

KCWater standard specifications dictate minimum standards required by KCWater for its projects. Section 01015 is intended to supplement the specifications, not lessen the requirements for quality, equipment, materials, deliverables, submittals, etc. Neither the Design Professional nor the KCWater project manager has the authority to change the minimum requirements of the standard specifications; either through this document, or through the substitution process during construction. If such changes are required, they must be approved by the Chief Engineering Officer.

This Section 01015 provides example language to compliment the technical specifications. Generally, this document provides supplementary language where the technical specifications refer to Section 01015 or where additional specification is needed for a project.

This language presented herein is intended to aid the Project Manager/Design Professional when completing the Contract Documents. It IS NOT the intent of this document to be all inclusive, to address all circumstances or to alleviate the Project Manager/Design Professional from reading and understanding the standard sections. It is the Project Manager/Design Professional's responsibility to provide a complete set of Contract Documents.

Within this section are notes to the Project Manager/Design Professional to aid in the completion of Section 01015. All notes/specifiers need to be deleted from the section by the Project Manager/Design Professional before the Contract Documents are issued for Bid. Yellow highlighted text requires action by the PM/Design Professional.

SECTION 01015 – SPECIFIC PROJECT REQUIREMENTS

PART 1 - GENERAL

1.01 SUMMARY

- A. This section covers the modification of specifications for this Project. Any specification that is modified for this Project is listed in Part 3 of this Section by Division. If the Division or specification is not included in this Section, then the Project specification in the Division remains intact.

1.02 SPECIFICATION MODIFICATIONS

- A. In the event Section 01015 – Specific Project Requirements conflicts with other project specifications of Divisions 01 through 06; the requirements of this Section shall govern.

The PM/Design Professional shall modify this list to include only the specifications modified by this Section for the Project. The list provided below is for example purposes only. Update the list and delete this note.

1.03 RELATED SECTIONS

- A. Section 01000 – General Project Requirements.

- B. Section 01300 – Submittals.
- C. Section 03362 – Manhole Rehabilitation.
- D. Section 03370 – Sanitary Sewer Manhole Construction.
- E. Section 05010 – Sanitary Sewer Manhole Castings.

1.04 QUALITY ASSURANCE

- A. The Contractor is responsible for the quality assurance and quality control of the Work.

1.05 INFORMATION PROVIDED BY THE CITY

- A. As provided in the Contract Documents.

1.06 DESCRIPTION OF PROJECT

- A. The work to be performed under these Contract Documents shall be consistent with Section 00700 - General Conditions in the construction, installation, and completion of all work required in connection with the **[insert project name as is appears in the Contract Documents]** in Kansas City, _____ County, Missouri.
- B. The work to be performed under these Construction Contract Documents is generally described as follows:
[Insert a general description of the project. Include key elements of the work and a description of the general boundaries]

1.07 CONTRACT DRAWINGS **(PM/DP – make certain 1.07 does not conflict with 00015)**

- A. The Drawings on which the Form 00412 Adjustment Unit Prices and Contract are to be based are entitled **[insert project name as is appears in the Contract Documents]**. The Drawings are to be supplemented by additional shop and dimension drawings of materials and equipment and other drawings where specified. The following drawings are included in the Drawings:

Drawing Number	Sheet Number	Title
[WSD Drawing #]	[X]	[Drawing Title]
[WSD Drawing #]	[X]	[Drawing Title]
[WSD Drawing #]	[X]	[Drawing Title]

1.08 MATERIALS FURNISHED BY THE CITY

Edit the following text as needed. If no equipment are materials are to be provided by the City, then leave in A.1. Otherwise, list items to be provided. Add additional detail as necessary.

- A. The City will provide the following equipment or materials to be used for the Project. All materials required to complete the Work in accordance with the Contract Documents shall be furnished, installed, and paid for by the Contractor.
 1. [No equipment or materials will be provided by the City]
 2. [Item 1]
 3. [Item 2]
 4. [Item 3]

1.09 SEQUENCE OF WORK

This section should not dictate means and methods for the Contractor unless necessary. List the general steps of the Work and identify those steps which must be completed in a specific order.

- A. Contractor shall proceed with the work in the following general sequence for each segment of work.
 - 1. Where excavation is required, call 1-800-DIGRITE or 811 to confirm location of underground utilities in accordance with Missouri One Call System requirements.
 - 2. [Step 1]
 - 3. [Step 2]

PART 2 – PRODUCTS

Not Used.

PART 3 – EXECUTION

3.01 DIVISION 1 – GENERAL REQUIREMENTS, SPECIFICATION MODIFICATIONS

A. **Division 1 – General Requirements is modified as follows: or No Modifications.**

B. Section 01000 – General Project Requirements is modified as follows:

By default, the specification is written so that the Contractor has to provide a Construction Site Plan. According to KC Water, the number one complaint from the community results from the Contractor's use of the right-of-way for the storage of vehicles, equipment and materials. The submittal of plan is intended to better plan and manage activities. It is strongly recommended that the requirement be left in, but not all projects will require such detailed planning.

Delete the following text if a Construction Site Plan is to be submitted.

- 1. In accordance with paragraph SUBMITTALS, the Contractor is not required to provide a Construction Site Plan.

C. Section 01020 – Record Documents.

CAD Standards: Record Drawings must to be returned to KC Water in a CAD format. The work will either be done by the Contractor or the Design Professional. This specification requires that CAD drawings conform to National CAD Standards. Since the Design Professional develops the initial CAD drawings for the project, then National CAD Standards must be followed by the Design Professional.

Edit following text based on the Contractor's responsibility to provide Conforming to Construction Drawings. Generally, the Contractor is to provide Conforming to Construction Drawings for Water Main Projects. For wastewater and stormwater projects, the Design Professional will be responsible.

- 1. Conforming to Construction Drawings:

2. The Contractor [shall] [shall not] be responsible for developing Conforming to Construction Drawings.
3. CAD files to be provided to the Contractor for the preparation of Conforming to Construction Record Drawings shall be in [describe in sufficient detail the version and format of the CAD files that will be provided]
4. CAD files to be provided to the Contractor for the preparation of Conforming to Construction Record Drawings shall be in [describe in sufficient detail the version and format of the CAD files that will be provided]

If applicable, list other record documents not discussed in Section 01020.

5. Other Record Documents:
6. [List Document]
7. [List document]
8. [List document]

D. Section 01300 – Submittals

1. Schedule of Values.

The following text came from a version of 01300 – Submittals that was previously used exclusively for water main projects. This part must be revised/edited for each project.

2. As provided in the General Conditions, and after review of the preliminary progress schedule at the preconstruction conference and before submission of the first Application for Payment, Contractor shall prepare and submit to City for review a Schedule of Values for the construction phases of the project. The Schedule of Values, showing the estimated quantity and value of each kind of work must be approved by City before any Application for Payment is prepared.
3. The Schedule of Values for the construction phase portion of the project shall include at least the following items:

ITEM	DESCRIPTION	UNIT	UNIT COST	TOTAL COST
1.	Mobilization	LS		
2.	16" DIP Class 54 Waterline w/Excavation & Backfill	Lin Ft		
3.	12" DIP Class 52 Waterline w/Excavation & Backfill	Lin Ft		
4.	8" DIP Class 52 Waterline w/Excavation & Backfill	Lin Ft		

ITEM	DESCRIPTION	UNIT	UNIT COST	TOTAL COST
5.	6" DIP Class 52 Waterline w/Excavation & Backfill	Lin Ft		
6.	4" DIP Class 52 Waterline w/Excavation & Backfill	Lin Ft		
7.	Bends w/ Backing Blocks – Specify size and degree	Each		
8.	Sleeves and Reducers – Specify size	Each		
9.	Tees w/ Backing Block – Specify size	Each		
10.	Straddle Blocks – Specify size of Main	Each		
11.	Water Service Lines	Lin Ft		
12.	Curb Stop Installation	Each		
13.	Meter Relocation	Each		
14.	Sewer Crossing	Each		
15.	Gas Line Crossing	Each		
16.	Fire Hydrant	Each		
17.	Flushing Assembly	Each		
18.	Riprap	Sq. Yd.		
19.	Street Pavement Removal & Replacement	Lin Ft		
20.	Asphalt Driveway Removal & Replacement	Lin Ft		
21.	Sidewalk Removal & Replacement	Lin Ft		
22.	Curb Removal & Replacement	Lin Ft		
23.	Seeding	LS		
24.	Sodding	LS		
25.	Landscaping	LS		
26.	Traffic Control	LS		
27.	Photographs	LS		
28.	SWPPP & Erosion Control	LS		
29.	Testing (by Segment) a. Segment X	LS		
30.	Disinfection (by Segment) a. Segment X	LS		
31.	Demobilization	LS		
32.	Permits	LS		
33.	Cleanup	LS		
34.	Allowance	LS		
35.	"As Built" Drawings & Project Record Documents	LS		

KC Water standard specifications place no restrictions or special requirement for work that impacts floodplains or wetlands. If there are project-specific requirements, then the Design Professional must provide the additional information either on the Drawings, in Section 01015, or both.

