Detroit Water and Sewerage Department

Wastewater Master Plan

DWSD Project No. CS-1314

Review of Federal, State and Local Regulations

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Author: Hinshon Environmental Consulting

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Review of Federal, State and Local Regulations

1. Purpose

This document identifies the pertinent state, federal and local regulations which may impact or affect development of the Detroit Water and Sewerage Department (DWSD) Wastewater Master Plan pursuant to Contract CS-1314.

2. Overview of Federal, State and Local Laws and Regulations

Numerous federal and state statutes and local ordinances have been adopted which may directly or indirectly affect the Wastewater Master Planning effort including the Federal Clean Water Act, Clean Air Act, Safe Drinking Water Act, the Michigan Natural Resources and Environmental Protection Act (the Michigan "Environmental Code"), the Detroit City Charter and local ordinances and codes. Numerous state and federal regulations and rules have also been adopted to implement these laws, and these rules establish the regulatory framework for many programs. This Technical Memorandum does not specifically address the status of compliance with laws, regulations and codes, but rather seeks to identify the relevant requirements which must be addressed from a planning perspective under CS-1314.

3. Specific Statutory/Regulatory Issues Which Affect the Wastewater Master Plan

3.1 Water Quality Standards and Related Topics

The State of Michigan has adopted Water Quality Standards to satisfy requirements in the Federal Clean Water Act and the Michigan Environmental Code. Michigan's Water Quality Standards were amended in 1999, to incorporate new provisions dealing with toxic bioaccumulative pollutants, antidegradation requirements, variances and mixing zones in response to a national requirement for Great Lakes states to adopt Water Quality Standards which are consistent with EPA's Great Lakes Initiative Water Quality Guidance.

3.1.1 Designated Uses

Rule 1100 lists the designated uses which are applicable to all surface waters of the State of Michigan. As a minimum, all surface waters of the state are protected for the following uses:

- Agricultural
- Navigation

- Industrial water supply
- Public water supply at the point of water intake
- Warm water fishery
- Other indigenous aquatic life and wildlife
- Partial body contact recreation

In addition to these minimum uses, certain other waters are protected for more restrictive designated uses including cold water fishery and total body contact recreation. Within southeast Michigan, the cold water fishery designation applies to the Great Lakes and connecting channels and a few small trout streams.

However, most rivers, streams and lakes within the region are protected for the less sensitive warm water fishery designated use. Almost all of the surface waters in the region are protected for total body contact year round.

3.1.2 Narrative Standards

The Water Quality Standards set forth narrative standards which describe acceptable and unacceptable conditions for various pollutants and parameters to ensure that they are not injurious to any designated use for the water body. Narrative standards have been adopted for turbidity, color, oil films, floating solids, foams, settleable solids, suspended solids, deposits, taste or odor producing substances, and radioactive substances.

3.1.3 Numerical Standards

The Water Quality Standards include specific numerical criteria for many pollutants where such numerical values can be identified as adequate to protect the accompanying designated use. Numerical standards are specified for many toxic substances (including metals, pesticides, and organic compounds), phosphorus, microorganisms, dissolved oxygen and temperature. The numerical standards for toxic pollutants are expressed as both acute (end-of-pipe) requirements and chronic (edge of mixing zone) requirements to ensure that plants and aquatic species are protected from both immediate and long term exposure.

3.1.4 Mixing Zones

Under Rule 82 of the Water Quality Standards, mixing zones can be approved to allow for the dissipation and dilution of a pollutant at the point of discharge, provided that the concentration outside the mixing zone is not deleterious to aquatic life, plants, or wildlife, and that the designated uses are not impaired.
As a minimum, the Standards require that acute toxicity limits be met at the end-of-pipe, and chronic toxicity limits be met at the edge of the mixing zone.

Rapid mixing and dilution devices are encouraged where practicable, however the mixing zone shall not prevent passage of fish or fish food organisms in a manner, which impacts immediate or future populations. Mixing zones may not use up more than 25% of the receiving water design flow. In November 2000, EPA issued final regulations, which ban the use of mixing zones for bioaccumulative chemicals in the Great Lakes Basin, and Michigan is in the process of amending its Water Quality Standards to incorporate a similar provision.

