Charlie A. Dooley **County Executive**



Sheryl L. Hodges, D.E., P.E., L.P.G. Director

PUBLIC WORKS

May 16, 2014

ADDENDUM NO. 2

Notice to All Persons and Firms Proposing to Submit a Bid or Furnish Materials for Shrewsbury Avenue -- Lansdowne Avenue Infrastructure St. Louis County Project No. AR-1388 Federal Project No. STP-4901(635)

The construction contract for this project has been revised as follows:

No. 1

Delete Contract Book Section 1100.70.8, Transverse and Longitudinal Joint Pavement Repair (6-Foot Minimum Width) With Special Concrete Types and Construction Procedures

No. 2

Insert New Contract Book Section 1100.70.8, Concrete Pavement Repair (18 Pages total)

No. 3 Delete Contract Book Page 252 of 264

No. 4 Insert New Contract Book Page 252A of 264

No. 5 Delete Contract Book Page 253 of 264

No. 6 Insert New Contract Book Page 253A of 264

No. 7 Delete Contract Book Page 254 of 264

No. 8 Insert New Contract Book Page 254A of 264

No. 9 Delete Plan Sheet 2 of 39

No. 10 Insert New Sheet 2A of 39 <u>No. 11</u> Delete Plan Sheet 3 of 39

No. 12 Insert New Sheet 3A of 39

<u>No. 13</u> Delete Plan Sheet 4 of 39

No. 14 Insert New Sheet 4A of 39

<u>No. 15</u> Delete Plan Sheet 5 of 39

No. 16 Insert New Sheet 5A of 39

<u>No. 17</u> Delete Plan Sheet 6 of 39

No. 18 Insert New Sheet 6A of 39

<u>No. 19</u> Delete Plan Sheet 7 of 39

<u>No. 20</u> Insert New Sheet 7A of 39

ATTENTION BIDDERS: CHECK THE ADDENDUM ACKNOWLEDGEMENT IN THE BID DOCUMENTS AND COMPLETE APPROPRIATELY.

Namile Hand

Daniel R. Naunheim, P.E. Division Manager, Design

DRN/DJF/jlh

Attachments: Contract Book Section 1100.70.8, Concrete Pavement Repair (18 Pages); Contract Book Pages 252A, 253A, and 254A of 264 Plan Sheets 2A, 3A, 4A, 5A, 6A, and 7A of 39 Addendum Receipt Acknowledgement (**Please sign and return.**)

1100.70.8 CONCRETE PAVEMENT REPAIR

Delete Section 613 and substitute the following:

613.1 Description

613.1.1 Full depth pavement, joint and base repair shall consist of removing specified areas of existing variable thickness of non-reinforced Portland Cement Concrete and replacing with reinforced or non-reinforced Portland Cement Concrete as specified in the contract documents.

613.1.2 Pavement repair greater than 15 feet in length shall be reinforced with macro-synthetic fiber material specified herein.

613.1.3 Pavement repair thickness may be increased by up to 2 inches at no additional cost to the county, to meet the required minimum opening compressive strength.

613.1.4 Very Early Strength repairs shall be opened to traffic in 4 to 6 hours. High Early Strength repairs shall be opened to traffic in 24 to 48 hours. Mix designs are included as a suggestion and not as a requirement. Pavement repair that does not meet the required opening time due to not meeting the minimum specified compressive strengths as specified in Sec 613.3.27.2 will receive a pay adjustment.

613.1.5 Due to high volumes of traffic on most of the roadways where work is to be performed, bid items and quantities for fast setting concrete have been included to allow the Engineer and Contractor some flexibility in dealing with lane closures, traffic control and access to streets and driveways. The Engineer shall have final approval over the type of concrete to be used. Payment as approved by the Engineer shall be made under the appropriate bid items.

613.2 Materials

All materials, unless specified otherwise in this specification, shall conform to Division 1000, Materials Details, and specifically as follows:

Item	Section
Aggregates for Concrete	1005
Bituminous Materials	1015
Silica Fume (Microsilica)	1016
Ground Granulated Blast Furnace Slag	1017
Fly Ash for Concrete	1018
Cement	1019
Reinforcing Steel for Concrete	1036
Epoxy Resin Material	1039
Concrete Admixtures	1054
Concrete Curing Material	1055
Material for Joints	1057

613.3 Construction Requirements

613.3.1 Pavement **Removal Locations.** Approximate locations and areas of pavement sections to be removed will be shown on the plans. Specific locations and areas of pavement repair removal shall be as specified by the Engineer.

613.3.2 **Pavement Removal and Base Replacement.** Specified areas of full depth pavement repair shall be removed in accordance with the applicable requirements of Section 202.30 except that the saw-cut shall be full-depth for pavement thickness of 7 inches or greater. A diamond saw shall be used for perimeter cuts, and saw-cuts shall not be made more than one calendar day before concrete slab removal. Saw cut such that traffic will not dislodge any pieces or segments. A rock saw may be used to make this cut with prior approval of the Engineer. Any damage caused to the pavement due to pre-sawing shall be repaired by the contractor at the contractor's expense. Asphalt backfill and maintenance of saw cut will be at no cost to the County.

613.3.2.1 **Pavement Repair Breaking and Removal.** Inside the saw cut outline, do not impact the surface within 18 inches of the pavement to remain in place. The full depth of pavement shall be removed from the middle-portion of the slab toward the adjacent concrete to be used-in-place, with a minimum disturbance of sound base. For pavement repair less than 7 inches in thickness and when removing concrete within six (6) inches of a sawed or formed joint, only use a 15-pound jackhammer to remove excess concrete.

613.3.2.2 **Pavement Repair Base Removal and Compaction.** Any aggregate base disturbed by the Contractor shall be recompacted or removed and backfilled with Portland Cement Concrete as an integral part of the repair. Unstable base aggregate shall be removed and replaced in accordance with Section 304, as directed by the

Engineer. Subgrade compaction shall be performed in areas of unstable subgrade in accordance with Section 210, if directed by the Engineer. In areas of unstable subgrade, the unstable subgrade may be removed and replaced with Type 5 aggregate base material in accordance with Section 304 at the Contractor's option. Compaction shall be in accordance with Section 304 and to the satisfaction of the Engineer.

613.3.2.3 **Base Repair Forming.** Forming for concrete pavement repair shall be in accordance with Section 502 of the standard specifications.

613.3.2.4 **Undercut Spalling.** When concrete removal operations result in deterioration of the bottom slab of sound concrete surrounding the repair area the Contractor shall saw back into the adjacent slab until sound concrete is encountered.

613.3.2.5 **Removal of Excess Water.** The repair area shall be dry, free from standing water. The Contractor shall pump water from the repair area or drain it through a trench cut into the shoulder. The base shall be recompacted in accordance with Sec 304.3.5.2 and to the satisfaction of the Engineer.

613.3.3 **Transverse Joint Reinforcement.** Transverse joints shall be provided in accordance with Sec 505.2.4.

613.3.3.1 **Dowel Bar Installation.** Dowel bar diameter shall be based on repair thickness. Horizontal displacement is defined as difference in the actual dowel bar location from its theoretical position as detailed in the standard details. The maximum allowable horizontal displacement is 2 inches. The dowel holes shall be drilled on 12" centers, located vertically at mid-depth $\pm \frac{1}{2}$ inch of the slab drilled, drilled with an automatic gang-mounted dowel drilling rig, referenced off the slab surface. Single, handheld drills are not permitted because of the likelihood of misalignment. Standard pneumatic and hydraulic percussion drills are acceptable for drilling dowel bar holes. The drilling rig shall be able to maintain proper bar alignment, drilled to required diameter + 1/8 inch, and to a depth approximately $\frac{1}{2}$ the length of the dowel bar. Dowel bars shall have a typical spacing of 6 inches from any longitudinal joint or edge of pavement. The holes shall be blown clean and allowed to dry.

613.3.3.2 **Dowel Bar Epoxy Anchoring.** The holes shall be injected with an epoxy bonding agent meeting the requirements of Section 1039.3 of the current St. Louis County Standard Specifications for Highway Construction. If the epoxy bonding agent is either in bulk or cartridge form, it shall be thoroughly mixed in the proper ratio by an automatic mixing unit prior to injection into the dowel holes. The automatic mixing unit shall be an integral part of the injection device. The bonding agent shall be injected into the dowel hole by inserting the injection device to the back of the hole and slowly withdrawing the device while dispensing sufficient material to completely fill the void around the dowel when the dowel is inserted.

613.3.3.3 **Dowel Bar Insertion.** Prior to inserting the dowel into the hole, a thin plastic disk, manufactured to slip tightly over the dowel, shall be placed over the dowel at approximately midpoint to prevent the bonding agent from flowing from the hole during placement of the dowel and to create an effective face at the entrance of the dowel hole. The dowel shall be inserted into the hole with a twisting motion so the material in the back of the hole is forced up and around the dowel. The dowel shall be placed parallel to the surface and the centerline of the travel way and shall not vary more than ¼ inch in alignment. Dowels shall be firmly seated prior to placing concrete.

613.3.3.3.1 **Dowel Bar Alignment Tolerance.** Dowel bar(s) that vary more than 1/4 inch per 12 inches of bar in horizontal skew or vertical tilt alignment on more than three bars shall be cause for removal of the dowels, re-sawing the pavement repair boundaries beyond the embedded bar, removing the concrete and re-installing the dowel bars for the full length of the repair joint. No additional compensation will be made for removal and replacement of dowels and concrete pavement and other incidentals associated with their replacement.

613.3.4 Longitudinal Joint Reinforcement Installation. Tie bar size shall be based on repair thickness. The 30" long steel epoxy coated No. 5 or No. 6 round deformed dowel bar, in accordance with Sec 1057.4, shall have holes drilled on 30-inch centers that are located vertically at mid-depth ± ½ inch of the slab drilled, 1/8 inch in diameter larger than the actual bar diameter required, to a depth approximately ½ the length of the tie-bar drilled with an automatic gang-mounted dowel drilling rig, referenced off the slab surface. Single, hand-held drills are not permitted because of the likelihood of misalignment. Standard pneumatic and hydraulic percussion drills are acceptable for drilling tie-bar holes. Tie bars shall have a typical spacing of 15 inches from any transverse joint or edge of pavement. Horizontal displacement is defined as difference in the actual dowel bar location from its theoretical position as detailed in the standard details. The maximum allowable horizontal displacement is 2 inches. The holes shall be blown clean and allowed to dry.

613.3.4.1 **Tie Bar Epoxy Anchoring.** The holes shall be injected with an epoxy bonding agent meeting the requirements of Section 1039.3 of the current St. Louis County Standard Specifications for Highway Construction. A standard keyway section shall be provided for pavement repair depths 7 inches or greater wherever new pavement widening is to abut a full depth pavement repair section.

613.3.4.2 **Tie Bar Alignment Tolerance.** Tie bar(s) that vary more than ¼ inch per 12 inches of bar in horizontal skew or vertical tilt alignment on more than three bars shall be cause for removal of the bars, re-sawing the pavement repair boundaries beyond the embedded bar, removing the concrete and re-installing the dowel bars for the full length of the repair joint. No additional compensation will be made for removal and replacement of dowels and concrete pavement and other incidentals associated with their replacement.

613.3.5 **Macro-Synthetic Fiber Reinforcement.** When pavement repairs require reinforcement macro-synthetic fibers shall be used. Fibers shall meet the minimum requirements in accordance with Sec 505.2.3. Fiber manufacturer, brand and weight per cubic yard shall be included in the concrete mix design and on concrete delivery ticket. The concrete producer-supplier is required to obtain and submit the following macro-synthetic fiber information for review:

- Specific product brand name;
- Independently performed test results (include minimum average residual strength at dosage rate specified);
- Material Safety Data Sheet;
- Technical Data Sheet;
- Contact person's name, title, address, email address, and phone number;

- A letter stating the subject material will not be changed without prior written notification to the county.

613.3.5.1 **Macro-Synthetic Approved Sources.** The following sources are considered approved for use as macro-synthetic fiber for concrete reinforcement at a rate of 5 pounds per cubic yard for pavement repair:

Source	Fiber Trade Name
BASF Construction Chemical-Admixture Systems	MasterFiber™ MAC 100
Euclid Chemical Company	TUF-STRAND SF
Forta Corporation	Fort A-Ferro® Fiber
Fabpro	Performax
General Resources Technology, Inc.	Advantage Structural Fiber
Propex Concrete Systems	Novomesh 950
	Fibermesh 650
PSI Packaging, Inc.	Max Ten
W.R. Grace & Company	Strux 90/40

Suggested Macro Fiber Material by Source and Trade Name

613.3.5.2 **Macro-Synthetic Fiber Storage, and Handling.** Macro-synthetic fiber blend material shall be delivered, stored, handled, and mixed in accordance with Sec 505.2.3.1.

613.3.6 **Repair Removal and Waste Disposal.** Repairs shall be made to only one lane at a time. The removed concrete and any excavated subgrade material shall be disposed of at a location furnished by the Contractor or at locations on the right-of-way approved by the Engineer. If the material is disposed of outside the right-of-way, an acceptable written agreement executed with the property owner on whose property the material is placed shall be submitted by the Contractor.

613.3.7 **Crack Relief.** Crack relief is required at all locations where the repair is intersected by a full-depth pavement crack.

613.3.7.1 If the crack is located further than 6 feet from an established joint, an additional dowel basket assembly shall be installed and the pavement appropriately jointed.

613.3.7.2 If the crack is located 6 feet or less from an established joint omit the tie bars from that section and establish crack relief by installing and securing to the slab face a 1/4 inch thick by 3 inch wide (minimum) commercial quality polyethylene, flexible foam expansion material across the crack prior to concrete placement. Extend the isolation joint material from flush with the top of pavement repair to the base of the pavement with the full-depth crack. Maintain the isolation joint material in a vertical position throughout the entire thickness of the repair.

613.3.8 **Early Opening to Traffic Concrete Mix Design.** The contractor shall provide a trial mix design with materials proportioned so that the slump, entrained air content, workability, minimum compressive strength and minimum opening times are achieved. All mixes shall have fine aggregate proportioned at a minimum amount of 35 percent of the total aggregate volume.

The Contractor shall submit all mix design(s) for review and approval in accordance with Sec 501.

613.3.8.1 Mix designs shall be prepared by personnel experienced in the use of ASTM C 94, ASTM C 192, ACI 211.5R-01, ACI 301, and ACI 318 Chapter 5.

613.3.8.2 The contractor shall submit to the Engineer the following for review and approval no less than 14 days in advance of pre-production trial batch:

- **Mix Design.** Strength type, Pavement Repair Class, opening time, minimum opening compressive strength, sources, grade or type, and volumetric properties of the proposed concrete-mix materials (water, cement, coarse aggregate, fine aggregate, macro-fiber and admixture(s) (brands and dosages), and production water/cement ratio for 1 cubic yard of concrete at the specified target air entrainment. The mix should be developed that uses the minimum amount of cementitiuos materials to achieve performance requirements.
- **Special Requirements:** A Polycarboxylate-based HRWR (ASTM C494 Type F) is required for all mix designs. For Very Early Strength, at least 2 gallons of nonchloride accelerator (NCA) is required per cubic yard. For all mix designs, when the forecasted low air temperature during placement through the curing period to achievement of the minimum required strength is at or below 45 F, a minimum dosage of 2 gallons per cubic yard of calcium nitrite NCA with calcium chloride accelerator (up to 1 gallon of per cubic yard) is required.
- **Curing Material Plan.** The plan shall include moisture and thermal materials used to cure, cover and weight the cover materials so when placed and weighted that they remain in contact with the pavement surfaces and edges, providing an airtight enclosure during moisture and thermal curing period.

613.3.8.3 The contractor is responsible for complying with opening times, specified slump, plastic air content and minimum compressive strengths specified. The concrete for standard joint repair will be composed of materials, proportioning, air-entraining, mixing, slump, and transporting shall be in accordance with Sections 501 and 502, as applicable to concrete pavement, or as specified in this provision. Changes in the source of materials or concrete-mix proportions shall not be made without written authorization of the Engineer. Supplementary cementitiuos materials may be use, but are not required. Dosage of admixtures shall be determined by the manufacturer in accordance with ambient conditions expected at the time of placement. Admixture dosage shall be adjusted to achieve, slump, entrained air content, temperature and compressive strength requirements within the specified opening time. The admixture dosage shall not permit the segregation of aggregate at the time of concrete placement. Addition of non-chloride calcium nitrite accelerating or Type F or G polycarboxylate high-range water-reducing admixtures to increase slump after the concrete is delivered, but not discharged, is allowed only once. Failure to achieve the minimum air entrainment, concrete temperature, slump at the time of placement and compressive strength within the early opening time specified shall be cause for application of penalties or rejection of the mix design and the concrete placed.

613.3.8.4 Water Reduction and Accelerator Requirements. The County does not warranty the performance of the following mix designs as admixture dosages are

suggested and their amount can vary with cement and admixture manufacturer, ambient temperature, haul distance and batching sequence. It is required that optimum mix trials be made before the start of job site pours. This will allow the ready-mix concrete producer to determine the proper batching sequence and the required dosage of other admixtures needed to deliver the specified concrete mix to the job site. Type F or G Polycarboxylate-based High Range Water Reducer (HRWR) is required to be added at the manufacturing plant. Calcium chloride or Non-Chloride calcium nitrite Accelerator (NCA) is recommended to be added at the job the site.

613.3.8.5 When more than 3 gallons of NCA are used, the contractor may substitute up to 1 gallon of calcium nitrite NCA with 1 gallon of calcium chloride accelerator per cubic yard.

613.3.8.6 Trial Slabs. Before starting slab replacement work, the contractor shall complete a minimum of one (1) trial slab for each mix design, specified herein, as per the pay item in the contract documents. If the specified mix design fails to meet specification requirements, the contractor shall submit alternate mix design(s) using adjusted batch weights of the materials and admixtures specified. Trial slab(s) must be a minimum of 10 by 15 feet. The trial slab thickness must be at least 8 inches. The contractor shall produce a 4 ± 1 cubic yard pre-production trial batch at a non-critical location, at an on-site location selected by the Contractor, and agreed upon by the Engineer. The trial slabs shall be produced at approximately the same season and ambient temperature conditions as those anticipated during production. The trial slab concrete shall be manufactured, transported, constructed, finished, cured, and tested with the materials, tools, equipment, personnel, and methods to be used in completing concrete pavement repair. The Contractor shall provide the Engineer a 7-day minimum advance notification of trial batch production. The Contractor shall produce, transport, place, finish, moist cure and thermally cure the trial batch in the presence of the Engineer.

613.3.8.6.1 **Contingent Item.** Payment for trial slab, reinforced or nonreinforced, shall be made at the contract price for concrete pavement, joint repair or base (Non-reinforced) for the thickness placed. If no concrete pavement pay item exists, payment for the trial slab will be made at \$75.00 per square yard.

613.3.8.7 **Concrete Placement and Workability.** Mobile volumetric mixers are not permitted. The maximum time permitted from the end of mixing to the completion of concrete discharge shall be twenty (20) minutes. All concrete remaining in the drum after this time shall be rejected and removed from the work site. No cold joints are allowed.

613.3.8.8 **Trial Slab Performance.** The trial slab(s) shall demonstrate that the contractor is capable of producing slab repair in conformance with these specifications. The contractor will be required to produce additional trial batches, at their expense, if the initial trail batch fails to conform to these specifications.

613.3.9 **Concrete Maturity Testing.** The contractor shall be required to provide maturity loggers and assist in the development, maintenance and verification of repair's strength-maturity relationship in accordance with County Standard Specification Section 507 Strength of Concrete Using the Maturity Method, when specified or allowed. When maturity testing is required, no trial slab will commence without contractor supplied maturity loggers. The maturity curve shall be

submitted to the Contractor by the Engineer after completion of the approved trial slab and at least 4 days in advance of production pavement repair.

613.3.10 **High Early Strength (24 - 48 Opening Time).** For pavement repair to be made and opened to traffic between 24 and 48 hours after placement, the Type I/II Portland cement, Polycarboxylate-based HRWR, water/cement ratio and slump suggested requirements are as follows:

7.50 Sack Type I/I Cement Trial Mix Design		
Property	Amount	
Type I/II cement, lbs	705	
Coarse Aggregate (Class D), lbs	1725	
Fine Aggregate (Class A), lbs	1155	
Water (Maximum Allowable), lbs (gals)	268 (32.2)	
ASTM C 260 Air Entraining Agent	Dosage to	
	achieve 5.5%	
Polycarboxylate-based HRWR (ASTM C494 Type F), ounces	106	
per cubic yard ¹		
¹ EXP 950, Sika Sikament 610, Euclid Eucon SPC, GRT EVO 2500 or an approved equal shall be		
added at the manufacturing plant. Additional HRWR may be added once before placement to		
increase slump		
Type IL cement may be substituted for Type I/II cement		

High Early Strength (24 – 48 Hour Opening) 7.50 sack Type I/II Cement Trial Mix Design

613.3.10.1 The allowable Type I/II cement content shall not be less than 700 pounds or exceed 850 pounds per cubic yard. Water/cementitiuos ratio shall be maintained at \pm 0.02 from the target established on the mix design and shall be within the minimum-maximum range when the tolerance is applied. All concrete shall have the additional properties:

Required High Early Strength (24-48 Hour Early Opening) Mix Properties at the Time of Placement

Property	Minimum	Maximum
Water / Cement Ratio	0.30	0.40
Temperature at time of placement, °F	83	-
Slump at the time of placement, inch	4	6
Entrained Air, percent	4.0	7.0

613.3.10.2 No addition of water to the concrete shall be permitted after addition of the HRWR.

613.3.10.3 **Applicable Pavement Repair Pay Item Descriptions.** The accepted quantity for High Early Strength pavement or joint repair, not including trial slab(s), will be paid for at the contract unit price for each of the pay items included in the contract.

