

RAE Water & Sewer District

Service Standards

RAE Water and Sewer District
10 RAE Water Lane
Bozeman, Montana 59718
(406) 586-3930

Adopted March 21, 2001
Revised 6/07
Revised 11/12

TABLE OF CONTENTS

	<u>Page No.</u>
District Overview & General Information	4
Policies for Extension of Services	5
Testing & Inspection Requirements	7
Permit Form	8
Petition For Annexation of Land	9
Service Agreement	10
Specifications for Water & Sewer	16
Construction Specifications	18
Drawings	Appendix A
<i>Typical Water Service Connection</i>	
<i>Typical Sewer Service Connection</i>	
<i>Manhole Detail</i>	

INTRODUCTION

The RAE Water & Sewer District has assembled this information to assist its customers and their engineers and contractors in planning for and obtaining water and sewer services. The information presented here is intended to supplement the ordinances of the RAE Water & Sewer District, Montana State Plumbing Code, and all other Federal or State codes, regulations, laws and ordinances. It is the customer's responsibility to abide by these codes, regulations, laws, and ordinances at the time of construction. If there is a conflict in this information and higher legal authority, then the higher authority shall take precedence.

DISTRICT OVERVIEW and GENERAL INFORMATION

The RAE Water and Sewer District provides water and sewer services to the residents of King Arthur Park, the RAE Subdivision, Meadow Brook Estates, Falcon Hollow, and surrounding lands. The district is located primarily south of Huffine Lane (Highway 191) and both east and west of Gooch Hill Road, approximately two miles west of the Bozeman City limits. The District was incorporated in 1977.

Water is supplied from groundwater wells. Wastewater is treated in an activated sludge wastewater treatment plant and recycled back to the ground through infiltration galleries.

APPLICABLE LAWS AND INDEMNIFICATION

Contractors performing water and sewer system work in the District shall give all notices and comply with all federal, state and local laws, ordinances and regulations affecting the conduct of the work, and shall indemnify and hold harmless the RAE Water and Sewer District against any claim or liability arising from, or based on, the violation of any such law, ordinance, regulation, etc., whether by himself or his employees.

PERMITS AND ANNEXATION PETITIONS

Before any new connection is made to the RAE Water and Sewer District facilities, a Service Agreement and a *Permit* issued by the District office is required.

Requests for service to properties lying outside the boundaries of the District must, additionally, be accompanied by a *Petition for Annexation* before such requests are considered.

NEW SERVICE AREAS -- AGREEMENT FOR WATER AND SEWER SERVICES

Available system capacity will always be a consideration when parcels request water and sewer service. Therefore, large capacity service requests in or out of the District require a *Water and Sewer Service Agreement* between the RAE Water and Sewer District and the developer requesting service. The *Water and Sewer Service Agreement* will define the terms and conditions necessary to secure a commitment for water and sewer service.

LIABILITY INSURANCE

Contractors shall procure and maintain, at their own expense, during the construction period, General Public Liability and Property Damage Insurance including vehicle coverage issued to the contractor and protecting him from all claims for personal injury, including death, and all claims for destruction or damage to property, arising out of or in connection with any operations covered by the contract documents, whether such operations by himself or any Subcontractor under him, or anyone directly or indirectly employed by the Contractor or by a Subcontractor under him.

Insurance shall be written with a limit of liability not less than \$1,000,000 for each occurrence. Contractors shall hold harmless, indemnify and defend the RAE Water and Sewer District and each of its agents, and each of their officers and employees, from any and all liability claims, losses or damage arising, or alleged to arise from performance of the work described herein, but not including the sole negligence of the District or its representatives. Each policy or certificate shall bear an endorsement or statement waiving the right of cancellation or reduction in coverage without ten (10) days written notice being delivered by certified mail to the District.

EASEMENTS

Properly recorded easements thirty feet (30'-0") wide shall be recorded by the developer with the Gallatin County Clerk & Recorder in the name of the RAE Water and Sewer District for all extended main line facilities. Proof of such recorded easements shall be provided to the District before any construction can begin on the section of sewer line in need of the easement.

POLICIES FOR EXTENSION OF SERVICES

The following Extension-of-services policies are designed to allow for the orderly expansion of the District's infrastructure.

