CITY OF GREAT FALLS
MONTANA
PO Box 5021, 59403

October 27, 2023

Mr. Greg Doyon
PO Box 5021
Great Falls, MT 59403

RE: Revision No. 3 to the City of Great Falls Standards for Design and Construction

Mr. Doyon,

Enclosed please find the proposed modifications for Revision No. 3 to the City of Great Falls Standards for Design and Construction. These standards serve as a guide and rulebook for developers who are looking to provide public infrastructure improvements to serve their projects. The feedback from the development and engineering community has so far been positive since the conception of this document in early 2020. In general, the community is thankful to have a written set of standards for consistency and as a reference for design in the City. Revision No. 1 was adopted in June of 2020. Revision Number 2 was adopted on October 13, 2021.

The purpose of the Revision No. 3 is to ensure the Standards contain information relevant to fees and process changes associated with transferring development review back up to the Engineering Division, updating the standards to meet the needs of the Great Falls Public Works and Planning Departments, and providing a facelift to the standard detail drawings.

I facilitated a public comment period and two open house meetings to solicit feedback on the proposed changes throughout the month of October. The comments and sentiments of the community were incorporated into the revision to the best extent practical. I will continue to solicit public comment from the contractor and design community as future modifications are proposed.

Please consider the enclosed revisions, and if you are in agreement, sign in approval on the final page and return to me at your earliest convenience. Please let me know if you have any questions or need any additional information. I can be reached at 455-8120 or at mjuras@greatfallsmt.net.

Sincerely,

Mark Juras

Mark Juras, PE
Development Review Coordinator
Public Works – Engineering Division

City of Great Falls
Public Works/Engineering

INTER-OFFICE MEMORANDUM

DATE: **October 27, 2023**

PROJECT: **City of Great Falls Standards for Design and Construction, OF 1723.0**
Proposed Modifications Creating Revision No. 3

The following is a list of the proposed changes to the City of Great Falls Standards for Design and Construction. The original document was adopted via Resolution 10346 on May 19, 2020.

- Revision Number 1 was adopted on June 8, 2020.
- Revision Number 2 was adopted on October 13, 2021.

Public comments on the following changes were received from October 2nd to October 20th, 2023. Two open house style meetings were held with members from the contractor and design community on October 12th and 17th. The proposed revisions were updated to reflect the sentiments and suggestions provided in the public comments to the best extent practical.

The following changes will modify the Revision Number 2 version of the City of Great Falls Standards for Design and Construction, and if approved will create the official "City of Great Falls Standards for Design and Construction Revision No. 3, adopted on November 1, 2023".

1. Minor grammatical and spelling errors were corrected throughout the Standards.

2. Make minor changes throughout the Standards to reflect updates in the development review process such as:
    a. Remove and/or replace references to PCD Engineering staff with PWD Engineering staff and revise contact information where appropriate
    b. Include references to the infrastructure review fee where appropriate

3. Glossary of Acronyms and Terms – The following acronyms will be added to the Standards.

Terms	**Definition**
ADA	Americans with Disabilities Act
ANSI	American National Standards Institute
ASA	American Standards Association
ASSE	American Society of Sanitary Engineering
AWWA	American Water Works Association
DWG	AutoCAD Drawing File
kW	Kilowatt

LLDPE	Liner Low Density Polyethylene
NBR	Acrylonitrile-Butadiene Copolymer
NPT	National Pipe Thread Tapered
psig	Pounds Per Square Inch Gauge
SBR	Styrene Butadiene Copolymer
SDR	Standard Dimension Ratio

4. Chapter 1 Construction with City Right-of-Way – Subsection 1.1.3.A – Revise from "… work associated with sidewalks and curbs within the public right-of-way or city easement …" to "… work associated with sidewalks and curbs, including private service walk connections, within the public right-of-way or city easement …"

5. Chapter 1 Construction within City Right-of-Way – Insert new language and title into subsection 1.1.5 which states:

   1.1.5 Infrastructure Review Fee

   A. Except when such person is operating under a contract with the Public Works Department, all privately installed infrastructure that will be dedicated to the City requires an Infrastructure Review Fee. At the time of infrastructure submittal application, the applicant shall submit an engineer's cost estimate prepared by a licensed professional engineer based on a schedule of values covering the comprehensive construction cost of the Public Works Infrastructure to be dedicated to the City. The Public Works Infrastructure shall include water, sanitary sewer, storm sewer, street, and alley improvements. The cost estimate will be utilized to calculate the Infrastructure Review Fee to cover Engineering Division plan review through approval and provide Engineering Division construction oversight. Due to construction cost escalation since 2020, the infrastructure cost in the fee equation below shall be fifty percent (50%) of the total engineer's cost estimate. The Engineering Division will continue to monitor the fee and make adjustments via future resolution as needed. The fee shall be calculated as follows: Fee = 3.3182*((Infrastructure Cost)^0.6593)