613.3.10.3.1 Joint Repair (High Early Strength), Item No. 613.10.17

613.3.10.3.2 Joint Repair (High Early Strength), Item No. 613.10.90

613.3.10.3.3 **Contingent Item.** Additional payment for Portland cement concrete pavement repair in excess of 8 inches thick shall be made at the rate of 10% of the contract unit price for the pavement, joint or base repair item specified for each additional inch in excess of 8" per S.Y. as a contingent item. (Ex.: Unit Price = \$40.00, Thickness = 10". Additional payment: 10%/inch x \$40.00 x (10-8 inches) = \$8.00 per S.Y.)

613.3.11 Very Early Strength (4 - 6 Hour Opening Time). For the repair to be made and opened to traffic in 4 to 6 hours after placement, the Type I/II or III Portland cement, Polycarboxylate-based high-range water reducer (HRWR), water/cement ratio and slump requirements shall be option I (Type I/II cement) or 2 (Type III cement). Water/cementitiuos ratio shall be maintained at \pm 0.02 from the target established on the mix design and shall be within the minimum-maximum range when the tolerance is applied.

613.3.11.1 Option I. The allowable Type I/II cement content shall not be less than 850 pounds or exceed 950 pounds per cubic yard.

9.57 Sack Type Mi Cement Thai Mix Design		
Material	Amount	
Type I/II Cement, lbs	900	
Coarse Aggregate (Class D), lbs	1630	
Fine Aggregate (Class A), lbs	1080	
Maximum Batch Water, lbs (gal)	342(41)	
ASTM C 260 Air Entraining Agent	Dosage to	
	achieve 5.5%	
Polycarboxylate-based HRWR	59	
(ASTM C494 Type F), ounces		
Calcium Nitrite (30% min.) Non-Chloride Accelerator	980 (7.65)	
(NCA) –ASTM C 494 Type C, ounces (gal)		
¹ Aggregate Weights at SSD condition		
Type IL cement may be substituted for Type I/II cement		

Very Early Strength (4 – 6 Hour Opening) 9.57 sack Type I/II Cement Trial Mix Design

613.3.11.2 Option II. The allowable Type III cement content shall not be less than 650 pounds or exceed 800 pounds per cubic yard.

7.00 sack Type III Cement Trial Mix Design		
Material	Amount	
Type III Cement, lbs	658	
Coarse Aggregate (Class D), lbs ¹	1795	
Fine Aggregate (Class A), lbs ¹	1170	

Very Early Strength (4 – 6 Hour Opening) 7.00 sack Type III Cement Trial Mix Design

Very Early Strength (4 – 6 Hour Opening)	
7.00 sack Type III Cement Trial Mix Design	

Material	Amount
Maximum Batch Water, lbs (gal)	250 (30)
ASTM C 260 Air Entraining Agent	Dosage to achieve 5.5%
Polycarboxylate-based HRWR (ASTM C494 Type F), ounces	100
Calcium Nitrite (30% min.) NCA ASTM C 494 Type C, ounces (6.6 gal)	842(6.6)
¹ Aggregate Weights at SSD condition	

613.3.11.2 No addition of water to the concrete shall be permitted after addition of the HRWR. All 4-6 hour very early opening concrete shall have the additional properties:

Required Very Early Strength (4 - 6 Hour Opening)
Mix Properties at the Time of Placement

Property	Minimum	Maximum
Water / Cement Ratio	0.30	0.40
Temperature at time of placement, °F	88	-
Slump at the time of placement, inch	4	6
Entrained Air, percent	4.0	7.0

613.3.11.3 **Applicable Pavement Repair Pay Item Descriptions.** The accepted quantity for Very Early Strength pavement repair, not including trial slab(s), will be paid for at the contract unit price for each of the pay items included in the contract.

613.3.11.3.1 Joint Repair (Very Early Strength), Item No. 613.10.90

613.3.11.3.2 Concrete Base (8" Non-Reinforced), Very Early Strength, Item No. 309-10.08

613.3.11.3.3 **Contingent Item.** Additional payment for Portland cement concrete pavement repair in excess of 8 inches thick shall be made at the rate of 10 percent of the contract unit price for the pavement repair item specified for each additional inch in excess of 8" per S.Y. as a contingent item. (Ex.: Unit Price = 40.00, Thickness = 10". Additional payment: 10 percent / inch x $40.00 \times (10.8 \text{ inches}) = 8.00 \text{ per S.Y.}$)

613.3.12 **Concrete Mixing and Placement Limitations.** Weather Concrete Mixing and placement limitations shall be in accordance with Section 502.4.1.

613.3.13 **Entrained Air.** The quantity of air by volume entrained in early opening strength concrete shall be 5.5 ± 1.5 percent as determined in accordance with County Test Method QA-3 Air Content of Freshly Mixed Concrete by the Pressure Method.

613.3.14 **Consolidation.** Internal concrete vibrator(s) shall be supplied in accordance with Sec 502.3.7. Concrete shall be consolidated in accordance with Sec 502.4.7.3. Vibrators and equipment to operate vibrators shall be on-site and functional prior to arrival of concrete on site. No concrete shall be placed without operational vibrators.

613.3.15 If the concrete pavement has been resurfaced and where no additional structure is to be added to the existing overlay, or where the existing bituminous overlay is to be removed by milling, the repaired area shall be filled to the surface of the existing bituminous overlay with Portland cement concrete.

613.3.16 If the concrete pavement has been resurfaced and additional lifts are to be added over the existing overlay, the repair area shall be filled with Portland cement concrete to the surface of the underlying concrete pavement, and the remaining area shall be filled with approved hotmix asphalt to the existing bituminous overlay surface. The hot-mix asphalt shall be placed in accordance with the specifications for that mix.

613.3.17 When the concrete pavement requires all milled areas to be resurfaced in the same work day prior to opening the pavement to traffic, pavement repairs identified after milling will be marked for future repair, and the area shall be resurfaced as planned for that work day. No additional lifts of hot-mix asphalt will be allowed until the marked pavement is repaired. The pavement repair shall be performed in accordance with Sec 613.

613.3.18 **Strike-off.** Delete Section 502.3.6 and replace with the following: The use of a vibrating screed parallel to the pavement's centerline is required for full depth repairs over 10 feet in length. For repairs 10 feet or less in length use a 10-foot straight edge, pulling the tool blade parallel to the longitudinal joint.

613.3.19 **Concrete Pavement Repair Smoothness.** All repaired areas shall be finished to provide a smooth ride and to the satisfaction of the Engineer. Prior to surface texturing, repaired areas shall be checked with a straightedge in accordance with Sec 502.4.7.7 if required by the Engineer. When straightedged, the surface of the repaired area shall not vary more than 1/8" per 10' from a straight line between the surface of the existing pavement on each side of the repaired area, regardless if the repair is to be resurfaced or not. When the tolerance is not met, plastic concrete shall be added or removed from the repair until the surface tolerance is met.

613.3.20 **Surface Texturing.** No concrete shall be placed without proper texturing equipment on the job. The repair texture shall be similar to that on the surrounding pavement. For concrete not to be overlaid and placed on Arterial roads, concrete shall be finished with a wire comb in accordance with Sec 502.3.8.3. For all other conditions, concrete shall be finished with a burlap fabric drag in accordance with Sec 502.3.8.1.

613.3.21 **Pavement Repair Date Stamping.** Using metal dies in accordance with Sec 502.3.10.2 the Contractor shall stamp the pour date into the repair that is not to be overlaid after surface texturing, but before curing is applied. The placement date (MM-DD-YY) of each pavement repair shall be stamped in the plastic concrete. The stamped date shall be located near the repair's transverse and longitudinal joint on a troweled surface not closer than 1 foot to edge of pavement repair and face outward so as to be read from the near shoulder. On roadways with narrow shoulders or curbs, the pour date shall be oriented (parallel with the transverse joint) so that they can be read from the roadway in the direction of traffic flow.

613.3.22 **Rain Protection.** Rain protection shall be in accordance with Secs 502.3.11 and 502.10.1. No concrete shall be placed without adequate type and quantity of rain protection material on the job.

613.3.23 **Moisture and Temperature Retention Curing.** No concrete shall be placed without proper curing material on the job. Immediately after finishing and as soon as marring of the concrete will not occur, the entire surface of the newly placed concrete shall be cured with one or more of the following methods:

613.3.23.1 **Moisture Retention Curing.** Moisture retention curing material is required If temperature retention material is not certified to meet the water retention requirements in this section. Material shall be on repair site prior to concrete placement. Immediately after finishing and as soon as marring of the concrete will not occur, typically within 30 minutes after placement, the entire surface of the newly placed concrete shall be cured with one of the five following moisture retention materials:

613.3.23.1.1 **Polyethylene Sheeting.** Polyethylene sheeting for moist curing Portland cement concrete shall have a minimum nominal thickness of 4.0 mils and be white opaque (Hot Weather), clear or black (Cold Weather). Polyethylene sheeting physical requirements shall be in accordance with ASTM C 171. Sheeting shall extend 12 inches beyond the edges of placement, be secured to the perimeter of the pavement repair with 15-pound minimum sand bags spaced 12 inches center-to-center, beginning at the repair edge and proceeding inward in a grid pattern over the entire placement area to ensure an air-tight enclosure.

613.3.23.1.2 **White-Burlap Polyethylene Sheeting.** White-Burlap Polyethylene Sheeting for moist curing shall consist of burlap weighing not less than 9 ounces/yard² extrusion coated on one side with white opaque polyethylene of a minimum nominal thickness of 4.0 mils and meeting the requirements of ASTM C 171. Sheeting shall be secured to the perimeter of the pavement repair to ensure an air-tight enclosure in the same manner as the polyethylene sheeting. Burlap shall be maintained in a moist condition through the curing period.

613.3.23.1.3 **High Performance Curing Compound**. Curing compound for moist curing concrete not to be overlaid with hot mix asphalt shall consist of a high performance white liquid membrane-forming compound that conforms to the requirements of ASTM C 1315 for Type 2, Class A or B as follows:

- 1. Percent Solids. The curing compound shall have a minimum of 42 percent solids (total solids minus pigment) by total weight and the vehicle shall be 100 percent poly-alpha-methylstyrene (PAMS)
- 2. Water retention. As per ASTM C 156 the loss of water shall not be more than 0.15 kg/m2 at 24 hours and no more than 0.40 kg/m² at 72 hours
- 3. Reflectance. As per ASTM E 1347, the three-day reflectance readings shall be greater than 65

- 4. Drying Time. As per ASTM C 1315 Part 8.3, shall set to touch in no longer than one hour after application and will be tack-free in no longer than four hours after application.
- 5. Application rate. The application rate of at least 1 gallon per no more than 200 square feet is required.
- 6. Flash Point. As per ASTM C 1315 Part 8.3, shall have a flash point greater than 100 F

613.3.23.1.4 **Tack Coat.** When hot mix asphalt is to be applied immediately after compressive strength is achieved and before opening to traffic, apply SS-1H meeting the requirements of Sec 1015 and applied in accordance with Sec 407 at a rate of 0.07 to 0.10 gallon per square yard.

613.3.23.1.5 **Self-Dissipating Curing Compound.** When hot mix asphalt is to be applied after a minimum of 5 days after compressive strength is achieved and after opening to traffic, apply a dissipating curing compound shall be applied with material being in accordance with ASTM C 309 Type I, Class B curing compound. The application rate of at least 1 gallon per no more than 200 square feet is required.

613.3.23.2 **Temperature Retention Curing.** If temperature retention material is not certified to meet the water retention requirements for water vapor transmission rate (WVTR) of the sheet material of no more than 10g/m² when tested in accordance with ASTM E 96, then moisture retention curing or polyethylene sheeting will be required with temperature retention curing. In accordance with Sec 1058, all polyethylene sheeting will be required to be a minimum of 4.0 mils thick. After moisture retention curing is applied and has set, closed-cell curing blankets shall be used. Closed-cell curing blankets (multi-use) shall be manufactured for hot and cold weather concrete curing use in accordance with Sec 1055.4.1.4 Closed-Cell Curing Blankets (Multi-Use), and shall be certified having a minimum R-value of 3. Cover materials shall be so placed and weighted that they remain in contact with the pavement surfaces and edges, providing an airtight enclosure in the same manner as in Sec 613.3.23.1. Application of curing blankets shall be based on ambient temperature and desired opening time in accordance with the following tables.

Time to Opening Time (TOT), hrs		
TOT ≤ 24	24 < TOT ≤ 36	36 < TOT ≤ 48
Yes	Yes	Yes
Yes	No	No
No	No	No
*To reduce thermal cracking thermal curing shall be removed when the concrete temperature reaches 140° F. ** Concrete exposed to temperatures below 45° F may require additional curing blankets.		
	TOT ≤ 24 Yes Yes No ng shall be re	$TOT \le 24$ $24 < TOT \le 36$ YesYesYesNoNoNong shall be removed when the co

High Early Strength (24-48 Hour Opening to Traffic) Temperature Retention Requirements*

Temperature Retention Requirements		
Minimum Ambient Temperature Range in	Opening Time (T), hrs	
Curing Period, °F	4 ≤ T ≤ 6	
≤ 80**	Yes	
> 80	No	
*To reduce thermal cracking thermal curing shall be removed when the concrete temperature reaches 140° F. **Concrete exposed to temperatures below 45° F may require additional curing		
blankets.		

Very Early Strength (4-6 Hour Opening to Traffic) Temperature Retention Requirements*

613.3.24 **Concrete Joint Sawing.** Equipment shall be in accordance with Sec 502.3.14 and the requirements specified herein. Concrete maturity shall be used to determine the compressive strengths specified below when maturity testing is required.

613.3.24.1 **Standard Concrete Saw**. When a standard (water cooled diamond bladed) concrete saw is used to cut the transverse or longitudinal joint when the pavement reaches 950 psi compressive strength (before final set) the following applies:

- For pavement < 7 inches thick, saw the joint to a minimum depth of one-fourth (T/4) the specified pavement thickness.
- For pavements \geq 7 inches thick, saw the joint to a minimum depth of one-third (T/3) the specified pavement thickness.
- Saw joints 3/8 inch $\pm 1/16$ inch wide as measured at the time of sawing.

613.3.24.2 **Early-Entry Saw.** When using early-entry (dry cut, light weight) saws, only use saw blades and skid plates as recommended by the manufacturer. Perform the early entry sawing reaches 150 psi compressive strength (after initial set and before final set) as follows:

- Saw the joint 2-1/4 to 2-1/2 inches deep.
- Saw joints approximately 1/8 inch ± 1/16 inch wide as measured at the time of sawing.

613.3.25 **Concrete Joint Sealing.** If the repaired area is not to be resurfaced, the joints and overcut from the sawing operations shall be filled with an approved joint material. For concrete pavement not to be resurfaced, seal joints in accordance with Sec 502.9.

613.3.25.1 **Sealing Crack Relief.** Remove isolation joint material to a depth of 1 inch below the pavement surface. Immediately prior to sealing, the crack relief must be clean, dry, and free of all incompressible material. Seal the crack relief with hot-poured sealant as specified in Sec 613.3.25. The top of the sealant (after cooling) must be flush to 1/8 inch below the surface of the pavement.

613.3.26 **Compressive Strength Requirements.** For High Early Strength (24 to 48 hour opening) repair, the opening compressive strength shall be attained based upon concrete cylinders cast in the field and broken by the Division of Construction-Materials Section. At the

contractor's option, the opening compressive strength of the 24 to 48 hour mix may be determined in accordance with Sec 507. For Very Early Strength (4 to 6 hour opening) repair, the opening compressive strength shall be attained based upon concrete maturity in accordance with Sec 507. When the repair is to be made and opened early to traffic, the concrete shall be in accordance with the following requirements:

	e e e e e e e e e e e e e e e e e e e	
		Minimum
Property	Repair Thickness	Required, psi
28-day Compressive Strength	All thicknesses	5,000

28-Day Minimum Compressive Strength Requirement

Densis	Repair	•	ength for Opening fic, psi ^a
Repair Class	Thickness, inches	Repair Length, 6 - 10 feet	Repair Length, > 10 feet
Α	T ≤ 8	3,000	3,600
В	8 < T≤ 9	2,400	2,700
С	9 < T < 10	2,200	2,300
D	T ≥ 10	2,000	2,000
compressive stree opened to traffic 613.3.27.2 when	ength for opening in less than the	e determined to re to traffic. The roa early opening time exceeds the specifie ir.	dway shall not be specified. See Sec

Early Compressive Strength for Opening Requirements

613.3.27 **Damaged or Defective Concrete.** Rain damage, spalling and transverse shrinkage cracks will be cause for rejection of the concrete. Concrete pavement not in compliance with straightedge smoothness specifications shall be corrected by grinding or removal and replacement. Concrete repair with low pavement repair compressive strength at the time of opening will be subject to a pay adjustment.

613.3.27.1 The Engineer shall reject any pavement repair area that develops 1 or more transverse cracks within 21 days after placement. The contractor shall remove and replace this pavement repair with pavement repair concrete that complies with the specifications. A transverse crack is a crack running from one longitudinal edge of the panel to the other. The Engineer shall adjust payment for concrete pavement repair that is not opened within the specified time due to failure to meet the specified minimum compressive strength. Compressive strength will be determined as specified for the early opening repair required.

613.3.27.2 Pay Adjustment for Failure to Meet Minimum Opening Compressive Strength of Pavement, Joint or Base Repair. The Engineer shall adjust payment for

concrete repair that is not opened within the specified time due to failure to meet the specified minimum compressive strength as follows:

613.3.27.2.1 Payment at the Contract price for the above bid items shall be full compensation for all labor, equipment and material required to do the Work. Work is the defined as all the pavement, joint or base repair work performed during each closure period. Where Work does not conform to the minimum compressive strength requirements and delays the time to opening beyond the maximum of 6.0 hours for Very Early Strength or 48.0 hours for High Early Strength, a payment adjustment (PA) will be made according to the following equation:

PA = Quantity x Bid Unit Price x (PF)

Time to opening (TTO) is measured from when the last repair concrete placement is begun until removal of the traffic control from the lane closure is completed. Time of opening shall be determined by the Engineer to a quarter hour basis. Pay factor shall be determined to the nearest 0.01. The pay factor (PF) for the each lane closure shall be determined according to the following appropriate Tables:

Very Earl	y Opening
Time to Opening	
(TTO), hrs	Pay Factor (PF)
TTO ≤ 6.0	PF = 1.00
6.0 < TTO < 8.0	PF = 1-0.25x(TTO-6)
TTO ≥ 8.0	PF = 0.50

High Ea	arly Opening
Time to Opening	
(TTO), hrs	Pay Factor (PF)
TTO ≤ 48.0	PF = 1.00
48.0 < TTO < 72.0	PF = 1-0.0208x(TTO-48)
TTO ≥ 72.0	PF = 0.50

613.3.27.3 **Diamond Grinding.** Pavement repair(s) that fail to meet the smoothness requirement shall be corrected by diamond grinding in accordance with the following.

613.3.27.3.1 **Description.** This work shall consist of grinding the surface of Portland cement concrete pavement repair as directed by the Engineer and as specified in these special provisions.

613.3.27.3.2 **Location.** Grinding shall begin and end at lines perpendicular to the pavement center line and shall be centered within the lane width. When deficient concrete repair pavement is ground, the grinding shall take place in the longitudinal direction of the traveled way, shall cover the full lane width and smoothly transition into and out of the repair.

613.3.27.3.3 **Texture.** Grinding concrete pavement repair must result in a parallel corduroy texture with grooves from 0.08 to 0.12 inch wide and from 50 to 60 grooves per foot of width. Grooves must be from 0.06 to 0.08 inch from the top of the ridge to the bottom of the groove.

613.3.27.3.4 **Profile Grinding.** Grinding concrete pavement repair constructed as part of the project that is not in compliance with straightedge smoothness specifications must comply with the following:

- 1. Both sides of transverse joints and cracks must have the same depth of texture. The surface must be within 0.01 foot of the lower edge of a 10-foot long straightedge when laid parallel with the centerline with its midpoint at the joint or crack.
- 2. If necessary, perform additional grinding to achieve the required surface smoothness. Straightedge requirements do not apply to areas abnormally depressed from subsidence or other localized causes. End straightedge testing 25 feet before and resume 25 feet after these areas.
- 3. Cross-slope must be uniform and have positive drainage across the traveled way and shoulder. The surface must be within 0.02 foot of the lower edge of a 10-foot long straightedge when laid perpendicular to the centerline.

613.3.27.3.5 **Pavement Grinding Residue.** Remove grinding residue with a vacuum attached to the grinding machine. Prevent residue from flowing across the pavement or remaining on the pavement surface. Dispose of grinding residue at an appropriate disposal facility. Do not store concrete pavement grinding residue within the highway. If authorized, the Contractor may transport liquid grinding residue to an offsite location for drying. The offsite drying location must be identified and protected under the SWPPP or Water Pollution Control Program.

613.3.27.3.6 **Pavement Repair Replacement.** Instead of grinding, the Contractor may remove and replace deficient concrete repair pavement at their expense. The new concrete pavement must be the same thickness as the removed pavement. Replace between longitudinal joints or pavement edges and between transverse joints. Do not remove portions of slabs.

613.4 Method of Measurement.

613.4.1 Measurement for furnishing and placing Portland Cement Concrete and macro-fiber will be made to the nearest 0.1 square yard.

613.4.2 Full depth pavement removal will be measured as Removal of Rigid Pavement to the nearest square yard.

613.4.3 Measurement for rock base preparation and stabilization will be made to the nearest 0.1 square yard.

613.4.4 No measurement will be made for drilling dowel or tie-bar holes, keyway construction, furnishing and installing dowels, tie-bars, epoxy or polyester bonding agent, saw cutting and removing existing concrete pavements, concrete maturity loggers, assistance with creation,

verification and maintenance of concrete-maturity curve, curing, macro-fiber, date stamping, or for subgrade or aggregate base compaction.