1. For all properties lying outside the boundaries of the RAE Water and Sewer District, petitions of annexation into the District must accompany all service permit applications.
2. For main line extensions and for service area lift stations, RAE Water and Sewer District ownership of extended facilities is assumed at the end of a two-year warranty period following the completion of construction or the commencement of service, whichever is the latter.
3. For developments or subdivisions, a *Water and Sewer Service Agreement* is required before annexation and water and sewer service is obtained. *Water and Sewer Service Agreements* define the terms and conditions of such commitment to provide water and sewer service.
4. The water and sewer system shall be of adequate size and design to handle the requirements of the development. Where a development may create impacts requiring off-site improvements, such as at the treatment/disposal site, lift stations, water wells, or water treatment sites, the District may require the developer to wholly or partially bear the costs of such improvements.
5. Whenever a proposed development necessitates more water or sewage capacity than the existing District lines can transmit the developer or property owner shall, at his expense, construct facilities or additional lines to meet the District and state standards and requirements. Any deviations shall be approved by the RAE Water and Sewer District Board of Directors and the District's Engineer.
6. The owner or owners of any undeveloped territory shall be responsible for the costs of preparing an extension of services plan. Plans for extension of services shall include a report that describes all anticipated development in and around

the area in question, addressing future service connections, as well as the immediate needs. The report shall include a map or maps of the extended area and adjacent territory to show the following information:

- a. The present and proposed boundaries of the District.
 - b. The present streets and other utilities and the proposed water and sewer line extensions.
 - c. The general land-use pattern in the area to be developed or annexed.
 - d. The probable serving arrangement of future services connecting to the extended service lines in question.
 - e. The water and sewer flow capacities of the proposed extensions.
7. It shall be the Developer's or the property owner's financial responsibility to extend all utility lines from the existing RAE Water and Sewer District facilities to the affected property, in accordance with service extension plans and the District's standards for design and construction. It shall also be the responsibility of the developer or property owner to construct extended facilities to the boundaries of the affected property in such a manner that these can be extended into adjoining properties in the future without disturbing existing improvements.
8. The RAE Water and Sewer District reserves the right to further extend sewer mains installed by the preceding developer or property owner without paying compensation.
9. At the closeout of any project that will be or is owned by the RAE Water and Sewer District a closeout document shall be prepared. The closeout document shall include but is not limited to the following:
- a. Field notes, copy of the inspector's log.
 - b. Approved submittals
 - c. MDEQ approved plans and specifications.
 - d. Design report, stamped by engineer.
 - e. Operations and Maintenance manuals for all mechanical and/or electrical equipment.
 - f. All testing results signed and certified by the engineer.
 - g. Three copies of the "As-Built" drawings (one full sized and two 11" x 17").
 - h. One copy on a disc of the "As-Built" drawings in ACAD format.
 - i. Copy of sewer video inspection reports and video tapes.
 - j. Construction inspection photographs.
 - k. Engineers letter certifying project construction in accordance with project plans and specifications
 - l. Lien release from all suppliers.
 - m. Copies of all applicable bonds.
 - n. Final walk-through notes and items to complete.
 - o. Any other project related information.

TESTING & INSPECTION REQUIREMENTS

Extended Facilities Acceptance Testing

Facility acceptance tests required by the RAE Water and Sewer District shall include, but not be limited to, air/water tests, deflection tests, and televised inspections.

Television Inspection Requirements

Prior to final acceptance the contractor will perform a video inspection of all sewer main lines. Any deficiencies shall be corrected at the contractor's expense. The video-tape verification of the inspection shall be held by the District.

Construction Inspection

All development work designed by an engineer shall be certified and inspected by that engineer for conformance to plans and specifications. It is the contractor's responsibility to notify the District of the work requiring inspection at least twenty-four (24) hours in advance so that a District representative may attend such inspection.

Any project that does not have, in the opinion of the District, adequate inspection by the engineer may be shut down by the District until adequate project representation is provided.

