



October 25, 2019

RE: North Lafayette Reconstruction  
City of Florissant, MO  
Addendum #1

To All Prospective Bidders,

This Addendum, consisting of 42 pages, is issued to correct the original documents as noted below, and is hereby made a part of the contract documents.

1. Remove pay items 604-23.04 HYDRODYNAMIC SEPARATOR (4') and 604-99.01 DIVERSION MANHOLE and add pay item 804-20.01 AMENDED SOIL (WATER QUALITY BMP) on the Bid Form and in the Summary of Quantities on page 9 of 75 and the Schedule of Quantities on page 11 of 75.
2. Remove the items listed above from plan on pages 24, 35, 43, 54, 60, AND 68 of 75
3. Updated drainage sheets 38 thru 46 of 75 to revised drainage computations, add amended soil BMP, and correct structure flow line elevations.
4. Revised JSPs to replace HYDRODYNAMIC SEPARATOR (4') JSP with AMENDED SOIL (WATER QUALITY BMP) JSP.

Prime contractors must include the enclosed revised Bid Form in their bidding proposal. If a contractor has already submitted their proposal, the contractor shall have the option to submit a revised complete proposal package or submit just the revised Bid Form which shall be incorporated into their original submittal. All revised submittals shall be submitted by the deadline listed in the original proposal. All original Bid Forms shall be void and any bids submitted without the revised Bid Form will not be accepted.

Thank You,

Lochmueller Group

A handwritten signature in blue ink, appearing to read "Lorne Jackson", is placed over the printed name.

Lorne Jackson, PE  
Project Manager  
Attachments

411 North 10th Street, Suite 200  
St. Louis, Missouri 63101

PHONE: 314.621.3395

**NORTH LAFAYETTE STREET IMPROVEMENTS BID FORM**

Route: North Lafayette Street County: St. Louis Agency: City of Florissant

Project No.: STP-5595 (614)

CONTRACTOR NAME \_\_\_\_\_

- ***FOR COMPLETE INFORMATION COVERING THESE ITEMS, REFERENCE PLANS & SPECIFICATIONS.***

***The undersigned Bidder acknowledges receipt of the following addenda listed by number and date appearing on each addendum:***

Addendum Number & Date Received:

Addendum #1 - Issued 10-25-19

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**ITEMIZED BID FORM**

(PAGE 1 OF 2)

SPECIFIC ROADWAY ITEMS					
ITEM NUMBER	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	EXTENDED PRICE
2022010	REMOVAL OF IMPROVEMENTS	1	LS		
2031000	CLASS A EXCAVATION	1,743	CY		
3040504	TYPE 5 AGGREGATE FOR BASE (4 IN. THICK)	7,156	SY		
4011209	BITUMINOUS PAVEMENT MIXTURE PG64-22, (BP-1)	68	TON		
4013000	BITUMINOUS PAVEMENT MIXTURE PG64-22 (BASE)	68	TON		
4039910A	MISC. HIGH TENSILE STRENGTH SYNTHETIC FIBER ASPHALTIC CONCRETE MIXTURE PG 70-22 (SP095CLP MIX)	454	TON		
4039910B	MISC. HIGH TENSILE STRENGTH SYNTHETIC FIBER ASPHALTIC CONCRETE MIXTURE PG 70-22 (SP125CLP MIX)	908	TON		
4071005	TACKCOAT	1,345	GAL		
604-12.01	SINGLE CURB INLET, UNTRAPPED	30	EA		
604-14.01	AREA INLET, SINGLE, OPEN 1 SIDE, UNTRAPPED	3	EA		
604-14.02	AREA INLET, SINGLE, OPEN 2 SIDES, UNTRAPPED	3	EA		
604-16.99	ROOF DRAIN CONNECTION	5	EA		
604-19.27	MANHOLE	6	EA		
604-20.30	ADJUSTING MANHOLE TO GRADE	10	EA		
604-90.50	REPLACE PRECAST INLET STONE AND ADJUST TO GRADE	1	EA		
607-99.01	REMOVE AND REINSTALL EXISTING FENCE	96	LF		
608-50.07	PAVED APPROACH (7")	661	SY		
608-50.08	PAVED APPROACH (8")	921	SY		
609-10.10	CONCRETE CURB, TYPE "S"	834	LF		
609-10.53	CURB AND GUTTER, VERTICAL	6,161	LF		
6169901	TRAFFIC CONTROL	1	LS		
6181000	MOBILIZATION	1	LS		
6221001	COLDMILLING BITUMINOUS PAVEMENT FOR REMOVAL OF SURFACING (3 IN. THICK OR LESS)	7,910	SY		
6274000	CONTRACTOR FURNISHED SURVEYING AND STAKING	1	LS		
703-90.15	MODULAR BLOCK WALL (H<4')	1,104	S.F.		
726-23.12	12" CLASS III REINFORCED CONCRETE PIPE CULVERT (GASKET TYPE)	977	LF		
726-23.15	15" CLASS III REINFORCED CONCRETE PIPE CULVERT (GASKET TYPE)	1,159	LF		
726-23.18	18" CLASS III REINFORCED CONCRETE PIPE CULVERT (GASKET TYPE)	357	LF		
726-23.21	21" CLASS III REINFORCED CONCRETE PIPE CULVERT (GASKET TYPE)	362	LF		
726-23.24	24" CLASS III REINFORCED CONCRETE PIPE CULVERT (GASKET TYPE)	44	LF		
726-54.04	4" POLYVINYL CHLORIDE PIPE	116	LF		
726-54.06	6" POLYVINYL CHLORIDE PIPE	226	LF		
732-00.12	12" FLARED END SECTION	1	EA		
804-20.01	AMENDED SOIL (WATER QUALITY BMP)	87	SY		
8061006	ALTERNATE DITCH CHECK	7	EA		
8061007A	CURB INLET CHECK	42	EA		
8061019	SILT FENCE	1,759	LF		
806-55.99	LAND DISTURBANCE PERMIT - MDNR	1	LS		


**ITEMIZED BID FORM**

(PAGE 2 OF 2)

SPECIFIC LANDSCAPING ITEMS					
ITEM NUMBER	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	EXTENDED PRICE
8031000A	TURF TYPE TALL FESCUE SODDING	3,414	SY		
804-10.00	TOPSOIL	379	CY		
802-60.90	SHREDDED HARDWOOD BARK MULCH	19	CY		
SPECIFIC BICYCLE / PEDESTRIAN ITEMS					
ITEM NUMBER	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	EXTENDED PRICE
608-60.07	CONCRETE SIDEWALK, CURB RAMP (7" THICK)	320	SY		
608-60.98	TRUNCATED DOMES FOR CURB RAMPS (NEW CONSTRUCTION)	484	SF		
608-60.00	CONCRETE SIDEWALK	2,550	SY		
608-99.01A	DECORATIVE PAVERS	51	SY		
SPECIFIC UTILITY ITEMS					
ITEM NUMBER	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	EXTENDED PRICE
603-10.10	RELOCATING HOUSE WATER SERVICE LEAD	280	LF		
603-10.20	RELOCATING WATER SERVICE VALVE AND BOX	13	EA		
603-10.21	ADJUST WATER SERVICE METER	4	EA		
603-10.25	RELOCATING WATER SERVICE METER AND BOX	24	EA		
603-10.30	ADJUST WATER SERVICE VALVE AND BOX TO GRADE	11	EA		
603-15.10	WATER SERVICE APPURTENANCE INSTALLATION	10	EA		
603-20.91	ADJUST WATER VAULT TO GRADE	1	EA		
SPECIFIC SIGNALS / LIGHTING / SIGNING / STRIPING ITEMS					
ITEM NUMBER	DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	EXTENDED PRICE
6206001C	4 IN. YELLOW STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEAD	5,744	LF		
6206000C	4 IN. WHITE STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS	48	LF		
6206124A	24 IN. WHITE STANDARD WATERBORNE PAVEMENT MARKING PAINT, TYPE P BEADS	1,719	LF		
9031020	CONCRETE FOOTINGS, BOLT DOWN	1	CY		
9031250A	U-CHANNEL POST, 3 LB	1,083	LF		
9035004A	SH-FLAT SHEET	268	SF		
9039902A	RELOCATE EXISTING SIGN POST	4	EA		
TOTAL BASE BID					

The quantities shown on the above itemized bid form are estimated and are furnished to be used as a basis for preparing the bid and bid comparison. The City reserves the right to increase or decrease the quantities based on the submitted unit prices. Final payment will be made on the measured quantities.

## JOB SPECIAL PROVISIONS

	<b>CITY OF FLORISSANT</b> 955 Rue St. Francois Florissant, MO 63131 Phone 1-314-921-5700
	<b>Lochmueller Group, Inc.</b> 411 North 10 <sup>th</sup> Street, Suite 200 St. Louis, MO 63101 Certificate of Authority: F00508273 Consultant Phone: (314)621-3395
	If a seal is present on this sheet, JSP's have been electronically sealed and dated.
	PROJECT NO.: STP-5595 (614): CITY OF FLORISSANT DATE PREPARED: October 15, 2019
	ADDENDUM DATE:

Only the following items of the Job Special Provisions (Roadway) are authenticated by this seal: All

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**A. GENERAL – FEDERAL JSP-09-02D**

**1.0 Description.** The Federal Government is participating in the cost of construction of this project. All applicable Federal laws, and the regulations made pursuant to such laws, shall be observed by the contractor, and the work will be subject to the inspection of the appropriate Federal Agency in the same manner as provided in Sec 105.10 of the Missouri Standard Specifications for Highway Construction with all revisions applicable to this bid and contract.

**1.1** This contract requires payment of the prevailing hourly rate of wages for each craft or type of work required to execute the contract as determined by the Missouri Department of Labor and Industrial Relations, and requires adherence to a schedule of minimum wages as determined by the United States Department of Labor. For work performed anywhere on this project, the contractor and the contractor's subcontractors shall pay the higher of these two applicable wage rates. State Wage Rates, Information on the Required Federal Aid Provisions, and the current Federal Wage Rates are available on the Missouri Department of Transportation web page at <http://www.modot.org> under "Bidding". Effective Wage Rates will be posted 10 days prior to the applicable bid opening. These supplemental bidding documents have important legal consequences. It shall be conclusively presumed that they are in the bidder's possession, and they have been reviewed and used by the bidder in the preparation of any bid submitted on this project.

**1.2** The following documents are available on the Missouri Department of Transportation web page at <http://www.modot.org> under "Business"; "Standards and Specifications". The effective version shall be determined by the letting date of the project.

General Provisions & Supplemental Specifications

Supplemental Plans to current Missouri Standard Plans For Highway Construction

These supplemental bidding documents contain all current revisions to the published versions and have important legal consequences. It shall be conclusively presumed that they are in the bidder's possession, and they have been reviewed and used by the bidder in the preparation of any bid submitted on this project.

**B. PLANS AND SPECIFICATIONS**

**1.0 Description.** The following Special Provisions supplement the current version of the "Missouri Standard Specifications for Highway Construction," the current version of the "St. Louis County Department of Highways & Traffic Standard Specifications for Highway Construction," the current version of the "Manual on Uniform Traffic Control Devices for Streets and Highways," in effect on the date of the invitation for bids and the "Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way" published in the Federal Register on July 26, 2011. All work on this project shall be performed in accordance with the current version of the Missouri Standard Specifications for Highway Construction

and shall have precedence except where identified otherwise in the Contract Documents. All items designated with St. Louis County Department of Transportation pay items shall follow the St. Louis County Standard Specifications and Metropolitan St. Louis Sewer District Specifications, when applicable.

**C. PROJECT CONTACT FOR CONTRACTOR/BIDDER QUESTIONS JSP-96-05**

All questions concerning this project during the bidding process shall be forwarded to the project contact listed below:

Lorne Jackson, P.E.  
Transportation Design Manager  
Lochmueller Group, Inc.  
411 N. 10<sup>th</sup> Street  
St. Louis, MO 63101  
[ljackson@lochgroup.com](mailto:ljackson@lochgroup.com)  
(314)446-3792

**D. LPA BUY AMERICA REQUIREMENTS JSP-18-08**

**106.9 Buy America Requirement.** On all federal-aid projects, the contractor's attention is directed to Title 23 CFR 635.410 Buy America Requirements. Where steel or iron products are to be permanently incorporated into the contract work, steel and iron material shall be manufactured in the USA except for "minor usage" as described herein. Furthermore, any coating process of the steel or iron shall be performed in the USA. The use of pig iron and processed, pelletized and reduced iron ore manufactured outside of the USA will be permitted in the domestic manufacturing process for steel or iron material.

**106.9.1** Any sources other than the USA as defined will be considered foreign. The required domestic manufacturing process shall include formation of ingots and any subsequent process. Coatings shall include any surface finish that protects or adds value to the product.

**106.9.2** "Minor usage" of foreign steel, iron or coating processes will be permitted, provided the cost of such products does not exceed 1/10 of one percent of the total contract cost or \$2,500.00, whichever is greater. If foreign steel, iron or coating processes are used, invoices to document the cost of the foreign portion, as delivered to the project, shall be provided and the engineer's written approval obtained prior to placing the material in any work.



**106.9.3** Buy America requirements include a step certification for all fabrication processes of all steel or iron materials that are accepted per Sec 1000.