3.1.5 Antidegradation Requirements

Rule 98 of the Water Quality Standards sets forth requirements for any new or increased discharge of pollutants, including new or expanded municipal wastewater treatment plants. Specific procedures are established to govern discharges to water bodies where the existing water quality is better than Water Quality Standards. In general, the antidegradation rule requires that the current water quality be maintained, unless a lowering of the water quality is necessary to accommodate important economic or social development in the area. Pollution prevention initiatives must be implemented to accompany any increased loadings, and in no event may the water quality be lowered below the minimum level required to support the designated uses. One important exception to the antidegradation rule is a provision which allows for sewer extensions and increases in the sewer service area for publicly owned treatment works as long as the increase is within the design flow of the facility, and no significant change is expected in the influent characteristics of the wastewater. The antidegradation rule also includes a provision, which allows increased loadings at publicly owned treatment works due to the transport and treatment of wet weather flows in the system.

3.1.6 Variances

Rule 103 establishes the process whereby a discharger can obtain a variance to the Water Quality Standards. Variances cannot be given to new dischargers unless the proposed new facility is being built to alleviate an imminent and substantial danger to the public health or welfare. Variances are for a limited time period, and expire along with the discharge permit, but can be renewed or reissued in conjunction with a reissued NPDES permit.

3.2 Wastewater Treatment Facilities, NPDES Permits and Related Topics

Requirements applicable to publicly owned treatment works are set forth primarily in EPA's regulations at 40 CFR Part 122, and 403, as well as in MDEQ's Part 21 Administrative Rules (wastewater discharge permits).

3.2.1 Effluent Limits (Water Quality/Technology Based)

Under the Federal Clean Water Act and the Michigan Environmental Code, all discharges of wastewater to waters of the state must be authorized by a permit issued under the National Pollutant Discharge Elimination System (NPDES permits). These permits typically establish treatment requirements, which are expressed in the form of effluent limits for various pollutant parameters.

Effluent limits usually specify the concentration and loading allowed to be discharged, as well as the sampling and reporting requirements and laboratory technique to be used to analyze for the pollutant. As a minimum, publicly owned treatment works must achieve a Technology Based effluent quality defined as "secondary treatment". Secondary treatment is a physical and biological process, which removes suspended solids and organic oxygen consuming material, plus disinfection to remove bacteria to meet public health protection goals. Permits sometimes impose more restrictive "Water Quality Based Effluent Limits" or WQBEL's if additional pollutant removal is needed to achieve Water Quality Standards and protect designated uses. In Michigan, it is common for one or more pollutant parameters to be regulated by WQBEL requirements, especially if the wastewater discharge is to a relatively small receiving stream.

3.2.2 Toxic Pollutants, Reasonable Potential and WET Testing

Prior to issuing an NPDES permit for a wastewater treatment plant discharge, MDEQ conducts an analysis to determine whether there is "Reasonable Potential" for the permittee to discharge toxic pollutants in toxic amounts. The Reasonable Potential determination relies on a statistical analysis of the frequency and severity of pollutant concentrations over a period of time. Testing is typically required to assess the potential acute and/or chronic toxicity of the wastewater effluent. Whole Effluent Toxicity (WET) testing subjects biological organisms to varying dilutions of clean water and treated wastewater to determine the threshold at which the organisms experience adverse impacts (i.e. mortality, or decline in growth or reproduction). Whole Effluent Toxicity testing requirements are frequently included as a condition of permit discharge to supplement specific numerical effluent limits for individual toxic pollutants.

3.2.3 85% Removal Requirement

Municipal discharges are normally required to remove at least 85% of the influent pollutant load for suspended solids and BOD (Biochemical Oxygen Demand). An exemption or waiver from the 85% removal requirement can be sought if the influent is so dilute from stormwater drainage that the treatment process cannot achieve that level of removal.

3.2.4 Biosolids Disposal (Incineration, Landfill, Land Application)

The biosolids which are generated by the waste treatment process are typically disposed of either by incineration, transport to a landfill, or land application. Incineration is usually cost effective for extremely large facilities with high volume sludge disposal operations. Incinerator emissions are regulated under the Clean Air Act for a variety of pollutants including opacity, carbon monoxide, nitrous oxides and trace toxicants.

