

**DIVISION I
GENERAL SPECIFICATIONS**

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**DIVISION I
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1. GENERAL

1A. Definitions

AASHTO - The American Association of State Highway and Transportation Officials.

Bicycle Coordinator - The City of Ann Arbor's Bicycle Coordinator, located in the Parks Department.

Building Director - The City of Ann Arbor's Building Director, or his/her designated representative.

C.I.P. - Compacted-In-Place.

City - The City of Ann Arbor, Michigan, a Michigan municipal corporation, whose address is 100 North Fifth Avenue, P.O. Box 8647, Ann Arbor, Michigan 48107-8647; and when a specific department name is used, it shall refer to that department of the City of Ann Arbor.

City Administrator - The City of Ann Arbor's City Administrator, or his/her designated representative.

City Attorney - The City of Ann Arbor's City Attorney, or his/her designated representative.

City Code - The City of Ann Arbor's Code of Ordinances.

City Forester - The City of Ann Arbor's City Forester, or his/her designated representative.

City Project - A project funded by the City, which is bid and managed through the Engineering Division or other City department as specified.

Contractor - Any individual, partnership, or corporation furnishing, constructing, or installing any improvement covered by these Specifications.

Curb Cut - The section of curb removed to permit ingress and egress from the pavement to the adjacent property, the width of which shall be measured between the points of tangency of the opening radii with the normal street curbing for a Type "M" drive approach, or the width of opening in the curb for a Type "L" or Modified "M" drive approach. For a Type "L" (trapezoidal) drive approach adjacent to a mountable curb, the curb cut width shall be the width of the approach at the back of the curb.

DDA - The City of Ann Arbor Downtown Development Authority.

Dedication of Right-of-Way - The dedication of real property to the City by quit-claim or warranty deed, roadway easement, or by platting as required by the State of Michigan Plat Act, for use as a public right-of-way.

Developer - The individual, partnership, or corporation causing the construction of any improvement covered by these Specifications.

Drive Approach - An area improved for vehicular traffic within the public street right-of-way which connects the traveled portion of the street to a driveway or private street.

Drive Opening - The point of connection between the driveway or private street and the drive approach at the street right-of-way line. Its width and location shall be determined by extending the edges of the driveway to the street right-of-way line.

Easement - An easement granted to the City by an Owner, using a Standard City Grant of Easement Form or by plat.

Engineer - The person or persons responsible for the design and preparation of construction plans and/or the construction engineering.

Engineering Division - The City of Ann Arbor's Public Services Department - Engineering Division.

Fire Marshal - The City of Ann Arbor's Fire Marshal, or his/her designated representative.

Inspector - An Engineering Division Technician.

Land Development Coordinator - The City of Ann Arbor's Land Development Coordinator, located in the Building Department.

MDNR - The Michigan Department of Natural Resources.

MDOT - The Michigan Department of Transportation.

MDPH - The Michigan Department of Public Health.

Owner - The title holder of a parcel of real property.

Parks and Recreation Superintendent - The City of Ann Arbor's Parks and Recreation Superintendent, or his/her designated representative.

Planning Commission - The City of Ann Arbor Planning Commission.

Plans - Plans or drawings for the construction of any improvement covered by these Specifications.

Private Development Project - A project which is funded by a Developer, other than the City.

Private Storm Sewer - A storm sewer carrying only storm water runoff from a parcel (or parcels) of real private property.

Public Improvement - An improvement which when completed and accepted by the City, shall be owned by the City, including but not limited to public utilities, public streets, public sidewalks and bikepaths, public streetlights, and public parks.

Public Services Director - The City of Ann Arbor's Public Services Director, or his/her designated representative.

Public Storm Sewer - A storm sewer carrying storm water runoff from a public right-of-way.

Service Lead - A sanitary or storm sewer pipe serving only an individual building, or a water pipe serving an individual water meter or manifolded meters, when permitted. A Service Lead connects to a sewer lateral or

water main.

Site - All contiguous land under the same ownership.

Standards, Specifications, Standard Details - These, the City of Ann Arbor Public Services Department's Standard Specifications.

Street Frontage - The length of a Site abutting one or more streets.