**106.9.3.1** Items designated as Category 1 will consist of steel girders, piling, and reinforcing steel installed on site. Category 1 items require supporting documentation prior to incorporation into the project showing all steps of manufacturing, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410 Buy America Requirements. This includes the Mill Test Report from the original producing steel mill and certifications documenting the manufacturing process for all subsequent fabrication, including coatings. The certification shall include language that certifies the following. That all steel and iron materials permanently incorporated in this project was procured and processed domestically and all manufacturing processes, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410.

**106.9.3.2** Items designated as Category 2 will include all other steel or iron products not in Category 1 and permanently incorporated in the project. Category 2 items shall consist of, but not be limited to items such as fencing, guardrail, signing, lighting and signal supports. The prime contractor is required to submit a material of origin form certification prior to incorporation into the project from the fabricator for each item that the product is domestic. The Certificate of Materials Origin form ([link to certificate form](#)) from the fabricator must show all steps of manufacturing, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410 Buy America Requirements and be signed by a fabricator representative. The Engineer reserves the right to request additional information and documentation to verify that all Buy America requirements have been satisfied. These documents shall be submitted upon request by the Engineer and retained for a period of 3 years after the last reimbursement of the material.

**106.9.3.3** Any minor miscellaneous steel or iron items that are not included in the materials specifications shall be certified by the prime contractor as being procured domestically. Examples of these items would be bolts for sign posts, anchorage inserts, etc. The certification shall read "I certify that all steel and iron materials permanently incorporated in this project during all manufacturing processes, including coating, as being completed in the United States and in accordance with CFR Title 23 Section 635.410 Buy America Requirements procured and processed domestically in accordance with CFR Title 23 Section 635.410 Buy America Requirements. Any foreign steel used was submitted and accepted under minor usage". The certification shall be signed by an authorized representative of the prime contractor.

**106.9.4** When permitted in the contract, alternate bids may be submitted for foreign steel and iron products. The award of the contract when alternate bids are permitted will be based on the lowest total bid of the contract based on furnishing domestic steel or iron products or 125 percent of the lowest total bid based on furnishing foreign steel or iron products. If foreign steel or iron products are awarded the contract, domestic steel or iron products may be used; however, payment will be at the contract unit price for foreign steel or iron products.

**E. LOCAL PROGRAMS PERMIT FOR WORK ON MODOT RIGHT OF WAY**

- 1.0 This project includes work on MoDOT right-of-way, therefore a MoDOT permit must be issued prior to the Contractor starting any work on MoDOT right-of-way. The contractor performing the work will be issued the permit and shall comply with all requirements of the permit. There is no cost to obtain the MoDOT permit and no additional surety deposit or bond is required. The Permit Request form shall be submitted to the MoDOT Local Programs Construction Contact.
- 2.0 The contractor shall notify MoDOT prior to any temporary or long-term lane closure, shoulder closure, sidewalk closure or other work that impacts MoDOT's roadway. Notification shall be made using MoDOT's online "Lane Closure Request" form at [www.modot.org/form/lane-closure-request-form](http://www.modot.org/form/lane-closure-request-form). Notification is required a minimum of 2 business days prior to any lane and/or shoulder closures. Failure to properly notify MoDOT prior to any closure may result in suspension or revocation of the permit.
- 3.0 The following documents are included at the end of these special provisions:
  - a. MoDOT Local Programs Permit Information (How to obtain a Local Programs Permit)
  - b. MoDOT Local Programs Permit Request form
  - c. Sample Permit
  - d. Personal Protective Equipment requirements for work on MoDOT right-of-way
  - e. Sample "Lane Closure Request" form ([www.modot.org/form/lane-closure-request-form](http://www.modot.org/form/lane-closure-request-form))
  - f. Permit Completion Report
- 4.0 All work necessary for compliance with this provision will be considered incidental to the project. No direct payment will be made for compliance with this provision.

**F. TEMPORARY TRAFFIC CONTROL**

- 1.0 **Description.** This work shall be completed accordance with Section 616 of the current version of the MoDOT Standard Specifications for Highway Construction, except as herein modified and as detailed on the plans. This work shall consist of furnishing, placing and maintaining, flags, fences, channelizers, trucks with flashers, and furnishing flagmen in accordance with the Manual on Uniform Traffic Control Devices (MUTCD), provisions of this section, per the standard details, according to Section 616 of the "Missouri Standard Specifications for Highway Construction", as shown in the plans, and as required by the Engineer.
  - 1.1 The Contractor shall provide, erect, move, and maintain traffic control devices in good condition as necessary to properly protect the work and provide for safe and convenient public travel for all work until acceptance by the Engineer.
  - 1.2 The Contractor shall verify daily that proper placement of devices is maintained, and all devices that are no longer necessary have been removed.
  - 1.3 Any device that becomes damaged or unserviceable shall be promptly replaced. Signs shall be placed as indicated on the drawings and as required by the MUTCD. Signs depicted on the traffic control plan are for the Contractor's general information so that the Contractor can provide the appropriate signage in conformance with the MUTCD.

- 1.4 Any changes to the proposed staging and signage shall be approved by the Engineer in writing. The Contractor may propose an alternative plan for consideration by the Engineer. Alternative plan shall be submitted in writing to the Engineer a minimum of 3 days prior to installation.
  - 1.5 The Contractor shall keep all street name and traffic signs in service during the construction period. If construction activities obscure or otherwise reduce the effectiveness of a traffic sign, the Contractor shall either reset the sign or provide additional signage as required by the Engineer. The Contractor shall reset signs, as appropriate, after construction.
  - 1.6 At any time during construction in which equipment, persons, or materials are located intermittently within a lane open to traffic, flagmen are to be provided. One (1) unobstructed traffic lane in each direction shall be provided at all times except during the presence of flagmen.
- 2.0 Emergency Contact.** The Contractor shall provide the Engineer with the name and telephone number of an individual who shall be on 24-hour call for erection and maintenance of traffic control devices or other problems that may arise.
- 3.0 Basis of Payment.** This work shall be paid at the contract lump sum price for TEMPORARY TRAFFIC CONTROL for all materials, equipment, and labor required to install and maintain the traffic control required to complete the work as shown on the plans or as directed by the Engineer. No additional payment shall be granted for any material, equipment, or labor necessary to provide the work and complete the installation per these requirements.
- 3.1** Partial payments will be made as follows:
- 3.1.1 The first partial payment will be made when five percent of the original contract amount is earned. This payment will be the lesser of 50 percent of the contract price for the item of temporary traffic control or 5 percent of the original contract price.
  - 3.1.2 The second partial payment will be made when 50 percent of the original contract amount is earned. This payment will be the lesser of 25 percent of the original contract price for the item of temporary traffic control or 2.5 percent of the original contract price.
  - 3.1.3 The third partial payment will be made when 75 percent of the original contract amount is earned. This payment will be the lesser of 20 percent of the original contract price for the item of temporary traffic control or 2 percent of the original contract price.
  - 3.1.4 When the engineer has accepted the contract for maintenance in accordance with Sec 105, the remaining contract price for the item of temporary traffic control will be paid.
- 3.2** The above partial payment schedule may be adjusted by the engineer if proof of invoices submitted by the contractor demonstrate additional temporary traffic control costs were incurred earlier than the above proposed schedule. The total payment for temporary traffic control will not exceed the bid amount for Temporary Traffic Control, lump sum, unless covered by a cost change order.
- 3.3** For the purposes of this provision, the term "original contract price" will be construed as the total dollar value of the construction items (excluding temporary traffic control) of the original contract.

**G. EMERGENCY PROVISIONS AND INCIDENT MANAGEMENT JSP-90-11**

- 1.0** The contractor shall have communication equipment on the construction site or immediate access to other communication systems to request assistance from the police or other emergency agencies for incident management. In case of traffic accidents or the need for police to direct or restore traffic flow through the job site, the contractor shall notify police or other emergency agencies immediately as needed. The area engineer's office shall also be notified when the contractor requests emergency assistance.
- 2.0** In addition to the 911 emergency telephone number for ambulance, fire or police services, the following agencies may also be notified for accident or emergency situation within the project limits.

Missouri Highway Patrol (573-751-3313)
City of Florissant
Fire: 314-837-4894
Police: 314-831-7000

- 2.1** This list is not all inclusive. Notification of the need for wrecker or tow truck services will remain the responsibility of the appropriate police agency.
- 2.2** The contractor shall notify enforcement and emergency agencies before the start of construction to request their cooperation and to provide coordination of services when emergencies arise during the construction at the project site. When the contractor completes this notification with enforcement and emergency agencies, a report shall be furnished to the engineer on the status of incident management.
- 3.0** No direct pay will be made to the contractor to recover the cost of the communication equipment, labor, materials or time required to fulfill the above provisions.

**H. UTILITIES**

- 1.0 Existing Utilities.** For informational purposes only, the following is a list of names, addresses, and telephone numbers of the known utility companies in the area of the construction work for this improvement:

**Utility Name**

**Ameren Missouri**  
1901 Chouteau  
St. Louis, MO. 63103  
314-554-2951

**Spire**  
3950 Forest Park  
St. Louis, MO 63108  
314-575-8423

**Known Required Adjustment**

See detailed description below

See detailed description below

<b>AT&amp;T Missouri</b> 12930 Olive Boulevard Creve Coeur, MO 63141 Terry Rodgers 636-949-1330	See detailed description below
<b>Missouri-American Water Co.</b> 535 New Ballas Road St. Louis, MO 63141 314-991-3404	See detailed description below
<b>Charter Communications</b> 941 Charter Commons Town & Country, MO 63017 Chris Shelton 314.386.1649	Complete
<b>Metropolitan St. Louis Sewer District (MSD)</b> 2350 Market Street St. Louis, MO 63103 314-768-6260 Engineering Division	Yes, in contract

## 1.1 Detailed description of required adjustments.

- 1.1.1 Ameren** has overhead single phase facilities on poles located along the south side of North Lafayette Street within the entire project limits. Ameren completed the new pole installation in the fall of 2018. Ameren is waiting for Charter and ATT to complete their pole transfers before they can remove all their existing poles. Charter completed their pole transfer work and ATT is scheduled to complete their pole transfer work by August 2, 2019. Ameren will remove their existing poles soon after ATT completes their pole transfer work.
- 1.1.2 Charter** has aerial facilities on Ameren's impacted poles and has a buried conflict at St Joseph Street @ N. Lafayette. Charter's work is complete.
- 1.1.3 AT&T-d** has existing buried copper cables in conflict on the south side of North Lafayette from Washington to Rue St Catherine and aerial facilities on Ameren's poles in the project limits. ATT is scheduled to start work May 27, 2019 and complete all work by August 2, 2019. ATT plans to do the transfer work first and then install new aerial cables to replace the buried facilities in conflict
- 1.1.4 Missouri American Water Company (MAWC)** has water main facilities on the north side of the project. Which includes several fire hydrants needing relocation, as shown on the contract plans. MAWC have four relocations shown on the plans along North Lafayette at Rue St. Catherine, from station 21+00 to 31+00, at Rue St Dennis, at Rue St Louis, at St. Joseph St., and at 40+50. Water services need to be transferred to the new main by the road contractor. These services are detailed on the quantity sheets. The new water main is located in the existing roadway. MAWC is scheduled to start soon after the preconstruction meeting so the contractor will be ready

to transfer the water services to the new water main and perform the necessary pavement repairs

**1.1.5 MSD** – There is extensive storm sewer work on this project that is within the jurisdiction of MSD. This work is included in the road contract and referenced as project number 17MSD-00123.

**1.1.6 Spire** have existing buried facilities on the south side of the project, as shown on the contract plans. Spire plans to relocate their facilities soon after the contractor verifies the flowlines at the conflicts points.

**1.2** The existence and approximate location of utility facilities known to exist, as shown on the plans, are based upon the best information available at this time. This information is provided "as-is" and the City expressly disclaims any representation or warranty as to the completeness, accuracy, or suitability of the information for any use. Reliance upon this information is done at the risk and peril of the user, and the City shall not be liable for any damages that may arise from any error in the information. It is, therefore, the responsibility of the contractor to verify the above listing information indicating existence, location and status of any facility. Such verification includes direct contact with the listed utilities.

**1.3** The contractor agrees that any effects of the presence of the utilities, their relocation, contractor's coordination of work with the utilities and any delay in utility relocation shall not be compensable as a suspension of work, extra work, a change in the work, as a differing site condition or otherwise including but, without limitation, delay, impact, incidental or consequential damages. The contractor's sole remedy for the effects of the presence of utilities, delay in their relocation or any other effects shall be an excusable delay as provided in Section 105.7.3. The contractor waives, for itself, its subcontractors and suppliers the compensability of the presence of utilities, delay in their relocation and any cost to the contractor, its subcontractors and suppliers in any claim or action arising out of or in relation to the work under the contract.

**1.4** The contractor shall be solely responsible and liable for incidental and consequential damage to any utility facilities or interruption of the service caused by it or its subcontractors operation. The contractor shall hold and save harmless the City from damages to any utility facilities interruption of service by it or its subcontractor's operation.

