

HANDY TOWNSHIP, MICHIGAN

DEVELOPMENT STANDARDS

1.00 - GENERAL REQUIREMENTS

1.1 INTRODUCTION

All building, site development, and municipal improvement plan submittals shall commence with the Township Zoning Department. The Township Zoning Administrator will provide all the ordinance and zoning requirements for site development and buildings under township jurisdiction, and direct the applicant to other necessary governmental agencies requiring review and approval.

Township sewer and water information (type, size, location) may be acquired through the Township Zoning Department. All information concerning gas, electric, telephone, cable T.V. etc. shall be acquired from the respective utility.

Information concerning sewer and water capital charges, tap-in fees, and road cut deposits for all developments or single residences, shall be acquired from the Township Zoning department.

Notification shall be given to the Zoning Department at least 48 hours prior to the start of the below mentioned construction.

All water main, sanitary sewer, storm sewer construction within a site development shall receive final inspection by the Township Consulting Engineer prior to approval by the Township and/or acceptance for connection to the Township's distribution/collection system.

Public Streets (including appurtenances) to be dedicated to the County by a developer and all improvements shall require final inspection by the County and the Township Consulting Engineer prior to acceptance by the County.

Requests for the above mentioned final inspections will be made to the Township Zoning Department.

A fee deposit for all site development or improvement inspection under Township jurisdiction shall be made at the Zoning Department prior to the start of construction. The amount of required fee deposit will be based on a percentage of the work. Contact the Zoning Department for fee determination.

1.2 INTERPRETATION

1.2.1 Provisions of these standards shall be held to be the minimum requirements adopted for promotion and preservation of public health, safety and general welfare of the Handy Township. The standards are not intended to repeal, abrogate, annul or in any manner interfere with existing regulations or laws of the Township, nor to conflict with any statutes of the State of Michigan or Livingston County, except that these standards shall prevail in cases where these standards impose a greater restriction than is provided by the existing statutes, laws or regulations.

1.2.2 The proprietors, developers and their engineers, architects and planners are encouraged to design facilities to provide for actual conditions encountered in their project work area. Where existing conditions warrant, designs which are more substantial than these adopted minimum standards should be developed and utilized by the proprietor and/or his agents.

1.2.3 The proprietor and their engineers shall meet or exceed current engineering design practices, including the standards of the following independent agencies:

AASHTO	American Association of State Highway and Transportation Officials
ANSI	American National Standards Institute
ASTM	American Society of Testing and Materials
AWWA	American Water Works Association
GLUMRB	Great Lakes-Upper Mississippi River Board of State Sanitary Engineers. (10 State Standards)
LCDC	Livingston County Drain Commissioner
LCHD	Livingston County Health Department
LCPB	Livingston County Plat Board
LCRC	Livingston County Road Commission
MDEQ	Michigan Department of Environment Quality
MDNR	Michigan Department of Natural Resources
MDOT	Michigan Department of Transportation

It is the responsibility of the proprietor to determine the requirements of these agencies and to obtain necessary permits from them.

1.3 DEFINITIONS

Applicant, Proprietor, Owner or Developer: A natural person, firm, corporation, association, utility partnership, or other entity who proposes subdivision or other land development, private utility and/or municipal improvements and who either has an ownership interest therein or is authorized to act as an agent with respect there-to-for an entity having such ownership interest.

Township Board: The Handy Township Board of Trustees

Township Inspector: An inspector as designated by the Handy Township

Contractor: The duly licensed person, firm, utility, or corporation engaged by the developer for construction services in conjunction with the proposed land development or municipal improvement.

Engineer or Township Engineer: The person, firm, or corporation empowered by the Handy Township to provide the required engineering review and inspection services.

1.4 SUBMITTAL PROCEDURE - Offsite Improvements, Detailed Engineering Plans

Detailed engineering construction plans shall be submitted by the applicant for road improvements, sanitary sewers, water mains, and storm sewers, all on-site detention/retention basins, paving, site grading, landscaping, and soil erosion/sediment control. The Township retains the right to require additional plans, calculations, specifications and other documentation as may be needed for a complete review of all proposed work.