In order for the Contractor to meet the requirements of Temporary Environmental Protection, the Design Professional needs to show the limits of floodplains, floodways and wetlands on the Drawings.

4. In accordance with paragraph TEMPORARY ENVIRONMENTAL PROTECTION, the following restrictions shall apply to Work regarding wetlands:

- a. [Item]

- b. [Item]

5. In accordance with paragraph TEMPORARY ENVIRONMENTAL PROTECTION, the following restrictions shall apply to Work regarding floodplains:

- a. [Item]

- b. [Item]

KC Water projects often require the use of Public Work Department standard specifications and details. Section 01000 incorporates these documents by reference, but was written to be ambiguous. The Design Professional needs to provide instruction to the Contractor as to what Public Works standards or details are to be used for the project. It is recommended that these documents be physically incorporated into the Contract documents instead of making a reference to the Public Works Department's web page.

6. In accordance with paragraph APPLICABLE CODES, the following Public Works Department standard specifications are incorporated into this set of Contract Documents by reference:

- a. [Item]

- b. [Item]

7. In accordance with paragraph APPLICABLE CODES, the following Public Works Department standard details are incorporated into this set of Contract Documents by reference:

- a. [Item]

- b. [Item]

E. Preconstruction Conference.

The following text was deleted from the previous version of Section 01300. Because the language pertained to only water line projects, it was felt that the discussion was better placed in Section 01015. Edit the following as necessary.

1. Submittals Required for the Preconstruction Conference.
2. The following are the items requiring submittals by the Contractor at the preconstruction conference. Submittals shall indicate, but not be limited to, name of manufacturer, shop drawings, physical & chemical testing & certification, appurtenances used, etc.:

a. Water Project Submittals:

- (i) Ductile iron pipe, CL52 & CL54 with type of joint used.
- (ii) Polyethylene encasement.
- (iii) Mechanical Joint fittings (tees, cross, reducers, bends, plugs, anchor couples, etc.).
- (iv) Tapping sleeve and valve.
- (v) Restrained joints used (Mega-Lug, anchored coupling, push-on).
- (vi) Gate valve with base, lid and cover used in both traffic and non-traffic areas.
- (vii) Solid sleeve.
- (viii) Concrete mix (backing block, straddle block, encasement, etc.).
- (ix) Encasement.
- (x) Casing Pipe w/ spacers and end seals.
- (xi) Service Transfers:
 - i. Corporation stops.
 - ii. Dielectric insulating assembly.
 - iii. Copper service piping.
 - iv. Curb stopping with base, box and lid/cover.
 - v. Services coupling (new to existing).
- (xii) Testing and Disinfection:
 - i. Pressure testing procedure.
 - ii. Chlorination procedure.
 - iii. MSDS form.

a. Sanitary Sewer Submittals

- i. [List of Submittals]

a. Storm Sewer Submittals

- i. Pipe

- ii. PP
- iii. PVC
- iv. RCP
- v. HDPE
- vi. CCFRPM
- vii. Precast Structures
- viii. Castings:
 - a) Grate
 - b) Frame
 - c) Lid
- ix. Rip rap
- x. Blocks:
 - a) Concrete
 - b) Stone
 - c) Landscape
- xi. Geotextiles
- xii. Concrete mix
- xiii. HMA mix
- xiv. Bedding material
- xv. Backfill material
- xvi. Rolled Erosion Control Products
- xvii. Sod/seeding certification
- xviii. Erosion Control:
 - a) Gutter socks
 - b) Silt fence
- xix. Testing Lab

a. Facilities

- i. [List of Submittals]

3. The following is a list documents that are to be submitted in electronic and hard copy formats:

By default, Section 01300 requires documents to be submitted in an electronic format. All documents for which the KC Water requires a hard copy(s) should be listed here. Edit the following as applicable.

- a. Preliminary Project Schedule, submit one (1) copy.
- b. Project Baseline Schedule, submit one (1) copy.
- c. Progress Schedules, submit one (1) copy.
- d. Project Recovery Schedules (as applicable), submit one (1) copy.
- e. [Name of Document, Specification Section], submit [three (3)] [insert number] copies.

- f. [Name of Document, Specification Section], submit [three (3)] [insert number] copies.
- g. Documents that are to be submitted in hard copy format are to be delivered to the following:

Choose whether hard copies are to be delivered to KC Water or the Design Professional. Delete the contact that does not apply.

Water Services Department
4800 East 63rd Trafficway
Kansas City MO 64130-4626
United States of America
Attn: [Name of Project Manager]
Project Manager

OR

[Design Professional Firm]
[Street Address]
[City, State, Zip]
Attn: [Name of Project Manager]
[Title]

F. Section 01320 – Construction Progress Documentation

“Schedule Level” is defined in Section 01320, 1.04. The Project Manager (or OCP scheduler for OCP Projects) should determine the level of detail desired for the project.

Level 1: Like a basic schedule that would be submitted with a bid. This schedule level is not suitable for schedule management during construction, and should never be specified. Therefore, there is no selection option below.

Level 2: Generally, use for small projects with a duration of up to 90 calendar days.

Level 3: Use for projects with a duration of up to 364 calendar days or consider the complexity of the project.

Level 4: Use for projects with a duration of 365 calendar days or more.

Level 5: This level of detail is reserved for all Recovery Schedules. Do not specify a Level 5 for standard projects. Therefore, there is no selection option below.

Edit the following and select the desired level of effort for schedules.

1. In accordance with Section 01320, paragraph 1.06, Contractor shall provide a Schedule Level that meets the minimum requirements of a [Level 2 - Project Phase Summary Schedule] [Level 3 - Detail Schedule] [Level 4 - Detail Schedule by Work Package Level]
2. In accordance with Section 01320, paragraph 1.08, a Cost Correlation [is] [is not] a requirement of the Project.

In accordance with 01320, 1.09, the Design Professional should select the preferred schedule software. If there is no preference, then delete the following.

3. The Contractor shall prepare all schedules using [Primavera version P6 or higher] [Microsoft Project].

G. Section 01322 – Photographic Documentation

The principal reason for obtaining professional quality videos and/or photographs is to create a third-party record of existing features in and adjacent to the construction area, such as cracked curbs or driveways, plugged culverts, placement & condition of shrubs and turf, and other notable existing damage. This will, to some degree, reduce the possibility of post-construction litigation with property owners adjacent to the project work areas, as well as providing a visual aid in site restoration. For this reason, video recordings taken with smart phones or non-HD video cameras are generally not acceptable. KCWater should permanently retain all electronic (or hard-copy) photographs and/or video recordings.

All site conditions should be thoroughly documented prior to commencement of construction operations; Pre-Construction documentation should be produced prior to starting work, and after utility locations have been marked. The same general areas should be documented after completion of all construction activities; Post-Construction documentation should be produced after completion of the punch list items.