RAE Water & Sewer District Permit
10 RAE Water Lane, Bozeman, MT 59718
Office (406) 586-3930

Date issued _____, Meter I.D. _____, Radio Read I.D. _____

Applicants name _____ Tel. No. _____

Job address _____ Lot No. _____

Billing address _____

Property owner if different _____

Type of service: Single family _____ Multiple family _____ Commercial _____

Water meter required (with remote reader)

Type of service _____

Fees

1. Water meter size: _____. Cost for meter and remote: \$ _____

2. Radio Read: \$ _____

2. Inspection Fee (water and sewer): \$ _____

3. System Investment Fee (water and sewer): \$ _____

(Entire fee or Final 1/3 payment if part of larger development covered under separate Service Agreement)

Total: \$ _____

Contractor's name and address

Comments

Installation Requirements: Individual Sewer connections shall utilize 4" SDR 35-SD Poly Vinyl Chloride pipe. Gasketed pipe is preferred. Minimum depth of bury is 18" (inches). Completion of line connection is subject to mandatory inspection by RAE Water and Sewer District personnel during regular business hours, 10-2 Monday through Friday. All permits are the responsibility of the applicant. Warranty of installation is property owner/contractor responsibility. Any person(s) performing water and sewer excavation must have proof of insurance on file at the RAE Water and Sewer District office.

Signature of applicant: _____

**Petition for Annexation of Land to
the RAE Water & Sewer District**

_____ (is/are) the owner(s) of the following
described real property:

Exact Legal Description as per Tax Statement: _____

Assessor No. _____

Pursuant to 7-13-2341(5), Montana Code Annotated, the undersigned hereby petitions the Board of Directors of the RAE Water and Sewer District [the District] to include the land described above. As the sole owner(s) of the above-described property, the undersigned further gives consent to the inclusion of such land in the RAE Water & Sewer District and agrees to pay for water and sewer services at such rates, times, and places as shall be determined by the District Board of Directors.

Dated: _____

Print Name: _____

Signed: _____

Annexation into the RAE Water and Sewer District allows for sewer service capacity based upon an Equivalent User's [average household] wastewater generation of 6600 gallons per month, including an average amount for inflow and infiltration. Future increases in capacity requirements (more living units, commercial use, etc.) for property specified here is subject to all fees and assessments that may apply at the time of change of use.

State of Montana
County of Gallatin

On this ____ day of _____, 2____, before me, a Notary Public for the State of Montana, personally appeared _____, known to me to be the person(s) whose name(s) (is/are) subscribed to the foregoing instrument as the Owner(s) of Record, and acknowledged to me that he/she/they executed the same.

In Witness Thereof, I have hereunto set my hand and affixed my Notarial Seal the day and year in this certificate last above given.

Notary Public for the State of Montana
Residing at _____
My Commission expires _____

[EXAMPLE]
WATER and SEWER SERVICE AGREEMENT

RAE WATER & SEWER DISTRICT

This Agreement is made between the RAE WATER & SEWER DISTRICT, hereinafter referred to as the "DISTRICT," and _____, the Owners of the subject property, hereinafter collectively referred to as the "DEVELOPER," with respect to the real property known as _____ Subdivision, consisting of approximately _____ lots covering 10 +/- acres, located in Gallatin County, Montana, as more particularly described below.

WITNESSETH:

WHEREAS, the DEVELOPER desires water and sewer service from the DISTRICT and it is to the mutual benefit of the DISTRICT and the DEVELOPER to provide extended water and sewer mains to the real property owned by the DEVELOPER generally described as the _____ Subdivision. The purpose of this Agreement is to establish procedures for further planning, obligations to construct infrastructure and pay fees, and to provide for a commitment to serve the proposed Project.

NOW, THEREFORE, in consideration of the mutual covenants herein contained, the parties to this Agreement do hereby agree as follows:

AGREEMENT

1. **WATER AND SEWER MAIN EXTENSION:** DEVELOPER shall construct, at its sole expense, water and sewer main extensions to and within the development mentioned herein. All new facilities destined for RAE Water and Sewer District ownership and ongoing maintenance shall be identified on all drawings and are described as the extended water and sewer mains and all their appurtenances. Extension of all water and sewer utilities must be to District specifications, with the District engineer's approval, prior to construction.

2. **DISTRIBUTION AND COLLECTION SYSTEM:** DEVELOPER shall construct a water distribution and sewer collection system in the PROPERTY SERVED. All collection and service lines will be of a "conventional" sewer system [no gray water systems, foundation or roof drains, sump pumps allowed].