The inert ash generated as the byproduct to the incineration process is typically disposed in a landfill which is regulated under the Solid Waste Management section of the Michigan Environmental Code (Part 115).

Alternatively, some facilities rely on landfills as the primary method of disposal for their biosolids. Municipal sludges which are transported to landfills for disposal are either stabilized (typically with lime or other chemical additives) or unstabilized, and then transported by truck to the landfill for disposal. Regulatory constraints on the landfill include requirements on the amount of water in the sludge, and the typical landfill operating constraints for issues such as daily cover, leachate collection and treatment, methane gas management, odor prevention, and litter control, etc. Some wastewater treatment facilities utilize land application of biosolids as the method of disposal, particularly in rural areas where open or agricultural land is available on which to spread the biosolids. The land application of biosolids is allowed only if the sludge quality is compatible (i.e. acceptable levels of toxicants and microorganisms), and the material can only be applied at the appropriate times of year and at dosage rates which are consistent with the crop or material being produced. Land application processes typically require sludge holding tanks with capacities of up to 180 days so the biosolids can be retained on site for an extended period of time when it is impractical to land apply the sludge (i.e. winter and extremely wet periods in spring and fall). EPA's regulations on land application of biosolids is subject to periodic review to assess environmental impacts, and the agency is proposing to add dioxins, dibenzofurans and coplanar polychlorinated biphenyls as potentially toxic pollutants to be regulated. Selection of biosolids disposal areas is sometimes controversial, particularly if the proposed disposal sites are located in close proximity to residential developments.

3.2.5 Industrial Pretreatment Requirements

State and federal regulations control the discharge of wastewater from industrial facilities to municipal sewer systems to ensure no pass-through of pollutants to the receiving water at unacceptable levels, to prevent disruption or upset to the wastewater treatment plant process, to protect the safety of the workers and the integrity of the sewer system. Industrial pretreatment programs are administered by publicly owned treatment works, including the adoption of local ordinances which define allowable and unallowable discharges to the sewer system and which establish procedures for issuing discharge permits to various industrial facilities. Some categories of industrial facilities are required by federal regulation (40 CFR Part 403) to achieve categorical effluent standards for various pollutants by industry type. In addition to the categorical standards, the treatment plant may also establish "local limits" which specify the allowable concentration of pollutants based on the system's ability to accept and treat industrial waste. Industrial discharge permits usually specify connection points, sampling and reporting procedures, as well as effluent limits.

3.2.6 Combined Sewer Overflows (CSO's)

Intermittent wet weather discharges from combined sewer systems are regulated under state and federal permits as combined sewer overflows (CSO's). CSO permits typically establish requirements and schedules for a control program to eliminate or adequately treat combined sewage to meet Water Quality Standards and protect the public health.

These permits also require that all combined sewer overflows be reported to the MDEQ and the public via the news media.

Typical CSO control programs can include sewer separation, transport and treatment at the wastewater plant, and/or installation of end-of-pipe treatment devices such as retention basins to settle, skim and disinfect the wastewater prior to discharge. The Clean Water Act does not establish a specific Technology Based treatment standard for CSO facilities, but allows case-by-case solutions to be developed to meet state Water Quality Standards. Michigan's Water Quality Standards are somewhat unique in that they specify that all discharges containing raw sewage of human origin be disinfected.

3.2.7 Sanitary Sewer Overflows (SSO's) and Bypasses

Discharges of wastewater with less than secondary treatment from a separated sewer system (not a combined sewer system) are illegal under the Federal Clean Water Act and the Michigan Environmental Code. The state law was amended in 2000 to require any discharge of sanitary sewage with less than secondary treatment to be reported to MDEQ and the media, similar to CSO's. NPDES discharge permits typically authorize bypasses of untreated or partially treated wastewater from the treatment plant or the collection system only for emergency conditions where necessary to protect health, life or property. MDEQ issued a guidance policy in December, 2002 which establishes the 25 year – 24 hour summer storm under normal soil moisture conditions as the design event to be controlled for SSO remedial projects.

