

APPENDIX A

Policy on Temporary Pump Stations and Force Mains

General

1. Purpose:

The City of Sioux Falls' gravity sanitary sewer system policy has served the community well for decades. It is the most efficient and cost-effective system for the citizens and rate payers of the City of Sioux Falls. Temporary pump stations and force mains shall only be used if the criteria in this policy are met.

2. Definitions:

- a. Tier I: Boundary area encompassing Capital Improvement Program (CIP) projects for major public utilities; area is to be serviced with public utilities within a five-year period from present date (defined on drawing – “Growth Management Plan Tier Structure Sanitary Sewer Availability”).
- b. Tier II: Boundary area encompassing utility master plan areas which will be included in future CIP projects; area is to be served with public utilities within a 6-year to 15-year period from present date (defined on drawing – “Growth Management Plan Tier Structure Sanitary Sewer Availability”).
- c. Substantial public benefit: A significant benefit to the City of Sioux Falls and approved by City Council. Community facilities, land dedication, affordable housing, employment opportunities, or other public benefit designed to ensure and preserve the community's character and natural resources.

Service Area Requirements

1. **Tier I Areas Only:** Temporary pump stations and force mains shall only be allowed in Tier I areas; provided that the gravity trunk line to the service area is in the five-year CIP with construction funding clearly identified.
2. **Limited Use:** It is anticipated that temporary pump stations may only be used in a limited basis in the Sioux Falls area. In the vast majority of situations, gravity sanitary trunk sewer should be used, even if the trunk line construction is several years away. **Pump stations and force mains are to be temporary due to timing in the construction of the gravity line.**
3. **Temporary Basis:** Pump stations are more expensive to maintain and operate than gravity systems and shall only be allowed on a temporary basis. Gravity flow sanitary sewer lines are still the best and most cost efficient long-term method to provide service.
 - a. Temporary is defined within CIP time frames, and shall mean a period up to **five years**, at which point the CIP programmed gravity sanitary trunk sewer line is built allowing the facility to be discontinued. As soon as the gravity line is

available, the pump station shall be discontinued, removed, and replaced with the gravity sanitary trunk sewer.

- 4. Location of Pump Stations:** The Developer is responsible for all costs involved in acquiring suitable land for the pump station and costs for providing access drives to the facility. Developers shall plan for pump station locations to account for future street right-of-way (ROW) needs and the pump station shall not be located in existing or future public ROW. The developer shall be solely responsible for costs of any environmental analysis needed to locate the facility.
 - a. The pump station shall be required to be located at the end of or along the planned gravity sanitary trunk sewer line that is in the five-year CIP plan for construction.
 - b. Capacity in the basin in which the pump station is to discharge into shall have full capacity to include the proposed pump station and the full build out of the receiving basin (see #6 Receiving Sanitary Sewer Line Capacity).
- 5. Obtaining Right-of-Way and Easements:** The Developer shall be solely responsible for all costs of obtaining ROW and easements without reimbursement from the City. Force mains shall be allowed to be located in arterial street ROW, if space is available. The developer shall show there is adequate ROW for the force main now and in the future.
- 6. Receiving Sanitary Sewer Line Capacity:** The receiving sanitary sewer trunk (in the receiving basin) and/or smaller line shall have capacity based on current and projected full basin build out flows to receive the extra flow during the temporary basis. The projected capacity should assume a full build out of any Planned Urbanized land, and then projected capacity shall be based on a reasonable build out of the Future Urbanized land. (See #7 Service Area of Pump Station)
- 7. Service Area of Pump Station:** The pump station and force main shall be sized to serve Planned Urbanized land in the same sub-basin which naturally drains to the pump station.
 - a. Pump stations to benefit and serve a single property are discouraged.
 - b. Pump stations shall be designed to serve at least 200 acres. Small pump stations are inefficient to operate.
 - c. The area to be served by the pump station shall be contiguous to the city limits.
 - (1) This policy is not intended to permit “leap frog” or growth that is not contiguous to the City. Land to be served shall be inside the city limits prior to service.

8. **Basins with Sewer Line Capacity:** The following is a list of basins with sanitary sewer trunk lines that currently have or do not have capacity (assuming projected Planned Urbanized Area development):

Basins with Potential Capacity
(At Time of Latest Flow Analysis)

Basins Without Capacity

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| <ul style="list-style-type: none"> ● Basin 13 Trunk Sewer ● Basin 14 Trunk Sewer ● Basin 15 Trunk Sewer ● Basin 17 Trunk Sewer ● Basin 18 Trunk Sewer ● Basin 20 Trunk Sewer ● Basin 26 Trunk Sewer | <ul style="list-style-type: none"> ● Basin 1 ● Basin 2 ● Basin 3 ● Basin 4 ● Basin 5 ● Basin 6 ● Basin 7 | <ul style="list-style-type: none"> ● Basin 8 ● Basin 9 ● Basin 10 ● Basin 11 ● Basin 12 ● Basin 16 |
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“Basins Without Capacity” is based on current and projected flows and could not be pumped into unless there is capacity based on a reasonable full build out of the area to be served. In some situations, once major improvements to a few of these lines are made, there may be some capacity.