1.4.1 The following items, as a minimum, shall be submitted to the Township for review:

A. Detailed construction drawings

B. A detailed itemized construction cost estimate for the above improvements

- C. Design computations for sanitary sewers, storm sewers, grading, and detention/retention basins and corresponding drainage area map
- D. Design computations for pumping stations, lift stations, force mains, outlet structures, and other special improvements
- E. Design computations for water mains and service areas
- F. Payment of plan review fees
- G. Plans for all road improvements, on-site drives, parking areas, landscaping, and connections to existing road. The Township and/or approved Engineering Consultant will review the submitted information for adequacy and shall either approve or reject the design. The reasons for rejection will be stated in writing. Upon completion of all changes and/or additions, the applicant shall forward the revised documents to the Township and the Engineer for further review.

Changes during construction must be approved by the Township prior to implementation

1.4.2 Submittal Review Procedures and Fees

Separate information is available from the Handy Zoning Department for site plan submittal procedures and scheduling; and for all fees associated with site improvements.

1.4.3 Submittal for Approvals and Construction Permits

A. Water Mains, Sanitary and Storm Sewers, Roads and Drives:

Submission for approval of these improvements shall be made to the Township Zoning Official and shall include a detailed estimate of cost and ten (10) sets of plans and specifications. The submittal shall include size, location, type, length, and capacity of the proposed improvements and of existing connecting facilities. The Township Engineer shall review the estimate, plans and all necessary calculations and determine whether they are consistent with all applicable requirements, after which the Township Engineer shall return one copy to the applicant, with appropriate comments. The applicant, after making any changes required, shall then submit ten (10) sets of revised plans to the Township for final approval. The Township shall then review these plans for conformity, and if they are consistent with all applicable requirements, will give them approval. Prior to final approval to proceed, a copy of the approved drawings will be returned to the applicant and sufficient copies sent to the Michigan Department of Natural Resources, and the Michigan Department of Environmental Quality as necessary. The applicant shall obtain approval of all other applicable agencies prior to final approval to proceed.

B. Detention/Retention Basins, Paving, and Grading Plans:

Submissions for approval of detention/retention basins, paving and grading plans shall be made to the Township and shall include a detailed estimate of cost and ten (10) sets of the overall site improvement plans and specifications. These plans shall include all soil erosion and sedimentation control measures needed to protect all off-site areas and existing sewers and drains. Supporting calculations for all detention/retention basins including outlet sizing and outlet design shall be included with the plans. The Township shall review the estimate and the plans for conformity and return one copy with appropriate comments. The applicant, after making any changes required shall then submit revised plans to the Township for final approval. The Township Zoning Administrator will return one approved copy to the applicant. The applicant shall obtain approval of all other applicable agencies.

1.4.4 Subdivision Ordinance

A copy of the Handy Township Subdivision Ordinance may be obtained from Township Hall. This Ordinance sets forth rules, regulations and guidelines for preparation and submittal of plat documents in accordance with the State of Michigan Subdivision Control Regulations. Requirements for the design, submittal, permitting, and construction of improvements are contained in these design standards and in other appropriate sections of the Handy Township Design Standards, of which these design standards are made a part.