The Design Professional should coordinate with the City's Project Manager to define the requirements for Photographic Documentation. The standard specification is written for all types of photographic sets and deliverables. It is important to understand that without specific instruction provided in Section 01015, Section 01322 will only require the Contractor to provide Pre-Construction Photographs and Post-Construction Photographs

Schedule Notes: *The paragraphs regarding the schedule were left ambiguous. The language of different sections could impact the timing of the Project.*

- *Pre-construction photos must be taken after NTP.*
- *Pre-construction photos must be taken after utilities are marked.*
- *Section 01300 allows for 21 calendar days for KCWater to review and approve the photos and videos.*
- *No construction can start until the photographs are reviewed and approved.*

1. Scope

Preconstruction Video Notes: *The need for a pre-construction video should be determined by KCWater for each project. The Design Professional should coordinate language in Section 01015 with direction provided by KCWater*

Section 01322 is written so that by default, Contractor WILL NOT provide the Pre-Construction Video. If it is not desired, then Section 01015 must provide that direction. Delete the following if there are no changes to Section 01322.

2. A Pre-Construction Video [will] be required as part of the Project.

Haul Route Video Notes: *The need for a haul route video should be determined by KCWater for each project. The Design Professional should coordinate language in Section 01015 with direction provided by KCWater.*

Because haul route lengths can be extensive, the requirements for a Haul Route Video are not as stringent as those required for the Pre-Construction Video. They do not require a narrative, and the camera equipment can be mounted on a vehicle.

Section 01322 is written so that by default, Contractor WILL NOT provide the Haul Route Video. If it is not desired, then Section 01015 must provide that direction. Delete the following if there are no changes to Section 01322.

3. A Haul Route Video [will] be required as part of the Project.

Paragraph 3.05.C. leaves the schedule for the pre-construction photographs ambiguous. The language of different sections could impact the timing of the Project.

- Pre-construction photos must be taken after NTP.

- Pre-construction photos must be taken after utilities are marked.

- Section 01300 allows for 21 calendar days for review.

-No construction can start until the photographs are reviewed and approved.

The KCWater PM and the Design Professional will need to account for the schedules restraints if a Preconstruction Photographs is specified.

Preconstruction Photographs Notes: *Typically, preconstruction photographs are required. However, the need for a pre-construction photographs should be determined by KCWater for each project. The Design Professional should coordinate language in Section 01015 with direction provided by KCWater.*

Section 01322 is written so that by default, Contractor MUST provide the Pre-Construction Photographs. If it is not desired, then Section 01015 must provide that direction. Delete the following if there are no changes to Section 01322.

4. Pre-Construction Photographs [will not] be required as part of the Project.

Construction Progress Photographs Notes: *The requirement for Construction Progress Photos is new. These photos may have been previously taken by RPR, but there was no requirement for a professional photographer. The need for a pre-construction photographs should be determined by KCWater for each project. The Design Professional should coordinate language in Section 01015 with direction provided by KCWater.*

The reason to include Construction Progress Photographs in a project is the same reason for Pre-Construction Photographs. The photos are taken by a professional photographer, properly are logged, properly submitted and are certified as authentic. The formal process is to protect KCWater in the event of a claim.

Section 01322 is written so that by default, Contractor WILL NOT provide the Construction Progress Photographs. If it is not desired, then Section 01015 must provide that direction. Delete the following if there are no changes to Section 01322.

Note that if Construction Progress Photos are required, paragraph 3.06.C stipulates the submittal of photographs determines whether the Contract will be paid for the month.

5. Construction Progress Photographs [will] be required as part of the Project.

Construction Activity Photographs Notes: *The requirement for Construction Activity Photos is new. These photos may have been previously taken by RPR, but there was no requirement for a professional photographer. The need for a pre-construction photographs should be determined by KCWater for each project. The Design Professional should coordinate language in Section 01015 with direction provided by KCWater.*

The reason to include Construction Activity Photographs in a project is the same reason for Pre-Construction Photographs. The photos are taken by a professional photographer, properly are logged, properly submitted and are certified as authentic. The formal process is to protect KCWater in the event of a claim.

Section 01322 is written so that by default, Contractor WILL NOT provide the Construction Progress Photographs. If it is not desired, then Section 01015 must provide that direction. Delete the following if there are no changes to Section 01322.

6. Construction Activity Photographs [will] be required as part of the Project.

Post-construction Photographs Notes: *Typically, post-construction photographs should be required. However, the need for a post-construction photographs should be determined by KCWater for each project. The Design Professional should coordinate language in Section 01015 with direction provided by KCWater.*

Section 01322 is written so that by default, Contractor must provide the Post-Construction Photographs. If it is not desired, then Section 01015 must provide that direction. Delete the following if there are no changes to Section 01322

7. Post-Construction Photographs [will not] be required as part of the Project.

8. Deliverables

The default language in Section 01322 requires photographs and videos to be submitted on an electronic submittal on an electronic storage device. If a Document Management System is used for other submittals, photographs and videos could be submitted through the DMS. However, it should be verified that the DMS can accommodate the file sizes and storage requirements associated with digital photographs and videos. Note that if the files are stored in a DMS, the navigation system may not work as intended. Delete the following if there are no changes to Section 01322.

9. All photographs and video provided by the CONTRACTOR will be submitted using the Document Control System in accordance with Section 01335.

H. Section 01335 – Document Management

This section is ambiguous because a specific DMS has not been adopted by KC Water. If a DMS is used for the Project, the Contractor will need additional instruction specific to the software used. The specification written so that the City provides the additional information at the Pre-Construction Meeting.

I. Section 01500 – Temporary Facilities

1. Office: In accordance with paragraph 3.01 OFFICE, the Contractor [will] [will not] be allowed to use an assigned vehicle in lieu of a stationary office.
2. Field Office for Resident Project Representative: In accordance with paragraph 3.02 FIELD OFFICE FOR RESIDENT PROJECT REPRESENTATIVE, the Contractor [shall provide] [is not required to provide] a field office for the Resident Project Representative.

Delete the following text if no field office is needed for the RPR, if an office is to be provided, the following text is to serve as an example of the facilities to be provided. Coordinate language with the KCWater Project Manager.

3. Field Office for Resident Project Representative: In accordance with paragraph 3.02 FIELD OFFICE FOR RESIDENT PROJECT REPRESENTATIVE, provide a separate field office for City's Resident Project Representative on the Site with the following minimum requirements:
 - a. 150-square-foot minimum, with minimum dimension of 8 feet.
 - b. Secure entrance doors - one set of keys.
 - c. Windows with blinds and operable sash and insect screens.
 - d. Lockable storage closet.
 - e. Resilient floor covering.
 - f. Furnishings:
 - i. One standard size desk with three drawers, swivel desk chair with arms.
 - ii. One four foot by eight foot (4'x 8') conference table.
 - iii. One plan rack to hold a minimum of six (6) racks of Drawings.
 - iv. One standard four-drawer legal-size metal filing cabinet with lock and key.
 - v. Six linear feet of bookshelves, 10-inch minimum depth.

- vi. Minimum of six office chairs.
- vii. One waste basket per desk and table.
- viii. One tack board, 36" x 30"
- g. Services:
 - i. Lighting: 50 foot-candles (538 lux) at desktop height. Exterior lighting at entrance door.
 - ii. Heating and air conditioning.
 - iii. Electrical Service: Minimum of two circuits, 110V, 60 hertz. Minimum of four 110V duplex convenience outlets.
 - iv. Outdoor toilet facilities with toiletries.
 - v. Weekly cleaning service for trailer/office and toilet facilities.
 - vi. Electric water cooler.
 - vii. 30 Mbps internet service.

J. Section 01566 – Cleanup Operations

Concrete Wash Facilities: The specification requires the Contractor to utilize a washout box or wash pit. The specification also allows for the use of alternate methods if approved by the City. These alternate methods can include disposal of material in the trench. When considering an alternate facility, the Design Professional should keep in mind that pH is a pollutant of concern for washout activities. When unlined pits are used for concrete washout, the soil must have adequate buffering capacity to result in protection of groundwater standards. It is recommended that the washout site not be located in an area where shallow groundwater may be present, such as near natural drainages, springs, or wetlands.