613.5 **Basis of Payment**. The accepted quantities of pavement repair at transverse or longitudinal joints or concrete base will be paid for at the contract unit price for removal of rigid pavement and for pavement repair. No direct payment will be made for: drilling and installing dowels; saw cutting pavements; subgrade or aggregate base compaction; aggregate base material used to replace unstable grade; or other work incidental to the completed pavement repair.

613.5.1 No extra compensation for removal and replacement of temporary repair, contractor optional extra repair depth not to exceed 2 inches, corrective finishing or repairs to damaged or defective concrete will be paid.

613.5.2 The Pay Adjustment shown in Sec 613.3.27.2 is used for the purpose of determining penalties. The Engineer shall adjust payment for concrete pavement repair when opening to traffic exceeds the maximum specified. (Ex.: PA = Quantity x Bid Unit Price x (PF); for a very early opening time to reach the minimum compressive strength it took 7 hours; unit price is \$300/sy; the quantity represented by the closure was 75 SY; the PF = 1-0.25*(TTO-6) = 1-0.25*(7-6) = 1-0.25 = 0.75; so the actual payment is the PA = 75 sy x \$300/sy x 0.75 = \$16,875)

ITEMIZED BID

FEDERAL PROJECT NO. STP-4901(635) COUNTY PROJECT NO. AR-1388

PAGE 1 0F 5

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
ROADV	/AY ITEMS				
201-20.11	Clearing Vegetation from Pedestrian Access Route	L.S.	1		
202-20.10	Removal of Improvements	L.S.	1		
202-20.10	Removal of Rigid Pavement	S.Y.	394.6		
203-10.00	Class "A" Excavation	C.Y.	688.7		
203-10.30	Land Disturbance Permits	L.S.	1		
304-05.04	Type 5 Aggregate Base (4" Thick)	S.Y.	3,081.3		
309-11.08	Concrete Base (8", Non-Reinforced)	S.Y.	233.9		
404-09.04	Superpave Asphaltic Concrete SP 95 (PG 70-22) D	TON	110.0		
404-12.72	Superpave Asphaltic Concrete SP 125 (PG 70-22) DLP	TON	3,680.1		
405-30.10	Type "C" Bituminous Concrete (Pavement)	TON	10.8		
405-30.20	Type "D" Bituminous Concrete (Pavement)	TON	28.9		
405-30.30	Type "X" Bituminous Concrete (Base)	TON	859.1		
407-10.27	Tack Emulsified Asphalt (SS-1H)	GAL.	3,100		

ITEMIZED BID

FEDERAL PROJECT NO. STP-4901(635) COUNTY PROJECT NO. AR-1388

PAGE 2 0F 5

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
412-10.02	Pavement Surfacing and Texturing (0" to 2"), Concrete or Asphalt	S.Y.	28,117		
509-10.08	Concrete Base (8", Non-Reinforced), Very Early Strength	S.Y.	160.7		
603-10.35	Adjust Water Service Valve Box to Grade	EACH	3		
604-20.30	Adjusting Manhole to Grade	EACH	21		
604-21.95	Replace Precast Inlet Top	EACH	6		
604-90.40	Adjust Inlet Stone to Grade	EACH	1		
604-90.50	Replace Precast Inlet Top and Adjust to Grade	EACH	4		
604-90.52	Replace Inlet Sill	EACH	3		
608-10.90	Remove & Replace Concrete Median / Island	S.Y.	180.8		
608-50.96	Remove & Replace Paved Approach (6")	S.Y.	68.2		
609-10.54	Curb & Gutter, Mountable (6")	L.F.	200		
609-10.93	Remove and Replace Curb & Gutter (Various Widths), Vertical / Mountable	L.F.	3,334		
609-20.90	Remove and Replace Integral Curb (6" Height and Under)	L.F.	257		
612-30.10	Standard Traffic Control Devices	L.S.	1		
612-60.92	Arrow Panel, Type "B" (Noiseless), Rental	EACH	4		

ITEMIZED BID

FEDERAL PROJECT NO. STP-4901(635) COUNTY PROJECT NO. AR-1388

PAGE 3 0F 5

ITEM NO.	ITEM DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	AMOUNT
613-10.18	Joint Repair - Transverse, High Early Strength	S.Y.	368.6		
613-10.91	Joint Repair - Transverse, Very Early Strength	S.Y.	52.0		
619-00.00	Mobilization	L.S.	1		
803-20.00	Strip Sodding	S.Y.	1,232		
806-45.00	Inlet Protection	L.S.	1		
	SUB TOTAL ROADWAY ITEMS				
PEDEST	RIAN & BICYCLE ITEMS				
412-20.00	Sidewalk Grinding	EACH	100		
608-60.08	Concrete Sidewalk, Curb Ramp	EACH	27		
608-60.94	Remove & Replace Concrete Sidewalk (4" Thick)	S.Y.	473.9		
608-60.96	Remove & Replace Concrete Sidewalk (6" Thick)	S.Y.	110.2		
608-60.98	Truncated Domes for Curb Ramp (New Construction)	S.F.	30		
	SUB TOTAL BICYLCE & PEDESTRIAN ITEMS				

Page 254A of 264

SUBTOTAL 1 1	PROJECT TOTAL		승규는 아이는 것은 것이 가지 않는		이는 것 같은 사람이 있는 것 같은 것 같은 것 같은 것 같은 것 같은 것 같은 것은 것은 것은 것은 것은 것은 것이 있는 것이 같이 있는 것이 없다.
 		UNIT	ITEM NO.	FEDERAL PROJECT NO. STP-4901 (635) DESCRIPTION	
1				ROADWAY ITEMS	
1					
		L.S.	201-20.11	CLEARING VEGETATION FROM PEDESTRIAN ACCESS ROUTE	Not shown on B sheets.
394.6	394.6	L.S. S.Y.	202-20.10 202-22.30	REMOVAL OF IMPROVEMENTS REMOVAL OF RIGID PAVEMENT	Not shown on B sheets.
626.1	688.7	C.Y.	202-22.30	CLASS "A" EXCAVATION	10% added. Includes Removal
1	1	L.S.	203-10.30	LAND DISTURBANCE PERMIT	TU 70 AUGEU. INCIDUES REITIOVA
2801.2	3081.3	S.Y.	304-05.04	TYPE 5 AGGREGATE BASE (4" Thick)	Includes 10% additional.
233.9	233.9	S.Y.	309-11.08	CONCRETE BASE (8" NON-REINFORCED)	
110.0	110.0	TON	i de la companya de l	SUPERPAVE ASPHALTIC CONCRETE MIXTURE SP95 (PG 70-22) D	
3,345.5	3,680.1	TON		SUPERPAVE ASPHALTIC CONCRETE MIXTURE SP125 (PG 70-22) DLP	Estimated at 2" thick and 2.16
9.8 24.1	10.8	TON TON	405-30.10		Includes 10% additional
781.0	859.1	TON	405-30.20 405-30.30	TYPE "D" BITUMINOUS CONCRETE (PAVEMENT) TYPE "X" BITUMINOUS CONCRETE (BASE)	As directed by Engineer, 20%
3,100	3,100	GAL	407-10.27	TACK-EMULSIFIED ASPHALT (SS-1H)	Includes 10% additional Estimated at 0.10 Gallon / SY.
28,117	28,117	S.Y.	and the second se	PAVEMENT SURFACING AND TEXTURING (0" - 2"), CONCRETE OR ASPHALT	Includes side street approache
100	100	EACH	412-20.00	SIDEWALK GRINDING	
160.7	160.7	S.Y.	509-10.08	CONCRETE BASE (8" NON-REINFORCED), VERY EARLY STRENGTH *	
3	3	EACH	603-10.35	ADJUST WATER SERVICE VALVE BOX TO GRADE	
21	21	EACH	604-20.30	ADJUSTING MANHOLE TO GRADE	
6	6	EACH		REPLACE PRECAST INLET TOP	
<u> </u>	1	EACH EACH		ADJUST INLET STONE TO GRADE	
4 3	3	EACH	604-90.50 604-90.52	REPLACE PRECAST INLET TOP AND ADJUST TO GRADE REPLACE INLET SILL	
180.8	180.8	S.Y.		REMOVE AND REPLACE CONCRETE MEDIAN / ISLAND	
68.2	68.2	S.Y.		REMOVE AND REPLACE PAVED APPROACH (6")	
27	27	EACH	608-60.08	CONCRETE SIDEWALK, CURB RAMP	Includes all items as described
473.9	473.9	S.Y.	608-60.94	REMOVE AND REPLACE CONCRETE SIDEWALK (4" THICK)	Includes sawcutting.
110.2	110.2	S.Y.		REMOVE AND REPLACE CONCRETE SIDEWALK (6" THICK)	Includes sawcutting.
30	30	S.F.		TRUNCATED DOMES FOR CURB RAMPS (New Construction)	
200	200	L.F.	and the second	CURB & GUTTER, MOUNTABLE (6")	Includes sawcutting as needed
3,334 257	3,334 257	L.F. L.F.		REMOVE AND REPLACE CURB & GUTTER (VARIOUS WIDTHS), VERTICAL/ MOUNTABLE	Includes sawcutting, excavatio
<u> </u>		L.F.		REMOVE AND REPLACE INTEGRAL CURB (6" HEIGHT AND UNDER) STANDARD TRAFFIC CONTROL DEVICES	 Includes sawcutting and aggre Not shown on B sheets.
4	4	EACH		ARROW PANEL, TYPE "B" (NOISELESS), RENTAL	
368.6	368.6	S.Y.		JOINT REPAIR - TRANSVERSE, HIGH EARLY STRENGTH *	Includes all items as described
52.0	52.0	S.Y.	613-10.91	JOINT REPAIR - TRANSVERSE, VERY EARLY STRENGTH *	Includes all items as described
1	1	L.S.		MOBILIZATION	
1,120	1,232	S.Y.		STRIP SODDING	Includes 10% additional
<u></u>	<u></u>	L.S.	806-45.00	INLET PROTECTION	Not shown on B sheets.
				COUNTY TRAFFIC SIGNAL ITEMS	
24	24	FACUL	004 04 04		
	24	EACH EACH		SIGNAL HEAD, TYPE 1S, PEDESTRIAN POST, SIGNAL W/ SQUARE PEDESTAL BASE AND POST CAP, 10' TOTAL HEIGHT, ALUMINUM	
24	24	EACH		DETECTOR, PEDESTRIAN PUSH BUTTON	
23	23	L.F.		CONDUIT, 1"	
89	89	L.F.	904-52.00	CONDUIT, 2"	
1	1	EACH	904-74.99	CONDUIT REPAIR (LOCATE BROKEN CONDUIT, EXCAVATE, REMOVE EXISTING CABLE, REPAIR/ REPLACE COND REINSTALL CABLE, BACKFILL AND RESTORE). (DOES NOT INCLUDE SIDEWALK OR PAVEMENT R & R)	UT,
840	840	L.F.	904-83.05	CABLE, SIGNAL, #14 GAUGE, 5 CONDUCTOR	
160	160	L.F.		WIRE, STRANDED GROUND, #6 GAUGE	
484	484	L.F		CABLE DETECTOR LOOP, #14 GAUGE, 1 CONDUCTOR, W/ TUBE JACKET (IN CONDUIT AND PULL BOXES)	
10,653 810	10,653	L.F.		CABLE DETECTOR LOOP, #14 GAUGE, 1 CONDUCTOR, W/ TUBE JACKET (IN SAWED SLOT)	
7	810	L.F. EACH		CABLE, PUSH BUTTON AND/ OR DETECTOR LOOP LEAD-IN, #18 GAUGE, 2 CONDUCTOR (SHIELDED) BASE, TYPE C-3, CONCRETE	
<u> </u>	7	EACH		OPENING DRILLED IN EXISTING CONCRETE PULL BOX	
1	1	EACH		ADJUSTMENT OF PREFORMED PULL BOX	
4	4	EACH		ADJUSTMENT OF CONCRETE SINGLE PULL BOX	
24	24	EACH		REMOVAL OF SIGNAL HEAD	
1	1	EACH	904-98.60	RELOCATION OF EXISTING PUSH BUTTON	
1	1	EACH	904-98.70	RELOCATION OF EXISTING SIGNAL HEAD	
				* INDICATES CHANGE IN PAY ITEM NUMBER AND DESCRIPTION UNDER ADDENDUM NO.2	

		ROJECT NO.
	FEDERAL PF	1388 ROJECT NO.
	STP-49 E-W GATEV	001(635) WAY TIP NO.
REMARKS	MSD:	2-14 /A
REWARKS	MSD BASE N	IAP:
		, J-23
	0N 0. 2	
	S DESCRIPTION NDUM NO.	
ninous Concrete pavement.	VISIONS DESCRIPTIO ADDENDUM NO	
	Щ	
coludes side street energeshes 4004 addad	APF	
ncludes side street approaches. 10% added.	DATE BY	
l shown.	REV. DA	
10% additional (rounded to up nearest 10 gal.)		vey
	DISCLAIMER OF RESPONSIBILITY I hereby specify that the documents intended to be authorized by my seal are limited to this sheet, and I hereby disclaim any	responsibility for all other Drawings, Specifications, Estimates, Reports or other documents or instruments relating to or intended to be used for any part of the engineering project or survey
	DISCLAIMER OF RESPONSIBILITY I hereby specify that the documents intended to authorized by my seal a limited to this sheet, and hereby disclaim any	responsibility for all other Drawings, Specifications, Estimates, Reports or off documents or instrument relating to or intended to used for any part of the engineering project or su
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		11177
	* DANIEL	
	FA FIGIST	JOSEPH * BER 7002782
al Provision 100.20.9 and sawcutting as needed	AROFE	rup2782
	DATE:	
		16, 2014
al of entire C&G section, and aggregate base	ON 1 BLVD.	H FAUKE ENGINEER 007002782
	DIVISIC BERGH SSOUR	SEPH F AL EN(). 2007(
100.70.8	REPARED BY: DESIGN DIVISION 1050 N. LINDBERGH BLVD. ST. LOUIS, MISSOURI 6313 (2414) 646	DANIEL JOSEPH FAUKE PROFESSIONAL ENGINEEI LICENSE NO. 2007002782
100.70.8	REPARED BY: DESIGN 1050 N. LIND ST. LOUIS, ME	DAN PROFI
	Saint Louis COUNTY	PUBLIC WORKS Sheryl L. Hodges, D.E., P.E., LPG Director
		PUBLIC WORKS Hodges, D.E., P.E. Director
	aint D	JBLIC WC Hodges, D.I Director
		Pl eryl L. I
		SUMMARY OF QUANTITIES
	AVENUE AVENUE CTURE	ANTI
	KY A\ IE A\ RUCT	au
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	SHREWSBURY AVENUE LANSDOWNE AVENUE INFRASTRUCTURE	AAR
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	DESIGNED:	DJF
	DRAWN:	DJF
	CHECKED: SHEET SEQU	ENCE
	2A O	

LOOATION		ted by the Engineer. Includes saw			SUPERPAVE ASPHALTIC CONCRET ns & quantities to be determined by the Engi	neer. Approxim	nately 2" thick, estimated at 2.16 T/CY.
LOCATION	SIDE (Rt / Lt)	QUANTITY S.Y.(0.1)		LOCATION	FROM <u>TO</u>	QUANTITY	
	(11677 - 5 9	<u></u>				<u>TON (0.1)</u>	
Shrewsbury Ave	Rt/Lt	233.9	R&R 8" concrete base (see Item No. 309-11.08)	Shrewsbury Ave	Big Bend Blvd I-44 (End of Maint.) 1,400.4	mainline pavement north of I-44
Shrewsbury Ave	Rt / Lt	160.7	R&R 8" concrete base (see Item No. 309-10.08)			22.4	approach at Suffolk Ave
TOTAL		394.6			I-44 (End of Maint.) Murdoch Ave	44.6	approach at Arlington Ave mainline south of I-44; includes approaches at Murdoch Ave
						28.1	approaches at Sutherland Ave (117 SY each)
or D&D 9" concrete base, conhelt base	rapaira DPD concrete m	CLASS "A" EXCAVATION				36.6	approaches at Lansdowne Ave
LOCATION	SIDE		roaches, and R&R 6" sidewalk (4" depth unless noted otherwise). REMARKS			18.7	approaches at Devonshire Ave
	<u>(Rt / Lt)</u>	<u>C.Y.(0.1)</u>		Lansdowne Ave	Shrewsbury St. Vincent Ave	616.9	mainline; does not include approaches at Shrewsbury Ave
~ ~ ~						15.5	side street (St. Vincent Ave).
Shrewsbury Ave	Rt/Lt	<u> </u>	R&R 8" concrete base (see Item No. 309-10.08) R&R 8" concrete base (see Item No. 309-11.38)				
		2010	Rait & concrete base (see item no. 509-11.36)	Lansdowne Ave	St. Vincent Ave City Limits (EOM)	170.6 70.3	mainline; does not include approach at Murdoch Cutofff approach at Mudoch Cutoff
Lansdowne Ave	Rt / Lt	542.3	Type "X" asphalt base repair; 12" depth (see Item No. 405-30.30)			10.0	
Shrewsbury Ave	Rt / Lt	20.1	D*D concerts median/intend (and them No. 000 40.00)	TOTAL		3,345.5	
Sillewsbully Ave		20.1	R&R concrete median/ island (see Item No. 608-10.90)	405-30.10	TYPE "C" BITUMINOUS CO		VENENT
Shrewsbury Ave / Lansdowne Ave	Rt / Lt	7.6	R&R 6" paved approach (see Item No. 608-50.96)		Exact locations & quantities to be determined		
Shrowebury Ave / Landows Ave	D1 /11			LOCATION	FROM TO	QUANTITY	<u>REMARKS</u>
Shrewsbury Ave / Lansdowne Ave	Rt / Lt	12.2	R&R 6" sidewalk (see Item No. 608-60.96)			<u>TON (0.1)</u>	
TOTAL		626.1		Laclede Gas entrance	Lt	5.0	overlay drive approach; (11' x 34', 2" thick); opposite 4117
				Laclede Gas entrance	Ĺť	4.8	overlay drive approach; (11'x 33', 2" thick); opposite 4113
For use under 8" concrete l		YPE 5 AGGREGATE (4" THICK) irs 6" sidewalks paved approach	es, transverse joint repairs, and concrete medians.				
LOCATION	SIDE	QUANTITY		TOTAL		9.8	en presentant en senten en sen Senten en senten en s
	(Rt / Lt)	<u>S.Y.(0.1)</u>		405-30.20	TYPE "D" BITUMINOUS CO		
Shrewsbury Ave	Rt / Lt	160.7	for D&D & concrete have (and them b) - 000 40.00		xact locations & quantities to be determined	by the Enginee	r. Estimated at 2.16 T/CY.
Sinewabuly Ave		233.9	for R&R 8" concrete base (see Item No. 309-10.08) for R&R 8" concrete base (see Item No. 309-11.38)	LOCATION	SIDE (Rt / Lt)	QUANTITY TON (0.1)	
						<u>10N (0.1)</u>	
Lansdowne Ave	Rt / Lt	1627.0	for Type "X" asphalt base repair (see Item No. 405-30.30)	7500 Big Bend (KFC)	Rt	3.4	overlay drive approach; (40' x 8.5', 1.5" thick)
Shrewsbury Ave	Rt/Lt	180.8	for R&R concrete median/ island (see Item No. 608-10.90)	4009 Shrewsbury	Rt	0.8	overlay drive approach; (13' x 6', 1.5" thick)
				4015 - 4101 Shrewsbury 4103 - 4105 Shrewsbury	Rt Rt	1.8	overlay drive approach; (30' x 6', 1.5" thick) overlay drive approach; (28' x 6', 1.5" thick)
Shrewsbury Ave / Lansdowne Ave	Rt / Lt	68.2	for R&R 6" paved approach (see Item No. 608-50.96)	4105 Shrewsbury	Rt	1.0	overlay drive approach; (17' x 6', 1.5" thick)
Shrewsbury Ave / Lansdowne Ave	Rt/Lt	110.0		4107 Shrewsbury	Rt	0.7	overlay drive approach; (13' x 5.5', 1.5" thick)
Sillewsbury Ave / Lansdowne Ave		110.0	for R&R 6" sidewalk (see Item No. 608-60.96)	4111 Shrewsbury 4113 Shrewsbury	Rt Rt	1.1	overlay drive approach; (18' x 6', 1.5" thick)
Shrewsbury Ave	Rt / Lt	368.6	for transverse joint repair (see Item No. 613-10.17)	4115 Shrewsbury 4115 Shrewsbury	Rt	0.8	overlay drive approach; (13' x 6', 1.5" thick) overlay drive approach; (15' x 6', 1.5" thick)
		52.0	for transverse joint repair (see Item No. 613-10.90)	4117 Shrewsbury	Rt	0.9	overlay drive approach; (15' x 6', 1.5" thick)
TOTAL		2.801.2	n. En se se service de la secte de la service de la se El se se service de la servi	4119 Shrewsbury	Rt	1.4	overlay drive approach; (23' x 6', 1.5" thick)
				3917 Shrewsbury 3920 Shrewsbury Ave (Overhead Door Co.)	Rt I t	1.7	overlay drive approach; (28' x 6', 1.5" thick) overlay drive approach; (27' x 10', 1.5" thick)
	CONC	RETE BASE (8" NON-REINFOR	CED)	Lansdonwne Ave at Shrewsbury Ave	Lt	2.7	overlay shoulder along 4400 Shrewsbury; (100' x 4', 1" thick)
LOCATION	SIDE	As directed by the Engineer. QUANTITY	REMARKS	7326 Lansdowne	Rt	1.0	overlay drive approach; (12' x 8', 1.5" thick)
	(Rt / Lt)	<u>S.Y.(0.1)</u>		7324 Lansdowne	Rt	1.5	overlay drive approach; (17' x 9', 1.5" thick)
				TOTAL		24.1	
4111 Shrewsbury 4113 Shrewsbury	Rt Rt	<u> </u>	(12' x 12'); located in through lane				
7502 Arlington	Rt	12.0	(15' x 12'); located in curb lane (12' x 9'); located in through lane	405-30.30	TYPE "X" BITUMINOUS xact locations & quantities to be determined l		
7502 Arlington	Rt	18.0	(18' x 9'); located in curb lane	LOCATION	SIDE		
7502 Arlington	Rt	8.7	(13' x 6'); located in curb lane		(Rt / Lt)	TON (0.1)	
7505 Shrewsbury 7500 Lansdowne	Rt Rt	<u> </u>	(12' x 24'); located in through lane (12' x 10'); located in curb lane	7420 Lansdowne	Rt		
7501 Murdoch (office building)	Rt	18.3	(15' x 11'); located in through lane	7420 Lansdowne 7420 Lansdowne	Lt	24.0	asphalt base repair (shoulder), (9' x 50', 8" thick) asphalt base repair (shoulder), (7' x 60', 8" thick)
Shrewsbury at Arlington	Lt	15.6	(10' x 14'); located in curb lane	7418 Lansdowne	Lt	28.8	asphalt base repair (drive lane), (15' x 36', 8" thick)
Laclede Gas Complex Laclede Gas Complex	Lt Lt	40.0 20.0	(12' x 30'); located in curb lane (opposite 7504 Suffolk) (15' x 12'); located in through lane (opposite 7504 Suffolk)	7416 Lansdowne	Rt	21.6	asphalt base repair (shoulder), (9' x 45', 8" thick)
Laclede Gas Complex	Lt	20.0	(15' x 12'); located in through lane (opposite 7504 Suffolk)	7414 Lansdowne 7408 Lansdowne	Rt Rt	50.4 28.8	asphalt base repair (drive lane), (15' x 63', 8" thick) asphalt base repair (shoulder), (9' x 60', 8" thick)
				7412 Lansdowne	Lt	50.4	asphalt base repair (drive lane), (15' x 63', 8" thick)
TOTAL		233.9		7404 Lansdowne	Rt	44.8	asphalt base repair (drive lane), (12' x 70', 8" thick)
	SUPERPAVE ASP	HALTIC CONCRETE MIXTURE	SP95 (PG70-22)D	7402 Lansdowne 7340 Lansdowne	Lt Rt	14.4	asphalt base repair (shoulder), (9' x 30', 8" thick)
	act locations & quantities	to be determined by the Engineer	. Estimated at 2.16 T/CY.	7340 Lansdowne	Lt	21.6	asphalt base repair (drive lane), (9' x 45', 8" thick) asphalt base repair (drive lane), (15' x 63', 8" thick)
LOCATION	FROM	TO QUANTITY	REMARKS	7324 Lansdowne	Rt	48.0	asphalt base repair (drive lane), (15' x 60', 8" thick)
		<u>TON (0.1)</u>		7324 Lansdowne		96.0	asphalt base repair (drive lane), (15' x 120', 8" thick)
Shrewsbury Ave	Big Bend Blvd	Murdoch Ave 110.0	For use in spot wedging	7318 Lansdowne 7312 Lansdowne		44.0	asphalt base repair (drive lane), (15' x 55', 8" thick) asphalt base repair (drive lane), (15' x 45', 8" thick)
				7312 Lansdowne	Lt	60.0	asphalt base repair (drive lane), (15 x 45, 8' thick)
TOTAL		110.0		7310 Lansdowne	Rt	12.0	asphalt base repair (drive lane), (15' x 15', 8" thick)
				7308 Lansdowne 7306 Lansdowne	Rt	26.4	asphalt base repair (drive lane), (15' x 33', 8" thick)
				Lansdowne at St. Vincent Ave	Lt	48.0	asphalt base repair (drive lane), (15' x 60', 8" thick) asphalt base repair (drive lane), (15' x 55', 8" thick)
				Murdoch Cutoff right turn lane	Rt	9.0	asphalt base repair (drive lane), (21' x 8', 8" thick)
UMBER 309-10.08, CONCRET	E BASE (8" NON-R	EINFORCED), TYPE III C	EMENT W/ ACCELERATOR, 8.5 SACK	TOTAL		781.0	
	O. 509-10.08, CON	CRETE BASE (8" NON-RE	EINFORCED), VERY EARLY STRENGTH				
DENDUM NO. 2.	•	``					