1.5 PLANS AND SPECIFICATIONS

- 1.5.1** The plans and specifications shall be prepared by a Michigan Registered Engineer and shall be signed and sealed by the engineer responsible for the work.
- 1.5.2** Unless an exception is approved, Plans shall be prepared on 24" by 36" sheets and shall be drawn to clearly and legibly show all work but to a scale no smaller than 50 feet to the inch. For a set of plans consisting of 3 or more sheets, a cover sheet showing the entire project and proposed construction shall be included. All plans shall include a location map showing the surrounding area. The cover sheet shall have an index of all sheets and the individual sheets shall have proper match lines or other keys to provide reasonable continuity and orientation. The drawings shall contain sufficient detail to properly show the proposed locations and the methods of construction. Plan and profile drawings will be utilized.
- 1.5.3** All elevations shown on the plans shall be to USGS datum. Benchmark locations and elevations for the work shall also be indicated on the plans. A minimum of 2 benchmarks will be required.
- 1.5.4** Record plans showing final locations of all utilities and final grades for all sanitary and storm sewers and appurtenances shall be properly staked for location and elevation under the supervision of an engineer or surveyor registered in the State of Michigan prior to construction and shall be submitted to the Township Zoning Department for review. After approval of Record Plans by the Township, and prior to final acceptance of completed improvements, a copy of the approved record plans, on a polyester film base, sealed by a Registered Professional Engineer, shall be submitted to the Township before the release of any bonds and/or escrow funds.
- 1.5.5** A copy of the computed plat shall be submitted with all subdivision plans, as well as all design calculations for the storm and sanitary sewers, and water mains.
- 1.5.6** Street names, lot lines and lot numbers shall be shown on all sheets and plans.
- 1.5.7** Easements shall have a recommended width of 12 feet or more as required to provide access for future repairs (10' minimum required). Sewers in easements shall be kept a minimum of 10 feet from side or rear lot lines.
- 1.5.8** Prior to starting proposed utility design, the applicant is encouraged to make use of maps and information available at the Township Office regarding the existing utilities. It shall be the applicant's responsibility to verify the existing utility locations provided by the Township or its representatives.
- 1.5.9** The following information shall be shown on sanitary sewer, storm sewer, water main plans, and profile drawings, as applicable:
 - A.** Length of run, size and slope of sewer, including services, between manholes.

- B.** Top of casting elevations of all manholes, inlets, hydrants, etc. (may be shown in profile).
 - C.** Invert elevations for all sanitary and storm sewer lines including services, both existing and proposed sewers.
 - D.** Porous backfill, special bedding and tunnel sections, where applicable.
 - E.** Adjacent existing or proposed utilities plotted where parallel.
 - F.** Other utilities crossing under or over the proposed utility. Indicate porous backfill to 12 inches above higher utility. Utility crossings shall be shown in profile view with stationing and elevations.
 - G.** Existing ground profile and proposed finished grade profile. Proposed finished grade may be road centerline, top of curb profile, edge of pavement, or top of sidewalk, where applicable.
 - H.** Size, type and class of pipe joints and fittings shall be shown on the plans or noted in the specifications.
 - I.** Finished grades of structures shall be indicated on profile for all structures.
 - J.** Generally, sanitary and storm sewer shall be shown on separate profile sheets from all water main profiles.
 - K.** Sanitary services shall be shown in plan and profile with stationing and invert elevations and tabulated on each corresponding sheet.
- 1.5.10** Grading plans shall show sufficient contours with a maximum interval of 2 ft. between contours. Existing and proposed contours shall be labeled with sufficient spot elevations and flow arrows, clearly indicating directions of flow for all changes of grade. Spot elevations shall be labeled at all changes in grade, and at all lot corners.
- 1.5.11** All improvements shall be laid out on design plans to clearly and legibly show all proposed improvements.
- 1.5.12** A road plan is required.
- 1.5.13** Specifications shall be submitted for approval prior to construction permits.
- 1.5.14** Soil borings are required for off-site improvements, and recommended to verify on site conditions. Locations and logs shall be submitted to the Township for review.

1.6 CONSTRUCTION

- 1.6.1** The contractor shall notify the Handy Township Zoning Department and Miss Dig 72 hours prior to the start of construction on either public utilities or construction within public Right-of-Way.
- 1.6.2** All construction shall conform to the current standards and specifications of the Township which are included as part of these specifications. Use latest edition of MDOT Plans and Specifications if Township Standards are not clear or do not address a particular situation. The contractor shall

be responsible for adhering to all applicable Handy Township ordinances.

