation, adjacent utilities or property. The Subcontractor will place this sheet piling and shoring without the Purchaser's instructions.



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3. Sheeting will extend below structure invert a sufficient depth to assure adequate support. In the installation of sheeting, the use of vibratory type pile drivers (as opposed to impact type) will be limited to sheeting driven no greater than 5 feet below the invert. The sheeted trench width, as measured between those faces of the sheeting in contact with the earth trench wall, will not exceed the maximum width of a trench per Specification Section 02530 Paragraph 3.02.B. Walers and struts will be designed and installed to present no obstructions to proper placement of the pipe, bedding, cradle or encasement, and they will not interfere with the satisfactory installation of the pipe.
4. Sheeting, bracing, and shoring will be withdrawn and removed as the back-filling is being done, except where the Purchaser permits the material to be left in place. The Subcontractor will cut off sheeting left in place at least 2 feet below the surface and will remove the cut off material from the excavation.
5. All sheeting, bracing, and shoring which isare not left in place under this provision will be removed in a way that will not endanger the completed work or other structures, utilities, storm drains, sewers, or property. The Subcontractor will be careful to prevent the opening of voids during the extraction process.
6. If sheeting and shoring are not specifically required on the Plans or in the Specifications, steel drag shields or trench boxes may be used subject to the authorization of the Purchaser. Voids left by the advancement of the shield will be carefully backfilled and compacted following trench backfill requirements.

**M. Existing Utilities**

1. Location: It will be the Subcontractor's responsibility to arrange for the location of existing utilities prior to excavation. The Subcontractor will also be responsible for coordinating the relocation of any existing utilities with the appropriate utility owner.
2. Protection: The Subcontractor will protect any storm drain, sewer, or utility within the limits of the construction. The Subcontractor will proceed with caution and will use every means to establish the exact location of underground structures and facilities before excavating in the vicinity. The City or Purchaser will not be responsible for the cost of protection or repair or replacement of any structure, pipe line, conduit, service connection, or similar facility broken or damaged by the Subcontractor's operations. All water and gas pipes and other conduits near or crossing the excavation will be properly supported and protected by the Subcontractor.
3. If the construction requires the removal and replacement of any overhead wires or poles, underground pipes, conduits, structures or other facilities, the Subcontractor will arrange for such work with the Owner or Owners of the facilities. No additional payment will be made by the City or Purchaser for this work.
4. Service Connections: Sewer and utility services between mains and buildings will be maintained and adjusted as necessary by the Subcontractor to provide as

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nearly a continuous operation as can be expected. This will be accomplished in any way that the Subcontractor chooses, provided the individual service is not interrupted for more than two consecutive hours. The occupants will be notified by the Subcontractor at least six hours before such service interruptions. When a break occurs, the Subcontractor will notify the affected occupant(s) of the probable length of time that the service will be interrupted.

5. If existing underground facilities or utilities require removal and replacement for the performance of this work, all replacements will be made with new material conforming to the requirements of these Specifications. If not specified, the material will be as approved by the Purchaser.
6. The removal and replacement of water services to adapt to new construction will be the Subcontractor's responsibility within the limits where the new service line grade blends smoothly with the existing service line grade.
7. The removal and replacement of sewer house connections to adapt to new construction will be the Subcontractor's responsibility from the sewer main to a point where the new grade and existing grade can be matched.
8. The Subcontractor will be responsible for any damage to the sewer house connection because of his operations. The Purchaser does not guarantee the number, size, condition, nor length of adjustment necessary to bring a service to a new grade.

**N. Maintenance of Flow**

Where existing sewer lines are being modified, the Subcontractor will arrange his work so that sewage flow will be maintained during the construction period with no discharge of sewage into the open trench, and no back up of sewage in the existing line. The Subcontractor will provide necessary bypass pumping capacity to carry flow downstream of the section to be modified.