LOT OWNER shall, at their expense, install and maintain all water and sewer system lines from the DISTRICT'S curb stop (water) or service connection (sewers) to each building. Such installations must meet the DISTRICT's ordinance specifications.

3. **SERVICE:** The DISTRICT shall furnish water and sewer service to DEVELOPER and the subject real property subject to the limitations and agreements set forth below and subject to its rules, regulations and policies for service now in force or as hereafter amended.

4. **FEES:** In consideration of DISTRICT's commitment to provide service at the capacity levels identified herein, DEVELOPER and subsequent LOT OWNERS must pay all District System Investment Fees and inspection fees as set forth herein and as may be changed from time to time. The DEVELOPER shall be assessed an inspection fee and a variable, 3-element System Investment Fee ("A" below), for the proposed Project, paid to the DISTRICT according to the following schedule:

A. System Investment Fee [based on a Volume Ratio Unit (VRU) of 1 for a ¾-inch pipe

diameter). Each dwelling unit to be assessed a ¾-inch hookup fee. Each commercial unit to be assessed a 1-inch hookup fee. _____ for a total of _____ dwelling units and _____ commercial units (_____ x \$ _____ + _____ x \$ _____ = \$ _____).

- 1) One third (1/3) of the System Investment Fee (\$ _____) for the Project shall be paid by the DEVELOPER at the time of signing this Agreement.
- 2) One third (1/3) of the System Investment Fee (\$ _____) for the Project, shall be paid by the DEVELOPER at the time of individual lot sale (based on the system investment fee for each lot).
- 3) One third (1/3) of the System Investment Fee (\$ _____) for the Project shall be paid in prorated shares of dwelling unit per lot (\$ _____), and each LOT OWNER shall pay such share at the time of making an individual RAE W&S permit application. Water meter and remote reader picked up and paid for at this time from the District office.

B. Other requirements which could include water well sites, lift stations, infiltration galleries, etc. depending on the needs of the development and also the best interests of the District as a whole.

C. Inspection Fee:

- 1) Main Line Extension (District fee): \$ 100 water and \$100 sewer.

The above-described schedule is based on the System Investment Fee of \$ _____ per Equivalent Dwelling Unit in effect as of 2 _____.

The DEVELOPER'S contractor shall obtain approval in writing from the DISTRICT prior to connecting to DISTRICT mainlines.

5. PROPERTY SERVED: The DISTRICT shall furnish water and sewer service to DEVELOPER and to subsequent LOT OWNERS for the following described property, commonly known as the _____ Subdivision, and legally described as follows:

See attached Exhibit "A"

6. ADDITIONAL PROVISIONS: The DEVELOPER agrees to provide all water and sewer lines, manholes, valving, etc. in accordance with the District's Service Standards, and to follow all other requirements of the District's Service Standards (Ordinance No. O-070619a) for the subdivision, and also agrees to:

- Participate in a Payback District for the wastewater lift station and force main constructed on the Ferguson Commercial Project property.
- Provide an easement for an infiltration gallery or a pipeline to reach a future infiltration gallery to be located _____.

All of the above mentioned water and sewer infrastructure to be constructed by the DEVELOPER, at DEVELOPER's sole expense, but owned and maintained by the DISTRICT.

7. EXPIRATION PERIOD: This Agreement is for a term of ten [10] years. If the proposed water and sewer main extension and water and sewer distribution and collection system is not completely built out within ten [10] years of the signing of this Agreement, the DEVELOPER

forfeits all prepaid fees and assessments paid to the DISTRICT and capacity commitments are available for re-allocation by the DISTRICT.