- 1.6.3** It shall be the contractor's obligation to verify the exact location of all existing utilities that might affect the work.
- 1.6.4** The contractor shall at all times be aware of the inconvenience caused to the abutting property owners and general public. Where undue inconveniences or unsafe conditions are not remedied by the contractor, the Township, upon four hours notice, reserves the right to perform the necessary work and deduct the cost therefore from the money due the contractor. For example: unsafe open excavations, or inadequate barricades or signage.
- 1.6.5** Permittee shall maintain dust free conditions. This includes daily removal of earth tracked onto the road surface. The contractor is to provide adequate dust control when such a problem has been caused by his construction operations. Dust control methods must meet the approval of the Township and other applicable agencies.
- 1.6.6** Existing roads used as haul routes must be approved by the Township. The contractor shall maintain them with grading and dust control as required by the Engineer.
- 1.6.7** All property irons and monuments disturbed or destroyed by the contractor's operations shall be replaced by a Registered Land Surveyor provided by the contractor at the contractor's expense. Witness verifications of irons and monuments in hazard zones should be provided prior to any construction in the area.
- 1.6.8** All equipment and material shall be stored out of the Right-of-Way unless in use for immediate operations. Sidewalks, pedestrian movement, drainage and clear vision for traffic shall at all times be maintained. The Contractor shall provide the Owner and the Engineer a copy of written permission to use private property for the storage of construction equipment and materials during his construction operations.
- 1.6.9** Contractor shall take all necessary precautions to protect existing facilities, structures, utilities both known and unknown, vegetation and landscaping during construction activities. Driveways, culverts, ditches, drain tile, tile fields, drainage structures, etc., that are disturbed by the contractor's operations shall be immediately restored.
- 1.6.10** All established lawn areas disturbed by the contractor's operations shall be resodded with matching sod or Marion Blue Sod. All other areas shall be seeded and mulched.
- 1.6.11** All utility poles in close proximity to construction shall be supported in a manner satisfactory to the utility owner.
- 1.6.12** Drive culverts that are removed or destroyed by the contractor's operations shall be replaced with a minimum of 12-inch corrugated metal pipe. The existing culvert may be reused if it meets Township standards.
- 1.6.13** All proposed improvements shall be properly staked with stationing, finish and invert grades clearly marked.
- 1.6.14** All construction or improvements to be dedicated to the public require full-time inspection by the Township Engineer.

1.7 DRAIN CONCERNS

- 1.7.1 Drainage is of significant concern in Handy Township. No drainage shall be re-directed off-site without the approval of the Township Engineer.
- 1.7.2 All detention and retention basins shall be built according to the Livingston County Drain Commission standards. Plans for such basins will be reviewed by the Handy Township Engineer, prior to construction.

1.8 TRAFFIC CONTROL AND DETOURS

- 1.8.1 During construction, the contractor shall provide watchmen and flagmen as may be required for the safety and convenience of the public and shall furnish all barricades, signs, and lights necessary to protect the public. Traffic shall be maintained at all times unless otherwise authorized by the Township. Traffic control shall be in accordance with the Michigan Manual of Uniform Traffic Control Devices, latest edition by the Michigan Department of Transportation.
- 1.8.2 Closure of a street or sidewalk in the Township requires approval of the Township. The request for such a closure shall be made in writing at least one week before the desired date. State trunk-lines require a permit from MDOT. County roads within the Township limits may also require a permit from the Livingston County Road Commission. On large projects, or where a detour is required, traffic control plans shall be submitted to the Township's Traffic Control Engineer for approval no less than thirty (30) working days prior to the required date.

In cases where detour roads are necessary, traffic shall be routed over roads as directed by the Township. In all cases, the detour roads shall be maintained with dust control and grading as required by the Engineer.

In most areas, street lane closures will be restricted to the hours between 8:30 am and 3:30 pm, Monday through Friday.

Clear vision is to be maintained in accordance with LCRC.

- 1.8.3 Failure to comply with the timeliness requirements, and/or failure of proper filing of detour plans with the Zoning department will result in denial of permission to commence operations on the proposed date.
- 1.8.4 Failure to maintain signage, watchmen where needed, safety fencing, barricades, and any other requirement deemed necessary by the Zoning department after written approval has been given by him/her may result in the project ceasing operations until corrective action is taken by the contractor.

1.9 PLAN REVIEW FEES

Fee schedules can be obtained from the Handy Township Zoning Department.

1.10 ADDITIONAL FEES, CHARGES, AND ASSESSMENTS

Proprietor shall contact the Township for further fees, charges and assessments, including utility assessments, inspection escrow, and construction escrow.

1.11 INSURANCE

Prior to the construction of, or project improvements, the contractor shall procure, maintain and supply, during the term of the project, public liability and property damage insurance with a responsible insurance company which meets the approval of Handy Township, in such amounts as will be adequate to protect and hold harmless the public, Handy Township, Township employees and agents, and all parties of interest. Handy Township shall be named as additionally insured.