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	Laciede Gas Complex	
	Laclede Gas Complex	
	TOTAL	
4-09.04		

		AL OF RIGID PAVEMENT ne Engineer. Includes sawcut	itting.	404-12.72	Evention		PHALTIC CONCRETE MIXTURE SP	
LOCATION	SIDE	QUANTITY	<u>REMARKS</u>		LOCATION	FROM	etermined by the Engineer. Approxima	REMARKS
	<u>(Rt / Lt)</u>	<u>S.Y.(0.1)</u>					<u>TON (0.1)</u>	
Shrewsbury Ave	Rt/Lt		R&R 8" concrete base (see Item No. 309-11.08)	+	Shrewsbury Ave	Big Bend Blvd	I-44 (End of Maint.) 1,400.4	mainline pavement north of I-44
Shrewsbury Ave	Rt/Lt	160.7	R&R 8" concrete base (see Item No. 309-10.08)				22.4 44.6	approach at Suffolk Ave approach at Arlington Ave
TOTAL		394.6		Ī		I-44 (End of Maint.)	Murdoch Ave 921.2	mainline south of I-44; includes approaches at Murdoch Ave
		S "A" EXCAVATION					28.1 36.6	approaches at Sutherland Ave (117 SY each) approaches at Lansdowne Ave
R 8" concrete base, asphalt base LOCATION	epairs, R&R concrete median/ is SIDE	slands, R&R 6" paved approa QUANTITY	aches, and R&R 6" sidewalk (4" depth unless noted otherwise). REMARKS	- -			18.7	approaches at Devonshire Ave
	<u>(Rt / Lt)</u>	<u> </u>	<u>REWARKS</u>		Lansdowne Ave	Shrewsbury	St. Vincent Ave 616.9	mainline; does not include approaches at Shrewsbury Ave
Shrewsbury Ave	Rt / Lt	17.9	R&R 8" concrete base (see Item No. 309-10.08)				15.5	side street (St. Vincent Ave).
- One wabuly Ave			R&R 8" concrete base (see item No. 309-10.08)		Lansdowne Ave	St. Vincent Ave	City Limits (EOM) 170.6	mainline; does not include approach at Murdoch Cutofff
Lansdowne Ave	Rt/Lt	542.3	Type "X" asphalt base repair; 12" depth (see Item No. 405-30.30)					approach at Mudoch Cutoff
					TOTAL		3,345.5	
Shrewsbury Ave	Rt/Lt	20.1	R&R concrete median/ island (see Item No. 608-10.90)	405-30.10		туре ч		
sbury Ave / Lansdowne Ave	Rt/Lt	7.6	R&R 6" paved approach (see Item No. 608-50.96)		Ex		ties to be determined by the Engineer.	
sbury Ave / Lansdowne Ave	Rt / Lt	12.2	R&R 6" sidewalk (see Item No. 608-60.96)		LOCATION	FROM	TO QUANTITY	REMARKS
							<u>TON (0.1)</u>	
TOTAL		626.1]	Laclede Gas entrance Laclede Gas entrance	Lt Lt	5.0	overlay drive approach; (11' x 34', 2" thick); opposite 4117
		AGGREGATE (4" THICK)		1		<u>LT</u>	4.8	overlay drive approach; (11' x 33', 2" thick); opposite 4113
For use under 8" concrete b	ases, asphalt base repairs, 6" sid SIDE	dewalks, paved approaches, QUANTITY	, transverse joint repairs, and concrete medians. REMARKS		TOTAL		9.8	
	<u>(Rt / Lt)</u>	<u>S.Y.(0.1)</u>		405-30.20		TYPE "	D" BITUMINOUS CONCRETE (PAVI	EMENT)
Shrewsbury Ave	Rt / Lt	160.7 f	for D&D &" concrete have (ass them No. 200 40.00)			act locations & quantit	ies to be determined by the Engineer.	Estimated at 2.16 T/CY.
			for R&R 8" concrete base (see Item No. 309-10.08) for R&R 8" concrete base (see Item No. 309-11.38)		LOCATION	SIDE (Rt / Lt)	QUANTITY TON (0.1)	REMARKS
Lansdowne Ave	Rt/Lt	1627.0 f	for Type "X" asphalt base repair (see Item No. 405-30.30)		7500 0:- 01 (//=0)			
					7500 Big Bend (KFC) 4009 Shrewsbury	Rt Rt	<u>3.4</u> 0.8	overlay drive approach; (40' x 8.5', 1.5" thick) overlay drive approach; (13' x 6', 1.5" thick)
Shrewsbury Ave	Rt/Lt	180.8 f	for R&R concrete median/ island (see Item No. 608-10.90)		4015 - 4101 Shrewsbury	Rt	1.8	overlay drive approach; (30' x 6', 1.5" thick)
sbury Ave / Lansdowne Ave	Rt/Lt	68.2 f	for R&R 6" paved approach (see Item No. 608-50.96)		4103 - 4105 Shrewsbury 4105 Shrewsbury	Rt Rt	<u> </u>	overlay drive approach; (28' x 6', 1.5" thick) overlay drive approach; (17' x 6', 1.5" thick)
sbury Ave / Lansdowne Ave	Rt/Lt	110.0 f	for R&R 6" sidewalk (see Item No. 608-60.96)		4107 Shrewsbury 4111 Shrewsbury	Rt Pt	0.7	overlay drive approach; (13' x 5.5', 1.5" thick)
					4111 Shrewsbury 4113 Shrewsbury	Rt Rt		overlay drive approach; (18' x 6', 1.5" thick) overlay drive approach; (13' x 6', 1.5" thick)
Shrewsbury Ave	Rt / Lt		for transverse joint repair (see Item No. 613-10.17)		4115 Shrewsbury	Rt	0.9	overlay drive approach; (15' x 6', 1.5" thick)
		52.0 f	for transverse joint repair (see Item No. 613-10.90)		4117 Shrewsbury 4119 Shrewsbury	Rt Rt		overlay drive approach; (15' x 6', 1.5" thick) overlay drive approach; (23' x 6', 1.5" thick)
TOTAL		2,801.2]	3917 Shrewsbury	Rt	1.7	overlay drive approach; (28' x 6', 1.5" thick)
		ASE (8" NON-REINFORCE	:D)		3920 Shrewsbury Ave (Overhead Door Co.) Lansdonwne Ave at Shrewsbury Ave	Lt Lt		overlay drive approach; (27' x 10', 1.5" thick) overlay shoulder along 4400 Shrewsbury; (100' x 4', 1" thick
LOCATION	As dire	ected by the Engineer. QUANTITY	REMARKS		7326 Lansdowne	Rt	1.0	overlay drive approach; (12' x 8', 1.5" thick)
	<u>(Rt / Lt)</u>	<u>S.Y.(0.1)</u>	KEMARKS		7324 Lansdowne	Rt	1.5	overlay drive approach; (17' x 9', 1.5" thick)
4111 Shrewsbury	Rt	16.0	(12' x 12'); located in through lane		TOTAL		24.1	
4113 Shrewsbury	Rt		(12' x 12'); located in curb lane	405-30.30		ТҮР	E "X" BITUMINOUS CONCRETE (B/	(SE)
7502 Arlington	Rt		(12' x 9'); located in through lane			act locations & quantit	ies to be determined by the Engineer.	Estimated at 2.16 T/CY.
7502 Arlington 7502 Arlington	Rt Rt		(18' x 9'); located in curb lane (13' x 6'); located in curb lane		LOCATION	SIDE (Rt / Lt)	QUANTITY <u>TON (0.1)</u>	REMARKS
7505 Shrewsbury	Rt	32.0 ((12' x 24'); located in through lane					
7500 Lansdowne Murdoch (office building)	Rt Rt		(12' x 10'); located in curb lane (15' x 11'); located in through lane		7420 Lansdowne 7420 Lansdowne	Rt Lt		asphalt base repair (shoulder), (9' x 50', 8" thick) asphalt base repair (shoulder), (7' x 60', 8" thick)
nrewsbury at Arlington	Lt	15.6 ((10' x 14'); located in curb lane		7418 Lansdowne	Lt		asphalt base repair (shoulder), (7' x 60', 8" thick) asphalt base repair (drive lane), (15' x 36', 8" thick)
aclede Gas Complex aclede Gas Complex	Lt Lt		(12' x 30'); located in curb lane (opposite 7504 Suffolk) (15' x 12'); located in through lane (opposite 7504 Suffolk)		7416 Lansdowne 7414 Lansdowne	Rt Rt	21.6	asphalt base repair (shoulder), (9' x 45', 8" thick)
aclede Gas Complex	Lt		(15' x 12'); located in curb lane (opposite 7504 Suffolk)		7414 Lansdowne 7408 Lansdowne	Rt		asphalt base repair (drive lane), (15' x 63', 8" thick) asphalt base repair (shoulder), (9' x 60', 8" thick)
TOTAL		233.9			7412 Lansdowne	Lt D+	50.4	asphalt base repair (drive lane), (15' x 63', 8" thick)
].	7404 Lansdowne 7402 Lansdowne	Rt Lt		asphalt base repair (drive lane), (12' x 70', 8" thick) asphalt base repair (shoulder), (9' x 30', 8" thick)
**	an a	CONCRETE MIXTURE SP			7340 Lansdowne	Rt	21.6	asphalt base repair (drive lane), (9' x 45', 8" thick)
LOCATION	ct locations & quantities to be de FROM T	<u>O</u> QUANTITY	Estimated at 2.16 17CY. REMARKS		7336 Lansdowne 7324 Lansdowne	Lt Rt		asphalt base repair (drive lane), (15' x 63', 8" thick) asphalt base repair (drive lane), (15' x 60', 8" thick)
		<u></u>			7324 Lansdowne	Lt	96.0	asphalt base repair (drive lane), (15' x 120', 8" thick)
Shrewsbury Ave	Big Bend Blvd Murdo	och Ave 110.0 F	For use in spot wedging		7318 Lansdowne 7312 Lansdowne	Lt Lt		asphalt base repair (drive lane), (15' x 55', 8" thick) asphalt base repair (drive lane), (15' x 45', 8" thick)
			. ~ ~		7312 Lansdowne	Lt		asphalt base repair (drive lane), (15' x 45', 8" thick) asphalt base repair (drive lane), (15' x 75', 8" thick)
TOTAL		110.0			7310 Lansdowne 7308 Lansdowne	Rt Rt	12.0	asphalt base repair (drive lane), (15' x 15', 8" thick)
					7308 Lansdowne 7306 Lansdowne	Lt		asphalt base repair (drive lane), (15' x 33', 8" thick) asphalt base repair (drive lane), (15' x 60', 8" thick)
					Lansdowne at St. Vincent Ave	Lt	44.0	asphalt base repair (drive lane), (15' x 55', 8" thick)
					Murdoch Cutoff right turn lane	Rt	9.0	asphalt base repair (drive lane), (21' x 8', 8" thick)
						(1) こうしょう しんしょう ひかく となっただいがくしょうだいがく	コール・ション・ション コー・ション・アンマーング・ショング かかい シー・デジャー かかしょう	n en
ER 309-10.08 CONCRET	BASE (8" NON-REINEC		MENT W/ ACCELERATOR 85 SACK		TOTAL		781.0	
R 309-10.08, CONCRETE EPLACED WITH ITEM NO	E BASE (8" NON-REINFO D. 509-10.08, CONCRETI	DRCED), TYPE III CEN E BASE (8" NON-REIN	MENT W/ ACCELERATOR, 8.5 SACK NFORCED), VERY EARLY STRENGTH		TOTAL		781.0	

LOCATION	Estimated at 0.10	Gal / S.Y.	DEMADIZO		LOCATION	Exact locations SIDE	& quantities to be determined by th QUANTITY	
LOCATION	FROM TO	<u>GAL. (10)</u>			LOCATION	<u>(Rt / Lt)</u>	EACH	REMARKS
Shrewsbury Ave	Big Bend Blvd I-44 (End of Maint.)	1,167	mainline pavement north of I-44		Shrewsbury Ave at Suffolk Ave	Rt	1	center turn lane
Cincwebery / we		19	approach at Suffolk Ave		Shrewsbury Ave at Arlington Ave	Rt	2	
		37	approach at Arlington Ave		Shrewsbury at Sutherland 4401 Shrewsbury	Rt Rt	2	
	I-44 (End of Maint.) Murdoch Ave	768 23	mainline south of I-44; includes approaches at Murdoch Ave approaches at Sutherland Ave (117 SY each)		Shrewsbury at Devonshire	Rt		
		31	approaches at Lansdowne Ave		4605- 4607 Shrewsbury	Rt	1	
		16	approaches at Devonshire Ave		Shrewsbury at Murdoch 4400 Shrewsbury (Police Station)	Lt It	2 1	located in northest quadrant
Lansdowne Ave	Shrewsbury St. Vincent Ave	514	mainline; does not include approaches at Shrewsbury Ave		Lansdowne Ave	Rt/Lt	6	all locations along CL of Lansdowne
		13	side street (St. Vincent Ave).		Lansdowne Ave at Shrewsbury Ave	Lt	1	in right turn lane at double curb Inlet
		25	for driveway overlays		Shrewsbury NE of Carr Lane Shrewsbury at Big Bend		1	located in left turn lane to southbound Big Bend
Lansdowne Ave	St. Vincent Ave City Limits (EOM)	142	mainline; does not include approach at Murdoch Cutofff		Shrewsbury at Big Bend	Lt	1	located in through lane opposite KFC entrance
		59	approach at Mudoch Cutoff		TOTAL		21	
Shrewsbury Ave	Big Bend Blvd I-44 (End of Maint.)	24	for overlaying drive approaches					
Shrewsbury Ave	Big Bend Blvd Murdoch Ave	260	for spot wedging	604-21.95			EPLACE PRECAST INLET TOP & quantities to be determined by the	e Engineer
Sillewsbuly Ave		200			LOCATION	SIDE	QUANTITY	REMARKS
TOTAL		3,100	(rounded up to nearest 10 gal.)			<u>(Rt / Lt)</u>	EACH	
	PAVEMENT SURFACING AND TEXTURING	6 (0" - 2"), COI	ICRETE OR ASPHALT		Shresbury Ave at Big Bend	Rt	2	located in southwest radius
Α	pproximately 2" depth. Includes butt joints and	d side streets a	s directed by the Engineer.		7424 Lansdowne	Rt	2	
LOCATION	FROM <u>TO</u>	QUANTITY S.Y. (1.0)	REMARKS		Lansdowne Ave at St. Vincent Ave	Lt	2	located in northwest radius
					TOTAL		6	
Shrewsbury Ave	Big Bend Blvd I-44 (End of Maint.)	11,670 187	mainline pavement north of I-44 approach at Suffolk Ave	604-90.40		٩	DJUST INLET STONE TO GRADE	
		372	approach at Arlington Ave			Exact locations	& quantities to be determined by the	ne Engineer.
	I-44 (End of Maint.) Murdoch Ave	7,677	mainline south of I-44; includes approaches at Murdoch Ave		LOCATION	SIDE (Pt / Lt)	QUANTITY	REMARKS
		305	approaches at Sutherland Ave (117 SY each) approaches at Lansdowne Ave			<u>(Rt / Lt)</u>	EACH	
		156	approaches at Devonshire Ave		7424 Devonshire	Lt	1	
Lansdowne Ave	Shrewsbury St. Vincent Ave	5,141	mainline; does not include approaches at Shrewsbury Ave		TOTAL		1	
		129	side street (St. Vincent Ave).		1			
Lonadouro Auc	St. Vincent Ave City Limits (EOM)	1,422	mainline; does not include approach at Murdoch Cutofff	604-90.50		a de la completa de l	ECAST INLET TOP AND ADJUST & quantities to be determined by the	
Lansdowne Ave	St. Vincent Ave City Limits (EOM)	586	approach at Mudoch Cutoff		LOCATION	SIDE	QUANTITY	REMARKS
						<u>(Rt / Lt)</u>	EACH	
Shrewsbury Ave	Big Bend Blvd I-44 (End of Maint.)	238	for overlaying drive approaches		Shrewsbury Ave at Suffolk Ave	Rt	1	southwest corner
TOTAL		28,117			4105 Shrewsbury Ave	Rt	2	
	SIDEWALK GF	RINDING			4400 Shrewsbury (Police Station)	Lt.	1	
	Exact locations & quantities to be c		i de la company de		TOTAL		4	
LOCATION	SIDE (Rt / Lt)	QUANTITY (EACH)	REMARKS	604-90.52			REPLACE INLET SILL	
							& quantities to be determined by t	
Shrewsbury Ave / Lansdowne Ave	Rt/Lt	100			LOCATION	SIDE (<u>Rt / Lt)</u>	QUANTITY EACH	REMARKS
TOTAL		100				(107 = 9		
	CONCRETE BASE (8" NON-REINFORC				4105 Shrewsbury Ave 7424 Lansdowne	Rt Rt	1	
	As directed by the					FN	۷.	
LOCATION	SIDE	QUANTITY	REMARKS		TOTAL		3	
	(Rt / Lt)	<u>S.Y.(0.1)</u>		608-10.90		REMOVE &	REPLACE CONCRETE MEDIAN	/ ISLAND
ewsbury Ave at BNSF Rail Overpass		36.0	(27' x 12'); located in curb lane			ntities to be determined b	by the Engineer. Incudes removal o	f exisitng island, sawcutting, and dowel bars
ewsbury Ave at BNSF Rail Overpass 4500 Shrewsbury	Lt Lt	<u>36.0</u> 8.7	(27' x 12'); located in through lane (13' x 6'); located in curb lane		LOCATION	SIDE (Rt / Lt)	QUANTITY S.Y. (0.1)	REMARKS
7404 Sutherland	Lt	40.0	(30' x 12'); located in curb lane					
7404 Sutherland	Lt	40.0	(36' x 10'); located in curb lane		Shrewsbury Ave at BNSF Rail Overpass	Rt/Lt Rt	153.9 26.9	between Arlington Ave and I-44
TOTAL		160.7			Shrewsbury Ave at Murdoch Ave	N	20.9	northwest quadrant; rebuild as 3-leg cut through island
		ALVE DOY TO	CPADE		TOTAL		180.8	
	ADJUST WATER SERVICE V Exact locations & quantities to be c			608-50.96		REMOVE	E & REPLACE PAVED APPROAC	:H (6")
LOCATION	SIDE	QUANTITY				Exact locations & quantitie	es to be determined by the Engine	er. Includes sawcutting
	(Rt / Lt)	EACH			LOCATION	SIDE (<u>Rt / Lt)</u>	QUANTITY S.Y. (0.1)	REMARKS
7402 Lansdowne	Rt	1						
7330 - 7326 Lansdowne	Rt	1			3917 Shrewsbury 4009 Shrewsbury	Rt Rt		drive approach to garage (30' x 5.5')
7403 Lansdowne	Lt				4009 Shrewsbury 4111 Shrewsbury	Rt	9.3	(6' x 14') (18' x 6')
TOTAL		3			7409 Lansdowne	Lt	8.0	(4.5' x 16')
					7403 Lansdowne 7326 Lansdowne	Lt Rt	<u> </u>	(5' x 11') (4.5' x 15')
					7324 Lansdowne	Rt	7.0	(4.5' x 14')
					TOTAL		68.2	
						(a) A second s second second s Second second secon second second sec	e e la companya de la	▲ 「「」」、「」」、「」」、「」、「」、「」、」、「」、「」、「」、「」、「」、「