K. Section 01570 – Temporary Erosion Sediment Control

The DP needs clarify whether or not there are sensitive areas to be disturbed by the Work that are less than one acre. The following language can be used to require the Contractor to provide a SWPPP for disturbed areas less than the one-acre standard.

1. Erosion Control Plans: [Preparation of Erosion Control Plans will be the responsibility of the Contractor] [A Conceptual Erosion Control Plan is included in Drawings. Because the Contractor is responsible for compliance with the SWPPP, the Contractor shall be responsible for reviewing and revising the plan as needed to assure permit compliance for all phases of the Work. The Contractor's Bid shall include all labor, materials and equipment needed...]

2. Sensitive Areas

- a. Sensitive areas to be disturbed by the Work that are less than one acre have not been identified.
- b. Sensitive areas to be disturbed by the Work that are less than one acre, but still require the Contractor to prepare a SWPPP include the following:
 - i. [Location description]
 - ii. [Location description]
- c. Sensitive areas to be disturbed by the Work that are less than one acre, but still require the Contractor to prepare a SWPPP are noted on the following Drawings:
 - i. [Drawing #]
 - ii. [Drawing #]

L. Section 01580 – Project Signs

- 1. Printers: The following is a list of local businesses who have provided printing services for City project signs. Printing location shall be coordinated with the City/Design Professional.
 - a. Almar Printing
7735 Wornall Road
Kansas City, MO 64114
Phone: (816) 523-4566
 - b. Custom Color
14320 W. 101st Terrace
Lenexa, KS 66215
Phone: (913) 730-3100
 - c. KC Blueprint Company
1804 Swift St.
North Kansas City, Missouri 64116
816-513-1048 Print Center
816-527-0900 Home Office
 - d. Office Max
 - e. City Hall Basement Print Center
414 E. 12th Street
Kansas City, MO 64106
Phone: (816) 513-1048

- 2. Number of Project Signs to be provided:

- a. Contractor shall provide [six (6)] [number] Project signs.

Sign graphics tend to change. Figures 1 and 2 have been incorporated into the standard specification as an example only.

M. Section 01581 – Public Communications

By default, this section requires KC Water to provide templates for all letters, mailers, door hangers, and any other correspondences with the public. The Contract may need to edit the information provided with specific project details, but the basic language will be prepared by the City. If the Contractor will be required to develop correspondence, then it should be noted in Section 01015.

The standard specification language states that the Contractor must attend one (1) public meeting. If attendance of additional meetings is desired, add the additional requirements below. Edit example text as necessary, or delete if not used.

1. In addition to the requirement to attend one public meeting specified in Section 01581, the Contractor shall also attend [?] additional meeting as describe herein:
 - a. [Meeting Title. List Contractor’s involvement and/or responsibilities at meeting.]
 - b. [Meeting Title. List Contractor’s involvement and/or responsibilities at meeting.]
 - c. [Meeting Title. List Contractor’s involvement and/or responsibilities at meeting.]

The City is typically responsible for the Initial Notification for Construction. If the Contractor is to have responsibility for reproduction and distribution, the follow text is example language. Delete the text if the City will handle the Initial Notifications

2. Initial Notification for Construction: The Contractor shall be responsible for the work associated with INITIAL NOTIFICATION FOR CONSTRUCTION. The City will provide a template for the notification and mailing list of affected property owners. Contractor shall be responsible for reproduction, mailing and delivery of the notifications. Costs to produce and deliver notifications shall be included in the Contractor’s Bid.

If there are any other communications that will be required of the Contractor, the type, content, and delivery schedule should be incorporated in this section. For example, entry into private residences is not addressed by the standard language. Delete the following if not applicable.

3. Other Communications:
 - a. [List other requirements]

ADDITIONAL NOTES TO PM / DESIGN PROFESSIONAL

There are six standard door hangers developed by the KCWater Communications Department. There are separate door hangers for water and wastewater service interruption. The water interruption hanger includes guidance to customers on what to do when water service is restored. The door hangers are all intended to be printed in black and white to allow easy printing on color card stock. This is to increase likelihood that customers will notice the door hanger.

KCWater Communication requires the door hangers be printed on card stock because this weight of paper stock suggests substantial importance to the reader/recipient. Anything less might be perceived by our customers as “throwaway flier” material from lawn, tree or siding companies.

If the door hangers need to be double sided (English on one side and Spanish on the other), additional language needs to be included in this section.

KCWater Communications Department is to provide the templates in an unalterable .pdf format that the contractors can take to any printer for duplication.

Contractors should not be able to alter any words or designs on the standard templates. However, if any project requires any editing for some special reason, the project manager should request that the Communications Division make any necessary changes, and they will provide a revised .pdf template for that specific purpose.

N. Section 01700 – Traffic Control

Section 01700 is fairly generic in its traffic control requirements. The specification relies heavily on the KCMO Traffic Control Permit for specific traffic control requirements. The Design Professional should identify any special phasing or access requirements particular to the project and list them in this section.

1. Access Requirements:

a. [Special requirement]

Development and implementation of traffic control plans is typically the responsibility of the Contractor. The standard specification is written with this intent. If the project merits a traffic control plan developed by the Design Professional, it may be added by inclusion in the Drawings.

2. Traffic Control Plans:

The Design Professional should coordinate with the Public Work Department to identify special requirements for traffic control. Restrictions should be listed here. See example language below.

- a. Contractor shall maintain a minimum of one (1) lane of traffic each direction at all times on [insert name of street]
- b. Contractor shall keep residents, schools, businesses, churches, and other public entities informed of the work schedule that would interfere with access to their facility. Notification shall be distributed at least 3 weeks in advance of work occurring near a facility.
- c. Contractor shall coordinate as necessary travel routes for KCATA buses during land closures.

O. Section 01900 – Project Closeout

Under paragraph 3.01 Achievement of Full Operation, reference is made to liquidated damages. For Smart Sewer projects, the schedule and discussion for liquidated damages is in Section 00800, paragraph SC-12.01. Be sure to complete the information within that section that defines project milestones.

There is also an opportunity in paragraph SC-14.04 to define what elements of the Work need to be completed for Achievement of Full Operation.

DIVISION 2 – SITEWORK, SPECIFICATION MODIFICATIONS

A. Division 2 is modified as follows: or No Modifications.

B. Section 02180 – Clearing and Grubbing

The Design Professional is to note on the Drawings which trees are to be saved and which trees are to be removed.

There are special requirements for clearing and grubbing in wetlands that are not addressed by Section 02180. The Design Professional needs to delineate wetlands on the Drawings and provide additional detail to the Contractor either within Section 01015 or on the Drawings.

C. Section 02190 - Demolition

D. Section 02200 - Earthwork

*Section 02200 provides a rudimentary specification for **sheeting and shoring** suitable for projects with normal trenching. If more stringent specifications measures are required for the project, then the specification should be developed by the Design Professional.*

1. Sheeting and Shoring:

- a. [Add any special material requirements here]

2. Blasting:

By default, the Earthwork specification does not allow blasting as a mean of excavation. If blasting is to be allowed, the Design Professional needs to state in Section 01015 that it will be allowed. KC Water standard specifications do not include language for blasting. It will need to be provided by the Design Professional.

If blasting is to be allowed, the Design Professional should consider using the most robust version of Section 01322 – Photographic and Video Documentation.

- a. Blasting will be permitted. See Section XXXX for additional specification.

3. Dewatering:

- a. [Add any special material requirements here]

*Section 02200 provides a rudimentary specification for **dewatering**. If more stringent specifications measures are required for the project, then the specification should be developed by the Design Professional.*

Edit the following text if there are any materials or equipment that are to removed and returned to the Owner.