For all work on public improvements the Contractor agrees to assume the entire responsibility for the conduct of the project covered by the Contract Documents. Any liability to any party shall be defended by the Contractor and shall be adequately insured in accordance with the minimum terms expressed elsewhere in this document and within the terms of the specified Contract Documents. The insurance requirements, as stated, are minimums only and entirely within the Contractor's prerogative. The Contractor agrees to indemnify, save and hold harmless, Handy Township, the Engineer, and their agents and employees, from any and all damage, loss, liability, costs, expenses, or attorney fees whatever, which Handy Township and/or the Engineer might sustain or incur as a consequence of any act of negligence of the Contractor, its agents and employees, including any damages which the Township might incur as a consequence of any claim of whatever nature and by whomever made that may be made against Handy Township and/or the Engineer as a result of the Contractor acting in accordance with the terms of this document and specific Contract Documents.

The amount of the required insurance shall be determined by the Township but in no cases be less than the following limits:

1.11.1 Insurance Limits

A. Workmen's Compensation Insurance as required by laws and Employer's Liability of State of Michigan

B. Public Liability & Property Damage

Bodily Injury: Each Occurrence \$500,000
Aggregate \$1,000,000

Property Damage: Each Occurrence \$250,000
Aggregate \$500,000

C. Owners & Contractors Protective Liability & Property Damage

Bodily Injury: Each Occurrence \$1,000,000

Property Damage: Each Occurrence \$250,000
Aggregate \$500,000
Or combined single limit \$1,500,000

D. Motor Vehicle (including Owner, Hired and Non-Owned Vehicles)

Bodily Injury: Each Occurrence \$500,000

Property Damage: Each Occurrence \$200,000
Combined single limit \$1,000,000

Policies shall be submitted to the Handy Township for approval. Underground construction, where applicable, shall be specified in the coverage. Certificates of coverage signed by the insurance carriers shall

include a guarantee that 30 days written notice shall be given by the insurance carrier to the Township prior to the cancellation date and work shall not resume until evidence is provided that proper insurance is again in effect.

1.12 PRE-CONSTRUCTION MEETING

A pre-construction meeting shall be held prior to the start of construction of projects, unless deemed unnecessary by the Township. The pre-construction meeting shall include the following people:

- A.** The Township's authorized representatives,
- B.** The contractor's superintendent or foreman who will be on the job at all times,
- C.** Any utility company officials whose underground, overhead, or at grade utilities may conflict in any manner with the proposed project,
- D.** State, county, and local government persons who may be involved, directly or indirectly, with the proposed project,
- E.** And any other persons who may be able to contribute information in regard to construction of the project.

It shall be the contractor's responsibility to contact the Township Zoning Administer prior to construction commencement to arrange for a pre-construction meeting, which should occur within five (5) days prior to construction commencement.

1.13 "AS BUILT" DRAWINGS - PROCEDURES AND REQUIREMENTS

1.13.1 Scope

Prior to the Township's approval of a development or the acceptance of any public utilities or roadways which the Township will accept for maintenance and operation, "as-built" drawings must be submitted to the Township for review and approval.

1.13.2 Procedure

"As-built" drawings shall be initially submitted in the form of blue-line prints. Upon the approval of the "as-built" drawings by the Township, one complete set of reproducible mylar drawings, a minimum of 3 mils thick, printed on top of the sheet, together with two complete sets of blue-line prints, shall be submitted to the Township.

1.13.3 Security Deposits

In lieu of submitting final "as-built" plans at the time of final project approval, the Township may, at their discretion, require a security deposit in an amount to be determined by the Township. This deposit will be returned upon the submittal of approved "as-built" plans.

1.14.4 Plan Criteria

"As-built" drawings shall contain all the information shown on the approved construction drawings including, but not limited to, the following information:

A. Sanitary Sewers and Storm Sewers

- 1.** Plan location of all sewers, including services, with respect to property and right-of-way lines. Private developments may utilize building corners.