**3.02 BACKFILLING**

**A. General**

1. After sanitary sewer facilities have been bedded and installed according to these Specifications and upon permission of the Purchaser, the backfill may be placed. Backfilling operations will continue following as closely behind pipe installation as practical. All backfill will be placed in uniform horizontal layers. Pushing backfill material down a ramp into excavated areas will not be permitted. No trash will be allowed to accumulate in the space to be backfilled. Particular care will be taken to avoid allowing wood to be included in the backfill, other than sheeting and shoring that has been approved to be left in place.
2. The Subcontractor will be responsible for the condition of the trenches and filled areas during the contract and warranty period. The Subcontractor will maintain

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frequent inspection of the same. Anytime during the 12-month warranty period the trenches or filled areas settle and sunken places appear, the Subcontractor will be required to refill these sunken places when they are discovered with suitable material and will replace all damaged curb, gutter, and sidewalk. All soft or dangerous trenches will be marked, barricaded and caution lighted for the protection of the public.

3. Property with an existing dwelling located on it or lots within a developed subdivision or planned development are considered improved property.

**B. Street Right of Way and Improved Property**

1. Backfill Material: Backfill for pipe trench excavations through pavements in street or highway right of way or where the Purchaser orders, will be made with pit run gravel or other acceptable material as approved by the Purchaser. The backfill will be from the top of the bedding material or foundation to the subgrade elevation of the pavement. Pea gravel or similar granular material approximately uniform in size and without bonding properties will not be used.
2. Backfill for pipe trench excavations beyond pavements in street or highway right of way or outside public right of way will be made with select earth from the top level of the bedding material or foundation to the subgrade elevation in paved area, or within 1 inch of the surface in areas to be sodded, or to the surface in all other areas.
3. Select material will be free from debris, organic matter, perishable compressible material and will contain no stones or lumps larger than 6 inches. Rocks and lumps smaller than 6 inches will not exceed an amount that will interfere with the consolidating properties of the fill material. Care will be taken that stones and lumps are kept separated and well distributed, and that all voids are completely filled with fine material. No rocks or lumps will come in direct contact with the pipe. The upper 3 feet of backfill in sodded or planted areas will be free of rocks or lumps larger than 1 inch in diameter.
4. Placement and Compaction: Backfill material will be placed by hand in 6 inch loose layers and tamped to a point 2 feet above the outside top of the pipe. Backfill will be compacted with suitable mechanical tamping equipment with special care being taken not to damage the pipe or joints. Use of compaction equipment directly above semi-rigid and flexible pipe should be avoided until sufficient backfill has been placed to ensure that the equipment will not damage the pipe. A minimum of 36 inches of compacted backfill above the top of semi-rigid and flexible pipe will be in place before wheel loading and a minimum of 48 inches of compacted backfill before use of pneumatic tampers. From these elevations to the subgrade elevation of the pavement, bottom of the sod, or to the original ground surface, suitable backfill will be mechanically placed in 9 inch, maximum, loose layers. All backfill material will be compacted to 95 percent of maximum density at plus or minus 2 percent of optimum moisture content as determined by Laboratory Standard Proctor Test (ASTM D 698).

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C. Open Areas and Unimproved Property

Backfill of excavations on unimproved property will be made with select material from the top level of bedding material or foundation to the surface. Non-granular select material to be used for backfill will be free from debris, organic matter and perishable compressible material, and will contain no stones or lumps or rock fragments larger than 6 inches. Rocks or lumps smaller than 6 inches in diameter will not exceed an amount that will interfere with the consolidating properties of the fill material. No rocks or lumps will come in direct contact with the pipe. Stones and lumps will be kept separated and well distributed, and all voids will be completely filled with fine material.