**1.5** It shall be noted by the contractor that MoDOT is a member of Missouri One Call (800 Dig Rite). Some work on this project may be in the vicinity of MoDOT utility facilities, which includes but is not limited to traffic signal cables, highway lighting circuits, ITS cables, cathodic protection cables, etc. Prior to beginning work, the contractor shall request locates from Missouri One Call. The contractor shall also complete the Notice of Intent to Perform Work form located at the Missouri Department of Transportation website:

<https://www.modot.org/notice-intent>

The contractor shall submit the form over the web (preferred method) or by fax to the numbers on the printed form. The notice must be submitted a minimum of 2 and a maximum of 10 working days prior to excavation just as Missouri One Call requires.

**2.0 Utility Relocation Work.** There are several utility valves, meters, manhole lids, signal/lighting pull boxes that need to be adjusted in this contract by the road contractor. Bid



items are detailed in the quantity sheet table in the contract plans and the table is labeled "ADJUST TO GRADE".

- 3.0 Utility Permits.** The Contractor is responsible for obtaining the MSD Permit for this job. Any fees necessary for the permit will be the Contractor's responsibility to pay. A copy of the MSD Permit shall be given to the Engineer.

**I. AMERICANS WITH DISABILITIES ACT (ADA) COMPLIANCE AND FINAL ACCEPTANCE OF CONSTRUCTED FACILITIES JSP-10-01A**

- 1.0 Description.** The contractor shall comply with all laws pertaining to the Americans with Disabilities Act (ADA) during construction of pedestrian facilities on public rights of way for this project. An ADA Checklist is provided herein to be utilized by the contractor for verifying compliance with the ADA law. The contractor is expected to familiarize himself with the plans involving pedestrian facilities and the ADA Post Construction Checklist prior to performing the work.

- 2.0 ADA Checklist.** The contractor can locate the ADA Checklist form on the Missouri Department of Transportation website:

[http://www.modot.mo.gov/business/contractor\\_resources/forms.htm](http://www.modot.mo.gov/business/contractor_resources/forms.htm)

- 2.1** The ADA Checklist is intended to be a helpful tool for the contractor to use during the construction of the pedestrian facilities and a basis for the commission's acceptance of work. Prior to work being performed, the contractor shall bring to the engineer's attention any planned work that is in conflict with the design or with the requirement shown in the checklist. Situations may arise where the checklist may not fully address all requirements needed to construct a facility to the full requirements of current ADA law. In those situations, the contractor shall propose a solution to the engineer that is compliant with current ADA law using the following hierarchy of resources: 2010 ADA Standards for Accessible Design, Draft Public Rights of Way Accessibility Guidelines (PROWAG) dated November 23, 2005, MoDOT's Engineering Policy Guidelines (EPG), or a solution approved by the U.S. Access Board.

- 2.2** It is encouraged that the contractor monitor the completed sections of the newly constructed pedestrian facilities in attempts to minimize negative impacts that his equipment, subcontractors or general public may have on the work. Completed facilities must comply with the requirements of ADA and the ADA Checklist or have documented reasons for the non-complaint items to remain.

**3.0 Coordination of Construction.**

- 3.1** Prior to construction and/or closure on an existing pedestrian path of travel, the contractor shall submit a schedule of work to be constructed, which includes location of work performed, the duration of time the contractor expects to impact the facility and an accessible signed pedestrian detour compliant with MUTCD Section 6D that will be used during each stage of construction. This plan shall be submitted to the engineer for review and approval at or prior to the pre-construction conference. Accessible signed detours shall be in place prior to any work being performed that has the effect of closing an existing pedestrian travel way.

**3.2** When consultant survey is included in the contract, the contractor shall use their survey crews to verify that the intended design can be constructed to the full requirements as established in the 2010 ADA Standards. When 2010 ADA Standards do not give sufficient information to construct the contract work, the contractor shall refer to the PROWAG.

**3.3** When consultant survey is not included in the contract, the contractor shall coordinate with the engineer, prior to construction, to determine if additional survey will be required to confirm the designs constructability.

**4.0 Final Acceptance of Work.** The contractor shall provide the completed ADA Checklist to the engineer at the semi-final inspection. ADA improvements require final inspection and compliance with the ADA requirements and the ADA Checklist. Each item listed in the checklist must receive either a "YES" or an "N/A" score. Any item receiving a "NO" will be deemed non-compliant and shall be corrected at the contractor's expense unless deemed otherwise by the engineer. Documentation must be provided about the location of any non-complaint items that are allowed to remain at the end of the construction project. Specific details of the non-complaint items, the ADA requirement that the work was not able to comply with, and the specific reasons that justify the exception are to be included with the completed ADA Checklist provided to the engineer.

**4.1** Slope and grade measurements shall be made using a properly calibrated, 2 foot long, electronic digital level approved by the engineer.

**5.0 Basis of Payment.** The contractor will receive full pay of the contract unit cost for all sidewalk, ramp, curb ramp, median, island, approach work, cross walk striping, APS buttons, pedestrian heads, detectible warning systems and temporary traffic control measures that are completed during the current estimate period as approved by the engineer. Based upon completion of the ADA Checklist, the contractor shall complete any necessary adjustments to items deemed non-compliant as directed by the engineer.

**5.1** No direct payment will be made to the contractor to recover the cost of equipment, labor, materials, or time required to fulfill the above provisions, unless specified elsewhere in the contract documents.

## **J. SAFETY REQUIREMENTS**

**1.0 Description.** Delete Sec 616.3.1 and substitute the following:

**616.3.1** All workers within highway right of way shall wear approved ANSI/ISEA 107 Performance Class 2 or 3 safety apparel and more specifically as follows:

**616.3.1.1 Daytime Flagger.** During daytime activities, flaggers shall wear a high visibility hard hat, safety glasses, a Performance Class 3 top OR a Performance Class 2 top, and safety footwear. Hard hats other than high visibility orange or green shall be covered with a high visibility covering.

**616.3.1.2 Daytime Worker.** During daytime activities, workers shall wear a hard hat, safety glasses, a Performance Class 3 top OR a Performance Class 2 top, and safety footwear.

**616.3.1.3 Nighttime Flagger.** During nighttime activities, flaggers shall wear a high visibility/reflective hard hat, safety glasses, a Performance Class 3 top AND Class E



bottoms, OR Performance Class 2 top AND Class E bottoms, and safety footwear. Hard hats shall be reflective or covered with a high visibility covering.

**616.3.1.4 Nighttime Worker.** During nighttime activities, workers shall wear a hard hat, safety glasses, a Performance Class 3 top OR Performance Class 2 top AND Class E bottoms, and safety footwear.

Note: A graphic representation of the various PPE as described above can be found in the “Additional Information” portion of these provisions. A color representation can be found on the MoDOT website at: <http://tinyurl.com/Safe-Apparel>.

## **K. SAFETY PLAN**

**1.0 Description.** This contractor shall submit to the engineer a project Safety Plan (SP) for all work performed by the contractor and all subcontractors. The purpose of the SP is to encourage and enable all work to be performed in the safest possible manner and that all parties involved are aware of their individual responsibility for safety on the jobsite.

**1.1** The SP shall be completed by the contractor and provided to the engineer prior to the beginning of any construction activity or phase on the project.

**1.2** The contractor shall designate a person to serve as Project Safety Manager (PSM). The PSM shall be responsible for implementing and overseeing the SP. The PSM is not required to be present on the project at all times, but must be available to address safety issues and needs.

**1.3** The PSM shall make revisions to the SP as necessary. Any new project activities or phases shall be included in the SP prior to work beginning on that activity or phase.

**1.4** An example Safety Plan is available at: [www.modot.org/safetyplan](http://www.modot.org/safetyplan)

**1.5 Emergency Preparedness.** The SP shall outline and detail for all workers, the specific procedures and actions necessary to respond to a jobsite emergency and the measures taken to communicate these requirements to all workers.

**1.6** The SP shall include a list of local emergency contacts including phone numbers. A copy of the emergency contact list shall be accessible to workers.

**1.7** In the case where there is no cellular or land line phone service at the jobsite, the SP shall identify how to reach the nearest available phone service.

**1.8 Project Safety Analysis.** The SP should contain a basic Project Safety Analysis (PSA) that outlines the actions necessary to complete each activity or phase of the project. The SP shall include a general description of the primary activities or steps required to safely complete the project.

**1.9** Each activity should also include a general description of the work involved along with the known risks associated with the activity. In addition, the PSA should outline the controls for those risks, including any Personal Protection Equipment (PPE) requirements for that activity or phase, and whether or not the activity or phase requires a specific safety meeting prior to beginning the activity or phase.

**1.10** Submittal of the PSA for all activities or phases is not required with the initial submittal of the SP; however, the PSA for each activity or phase shall be completed prior to the beginning of that activity or phase.

**2.0 Safety Meetings.** The SP shall include the types of safety meetings that will be required of

and conducted by the contractor.

**2.1 Safety Training.** The SP shall identify the required safety training provided to the contractor's personnel. The contractor shall require that the appropriate safety training for the contractor's personnel is completed prior to the beginning of work on each activity or phase.

**2.2** The SP shall identify the recommended safety training needs and PPE for MoDOT employees who will be exposed to the work activities. MoDOT will provide safety training and PPE to MoDOT employees based on MoDOT safety policies.

#### **L. RELOCATE EXISTING SIGN POST**

**1.0 Description.** This item provides for removing existing decorative sign posts and signs and reinstalling them on new foundations at locations shown on the plans. The Contractor shall be responsible for all existing signs to be relocated. During construction, if any sign to be relocated is lost, stolen, or damaged in any way, the Contractor shall be responsible for all costs.

**2.0 Construction Requirements.** The contractor shall verify the anchor bolt size and layout prior to constructing the new foundations. Locations of foundations shall be approved by the Engineer prior to installation. All work shall be in accordance with the construction requirements of Section 903.

**3.0 Method of Measurement.** Measurement will be made per each for relocating existing sign posts and signs to new foundations. Measurement for any concrete footings, structural steel posts, pipe posts, perforated square steel tubes and anchor sleeves, and breakaway assemblies will be made in accordance with Section 903.

**4.0 Basis of Payment.** All costs incurred for relocating and mounting existing sign posts and signs to new foundations at the locations shown, complete in place, will be paid for at the contract unit price for bid item RELOCATE EXISTING SIGN POST, per each. Payment for new concrete footings will be paid for at the contract unit price for said item.

#### **M. DAILY EARTHWORK DUTY**

**1.0 Description.** On a daily basis, the contractor shall be responsible for maintaining drainage patterns that avoids the ponding of drainage water.

**2.0 Basis of Payment.** There will be no direct payment made to the contractor for complying with this provision.

#### **N. FIELD VERIFICATION**

**1.0 Description.** Plan details for this contract work are based upon available plans, marked utilities and field surveys performed in conjunction with plan preparation for this proposed work. No warranty is made on either the accuracy or completeness of these available documents. It is the Contractor's (Bidder's) responsibility to assess the actual field conditions and verify the location of all utilities and verify whichever dimensions are required

for the performance of the work.

- 2.0 Basis of Payment.** There will be no direct payment made to the contractor for complying with this provision.

**O. DO NOT DISTURB ITEMS**

- 1.0 Description.** The contractor's attention is directed to the fact that there are multiple utility facilities such as manholes, water meters, pull boxes, power poles, light poles, inlets, water valves, gas valves, signs, etc. located in the existing pavement, sidewalks, pavement, grass areas or other areas near the improvements. Care should be taken to avoid damage to the facilities. These items are shown to be used in place (UIP) or do not disturb (DND) on the plans.

- 1.1** Any damage to existing facilities will be the responsibility of the contractor and shall be repaired and paid for by the contractor.

- 2.0 Basis of Payment.** No direct payment will be made to recover the cost of equipment, labor, materials, or time required to fulfill the above provision.

**P. SAW CUTS**

- 1.0 Description.** Saw cuts will be required for removal of any pavement, driveways, paved approaches, shoulder, median, curb, curb and gutter, sidewalk, curb ramp or other item adjacent to the pavement, shoulder, median, curb, curb and gutter, sidewalk or other item to remain in place or for permanent construction.

- 1.1** Saw cuts shall be made the full depth of the item.

- 1.2** If the sawed edge of portions to remain are damaged during removal or subsequent construction activities, the Engineer may direct the Contractor to make a new saw cut to remove the damaged portion.

- 2.0 Basis of Payment.** All costs for materials, equipment, labor and installation required for saw cuts shall be included in the cost for "Removal of Improvements" and be paid for at the contract lump sum price. The quantities shown in the plans, may not be an all-inclusive list of every saw cut required; there may be additional saw cuts required. Regardless if shown on the quantities, no additional compensation will be made to the contractor for any additional saw cuts required.

**Q. EARTHWORK**

- 1.0 Description.** This work shall include any excavation, and/or embankment construction required to obtain the required subgrade elevations.

- 2.0 Construction Requirements.** The contractor shall provide all excavation and/or fill placement required to modify existing site conditions to the required subgrade elevation to complete the construction to the required lines and grades as shown on the plans. All work shall be in accordance with the construction requirements of Section 203.

- 3.0 Basis of Payment.** All costs for materials, equipment, labor and installation shall be included in the cost for CLASS A EXCAVATION and be paid for at the contract cubic yard price. No additional compensation will be made to the contractor for any hauling of material to or from the site to complete this work.