   B. The first half of the fee shall be due at the first submittal of the infrastructure plans and shall be accompanied with the engineer's cost estimate. The fee shall be paid by check to "City of Great Falls", credit card payments are not allowed. The first half of the fee shall be calculated by dividing the fee equation above by two using the infrastructure cost provided in the cost estimate. The City reserves the right to review and modify the cost estimate to be consistent with these requirements and recent bid tabulations. It is recommended that the applicant contact the Engineering Division, (406) 771-1258, to review the cost estimate prior to first submittal.

   C. The second half of the fee shall be due prior to scheduling the pre-construction meeting and shall be accompanied with the bid cost of the selected contractor based upon the schedule of values to complete the improvements. The second half of the Fee shall be calculated by the fee equation above where the infrastructure cost shall be fifty percent (50%) of the total bid cost, and then subtracting the first half amount paid at the plan submittal. The Engineering Division shall review the second half fee calculation, contractor's bid by schedule of values, and other necessary

construction cost documents prior to submitting the second half of the fee. The engineer composing the cost estimate shall become familiar with the additional guidance and cost estimate examples in the Appendix E of these Standards.

D. When a third party consultant is utilized to assist the City with plan review, no additional third party fees will be charged to the applicant and the City will pay the third party directly.

E. The Infrastructure Review Fee does not include costs to provide inspection of Public Works Infrastructure via Engineering Division Inspectors or Third Party Consultants hired by the City, when allowed, as discussed in Chapter 3 of these Standards. Inspection by Engineering Division Inspectors shall be billed separately at hourly rates adopted by City resolution. Inspection by Third Party Consultants hired by the City, when allowed, shall be based upon hourly rates established by agreement between the City and the Third Party Consultant.

F. The Infrastructure Review Fee does not include additional permitting costs or review fees necessary to construct the infrastructure including, but not limited to: Planning and Community Development application fees, building permit fees or review fees, general plumbing permits, water service line permits, building sewer permits, right of way permits, sidewalk permits, driveway permits, curb cut permits, fire line permits, tapping fees, and other permits or fees as needed.

6. Chapter 1 Construction within City Right-of-Way – Insert new language and title into subsection 1.1.6 which states:

1.1.6 Private Stormwater Review Fee

A. Except when such person is operating under a contract with the Public Works Department, all projects within City limits which meet the threshold to provide a Storm Drainage Plan or Stormwater Management Plan that require privately owned and maintained stormwater facilities, as outlined in the City's latest adopted Storm Drainage Design Manual and the Official Code of the City of Great Falls, shall submit a Private Stormwater Review Fee. The fee shall be added to the application fee or permit letting fee as applicable and collected by the Planning and Community Development Department in accordance with their procedures. As of October 5, 2023, the fee is $797 per City Resolution 10519. The fee is not necessary when the storm water improvements will be dedicated to and maintained by the City and reviewed under the Infrastructure Review Fee.

B. When a third party consultant is utilized to assist the City with plan review, no additional third party fees will be charged to the applicant and the City will pay the third party directly.

C. This Private Stormwater Review Fee does not include additional permitting costs or review fees associated with stormwater management including, but not limited to: Erosion Control Plan (ECP), Storm Water Pollution Prevention Plan (SWPPP), Industrial Pretreatment Survey (IPS), building permit fees or review fees, parking lot permit fees or review fees, and other permit costs or review fee items required by the Environmental Division or Planning and Community Development Department.

7. Chapter 1 Construction within City Right-of-Way – Insert new language and title into subsection 1.1.7 which states:

   1.1.7 Building Permit and Parking Lot Permit Review Fees

   A. Except when such person is operating under a contract with the Public Works Department, all projects within City limits which must obtain a building permit or parking lot permit shall submit a fee for Engineering Division review. As of October 5, 2023, the Commercial Building Permit, Single Family Residential Building Permit, and Parking Lot Permit fees are $930, $229, and $399 respectively per City Resolution 10519. The fee shall be added to the application fee or permit letting fee as applicable and collected by the Planning and Community Development Department in accordance with their procedures.
   B. When a third party consultant is utilized to assist the City with plan review, no additional third party fees will be charged to the applicant and the City will pay the third party directly.
   C. The building permit and parking lot permit review fees are additive to the other Engineering Division and Planning and Community Development Department review fees including, but not limited to: the Infrastructure Review Fee, Private Stormwater Review Fee, building permit letting fee, application fee, and other permit fees or review fees as needed.