- b. [Add any special material requirements here]

4. Earth Fills and Embankments

Section 02200 has not been prepared for projects that require special provisions for excavation and backfill. For example, it may not be suitable for earthen structures that are to be loaded with water such as a levee or lagoon berm. The Design Professional may need to supplement the specifications based on the needs of the Project. Edit the following as applicable.

- a. [Add any special material requirements here]

Section 02200 provides a percent compaction based on fill type. The Design Professional is to provide the allowable range of optimum moisture content acceptable for the project. If more than one acceptable range is required based on fill material, add additional language to differentiate between types.

5. Backfill and Compaction

- a. [Add any special material requirements here]

*Section 02200 provides a general specification for **final grading**. If more stringent specifications measures or tolerances are required for the project, then the information should be supplemented below.*

*Section 02200 provides a general specification for **borrow materials**. If a borrow site has been identified, or if particular material properties are required for the project, then the information should be supplemented below.*

E. Section 02230 – Geotextiles

Section 02230 – Geotextiles does not apply to all geotextile applications. It is limited to subsurface drainage and separation. If the design requires applications that are not covered by this specification, then additional detail must be added to Section 01015 or to the drawings.

The material requirements are generally based on MDOT Standard Specifications, Section 1011, GEOTEXTILE.

To complete the specification, the Design Professional must state the Class of material needed for the project and the type of material (woven or nonwoven). This can be accomplished with language in Section 01015, or by denoted this information on the Drawings

1. Geotextile material shall be [woven] [nonwoven].
 - a. Geotextile material shall be [Class 1] [Class 2] [Class 3].

F. Section 02250 – Trenching, Pipe Embedment and Backfill

This section is not a stand-alone document. Section 02200 – Earthwork must be included in the Contract Documents.

Paragraph MATERIALS ENCOUNTERED: By default, rock excavation is unclassified. If the Contractor is to be paid differently for rock and earthen material, the Section 01015 needs to address how measurement and payment will be made.

FOUNDATIONS: As this specification is written, over excavation of unsuitable material and associated backfill is an unforeseen condition, and subject to the requirements of a change order. Therefore, the Contractor must submit a proposal to the City about how the work will be completed. Since conditions cannot be anticipated, this specification does not address the materials to be used for the foundation. That is to be determined by the Contractor and approved as part of the Change Order process.

Paragraph TRENCH EXCAVATION: Tunneling is to be shown on the Drawings. This section does not provide any specification related to tunneling work. This paragraph also states that the alignment and grade are to be shown on the Drawings. Design Professional should take caution if pipes are to be installed using a minimum depth of cover.

Paragraph BACKFILL: paragraph discusses need for a geotextile to prevent migration of materials after backfill. The Design Professional needs to note on the drawings if a geotextile is required for the design.

The specification was written for installation of a single utility in a trench. If multiple pipes are to be installed in a single trench, the Design Professional; will need to include additional information either as a detail on the Drawings, in Section 01015, or both.

If the project includes trenching and backfill within 500 feet of a levee, then the Design Professional must provide a design that conforms to U.S. Army Corps of Engineers Guidelines for work within the critical zone of a levee. Guidance can be found here: <http://www.nwk.usace.army.mil/Missions/Engineering-Division/Geotechnical-Branch/Geotechnical-Design-and-Dam-Safety/>. The design will need to be modified to have stricter requirements for backfill material and compaction. Aggregate is typically not allowed in the trench. Plastic pipe is not typically allowed.

The following exceptions to the KCMO Public Works Detail apply. These comments are based in the information provided in Standard Detail SR-1, March 2017, which is incorporated into the Contract Documents by reference. The Design Professional needs to verify that the comments are accurate based on the date of SR-1 at the time of the Project. The purpose of the exceptions is to remove language that does not apply to removal and restoration of the pavement. KCWater specifications for excavation, backfill and compaction for utilities are to apply.

While SR-1 applies to work in City streets, KCWater uses the same specifications for pavement removal and restoration on private property.

1. PAVEMENT REMOVAL AND RESTORATION, Public Right of Way
 - a. Kansas City, Missouri Public Works Department Standard Detail SR-1, Street Cut Restoration is hereby incorporated by reference.

- b. Removal and restoration of pavement shall be in accordance with Standard Detail SR-1 with the following exceptions:

The need to contact the City Forester when digging within 5 foot of a tree may be excessive. For large projects, the City Forester should provide input during the Design Phase. The Design Professional and City Project Manager should determine if it is necessary for the Contractor to contact the City Forester. Keep the following text if not required.

[General Notes: Requirement to contact the City Forester when digging within five feet of a tree is removed.]

The specification generally meets or exceeds the requirements of the Public Works' pipe bedding. However, the language should be excluded so that there is no confusion on the part of the Contractor regarding which document applies.

[General Note 2, Bedding: the note shall be deleted. Bedding requirements shall conform to Section 02250 – Trenching and Backfilling for Utilities.]

The specification generally meets or exceeds the requirements of the Public Works' trench backfill and compaction. However, the language should be excluded so that there is no confusion on the part of the Contractor regarding which document applies.

[General Note 3, Backfill: the note shall be deleted. Backfill and compaction shall conform to this to Section 02250 – Trenching and Backfilling for Utilities.]

KCWater specifications provide greater detail for turf restoration. The language should be excluded so that there is no confusion on the part of the Contractor regarding which document applies.

[General Note 5.B, Grass Areas: Precedence to the requirements for grading and establishment of turf shall be given to the grading, seeding and sodding specifications in Contract Documents.]

For General Note 7, KCWater will not provide the Contractor the 2-year street schedule. Street cut and restoration requirements should be coordinated with the Public Works Department during the Design Phase. The Contract Documents will need to include explicit direction.

[General Note 7: Delete “The City will make available it proposed 2-year schedule of street construction and resurfacing to businesses that may require street cuts. If a street cut is made, for a non-emergency purposed, within 2 years after a street is constructed or resurfaced.”]

KCWater specifications provide greater detail for castings. The language should be excluded so that there is no confusion on the part of the Contractor regarding which document applies.

[General Note 9: Manhole castings shall meet the requirements of Section 05010 – Sanitary Sewer Manhole Castings.]

The Design Professional should assess driveways during the design and denote on the plans, or in this Section, which driveways will need to be removed and replaced. Water mains are typically installed by trenchless methods to save demolition and restoration cost. Coordinate with the City's project manager.

2. PAVEMENT REMOVAL AND RESTORATION, Driveways:

- a. [Add a list of driveways that will need to be removed and replaced to facilitate pipe installation.]

By default, the Contractor must use Granular Fill Material for final backfill for paved areas outside of the downtown loop. If the CLSM is to be used, the Design Professional needs to note it on the plans or in this section.

3. FINAL BACKFILL:

- a. [Add locations where CLSM is required for final backfill.]

CLSM and Granular Fill Material is required under paved areas because large compaction equipment cannot be utilized within the area of the pavement area to be restored. For projects where the full depth and width of the pavement will be removed and replaced, AND where large compaction equipment can be used, then the backfill and compaction requirements for trenching can be modified to use suitable material instead of granular fill material or CLSM. Coordinated with the KC Water Project Manager and the Public Works Department to ensure that street reconstruction standards are incorporated into the Contract Drawings

4. SPECIAL REQUIREMENTS:

- a. [Describe here or provide detail on the drawings if pavement can be restored without the use of CLSM or granular fill material as final backfill].

The Design Professional should consider whether or not the compaction testing required by the standard specification is suitable for the project. Consult with the WSD Project manager if changes are desired and list those changes (if any) below.

5. FIELD QUALITY CONTROL

- a. [List changes to frequency of in-place density tests outside of the ROW as applicable].

By default, all excess material is to be hauled and disposed offsite. It may be possible to dispose of excess material by spreading and grading within the right of way or easement. The Design Professional should evaluate if disposal of material in this manner is acceptable. If it is allowed, the language similar to the following should be used. Edit to meet project specific requirements or delete if not allowed.