**R. TRUNCATED DOMES**

- 1.0 Description.** This work shall consist of installing truncated dome panels at the locations shown on the plans in accordance with Section 608.

**1.1** Panels shall be cast-in-place type with no exposed fasteners.

**1.2** Panel color shall be Safety Red.

- 2.0 Construction Requirements.** The contractor shall provide all materials, labor, and equipment required to complete the construction to the required lines and grades as shown on the plans. All work shall be in accordance with the construction requirements of Section 608.

- 3.0 Basis of Payment.** All costs for materials, equipment, labor and installation shall be included in the cost for "Truncated Domes" and be paid for at the contract square foot price. No additional compensation will be made to the contractor for any cutting of panels or waste resulting from cutting panels to fit.

**S. DECORATIVE PAVERS**

- 1.0 Description.** This work shall consist of installing brick paver sidewalk at the locations shown on the plans in accordance with Section 608 and as modified herein.

**1.1** Brick paver sidewalk shall be constructed utilizing clay brick designed for use as a paver. Wall brick will not be allowed.

**1.2** Pavers may be reclaimed historic clay brick or new manufactured units generally red in color with some color variation.

**1.3** The Contractor shall submit at least 3 options of paver to the Engineer for selection of the final product to be used.

**1.4** Pavers shall be laid in a herringbone pattern. When the brick paver installation is not bordered by curb, sidewalk, pavement, etc. an edge restraint designed for the application shall be installed in accordance with the manufacturer's recommendations.

**1.5** Installation shall follow industry standards and the contractor shall provide evidence of prior experience installing brick pavers.

- 2.0 Construction Requirements.** The contractor shall provide all materials, labor, and equipment required to complete the construction to the required lines and grades as shown on the plans. All work shall be in accordance with the construction requirements of the applicable sections of the standard specifications unless modified herein.

**2.1 Aesthetic Mockup, Review, and Approval.** A 1 sq yd full-scale mock-up using

actual job specific edge restraint (if other than combination concrete curb and gutter), materials, brick dimension, colors, methods, and workmanship shall be provided by the Contractor. The actual vibrating equipment and vibrating rate to be used on the job shall be used on the mockup. The accepted mock-up will be the standard by which remaining work will be evaluated for technical and aesthetic merit. The mock up may be in a location of proposed installation where it may remain if approved by the Engineer.

**2.2 Preparation of Base.** The aggregate base shall be prepared according to Section 304 of the Standard Specifications.

**2.3 Edge Restraints.** Edge restraints shall be placed to a depth of at least the bottom of the bedding course. For pavement, a transverse full-depth cast-in-place concrete header shall be placed at the limits of the pavement.

**2.4 Bedding Course.** The fine aggregate for bedding shall be placed and screeded, without compaction, to a uniform thickness of 1 to 1.5 in. (25 to 38 mm). Prepared areas shall not be left overnight, unless they are protected from disturbance and moisture. Stockpiled material shall be kept covered. Any saturated bedding aggregate shall be removed and replaced.

**2.5 Installation.** The bricks or pavers shall be laid in the pattern shown on the plans with a joint width from 1/8 to 1/4 in. (3 to 6 mm) on all sides. Whole bricks or pavers shall be laid first, starting from an exact edge or from the centerline of the pavement, followed by cut bricks or pavers. Cut bricks or pavers shall be at least 33 percent of the whole unit size. After the entire pavement or sidewalk has been laid, it shall be set into the bedding course by one pass of the vibrator/compactor. Vibration/compaction shall stop within 3 ft (1 m) of any unrestrained edge. For pavement, construction equipment shall not be driven on the new surface until the joints have been filled.

**2.6 Joint Filling.** The fine aggregate for joint filling shall be spread over the pavement or sidewalk and hand broomed into the joints. The aggregate shall then be worked down into the joints with multiple passes of the vibrator/compactor. Each pass shall be alternated 90 degrees from the previous pass. This process shall be repeated until the joints are completely filled. Excess fine aggregate shall be removed by hand brooming. All bricks and pavers within 6 ft (1.8 m) of the laying face shall be compacted and the joints completely filled with sand at the end of each workday. For pavement, final rolling shall be completed with a 5 – 10 ton (4.5 – 9 metric ton) static pneumatic-tired roller.

**2.7 Smoothness.** For pavement, the completed surface will be tested for smoothness with a 16 ft (5 m) straightedge. Surface variations of the mainline pavement shall not exceed 3/16 in. (5 mm).

**3.0 Basis of Payment.** All costs for materials, equipment, labor and installation including bedding and joint filling material shall be included in the cost for “Decorative Pavers” and be paid for at the contract price per square yard.

## **T. MODULAR BLOCK WALL (H<4')**

**1.0 Description.** This work shall consist of constructing small block walls at the locations shown on the plans in accordance with Section 703.

**1.1** Walls adjacent to existing “modular block” type walls shall be constructed with units of similar style and color to the existing wall.

**1.2** Walls at other locations shall be constructed of units that provide a natural stone look. The Contractor shall submit at least 3 options of block style with various color options to the Engineer for selection of the final product to be used.

**2.0 Construction Requirements.** The contractor shall provide all excavation and/or fill placement required to modify existing site conditions to the required subgrade elevation to complete the construction to the required lines and grades as shown on the plans and as required by the wall unit manufacturer’s recommendations. All work shall be in accordance with the construction requirements of Section 703 and the wall unit manufacturer’s installation recommendations.

**3.0 Basis of Payment.** All costs for materials, equipment, labor and installation shall be included in the cost for MODULAR BLOCK WALL (H<4') at the contract square foot price.

#### **U. ADJUST TO GRADE ITEMS**

**1.0 Description.** This work shall consist of adjusting water valves, water meters, water vaults, basins/inlets, manholes, landscaping lights, and pull boxes that are within areas where either new sidewalks/ramps/approaches/pavement are to be constructed as shown on the plans. The adjustments shall be made to match the final proposed grade.

**2.0 Construction Requirements.** Adjustments, extensions, and/or lowering of utility and any related excavation and backfill shall be constructed as approved by the Engineer. For MoDOT owned facilities, adjustments shall conform to current Missouri Standard Specifications for Highway Construction. For MSD owned facilities, adjustments shall conform to current MSD Standards and Specifications. Adjustments shall be completed to ensure the finished sidewalk, ramp, approach, or pavement will meet current ADA standards.

**3.0 Basis of Payment.** All costs for materials, equipment, labor and installation shall be included in the cost for adjusting the water valves, water meters, basins/inlets, manholes, and pull boxes. No direct payment will be made for any required hauling, cutting, joining, backfilling, or adjusting rings, or any other requirements necessary to fulfill this provision. No direct payment will be made to recover the cost of equipment, labor, materials, or time required to fulfill the above provision.

#### **V. AMENDED SOIL (WATER QUALITY BMP)**

**1.0 Description.** This work shall consist of all grading, excavation, backfill, and placement of material necessary to construct the amended soil areas by incorporating compost within the root zone of the planned vegetation cover to improve soil quality and evapotranspiration.

##### **1.1 Compost Application Procedure.**

**1.1.1** Clear surface of obstructions and properly dispose. The soil surface shall be reasonably free of all objects, including stone and rubble, greater than 2 inches, and other material which will interfere with planting and subsequent site maintenance.



- 1.1.2 Rototill to a depth of 6-8" for turf cover and a minimum of 12" for deep rooted vegetation. If the soil is too dense for a rototiller, the soil should first be broken up into large aggregates using a soil ripper.
- 1.1.3 If obstructions are unearthed during tilling, clear obstructions and properly dispose of. The soil surface shall be reasonably free of all objects, including stone and rubble, greater than 2 inches, and other material which will interfere with planting and subsequent site maintenance.
- 1.1.4 Distribute compost evenly to a minimum depth of 2 inches over the soil surface.
- 1.1.5 Rerotill several times in perpendicular directions to incorporate compost and other soil amendments.
- 1.1.6 Complete with fine grading and sodding.
- 1.1.7 Water thoroughly. Allow soil to settle for one week.
- 1.2 **Compost.** Compost shall be mature, stable, weed free, and produced by aerobic decomposition of organic matter. Compost feedstock may include, but is not limited to: agricultural, food or industrial residuals; class A biosolids as defined in the EPA CFR Title 40, Part 503; yard trimmings, or source-separated municipal solid waste. The product must not contain any visible refuse or other physical contaminants, substances toxic to plants, or over 5% sand, silt, clay or rock material by dry weight. The product shall possess no objectionable odors. The product must meet all applicable USEPA CFR, Title 40, Part 503 Standards for Class A biosolids. The moisture level shall be such that no visible water or dust is produced when handling the material.

Testing. Prior to delivery of any compost to the site and as part of shop drawing review, the following documentation shall be provided by the contractor to the District Inspector:

  - 1.2.1 feedstock percentage in the final compost product
  - 1.2.2 a statement that the compost meets federal and state health and safety regulations
  - 1.2.3 a statement that the composting process has met time and temperature requirements
  - 1.2.4 a copy of the lab analysis, less than four months old, performed by a Seal of Testing Assurance Certified Laboratory verifying that the compost meets the physical requirements as described in Table 1.
- 1.3 **Sod.** Fertilizing, Sodding and Watering to be in accordance with MSD Standard Construction Specifications Part 8 Section F.

**Table 1. Physical Requirements for Compost**

Parameter	Range	Testing Method
pH	5.0-8.5	TMECC 4.11A
Soluble Salt Concentration	< 10dS/m	TMECC 4.10-A
Moisture	30-60% wet weight basis	SMEWW 2540B
Organic Matter	30-65% dry weight basis	TMECC 5.07-A
Total Nitrogen (N)	>1.00% dry weight basis	TMECC 04.02-D
Phosphate (P <sub>2</sub> O <sub>5</sub> )	>0.50% dry weight basis	TMECC 04.03-A
Potash (K <sub>2</sub> O)	>0.10% dry weight basis	TMECC 04.04-A
Particle Size	95% pass through 5/8" screen or smaller	TMECC 2.02-B
Stability (Carbon Dioxide evolution rate)	>80% relative to positive control	TMECC 5.08-B
Maturity (Seed emergence and seedling vigor)	>80% relative to positive control	TMECC 5.05-A
Physical contaminants (man made inerts)	<1% dry weight basis	TMECC 3.08-A
<b>Chemical contaminants</b>	<b>Meet or exceed US EPA Class A standard, 40 CFR § 503.13, Tables 1 and 3 levels:</b>	
Arsenic	< 41 ppm	TMECC 4.06-AS
Cadmium	< 39 ppm	TMECC 4.06- <u>CD</u>
Copper	< 1,500 ppm	TMECC 4.05-CU
Lead	< 300 ppm	TMECC 4.06-PB
Mercury	< 17 ppm	TMECC 4.06-HG
Molybdenum	< 75 ppm	TMECC 4.05-MO
Nickel	< 420 ppm	TMECC 4.06-NI
Selenium	< 100 ppm	TMECC 4.06-SE
Zinc	< 2,800 ppm	TMECC 4.06-ZN
<b>Biological contaminants (pathogens)</b>	<b>Meet or exceed US EPA Class A standard, 40 CFR § 503.32(a) levels:</b>	
Fecal coliform	< 1,000 MPN per gram, dry weight basis	TMECC 7.01

Recommended compost testing methodologies and sampling procedures are provided in Test methods for the Examination of Composting and Compost (TMECC), and Standard Methods for the Examination of Water and Wastewater.

**2.0 Construction Requirements.** Construction requirements shall conform to the plans and specifications, including MSD permit requirements.



**3.0 Basis of Payment.** All costs for materials, equipment, labor and installation shall be included in the cost for AMENDED SOIL (WATER QUALITY BMP) at the contract square yard price. Payment will be made when the stormwater quality feature is accepted by MSD.

**W. REINFORCING FIBERS FOR BITUMINOUS PAVEMENT MATERIAL NJSP-17-06B**

**1.0 Description.** This work shall consist of adding a high tensile strength synthetic fiber to the bituminous mixture to be placed as specified in the contract documents. The Fiber Reinforced Asphalt Concrete (FRAC) mixture produced shall meet all Sec 403 requirements. The material properties, handling, mixing and placement of the fibers shall be in accordance with this provision.

**2.0 Materials.**

**2.1 Fiber Properties.** The reinforcing fibers shall contain aramid fibers and a dispersion aid that meet the following material requirements as detailed in Table 1 below:

Table 1 – Aramid Reinforcing Fibers Material Properties		
Property	Test Method	Criteria
Form	Manufacturer Certification	Aramid Fibers
Length (in)	Manufacturer Certification	0.75
Melting Temperature	Manufacturer Certification	800 F
Nominal Specific Gravity (g/cm <sup>3</sup> )	ASTM D276	1.44
Tensile Strength <sup>1</sup> (psi)	ASTM D7269	400,000

**2.2 Performance Testing.** A FRAC mixture shall meet the following performance test detailed in Table 2 below. Non-aramid fiber blends will not be considered alternatives to this specification. All performance testing results from previous laboratory trial FRAC mixtures shall be submitted to the engineer along with the job mix formula.