8. Chapter 1 Construction Within City Right-of-Way – Subsection 1.2.1.C – Revise from "Prior to the start of any construction, a preconstruction conference shall be held." to "Prior to the start of any construction on public works infrastructure that will be dedicated to the City and reviewed under the infrastructure review fee, a preconstruction conference shall be held.", revise the submittal documents from "paper copies" to "paper copies and a digital copy", and create new Subsection 1.2.1.C.III which states:

   1.2.1.C Include the following:

   III. The person(s) requesting the Preconstruction meeting shall provide the additional applicable items listed on the Preconstruction meeting checklist and the completed Preconstruction meeting agenda template located in Appendix F of these standards to the City Engineering Office prior to scheduling the Preconstruction meeting.

9. Chapter 1 Construction Within City Right-of-Way – Section 1.3.1 – Revise distance from "at least 5 feet" to "at least 10 feet" for all underground electrical, gas, phone, and TV cable lines installed horizontally from water, sanitary sewer, and storm sewer mains and "at least 5 feet" from services.

10. Chapter 1 Construction Within City Right-of-Way – Create a new subsection 1.4.4.B which states:

    1.4.4 Include the following:

    B. In no case will the average 28 day strength of one set of tests (average of three 4 inch diameter cylinders or two 6 inch diameter cylinders cast from

one composite sample) be less than 4,000 psi, statistical acceptance methods based on consecutive sets of tests will not be allowed.

11. Chapter 2 Design Criteria – Create a new subsection 2.1.4.E which states:

    2.1.4 Include the following:
    E. Shall show proposed dry utilities, including where appropriate; gas lines, electric lines, communication lines, telephone poles, light poles, junction boxes, sleeves and conduits, utility connection points, and other proposed dry utility lines and appurtenances.

12. Chapter 2 Design Criteria – Create a new subsection 2.1.6.B.XI which states:

    2.1.6.B Include the following:
    XI. Radius of intersection curbs.

13. Chapter 2 Design Criteria – Create a new subsection 2.1.6.B.XII which states:

    2.1.6.B Include the following:
    XII. Signage and Striping plans as needed. Coordinate with CoGF Traffic Foreman (406-781-8991).

14. Chapter 5 Water Systems – Create a new subsection 5.1.1.B.II which states:

    5.1.1.B Include the following:
    II. City Engineering Staff will utilize the City's Water Model to provide a water system pump curve representative of the system's capacity at the point of connection if requested (406-771-1258).

15. Chapter 5 Water Systems – subsection 5.1.3.C – Revise distances from "at least 5 feet horizontally and 1 foot vertically" to "at least 10 feet horizontally and 18 inches vertically" for all underground electrical, gas, phone, fiber, and cable lines installed from water mains and to "at least 5 feet horizontally and 12 inches vertically" from services.

16. Chapter 5 Water Systems – subsection 5.2.1.B.VII – add sentence:

    "Plans shall note proposed insulation locations."

17. Chapter 5 Water Systems – Create a new subsection 5.2.3.I which states:

    5.2.3 Valve Boxes
    I. If installed in public or private roadway lids shall be 1/4" to 3/8" below finished grade.

18. Chapter 5 Water Systems – Subsection 5.2.5.A.V – Revise "Install ductile iron push-on by flange fittings for fire hydrants and service lines 4-inches and larger; and" to "Install

ductile iron push-on by flange fittings for hydrants and service lines 4-inches and larger constructed on new mains or approved tapping sleeve for connections to existing mains; and"

19. Chapter 5 Water Systems – subsection 5.2.7.A – Revise "Utilize full circumference tapping sleeve with NPT stainless steel test plug and cast iron or ductile iron body. Supply cast or ductile iron mechanical joint type sleeve with end and side gaskets;" to "Utilize full circumference tapping sleeve with NPT stainless steel test plug and stainless steel, cast iron, or ductile iron body. Supply stainless, cast, or ductile iron mechanical joint type sleeve with end and side gaskets;"

20. Chapter 5 Water Systems – Create a new subsection 5.2.11.B.VIII which states:

    5.2.11.B Construction of Water Service
    VIII. Sand bedding is required on copper service line.

21. Chapter 5 Water Systems – Create a new subsection 5.2.11.C.V which states:

    5.2.11.C Location
    V. All water service lines shall be installed at least 10 feet from trees.