6. DISPOSAL OF EXCESS MATERIAL:

- a. Excess, suitable material from excavations located in unimproved property may be distributed directly over the pipe trench and within the pipeline right-of-way.
- b. The maximum placement depth shall be 6 inches above the original ground surface elevation at and across the trench.
- c. Material shall be graded to slope uniformly away from the trench.

- d. Material shall be carefully finished with a drag, blade machine, or other suitable tool to a smooth, uniform surface without obstructing drainage at any point.
- e. Wasting of excess excavated material in the above manner will not be permitted where the line of trench crosses or is within a railroad, public road, or highway right-of-way.

G. Section 02273 – Riprap

As written, Section 02273 is applicable for ditch lining, culvert aprons, slope stabilization, etc. It may not be suitable for all applications where flow velocities require larger stone sizes. The Design Professional is responsible for verification of stone size and gradation for the project.

The Design Professional may consider the following language. It is taken from USACE criteria. The language is intended to extend the life of the rock by making it less susceptible to freeze-thaw action. Suggested that the language be included for projects that include significant riprap (i.e., slope stabilization and channel improvements). Delete the following text if not required.

1. QUALITY ASSURANCE:

- a. Curing Time: Stone shall be cured for a minimum of 30 calendar days before being shipped to the project site to allow freshly quarried stone to cure. City can waive requirement if the stone has characteristics that make curing unnecessary. Conduct curing operations on freshly quarried stone to allow it to release stored energy and moisture and to allow the stone to demonstrate that it will not fracture during the energy release and drying-out phase.
- b. Quarrying Exclusion Period: Stone quarried between the 15th of October and the 15th of April will not be approved for use in the project. If the stone is not affected by freeze-thaw cycles, and the durability history of the stone demonstrates that quarrying during the exclusion period has no adverse effect on the durability of the stone and the City approves the use of the stone quarried during the exclusion period, the stone quarrying period exclusion may be waived by the City.

Since there are multiple gradations listed in the specification, the Design Professional needs to call the Type on the plans or in Section 01015.

If none of the gradations in the standard specification are sufficient, then the design gradations should be noted here in Section 01015. The following is example language. The Design Professional should use engineering judgement as to how special graduation requirements are presented. Delete the following text if not required.

2. RIPRAP:

- a. Type 5: Material with a predominant rock size of [?] inches, a maximum rock size of [?] inches and a gradation such that no more than 15 percent will be less than [?] inches.

H. Section 02320 – Utility Casings

The Design Professional must design casings and utility crossing in accordance with API RP 1102 and to meet the minimum requirements of the railroad, street department, or MDOT as applicable. It is the Design Professional's responsibility to research the site-specific design and installation requirements and to provide the appropriate information on the Drawings or in this section.

Information to be included on the Drawings include casing pipe material, casing pipe diameter, casing pipe wall thickness, and extents of casing pipe

Standard Specification 02320 and the standard details present the minimum requirements of the City. The Design Professional may not present a design that does not meet the minimum requirements.

The Design Professional shall also be responsible for including the appropriate cathodic protection on the casing and/or carrier pipes. API RP 1102 states that design of the cathodic protection system should be based on site-specific conditions. The standard specification is written so that cathodic protection, if required, is shown on the Drawings.

1. Cathodic Protection

A. [Insert Cathodic Protection requirements here.]

P. Section 02505 – Private Building Sewers

Q. Section 02510 – PCC Sidewalks, Driveways, Ramps

I. Section 02575 – Surface Restoration

The use of Section 02575 does not preclude the incorporation of a detailed restoration plan to be included in Contract Documents. Complicated or large-scale projects may need include a set of restoration drawings to clarify how the Contractor is to restore the site. It is the PM/Design Professional's responsibility to understand the requirements of surface restoration, sufficiently convey the requirements to the Contractor and make certain 02575 does not conflict with 02250. These requirements should be conveyed on the Drawings or in this section

RESTORATION VERSUS UPGRADES

It is the policy of KCWater to restore features to match pre-project conditions. It is not always the intent to upgrade infrastructure to meet the current Public Works Standards. For example:

KCWater will repair the pavement associated with a street cut to Public Works standards, but may not add curb and gutters to a restored road where they did not previously exist.

KCWater will replace sidewalks impacted by construction, but may not add sidewalks to right-of-way where they did not previously exist.

PUBLIC WORKS STANDARDS

Surface restoration for most projects is within the City's right-of-way for streets. This infrastructure is under the jurisdiction of the KCMO Public Works Department. Restoration of streets, driveways, curbs, gutters and other surface features must be done in compliance with the Public Works Department's standard specifications and details located on their website. These standards are incorporated into this section by reference only.

PARKS AND RECREATION STANDARDS

There are certain locations within the City where the infrastructure is under the jurisdiction of the Parks and Recreation Department. These areas include City parkways and major arterial streets designated as parkways. Surface restoration in these area must be done in accordance with KCMO Parks & Recreation Department Standards. These standards can be found at <https://kcparks.org/services/parks-planning-and-design-services/>.

Project-specific specifications, details or drawings may need to be added to the Contract Documents to meet the requirements of this entity.

MISSOURI DEPARTMENT OF TRANSPORTATION STANDARDS

Where restoration is required in MoDOT right-of-way, then MoDOT standards must be used. Project-specific specifications, details or drawings may need to be added to the Contract Documents to meet the requirements of this entity.

If the Project requires the use of restoration standards of several entities, then the Contract Documents must be clear on which set of standards apply to a given area.

1. Restoration Schedule:
 - a. [Not applicable]
 - b. [List special details and requirements for completion restoration here.]

RESTORATION OF EASEMENTS

If the City provides temporary easements as part of the Project, negotiations with the property owner may yield specific restoration requirements. The Design Professional needs to coordinate with property acquisition activities and incorporate property-specific requirements into the Contract Documents. Edit the following as necessary.

2. Property-Specific Restoration Requirements:
 - a. Address [XXXX]: [List requirements]
 - b. Parcel Number [XXXX]: [List requirements]

SEEDING AND SODDING

Established Lawns: The specification is written so that sodding is the default choice for restoration of turf in established lawns. If it is desired to seed the area, then coordinate with the KCWater project manager

and specific project requirements. The Design Professional can change the requirement with information on the Drawings or language in this section.

For areas that are not defined as Established Lawns, then seeding will be the default method of turf restoration. For this option, the default seed mix is Seed Mix 1 for a turfed lawn. If the Design Professional determines that a seed mix for turf is not appropriate for an area, then Seed Mix 2 may be specified. However, such specification must be done on the Drawings or in this section.

Section 02931 – Sodding specifies for different types of sod:

Type 1 – Turf Type Tall Fescue

Type 2 – Kentucky Blue Grass and Turf Type Tall Fescue

Type 3 – Bermuda Grass

Type 4 – Zoysia Grass

Neither Section 02931 nor Section 02575 explicitly state which type to use and where. The Design Professional needs to provide additional guidance either in this section or on the Drawing regarding the type of sod to be used in various areas of the Site.

3. Sodding

4. Seeding:

- a. Add language if desired to deviate from the default restoration of sodding in established lawns.
- b. Add language if Seed Mix#2 is to be used on the project.

J. Section 02580 – Pipe Bursting

The specified Fernco manhole adapters are manufactured for pipes up to 12 inches in diameter. If the Project includes pipe sizes in excess of the 12 inches, the Design Professional will need to provide additional detail for manhole sealing.

A. Manhole Adapters shall be [...]

K. Section 02608 – Concrete Vaults

In paragraph PRECAST CONCRETE, the standard specification provides a discussion for cylinder and core testing. These are tests required of the precast concrete manufacturer by ASTM C478. By default, copies of the testing data are not required. If copies are desired for the project, then it needs to be stated in this section.

1. Precast Concrete:

- a. [In accordance with paragraph PRECAST CONCRETE, the Contractor shall submit precast concrete manufacturers test data for concrete cylinders].
- b. [In accordance with paragraph PRECAST CONCRETE, the Contractor shall submit precast concrete manufacturers test data for concrete cores].