Table 2 – FRAC Mixture Performance Requirements			
Performance Measure	Test Method	Standard	Requirement
Dispersion Efficiency, %	Aramid Dispersion State Ratio (ADSR)	Modified ASTM D2172	≥ 85 %
Cracking Resistance, % increase	Indirect Tensile Strength (IDT)	AASHTO T 322 or ASTM D6931	≥ 20 % increase
Resistance to Permanent Deformation (Rutting)	Flow Number	AASHTO TP 79	≥ 35 % increase
	Hamburg	AASHTO T 324	< 3 mm

Performance testing shall be from previous completed laboratory trials performed on plant mixed FRAC. Testing is not required on samples from the job mix. Performance testing shall be from laboratory trials at a fiber dosage rate

equal to the rate proposed for the project. Tests must be performed by an AASHTO accredited testing lab and must be reviewed and approved by the engineer.

Aramid Dispersion State Ratio (ADSR) tests shall be conducted from a minimum of three separate laboratory FRAC trials in accordance with the following:

1. Perform ADSR test in accordance with Modified ASTM D2172 (test method documentation available in the Electronic Deliverables).
2. The average extracted aramid fiber quantity shall equal 0.007 percent by total sample weight with no individual result less than 0.005 percent of the total sample weight.
3. All tested fiber mixes shall achieve a minimum ADSR of 85%.

Indirect Tensile (IDT) Strength Tests shall be conducted from a minimum of three (3) separate laboratory trials in accordance with the following:

1. Perform indirect tensile tests using the protocol from AASHTO T322 or ASTM D6931.
2. Tests results shall include a control and a fiber reinforced mix. FRAC mix shall be identical to control mix except for the inclusion of fibers added at the same dosage as proposed on the project.
3. Indirect tensile test results from fiber specimens shall show an average tensile strength increase of 30 percent over control specimen with no samples having less than 25 percent increase of average tensile strength.

Resistance to Permanent Deformation (Rutting) shall be measured on the FRAC mixture by one of the following test methods: Flow Number Test or Hamburg.

Flow Number (FN) testing shall be performed on a minimum of three (3) separate laboratory trials in accordance with the following:

1. Perform flow number testing in accordance with AASHTO TP79.
2. Test results shall include a control mixture and a FRAC mixture. The FRAC mixture shall be identical to the control mix except for the inclusion of fibers added at the same dosage rate as proposed on the project.
3. Results from the FRAC specimens shall each show an average FN increase of at least 35 percent over the control specimens.

Hamburg testing shall be performed on a minimum of three (3) separate laboratory trials in accordance with the following:

1. Perform Hamburg testing in accordance with AASHTO T324.
2. Test results may include only the FRAC mixture at the same dosage rate as proposed on the project.
3. Results from the FRAC specimens shall show less than 3 mm of rutting.

**2.3 Required Information.** The contractor shall furnish a manufacturer's certification to the engineer for each lot of material furnished stating the name of the manufacturer, the chemical composition, and certifying that the material supplied is in accordance with this specification.

### **3.0 Construction.**

**3.1 Delivery, Storage, and Handling.** The fiber-reinforcement material shall be delivered, stored, and handled in accordance with the manufacturer's recommendations and specifically as follows:

1. Deliver fiber-reinforcement in sealed, undamaged containers with labels intact and legible, indicating material name and lot number.
2. Deliver fiber-reinforcement to location where it shall be added to each batch or loaded into the mixer.

3. Store materials covered and off the ground. Keep sand and dust out of boxes and do not allow boxes to become wet.

**3.2 Mixing and Production.** The system for adding fibers to the mix shall be approved by the fiber manufacturer. The engineer shall be informed in writing that the system being used to add the fibers in the asphalt mixture meets the fiber manufacturer's recommendations.

The fiber reinforcement shall be added at a dosage rate of 2.1 ounces per ton of asphalt. Other dosage rates may be approved by the engineer, if the FRAC mixture has met all performance testing requirements within this specification. A fiber manufacturer shall be on site during the mixing and production of FRAC material.

The following construction steps shall be used when producing the FRAC or as required by the manufacturer.

**Batch Plant:** When a batch plant is used, add fiber to the aggregate in the weigh hopper and increase both dry and wet mixing times. Ensure that the fiber is uniformly distributed before the injection of asphalt cement into the mixture.

**Drum Plant:** For drum plants, inject fibers through the reclaimed asphalt pavement (RAP) collar using an automatic, metered air blown system to promote rapid and complete fiber dispersion. System must automatically record fiber addition data so as to remove human error. Rate the feeding of fibers with the rate the plant is producing asphalt mix. If there is any evidence of fiber bundles at the discharge chute, increase the mixing time and/or temperature or change the angle of the fiber feeder line to increase dry mixing time.

For small quantity projects less than 2000 tons, manual feeding of the fibers may be allowed in accordance with the manufacturers recommendations. For projects greater than 2000 tons, manual feeding of the fibers is not allowed.

For blower tube system, add fibers continuously and in a steady uniform manner. Provide automated proportioning devices and control delivery within  $\pm 10\%$  of the mass of the fibers required. Perform an equipment calibration to the satisfaction of the fiber manufacturer's representative to show that the fiber is being accurately metered and uniformly distributed into the mix.

Include the following for blower tube system:

1. Low level indicators
2. No-flow indicators
3. A printout of feed rate status in pounds/ minute
4. A section of transparent pipe in the fiber supply line for observing consistency of flow or feed.

**3.3 Quality Control.** A minimum of 25 pounds FRAC sample shall be collected during the first 50 tons of production. The sample shall be visually inspected to determine the uniform dispersion of the aramid fibers in an individual state (no bundles or agitated bundles). If undistributed bundles exist, the plant shall adjust the mixing operations until the aramid fibers are in an individual state.

**3.4 Placement.** In addition to the visual inspection the FRAC mix shall be visually observed in the back of first three trucks and every tenth truck thereafter to confirm the adequate blending of the fibers.

**4.0 Basis of Payment.** Payment for the high tensile strength synthetic fibers shall be paid for at the contract unit price per ton for items MISC. HIGH TENSILE STRENGTH SYNTHETIC FIBER ASPHALTIC CONCRETE MIXTURE PG 70-22 (SP095CLP MIX) and MISC. HIGH TENSILE STRENGTH SYNTHETIC FIBER ASPHALTIC CONCRETE MIXTURE PG 70-22 (SP125CLP MIX)

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MISSOURI STATE ENGINEERING CORPORATION  
CERTIFICATE/LICENSE NO. 2002111852

NORTH LAFAYETTE STREET RECONSTRUCTION	SUMMARY OF QUANTITIES (SHEET 1 OF 1)
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PROJECT/JOB NO. STP-5595(614)
MSD PROJECT NO. 17MSD-00123
MSD BASE MAP 08J
DATE PREPARED 10/24/2019
SHEET 9 OF 75

DRAINAGE SCHEDULE																			
				604-12.01	604-14.01	604-14.02	604-19.27	804-20.01	604-90.50	726-23.12	726-23.15	726-23.18	726-23.21	726-23.24	726-23.21	726-23.24	726-54.04	726-54.06	732-00.12
STA	STA	SHEET	ROADWAY	CURB INLET, UNTRAPPED	AREA INLET		MANHOLE	AMENDED SOIL (WATER QUALITY BMP)	REPLACE PRECAST INLET STONE AND ADJUST TO GRADE	CLASS III REINFORCED CONCRETE PIPE CULVERT (GASKET TYPE)					POLYVINYL CHLORIDE PIPE		ROOF DRAIN CONNECTION	ADJUSTING MANHOLE TO GRADE	12" FLARED END SECTION
					OPEN 1 SIDE	OPEN 2 SIDES				12"	15"	18"	21"	24"	4"	6"			
				EACH	EACH	EACH	EACH	SY	EACH	LF	LF	LF	LF	LF	LF	LF	EACH	EACH	EACH
11+65	14+80	1	LAFAYETTE	3							241							1	
14+80	20+40	2	LAFAYETTE	3	2		1			133	170							4	
20+40	26+00	3	LAFAYETTE	7			1			242	311				94	53	2	1	
26+00	31+60	4	LAFAYETTE	7		1	4			91	71	357	100					1	
3+15	6+30	5	ST. ANTOINE	1	1	2		87		30			262	44					
31+60	37+20	6	LAFAYETTE	4						440					22	173	3	1	
37+20	40+93	7	LAFAYETTE	5					1	42	367							2	1
TOTAL				30	3	3	6	87	1	977	1159	357	362	44	116	226	5	10	1

LANDSCAPING AND EROSION CONTROL SCHEDULE						
		8061006	8061007A	8061019	8031000A	804:000
STA TO	STA	ALTERNATE DITCH CHECK	CURB INLET CHECK	SILT FENCE	TURF TYPE TALL FESCUE SODDING	TOPSCIL (4")
		EACH	EAC-I	LF	SQ YD	CUYD
11+65	14+80		6	168	454	50
14+80	20+40	1	5	156	859	95
20+40	26+00	2	7	330	456	51
26+00	31+60	2	13	502	681	76
31+60	37+20	2	4	208	620	69
37+20	40+93		7	395	343	38
TOTAL		7	42	1759	3414	379



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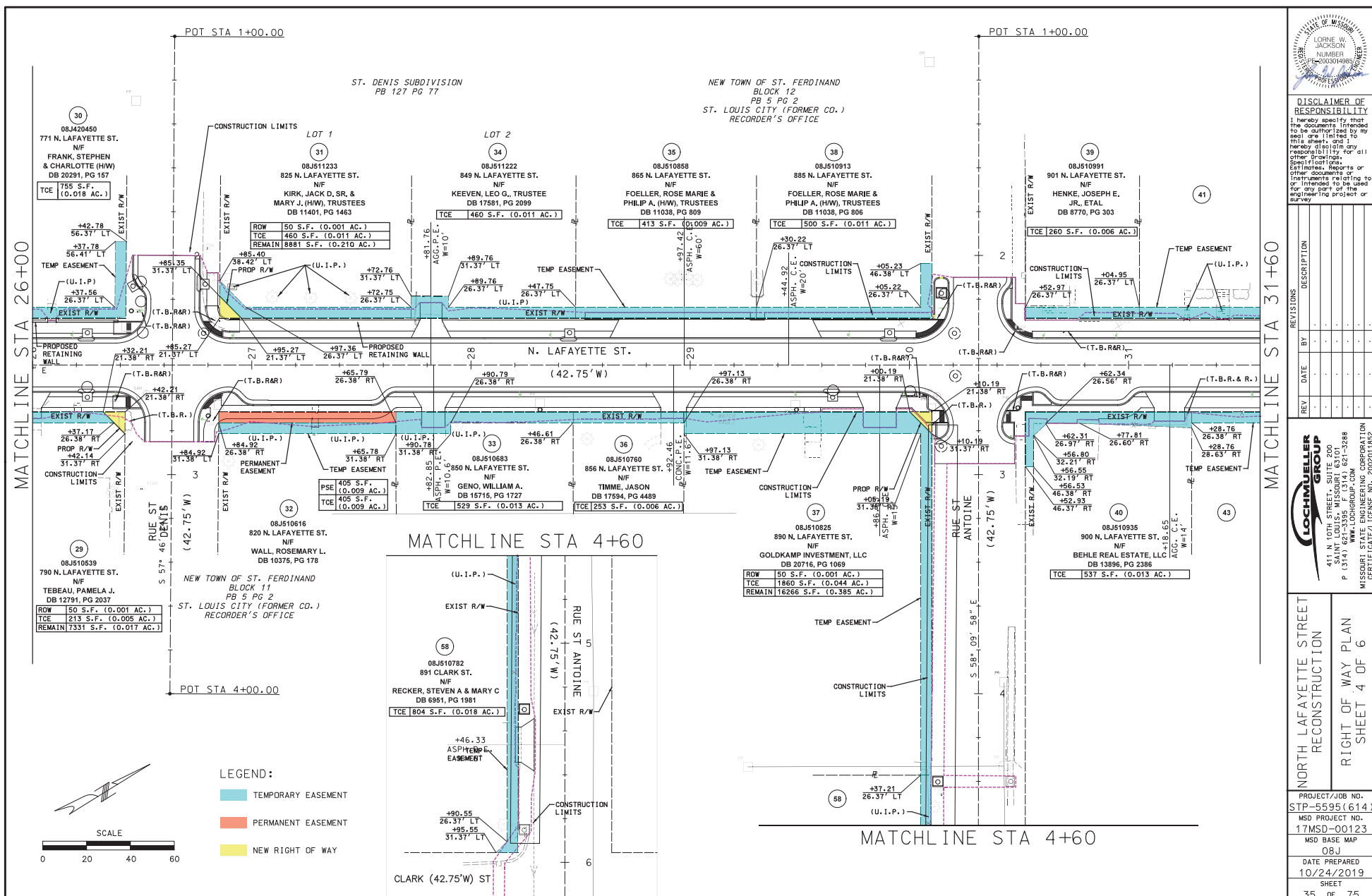