9. **Impact on Other Services:** Use of a temporary pump station to advance development may also impact the provision of other public services. Thus, the developer shall address the following information based on the **Phasing Plan** of the January 2003 Growth Management Plan:
- a. Demonstrate how the necessary infrastructure improvements to serve the sub-basin will be provided and financed. The City shall contact other public agencies to obtain their report on the infrastructure necessary to serve the sub-basin including private and public utilities, roads, fire service, public safety, parks, trails, schools, and library needs.
 - b. Address the impact the development in the sub-basin shall have on capital and operating budgets, level of service, service delivery, and the CIP.
 - c. There is a demonstrated substantial public benefit and circumstances that warrant approval of the proposal in advance of the anticipated schedule.

Design Standards

1. **Length of Force Main:** Even if fully funded by a developer, building long force mains rather than gravity sanitary sewer lines is inefficient use of the future homeowner’s financial resources. The longer time it takes to transport the waste, the greater potential for problems with respect to corrosion and odor and higher sulfide generation will occur. The developer must ensure a 4 to 5 feet per second (fps) velocity at least one time each day in the force main. It will be important to make appropriate use of air relief valves, blowoffs, and chemical injection (if needed), in accordance with the City design standards. Standards will be needed for chemical use in the pump station odor control.

2. **Notification of Other Affected Properties:** The Developer is responsible for contacting other property owners that may reasonably be served by a pump station or lateral or trunk line within the sub-basin early in the review process. This will allow other owners to have the same information and determine their interest in the potential pump station.
3. **Construction:** The Developer shall be solely responsible for all costs of constructing the pump station and force main. Construction plans shall be approved by the Director of Public Works and be in accordance with City standards and specifications. Pump stations and force mains are considered temporary facilities and are not eligible for oversize reimbursement. The Developer shall bear the construction cost without reimbursement from the City.
4. **Cost Recovery:** The Developer shall be responsible for paying the sanitary sewer cost recovery fee for the receiving basin.
5. **Pump Station Design Specifications:** The Developer shall conform to the City design standards and supplemental specifications for temporary pump stations and force mains as developed by the Director of Public Works. Even with the design standards, there may be additional review time required for pump stations. Costs for any additional review time outside of the normal development review process, for the pump station and force main review shall be paid for by the Developer.
6. **Third-Party Connections:** Provided there is downstream capacity, when another party other than the Developer connects to the pump station, that party shall reimburse the Developer for their “fair share” of the cost of constructing and operating the pump station and force main (including design and other included costs). The method and formula for contribution shall be set up in a private cost recovery agreement.
7. **Ownership and Operation:** The Developer shall own the pump station and force main, land and easement areas, and the City shall operate the pump station and force main once inspections have been completed and the facilities are found acceptable. Pump stations in general are costly to maintain and operate. The City accepts operation responsibilities only to avoid problems of an inexperienced or inaccessible private operator that would inadequately respond to complaints or emergency situations. All easements shall be temporary and granted to the City. The temporary easements shall exist until one year after the pump station is abandoned and no longer needed and the City shall release the temporary easement at such time.
8. **Operation, Repair, and Maintenance Costs:** There are substantial operation, repair, and maintenance costs for a pump station and force main. The City may be required to hire additional staff to operate the facility. The Developer shall be responsible for all costs for operating and maintaining the pump station and force main during the life of the facility. The costs of operating, maintaining, upgrading, permitting, and administering are costs of the system and shall be paid for by the Developer.

The Developer shall provide the City with a present worth cost for operating and maintaining the pump station for the period of years of anticipated use. These dollars shall be submitted to the City before the pump station is allowed to be placed in service. The City shall determine the annual cost of the operation and maintenance and the rate of interest to apply to the present worth factor. If the pump station is operated beyond the anticipated date of disconnection, the developer shall be responsible for the additional years of operation and maintenance costs as determined by the City.

The Developer shall notify all property owners who will connect to the temporary pump station of their cost recovery, operation, repair, and maintenance costs.

- 9. Closing of the Temporary Pump Station:** The City shall decommission the pump station once the station is no longer necessary. The City shall be responsible for costs of demolishing the station and restoring the site. Decommissioning of the station shall include but not be limited to the following:
 - a. Removing the generator and electrical panel.
 - b. Disconnecting the power.
 - c. Purging the force main with potable water.
 - d. Abandoning and capping the force main in-place.
 - e. Removing all salvageable equipment from the pump station.
 - f. Demolishing the station three to four feet below finished grade elevation, which includes removal of all material in the top three to four feet of the ground surface.
 - g. Finish grading and seeding of the site.
 - h. Erosion control measures necessary to meet City standards.

- 10. Salvage Rights:** The City shall fund all costs associated with properly abandoning the temporary pump station and force main, including costs for restoring property in the easements. The City shall have full salvage rights to the building and equipment for the pump station after it is closed. The future use of the land for the pump station shall be identified prior to approving the station.

- 11. Storage Tanks Prohibited:** The use of storage tanks is prohibited. Developments have proposed building storage tanks in order to pump the waste out at night in areas where the existing pipes are at capacity. There are compelling technical and operational problems with storing effluent for periods beyond a few hours. For example, there are odor and corrosion problems in the pipe lines when wastes are held for a long period of time. A pump station is typically designed to pump all the waste out every two to three hours, which is the longest period the waste should be held.