K. Section 02618 – Ductile Iron Pipe Water Main

The Design Professional should consider the use of the following language when applicable to the project. Generally, it is felt that submittals for detailed installation of water mains is only necessary for pipe 36-inches and larger. Coordinate with City PM on the need for the language. Delete if it is not needed for the project.

1. Additional Compliance Submittals:

- a. Complete shop drawings and engineering data on all piping and accessories shall be submitted to the City in accordance with the requirements of Section 01300 – Submittals.
- b. Shop drawings shall indicate piping layout in plan as may be required and shall be completely dimensioned. The Drawings shall include a complete schedule of all pipe, fittings, specials, hangers, and supports.
- c. Special castings shall be clearly detailed showing all pertinent dimensions.
- d. The Contractor shall submit lists of all pieces of pipe and fittings in each shipment received. These lists shall give the serial or mark number, weight, class, size, and description of each item received.

R. Section 02620 – DIP for Wastewater

S. Section 02623 – Fiberglass Reinforced Pipe

T. Section 02624 – PVC Gravity Sewer Pipe

The minimum wall thickness for PVC gravity sewer pipe is SDR26. It is the Design Professional's responsibility to verify that the wall thickness is adequate for the installation conditions. Note on the Drawings or within this section if wall thicknesses need to be greater than the minimum specified.

For pipes and fittings greater than 60 inches in diameter, the Design Professional must provide design, specifications and approval from KCWater before using PVC pipe materials.

W. Section 02631 – PVC Pressure Pipe for Sewers

L. Section 02641 – Valves

To reduce project schedules, the City may want to provide valves for the project from its inventory. The Design Professional should list any such valves in this section. Provide as much information on each valve as possible to help the City track the asset. All of the information would need to be provided by the City.

If no valves are to be provided, delete the information. Otherwise, this information shall match the information provided in Part 1.08.

1. Provided by the City: The valves and appurtenances will be provided by the City for the Project:

Valve Type	Class	Size (inches)	Manufacturer	Serial Number	Year of Manufacture
Butterfly	250B	16	Manufacturer	1234567	2019
Gate	125B	6	Manufacturer	1234568	2019

Note that the City does not typically use butterfly valves less than 16-inches in size. The standard specification reflects this policy. If a smaller butterfly valve is needed for the project, then the Design Professional needs allow the smaller size in this section. The specification should be adequate for specifying butterfly valves as small as 3 inches.

Also note that the standard specification is not suitable for butterfly valves in excess of 72 inches. If larger valves are required for the project, the Design Professional needs to provide a project-specific specification.

X. Section 02662 – Sewer Conduit Renewal Using Spiral Wound PVC Profile Method

N. Section 02675 – Hydrostatic Testing, Disinfection and Dechlorination of Water Mains

Add any project specific requirements for the Disinfection Plan. Delete the following text if not required.

1. Quality Assurance
2. Disinfection Plan: In addition to the requirements listed in Section 02675 - Hydrostatic Testing, Disinfection and Dechlorination of Water Mains, the Disinfection Plan shall include the following:
 - a. [List criteria]
 - b. [List criteria]

O. Section 02686 – Cleaning and Assessment of Gravity Lines

The default assessment technology is CCTV. If another assessment technology is needed for the project, then it must be specified here. The other assessment technologies outlined in 02686 is as follows: acoustic inspection, laser profiling, sonar technology, focused electrode leak location (FELL) technology, light detection and ranging (LIDAR) or multi-sensor inspection.

The General Conditions and the City's noise ordinance limits the time that the Contractor can work. It may be advantageous or necessary to allow the Contractor to work at night for safety reasons, or to take advantage of low flows in the sewer system. By default, the Contractor must comply with City code and formally request a deviation of work times. If it is known or suspected during design that an adjustment of work times will be required, the Design Professional needs to list locations and acceptable times in this section.

1. Assessment technologies in addition to CCTV specified for the project:

i. XXXXXXXX

2. Scheduling the Work
3. No Working Hours Adjustments have been identified.
4. Known areas in which Working Hours Adjustments may be required are included in the following table:

The table is an example only. Coordinate with WSD project manager on format and information provided in the Contract Documents.

<i>MH Number</i>	<i>Justification</i>	<i>Allowable Days</i>	<i>Allowable Hours</i>
<i>S023-17</i>	<i>High diurnal flows.</i>	<i>Monday – Friday</i>	<i>Up to 10:00 pm</i>
<i>S023-18</i>	<i>Manhole in Ward Pkwy.</i>	<i>Avoid rush hour traffic.</i>	<i>Sunday 4:00 am to 6:00 am</i>

It must also be stated that the Contractor must still receive written permission from the City if he needs to conduct work outside of the times allowed by the City's Noise ordinance (see Section 01000) and that this language does not preclude him from obtaining permission or required permits.

The "Comp Key" is a unique identifier used in the City's asset management system. The asset management system relies on the Comp Key rather than the traditional manhole number or pipe number that has been historically used to identify assets. In order for the WSD to efficiently incorporate all of the information collected into the asset management system, the Contractor has to be provided with the Comp Key for each pipe that is televised. The information has to be obtained from the WSD's GIS group. The specification states the City is to provide the information, but now how or when. Use of the following table is suggested, but the information could be provided separately from the Contract Documents. Edit the following as appropriate.

If the project involves the installation of new manholes or pipes, then Design Professional has to coordinate with the WSD GIS Group to have new Comp Keys assigned to the new assets. This should be done prior to completion of the design.

If a Contractor finds a new manhole, he must stop work, contact the City's project manager for a new manhole number and Comp Keys for the pipes. File naming conventions and Comp Keys are specific and necessary to integrate the data into WSD's asset management system. The use of a temporary number system allowed in the previous version of this specification has been removed. The use of temporary numbering and file naming conventions made the integration of the data into the asset management system time-consuming, cumbersome, and at times impossible. Due to the large amount of data generated, WSD wants the data provided by the Contractor to be as "clean" and accurate as possible.

5. Inspection and Documentation:

- a. Comp Key information will be provided to the Contractor [at the Pre-Construction Conference] [as requested by the Contractor] [within 30 days of the Notice to Proceed]
- b. Comp Key information to be used for the Work is provided in the following table:

ASSIGNED COMP KEY VALUES		
Upstream Manhole Number	Downstream Manhole Number	Comp Key
XXXX-XX	XXXX-XX	XXXXXX

The default language in Section 02686 does not allow for measurement and payment by the linear foot of pipe. For maintenance projects, or where deemed necessary by KC Water, the Measurement and Payment paragraph may need to be changed to allow for payment per foot of pipe. Add language similar to the following as necessary. Delete if the work is to be lump sum.

- 6. Measurement and Payment:
 - a. The work of this section shall be measured on a linear foot basis, from manhole to manhole, for the different diameters of sewer line inspected.
 - b. The work of this section shall be paid for at the unit prices established in the bid schedule for inspecting sewer lines.

- P. Section 02687 – Laser Profile Inspection
- Q. Section 02702 – Sewer Pipe and MH Testing
- R. Section 02705 – Drainage Structures
- S. Section 02732 – Wastewater Lift Stations and FM
- T. Section 02831 – Chain Link Fences
- U. Section 02930 – Seeding
- V. Section 02931 – Sodding

DIVISION 3 – CONCRETE, SPECIFICATION MODIFICATIONS

A. Division 3 is modified as follows: or No Modifications. or Not used.

B. Section 03000 – Miscellaneous Concrete

The City's standard specifications for cast in place concrete work are generally suitable for miscellaneous concrete such as sidewalks, curbs, gutters, and other features associated with infrastructure within the right-of-way. The standard specifications are not suitable for cast in place structures that required detailed design by the Design Professional. If the Drawings include cast-in-place structures, then the Design Professional must also prepare and provide project specific specification sections to support the design shown on the Drawings.