NORTH LAFAYETTE STREET  
RECONSTRUCTION  
SCHEDULE OF  
QUANTITIES 2 OF 3

PROJECT/JOB NO. STP-5595(614)
MSD PROJECT NO. 17MSD-00123
MSD BASE MAP OBJ
DATE PREPARED 10/24/2019
SHEET OF 75

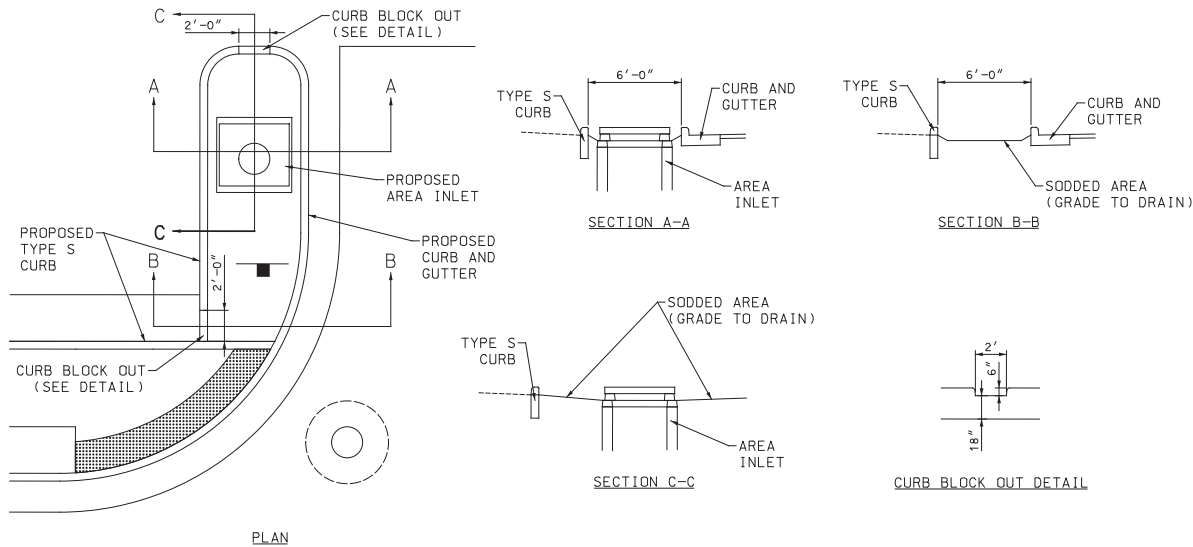






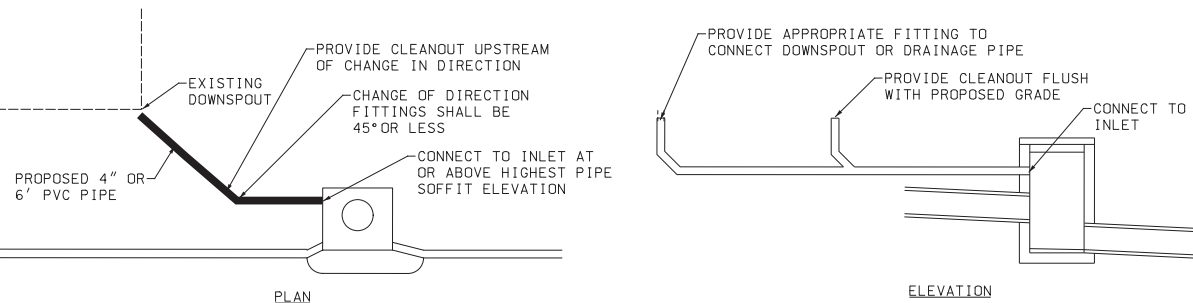






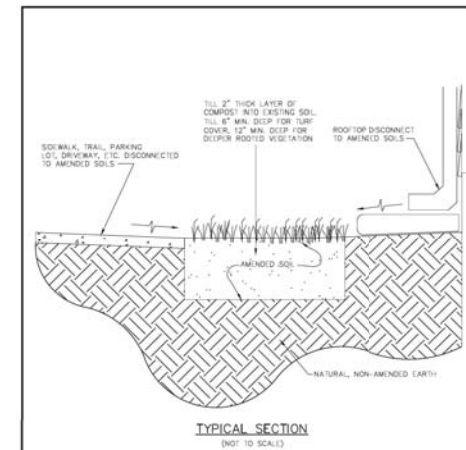
**MEDIAN DETAIL**

SOUTHWEST CORNER NORTH LAFAYETTE AND ST. ANTOINE



- NOTES:**
1. CLEANOUTS SHALL BE LOCATED OUTSIDE OF SIDEWALK WHENEVER POSSIBLE. LOCATIONS WITHIN SIDEWALK SHALL BE APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
  2. INLETS SHALL BE CORE DRILLED TO ACCEPT DRAIN PIPE. DRILLING AND GROUTING OF PIPE SHALL BE INCLUDED IN THE COST OF THE ROOF DRAIN CONNECTION.

**ROOF DRAIN DETAILS**  
SEE PLANS FOR LOCATIONS



**NOTES:**

- (1) SEE TABLE 1. AMENDED SOILS DISCONNECTION CRITERIA FOR DESIGN REQUIREMENTS.
- (2) TILL SOIL SUBGRADE PRIOR TO COMPOST ADDITION, AND TILL AFTER COMPOST ADDITION.
- (3) CLEAN ALL OBJECTS LARGER THAN 2" FROM AMENDED SOIL AREA.
- (4) FOR TURF COVER, COMPLETE WITH FINE GRASSING AND SEEDING IN ACCORDANCE WITH MSD STANDARD SPECIFICATIONS.
- (5) SEE COMPOST SPECIFICATION FOR COMPOST MATERIAL PROPERTIES AND TESTING REQUIREMENTS.

<b>METROPOLITAN ST. LOUIS SEWER DISTRICT</b> DETAIL LIBRARY	<b>CATEGORY: BMP</b> <b>TITLE: AMENDED SOILS DISCONNECTION DETAIL</b>
<b>DESCRIPTION:</b> ROOF TOP AND NON-ROOF TOP DISCONNECTION EXAMPLE	<b>DRAWN BY:</b> JTP
05/31/2013	

**AMENDED SOILS BMP DETAIL**  
SEE DRAINAGE PLAN FOR LOCATIONS



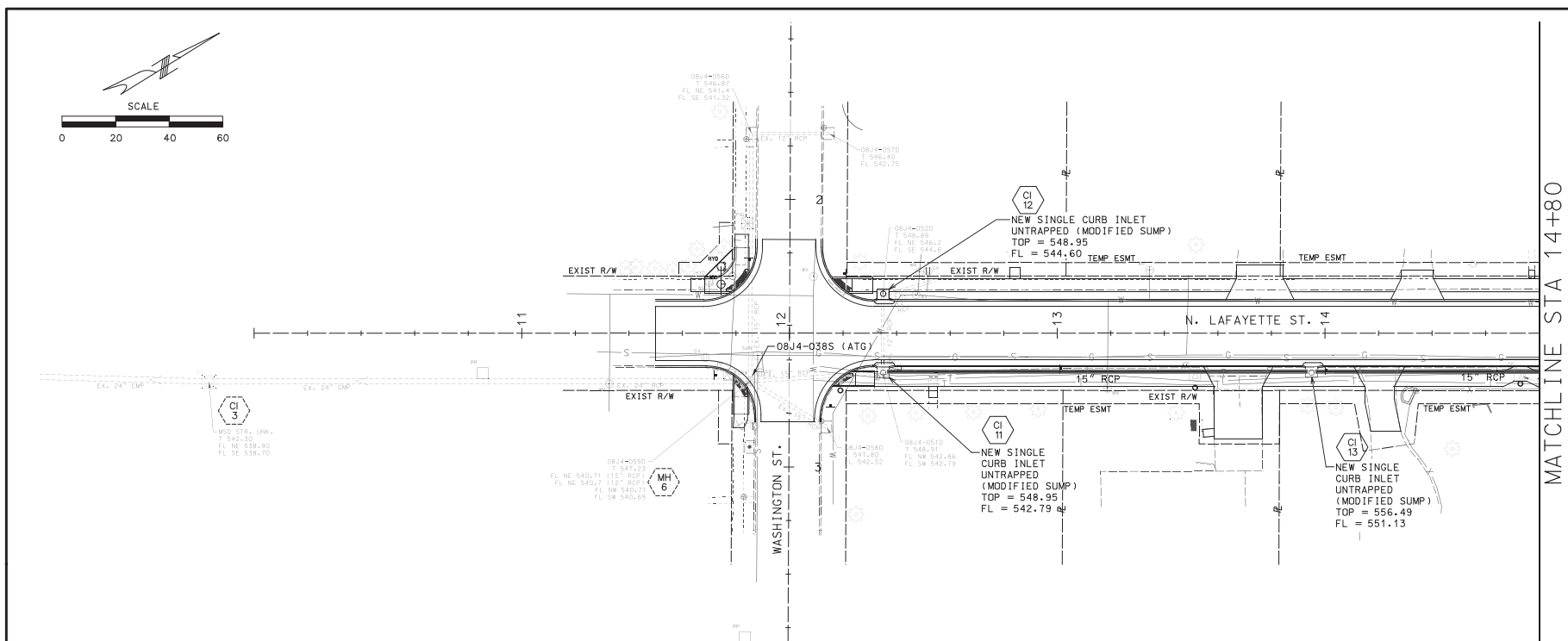
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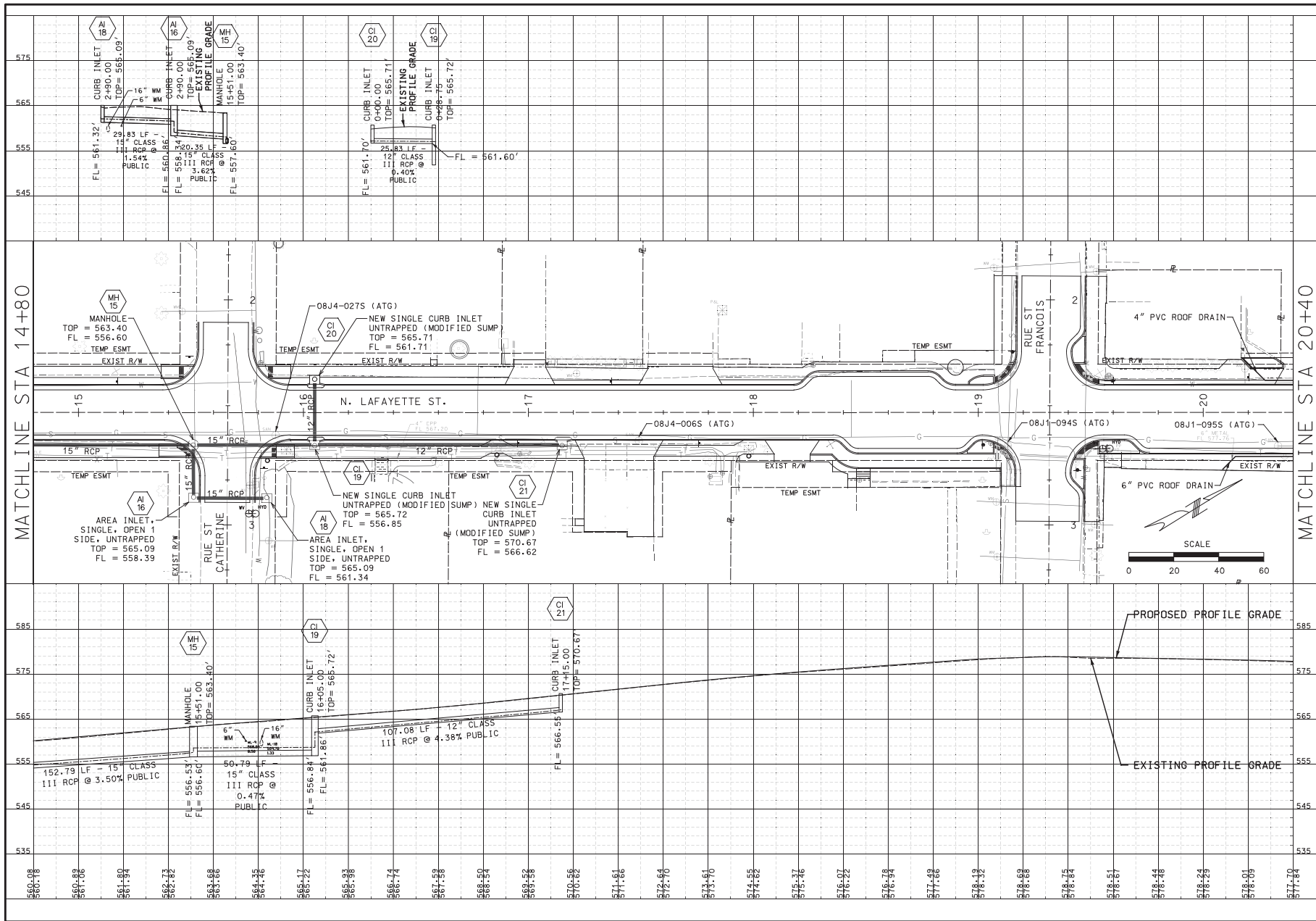
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**NORTH LAFAYETTE STREET RECONSTRUCTION**  
**DRAINAGE NOTES AND DETAILS**

<b>PROJECT/JOB NO.</b> STP-5595(614)
<b>MSD PROJECT NO.</b> 17MSD-00123
<b>MSD BASE MAP</b> 08J
<b>DATE PREPARED</b> 10/24/2019
<b>SHEET</b> 39 OF 75