2. Witnesses (dimensions) to each manhole, wye, service, etc., and all force main bends.
3. Length of sewer as measured from center of manhole to center of manhole (this information should be shown on both plan and profile).
4. Length of stubs out of manholes.
5. The following "as-built" elevations on a USGS datum:
 - a. Manhole, inlet, and catch basin covers.
 - b. Invert elevations of pipes within each manhole.
 - c. Changes in percents between manholes.
6. List of material used for construction: (Example)
 Manholes: Precast, Concrete Specialties, Press Wedge Flex-Joint
 Pipe: 8" VCP Clow No Bell
 6" VCP Logan O-Ring
7. Any significant changes in pipe and manhole locations shall be redrawn on the plan and profile. The original plan locations of these facilities should be "x-ed" out on the plans.
8. Any changes to the total quantities shall be "lined" out and the correct "as-built" quantity indicated.
9. Testing Data (i.e. pressure, TV recording, etc.)

B. Retention and Detention Ponds

1. "As-built" dimensions of bottom of pond measured inside pond from bottom of bank to bottom of bank.
2. "As-built" dimensions of the top of pond measured from top of bank to top of bank.
3. "As-built" location, width, and details of the overflow facility.
4. The following "as-built" elevations on a USGS datum:
 - a. Overflow spillway
 - b. Inlet and outlet pipe inverts
 - c. Outlet structure cover
 - d. Spillway elevations at 50-foot (minimum) intervals
 - e. Outlet and inlet ditch elevations at minimum intervals of 50 feet.
5. A statement of final computed volume of the pond as measured from high water elevation to the invert of the outlet pipe.

C. Roadways

1. The top of curb elevations (USGS datum) opposite each front lot corner (and side lot corner in the case of corner lots). Edge of pavement elevations shall be provided in the case of open ditch road designs.
2. An "as-built" cross section of the roadway pavement.

D. Water Mains

1. Plan location of all water mains and services with respect to property lines.
2. Rim (cover) elevations on gatewells (USGS datum).
3. Fire hydrant bury line elevations (USGS datum).
4. Distances between gatewells, valves, fittings, and fire hydrant.
5. Witnesses (dimensions) to each valve, gatewell and fitting (bends, tees, plugs, etc.) installed, including services.
6. Type of materials used in construction.
7. Any significant changes in pipe and structure locations exceeding 5 feet shall be redrawn on the plan. The original plan locations of these facilities shall be "x-ed" out on the plan.
8. Any changes to the total quantities shall be "lined" out and the correct "as-built" quantity indicated.

1.13.5 Certification

All "as-built" plans shall contain a statement by the engineer or land surveyor, who is currently registered in the State of Michigan, certifying the drawings to be "Conforming to Construction Records". All plans must also contain the seal and signature of said registered engineer or surveyor.

1.14 MISCELLANEOUS PRIVATE IMPROVEMENTS

Plans should be submitted to the Township for review for all private site improvements. These improvements include, but are not limited to, building layout and construction, parking layout and construction, underground utilities, above grade utilities, roads, drives, detention and retention feasibilities, storm water improvements, ditches, swales, inlets, manholes, catch basins, basins, wetlands, existing or proposed drainage patterns, drainfields, sewers, water mains, wells, irrigation systems that serve or impact more than one property, and all other improvements that may affect the environment of the Township and/or neighbors or other residents of the Township.

An escrow fund shall be established at the Township for the review of all proposed development in the Township. This escrow shall be funded sufficiently to cover all costs for Township review costs including the costs of consultants, as may be requested by the Township. At the completion of the reviews, any remaining funds shall be refunded to the applicant. If the funds deposited in the escrow is insufficient to cover all costs of the Township, additional funds shall be deposited by the applicant or property owner.

An escrow fund shall be established as surety for the construction and Township inspection of all site improvements, excluding the building. The construction cost of all improvements as shown on the approved site plan and Township inspection fees shall be deposited with the Township, prior to commencement of construction. The developer and/or the developer's engineer shall submit an accurate cost estimate of the construction costs of all proposed site improvements. The Township engineer shall review the submitted cost estimate and recommend to the Township the amount of the escrow fund deposit required. The actual escrow fund is established to provide surety to the Township to provide

sufficient funds to complete the site improvements and may not be the lowest cost possible. In the event of default by the developer, the Township may proceed to complete the site improvements to prevent blight and/or to correct unsafe or hazardous conditions. This escrow fund shall have cash deposited or a bank issued cashier's check as surety. The Developer may request reductions in the escrow balance as the work progresses, after the work completed has been verified by the Township Zoning Official and/or the Township engineer. It should be noted that the final escrow reduction payment shall not be made until all improvements are completed, inspected and approved. This may include clean-up, grading, establishment of vegetation, landscaping, and all other work for a completed project. In addition, the Township cost of inspection, review and approval of completed construction, and escrow management shall be paid from the escrow fund, including the costs of consultants and inspectors.