GENERAL REQUIREMENTS

1. **ANNEXATION REQUIRED:** All property served by the RAE Water and Sewer District system must be annexed into the District. Annexation requests will be considered on the basis of system capacity availability.
2. **BILLING ENTITIES:** One billing entity will be established for each Equivalent Dwelling unit. This entity is referred to as the CUSTOMER.
3. **HOLD HARMLESS:** The DEVELOPER, and for its successors and assigns, agrees to hold the DISTRICT free and harmless from any and all liability regarding the DEVELOPER's lines or regarding the DEVELOPER hooking to the DISTRICT's lines and will indemnify the DISTRICT for any damages caused to the DISTRICT or any of the DISTRICT's property or any third party who makes claims against the DISTRICT. This indemnification and hold harmless clause is intended to be broad in scope and all encompassing. This indemnification and hold harmless extends to the governing board of the DISTRICT, the DISTRICT's Manager or employees, as well as to the DISTRICT entity itself.
4. **AGREEMENT TO ENCUMBRANCE:** The DEVELOPER specifically agrees that this Agreement shall constitute an encumbrance on the land described above, and this encumbrance shall run with the land and be binding upon subsequent purchasers, assignees, heirs, or any other persons or entities coming into possession of the lands as described above during the term of this Agreement. The DISTRICT will record this Agreement with the Gallatin County Clerk and Recorder, but failure of the DISTRICT to so record this Agreement with the Gallatin County Clerk and Recorder shall not void the binding effect of this Agreement on subsequent purchasers or subsequent mortgagees. The DEVELOPER has the duty and burden of informing subsequent purchasers, heirs, assigns, mortgagees, or others obtaining an interest in the land which is the subject of this Agreement.
5. **INGRESS AND EGRESS:** DEVELOPER, and its successors and assigns, grants permission to the DISTRICT to enter DEVELOPER's property to make reasonable inspections as the DISTRICT deems necessary and for purposes of repairs, maintenance, operation, replacement, removal, and inspection of DISTRICT lines and service lines. DEVELOPER further agrees that DEVELOPER, and its successors and assigns, will not build structures on or over any DISTRICT-owned lines and, in the event of any structure on or over said line, the DISTRICT will have the right to remove said structures at DEVELOPER's or DEVELOPER's successors and assigns, cost (depending on who is at fault) and the DISTRICT has no obligation to repair or replace said structures.
6. **DESIGN:** The DISTRICT shall have the authority to determine the location and design of any service line connected to its collection system. Neither DEVELOPER nor any subsequent LOT OWNER shall make any connection or extension on any service line for the purpose of supplying water or sewer service to any other building or land. Each building shall have its own water and sewer service line and separate water and sewer connection to the mains.
7. **DEBT REPAYMENT:** In addition to the fees for use, the LOT OWNER may be required, through the Monthly User Fee as determined by the Board of Directors, to make adjusted payments brought about by increased Operation and Maintenance Cost and Construction Cost relative to System Capacity needs. Parties requesting annexation into the DISTRICT agree that in the event revenues of the DISTRICT are inadequate to pay for operations, maintenance and debt costs, the DISTRICT has the option to assess lands within the DISTRICT to meet those commitments.

8. DEFAULTS: In the event of non-payment or default in any term of this Agreement, the DISTRICT may terminate services or enforce payment or enforce DISTRICT rules and regulations using the appropriate court systems. The DEVELOPER, and for its successors and the subsequent LOT OWNERS, specifically agrees that the DISTRICT may elect to have any delinquent charges for sewer service collected as a tax against the real property described above, per MCA §7-13-2301. Late payments to be assessed the maximum interest allowed by law.

9. LITIGATION: In the event legal proceedings are instituted to enforce payment or other provisions of this Agreement, the prevailing party shall be entitled to a reasonable attorney fee, as well as costs and disbursements.

10. QUALITY OF SEWAGE: Standards for the quality and content of normal residential wastewater are 200 mg/L BOD and 240 mg/L SS, and 25 mg/L fats, oils, and greases. Meeting these standards and ensuring effective effluent odor controls are the sole responsibility of the CUSTOMER/LOT OWNER. Any person discharging industrial pollutants which cause an increase in the cost of treating the effluent or sludge from the DISTRICT's wastewater treatment facility shall pay for such increased costs, as determined by the DISTRICT.

11. EASEMENTS: Properly recorded easements, thirty feet [30'-0"] wide shall be recorded by the DEVELOPER with the Gallatin County Clerk and Recorder in the name of RAE Water & Sewer District for all extended main line facilities and infiltration galleries. Proof of such recorded easements shall be provided to the DISTRICT before water and wastewater flows begin.

12. POLICY FOR EXTENSION OF SERVICES: Nothing in this Agreement supersedes or nullifies any of the ordinances of the DISTRICT.