3.2.8 Stormwater Discharges

U.S. EPA has developed and is currently implementing regulatory controls for discharges from storm sewers. Phase I of the program took effect in 1990 for separated sewer communities with populations over 100,000. Under these regulations, Phase I municipalities were required to obtain NPDES discharge permits for their stormwater discharges. These permits included requirements to develop stormwater management plans, elimination of illicit discharges, implementation of public education programs and other pollution prevention activities. Phase II of the federal stormwater program was finalized in 1999 when U.S. EPA issued regulations requiring NPDES permits for small communities in urban areas (areas with populations greater than 10,000). Permits for these stormwater discharges are required as of March, 2003. In Michigan, communities subject to the Phase II regulations have the option of requesting permit coverage as an independent political entity (a "jurisdictional" permit), or as part of a multi-municipal application for a common receiving water (a "watershed" permit). MDEQ has adopted revisions to its Administrative Rules to encompass stormwater permits which includes entities such as school districts, subdivision associations, and trailer parks. The stormwater permits establish "Six Minimum Measures" to address public education, public participation, illicit discharge elimination, post construction stormwater management, construction site runoff controls and pollution prevention activities.

Construction sites greater than 5 acres are also regulated under the rules which are based on implementation of soil erosion and sedimentation measures under the supervision of a certified stormwater operator.

3.2.9 Spill Containment and Hazardous Material Management

Most wastewater treatment facilities utilize large quantities of hazardous chemicals such as chlorine, as well as other solvents and oils. MDEQ's Part 5 Administrative Rules establish spill containment and storage requirements for oil in quantities above 40,000 gallons in secure, diked containment areas to ensure no off-site migration of any leaks or spills.

Hazardous material management (HAZWOPER) plans are required for chlorine, sulfur dioxide, and other bulk hazardous chemicals and materials used in the treatment process or stored on site. These plans establish appropriate control measures to ensure worker safety, prevent spills and losses, and prescribe the protocol for handling, loading and transfer of materials. Occupation Safety and Health standards applicable to publicly utilities managing hazardous materials are set forth in 40 CFR 1910. In November 2000, U.S. EPA published new regulations, which classify chlorine gas as a restricted use chemical subject to operator certification training under the Occupational Safety and Health Administration Program (OSHA). Public utilities are also required to prepare Risk Management Plans in accordance with the requirements of the Chemical Safety Information, Site Security and Fuels Regulatory Relief Act (Public Law 106-40).

3.2.10 Construction Permits

Administrative rules promulgated pursuant to Part 41 of the Michigan Environmental Code require that plans and specifications be developed for any alteration or construction of sewer systems or treatment facilities, and that a permit be obtained from MDEQ prior to the start of construction. These "Part 41" permits ensure that the proposed project meets minimum state design standards and will not result in adverse environmental impact when placed in service. The permit application form was revised in 2002 to require the applicant to include information on historical basement flooding problems in areas which could be affected by the proposed project. State officials have expressed interest in working with public utilities on a variety of approaches aimed at expediting construction of necessary improvements where the utility proposes alternative procurement mechanisms such as the design/build process.

3.3 Financial Assistance Programs and Funding Issues

There are several state and federal financial assistance programs currently available which may affect the development of the Wastewater Master Plan, as well as several constraints on methods used by municipalities to generate revenue for their systems.

3.3.1 State Revolving Fund Loans

Low interest loan assistance is available from U.S. EPA and MDEQ under Title VI of the Federal Clean Water Act.

State Revolving Fund or SRF loans are issued to wastewater treatment projects and collection systems at interest rates well below open market bond rates. Currently, the SRF program offers 20-year loans at 2.5% interest for eligible costs which include design and construction of publicly owned treatment works and appurtenances. The SRF fund averages about $200 million per year, and is comprised of the annual federal appropriation, state matching money and reimbursement payments from prior loan recipients. MDEQ prioritizes loan applications annually, and projects proceeding under a compliance order or permit schedule issued by MDEQ are typically ranked high on the list within the "fundable range". Projects being built at the discretion of the municipality to accommodate growth and development or for other non-mandated program functions often rank too low on the priority list to receive loan assistance. Applicants for SRF loans must complete a "Project Plan" identifying the problem to be solved, comparing and analyzing alternative solutions, and describing the proposed new facilities to be built.