Technician - A City of Ann Arbor Engineering Division Technician.

Transportation Division - The City of Ann Arbor's Public Services Department - Transportation Division.

Utilities Director - The City of Ann Arbor's Utilities Director, or his/her designated representative.

WCDC - The Washtenaw County Drain Commissioner.

WCRC - The Washtenaw County Road Commission.

1B. Specifications

These Specifications are based on the MDOT Standard Specifications for Construction Manual (1990 edition). Any modification required by the Specifications contained in these documents, supersedes the requirements in the MDOT Standard Specifications for Construction Manual. Any modifications required by the Detailed Specifications issued for a particular project supersede the General Specifications contained in these documents and the MDOT Standard Specifications for Construction Manual.

The General Specifications and Detailed Specifications are intended to set up minimum standards for the materials and equipment to be furnished and their installation. It is the intent to cover complete work. Where minor accessories or tools are clearly necessary for satisfactory operation and/or maintenance of the equipment but are not specifically mentioned, they are to be included in these Specifications. Where specifications are not given, it is intended that the best standard practice in design, materials, and workmanship shall be followed and in all cases shall be subject to the approval of the Public Services Director.

Minor variations to these Specifications may be permitted by the Public Services Director in exceptional circumstances. General revisions to these Specifications which relate to technical aspects of the design and construction of items included in the Specifications, will be issued by the Public Services Department from time to time. General revisions and major variations to these Specifications which relate to City policy aspects of these Specifications must be approved by City Council resolution. This includes revisions or major variations to the following sections of Division II-Design Standards:

- 3G. Footing Drains/Sump Pump Discharges/Downspouts
- 4A. Storm Water Retention/Detention (General)
- 5A. Water Main Design (General)
- 7A. Street Design (General)
- 7C. Right-of-Way and Street Width
- 7H. Cul-de-sacs
- 8A. Drive Approaches
- 8B. Sidewalks
- 8C. Bikepaths

1C. Project Schedule

Prior to commencing construction activities, the Contractor shall submit his/her proposed work schedule to the Engineer for review. It shall include all major and/or critical elements of work. Construction activities shall not commence until the Contractor's schedule has been approved by the Engineer.

1D. Permits

All applicable permits must be obtained prior to the commencement of construction activities. These permits shall include, but not be limited to:

Wetland and Watercourse Use Permit - This permit is required for activities within a wetland, watercourse or buffer area as required by Chapter 60 of the City Code. These activities include but are not limited to the following:

- Removal of vegetation, ground cover or disturbance of soils within a wetland, watercourse or buffer area.
- Filling, flooding, draining, dredging, ditching, tiling or excavating to/from a wetland, watercourse or buffer area.
- Construction, placement or development of any structure, road rights-of-way, bridges or trails, utility transmission and distribution lines and related facilities, parks and recreation areas, or fish and wildlife management activities within a wetland, watercourse or buffer area.
- Enclosure, enlargement, diminishment, relocation or alteration in any manner of a wetland or watercourse.
- Application of herbicides, pesticides or other chemical substances.

Application for this permit is to be made to the Building Department for construction of a one or two-family dwelling on a parcel zoned solely for residential purposes, or for the erection of signs, fences, poles or other similar structures. For all other construction or activities, the permit application is to be submitted to the Planning Department along with an appropriate site plan, area plan or plat for the project.

Grading/Soil Erosion & Sedimentation Control Permit - This permit is obtained from the Building Department, and is required for any Private Development Project which will have any grading, stripping, excavating or filling. The permit applicant shall meet the requirements of Chapter 63 of the City Code, and shall pay all applicable fees.

This permit is required (by State law) for all City projects which are located within 500 feet of a water course or involve one acre or more of soil disturbance. For City projects which don't require this permit, written approval of the project must be obtained from the Building Department. In both cases, the applicant shall submit a completed Commercial and Industrial Grading Application to the Building

Department, accompanied by two sets of plans which include the information requested in the application instructions. For further information, see **Division VII, Soil Erosion and Sedimentation Control**.