13. WATER METER REQUIREMENT: Each dwelling unit will have its own water meter and will be billed for water and sewer usage as individual CUSTOMERS. In the case of a fourplex, 4 meters will be required. If irrigation is also desired, a 5th meter will be required. There will, however, be no monthly base rate charge for the irrigation meter, just a usage charge. Water meters must be purchased, installed, and maintained at the LOT OWNER's expense. They are not the property of the District, though they can be inspected by the District. Each LOT OWNER shall install water meters with an external/remote, radio-reader that meets DISTRICT standards (provided by DISTRICT, but paid for by LOT OWNER. Meter and remote is issued along with the RAE Water & Sewer permit).

14. WARRANTY PERIOD: Responsibility for all maintenance repairs, inflow and infiltration problems, and/or any other condition requiring corrective action will remain with the DEVELOPER for two [2] years from the time of the first service connection to the newly extended main lines. Following a successful final inspection after the warranty period, DISTRICT will assume ownership of the extended main lines, well, pump house, and operations and maintenance responsibilities.

DEFINITIONS

1. "Agreement" shall mean this Water and Sewer Service Agreement.
2. "Design Area" shall mean and include those parcels of land described herein and reflected on the maps and plans of this water and sewer service agreement.
3. "DEVELOPER" shall mean and refer to the Owners of said property, and their successors and assigns, if such successors and assigns acquire title to all property and lots within the property for purposes of retail sale of such lots.
4. "Equivalent User" equates to one average household/residence or 6000 gallons of water and waste-water per month.
5. "LOT OWNER" shall mean and refer to an individual owner of a lot within Subdivision, and successor-in-title to the Owners of said property, who applies to the District for water and sewer service for a structure being constructed by such owner on such particular lot.
6. "System Investment Fee" is a variable fee [over time] intended to recover an equivalent user's pro-rata share of the capital cost for the construction and provisioning of the water and sewer system.
7. "Sewage," "Effluent," and "Wastewater" are used interchangeably.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement this ____ day of _____, 2_____.

DISTRICT:

RAE WATER & SEWER DISTRICT

By: _____
_____, Board President

DEVELOPER:

STATE OF MONTANA)
 :ss.
County of Gallatin)

On this ___ day of _____, 2_____, before me, a Notary Public for the State of Montana, personally appeared _____, known to me to be the person whose name is subscribed to the within instrument and who acknowledged to me the execution of the same in her capacity as the duly authorized Board President of RAE Water & Sewer District.

[SEAL]

(Printed Notary Name)
Notary Public for the State of Montana
Residing At: _____
My Commission Expires: _____

STATE OF MONTANA)
 :ss.
County of Gallatin)

On this ___ day of _____, 2_____, before me, a Notary Public for the State of Montana, personally appeared _____, known to me to be the person whose name is subscribed to the within instrument and who acknowledged to me the execution of the same.

[SEAL]

(Printed Notary Name)
Notary Public for the State of Montana
Residing At: _____
My Commission Expires: _____

SPECIFICATIONS FOR WATER and SEWER

WATER COMPONENTS

GATE VALVE	Mueller resilient wedge gate valve 12" and under, A2360 or approved equal
MAIN LINE	8" minimum diameter class 200 C900 PVC water
TAPPING VALVE	Mueller resilient seat tapping valve or approved equal
TAPPING SADDLE	Power Seal Stainless Steel Model 3490AS or approved equal
VALVE BOXES	Tyler 6860 Series DD - screw type #6 Base for water or approved equal
CORPORATION STOPS	Mueller H-1502615005 3/4" & 1" Mueller H-15008 3/4" & 1" Mueller B-25008 3/4" & 2" CC x 110 Mueller H-15013 1-1/2" & 2" Mueller B-25000 3/4" & 1" Mueller B-25005 3/4" & 1" cc x Insta
SERVICE SADDLES	Smith Blair Model 371 4" - 12" Smith Blair Model 372 4" - 12" Romac Model 304 2" - 12" Romac Model 305 10" - 32" Mueller Brass H16000 H13000
SERVICE PIPE	Main to Building 1. PE Pipe (IPS) SDR 7 - 3/4" & 1" 2. PE Tube (CTS) SDR 9 - 1-1/2" & 2" (200 PSI)
CURB STOP	Mueller H-15213 3/4" - 1" Inst x Inst Mueller H-10314 w/stationary rod Ford B66-333u 1 - 2" Poly x Poly Mueller resilient wedge gate valve for larger than 2", A2360 or approved equal
ADJUSTABLE RISERS	Tyler 64-A 7 65-B
COUPLINGS	Solid sleeve - Ductile iron - Romac 501 or equal
JOINT RESTRAINT	Megalug 2000 or thrust blocks
FIRE HYDRANT	Mueller Super Centurion 200, 5 1/4", 3-way