3.3.2 Grant Programs

A limited amount of grant money is sometimes available for specific projects based on line item appropriations from Congress in the annual federal budget. Line item appropriations have generated considerable grant money for the Rouge River National Wet Weather Demonstration Project, which financed construction of many CSO control facilities. These federal grants included a requirement for 45% local match. Aside from line item appropriations, grant programs have tended to focus on rural and financially disadvantaged hardship areas. However, in December 2000 Congress authorized $1.5 billion in grants for CSO control facilities as part of the Wet Weather Water Quality Act of 2000. Eligibility requirements and state allotments for this program have not yet been established.

3.3.3 Stormwater Utility Financing

Revenue for most wastewater collection and treatment systems is generated from sewage customers who are billed in accordance with the prevailing sewer rates as set forth in local ordinances. In a few areas, revenue has also been collected based on stormwater drainage and runoff, which is typically referred to as stormwater utility financing. However, a Michigan Court of Appeals ruling in a case involving the City of Lansing's proposed "Rain Fee" determined that Lansing's stormwater fees were an illegal tax since they were imposed without approval by vote of the people. The court ruling raises serious questions about the legality of financing systems where changes are based on stormwater runoff amounts.

3.3.4 Basement Flooding Liability and Claims

A Michigan Courts of Appeals decision determined that municipalities may be strictly liable for damages resulting from basement flooding and sewer backups, even though the municipality may not have been negligent in the design, construction or operation of the sewer system. As a result of these rulings, numerous class action homeowner claims for basement flooding damages have been filed resulting in out of court settlements or judgments against the public utilities. In some cases, the claims have had a significant impact on sewer revenues and local budgets. Insurance coverage for basement flooding has become increasingly more costly and more difficult to obtain.

In response to this situation, the Legislature enacted a law in 2002 (P.A. 222) which prescribes a specific procedure for filing claims for basement flooding damages, and which limits the property owners' ability to recover costs for non-economic damages. Municipal liability has been revised to those situations where the basement flooding is attributable to a "defect" in the sewer system design, construction, operation or maintenance.

3.4 Miscellaneous State/Federal Environmental Requirements

Numerous state and federal regulations govern a variety of other activities associated with various environmental programs as outlined below.

3.4.1 Soil Erosion and Sedimentation Control

Part 91 of the Michigan Environmental Code establishes a process for minimizing soil erosion and sedimentation resulting from construction activities. Permits issued by local agencies require appropriate on-site soil erosion control measures such as silt curtains, straw bales, temporary stormwater detention ponds, and prompt re-seeding of bare areas during project construction to minimize deposition of sediments as a result of runoff. Enforcement of permit provisions is delegated to local agencies such as the drain commissioner, road commissioner, and cities.

3.4.2 Floodplain Occupation

Part 31 of the Michigan Environmental Code prohibits occupation, filling or grading of floodplains, streambeds or stream channels, except as may be allowed by permit obtained from the Michigan Department of Environmental Quality. MDEQ's Administrative Rules prohibit the installation of aboveground structures within the floodway, and the construction of structures within the 100-year floodplain to the extent that such activity will harmfully interfere with the discharge or stage characteristics of the stream.

3.4.3 Wetland Preservation

Part 303 of the Michigan Environmental Code establishes restriction on draining, filling and developing wetlands greater than 5 acres in size. The statutes exempts farming and other related agricultural activities, but requires permits for any other activities which may encroach or impact on wetlands. If there are no prudent and feasible alternatives, MDEQ may allow wetland areas to be drained and filled provided that a new wetland is created to offset the loss.

3.4.4 Inland Lakes and Streams

Part 301 of the Michigan Environmental Code establishes requirements to control encroachment on Michigan lakes and streams including dams, stream crossings, shoreline alterations, and filling and grading activities. Permits from MDEQ are required for any such activities, and the permit applications must provide detailed explanation as to the steps to be taken to protect the water resources as part of the project.