NCHM111 ER PROJECT NO. 515-0125



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**PROJECT/JOB NO.**  
STP-5595 (614)

**MSD PROJECT NO.**  
17MSD-00123

**MSD BASE MAP**  
08J

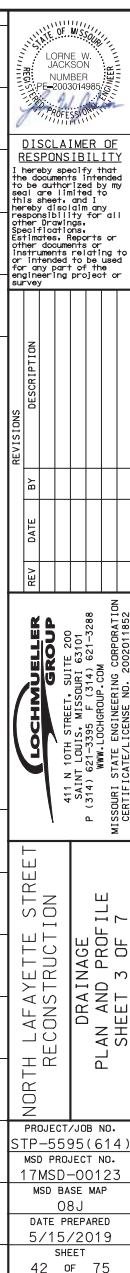
**DATE PREPARED**  
5/15/2019

**SHEET**  
41 OF 75

**NORTH LAFAYETTE STREET DRAINAGE RECONSTRUCTION**

**PLAN AND PROFILE**

**SHEET 2 OF 7**







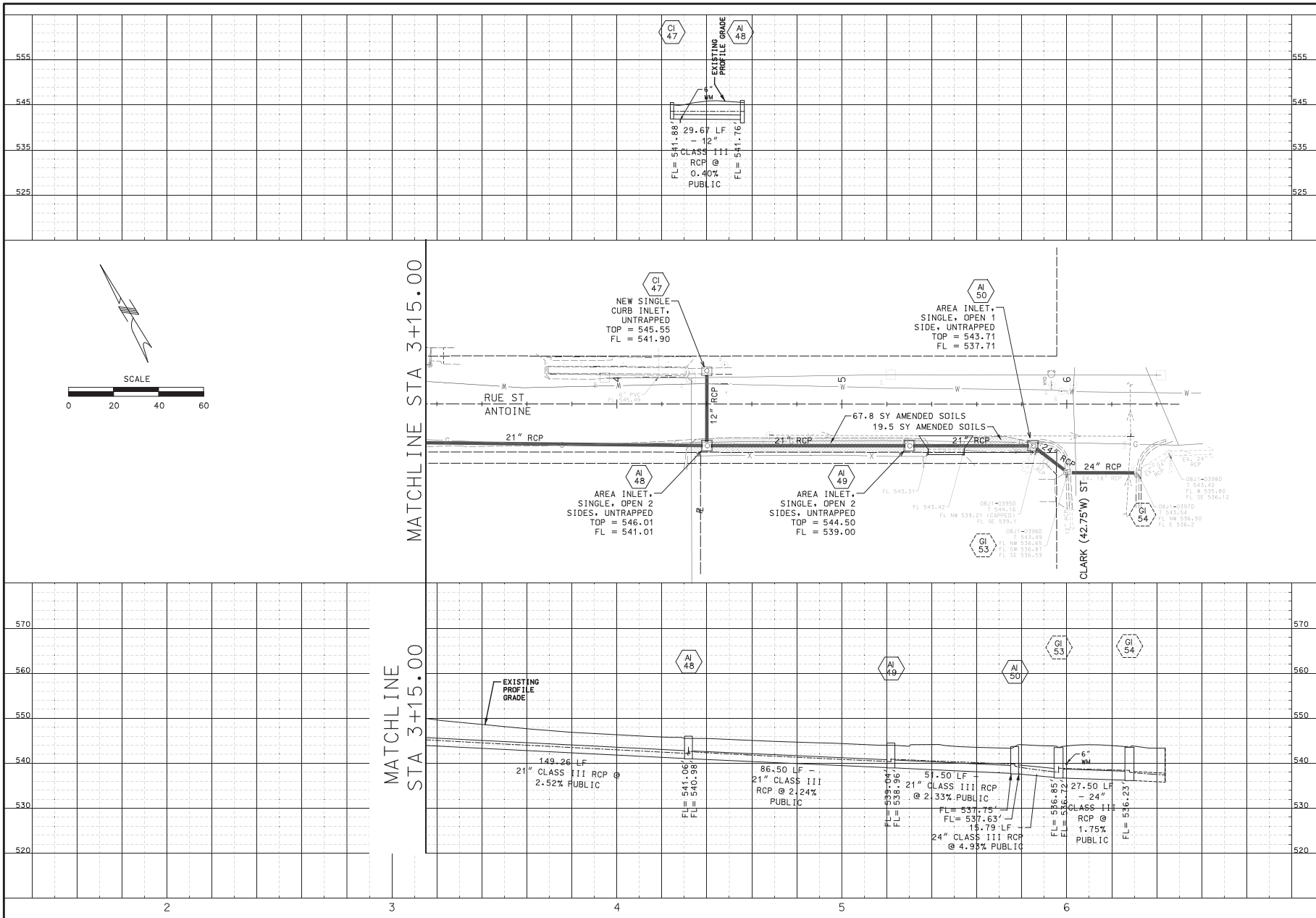
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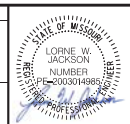
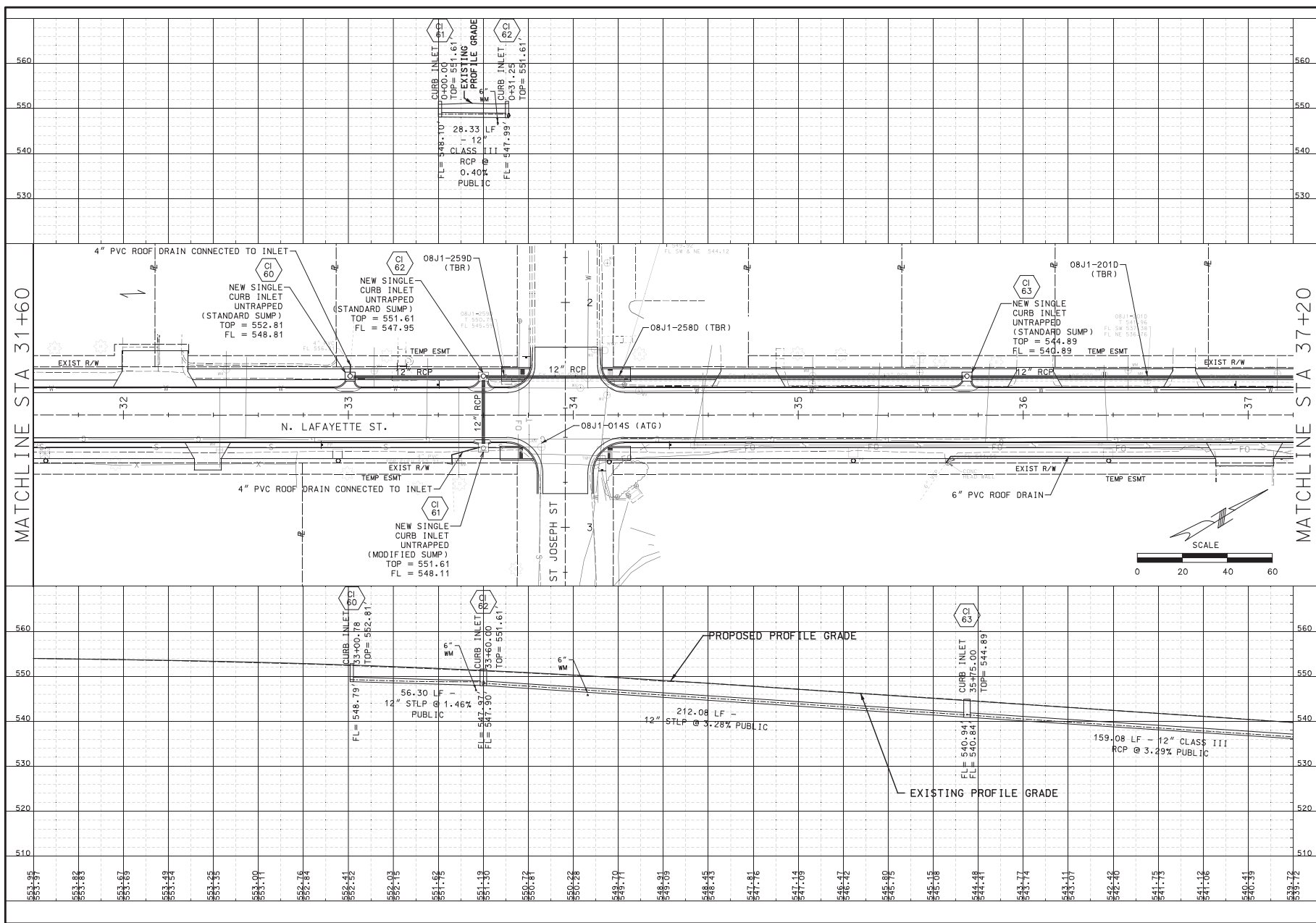
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**NORTH LAFAYETTE STREET  
RECONSTRUCTION  
DRAINAGE PLAN AND PROFILE**  
SHEET 5 OF 7

PROJECT/JOB NO.  
STP-5595(614)  
MSD PROJECT NO.  
17MSD-00123  
MSD BASE MAP  
OBJ  
DATE PREPARED  
5/15/2019  
SHEET  
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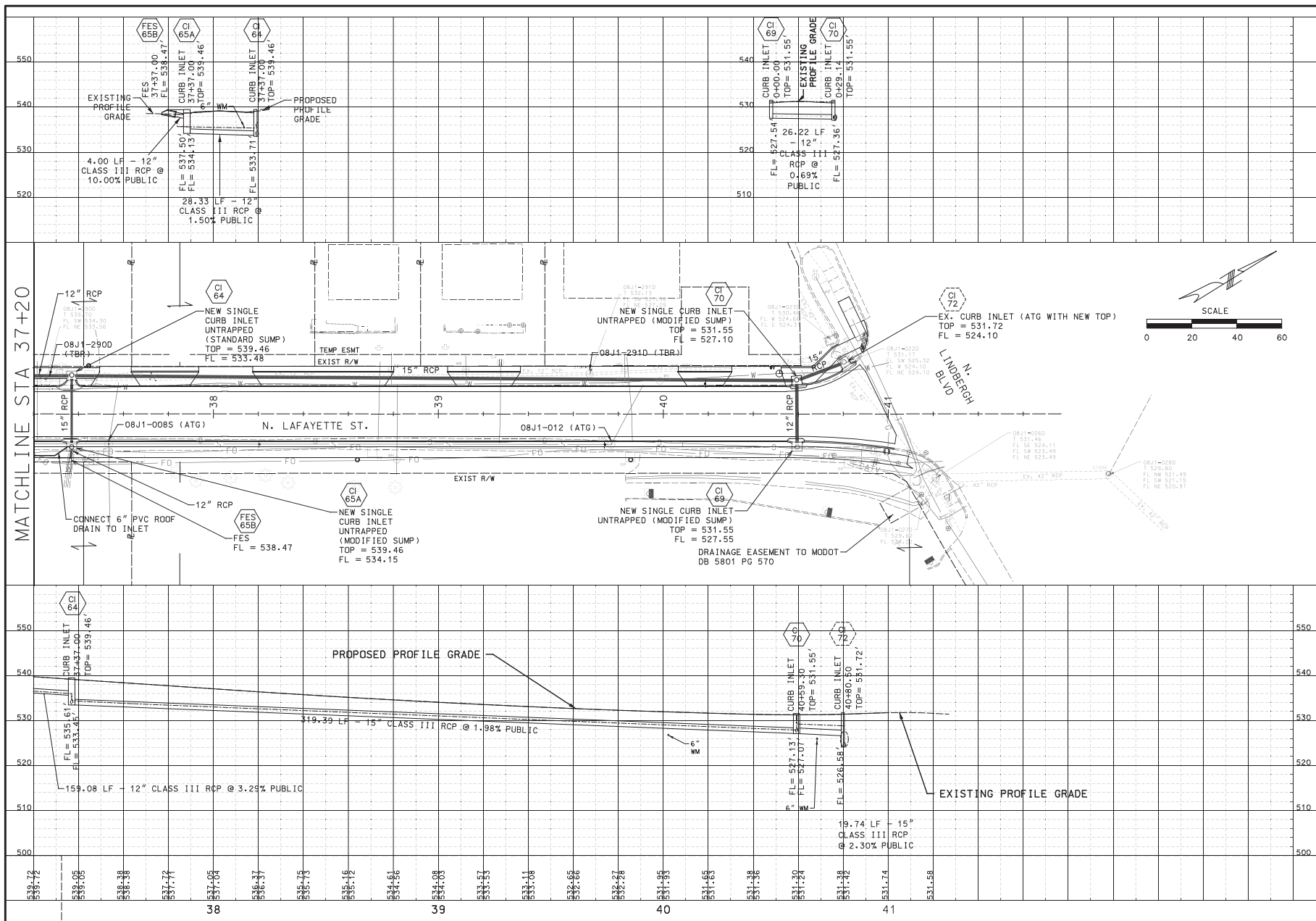
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**NORTH LAFAYETTE STREET DRAINAGE RECONSTRUCTION**  
**PLAN AND PROFILE**  
**SHEET 6 OF 7**

