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INDUSTRIAL MEASUREMENT SPECIALISTS

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December 28, 2016

City of Lee's Summit, Missouri
Department of Public Works
220 Southeast Green Street
Lee's Summit, Missouri 64063

Attention: Mr. Kevin York, P.E.

RE: Survey Proposal, Design Survey, Small Sewer Main Replacement Program, Project No. 34031783-C, Various Locations in Lee's Summit, Jackson County, Missouri

Dear Mr. York:

As you requested, we have reviewed the above project and do hereby propose to provide the surveying services needed for the design of sewer main replacements at twenty locations in Lee's Summit, according to the requested services described in your proposal dated December 14, 2016.

Based on the rate of charges in our current on call contract we estimate the cost to provide these services to be between \$32,000.00 and \$34,000.00. We propose to invoice you for the amount of time spent on the surveys, at the rates contained in the current contract, subject to the above maximum cost of \$34,000.00. Our current schedule should allow us to complete these surveys within approximately six to eight weeks of your notification to proceed. The estimated costs for each project are shown on the attached sheet.

Should you have any questions or need additional information, please feel free to call.

Sincerely,

James S. Anderson, President
ANDERSON SURVEY COMPANY, INC.

JSA:dja

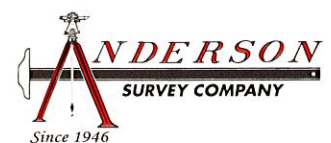
Estimated Costs for Design Surveys for Small Main Replacement Program
Project No. 34031783-C

Project No. 1 North of Maggie Street east of Douglas	\$2,350.00
Project No. 2 First Street and Madison	\$1,100.00
Project No. 3 Maple and Ward	\$2,600.00
Project No. 4 North of Maggie Street west of Green	\$2,200.00
Project No. 5 Beacon Street South of Orchard	\$2,300.00
Project No. 6 Madison and Monroe Alley	\$2,100.00
Project No. 7 Independence and 3 rd Terrace	\$2,300.00
Project No. 8 Short and Eastridge	\$1,500.00
Project No. 9 Johnson and Beacon	\$1,800.00
Project No. 10 Independence and Morningside	\$2,300.00
Project No. 11 Ward Road and Lea	\$3,100.00
Project No. 12 Oldham Parkway	\$1,250.00
Project No. 13 Blue Parkway	\$900.00
Project No. 14 4th Street Terrace and Walnut	\$900.00
Project No. 15 North of 4 th Street Terrace west of Walnut	\$1,500.00



Estimated Costs for Design Surveys for Small Main Replacement Program
Project No. 34031783-C (continued)

Project No. 16 East of 801 SE Miller	\$1,500.00
Project No. 17 9 th Street and Miller	\$1,300.00
Project No. 18 Miller north of 9 th Street	\$1,100.00
Project No. 19 9 th Street west of Miller	\$1,100.00
Project No 20 Langsford and Ridgeview	\$800.00
Total Estimated Cost	\$34,000.00



Project 34031783-C FY16 Small Main Replacement Program: Survey Request
By Kevin York, Senior Staff Engineer, City of Lee's Summit Public Works Department

Limits of the proposed Sanitary Sewer Main replacements:

1. Segment 46859 from 30-038 to 30-001CO. Beginning at manhole 30-038 located in the corner of the driveway at 103 NE Maggie Street shoot the top and flowlines of the manhole. Shoot the top and flowlines of the manholes east and west of manhole 30-038. Continue surveying to the north. Survey a strip of land 80 feet wide centered on the property lines between the homes on NE Douglas and NE Meadow Lane from the southern right of way line on NE Maggie Street to the southern property line of Lea McKeighan Park. Structure 30-001CO is buried. Coordinate with the Lee's Summit Water Utilities (LSWU) Department to pothole the upstream end of the sewer so the end of the sewer can be surveyed. Also coordinate with LSWU to pothole the water main crossing on the north side of NE Maggie Street so the top of the water main and the sewer can be surveyed.
2. Segment 47018 from 30-226 to 30-227. Beginning at manhole 30-227, survey a strip of land 30 feet wide centered along segment 47018 to a point 15 feet north of manhole 30-226. Shoot the top and flowlines of the manholes. Coordinate with LSWU to pothole two locations where water mains cross the sewer so the top of the water mains can be surveyed. The water mains are under pavement so some pavement restoration will be needed.
3. Segment 47024 from 30-232 to 30-233. Beginning at the centerline of NE Ward Road, survey a strip of land 30 feet wide along the north side of segment 47020 and a strip of land 20 feet wide along the south side of segment 47020 for a total width of 50 feet. Survey a strip of land 20 feet wide from manhole 30-233 south to the northern edge of curb on NW Maple Street between the two houses at 1008 NW Maple Street and 1006 NW Maple Street. Coordinate with LSWU to pothole the water main crossing the sewer east of manhole 30-232 so the top of the water main can be surveyed. Shoot the end of the storm pipe located east manhole 30-232.
4. Segment 50952 from 30-333 to 30-334. Beginning at manhole 30-333 located at the south edge of pavement of NE Maggie Street, shoot the top and flowlines of the manhole. Shoot the top and flowlines of the manholes east and west of manhole 30-333. Continue surveying to the north. Survey a strip of land 80 feet wide centered on the property lines between the homes on NE Meadow Lane and NE Green Street from the southern right of way line on NE Maggie Street to the southern property line of Lea McKeighan Park. Structure 30-334 is buried. Coordinate with LSWU to pothole the upstream end of the sewer so the end of the sewer can be surveyed. Also coordinate with LSWU to pothole the water main crossing on the north side of NE Maggie Street so the top of the water main and the sanitary sewer can be surveyed.
5. Segment 53537 from 30-077 to 30-054. Beginning at the western right of way line of NE Beacon Drive and centered along the property line separating 301 NE Orchard Street and 403 NE Beacon Avenue, survey a strip of land 80 feet wide to the eastern property line of 307 NE Orchard Street. Shoot the top and flowlines of manhole 30-077. Manhole 30-054 cannot be located. Water Utilities will pothole the sewer to determine the upstream end of the sewer. The segment may extend farther east

of what is indicated by City GIS data. Shoot the upstream end of the sewer when it is located. Shoot the top and flowlines of manhole 30-077.

6. Segment 75392 from 30-227 to 30-277. Beginning at MH 30-227, survey a strip of land 30 feet wide to a point 30 feet south of manhole 30-277. Shoot the top and flowlines of both manholes. The Butterfields Addition plat shows the alley is 20 feet wide. Survey from the western boundary of the alley to 30 feet east of the boundary.

7. Segment 44054 from 31-289 to 31-290. Beginning at the east curb of SE Independence Avenue centered on the property lines between the homes on SE 3rd Terrace and SE Morningside Drive, survey a strip of land 80 feet wide east to the eastern property line of 609 SE 3rd Terrace. Shoot the top and flowlines of manhole 31-289. Structure 31-290 is buried. Coordinate with the LSWU to pothole the upstream end of the sewer so the end of the sewer can be surveyed.

8. Segment 47202 from 31-181 to 31-154. Beginning 30 feet south of manhole 31-181, survey a strip of land extending 20 feet west of the western edge of pavement of NE Eastridge Street and 10 feet east of the western edge of pavement of NE Eastridge Street for a total width of 30 feet. Continue surveying north to the northern edge of pavement of the intersection of NE Short Street and NE Eastridge Street. Shoot the tops and flowlines of the sewer manholes and the flowlines of the storm pipe crossing NE Short Street. Coordinate with LSWU to pothole the water main crossing on the South side of NE Short Street so the top of the water main can be surveyed. The water main is under pavement so some pavement restoration will be needed.

9. Segment 53525 from 31-185 to 31-183. Beginning 10 feet southeast of manhole 31-185, survey a strip of land 80 feet wide centered along segment 53525 to the concrete storm channel near manhole 31-183. Shoot the tops and flowlines of both manholes. Also shoot the top and flowlines of manhole 31-182.

10. Segment 53529 from 31-311 to 31-399. Beginning at the east curb of SE Independence Avenue centered on the property lines between the homes on SE Morningside Drive and SE 4th Street, survey a strip of land 80 feet wide east to the eastern property line of 609 SE Morningside Drive. Shoot the top and flowlines of manhole 31-311. Structure 31-399 is buried. Coordinate with the LSWU to pothole the upstream end of the sewer so the end of the sewer can be surveyed.

11. Segments 48894 and 48895 from 38-004 to 38-001CO. Beginning at the northern curb of SW Lea Drive, survey a strip of land 80 feet wide centered along the eastern property lines of the properties from 609 to 709 SW Ward Road continuing north to the southern property line of 607 SW Ward Road. The upstream end of the sewer is buried. Coordinate with LSWU to pothole the upstream end of the sewer so the end of the sewer can be surveyed. GIS data indicate the sanitary sewer ends near the southern property line of 607 B SW Ward Road. It is not known if the sanitary sewer extends farther north connecting to more properties. Shoot the tops and flowlines of the two manholes in the survey area. Shoot the western edge of the concrete storm channel. Do not shoot the bottom of the channel or any property east of the channel.