3.4.5 Great Lakes Submerged Lands

Bottomlands underneath the normal high water mark of the Great Lakes and connecting channels are protected under both state and federal law. State regulatory oversight is pursuant to Part 325 of the Michigan Environmental Code, and federal authority is established with the U.S. Army Corps of Engineers pursuant to the Rivers and Harbors Act of 1899. Permits from both the state and federal agencies are required for any activity which encroaches on or modifies the Great Lakes shoreline or submerged lands. Regulated activities include shoreline stabilization structures, marinas, docks and alterations to bottom elevation or side slopes.

3.4.6 Farmland Preservation

Part 361 of the Michigan Environmental Code establishes a mechanism to protect farmland and preserve open space from development pressures and land use conversions by establishing tax limitations on property assessments. Property owners utilizing land for active agricultural purposes may enter into a "development rights agreement" for a 10 – 90 year period. The agreement then limits the property taxes which can be collected based on the current agricultural usage of the land.

3.4.7 Waste Haulers and Septage

Haulers of liquid industrial waste and septage are regulated under Parts 121 and 117 of the Michigan Environmental Code. This statute and MDEQ's Administrative Rules require businesses engaged in hauling of septage and liquid industrial waste to secure licenses for all vehicles, to comply with rules establishing standards for transport and disposal of materials, and to submit reports describing the quantity, nature and disposal point for all wastes.

3.5 Local Requirements

Local and county governments typically impose requirements on many activities, some of which may affect plans for future wastewater treatment facilities in southeast Michigan.

3.5.1 Detroit City Charter

The Detroit City Charter was adopted by a vote of the people on August 6, 1996 and took effect January 1, 1997. The Charter describes the duties and responsibilities of the Mayor, City Council and Executive Branches of government including the Water and Sewerage Department. The Charter also describes how various governmental activities are to be carried out for functions such as budgeting, borrowing and financing, taxing and special assessments, acquisition and sale of property, etc.

The specific duties and responsibilities of the Water and Sewerage Department and the Board of Water Commissioners are set forth in Article 7, Chapter 15 of the Charter. Section 7-1501 describes the configuration and membership of the Board of Water Commissioners and the mayoral appointment process. Under Section 7-1502, the Charter specifies that the Department, under direction of the Board "shall supply water, drainage and sewerage services within and outside of the City".

This section also authorizes the Board to periodically establish equitable rates for sewerage services. Section 7.1503 requires that all funds paid into the City treasury from fees collected from water, drainage or sewerage services be used exclusively for payment of expenses incurred in providing these services, including the interest of principle on any obligations issued to finance water supply and sewerage disposal facilities. Fees collected for water drainage or sewerage services are to be kept in a separate fund.

Section 7-1504 discusses sale of assets and requires that the City not sell or dispose of any property needed to continue the operation of any City-owned public utility furnishing water and sewerage service, unless approved by a majority of City voters voting on the question at a regular or special election. Furthermore, the City is not to grant any public utility franchise for water and sewerage services which is not subject to revocation at the will of the City Council, unless the provision is first approved by three-fifths (3/5) of City voters voting on the question at a regular or special election.

Public utility franchises are discussed in Article 9, Chapter 3 of the Charter. Section 9-304 specifies that public utility franchises shall include provisions for fixing and periodically re-adjusting rates and charges at the direction of the City.

This section authorizes the City to repeal franchises for violations or failures to comply with any provisions, or for mis-use or non-use, or for failure to comply with regulations imposed under the authority of the Charter. All franchises must require proper and adequate extension and maintenance of plant facilities at the highest practicable standards of efficiency, and must include reasonable standards of service and quality of products, and prohibit unjust discrimination in service or rates. Franchises are required to provide continuous and uninterrupted service to the public throughout the period of the franchise, and other regulations may be imposed by City Council as needed for the health, safety, welfare and convenience of the public. Furthermore, franchises may require the public utility to permit joint use of its property and equipment located in streets and other public places insofar as joint use is reasonably practicable.