8-60.08		CONCRE	TE SIDEWALK, CURB RAN	IP						
	For curb ramp reconstruction. Includes all items as described in Special Provision 100.20.9 and sawcutting as needed									
		Exact locations & qu	antities to be determined by t	he Engineer.						
	LOCATION	SIDE	QUANTITY	REMARKS						
		<u>(Rt / Lt)</u>	(EACH)							
	Shrewsbury at Big Bend	Rt	1							
		Lt	1							
	Shrewsbury at Suffolk Ave	Rt	2							
	Shrewsbury at Arlington Ave	Rt	2							
	Shrewsbury at Sutherland Ave	Rt	2							
		Lt	1							
	Shrewsbury at Lansdowne Ave	Rt	2							
	Shrewsbury at Devonshire Ave	Rt	2							
		Lt	2							
	Shrewsbury at Murdoch Ave	Rt	2							
		Lt	2							
	Lansdowne at St. Vincent Ave	Lt	2							
	Lansdowne at Murdoch Cutoff	Rt	1	SW corner (at American Legion Hall)						
		Rt	3	Island (3-leg cut-through)						
		Rt	1	SE corner (at gas station)						
			1							
	TOTAL		27							

 A second s		REMOVE & RE	PLACE CONCRETE SIDEWALK	(4" THICK)		AR-1388
	LOCATION	Exact locations & quantities	to be determined by the Engineer QUANTITY	. To include sawcutting. REMARKS		FEDERAL PROJECT STP-4901(635
		<u>(Rt / Lt)</u>	<u>S.Y. (0.1)</u>			E-W GATEWAY TIP 5562-14
	7500 Big Bend (KFC)	Rt	2.7	6' x 4'		MSD: N/A
	3917 Shrewsbury / 7501 Suffolk 7504 Suffolk	Rt Rt	<u> </u>	20' x 4' 15' x 4'		MSD BASE MAP:
	4009 Shrewsbury	Rt	4.4	10' x 4'		J-22, J-23
	4015 Shrewsbury 4101 Shrewsbury	Rt Rt	4.4	10' x 4' 5' x 4'		5
F	4103 Shrewsbury 4105 Shrewsbury	Rt Rt	<u>2.2</u> 4.4	5' x 4' 10' x 4'		NOI NOI
	4111 Shrewsbury	Rt	6.7	15' x 4'		SIONS DESCRIPTION ADDENDUM NC
	4113 Shrewsbury 4121 Shrewsbury	Rt Rt	6.7	15' x 4' 10' x 4'		
	7502 Arlington	Rt	20.0	45' x 4'		
	4401 Shrewsbury 4405 Shrewsbury	Rt Rt	<u> </u>	12' x 5' 116' x 4'		KEV
	7505 Lansdowne	Rt	10.0	18' x 5'		APF
	7501 Devonshire 7501 Murdoch	Rt Rt	2.2	5' x 4' 5' x 20'		В
	7419 Murdoch (apartment building)	Lt	17.8	(25' x 4') + (10' x 6')		JATE
	7424 Devonshire 4508 Shrewsbury		20.0	30' x 6' 5' x 4'		
	4500 Shrewsbury	Lt	8.3	15' x 5'		
	4500 Shrewsbury (police station) 7404 Sutherland (parking lot)	Lt Lt	11.1 5.6	5' x 20' 5' x 10'		her be be be be be be be be be be be be be
F	4500 Shrewsbury (Lansdowne side)	Rt		6' x 4'		A light of the sea of
	7424 Lansdowne	Rt		8' x 4'		Alminic transformed by a sector of the secto
T T	7422 Lansdowne 7418 Lansdowne	Rt Rt	2.7 2.7	6' x 4' 6' x 4'		DISC DISC Treby 5 Treby 5 Treby 6 Tred to ted
ļ	7414 Lansdowne	Rt	2.7	6' x 4'		Her limit addo
	7412 Lansdowne 7408 Lansdowne	Rt Rt	<u>2.7</u> 6.2	6' x 4' 14' x 4'		TE OF MISSO
	7402 Lansdowne	Rt	5.3	12' x 4'		S * DANIEL JOSEPH
	7340 Lansdowne 7334 Lansdowne	Rt Rt	<u>5.3</u> 2.7	12' x 4' 6' x 4'	\square	FAUKE
	7326 Lansdowne	Rt	2.7	6' x 4'	V	PE-2007092782
	7324 Lansdowne 7320 Lansdowne	Rt Rt	<u> </u>	14' x 4' 6' x 4'		AROFESSION
	7318 Lansdowne	Rt	2.7	6' x 4'		DATE:
	7316 Lansdowne 7312 Lansdowne	Rt Rt	2.7	6' x 4' 6' x 4'		May 16, 2
	7306 Lansdowne	Rt	2.7	6' x 4'		D.
	Lansdowne at Murdoch Cutoff 7250 Lansdowne (gas station)	Rt Rt		24' x 4' 21' x 4'		VISION RGH BLVD. OURI 63132 -8543
	7307 Lansdowne 7311 Lansdowne	Lt Lt	5.3 5.3	12' x 4' 12' x 4'		
	7313 Lansdowne	Lt		12 x 4 6' x 4'		BY: GN D MIS: 4) 61:
	7317 Lansdowne 7401 Lansdowne	Lt Lt	8.0 5.3	18' x 4' 12' x 4'		REPARED BY: DESIGN D 1050 N. LINDBI ST. LOUIS, MIS (314) 615
	4400 Shrewsbury (park)	Li	60.0	135' x 4'		REPARED BY: DESIGN DI 1050 N. LINDBE ST. LOUIS, MISS (314) 615
	The following locat	ions of R&R 4" Sidewalk a	re intended for use in curb ramp re	construction as directed by the Engineer.		
	Assumes on LOCATION	e 5'x 5' and one 5' x 4.5' sl SIDE	ab (5.3 SY) at each location new c QUANTITY	urb ramps tie to existing sidewalks.		
		<u>(Rt / Lt)</u>	<u>S.Y. (0.1)</u>			6. TRAFFI
	Shrewsbury at Big Bend	Rt	10.6			
		Lt	10.6			Soint DOU HWAYS PUBLIC
442.434	Shrewsbury at Suffolk Ave Shrewsbury at Arlington Ave	Rt Rt	15.9 10.6	10.6 SY (NW corner) + 5.3 SY (SW corner) 5.3 SY each corner		Saint HIGHWAYS PUBLIC
		Rt	15.9	5.3 SY (NW corner) + 10.6 SY (SW corner) NE corner		
	Shrewsbury at Sutherland Ave	and the second	방법 : 한번 2018년 2019년 1월 2019년 1919년 1716 년 1719년	ne web and the rest which is the second of the second provide second provide a final state of the providence of		
	Shrewsbury at Lansdowne Ave	Lt Rt	10.6	5.3 SY each corner		
	Shrewsbury at Lansdowne Ave Shrewsbury at Devonshire Ave	Lt Rt Lt	10.6 5.3	5.3 SY each corner SW corner		Lun
	Shrewsbury at Lansdowne Ave Shrewsbury at Devonshire Ave Shrewsbury at Murdoch Ave Lansdowne at St. Vincent Ave	Lt Rt Lt Rt Lt	10.6 5.3 15.9 10.6	5.3 SY each corner SW corner 5.3 SY (NW corner) + 10.6 SY (SW corner) 5.3 SY each corner		ENUE JRE ITIES
	Shrewsbury at Lansdowne Ave Shrewsbury at Devonshire Ave Shrewsbury at Murdoch Ave	Lt Rt Lt Rt Lt Lt Rt Rt Lt Rt Rt Lt Rt Rt Lt Rt Lt Rt	10.6 5.3 15.9 10.6 5.3	5.3 SY each corner SW corner 5.3 SY (NW corner) + 10.6 SY (SW corner) 5.3 SY each corner SW corner (at American Legion Hall)		AVENUE - AVENUE CTURE
	Shrewsbury at Lansdowne Ave Shrewsbury at Devonshire Ave Shrewsbury at Murdoch Ave Lansdowne at St. Vincent Ave Lansdowne at Murdoch Cutoff	Lt Rt Lt Rt Lt	10.6 5.3 15.9 10.6 5.3 10.6	5.3 SY each corner SW corner 5.3 SY (NW corner) + 10.6 SY (SW corner) 5.3 SY each corner		
	Shrewsbury at Lansdowne Ave Shrewsbury at Devonshire Ave Shrewsbury at Murdoch Ave Lansdowne at St. Vincent Ave	Lt Rt Lt Rt Lt Lt Rt Rt Lt Rt Rt Lt Rt Rt Lt Rt Lt Rt	10.6 5.3 15.9 10.6 5.3	5.3 SY each corner SW corner 5.3 SY (NW corner) + 10.6 SY (SW corner) 5.3 SY each corner SW corner (at American Legion Hall)		
	Shrewsbury at Lansdowne Ave Shrewsbury at Devonshire Ave Shrewsbury at Murdoch Ave Lansdowne at St. Vincent Ave Lansdowne at Murdoch Cutoff	Lt Rt Lt Rt Lt Lt Rt Rt Lt Rt Rt Lt Rt Rt Lt Rt Lt Rt	10.6 5.3 15.9 10.6 5.3 10.6	5.3 SY each corner SW corner 5.3 SY (NW corner) + 10.6 SY (SW corner) 5.3 SY each corner SW corner (at American Legion Hall)		
	Shrewsbury at Lansdowne Ave Shrewsbury at Devonshire Ave Shrewsbury at Murdoch Ave Lansdowne at St. Vincent Ave Lansdowne at Murdoch Cutoff	Lt Rt Lt Rt Lt Lt Rt Rt Lt Rt Rt Lt Rt Rt Lt Rt Lt Rt	10.6 5.3 15.9 10.6 5.3 10.6	5.3 SY each corner SW corner 5.3 SY (NW corner) + 10.6 SY (SW corner) 5.3 SY each corner SW corner (at American Legion Hall)		WSBURY A SDOWNE A FRASTRUC
	Shrewsbury at Lansdowne Ave Shrewsbury at Devonshire Ave Shrewsbury at Murdoch Ave Lansdowne at St. Vincent Ave Lansdowne at Murdoch Cutoff	Lt Rt Lt Rt Lt Lt Rt Rt Lt Rt Rt Lt Rt Rt Lt Rt Lt Rt	10.6 5.3 15.9 10.6 5.3 10.6	5.3 SY each corner SW corner 5.3 SY (NW corner) + 10.6 SY (SW corner) 5.3 SY each corner SW corner (at American Legion Hall)		
	Shrewsbury at Lansdowne Ave Shrewsbury at Devonshire Ave Shrewsbury at Murdoch Ave Lansdowne at St. Vincent Ave Lansdowne at Murdoch Cutoff	Lt Rt Lt Rt Lt Lt Rt Rt Lt Rt Rt Lt Rt Rt Lt Rt Lt Rt	10.6 5.3 15.9 10.6 5.3 10.6	5.3 SY each corner SW corner 5.3 SY (NW corner) + 10.6 SY (SW corner) 5.3 SY each corner SW corner (at American Legion Hall)		SHREWSBURY A LANSDOWNE A INFRASTRUC
	Shrewsbury at Lansdowne Ave Shrewsbury at Devonshire Ave Shrewsbury at Murdoch Ave Lansdowne at St. Vincent Ave Lansdowne at Murdoch Cutoff	Lt Rt Lt Rt Lt Lt Rt Rt Lt Rt Rt Lt Rt Rt Lt Rt Lt Rt	10.6 5.3 15.9 10.6 5.3 10.6	5.3 SY each corner SW corner 5.3 SY (NW corner) + 10.6 SY (SW corner) 5.3 SY each corner SW corner (at American Legion Hall)		
	Shrewsbury at Lansdowne Ave Shrewsbury at Devonshire Ave Shrewsbury at Murdoch Ave Lansdowne at St. Vincent Ave Lansdowne at Murdoch Cutoff	Lt Rt Lt Rt Lt Lt Rt Rt Lt Rt Rt Lt Rt Rt Lt Rt Lt Rt	10.6 5.3 15.9 10.6 5.3 10.6	5.3 SY each corner SW corner 5.3 SY (NW corner) + 10.6 SY (SW corner) 5.3 SY each corner SW corner (at American Legion Hall)		CETANE COLORIAL
	Shrewsbury at Lansdowne Ave Shrewsbury at Devonshire Ave Shrewsbury at Murdoch Ave Lansdowne at St. Vincent Ave Lansdowne at Murdoch Cutoff	Lt Rt Lt Rt Lt Lt Rt Rt Lt Rt Rt Lt Rt Rt Lt Rt Lt Rt	10.6 5.3 15.9 10.6 5.3 10.6	5.3 SY each corner SW corner 5.3 SY (NW corner) + 10.6 SY (SW corner) 5.3 SY each corner SW corner (at American Legion Hall)		CALEWSBURY A LANSDOWNE A INFRASTRUC DETAILED OLLAR
	Shrewsbury at Lansdowne Ave Shrewsbury at Devonshire Ave Shrewsbury at Murdoch Ave Lansdowne at St. Vincent Ave Lansdowne at Murdoch Cutoff	Lt Rt Lt Rt Lt Lt Rt Rt Lt Rt Rt Lt Rt Rt Lt Rt Lt Rt	10.6 5.3 15.9 10.6 5.3 10.6	5.3 SY each corner SW corner 5.3 SY (NW corner) + 10.6 SY (SW corner) 5.3 SY each corner SW corner (at American Legion Hall)		CALLEWSBURY A CANSDOWNE A LANSDOWNE A INFRASTRUC DETAILED DIA