SEWER COMPONENTS

MANHOLE F/C	Inland Foundry Model 771 772
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B = Ball valve H = Ora seal

GRAVITY SEWER LINE	8" SDR 35 PVC (min.)
FORCEMAIN SEWER LINE	4" HDPE SDR 15 (min.)
SERVICE LINE (GRAVITY)	4" SDR 35 PVC (min.), Class 200 SDR 21 gasketed PVC, or schedule 40 PVC
SMALL DIA. FORCEMAIN SERVICE	2" HDPE SDR 15 (min.)
FORCEMAIN TIE-IN SADDLE	Romac saddle style 202 N nylon w/ stainless steel straps or approved equal
FORCE MAIN TIE-IN VALVE	MULLER 300 ball corp valve or approved equal
SERVICE LINE (GRAVITY)	4" SDR 35 PVC (min.)

CONSTRUCTION SPECIFICATIONS

RAE WATER & SEWER DISTRICT

SANITARY SEWER SYSTEMS

Sanitary sewer systems shall be designed, constructed, and tested in accordance with the current editions of *the State of Montana Water Quality Standards*, the *Construction Specifications - RAE Water and Sewer District*, and the *Montana Public Works Standard Specifications*, most recent edition.

In addition the following shall apply to the design of all sanitary sewers:

Gravity Sewers:

A written report shall assess the ability of the existing collection and conveyance system to handle the peak design flow from the project and the impact on the Wastewater Treatment Plant.

Sewage Lift Stations:

A written report shall be submitted for any project that will create a new sewage lift station or will contribute to an existing sewage lift station. The report for a new sewage lift station shall contain, but not be limited to, the following:

1. A description of the proposed wet well, pumping station, and force main.
2. The capacity of the recommended pump and potential for upgrading.
3. A map showing the potential lift station service area [service area beyond the initial installation].
4. The average and peak design flows for the proposed project and for the potential service area.
5. The hydraulic capacity of the force main.
6. The reserve capacity of the lift station when the proposed project is on line at full capacity.
7. The pump run and cycle times for the average and peak design flows.
8. Strategies for improvements, which may be necessary to accommodate future sewer extensions [i.e., increased storage, pumping or auxiliary power capacity].
9. A statement of the pump selection process, including the engineer's calculations for the total dynamic head, total discharge head, net positive suction head, and other pertinent pump selection criteria.
10. The designed pump operating curve plotted on a manufacturer's pump performance chart with the designed operating point clearly identified.

The report for a project that will contribute to an existing sewage lift station shall contain, but not be limited to, the following:

1. A description of the existing wet well, pumping station, and force main.
2. The capacity of the existing pumps and potential for upgrading.
3. A map showing the potential lift station service area.

4. A list of the existing users and their average design flows.
5. The existing peak design flow and reserve capacity.
6. The pump run and cycle times for the existing average and peak design flows.
7. The hydraulic capacity of the force main.
8. A list of the proposed users and their average design flows.
9. The proposed average and peak design flows to the lift station.
10. The reserve capacity of the lift station with the proposed project on-line at full capacity.
11. The pump run and cycle times for the proposed average and peak design flows.
12. Recommendations for improvements, if necessary, to enable the lift station to serve the proposed project.

An **alarm system** shall be provided that is capable of detecting power interruption, phase failure, high water, and high motor temperature conditions. The alarm signals shall be directed to an on-site alarm monitoring and telemetry system. An hour meter and incident counter is required for each pump.

Excavation within the Public Right-of Way

Unless otherwise approved by the District Engineer, all excavated materials shall be immediately loaded into trucks, removed from the site and disposed of by the Contractor. Excavated materials shall not be stockpiled on site. Native materials shall not be used for backfill unless approved by the District Engineer. Trench backfill within the public right-of-way shall provide uniform gradation mixture in accordance with the requirements of the current edition of the Montana Public Works Standard Specifications (MPWSS).