3.03 METHOD OF REPAIR

- A. The Subcontractor shall replace a sufficient number of entire pipe joints to ensure that defective pipe is removed and replaced ~~a minimum of up to~~ 10 feet ~~up to a maximum in~~ length, per repair, ~~at the discretion of the Purchaser of 15 feet~~, in accordance with the SARP10 Sanitary Sewer Point Repair detail.
- B. If the length of the required replacement segment is not adequate to locate sufficient competent pipe for connection with the new section, the Subcontractor, at the Purchaser's instruction, may be directed to replace additional sections of pipe such that an appropriate connection is possible.
- C. The Subcontractor shall replace service wyes encountered within the point repair. Any defective service lines encountered within the point repair shall be replaced.
- D. Any service line or competent main line pipe broken by the Subcontractor shall be replaced at the Subcontractor's expense.
- E. The Subcontractor shall remove any fences, base materials, storm sewer, etc. that may interfere with the repair made at each specified point. The Subcontractor is responsible for the replacement of said fences, base materials, storm sewer etc., in the same or better condition than found.
- F. The bottom of the trench shall be reshaped so that the grade of the pipe replaced will match that required for the existing sewer line. The point repair shall be backfilled in accordance with Section 02530 Sewer Pipe Installation of the City of Memphis Standard Construction Specifications.
- G. If the material in the bottom of the trench is of such consistency that it is not stable, then the Subcontractor shall stabilize the bottom of the trench by placing suitable materials at the direction of the Purchaser.
- H. Prior to backfilling, point repairs shall be inspected by the Purchaser.

3.04 VISUAL INSPECTION

All work will be subject to visual inspection for faults or defects and any such deviation or omission will be corrected at once. All tests will be made by the Subcontractor who will provide necessary equipment for testing and lamping the

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system in the presence of and under the supervision and instructions of the Purchaser. Lamp tests will be observed first hand by the Purchaser. Each section of sewer line will show a full circle of light when lamped between manholes. All defects located will be corrected before conducting leakage tests

After backfilling and resurfacing, sewer segments containing point repairs shall be internally televised (CCTV) by the Subcontractor in their entirety in accordance with Section 00003 – Closed Circuit Television Inspection of Sewer Mains and Connections for final review and approval by the Purchaser.

**3.05 TRAFFIC CONTROL**

All traffic control shall be installed and maintained in accordance with the Manual on Uniform Traffic Control Devices (MUTCD). At a minimum, the Subcontractor must have two trucks with flashing yellow lights on the work site. Traffic cones must also be placed downstream of the construction site to divert cars into the adjacent lane(s) per MUTCD requirements. On roads with a heavy traffic volume, a flagman may also be needed to assist with traffic control. For bidding purposes, the Subcontractor should assume that a flagman will be needed on 30 percent of the setups.

**3.06 FALL PROTECTION**

Subcontractor shall install and maintain all fall protection measures in accordance with the SARP10 Loss Control Manual. The Subcontractor shall construct a controlled access zone around the manhole being adjusted. At a minimum, the fall protection zone shall include traffic cones encircled with pennant tape. The controlled access zone must have one point of access with an entrance log.

**3.07 REMOVAL & REPLACEMENT OF VEGETATED AREAS**

The Subcontractor shall remove the vegetated area around a manhole as needed to adjust the manhole frame and cover. All disturbed areas shall be restored as nearly as practical to their original condition. The disturbed area shall be cleared and raked to the level of the existing turf and then watered. New sod shall be installed over the entire disturbed area. New sod shall consist of live, dense, well rooted growth of Bermuda grass, free from Johnson grass, nutgrass, and other obnoxious grasses or weeds, well suited for the intended purpose and for the soil in which it is to be planted. All sod shall be cleanly cut in strips having a reasonably uniform thickness of not less than 2 inches and cut in 10 to 12 inch squares.

**3.08 CLEANUP**

After the installation work has been completed, the Subcontractor shall cleanup the entire project area. All excess material and debris not incorporated into the permanent installation shall be disposed of by the Subcontractor. The work area shall be left in a condition equal to or better than it was prior to the performance of the Work. Disturbed grassed areas shall be seeded or sod placed as directed

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by the Purchaser at no additional cost to the Owner. Site restoration shall be performed in accordance with the City of Memphis Standard Construction Specifications.

**PART 4 – MEASUREMENT**

**4.01 SEWER POINT REPAIR**

Sewer point repairs will be measured per each. The ~~minimum~~ repair length of ten linear feet will be measured along the centerline of the new pipe. Each additional linear foot of repair, directed by the Purchaser, beyond the minimum 10 feet will be measured for payment.

**4.02 TRAFFIC CONTROL**

Traffic control will be paid per each sewer point repair.

**4.03 REMOVAL & REPLACEMENT OF VEGETATED AREAS**

The removal and replacement of vegetated areas shall be measured per square yard upon which the new sod has been set.