100170	Exact locations & quantities to be o	E CONCRETE SIDEWALK (6" THICK) determined by the Engineer. To include sawcutting.	609-20.90		ns & quantities to be		ngineer. To ir	IGHT AND UNDER) Iclude sawcutting and aggregate base.
LOCATION	SIDE (<u>Rt / Lt</u>)	QUANTITY REMARKS S.Y. (0.1)		LOCATION	SIDE (<u>Rt / Lt)</u>		QUANTI	
4045 Ch	Rt			7500 Lansdowne			12	
4015 Shrewsbury 4111 Shrewsbury	Rt	8.9 20' x 4' 7.1 16' x 4'		4500 Shrewsbury (at Lansdowne)	Rt Lt		12	for concrete base replacement for concrete base replacement
7500 Lansdowne	Rt	3.6 8' x 4'		7404 Sutherland	Lť		36	for concrete base replacement
Shrewsbury (Lansdowne side) 7424 Lansdowne	Rt Rt	12.0 27' x 4' 5.3 12' x 4'		7404 Sutherland4118 Carr Lane (opposite 7504 Suffolk)	Lt Lt		30 42	for concrete base replacement for concrete base replacement; 3 sections (15' + 15' + 12')
7422 Lansdowne	Rt	6.7 15' x 4'		4118 Carr Lane (opposite Arlington Ave.)	Lt		10	for concrete base replacement
7418 Lansdowne	Rt	4.4 10' x 4'		Shrewsbury at Suffolk	Rt		6	for joint repair
7412 Lansdowne 7404 Lansdowne	Rt	2.7 6' x 4' 6.7 15' x 4'		7502 Suffolk 4117 Shrewsbury	Rt Rt		<u>12</u> 6	for joint repair for joint repair
7402 Lansdowne	Rt	4.4 10' x 4'		4121 Shrewsbury	Rt		6	for joint repair
7340 Lansdowne	Rt	2.7 6' x 4'		Shrewsbury at Arlington	Rt		6	for joint repair
7330 Lansdowne 7326 Lansdowne	Rt	2.7 6' x 4' 6.7 15' x 4'		7502 Arlington 4405 Shrewsbury	Rt Rt		6 6	for joint repair for joint repair
7318 Lansdowne	Rt	6.2 14' x 4'		Shrewsbury Ave at BNSF Rail Overpass	Lt		6	for joint repair
7310 Lansdowne	Rt	2.7 6' x 4' 2.7 6' x 4'		4118 Carr Lane (opposite 4115 Shrews.) 4118 Carr Lane (opposite 4107 Shrews.)	Lt Lt		6	for joint repair for joint repair
7306 Lansdowne 50 Lansdowne (gas station)	Rt	2.7 6 X 4 3.3 6' x 5'		4118 Carr Lane (opposite 4107 Shrews.) 4118 Carr Lane (opposite 4101 Shrews.)	<u>-</u> 		6	for joint repair
7307 Lansdowne	Lt	8.0 18'x 4'		4118 Carr Lane (opposite 4009 Shrews.)	Lt		6	for joint repair
7321 Lansdowne 7323 Lansdowne		2.7 6' x 4' 8.0 18' x 4'		4118 Carr Lane (opposite 7504 Suffolk) 4118 Carr Lane (opposite 7502 Suffolk)	Lt Lt		6	for joint repair for joint repair (2 - 6' sections)
7401 Lansdowne		2.7 6' x 4'		4118 Carr Lane (opposite 7502 Suffolk)4118 Carr Lane (opposite Suffolk Ave)	Lt		6	for joint repair (2 - 6' sections) for joint repair
***				4400 Shrewsbury (police station)	Lt		12	for joint repair (2 - 6' sections)
TOTAL		110.2		TOTAL			257	
		OR CURB RAMPS (New Construction)				4		
Exact lo LOCATION	cations & quantities to be determine SIDE	d by the Engineer. To include sawcutting & thickened areas. QUANTITY REMARKS	612-60.92		aina any daga any daga ang daga ang ang ang ang ang daga ang ang ang ang ang ang ang ang ang	V PANEL, TYPE "B" ons & quantities to be		and a standard and a second developments of the second of th
<u>LVAIIVN</u>	(Rt / Lt)	<u>S.F. (1)</u>		LOCATION	SIDE	ี่	QUANTI	
					<u>(Rt / Lt)</u>		EACH	
Shrewsbury at Murdoch	Rt	30 for island reconstruction, northwest quadrant; 3 - 2' x 5'		Shrewsbury Ave / Lansdowne Ave	Rt/Lt		4	
TOTAL		30						
	CURR & G	UTTER, MOUNTABLE (6")		TOTAL		1	4	
	ct locations & quantities to be determ	nined by the Engineer. To include sawcutting as needed.	613-10.18		JOINT REF	PAIR - TRANSVERSI	E, HIGH EAR	LY STRENGTH
LOCATION	SIDE (Dt / 1 t)	QUANTITY REMARKS		بالأس محتمية أستناب المستحد الأربي المحتم الأربي المحتمة المتحالية أسترمانية محتمية أستند مشروبة والمتحالية المحتم ا	and a second			s all items as described in JSP 1100.70.8
	<u>(Rt / Lt)</u>	<u>L.F. (1)</u>		LOCATION	SIDE (Rt / Lt)	DIMENSIONS (L.F. x L.F.)	QUANTI <u>S.Y. (0.</u>	
wne east of Shrewsbury (park)	Lt	200 for shoulder upgrades						
TOTAL		200		Shrewsbury at Suffolk	Rt Pt	11'x 6'	7.3	located at SW radius in curb lane; also R&R 6 LF integral curb
			······	7502 Suffolk 4009 Shrewsbury	Rt Rt	2- (11' x 6') 12' x 6'	14.7 8.0	2 sections; located in curb lane; also R&R 12 LF integral curb located in turn lane
		TER (VARIOUS WIDTHS), VERTICAL, MOUNTABLE ude sawcutting, excavation, and aggregate base. Includes R&R of entire C&G sectio	6	4101 Shrewsbury	Rt	12' x 6'	8.0	located in through lane
LOCATION	SIDE	QUANTITY REMARKS		4105 Shrewsbury 4117 Shrewsbury	Rt Rt	12' x 6' 12' x 6'	8.0	located in through lane located in curb lane; also R&R 6 LF integral curb
	(Rt / Lt)	L.F. (1)		4117 Shrewsbury 4117 Shrewsbury	Ri Rt	12 x 6'	8.0	located in through lane
	n de la servición de la companya de la companya de la servición de la servición de la servición de la servición	en ander stern auf de stern de staten inder stern die estren verben aus stern het die estre in hilf die estre i		4121 Shrewsbury	Rt	12' x 6'	8.0	located in curb lane; also R&R 6 LF integral curb
7502 Suffalk		25		the second se	Rt	12' x 6'	(a) (a) (a) (b) (b) (a) (b) (a) (b) (b) (b) (b) (b) (b) (b) (b) (b) (b	located in curb lane; also R&R 6 LF integral curb
7502 Suffolk 4111 Shrewsbury	Rt Rt	25 12		Shrewsbury at Arlington 7502 Arlington	Rt	a na manana manana manana na manana mana	8.0	located in curb lane: also R&R 6 I F integral curb
4111 Shrewsbury 4115 Shrewsbury	Rt Rt Rt	12 12		7502 Arlington 4405 Shrewsbury	Rt Rt	12' x 6' 11' x 6'	8.0 7.3	located in curb lane; also R&R 6 LF integral curb located in turn lane
4111 Shrewsbury 4115 Shrewsbury 4117 Shrewsbury	Rt Rt Rt Rt Rt	12		7502 Arlington 4405 Shrewsbury 4405 Shrewsbury	Rt Rt Rt	12' x 6' 11' x 6' 11' x 6'	8.0 7.3 7.3	located in turn lane located in curb lane; also R&R 6 LF integral curb
4111 Shrewsbury 4115 Shrewsbury 4117 Shrewsbury 4119 Shrewsbury 7502 Arlington	Rt Rt Rt Rt Rt Rt Rt Rt	12 12 12 12 10 18		7502 Arlington 4405 Shrewsbury	Rt Rt	12' x 6' 11' x 6'	8.0 7.3	located in turn lane
4111 Shrewsbury 4115 Shrewsbury 4117 Shrewsbury 4119 Shrewsbury 7502 Arlington 4401 Shrewsbury	Rt Rt Rt Rt Rt Rt Rt Rt Rt Rt Rt	12 12 12 12 10 18 42		7502 Arlington 4405 Shrewsbury 4405 Shrewsbury 7505 Lansdowne 7505 Lansdowne 7500 Lansdowne	Rt Rt Rt Rt Rt Rt Rt	12' x 6' 11' x 6' 11' x 6' 12' x 6' 11' x 6' 2- (11' x 6')	8.0 7.3 7.3 8.0 7.3 14.7	located in turn lane located in curb lane; also R&R 6 LF integral curb located in turn lane located in through lane 2 sections; located in through lane
4111 Shrewsbury 4115 Shrewsbury 4117 Shrewsbury 4119 Shrewsbury 7502 Arlington	Rt Rt Rt Rt Rt Rt Rt Rt	12 12 12 12 10 18		7502 Arlington4405 Shrewsbury4405 Shrewsbury7505 Lansdowne7505 Lansdowne7500 Lansdowne7501 Devonshire	Rt Rt Rt Rt Rt Rt Rt Rt	12' x 6' 11' x 6' 11' x 6' 12' x 6' 11' x 6' 2- (11' x 6') 11' x 6'	8.0 7.3 7.3 8.0 7.3 14.7 7.3	located in turn lane located in curb lane; also R&R 6 LF integral curb located in turn lane located in through lane 2 sections; located in through lane located in through lane located in through lane
4111 Shrewsbury4115 Shrewsbury4117 Shrewsbury4119 Shrewsbury7502 Arlington4401 Shrewsbury4405 Shrewsbury7500 Lansdowne7501 Devonshire	Rt	12 12 12 12 10 18 42 12 42 12 20		7502 Arlington 4405 Shrewsbury 4405 Shrewsbury 7505 Lansdowne 7505 Lansdowne 7500 Lansdowne	Rt Rt Rt Rt Rt Rt Rt	12' x 6' 11' x 6' 11' x 6' 12' x 6' 11' x 6' 2- (11' x 6')	8.0 7.3 7.3 8.0 7.3 14.7 7.3 22.0 14.7	located in turn lane located in curb lane; also R&R 6 LF integral curb located in turn lane located in through lane 2 sections; located in through lane located in through lane 3 sections; located in through lane 2 sections; located in through lane 3 sections; located in through lane 2 sections; located in through lane 3 sections; located in through lane 2 sections; located in through lane
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	SIDE	ties to be determined by the Enginee QUANTITY			LOCATION	SIDE			le sawcutting and aggregate base. REMARKS
	<u>(Rt / Lt)</u>	<u>S.Y. (0.1)</u>				<u>(Rt / Lt)</u>		L.F. (1)	
	Pt		20' x 4'		7500 Lansdowne	Dı		40	
4015 Shrewsbury 4111 Shrewsbury	Rt Rt	<u>8.9</u> 7.1	20' x 4' 16' x 4'		4500 Shrewsbury (at Lansdowne)	Rt Lt		12 13	for concrete base replacement for concrete base replacement
7500 Lansdowne	Rt	3.6	8' x 4'		7404 Sutherland	Lt Lt		36	for concrete base replacement
500 Shrewsbury (Lansdowne side)	Rt	12.0	27' x 4'		7404 Sutherland	Lŧ		30	for concrete base replacement
7424 Lansdowne	Rt	5.3	12' x 4'		4118 Carr Lane (opposite 7504 Suffolk)	Lt			for concrete base replacement; 3 sections (15' + 15' + 12')
7422 Lansdowne	Rt	6.7	15' x 4'		4118 Carr Lane (opposite Arlington Ave.)			10	for concrete base replacement
7418 Lansdowne 7412 Lansdowne	Rt Rt	4.4	10' x 4' 6' x 4'		Shrewsbury at Suffolk 7502 Suffolk	Rt Rt		6 12	for joint repair for joint repair
7404 Lansdowne	Rt	6.7	15'x4'		4117 Shrewsbury	Rt		6	for joint repair
7402 Lansdowne	Rt	4.4	10' x 4'		4121 Shrewsbury	Rt		6	for joint repair
7340 Lansdowne	Rt	2.7	6' x 4'		Shrewsbury at Arlington	Rt		6	for joint repair
7330 Lansdowne	Rt	2.7	6' x 4'		7502 Arlington	Rt		6	for joint repair
7326 Lansdowne	Rt	6.7	15' x 4' 14' x 4'		4405 Shrewsbury	Rt Lt		6	for joint repair
7318 Lansdowne 7310 Lansdowne	Rt Rt	<u> </u>	6' x 4'		Shrewsbury Ave at BNSF Rail Overpass 4118 Carr Lane (opposite 4115 Shrews.)	L. Lt		6	for joint repair for joint repair
7306 Lansdowne	Rt	2.7	6' x 4'		4118 Carr Lane (opposite 4107 Shrews.)	Lt		6	for joint repair
7250 Lansdowne (gas station)	Rt	3.3	6' x 5'		4118 Carr Lane (opposite 4101 Shrews.)	Lt		6	for joint repair
7307 Lansdowne	Lt	8.0	18' x 4'		4118 Carr Lane (opposite 4009 Shrews.)	Lt		6	for joint repair
7321 Lansdowne	Lt	2.7	6' x 4'		4118 Carr Lane (opposite 7504 Suffolk)	Ĺŧ		6	for joint repair
7323 Lansdowne 7401 Lansdowne	Lt Lt	8.0 2.7	18' x 4' 6' x 4'		4118 Carr Lane (opposite 7502 Suffolk)	L.	a <mark>suurine suurine turine suurine suuri Turine suurine s</mark>	12	for joint repair (2 - 6' sections)
					4118 Carr Lane (opposite Suffolk Ave) 4400 Shrewsbury (police station)	Lt Lt		0 12	for joint repair for joint repair (2 - 6' sections)
TOTAL		110.2			enterery (peneo station)			14	··· · ··· ··· ··· ··· ··· ··· ··· ······
					TOTAL			257	
		DOMES FOR CURB RAMPS (New							
	SIDE	determined by the Engineer. To incl QUANTITY		612-60.92			W PANEL, TYPE "B" (i tions & quantities to be c		
	(Rt / Lt)	S.F. (1)			LOCATION	SIDE			REMARKS
						<u>(Rt / Lt)</u>		EACH	
Shrewsbury at Murdoch	Rt	30	for island reconstruction, northwest quadrant; 3 - 2' x 5'						
					Shrewsbury Ave / Lansdowne Ave	Rt / Lt		4	
TOTAL					TOTAL				
		URB & GUTTER, MOUNTABLE (6	9		IOTAL			4	
Exact loc	and the second	be determined by the Engineer. To	in in the second s	613-10.18		JOINT RE	PAIR - TRANSVERSE,	HIGH EARLY	STRENGTH
LOCATION	SIDE	QUANTITY	REMARKS		Exact locations &	& quantities to be d	etermined by the Engine		items as described in JSP 1100.70.8
	<u>(Rt / Lt)</u>	<u>L.F. (1)</u>			LOCATION	SIDE	DIMENSIONS	QUANTITY	REMARKS
ansdowne east of Shrewsbury (park)	Lt	200	for shoulder upgrades			<u>(Rt / Lt)</u>	(L.F. x L.F.)	<u>S.Y. (0.1)</u>	
		200			Shrewsbury at Suffolk	Rt	11' x 6'	7.3	located at SW radius in curb lane; also R&R 6 LF integral curb
TOTAL		200			7502 Suffolk	Rt	2- (11' x 6')	1.3	2 sections; located in curb lane; also R&R 12 LF integral curb
					4009 Shrewsbury	Rt	12' x 6'		located in turn lane
	i i i i i i i i i i i i i i i i i i i	RB & GUTTER (VARIOUS WIDTHS), VERTICAL, MOUNTABLE n, and aggregate base. Includes R&R of entire C&G section.		4101 Shrewsbury	Rt	12' x 6'	8.0	located in through lane
LOCATION	SIDE				4105 Shrewsbury	Rt Pt	12' x 6'		located in through lane
	(Rt / Lt)	L.F. (1)			4117 Shrewsbury 4117 Shrewsbury	Rt	12' x 6' 12' x 6'		located in curb lane; also R&R 6 LF integral curb located in through lane
					4121 Shrewsbury	Rt	12 × 6'	a second a second s	located in curb lane; also R&R 6 LF integral curb
7502 Suffolk	Rt	25			Shrewsbury at Arlington	Rt	12' x 6'	an a	located in curb lane; also R&R 6 LF integral curb
4111 Shrewsbury	Rt Rt	12			7502 Arlington	Rt	12' x 6'		located in curb lane; also R&R 6 LF integral curb
4115 Shrewsbury 4117 Shrewsbury	Rt	<u>12</u> 12	le presentation de la constant de l El constant de la cons		4405 Shrewsbury	Rt	11'x 6'		located in turn lane
4117 Shrewsbury 4119 Shrewsbury	Rt	12			4405 Shrewsbury 7505 Lansdowne	Rt Rt	11' x 6' 12' x 6'	7.3 8.0	located in curb lane; also R&R 6 LF integral curb located in turn lane
7502 Arlington	Rt	18			7505 Lansdowne	Rt	12 x 6 11'x 6'	7.3	located in through lane
4401 Shrewsbury	Rt	42			7500 Lansdowne	Rt	2- (11' x 6')	14.7	2 sections; located in through lane
4405 Shrewsbury	Rt	12			7501 Devonshire	Rt	11' x 6'		located in through lane
7500 Lansdowne 7501 Devonshire	Rt Rt	<u>45</u> 20			7501 Murdoch (office building)	Rt	3- (11' x 6')	22.0	3 sections; located in through lane
	Rt	20 26			7419 Murdoch (apartment building)	Lt.	<u>2- (11' x 6')</u> 3- (11' x 6')	14.7	2 sections; located in through lane
7501 Murdoch	Lt	20			7424 Devonshire 7425 Devonshire	Lt Lt	3- (11' x 6') 3- (11' x 6')	22.0 22.0	3 sections; located in through lane 3 sections; located in through lane
7501 Murdoch 7419 Murdoch (apartment building)	<u>en en e</u>	70			4500 Shrewsbury	Lt.	11'x 6'	7.3	located in through lane
والمتحد والمحافظ والمح	Ĺŧ		'비행들이 있는 것 같은 것은 것은 것은 것 같은 것 같은 것 같은 것 같은 것 같은		Shrewsbury Ave at BNSF Rail Overpass	Lt	12' x 6'	8.0	located in curb lane; also R&R 6 LF integral curb
7419 Murdoch (apartment building) 7424 Devonshire 4504 Shrewsbury	Lt Lt	20	 A second structure descent structures and s 	and the set of the set		Lt	2- (12' x 6')	16.0	2 sections; located in through lane
7419 Murdoch (apartment building)7424 Devonshire4504 Shrewsbury4500 Shrewsbury	Lt Lt Lt	10			4118 Carr Lane (opposite Arlington)			[3] The second state of the first second state of the second st	located in curb lane; also R&R 6 LF integral curb
7419 Murdoch (apartment building)7424 Devonshire4504 Shrewsbury4500 Shrewsbury4500 Shrewsbury	Lt Lt Lt Lt	10 40			4118 Carr Lane (opposite 4115 Shrews.)	Lt	12' x 6'	8.0	
7419 Murdoch (apartment building)7424 Devonshire4504 Shrewsbury4500 Shrewsbury4500 Shrewsbury4500 Shrewsbury7404 Sutherland (parking lot)	Lt Lt Lt	10			4118 Carr Lane (opposite 4115 Shrews.)4118 Carr Lane (opposite 4115 Shrews.)	Lt Lt	12' x 6' 12' x 6'	8.0	located in through lane
7419 Murdoch (apartment building)7424 Devonshire4504 Shrewsbury4500 Shrewsbury4500 Shrewsbury	Lt Lt Lt Lt Lt Lt	10 40 12			4118 Carr Lane (opposite 4115 Shrews.)4118 Carr Lane (opposite 4115 Shrews.)4118 Carr Lane (opposite 4107 Shrews.)	Lt Lt Lt	12' x 6' 12' x 6' 12' x 6'	8.0 8.0	located in curb lane; also R&R 6 LF integral curb
7419 Murdoch (apartment building)7424 Devonshire4504 Shrewsbury4500 Shrewsbury4500 Shrewsbury4500 Shrewsbury (police station)7404 Sutherland (parking lot)18 Carr Lane (Laclede Gas Complex)18 Carr Lane (Laclede Gas Complex)18 Carr Lane (Laclede Gas Complex)18 Carr Lane (Laclede Gas Complex)	Lt Lt Lt Lt Lt Lt Lt Lt Lt	10 40 12 70			4118 Carr Lane (opposite 4115 Shrews.)4118 Carr Lane (opposite 4115 Shrews.)4118 Carr Lane (opposite 4107 Shrews.)4118 Carr Lane (opposite 4101 Shrews.)	Lt Lt	12' x 6' 12' x 6' 12' x 6' 12' x 6' 12' x 6'	8.0	
7419 Murdoch (apartment building)7424 Devonshire4504 Shrewsbury4500 Shrewsbury4500 Shrewsbury4500 Shrewsbury (police station)7404 Sutherland (parking lot)18 Carr Lane (Laclede Gas Complex)18 Carr Lane (Laclede Gas Complex)	Lt Lt Lt Lt Lt Lt Lt Lt Lt Lt	10 40 12 70			4118 Carr Lane (opposite 4115 Shrews.)4118 Carr Lane (opposite 4115 Shrews.)4118 Carr Lane (opposite 4107 Shrews.)4118 Carr Lane (opposite 4101 Shrews.)4118 Carr Lane (opposite 4009 Shrews.)4118 Carr Lane (opposite 4009 Shrews.)	Lt Lt Lt Lt	12' x 6' 12' x 6' 12' x 6' 12' x 6' 2- (12' x 6') 12' x 6'	8.0 8.0 8.0 16.0 8.0	located in curb lane; also R&R 6 LF integral curb located in curb lane; also R&R 6 LF integral curb 2 sections; located in through lane located in turn lane
7419 Murdoch (apartment building)7424 Devonshire4504 Shrewsbury4500 Shrewsbury4500 Shrewsbury4500 Shrewsbury (police station)7404 Sutherland (parking lot)18 Carr Lane (Laclede Gas Complex)18 Carr Lane (Laclede Gas Complex)	Lt Lt Lt Lt Lt Lt Lt Lt Lt Lt	10 40 12 70 15 6 9 9			4118 Carr Lane (opposite 4115 Shrews.)4118 Carr Lane (opposite 4115 Shrews.)4118 Carr Lane (opposite 4107 Shrews.)4118 Carr Lane (opposite 4101 Shrews.)4118 Carr Lane (opposite 4009 Shrews.)	Lt Lt Lt Lt Lt Lt Lt Lt	12' x 6' 12' x 6' 12' x 6' 12' x 6' 2- (12' x 6') 12' x 6' 12' x 6'	8.0 8.0 8.0 16.0 8.0 8.0 8.0	located in curb lane; also R&R 6 LF integral curb located in curb lane; also R&R 6 LF integral curb 2 sections; located in through lane located in turn lane located in curb lane; also R&R 6 LF integral curb
7419 Murdoch (apartment building)7424 Devonshire4504 Shrewsbury4500 Shrewsbury4500 Shrewsbury4500 Shrewsbury (police station)7404 Sutherland (parking lot)18 Carr Lane (Laclede Gas Complex)18 Carr Lane (Laclede Gas Complex)	Lt Lt Lt Lt Lt Lt Lt Lt Lt Lt	10 40 12 70 15 6 9 9 9 10			4118 Carr Lane (opposite 4115 Shrews.)4118 Carr Lane (opposite 4115 Shrews.)4118 Carr Lane (opposite 4107 Shrews.)4118 Carr Lane (opposite 4101 Shrews.)4118 Carr Lane (opposite 4009 Shrews.)4118 Carr Lane (opposite 7504 Suffolk)	Lt Lt Lt Lt Lt Lt Lt Lt Lt	12' x 6' 12' x 6' 12' x 6' 12' x 6' 2- (12' x 6') 12' x 6' 12' x 6' 12' x 6'	8.0 8.0 8.0 16.0 8.0 8.0 8.0 8.0	located in curb lane; also R&R 6 LF integral curb located in curb lane; also R&R 6 LF integral curb 2 sections; located in through lane located in turn lane located in curb lane; also R&R 6 LF integral curb located in curb lane; also R&R 6 LF integral curb
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7419 Murdoch (apartment building)7424 Devonshire4504 Shrewsbury4500 Shrewsbury4500 Shrewsbury4500 Shrewsbury (police station)7404 Sutherland (parking lot)18 Carr Lane (Laclede Gas Complex)18 Carr Lane (Laclede Gas Complex)	Lt Lt Lt Lt Lt Lt Lt Lt Lt Lt	10 40 12 70 15 6 9 9 9 9 10 20 50	R&R all curb & gutter; south side of Lansdowne R&R all curb & gutter; north side of Lansdowne		4118 Carr Lane (opposite 4115 Shrews.)4118 Carr Lane (opposite 4115 Shrews.)4118 Carr Lane (opposite 4107 Shrews.)4118 Carr Lane (opposite 4101 Shrews.)4118 Carr Lane (opposite 4009 Shrews.)4118 Carr Lane (opposite 4009 Shrews.)4118 Carr Lane (opposite 4009 Shrews.)4118 Carr Lane (opposite 7504 Suffolk)4118 Carr Lane (opposite 7502 Suffolk)	Lt Lt Lt Lt Lt Lt Lt Lt Lt Lt	12' x 6' 12' x 6' 12' x 6' 12' x 6' 2- (12' x 6') 12' x 6' 12' x 6' 12' x 6' 2- (12' x 6')	8.0 8.0 8.0 16.0 8.0 8.0 8.0 16.0	located in curb lane; also R&R 6 LF integral curb located in curb lane; also R&R 6 LF integral curb 2 sections; located in through lane located in turn lane located in curb lane; also R&R 6 LF integral curb located in curb lane; also R&R 6 LF integral curb 2 sections; located in through lane
7419 Murdoch (apartment building) 7424 Devonshire 4504 Shrewsbury 4500 Shrewsbury 4500 Shrewsbury 4500 Shrewsbury 4500 Shrewsbury (police station) 7404 Sutherland (parking lot) 18 Carr Lane (Laclede Gas Complex) 18 Carr Lane (Laclede Gas Complex)	Lt Lt Lt Lt Lt Lt Lt Lt Lt Lt	10 40 12 70 15 6 9 9 9 9 9 10 20 50 1,498 1,241			4118 Carr Lane (opposite 4115 Shrews.)4118 Carr Lane (opposite 4115 Shrews.)4118 Carr Lane (opposite 4107 Shrews.)4118 Carr Lane (opposite 4101 Shrews.)4118 Carr Lane (opposite 4009 Shrews.)4118 Carr Lane (opposite 7504 Suffolk)4118 Carr Lane (opposite 7502 Suffolk)4118 Carr Lane (opposite 7502 Suffolk)	Lt Lt Lt Lt Lt Lt Lt Lt Lt Lt Lt	12' x 6' 12' x 6' 12' x 6' 12' x 6' 2- (12' x 6') 12' x 6' 12' x 6'	8.0 8.0 8.0 16.0 8.0 8.0 8.0 16.0 8.0 10.7	located in curb lane; also R&R 6 LF integral curb located in curb lane; also R&R 6 LF integral curb 2 sections; located in through lane located in turn lane located in curb lane; also R&R 6 LF integral curb located in curb lane; also R&R 6 LF integral curb 2 sections; located in through lane located in curb lane; also R&R 6 LF integral curb located in curb lane; also R&R 6 LF integral curb
7419 Murdoch (apartment building)7424 Devonshire4504 Shrewsbury4500 Shrewsbury4500 Shrewsbury4500 Shrewsbury (police station)7404 Sutherland (parking lot)18 Carr Lane (Laclede Gas Complex)18 Carr Lane (Laclede Gas Complex)	Lt Lt Lt Lt Lt Lt Lt Lt Lt Lt	10 40 12 70 15 6 9 9 9 9 10 20 50 1,498			4118 Carr Lane (opposite 4115 Shrews.)4118 Carr Lane (opposite 4115 Shrews.)4118 Carr Lane (opposite 4107 Shrews.)4118 Carr Lane (opposite 4101 Shrews.)4118 Carr Lane (opposite 4009 Shrews.)4118 Carr Lane (opposite 4009 Shrews.)4118 Carr Lane (opposite 4009 Shrews.)4118 Carr Lane (opposite 7504 Suffolk)4118 Carr Lane (opposite 7502 Suffolk)	Lt Lt Lt Lt Lt Lt Lt Lt Lt Lt Lt	12' x 6' 12' x 6' 12' x 6' 12' x 6' 2- (12' x 6') 12' x 6' 12' x 6'	8.0 8.0 8.0 16.0 8.0 8.0 8.0 16.0 8.0 10.7	located in curb lane; also R&R 6 LF integral curb located in curb lane; also R&R 6 LF integral curb 2 sections; located in through lane located in turn lane located in curb lane; also R&R 6 LF integral curb located in curb lane; also R&R 6 LF integral curb 2 sections; located in through lane located in curb lane; also R&R 6 LF integral curb located in curb lane; also R&R 6 LF integral curb
7419 Murdoch (apartment building) 7424 Devonshire 4504 Shrewsbury 4500 Shrewsbury 4500 Shrewsbury 4500 Shrewsbury 4500 Shrewsbury (police station) 7404 Sutherland (parking lot) 18 Carr Lane (Laclede Gas Complex) 18 Carr Lane (Laclede Gas Complex)	Lt Lt Lt Lt Lt Lt Lt Lt Lt Lt	10 40 12 70 15 6 9 9 9 9 9 10 20 50 1,498 1,241	R&R all curb & gutter; north side of Lansdowne		4118 Carr Lane (opposite 4115 Shrews.)4118 Carr Lane (opposite 4115 Shrews.)4118 Carr Lane (opposite 4107 Shrews.)4118 Carr Lane (opposite 4101 Shrews.)4118 Carr Lane (opposite 4009 Shrews.)4118 Carr Lane (opposite 4009 Shrews.)4118 Carr Lane (opposite 4009 Shrews.)4118 Carr Lane (opposite 7504 Suffolk)4118 Carr Lane (opposite 7502 Suffolk)	Lt Lt Lt Lt Lt Lt Lt Lt Lt Lt Lt	12' x 6' 12' x 6' 12' x 6' 12' x 6' 2- (12' x 6') 12' x 6' 12' x 6'	8.0 8.0 8.0 16.0 8.0 8.0 16.0 8.0 10.7 12.0	located in curb lane; also R&R 6 LF integral curb located in curb lane; also R&R 6 LF integral curb 2 sections; located in through lane located in turn lane located in curb lane; also R&R 6 LF integral curb located in curb lane; also R&R 6 LF integral curb 2 sections; located in through lane located in curb lane; also R&R 6 LF integral curb located in curb lane; also R&R 6 LF integral curb