Minimum Pipe Size:

The minimum diameter of any gravity sanitary sewer main shall be eight inches (8").

Sanitary Sewer Service Lines:

Structures containing two or more residences and offices or businesses that are rental units under common ownership may have one service line for all occupants within a single structure, assuming building and plumbing code compliance.

Quality of Sewage:

Standards for the quality and content of normal residential wastewater are 200 mg/l BOD and 240 mg/l SS. Meeting these standards and ensuring effective effluent odor controls are the sole responsibility of the DEVELOPER or his successors. Any person discharging industrial pollutants which cause an increase in the cost of treating the effluent or sludge from the District's wastewater treatment facility shall pay for such increased costs, as determined by the District.

No development shall introduce any sewage into the RAE Water and Sewer District Sanitary Sewer System that is not consistent with the requirements of the District Ordinances, or as subsequently amended.

PROHIBITIONS & LIMITATIONS:

A. Except as provided in this ordinance, a person is prohibited from discharging or causing to be discharged any of the following wastes or substances to the public system:

1. Any gasoline, benzene, naphtha, fuel oil or other flammable or explosive liquid, solid or gas;
2. Any stormwater, rainwater, floodwater or water originating from a sump pump or seepage pit, basement drainage water, or discharge from foundation drains;
3. Any waters or wastes containing toxic or poisonous solids, liquid or gases in sufficient quantity, either singly or by interaction with other wastes, that could injure or interfere with any waste treatment or sludge disposal process, constitute a hazard to humans or animals, or create a public nuisance in the receiving waters of the wastewater treatment facility;
4. Any substance, which if disposed of in any other method than to the public system, would be classified or defined as a hazardous waste under 40 CFR, Part 261;
5. Any waters or wastes having a pH lower than 5.0, or in excess of 9.0, or having any other corrosive property capable of causing damage or hazard to structures, equipment and personnel of the wastewater treatment facilities;
6. Solid or viscous substances in quantities or of such size capable of causing obstruction to the flow in the public system or other interference with the proper operation of the wastewater treatment facilities, such as, but not limited to, ashes, cinders, sand, mud, straw, shavings, metal, glass, rags, feathers, tar, plastics, wood, garbage, whole blood, paunch manure, hair and fleshing, entrails, paper dishes, cups, milk containers, etc., either whole or ground by garbage disposals;

B. Except as provided in this ordinance, a person is prohibited from discharging or causing to be discharged wastes or substances to the public system in amounts that exceed the following limitations:

1. Wastewater having a temperature higher than 180°F (82°C).
2. Wastewater containing more than 25 mg/l of petroleum oil, non-biodegradable cutting oils or products of mineral oil origin.
3. Wastewater from industrial plants, restaurants, or other commercial establishments, containing more than 25 mg/l of floatable oils, fat or grease.
4. Any waters or wastes containing iron, chromium, copper, zinc and other toxic and nonconventional pollutants in concentrations exceeding levels specified by federal, state and local authorities.
5. Any waters or wastes containing odor-producing substances exceeding limits which may be established by the District or limits established by any federal or state statute, rule or regulation.
6. Any water or wastes which, by interaction with other water or wastes in the public system, release obnoxious gases, form suspended solids or create a condition deleterious to structures and treatment processes.
7. Materials which exert or cause:

- a) Unusual BOD, chemical oxygen demand or chlorine requirements in such quantities as to constitute a significant load on the wastewater treatment facility;
- b) Unusual volume of flow or concentration of wastes constituting slugs;
- c) Unusual concentrations of inert suspended solids or of dissolved solids;
- d) Excessive discoloration;

8. Any discharge that would cause a violation of any discharge permit issued to the District.

EXCEPTIONS:

Nothing in this Ordinance shall be construed as prohibiting any special agreement between the District and any person whereby a waste of unusual strength or character may be admitted to the wastewater treatment facilities, either before or after pretreatment, provided that there is no impairment of the functioning of the wastewater treatment facilities by reason of the admission of such wastes, and no extra costs are incurred by the District without recompense by the person; and further provided that all provisions set forth in this Ordinance are recognized and adhered to.

Appendix A

Drawings