**4.04 PAVEMENT BACKFILL**

Crushed limestone or recycled crushed concrete for backfill under pavements or other areas directed by the Purchaser will be measured by the ton of material in place.

**PART 5 – PAYMENT**

**5.01 SEWER POINT REPAIR**

The accepted quantities of all mainline sewer point repairs will be paid for at the contract unit price per each for the various pipe sizes and depth of repair, which will be full compensation for material and material testing, excavation, special protection, protection of existing utilities, maintenance of sewage flow, bedding, laying, jointing, cleaning and inspection, conducting acceptance tests, installation of pipe wyes, connection to manholes, adapters and couplings, stoppers, and removal and/or abandonment of existing pipe within the limits of excavation and backfilling outside pavement areas.

**5.02 TRAFFIC CONTROL**

Traffic control will be paid per each sewer point repair including all appurtenances required to comply with MUTCD standards.

**5.03 REMOVAL & REPLACEMENT OF VEGETATED AREA**

Removal and replacement of vegetated area will be paid for at the Subcontract unit price per square yard for the accepted quantities, which price will be full payment for furnishing, setting, pinning and pegging if required, fertilizing, watering, mowing, providing and placing agricultural limestone, and for the maintenance and repair of the sodded area.

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5.04 PAVEMENT BACKFILL

Accepted quantities of pit run gravel or other acceptable material used for backfill under pavements or other areas designated by the Purchaser will be paid for at the Subcontract unit price per ton furnished and placed, which will be full compensation for furnishing, placing and compacting the selected material.

5.05 PAYMENT WILL BE MADE UNDER:

Item No.	Pay Item	Pay Unit
02540-5.01.01	Sewer Point Repair, 6" through 10" Pipe (<10' Deep)	Each
<u>02540-5.01.01a</u>	<u>Each additional linear foot beyond the 10 feet minimum, for Sewer Point Repair, 6" through 10" Pipe (&lt;10' Deep)</u>	<u>Linear Foot</u>
02540-5.01.02	Sewer Point Repair, 6" through 10" Pipe (10.1'-15' Deep)	Each
<u>02540-5.01.02a</u>	<u>Each additional linear foot beyond the 10 feet minimum, for Sewer Point Repair, 6" through 10" Pipe (10.1'-15' Deep)</u>	<u>Linear Foot</u>
02540-5.01.03	Sewer Point Repair, 6" through 10" Pipe (15.1'-20' Deep)	Each
<u>02540-5.01.03a</u>	<u>Each additional linear foot beyond the 10 feet minimum, for Sewer Point Repair, 6" through 10" Pipe (15.1'-20' Deep)</u>	<u>Linear Foot</u>
02540-5.01.04	Sewer Point Repair, 12" through 18" Pipe (<10' Deep)	Each
<u>02540-5.01.04a</u>	<u>Each additional linear foot beyond the 10 feet minimum, for Sewer Point Repair, 12" through 18" Pipe (&lt;10' Deep)</u>	<u>Linear Foot</u>
02540-5.01.05	Sewer Point Repair, 12" through 18" Pipe (10.1'-15' Deep)	Each
<u>02540-5.01.05a</u>	<u>Each additional linear foot beyond the 10 feet minimum, for Sewer Point Repair, 12" through 18" Pipe (10.1'-15' Deep)</u>	<u>Linear Foot</u>
02540-5.01.06	Sewer Point Repair, 12" through 18" Pipe (15.1'-20' Deep)	Each
<u>02540-5.01.06a</u>	<u>Each additional linear foot beyond the 10 feet minimum, for Sewer Point Repair, 12" through 18" Pipe (15.1'-20' Deep)</u>	<u>Linear Foot</u>
02540-5.01.07	Sewer Point Repair, 21" through 24" Pipe (<10' Deep)	Each
<u>02540-5.01.07a</u>	<u>Each additional linear foot beyond the 10 feet minimum, for Sewer Point Repair, 21" through 24" Pipe (&lt;10' Deep)</u>	<u>Linear Foot</u>