and a second	xact locations & quantities to be						determined by the Eng	gineer. To include sawcutting and aggregate base.
LOCATION	SIDE (Rt / Lt)	QUANTITY S.Y. (0.1)	REMARKS		LOCATION	SIDE (Rt / Lt)		QUANTITY REMARKS L.F. (1)
4015 Shrewsbury 4111 Shrewsbury	Rt Rt	8.9	20' x 4' 16' x 4'		7500 Lansdowne 4500 Shrewsbury (at Lansdowne)	Rt Lt		12 for concrete base replacement 13 for concrete base replacement
7500 Lansdowne	Rt	3.6	8' x 4'		7404 Sutherland	Lt		36 for concrete base replacement
0 Shrewsbury (Lansdowne side)	Rt		27' x 4'		7404 Sutherland	Lt		30 for concrete base replacement
7424 Lansdowne	Rt	5.3	12' x 4'		4118 Carr Lane (opposite 7504 Suffolk)	Lt		42 for concrete base replacement; 3 sections (15' + 15' + 12')
7422 Lansdowne 7418 Lansdowne	Rt Rt	<u>6.7</u> 4 4	15' x 4' 10' x 4'		4118 Carr Lane (opposite Arlington Ave.) Shrewsbury at Suffolk	Lt Rt		10 for concrete base replacement 6 for joint repair
7412 Lansdowne	Rt	2.7	6' x 4'		7502 Suffolk	Rt		12 for joint repair
7404 Lansdowne	Rt	6.7	15' x 4'		4117 Shrewsbury	Rt		6 for joint repair
7402 Lansdowne	Rt Rt	4.4	10' x 4' 6' x 4'		4121 Shrewsbury Shrewsbury at Arlington	Rt Rt		6 for joint repair 6 for joint repair
7340 Lansdowne 7330 Lansdowne	Rt		6'x4'		7502 Arlington	Rt		6 for joint repair
7326 Lansdowne	Rt	6.7	15' x 4'		4405 Shrewsbury	Rt		6 for joint repair
7318 Lansdowne	Rt	6.2	14' x 4'		Shrewsbury Ave at BNSF Rail Overpass	<u></u>		6 for joint repair
7310 Lansdowne 7306 Lansdowne	Rt Rt	<u>2.7</u> 2.7	6' x 4' 6' x 4'		4118 Carr Lane (opposite 4115 Shrews.) 4118 Carr Lane (opposite 4107 Shrews.)	Lt Lt		6 for joint repair 6 for joint repair
250 Lansdowne (gas station)	Rt	3.3	6' x 5'		4118 Carr Lane (opposite 4107 Shrews.)	Lt		6 for joint repair
7307 Lansdowne	L	8.0	18' x 4'		4118 Carr Lane (opposite 4009 Shrews.)	Lt		6 for joint repair
7321 Lansdowne	Ц	2.7	6' x 4'		4118 Carr Lane (opposite 7504 Suffolk)	Lt		6 for joint repair
7323 Lansdowne		8.0	18' x 4' 6' x 4'		4118 Carr Lane (opposite 7502 Suffolk)	Lt		12 for joint repair (2 - 6' sections)
7401 Lansdowne	Lt	2.1			4118 Carr Lane (opposite Suffolk Ave) 4400 Shrewsbury (police station)	Lt Lt		6 for joint repair 12 for joint repair (2 - 6' sections)
TOTAL		110.2						
					TOTAL			257
Exact locat	an an tha bha ta	FOR CURB RAMPS (New ed by the Engineer. To inclu	Construction) Ide sawcutting & thickened areas.	612-60.92		Δροι	N PANEL TYPE "R" /	NOISELESS), RENTAL
LOCATION	SIDE	QUANTITY	REMARKS			nda sa iyan minani mini mani mini mini mini mini		determined by the Engineer.
	<u>(Rt / Lt)</u>	<u>S.F. (1)</u>			LOCATION	SIDE		QUANTITY
Shrewsbury at Murdoch	Rt	20	for island reconstruction, northwest quadrant; 3 - 2' x 5'			<u>(Rt / Lt)</u>		EACH
Omewoouly at MuluoCli			nor island rooundu uvuvn, horunwest quaurant, J = Z X J		Shrewsbury Ave / Lansdowne Ave	Rt/Lt		4
TOTAL		30						
			\mathbf{x}		TOTAL			4
Exact le	ocations & quantities to be deten	GUTTER, MOUNTABLE (6" mined by the Engineer. To i		613-10.18		JOINT REF	PAIR - TRANSVERSE	HIGH EARLY STRENGTH
LOCATION	SIDE	QUANTITY	REMARKS		Exact locations			eer. Includes all items as described in JSP 1100.70.8
	<u>(Rt / Lt)</u>	<u>L.F. (1)</u>			LOCATION	SIDE	DIMENSIONS	QUANTITY REMARKS
downe east of Shrewsbury (park)	Lt	200	for shoulder upgrades			<u>(Rt / Lt)</u>	<u>(L.F. x L.F.)</u>	<u>S.Y. (0.1)</u>
wome out of one wood y (park)					Shrewsbury at Suffolk	Rt	11' x 6'	7.3 located at SW radius in curb lane; also R&R 6 LF integral curb
TOTAL		200			7502 Suffolk	Rŧ	2- (11' x 6')	14.7 2 sections; located in curb lane; also R&R 12 LF integral curb
R EM(OVE & REPLACE CURB & GUT	TTER (VARIOUS WIDTHS)	. VERTICAL. MOUNTABLE		4009 Shrewsbury	Rt	12' x 6'	8.0 located in turn lane
			, and aggregate base. Includes R&R of entire C&G section.		4101 Shrewsbury 4105 Shrewsbury	Rt Rt	12' x 6' 12' x 6'	8.0 located in through lane 8.0 located in through lane
LOCATION	SIDE	QUANTITY	REMARKS		4117 Shrewsbury	Rt	12' x 6'	8.0 located in curb lane; also R&R 6 LF integral curb
	<u>(Rt / Lt)</u>	<u>L.F. (1)</u>			4117 Shrewsbury	Rt	12' x 6'	8.0 located in through lane
					4121 Shrewsbury Shrewsbury at Arlington	Rt Rt	12' x 6' 12' x 6'	8.0located in curb lane; also R&R 6 LF integral curb8.0located in curb lane; also R&R 6 LF integral curb
7502 Suffolk	Rt	25				Rt	and the second	
7502 Suffolk 4111 Shrewsbury	Rt Rt	25 12					12°X 6'	8.0 I I I I I I I I I I I I I I I I I I I
4111 Shrewsbury 4115 Shrewsbury	Rt Rt	12 12			7502 Arlington 4405 Shrewsbury	Rt	12' x 6' 11' x 6'	8.0located in curb lane; also R&R 6 LF integral curb7.3located in turn lane
4111 Shrewsbury 4115 Shrewsbury 4117 Shrewsbury	Rt Rt Rt	12 12 12 12			7502 Arlington 4405 Shrewsbury 4405 Shrewsbury	Rt Rt	11' x 6' 11' x 6'	7.3located in turn lane7.3located in curb lane; also R&R 6 LF integral curb
4111 Shrewsbury 4115 Shrewsbury 4117 Shrewsbury 4119 Shrewsbury	Rt Rt Rt Rt	12 12			7502 Arlington 4405 Shrewsbury 4405 Shrewsbury 7505 Lansdowne	Rt Rt Rt	11' x 6' 11' x 6' 12' x 6'	7.3located in turn lane7.3located in curb lane; also R&R 6 LF integral curb8.0located in turn lane
4111 Shrewsbury 4115 Shrewsbury 4117 Shrewsbury 4119 Shrewsbury 7502 Arlington 4401 Shrewsbury	Rt Rt Rt Rt Rt Rt Rt Rt Rt	12 12 12 12 10 10 18 42			7502 Arlington 4405 Shrewsbury 4405 Shrewsbury	Rt Rt	11' x 6' 11' x 6' 12' x 6' 11' x 6'	7.3located in turn lane7.3located in curb lane; also R&R 6 LF integral curb8.0located in turn lane7.3located in through lane
4111 Shrewsbury4115 Shrewsbury4115 Shrewsbury4117 Shrewsbury4119 Shrewsbury7502 Arlington4401 Shrewsbury4405 Shrewsbury	RtRtRtRtRtRtRtRtRt	12 12 12 12 10 10 18 42 12			7502 Arlington4405 Shrewsbury4405 Shrewsbury7505 Lansdowne7505 Lansdowne7500 Lansdowne7501 Devonshire	Rt Rt Rt Rt Rt Rt Rt	11' x 6' 11' x 6' 12' x 6' 11' x 6' 2- (11' x 6') 11' x 6'	7.3located in turn lane7.3located in curb lane; also R&R 6 LF integral curb8.0located in turn lane7.3located in through lane14.72 sections; located in through lane7.3located in through lane7.3located in through lane
4111 Shrewsbury4115 Shrewsbury4117 Shrewsbury4119 Shrewsbury7502 Arlington4401 Shrewsbury4405 Shrewsbury7500 Lansdowne	RtRtRtRtRtRtRtRtRtRtRtRt	12 12 12 10 10 18 42 12 45			7502 Arlington4405 Shrewsbury4405 Shrewsbury7505 Lansdowne7505 Lansdowne7500 Lansdowne7501 Devonshire7501 Murdoch (office building)	Rt Rt Rt Rt Rt Rt Rt Rt	11' x 6' 11' x 6' 12' x 6' 11' x 6' 2- (11' x 6') 11' x 6' 3- (11' x 6')	7.3located in turn lane7.3located in curb lane; also R&R 6 LF integral curb8.0located in turn lane7.3located in through lane14.72 sections; located in through lane7.3located in through lane2.03 sections; located in through lane
4111 Shrewsbury4115 Shrewsbury4115 Shrewsbury4117 Shrewsbury4119 Shrewsbury7502 Arlington4401 Shrewsbury4405 Shrewsbury	RtRtRtRtRtRtRtRtRtRtRtRtRt	12 12 12 12 10 10 18 42 12			7502 Arlington4405 Shrewsbury4405 Shrewsbury7505 Lansdowne7505 Lansdowne7505 Lansdowne7500 Lansdowne7501 Devonshire7501 Murdoch (office building)7419 Murdoch (apartment building)	Rt Rt Rt Rt Rt Rt Rt Rt Lt	11' x 6' 11' x 6' 12' x 6' 11' x 6' 2- (11' x 6') 11' x 6' 3- (11' x 6') 2- (11' x 6')	7.3located in turn lane7.3located in curb lane; also R&R 6 LF integral curb8.0located in turn lane7.3located in through lane14.72 sections; located in through lane7.3located in through lane22.03 sections; located in through lane14.72 sections; located in through lane14.72 sections; located in through lane22.03 sections; located in through lane14.72 sections; located in through lane
4111 Shrewsbury4115 Shrewsbury4115 Shrewsbury4117 Shrewsbury4119 Shrewsbury7502 Arlington4401 Shrewsbury4405 Shrewsbury7500 Lansdowne7501 Devonshire	RtRtRtRtRtRtRtRtRtRtRtRt	12 12 12 10 10 18 42 12 45 20 26 20			7502 Arlington4405 Shrewsbury4405 Shrewsbury7505 Lansdowne7505 Lansdowne7500 Lansdowne7501 Devonshire7501 Murdoch (office building)7419 Murdoch (apartment building)7424 Devonshire	Rt Rt Rt Rt Rt Rt Rt Rt	11'x 6' 11'x 6' 12'x 6' 11'x 6' 2- (11'x 6') 11'x 6' 2- (11'x 6') 2- (11'x 6') 3- (11'x 6') 3- (11'x 6')	7.3located in turn lane7.3located in curb lane; also R&R 6 LF integral curb8.0located in turn lane7.3located in through lane14.72 sections; located in through lane7.3located in through lane2.03 sections; located in through lane14.72 sections; located in through lane22.03 sections; located in through lane
4111 Shrewsbury 4115 Shrewsbury 4117 Shrewsbury 4119 Shrewsbury 7502 Arlington 4401 Shrewsbury 4405 Shrewsbury 7500 Lansdowne 7501 Devonshire 7501 Devonshire 7501 Murdoch 19 Murdoch (apartment building) 7424 Devonshire	Rt Rt Rt Lt	12 12 12 10 10 18 42 12 45 20 26 20 20 70			7502 Arlington4405 Shrewsbury4405 Shrewsbury7505 Lansdowne7505 Lansdowne7500 Lansdowne7501 Devonshire7501 Murdoch (office building)7419 Murdoch (apartment building)7424 Devonshire7425 Devonshire4500 Shrewsbury	Rt Rt Rt Rt Rt Rt Rt Lt Lt	11'x 6' 11'x 6' 12'x 6' 11'x 6' 2- (11'x 6') 3- (11'x 6') 2- (11'x 6') 3- (11'x 6') 3- (11'x 6') 3- (11'x 6') 11'x 6'	7.3located in turn lane7.3located in curb lane; also R&R 6 LF integral curb8.0located in turn lane7.3located in through lane14.72 sections; located in through lane7.3located in through lane2.03 sections; located in through lane14.72 sections; located in through lane22.03 sections; located in through lane7.3located in through lane7.3located in through lane
4111 Shrewsbury 4115 Shrewsbury 4117 Shrewsbury 4119 Shrewsbury 7502 Arlington 4401 Shrewsbury 4405 Shrewsbury 7500 Lansdowne 7501 Devonshire 7501 Devonshire 7501 Murdoch 19 Murdoch (apartment building) 7424 Devonshire 4504 Shrewsbury	Rt Rt Rt Rt Rt Rt Rt Rt Rt Rt Rt Rt Rt It It It It It It It	12 12 12 10 10 18 42 12 45 20 26 20 26 20 70 20			7502 Arlington4405 Shrewsbury4405 Shrewsbury7505 Lansdowne7505 Lansdowne7500 Lansdowne7501 Devonshire7501 Murdoch (office building)7419 Murdoch (apartment building)7424 Devonshire7425 Devonshire4500 ShrewsburyShrewsbury Ave at BNSF Rail Overpass	Rt Rt Rt Rt Rt Rt Lt Lt Lt Lt Lt Lt Lt Lt Lt	11'x 6' 11'x 6' 12'x 6' 11'x 6' 2- (11'x 6') 3- (11'x 6') 2- (11'x 6') 3- (11'x 6') 3- (11'x 6') 11'x 6' 11'x 6' 11'x 6' 11'x 6' 2- (11'x 6') 11'x 6' 11'x 6' 11'x 6' 11'x 6' 11'x 6' 12'x 6'	7.3located in turn lane7.3located in curb lane; also R&R 6 LF integral curb8.0located in turn lane7.3located in through lane14.72 sections; located in through lane7.3located in through lane2.03 sections; located in through lane14.72 sections; located in through lane22.03 sections; located in through lane8.0located in through lane8.0located in turb lane; also R&R 6 LF integral curb
4111 Shrewsbury 4115 Shrewsbury 4117 Shrewsbury 4119 Shrewsbury 7502 Arlington 4401 Shrewsbury 4405 Shrewsbury 7500 Lansdowne 7501 Devonshire 7501 Devonshire 7501 Murdoch 19 Murdoch (apartment building) 7424 Devonshire 4504 Shrewsbury 4500 Shrewsbury	Rt Rt Rt Rt Rt Rt Rt Rt Rt Rt Rt Rt Rt Lt Lt Lt Lt Lt Lt Lt	12 12 12 10 10 18 42 12 45 20 26 20 20 70			7502 Arlington4405 Shrewsbury4405 Shrewsbury7505 Lansdowne7505 Lansdowne7500 Lansdowne7501 Devonshire7501 Murdoch (office building)7419 Murdoch (apartment building)7424 Devonshire7425 Devonshire4500 ShrewsburyShrewsbury Ave at BNSF Rail Overpass4118 Carr Lane (opposite Arlington)	Rt Rt Rt Rt Rt Rt Lt	$\begin{array}{c c} 11' x 6' \\ 11' x 6' \\ 12' x 6' \\ 12' x 6' \\ 2- (11' x 6') \\ 3- (11' x 6') \\ 3- (11' x 6') \\ 11' x 6' \\ 12' x 6' \\ 2- (12' x 6') \end{array}$	7.3located in turn lane7.3located in curb lane; also R&R 6 LF integral curb8.0located in turn lane7.3located in through lane14.72 sections; located in through lane7.3located in through lane7.3located in through lane22.03 sections; located in through lane14.72 sections; located in through lane22.03 sections; located in through lane6.016.02 sections; located in through lane8.0located in curb lane; also R&R 6 LF integral curb16.02 sections; located in through lane
4111 Shrewsbury 4115 Shrewsbury 4117 Shrewsbury 4119 Shrewsbury 7502 Arlington 4401 Shrewsbury 4405 Shrewsbury 7500 Lansdowne 7501 Devonshire 7501 Devonshire 7501 Murdoch 19 Murdoch (apartment building) 7424 Devonshire 4504 Shrewsbury	Rt Rt Rt Rt Rt Rt Rt Rt Rt Rt Rt Rt Rt It It It It It It It	12 12 12 10 10 18 42 12 45 20 26 20 26 20 70 20 10			7502 Arlington4405 Shrewsbury4405 Shrewsbury7505 Lansdowne7505 Lansdowne7500 Lansdowne7501 Devonshire7501 Murdoch (office building)7419 Murdoch (apartment building)7424 Devonshire7425 Devonshire4500 ShrewsburyShrewsbury Ave at BNSF Rail Overpass4118 Carr Lane (opposite Arlington)4118 Carr Lane (opposite 4115 Shrews.)	Rt Rt Rt Rt Rt Rt Lt Lt Lt Lt Lt Lt Lt Lt Lt	11'x 6' 11'x 6' 12'x 6' 11'x 6' 2- (11'x 6') 3- (11'x 6') 2- (11'x 6') 3- (11'x 6') 3- (11'x 6') 11'x 6' 11'x 6' 11'x 6' 11'x 6' 2- (11'x 6') 11'x 6' 11'x 6' 11'x 6' 11'x 6' 11'x 6' 12'x 6'	7.3located in turn lane7.3located in curb lane; also R&R 6 LF integral curb8.0located in turn lane7.3located in through lane14.72 sections; located in through lane7.3located in through lane7.3located in through lane22.03 sections; located in through lane14.72 sections; located in through lane22.03 sections; located in through lane6.010 cated in curb lane; also R&R 6 LF integral curb16.02 sections; located in through lane8.0located in curb lane; also R&R 6 LF integral curb8.0located in curb lane; also R&R 6 LF integral curb
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		ties to be determined by the Engineer. To include sawcutting.				e determined by the Engineer. To include sa		FEDERA ST
LOCATION	SIDE (<u>Rt / Lt)</u>	QUANTITY REMARKS S.Y. (0.1)		LOCATION	SIDE (Rt / Lt)	QUANTITY L.F. (1)	REMARKS	E-W G
					((((1-1))			
4015 Shrewsbury	Rt	8.9 20' x 4'		7500 Lansdowne	Rt	en la construction de la	concrete base replacement	MSD:
4111 Shrewsbury	Rt	7.1 16'x 4'		4500 Shrewsbury (at Lansdowne)	Lt		concrete base replacement	MSD BA
7500 Lansdowne 00 Shrewsbury (Lansdowne side)	Rt Rt	3.6 8' x 4' 12.0 27' x 4'		7404 Sutherland 7404 Sutherland	Lt Lt		concrete base replacement concrete base replacement	
7424 Lansdowne	Rt	5.3 12' x 4'		4118 Carr Lane (opposite 7504 Suffolk)	L. L		concrete base replacement; 3 sections (15' + 15' + 12')	
7422 Lansdowne	Rt	6.7 15' x 4'		4118 Carr Lane (opposite Arlington Ave.)	Lt		concrete base replacement	
7418 Lansdowne	Rt	4.4 10' x 4'		Shrewsbury at Suffolk	Rt		joint repair	Z
7412 Lansdowne	Rt	2.7 6' x 4'		7502 Suffolk	Rt		joint repair	- JTG
7404 Lansdowne 7402 Lansdowne	Rt Rt	6.7 15' x 4' 4.4 10' x 4'		4117 Shrewsbury 4121 Shrewsbury	Rt Rt		joint repair joint repair	SCR
7340 Lansdowne	Rt	2.7 6'x4'		Shrewsbury at Arlington	Rt		joint repair	DES
7330 Lansdowne	Rt	2.7 6' x 4'		7502 Arlington	Rt	ter and the second state of the	joint repair	NOI
7326 Lansdowne	Rt	6.7 15' x 4'		4405 Shrewsbury	Rt		joint repair	EVIS
7318 Lansdowne	Rt	6.2 14' x 4' 2.7 6' x 4'		Shrewsbury Ave at BNSF Rail Overpass			joint repair	<u> </u>
7310 Lansdowne 7306 Lansdowne	Rt Rt	2.7 6' x 4' 2.7 6' x 4'		4118 Carr Lane (opposite 4115 Shrews.) 4118 Carr Lane (opposite 4107 Shrews.)	Lt Lt		joint repair joint repair	
7250 Lansdowne (gas station)	Rt	3.3 6' x 5'		4118 Carr Lane (opposite 4101 Shrews.)	Lt.		joint repair	B
7307 Lansdowne	Lt	8.0 18' x 4'		4118 Carr Lane (opposite 4009 Shrews.)	Lt		joint repair	ATE
7321 Lansdowne	Lt	2.7 6' x 4'		4118 Carr Lane (opposite 7504 Suffolk)	Lt	and the second	joint repair	
7323 Lansdowne	Lt	8.0 18' x 4' 2.7 6' x 4'		4118 Carr Lane (opposite 7502 Suffolk)			joint repair (2 - 6' sections)	
7401 Lansdowne	Lt	2.7 6' x 4'		4118 Carr Lane (opposite Suffolk Ave) 4400 Shrewsbury (police station)	Lt Lt		joint repair joint repair (2 - 6' sections)	
TOTAL		110.2		יויס טוודעישוויט טוויט טוויט טידד טוויט טידד טוויט טוויט טידד א טיוטט טידע טיזיע איז א טיוטט טיזיע איז א טיוטט			ישטער באמו (ב - ט פרטוטווס)	pe e
				TOTAL		257		
		DOMES FOR CURB RAMPS (New Construction)						IMEF NSIB ntene
	SIDE	determined by the Engineer. To include sawcutting & thickened areas. QUANTITY REMARKS	612-60.92			W PANEL, TYPE "B" (NOISELESS), REN tions & quantities to be determined by the E		SPO V spe
	(Rt / Lt)	<u>S.F. (1)</u>		LOCATION	SIDE		REMARKS	
					<u>(Rt / Lt)</u>	EACH		
Shrewsbury at Murdoch	Rt	30 for island reconstruction, northwest quadrant; 3 - 2' x 5'						
TOTAL		30		Shrewsbury Ave / Lansdowne Ave	Rt / Lt	4		and A
	1			TOTAL				
	C	URB & GUTTER, MOUNTABLE (6")						
		be determined by the Engineer. To include sawcutting as needed.	613-10.18		in the second	PAIR - TRANSVERSE, HIGH EARLY STR		
LOCATION	SIDE	QUANTITY REMARKS			in the many second s	etermined by the Engineer. Includes all item		4460
	(<u>Rt / Lt</u>)	<u> </u>		LOCATION	SIDE (<u>Rt / Lt)</u>	DIMENSIONS QUANTITY (L.F. x L.F.) S.Y. (0.1)	REMARKS	
sdowne east of Shrewsbury (park)	Lt	200 for shoulder upgrades			<u>(KU E</u> 9	<u>(L.r. X L.r.)</u> <u>5.1. (0.1)</u>		DATE:
				Shrewsbury at Suffolk	Rt	11'x 6' 7.3 loc	ated at SW radius in curb lane; also R&R 6 LF integral curb	
TOTAL		200		7502 Suffolk	Rt		ections; located in curb lane; also R&R 12 LF integral curb	
REM	OVE & REPLACE CUF	RB & GUTTER (VARIOUS WIDTHS), VERTICAL, MOUNTABLE		4009 Shrewsbury 4101 Shrewsbury	Rt Rt		ated in turn lane ated in through lane	Z
		er. To include sawcutting, excavation, and aggregate base. Includes R&R of entire C&G section.		4105 Shrewsbury	Rt		ated in through lane	
LOCATION	SIDE	QUANTITY REMARKS		4117 Shrewsbury	Rt		ated in curb lane; also R&R 6 LF integral curb	
	(Rt / Lt)	<u>L.F. (1)</u>		4117 Shrewsbury	Rt		ated in through lane	SIGN SIGN
7502 Suffolk	Rt	25		4121 Shrewsbury	Rt		ated in curb lane; also R&R 6 LF integral curb	DE
4111 Shrewsbury	Rt			Shrewsbury at Arlington 7502 Arlington	Rt Rt		ated in curb lane; also R&R 6 LF integral curb ated in curb lane; also R&R 6 LF integral curb	EPA
4115 Shrewsbury	Rt	12		4405 Shrewsbury	Rt		ated in turn lane	Ha
4117 Shrewsbury	Rt			4405 Shrewsbury	Rt	11' x 6' 7.3 loc	ated in curb lane; also R&R 6 LF integral curb	
4119 Shrewsbury 7502 Arlington	Rt Rt	10 18		7505 Lansdowne	Rt		ated in turn lane	
4401 Shrewsbury	Rt	10 42		7505 Lansdowne 7500 Lansdowne	Rt Rt		ated in through lane ections; located in through lane	Sil
4405 Shrewsbury	Rt	12		7500 Lansdowne 7501 Devonshire	Rt		ated in through lane	
7500 Lansdowne	Rt	45		7501 Murdoch (office building)	Rt		ections; located in through lane	
7501 Devonshire	Rt	20		7419 Murdoch (apartment building)	Lŧ	2- (11' x 6') 14.7 2 s	ections; located in through lane	
7501 Murdoch 19 Murdoch (apartment building)	Rt Lt	26 20		7424 Devonshire	Lt		ections; located in through lane	
7424 Devonshire	Lt	20 70		7425 Devonshire 4500 Shrewsbury	Lt Lt		ections; located in through lane ated in through lane	
4504 Shrewsbury	Lt	20		Shrewsbury Ave at BNSF Rail Overpass	Lt		ated in curb lane; also R&R 6 LF integral curb	
4500 Shrewsbury	Lt			4118 Carr Lane (opposite Arlington)	Li	2- (12' x 6') 16.0 2 s	ections; located in through lane	
500 Shrewsbury (police station)	Lt	<u>40</u> 12		4118 Carr Lane (opposite 4115 Shrews.)	Lt		ated in curb lane; also R&R 6 LF integral curb	
7404 Sutherland (parking lot) Carr Lane (Laclede Gas Complex)		12 70		4118 Carr Lane (opposite 4115 Shrews.)			ated in through lane	
	Lt	15		4118 Carr Lane (opposite 4107 Shrews.) 4118 Carr Lane (opposite 4101 Shrews.)	Lt Lt		ated in curb lane; also R&R 6 LF integral curb ated in curb lane; also R&R 6 LF integral curb	AVENUE
Carr Lane (Laclede Gas Complex)	Lt	6		4118 Carr Lane (opposite 4101 Shrews.)	Lt.	na se	ections; located in through lane	
Carr Lane (Laclede Gas Complex)	<u>Lt</u>	9		4118 Carr Lane (opposite 4009 Shrews.)	Lt	12' x 6' 8.0 loc	ated in turn lane	NNE NIE
Carr Lane (Laclede Gas Complex) Carr Lane (Laclede Gas Complex)	Lt Lt	9 10		4118 Carr Lane (opposite 4009 Shrews.)	L	and a straight for a straight for a straight for the straight of a straight	ated in curb lane; also R&R 6 LF integral curb	
Carr Lane (Laclede Gas Complex) Carr Lane (Laclede Gas Complex) Carr Lane (Laclede Gas Complex)	(a) a second of the state of the second second to	10 20		4118 Carr Lane (opposite 7504 Suffolk)	Lt.		ated in curb lane; also R&R 6 LF integral curb	 ରୂଠ
Carr Lane (Laclede Gas Complex) Carr Lane (Laclede Gas Complex) Carr Lane (Laclede Gas Complex) Carr Lane (Laclede Gas Complex)	and a superior of the second secon	en e		4118 Carr Lane (opposite 7502 Suffolk)4118 Carr Lane (opposite 7502 Suffolk)	Lt Lt		ections; located in through lane ated in curb lane; also R&R 6 LF integral curb	
Carr Lane (Laclede Gas Complex) Carr Lane (Laclede Gas Complex) Carr Lane (Laclede Gas Complex)	Lt Lt	50			Lt		ated in curb lane; also R&R 6 LF integral curb	SHREWSBI
Carr Lane (Laclede Gas Complex) Carr Lane (Laclede Gas Complex) Lansdowne Ave	Lt Lt Rt	1,498 R&R all curb & gutter; south side of Lansdowne		4118 Carr Lane (opposite 7502 Suffolk)				」 II よー
Carr Lane (Laclede Gas Complex) Carr Lane (Laclede Gas Complex)	Lt Lt			4118 Carr Lane (opposite 7502 Suffolk) 4118 Carr Lane (opposite Suffolk Ave)	Lŧ	18' x 6' 12.0 loc	ated in curb lane; also R&R 6 LF integral curb	
Carr Lane (Laclede Gas Complex) Carr Lane (Laclede Gas Complex) Lansdowne Ave Lansdowne Ave	Lt Lt Rt	1,498 R&R all curb & gutter; south side of Lansdowne 1,241 R&R all curb & gutter; north side of Lansdowne		4118 Carr Lane (opposite Suffolk Ave)	Lt		ated in curb lane; also R&R 6 LF integral curb	
Carr Lane (Laclede Gas Complex) Carr Lane (Laclede Gas Complex) Lansdowne Ave	Lt Lt Rt	1,498 R&R all curb & gutter; south side of Lansdowne			Le	18' x 6' 12.0 loc 368.6	ated in curb lane; also R&R 6 LF integral curb	
Carr Lane (Laclede Gas Complex) Carr Lane (Laclede Gas Complex) Lansdowne Ave Lansdowne Ave	Lt Lt Rt	1,498 R&R all curb & gutter; south side of Lansdowne 1,241 R&R all curb & gutter; north side of Lansdowne		4118 Carr Lane (opposite Suffolk Ave)	L		ated in curb lane; also R&R 6 LF integral curb	