Upon completion of the construction of private roads or other private improvements that serve more than a single property, a long term escrow fund shall be established by the developer on behalf of the property owners and/or association of homeowners, for the maintenance, operation, repair and replacement of these common facilities. An initial deposit of 2% of the costs of these common improvements shall be made by the developer. A maintenance and operations agreement and a Township Assessment District shall be established by the Developer and signed by each property owner and recorded with the sale of each property or portion thereof. User fees paid by each property owner and/or user of the common facilities shall be established as part of the required private improvement agreement. These fees shall be paid at a minimum of annually, and shall cover all costs for maintenance, rehabilitation and replacement of the private improvements. Expenditures from this escrow fund may only be used for improvements to the common facilities, or as designated in the maintenance and operations agreement. The agreement shall require initial approval of the Township as part of the final site plan or construction plan approval. Such agreement shall become part of the Township agreement and shall be permanently attached to all land that is served by the common facilities. Once approved, any revisions to the agreement shall require approval of the Township.

1.15 PUBLIC / PRIVATE WATER AND WASTEWATER FACILITIES

All developments determined by the Township to be located within the service district of public utilities shall connect to the public water and/or public wastewater facilities, as directed by the Township. Such determination may include areas planned for future extension of public utilities by the Township.

All developments that are proposed to be served by community water supply shall develop all water supply improvements in conformance with the Livingston County and MDEQ regulations for public systems, and these development standards. Upon request by the Township, community water supply systems shall be deeded to the Township for consideration of approval of the site plan improvements.

All developments that are proposed to be served by a common wastewater collection and treatment system shall develop all wastewater improvements in conformance with Livingston County and MDEQ regulations and these development standards. For private wastewater treatment and disposal systems, the developer shall submit all design information, Operations and Maintenance information, copy of permit(s), actual operating cost information, reports, emergency plans, maintenance records, and other data to protect the long-term interests of the users of that private system and adjacent properties. Upon completion of the construction of utilities, water supply, wastewater facilities or other private improvements that serve more than a single property, a long term escrow fund shall be established by the developer on behalf of the property owners and/or association of homeowners, for the maintenance, operation, repair and replacement of these common facilities. In addition to any funds required by other agencies, an initial deposit of 2% of the costs of these common improvements shall be made by the developer. A maintenance and operations agreement and a Township Assessment District shall be established by the Developer and signed by each property owner and recorded with the sale of each property or portion thereof. User fees paid by each property owner and/or user of the common facilities

shall be established as part of the required private improvement agreement. These fees shall be reviewed and approved by the Township and shall be paid at a recommended period of quarterly with a minimum of annually, and shall cover all costs for maintenance, rehabilitation and replacement of the private improvements. The costs for replacement of all equipment and underground disposal systems at a maximum 20-year life cycle (or in accordance with manufacturer's recommendations) shall be included in the fund. The costs for major repair and replacement of buildings shall be included at a maximum 35 year life cycle. Expenditures from this escrow fund may only be used for improvements to the common facilities, or as designated in the maintenance and operations agreement. The agreement shall require initial approval of the Township as part of the final site plan or construction plan approval. Such agreement shall become part of the Township agreement and shall be permanently attached to all land that is served by the common facilities. Once approved, any revisions to the agreement shall require approval of the Township.

It is the responsibility of the Developer, the property owners and any others served by common facilities to properly operate, maintain and protect the facilities, as well as the surrounding properties and environment that may be affected by the operation of these facilities. The Township reserves the right to correct any deficiencies in the facilities to protect public health, safety or welfare, and to assess the properties served by the private facilities.

The operations of all private or public water and/or wastewater facilities may be required to be enclosed by a fence, as determined to be required by the Township. The determination of the Township shall include safety concerns, as well as operations and aesthetic considerations. A minimum of 50' landscaped buffer strip shall be provided around all supply, treatment and/or disposal areas, unless modified by the Township Planning Commission.