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02540-5.01.08	Sewer Point Repair, 21" through 24" Pipe (10.1'-15' Deep)	Each
<u>02540-5.01.08a</u>	<u>Each additional linear foot beyond the 10 feet minimum, for Sewer Point Repair, 21" through 24" Pipe (10.1'-15' Deep)</u>	<u>Linear Foot</u>
02540-5.01.09	Sewer Point Repair, 21" through 24" Pipe (15.1'-20' Deep)	Each
<u>02540-5.01.09a</u>	<u>Each additional linear foot beyond the 10 feet minimum, for Sewer Point Repair, 21" through 24" Pipe (15.1'-20' Deep)</u>	<u>Linear Foot</u>
<u>02540-5.01.10</u>	<u>Each service connection and associated lateral pipe included in a Sewer Point Repair, all depths, all diameters</u>	<u>Each</u>
02540-5.02	Traffic Control per Point Repair	Each
02540-5.03	Removal & Replacement of Vegetated Area	Square Yard
02540-5.04	Pavement Backfill	Ton

**END OF SECTION 02540**



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**SECTION 02950 REMOVAL AND REPLACEMENT OF PAVEMENTS AND INCIDENTALS**

Subcontractor shall make arrangements relative to the payment for, or repair or replacement of, such damage or damaged surfaces or structures which are satisfactory and acceptable to the Purchaser, at the Subcontractor's cost and expense.

**PART 4 – MEASUREMENT**

- 4.01 PAVEMENT REMOVAL AND REPLACEMENT  
Pavement removal and replacement shall be measured for payment by the ~~square-cubic~~ yard, complete in place.
- 4.02 CONCRETE SIDEWALK REMOVAL AND REPLACEMENT  
Sidewalk removal and replacement shall be measured for payment by the square foot, complete in place.
- 4.03 CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT  
Curb and gutter removal and replacement shall be measured for payment by the linear foot, complete in place.
- 4.04 GRAVEL DRIVEWAY AND GRAVEL AREA REMOVAL AND REPLACEMENT  
Gravel driveways and gravel area removal and replacement shall be measured for payment by the ton of crushed limestone, complete in place.

**PART 5 – PAYMENT**

- 5.01 PAVEMENT REMOVAL AND REPLACEMENT  
The accepted quantities of pavement removal and replacement shall be paid for at the Subcontract unit price per ~~square-cubic~~ yard for the type specified, which price will be full compensation for cutting and recutting pavement; removal and disposal of pavement and base; preparing the subgrade; placing, finishing, curing, and protection of concrete; and placing and compacting asphaltic concrete wearing surfaces, complete in place.
- 5.02 CONCRETE SIDEWALK REMOVAL AND REPLACEMENT  
The accepted quantities of sidewalk removal and replacement shall be paid for at the contract unit price per square foot, which price will be full compensation for removal and disposal of sidewalk; preparing the subgrade; and placing, finishing, curing and protection of concrete, complete in place.
- 5.03 CONCRETE CURB AND GUTTER REMOVAL AND REPLACEMENT.  
The accepted quantities of curb and gutter removal and replacement shall be paid for at the Subcontract unit price per linear foot for the type specified, which price will be full compensation for removal and disposal of curb and gutter; preparing the subgrade; and placing, finishing, curing and protection of concrete, complete in place.
- 5.04 GRAVEL DRIVEWAY AND GRAVEL AREA REMOVAL AND REPLACEMENT  
The accepted quantities of gravel driveway and gravel area removal and replacement shall be paid for at the Subcontract unit price per ton of crushed limestone, which price will be full compensation for preparing the subgrade and replacing the gravel, complete in place.
- 5.05 PAYMENT WILL BE MADE UNDER:

Item No.	Pay Item	Pay Unit
02950-01.01	Asphaltic Concrete Pavement Removal and Replacement	<del>Square-Cubic</del> Yard

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02950-01.02	Concrete Pavement Removal and Replacement	<del>Square</del> <u>Cubic</u> Yard
02950-02	Concrete Sidewalk Removal and Replacement	Square Foot
02950-04	Concrete Curb And Gutter Removal and Replacement	Linear Foot
02950-06	Gravel Driveway And Gravel Area Removal and Replacement with Crushed Stone	Ton

**END OF SECTION 02950**