22. Chapter 5 Water Systems – subsection 5.2.11.E.III.a – Revise "From the curb stop to the structure…" to "From the meter pit to the structure…"

23. Chapter 5 Water Systems – subsection 5.2.11.E.III.c – Revise "…shall connect the curb stop and the meter pit;" to "… shall connect the main to the meter pit;"

24. Chapter 5 Water Systems – subsection 5.2.20.A – Remove "5-30 and/or".

25. Chapter 5 Water Systems – subsection 5.2.22.A – add sentence:

    Tracer wire is required on water mains that deflect horizontally between valves and/or run through easements within improved areas or unimproved areas; mains which do not deflect horizontally between valves and are located in a public right of way do not require tracer wire.

26. Chapter 6 Sanitary Sewer System – Create a new subsection 6.1.5.J which states:

    6.1.5.J Where possible, there should be at least 10 feet of edge to edge horizontal separation between storm mains and sewer mains.

27. Chapter 6 Sanitary Sewer System – subsection 6.1.6.C – Revise distance from "at least 5 feet horizontally and 1 foot vertically" to "at least 10 feet horizontally and 18 inches vertically" for all underground electrical, gas, phone, fiber, and cable lines installed from sewer mains and to "at least 5 feet horizontally and 12 inches vertically" from services.

28. Chapter 6 Sanitary Sewer System – Section 6.2.2.F – Remove contents of subsection and replace with contents of subsequent subsections leaving 6.2.2.I empty. Remove subsection 6.2.2.I.

29. Chapter 6 Sanitary Sewer System – Create a new subsection 6.2.3.A.VI which states:

    6.2.3.A General
    VI. All sewer services shall be installed at least 10 feet from trees.

30. Chapter 6 Sanitary Sewer Systems – subsection 6.2.4.A – Remove "5-30 and/or".

31. Chapter 6 Sanitary Sewer Systems – Create a new subsection 6.3.2.C.III. which states:

    6.3.2.C Manhole Rings and Covers
    III. Manhole cover if installed shall be set 1/2" ± 1/8" below finished grade.

32. Chapter 7 – Storm Sewer Systems – Subsection 7.1.1 – Revise "from June 1990" to "latest implemented version". Note that as of today the latest implemented version is the 1990 version and the Public Works Department is working towards presenting a new version of the Storm Drain Design Manual to the design community for feedback. This is scheduled to occur in late 2023.

33. Chapter 8 – Transportation Systems – Create a new subsection 8.1.2.G.XII. which states:

    8.1.2.G Contents
    XII. An analysis of problem intersections as determined by the Transportation Planner within 1 mile.

34. Chapter 8 – Transportation Systems – Table 7 – Modify the Alley width table:

Pavement Width	Approved by City Engineer	As Approved by City Engineer	37 Feet[3]	31 Feet	10-12 Feet

To read

Pavement Width	Approved by City Engineer	As Approved by City Engineer	37 Feet[3]	31 Feet	16-20 Feet

35. Chapter 8 – Transportation Systems – Revise subsection 8.1.7.A.I

    i. The developer shall provide all necessary permanent traffic control signs to the CoGF Traffic Foreman (406-781-8991) and the Traffic Division shall install the signs;

To read

I. The developer shall coordinate with the CoGF Traffic Foreman (406-781-8991), and pay for all necessary permanent traffic control signs. The Traffic Division shall build and install the signs;

36. Chapter 8 – Transportation Systems – Revise subsection 8.1.7.A.II

II. The signs shall be built in accordance with the MUTCD and approved by the Traffic Division;

To read

II. The signs shall be built by the Traffic Division in accordance with the MUTCD;

37. Chapter 8 – Transportation Systems – Create a new subsection 8.1.7.A.IX which states:

8.1.7.A General

IX. Traffic signage and signal design shall implement the recommendations of the TIA when applicable. Coordinate all signage and signal improvements with the Traffic Foreman (406-781-8991).

38. Appendix - Create a new Appendix E titled "Additional Infrastructure Review Fee Guidance and Examples"

39. Appendix – Create a new Appendix F titled "Preconstruction Meeting Documents"

40. City of Great Falls Standard Details – Revision of standard details include: drawings, titles, and revision date. Refer to the accompanying Standard Detail Redlines for updates. Updated details are shown below.