In addition to these specific provisions of the City Charter which pertain to the Water and Sewerage Department and the Board of Water Commissioners, the Charter also establishes a number of other general requirements and provisions. The Charter requires that City Council approval be obtained for any sale or disposition of property (Section 4-112) and prior to entering into any contract (Section 4-122). The City Council must also approve the biennial five year "Capital Agenda" to be prepared and submitted by the Mayor's office (Section 8-202). The Charter authorizes borrowing for "local public improvements" (Section 8-501) and allows for condemnation of property within or outside the City for any public purpose, provided that the property owner receives "just compensation" (Section 9-501). The Charter also authorizes the City to establish service fees for any services provided pursuant to the Charter (Section 9-507).

3.5.2 Zoning and Site Plan Approvals

Most townships, cities and villages have established procedures for regulating property use in accordance with a local Master Plan and various zoning requirements. Development of a property typically entails preparation of a site plan and issuance of review and approval by the local government based on consistency with the zoning ordinance and the Master Plan. Development of property for a public utility in an area where the zoning is not compatible with such uses may require a petition to re-zone the property or a request for a variance or special use permit.

3.5.3 Building and Safety Permits

Most city and township governmental units have established procedures and rules governing construction of buildings to meet local codes and safety requirements. Permits are required from a local building and development department based on applications which describe the specific facilities to be constructed. Periodic inspections during construction are required, and a fee is typically charged to recover these costs.

3.5.4 Street and Road Permits

Permits are typically required from the city, township or county agency responsible for a roadway for any activities which impact the road including temporary closures, traffic redirection, modification of traffic control devices, and installation of underground utilities within the road right-of-way.

3.5.5 Railroad and Utility Approvals

Activities which impact property owned by railroads or public utilities require formal approvals from those agencies prior to construction. Encroachment on railroad and utility property or easements can be accomplished only with permission of the owner, which is typically issued after detailed plans are submitted, reviewed, and where necessary, modified to satisfy the agency's requirements for approval.

3.5.6 County Drains

Permits are required from the county drain commissioner for any activities which affect a designated county drain including a drain crossing, encroachment into the right-of-way, channel modification or drain bank encroachment. Approvals from the drain commissioner are also required for activities which alter or increase the quantity of drainage which is conveyed through the drain.

4. Summary of key regulatory issues

Many state, federal and local regulatory programs have the potential to impact the Wastewater Master Plan as it pertains to both the wastewater treatment and the collection system.

4.1 Wastewater Treatment Plant

Growth and development in southeast Michigan and population shifts within the sewer service area could eventually necessitate that additional wastewater treatment capacity be provided, although it appears unlikely that this will occur within the 50-year planning period. Whether this is an expansion to the existing wastewater treatment plant, or construction of a new plant at a different location in the service area, the antidegradation requirements of Rule 98 in Michigan's Water Quality Standards would need to be carefully addressed. Pursuant to that rule, any increased discharge or new discharge must demonstrate the economic and social impacts which necessitate the additional treatment plant capacity.

Siting of a new wastewater treatment plant may be difficult due to a myriad of regulatory constraints including stringent effluent limits to protect receiving streams (especially small water bodies), compatibility with local zoning ordinances and land use plans, as well as concerns from nearby property owners.

Treatment requirements for a new wastewater plant may be substantially more stringent than the conventional secondary treatment process currently employed by DWSD, especially if the facility cannot be located on a Great Lakes connecting waterway such as the Detroit River where substantial dilution is available to offset the need for advanced waste treatment processes.

Financial assistance from the SRF loan program may be difficult to secure if the primary purpose of the facility is to serve future growth and development. Conventional financing through bond sales may require that the debt be supported by sewer revenues from existing customers if the growth and development does not occur immediately.

4.2 Sewer Service Area and Collection System

Historical growth and development patterns indicate that the area currently served by DWSD will continue to expand in population due to development of vacant properties. This will entail careful management to ensure compliance with requirements to transport and treat all wastewater without overflows and bypasses. Expansion of the sewer service area beyond the current boundaries is also likely to occur as population densities increase in those areas which currently rely on on-site septic tank tile fields for wastewater disposal. Extension of sewers in currently unsewered areas may be constrained by local regulatory requirements including zoning and site plan issues, street and road permits, stream crossings, farmland and open space preservation, and wetland conservation programs. The incremental impacts of an expanded sewer service area on the current system must be addressed including transport and treatment capacities.