PROJECT/JOB NO. STP-5595(614)  
 MSD PROJECT NO. 17MSD-00123  
 MSD BASE MAP 08J  
 DATE PREPARED 5/15/2019  
 SHEET 45 OF 75



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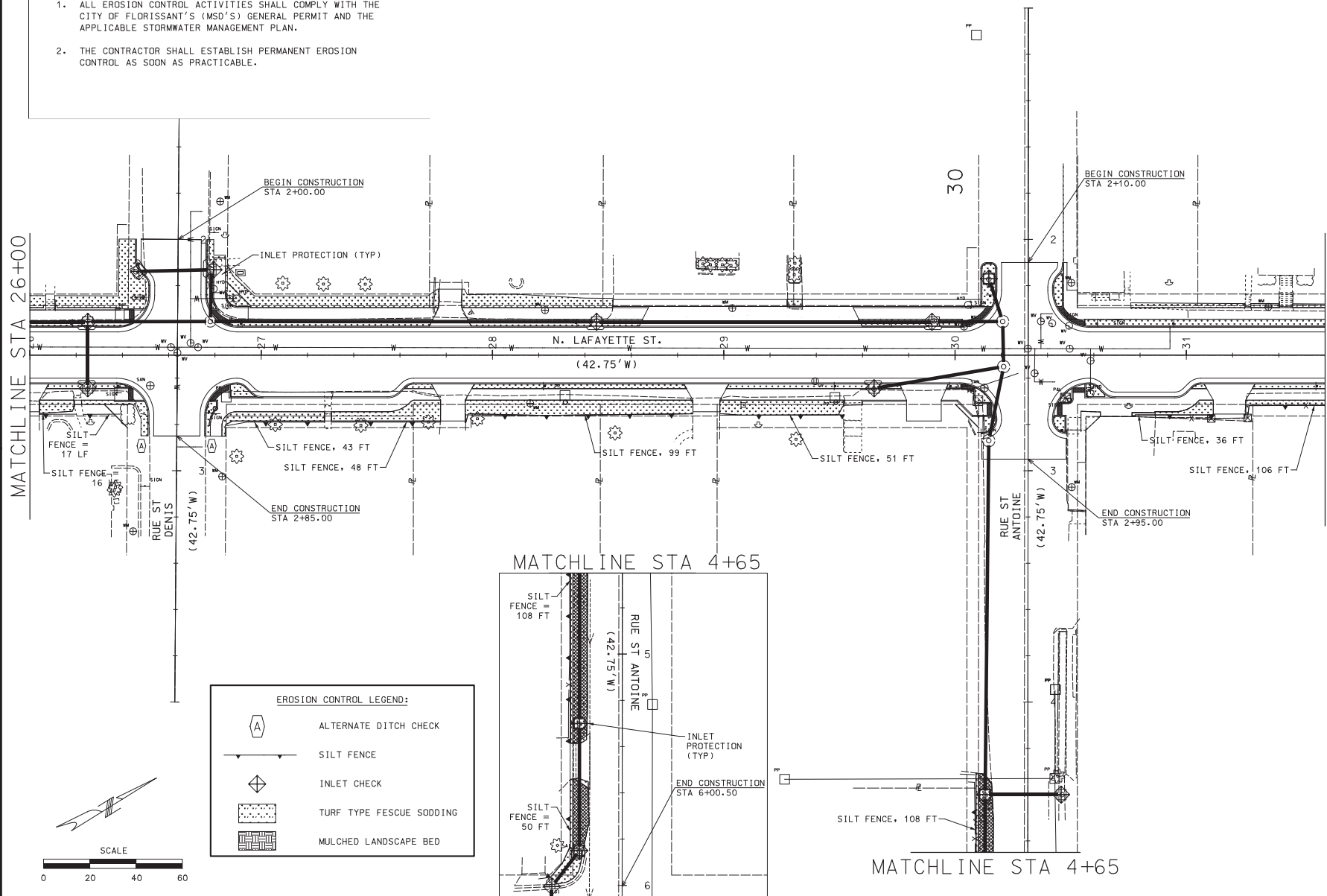
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**NORTH LAFAYETTE STREET  
 DRAINAGE  
 RECONSTRUCTION  
 PLAN AND PROFILE  
 SHEET 7 OF 7**

PROJECT/JOB NO.  
 STP-5595(614)  
 MSD PROJECT NO.  
 17MSD-00123  
 MSD BASE MAP  
 08J  
 DATE PREPARED  
 5/15/2019  
 SHEET  
 46 OF 75



1. ALL EROSION CONTROL ACTIVITIES SHALL COMPLY WITH THE CITY OF FLORISSANT'S (MSD'S) GENERAL PERMIT AND THE APPLICABLE STORMWATER MANAGEMENT PLAN.
2. THE CONTRACTOR SHALL ESTABLISH PERMANENT EROSION CONTROL AS SOON AS PRACTICABLE.



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REVISIONS			
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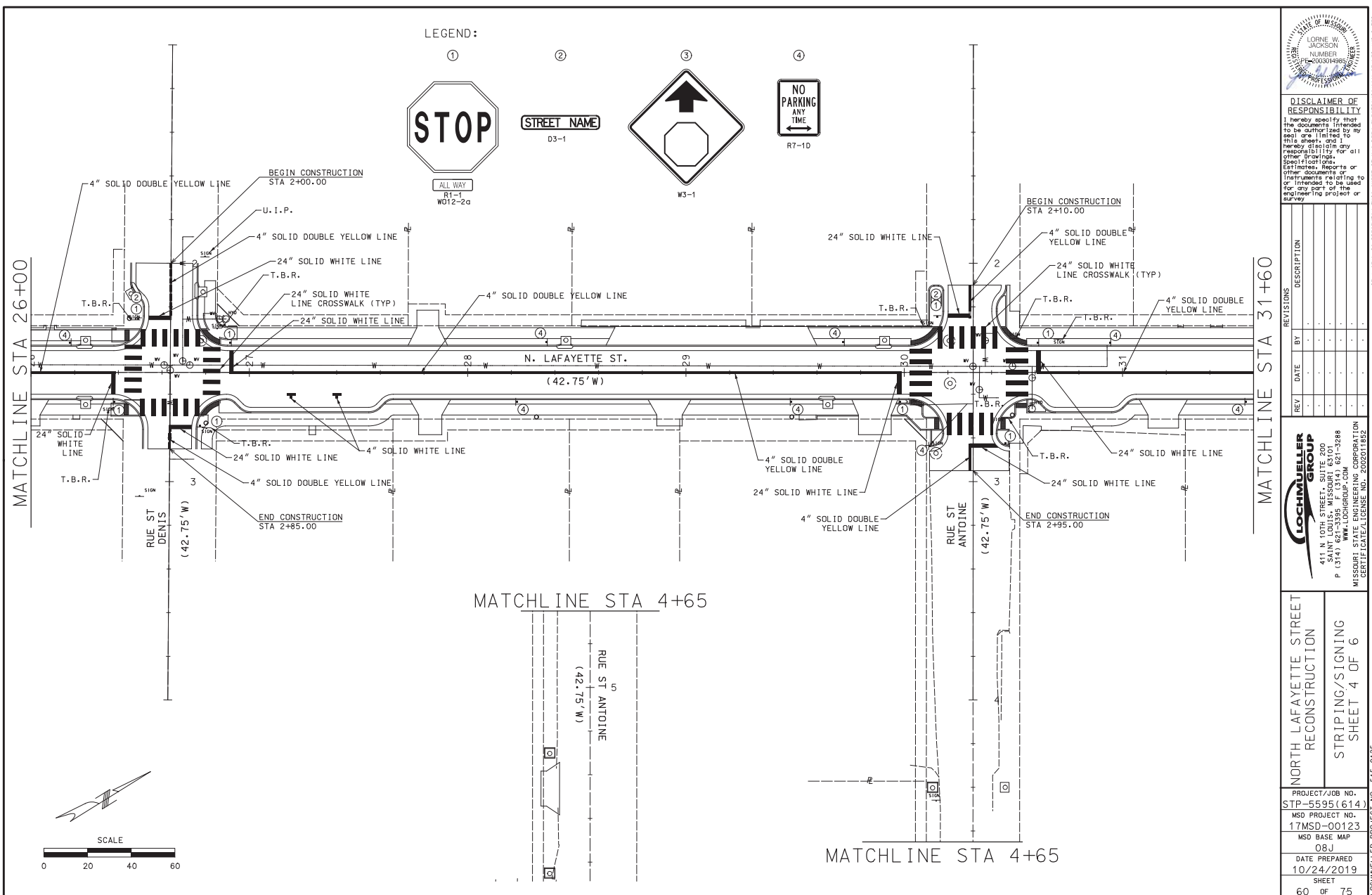
ORTH LAFAYETTE STREET  
RECONSTRUCTION

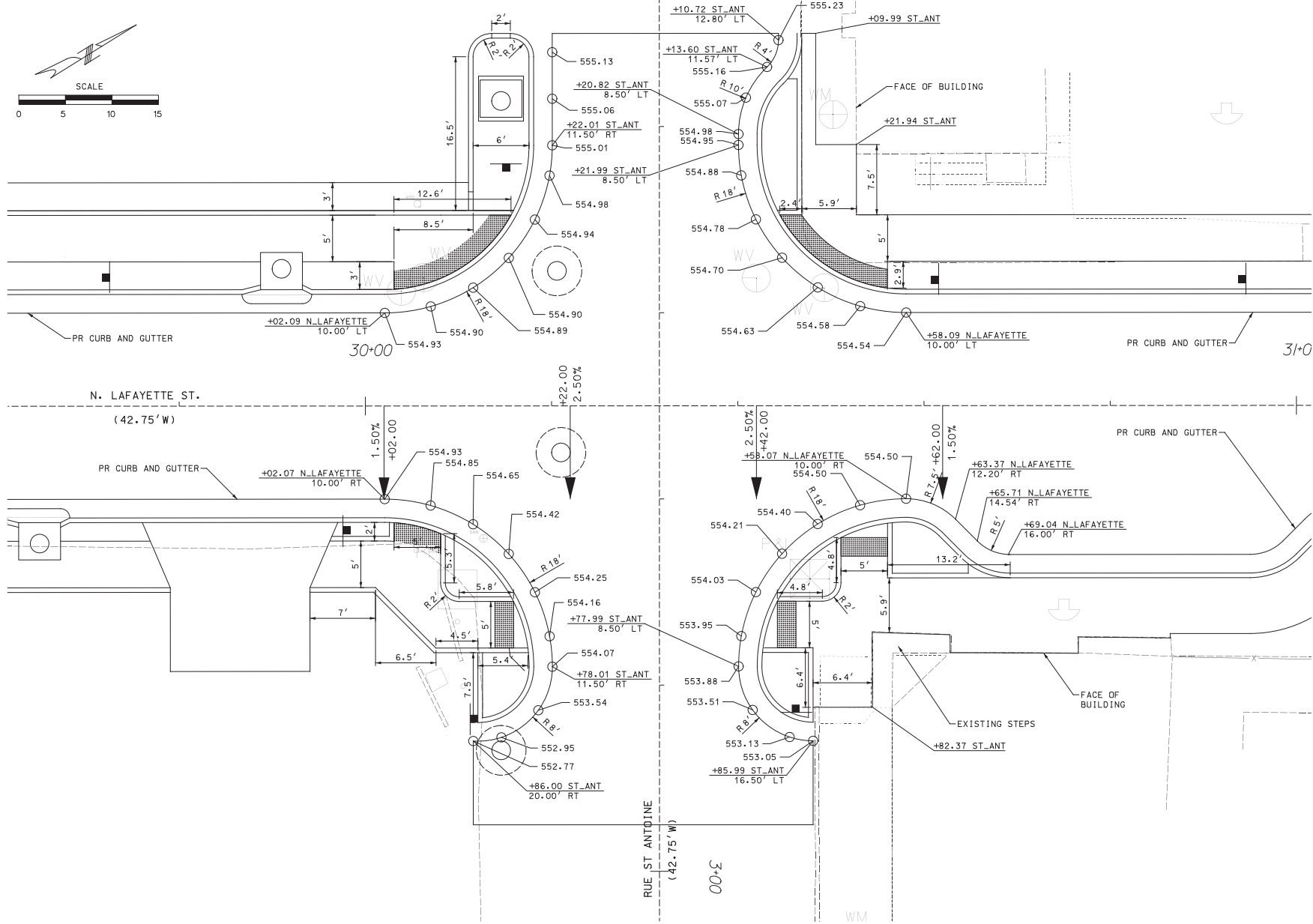
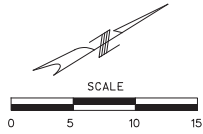
EROSION CONTROL PLAN  
SHEET 4 OF 6

PROJECT/JOB NO.	STP-5595(614
MSD PROJECT NO.	17MSD-00123
MSD BASE MAP	08J
DATE PREPARED	10/24/2019
SHEET	

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**NORTH LAFAYETTE STREET  
 RECONSTRUCTION  
 INTERSECTION SHEET  
 RUE ST ANTOINE**

PROJECT/JOB NO.	STP-5595(614)
MSD PROJECT NO.	17MSD-00123
MSD BASE MAP	08J
DATE PREPARED	10/24/2019
SHEET	68 OF 75