Details – Article 5	**Drawing Number**	**Current Drawing**
Typical Monument Installation	5-01	2023
Standard Straight Curb	5-03	2023
Typical Barrier Integral Curb & Gutter	5-04	2023
Typical Mountable Integral Curb & Gutter	5-05	2023
Integral Curb and Gutter Details	5-06	2023
Standard Concrete Alley Apron- Grass back of curb	5-08A	2023
Standard Concrete Alley Apron- Sidewalk back of curb	5-08B	2023
Standard Concrete Alley Apron- City Jobs	5-08C	2023
Standard Concrete Alley Apron- City Jobs	5-08D	2023
Standard Detail for Asphalt or Gravel Paving of Public Alley	5-09	2023
Driveway - Sidewalk at curb	5-10A	2023
Driveway - Sidewalk not at curb	5-10B	2023
Curb and Sidewalk cross section	5-10C	2023
Driveway - Straight Curb sidewalk not at curb	5-10D	2023
Driveway - Downtown Decorative Stamp	5-10E	2023
Park Path Cross section	5-14	2023

Valley Gutter - w/ Double HC ramps	5-15A	2023
Valley Gutter - w/ Single HC ramp	5-15B	2023
Sidewalk drainage crossing gutter	5-16	2023
Handicap ramp at mid-block with boulevard sidewalk	5-17A	2023
Handicap ramp at mid-block with attached sidewalk	5-17B	2023
Handicap ramp at mid-block with adjacent sidewalk	5-17C	2023
Handicap ramp at mid-block w/ full width boulevard sidewalk	5-18	2023
Handicap ramp at center of corner	5-19	2023
Handicap ramps double at corner in boulevard areas	5-20	2023
Handicap ramps double at corner sidewalk at curb	5-21A	2023
Handicap ramps double at corner sidewalk at curb	5-21B	2023
Handicap ramps Double Central Business dist.	5-22	2023
Handicap ramps Double Old Boulevard area	5-24	2023
Trench Detail - Type 2	5-31	2023
Casing Detail	5-33	2023
Trench Pavement Replacement	5-36	2023
Trace Wire - Hydrant Detail	5-38	2023
Gate Valve Detail	5-39	2023
Fire Hydrant Detail - City of Great Falls	5-40	2023
Fire Hydrant Replacement on exist. Hyd lead	5-41	2023
Fire Hydrant Guard (bollards)	5-42	2023
Thrust Blocking Details	5-43	2023
Water Service replacement connections	5-45	2023
Water Service / Storm Draing Xing	5-45A	2023
Water Service / Storm Draing Xing	5-45B	2023
Water Service Entrance 4" and Larger Diameter	5-47	2023
Meter Pit - Residential	5-48	2023
Meter Vault - Large meters	5-49	2023
Irrigation Manhole - 1-1/2" meter and up	5-49A	2023
Sanitary sewer main at water main crossing	5-50	2023
Sewer Repair coupling	5-52	2023
Sewer Service connection in trench	5-53	2023
Sewer Service riser in trench	5-54	2023
Force Main Discharge into Existing Manhole	5-55	2023
Storm sewer inlet	5-60	2023
Storm sewer corner inlet apron	5-61A	2023
Storm sewer curb inlet apron - Type 1	5-61B	2023
Storm sewer curb inlet apron - Type 2	5-61C	2023
Storm sewer corner inlet apron	5-61D	2023
Sanitary Sewer Manhole ring & cover	5-63	2023
Sewer Manhole Short	5-64	2023
Sewer Manhole standard	5-65	2023
Manhole Connection - Over Existing Pipe	5-69	2023
Typical Exterior Grease Interceptor	5-75	2023
Typical Interior Grease Interceptor	5-76	2023
Standard MUTCD Type III Fixed Barricade	5-80	2023

41. City of Great Falls Standard Details – The following Details will be removed from the Standards.

Details	Drawing Number	Current Drawing
Typical Old Style Sidewalk and Integral Curb and Gutter	5-11	Removed
Transitional Sidewalk Intersection – Old style to New	5-13	Removed
Typical Valley Gutter Installation With Existing Curbs	5-15	Removed
Meter Pit – Residential (Replaced with 5-48A)	5-48	Removed
Type 1 Typical Corner Inlet Apron Detail	5-61A	Removed

This concludes the proposed revisions to incorporate into the official "City of Great Falls Standards for Design and Construction Revision No. 3". Once you have reviewed and are satisfied with the proposed revisions, please sign below for approval. Please feel free to contact me if you have any questions.

Sincerely,

Mark Juras

Mark Juras, PE
Development Review Coordinator
City of Great Falls – Public Works Engineering Division

Approved

Jesse Patton

Jesse Patton, PE – City Engineer — 10-27-2023 Date

Christoff T. Gaub

Christoff T. Gaub - Public Works Director — 10.27.2023 Date

Greg T. Doyon

Greg T. Doyon – City Manager — 10.30.23 Date