12. Segment 48999 from 38-116 upstream to the end of the sewer. Beginning 10 feet southeast of manhole 38-116, survey a strip of land 50 feet wide centered along sewer segment 48999. Continue surveying northwest to the northwestern property line of 813 SW Oldham Parkway. The upstream end of the segment is buried. Coordinate with LSWU to pothole the upstream end of the sewer so the end of the sewer can be surveyed. GIS data indicate the segment ending about 120 feet northwest of manhole 38-116. Video inspection of the segment shows the segment ending about 246 feet upstream of manhole 38-116 which is near the northwestern property line of 813 SW Oldham Parkway. Shoot the top and flowlines of manhole 38-232.

13. Segment 49100 from 38-227 to 38-226. Beginning 10 feet southeast of manhole 38-227, survey a strip of land 20 feet wide southwest of the southern curb along the private street and a strip of land 10 feet northeast of the curb for a total width of 30 feet. Continue surveying northwest to a point 10 feet northwest of manhole 38-226. Shoot the tops and flowlines of both manholes.

14. Segment 49106 from 38-232 to 38-004CO. Beginning at manhole 38-232, survey a strip of land 30 feet wide centered along sewer segment 49106. Structure 30-001CO is buried. Coordinate with LSWU to pothole the upstream end of the sewer so the end of the sewer can be surveyed. Continue the survey to a point 10 feet southeast of the end of the sewer segment. Shoot the top and flowlines of manhole 38-232.

15. Segment 53443 from 38-232 to 38-005CO. Beginning at manhole 38-232, survey a strip of land 80 feet wide centered along the fence separating 600 and 604 SW 4th Terrace. Structure 30-001CO is buried. Coordinate with LSWU to pothole the upstream end of the sewer so the end of the sewer can be surveyed. Continue the survey to the southern property line of 314 SW Walnut Street.

16. Segment 47576 from 39-062 to 39-066. Beginning at manhole 390-062, survey a strip of land 80 feet wide to a point 10 feet northeast of manhole 39-062. Shoot the top and flowlines of both manholes. Coordinate with LSWU to pothole the water main crossing on the northeast side of SE Miller Street so the top of the water main and the sewer can be surveyed.

17. Segment 47577 from 39-070 to 39-069. Beginning 10 feet east of manhole 39-070, survey a strip of land 20 feet wide south of the southern curb along SE 9th Street and a strip of land 10 feet north of the curb for a total width of 30 feet. Continue surveying west to a point 10 feet west of manhole 39-069. Shoot the tops and flowlines of both manholes.

18. Segment 53155 from 39-066 to 39-067. Beginning 10 feet northwest of manhole 39-066, survey a strip of land 20 feet wide southwest of the western curb along SE Miller Street and a strip of land 10 feet northeast of the curb for a total width of 30 feet. Continue surveying southeast to a point 10 feet southeast of manhole 39-067. Shoot the top and flowlines of manhole 39-067.

19. Segment 75585 from 39-068 to upstream end of sewer segment. Beginning 10 feet northwest at manhole 39-068, survey a strip of land 60 feet wide centered along sewer segment 75585. The upstream end of the sewer segment is buried. Coordinate with LSWU to pothole the upstream end of

the sewer so the end of the sewer can be surveyed. Continue the survey to a point 10 feet southeast of the end of the sewer segment. Shoot the top and flowlines of manhole 39-068.

20. Segment 75534 from 31-205 to 31-477. Survey the tops and flowlines of both manholes.

Items to include in the survey:

- Shoot the curbs, pavement edges, street centerlines, drainage structures, inverts of storm pipes, sanitary sewer manholes, sanitary sewer pipe inverts, sidewalks, curb ramps, driveways, shrubs, trees, landscaping, fences, signs, poles, houses, buildings, sheds, mail boxes, playground equipment and swimming pools.
- For outside drop manholes, shoot the flowlines of the top and bottom pipe.
- Arrange for utilities to be marked and survey all utilities in the project limits. Shoot all utilities including service meters meters within the project limits.
- Include all right-of-way, property lines, and easements within the project limits.
- Set control points and benchmarks for each location.

Provide an Autocad drawing of the topography including 3-D contours and a triangular irregular network surface. Also provide a text file of the survey. Use a coordinate system that matches the City of Lee's Summit geographic information system. The plan sheets will be produced using a scale of 1 inch equals 20 feet.