C. Section 03332 – Centrifugally Cast Concrete Pipe

D. Section 03333 – Carbon Reinforced Centrifugally Cast Concrete Pipe

E. Section 03362 – Manhole Rehabilitation

The 2019 revision of this specification incorporated many significant revisions. Most importantly, the section was rewritten so that the Contractor is given a complete set of plans for construction. This section may no longer be suitable for those types of projects where the Contractor is given a list of manhole numbers without any pre-construction investigation and engineering.

Rehabilitation projects should be prepared by a Design Professional. The design phase should include an initial manhole inspection with pH testing of the interior.

Based on information for the manhole inspection and design guidance provided, the DP should provide an appropriate design for the rehabilitation of each manhole. Rehabilitation should consider the pH testing and observed conditions. Section 03362 – Manhole Rehabilitation requires the Drawings to include explicit direction. The Drawings must include a MANHOLE REHABILITATION SCHEDULE with the following information for each manhole:

1. GENERAL INFORMATION

- a. Manhole ID
- b. Sheet Reference
- c. Address
- d. Northing
- e. Easting

2. EXISTING CONDITIONS

- a. Surface Type [paved / unpaved]

- b. Manhole Diameter [feet]
- c. Manhole Type [STD-Standard / CSO – Combine Sewer / OSD - ?]
- d. Depth [feet]
- e. Wall Material [Concrete / Brick / Unknown]
- f. Measured pH [number]

3. SCHEDULED REHABILITATION

- a. Replace Frame & Cover - Paved (Adj. Casting) [Yes / No]
- b. Replace Frame & Cover - Paved (Std. Casting) [Yes / No]
- c. Replace Frame & Cover - Unpaved [Std. Casting] [Yes / No]
- d. Adjust to Grade [Yes / No]
- e. Liner Material [None / Cementitious]
- f. Liner Thickness [As Specified / Additional Thickness]
- g. Type of Microbiologically Induced Corrosion Protection [None / Antimicrobial Additive / Epoxy Liner]
- h. Rebuild / Repair Bench & Trough [Yes / No]
- i. Replace Cone [Yes / No]
- j. 4 in. Pipe End Seal [Yes / No]
- k. 6 in. Pipe End Seal [Yes / No]
- l. 8 in. Pipe End Seal [Yes / No]
- m. 10 in. Pipe End Seal [Yes / No]
- n. 12 in. Pipe End Seal [Yes / No]
- o. 15 in. Pipe End Seal [Yes / No]
- p. Remove & Replace Manhole [Yes / No]
- q. Notes

Antimicrobial additives are required for cementitious lining of manholes on all Smart Sewer projects. Because the additive is required, there is no need for PH Testing. Include the following wording for Smart Sewer projects

1. PH Testing in accordance with paragraph 3.02 PH Testing is not required for this project.
2. The use of an Antimicrobial Admixture is required for this project. Antimicrobial admixture shall be ConShield® as manufactured by ConShield Technologies Inc. Color tinting add mixture shall be ConTint.

F. Section 03363 – Manhole Corrosion Resistant Top Coating

Previous versions of this specification required the Contractor to submit design calculations for the liner system to determine the thickness of the liner. The requirement has been removed and the responsibility for liner design placed on the Design Professional. Either the Drawings or this section needs to provide the Contractor the liner thickness for each manhole. As applicable, incorporate the information into the Manhole Rehabilitation Schedule associated with Section 03362.

G. Section 03370 – Sanitary Sewer Manhole Construction

Manhole Types: KCWater has two basic manhole designs: Standard Precast Manhole – Eccentric Cone and Standard Precast Manhole – Shallow Type. For each new manhole associated with the projects, the Design Professional needs to indicate either on the Drawings or in Section 01015 the type of manhole to be constructed.

1. Precast Concrete

ASTM C478 requires the manufacturer to conduct cylinder testing as part of the fabrication process. The owner is allowed to require testing of up to 5% of the total order of a manhole product, but no more than 2 cylinders for each day's production. The Design Professional must specify a reasonable number of test cylinder results to be submitted for review and approval based on the number of structures associated with project. Edit the following paragraph as applicable.

2. Compressive Testing of Cylinders: Contractor shall submit compressive strength cylinder tests for [?] percent of the total manhole product but no more than 2 cylinders for each day's production.

For each day's production run, ASTM C478 requires the manufacturer to cut a core from a random structure and test for compressive strength. If the core strength is at least 80% of the specified strength, then the run is considered acceptable. The requirement to submit these test results should be noted in Section 01015. By default, the standard specification requires the submittal only if requested by the City.

3. Compression Testing of Cores: [not required] [submit daily compression testing of cores]

4. Antimicrobial Additive

The specification is written so that an antimicrobial additive is required for all new manholes by default. If the additive is not desired on the project, then Section 01015 must be written to remove the requirement. Removal of the additive from the project should be done only upon direction by KCWater.

"Or-equal" products must be submitted with the bid to be evaluated (Section 00700, paragraph 6.06). List other manufactures or acceptable products on a per-project basis and with approval of KCWater.

5. Other acceptable manufacturers include the following:
 - a. [List manufacturer and product as approved by KCWater]

6. Water Proofing Additive

"Or-equal" products have to be submitted with the bid to be evaluated (Section 00700, paragraph 6.06). List other manufactures or acceptable products on a per-project basis and with approval of KCWater.

- a. Other acceptable manufacturers include the following:
 - i. [List manufacturer and product as approved by KCWater]

- 3.02 DIVISION 4 – MASONRY, SPECIFICATION MODIFICATIONS
 - A. Division 4 is modified as follows: or No Modifications. or Not used.

- 3.03 DIVISION 5 – METALS, SPECIFICATION MODIFICATIONS
 - A. Division 5 is modified as follows: or No Modifications. or Not used.
 - B. Section 05010 – Sanitary Sewer Manhole Castings
 - C. Section 05011 – Storm Sewer Manhole Castings

- 3.06 DIVISION 6 – WOODS AND PLASTICS, SPECIFICATION MODIFICATIONS
 - A. Division 6 is modified as follows: or No Modifications. or Not used.
 - B. Section 06010 – CIPP
 - C. Section 06012 – CIPP Laterals
 - D. Section 06013 – Pipe End Seal Liner
 - E. Section 06014 – Sectional Point Repairs By Cured in Place Method
 - F. Section 06020 – Sliplining Sewer Rehabilitation

- 3.07 DIVISION 7 – THERMAL AND MOISTURE PROTECTION, SPECIFICATION MODIFICATIONS
 - A. Division 7 is modified as follows: or No Modifications. or Not used.

3.08 DIVISION 8 – DOORS AND WINDOWS, SPECIFICATION MODIFICATIONS

A. Division 8 is modified as follows: or No Modifications. or Not used.

3.09 DIVISION 9 – FINISHES, SPECIFICATION MODIFICATIONS

A. Division 9 is modified as follows: or No Modifications. or Not used.

3.10 DIVISION 10 – SPECIALITIES, SPECIFICATION MODIFICATIONS

A. Division 10 is modified as follows: or No Modifications. or Not used.

3.11 DIVISION 11 – EQUIPMENT, SPECIFICATION MODIFICATIONS

A. Division 11 is modified as follows: or No Modifications. or Not used.

3.12 DIVISION 12 – FURNISHINGS, SPECIFICATION MODIFICATIONS

A. Division 12 is modified as follows: or No Modifications. or Not used.

3.13 DIVISION 13 – SPECIAL CONSTRUCTION, SPECIFICATION MODIFICATIONS

A. Division 13 is modified as follows: or No Modifications. or Not used.

3.14 DIVISION 14 – CONVEYANCE SYSTEMS, SPECIFICATION MODIFICATIONS

A. Division 14 is modified as follows: or No Modifications. or Not used.

3.15 DIVISION 15 – MECHANICAL/PLUMBING, SPECIFICATION
MODIFICATIONS

A. Division 15 is modified as follows: or No Modifications. or Not used.

3.16 DIVISION 16 – ELECTRICAL, SPECIFICATION MODIFICATIONS

A. Division 16 is modified as follows: or No Modifications. or Not used.

END OF SECTION