ITEM NUMBER 613-10.90, JOINT REPAIR - TRANSVERSE, TYPE III CEMENT W/ ACCELERATOR, 8.5 SACK HAS BEEN REPLACED WITH ITEM NO. 613-10.91, JOINT REPAIR - TRANSVERSE, VERY EARLY STRENGTH PER ADDENDUM NO. 2.

SHEET SEQUENCE: 6A OF 39

	Exact locations <u>LOCATION</u>	SIDE	etermined by the Engir	eer. Includes al	l items as described in JSP 1100.70.8 REMARKS	904-85.05		OR LOOP, #14 GAUGE, 1 CO Exact locations & qu	
		<u>(Rt / Lt)</u>	<u>(L.F. x L.F.)</u>	<u>S.Y. (0.1)</u>			LOCATION	SIDE (Rt / Lt)	
	4400 Shrewsbury (police station) 4400 Shrewsbury (police station)	Lt Lt	9' x 6' 15' x 6'	6.0 10.0	located in curb lane; also R&R 6 LF integral curb		Shrewsbury Ave / Lansdowne Ave	Rt/Lt	
	4400 Shrewsbury (police station)	Lf	13 x 8 12' x 6'	8.0	located in through lane located in curb lane; also R&R 6 LF integral curb		Shrewsbury Ave / Lansdowne Ave		
	4118 Carr Lane (opposite 4117 Shrews.) 3920 Shrewsbury / 3640 Big Bend	Lt Lt	12' x 6' 12' x 6'	8.0 8.0	located in through lane located in through lane (opposite 3917 Shrewsbury)		TOTAL		
	3920 Shrewsbury / 3640 Big Bend	Lt	18' x 6'	12.0	located in through lane (opposite 3917 Shrewsbury)	904-85.06	CABLE	DETECTOR LOOP, #14 GAUG	GE, 1 C
	TOTAL			52.0				Exact locations & qu	the second s
803-45.02			STRIP SOI				LOCATION	SIDE (Rt / Lt)	
			ons & quantities to be	determined by f	the Engineer.				
	LOCATION	SIDE (Rt / Lt)		QUANTITY S.Y. (1.0)	REMARKS		Shrewsbury Ave / Lansdowne Ave	Rt/Lt	
	Shrewsbury Ave / Lansdowne Ave	Rt / Lt					TOTAL		
		NU/LU		1,120		904-85.18	CABLE. PUSI	BUTTON AND/ OR DETECT	TOR L
	ΤΟΤΑL			1,120				Exact locations & qu	
904-24.01			IGNAL HEAD, TYPE		二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十二十		LOCATION	SIDE (Rt / Lt)	
	LOCATION	SIDE	ons & quantities to be		REMARKS				
		<u>(Rt / Lt)</u>		EACH			Shrewsbury Ave / Lansdowne Ave	Rt/Lt	
	Shrewsbury Ave / Lansdowne Ave	Rt / Lt		24			TOTAL		
	TOTAL			24		904-91.73		DAO	F T \/F
904-28.10	POST SIG		EDESTAL BASE AN	DPOSTCAD	IO' TOTAL HEIGHT, ALUMINUM			Exact locations & qu	E, TYP
		Exact locati	ons & quantities to be	determined by t	he Engineer.		LOCATION	SIDE	
	LOCATION	SIDE (Rt / Lt)		QUANTITY EACH	REMARKS			<u>(Rt / Lt)</u>	
	Shrewsbury Ave / Lansdowne Ave	Rt/Lt		7			Shrewsbury Ave / Lansdowne Ave	Rt/Lt	
		NU/LI		1			TOTAL		
	TOTAL			7		904.05.10			
904-49.20			, PEDESTRIAN PUSH			904-95.10		OPENING DRILLED Exact locations & qu	
	LOCATION	SIDE	ons & quantities to be		REMARKS		LOCATION	SIDE	
		<u>(Rt / Lt)</u>		EACH				<u>(Rt / Lt)</u>	
	Shrewsbury Ave / Lansdowne Ave	Rt / Lt		24			Shrewsbury Ave / Lansdowne Ave	Rt/Lt	
	TOTAL			24			TOTAL		
904-51.00			CONDUI	r 4"					
		and the second	ons & quantities to be	determined by t		904-95.31		ADJUSTME Exact locations & qu	
	LOCATION	<u>SIDE</u> (<u>Rt / Lt)</u>		QUANTITY L.F. (1)	REMARKS		LOCATION	SIDE	
	Shrewsbury Ave / Lansdowne Ave	Rt/Lt		23				<u>(Rt / Lt)</u>	
		1.1.7 - 1.4.					Shrewsbury at Arlington	Rt	
904-52.00	TOTAL		CONDUIT	23 Г, 2"			TOTAL		
		Exact location	ons & quantities to be	determined by t					
		(<u>Rt / Lt</u>)		<u>L.F. (1)</u>	REMARKS	904-95.40		ADJUSTME Exact locations & qua	
	Shrewsbury Ave / Lansdowne Ave	Rt / Lt		89			LOCATION	SIDE	
	TOTAL			89				<u>(Rt / Lt)</u>	
							Shrewsbury at Sutherland	Rt	
904-74.99					ING CABLE, REPAIR/ REPLACE CONDUIT, OR PAVEMENT REMOVAL AND REPLACEMENT)		Shrewsbury at Devonshire Shrewsbury at Murdoch	Lt Lt	
		Exact location	ons & quantities to be	determined by t	he Engineer.		Shrewsbury at Murdoch	Rt	
		SIDE <u>(Rt / Lt)</u>		QUANTITY EACH	REMARKS		TOTAL		
	Shrewsbury Ave / Lansdowne Ave	Rt / Lt		1	As determined by the Engineer		· · · / L		
	TOTAL					904-97.42		REM Exact locations & qua	OVAL
	· • • • • • • • • • • • • • • • • • • •						LOCATION	SIDE	
904-83.05			E, SIGNAL, #14 GAU					<u>(Rt / Lt)</u>	
	LOCATION	SIDE (Rt / Lt)		QUANTITY	REMARKS		Shrewsbury Ave / Lansdowne Ave	Rt/Lt	
				<u>L.F. (1.0)</u>			TOTAL		
	Shrewsbury Ave / Lansdowne Ave	Rt / Lt		840			IV IЛЕ		
Ē	TOTAL			840		904-98.60		RELOCATIO Exact locations & qua	
904-84.00			RE, STRANDED GRO				LOCATION	SIDE	
	LOCATION	Exact location	ons & quantities to be o	determined by the QUANTITY	ne Engineer. REMARKS			<u>(Rt / Lt)</u>	
		<u>(Rt / Lt)</u>		L.F. (1.0)			Shrewsbury Ave / Lansdowne Ave	Rt/Lt	
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	TOTAL						TOTAL		
- - - -	ale se la calencia d <b>u l'Al</b> e tar Section de Section de Calencia de Ca			160		904-98.70		RELOCATIO	
							그는 그는 것 같은 것 같	and the second	antiti-
							LOCATION	Exact locations & qua	
ITEM NUM	IBER 613-10.17, JOINT REPAIF		•	•			LOCATION	SIDE (Rt / Lt)	
ITEM NUM HAS BEEN	IBER 613-10.17, JOINT REPAIF	613-10.18, JOI	NT REPAIR - T	RANSVER	SE, HIGH EARLY STRENGTH AND		LOCATION Shrewsbury Ave / Lansdowne Ave	SIDE	

	(ET (IN CONDUIT AND PULL BOXES)						10.
ANTITY	he Engineer. REMARKS		EDEF	AR-	ROJE	CT N	О.
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the second s	E JACKET (IN SAWED SLOT) ne Engineer.		SD B	ASE N J-22	/AP: 2, J-2	23	
ANTITY	REMARKS			5			
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	UGE, 2 CONDUCTOR (SHIELDED) ne Engineer.	REVISIONS		AC			
ANTITY	REMARKS	RE	APP.				
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RETE	ie Engineer	ľ	·		<u>.                                     </u>	بة ^م و	e survey
ANTITY	ne Engineer. <u>REMARKS</u>		at the	seal are t, and I v	Il other ations,	s or oth uments led to b	of the t or sur
ACH		DISCLAIMER O	hereby specify that the documents intended to	authorized by my seal are limited to this sheet, and I hereby disclaim any	responsibility for all other Drawings, Specifications	Estimates, Reports or other documents or instruments relating to or intended to be	used for any part of the engineering project or s
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<u>ACH</u>			NO	H BLVD. RI 63132	<u>}</u>	JOSEPH FAUKE	700278
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PULL B		REPARED BY:	DE	1050 N. LINDBERGH BLVD ST. LOUIS, MISSOURI 6313		DANIEL	PROFESSIONAL ENGINEER LICENSE NO. 2007002782
ned by th	e Engineer. REMARKS	PRE		0, <u> </u>			
<u>ACH</u>					2	LPG	
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1 1	for ramp reconstruction, NE corner for ramp reconstruction, NE corner	.				о, D.П.	ector
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4			う			Sheryl L. Hodges, D.E., I	
IEAD	e Engineer.					She	
NTITY	e Engineer. <u>REMARKS</u>		 			S	
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May 16, 2014

# ADDENDUM FAX COVER LETTER

# ADDENDUM NO. 2

FROM: <u>St. Louis County Department of Highways and Traffic</u>

RE: <u>Shrewsbury Avenue-Lansdowne Avenue Infrastructure</u> <u>St. Louis County Project No. AR-1388</u> <u>Federal Project No. STP-4901(635)</u>

DATE:_____ TIME: _____

NUMBER OF PAGES (Including Cover Letter): Thirty (30)

IF YOU DO NOT RECEIVE ALL PAGES, CALL (314) 615-8543.

PLEASE DELIVER TO RECIPIENT AS SOON AS POSSIBLE.

# UPON RECEIPT OF THIS FAX TRANSMISSION, <u>PLEASE</u> <u>SIGN AND DATE</u> (IN THE INDICATED LOCATIONS BELOW), AND <u>FAX THIS ACKNOWLEDGEMENT TO</u> <u>THIS DEPARTMENT AT 615-8194</u> (Attn: DESIGN DIVISION) TO VERIFY RECEIPT

COMPANY	
RECEIVED BY	
DATE	