Right-of-Way Permit - This permit is obtained from the Building Department, and is required for any activity within a City right-of-way including but not limited to: utility and utility service lead construction, road construction, sidewalk and/or bikepath construction, drive approach construction, street light construction, or occupancy of the right-of-way during construction by equipment, dumpsters, scaffolding, barricading or materials. The permit applicant must have on file with the City an approved certificate of current liability insurance in an amount not less than:

- \$500,000 - On account of injury to, or death of, any person in any one accident
- \$ 50,000 - On account of damage to property in any one accident

The following items are to be included on the insurance certificate:

- The City must be named as an additional insured party
- The City must be listed as the certificate holder
- The cancellation clause must indicate unconditional 30 day advance notification to the City of the cancellation of, or material change in, the policy. The word "endeavor" and all language from "but failure to..." must be deleted from the standard "Acord" 25-S (7/90) insurance certificate form. (see below).

Standard Form - Not Acceptable

CANCELLATION	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, THE ISSUING COMPANY WILL ENDEAVOR TO MAIL 30 DAYS WRITTEN NOTICE TO THE CERTIFICATE HOLDER NAMED TO THE LEFT, BUT FAILURE TO MAIL SUCH NOTICE SHALL IMPOSE NO OBLIGATION OR LIABILITY OF ANY KIND UPON THE COMPANY, ITS AGENTS OR REPRESENTATIVES.
_____ REPRESENTATIVE	_____ AUTHORIZED

for supplying to the Engineering Division the basis of design flow calculations for the sewer. These calculations are required as part of the permit application. The construction plans to be submitted with the permit application are to be prepared and stamped or sealed by a professional engineer who is registered in the State of Michigan.

MDPH Water Main Construction Permit - This permit is obtained from the MDPH, and is required for the construction of all public water mains. The Engineering Division will apply for the permit upon approval of the water main construction plans. The construction plans to be submitted with the permit application are to be prepared and stamped or sealed by a professional engineer who is registered in the State of Michigan.

Engineering Division Permit - This permit is obtained from the Engineering Division, and is required for the construction of public utilities, private service leads which are inspected by Engineering, or public roads, which are part of a private development project. Construction activities related to these areas of work may not commence until this permit has been issued. The following items must be received by Engineering prior to approval of this permit:

- Payment of permit fees
- A copy of the approved Grading & Soil Erosion Permit, Right-of-Way Permit(s), and Lane Closure Permit(s)
- MDNR Sanitary Sewer Construction Permit (if applicable)
- MDPH Water Main Construction Permit (if applicable)
- All required easement and right-of-way dedications as described in **Division II** of these standards
- One set of "original" plans of the final approved construction plans as described in **Division II** of these standards
- Nine sets of the final approved construction plans (unless fewer are requested by the Public Services Director)

In addition to those permits listed and described above, all required permits from agencies other than the City must be obtained prior to the start of construction. These other agencies include the State of Michigan (Department of Natural Resources, Department of Public Health, Department of Transportation, etc.), Washtenaw County (Road Commission, Drain Commissioner, etc.) and all railroads whose rights-of-way will be affected by the work. Copies of all City permits are to be located at the construction site at all times and made available for inspection by City personnel. Copies of all permits obtained from outside agencies are to be submitted to the City prior to construction to verify their approval.

1E. Inspections and City Departments Involvement

Work covered under these Specifications shall be inspected by, or involve the parties listed below:

- **The Engineering Division** will inspect the construction of all water mains; sanitary sewers; public storm sewers; ductile iron water services to within five feet of the building if constructed in conjunction with public water main construction; and sewer service leads being constructed in conjunction with public sewer main construction on a private development project to fifteen feet beyond the right-of-way line, or within five feet of the building if the sewer is located in an easement. For sewer service leads being constructed in conjunction with public sewer main construction on a City project, this construction shall be inspected by Engineering to within five feet of the right-of-way line, or as indicated on the Plans. Public roads constructed in a City project will also be inspected by the Engineering Division. Inspection of public road construction associated with a private development project will be as follows:

- I. The Developer's consultant is to provide construction engineering and inspection for the public road improvements including the following:
- a) Full-time, competent inspection of pavement construction, including, but not limited to, subgrade preparation; subgrade undercutting and construction of each layer of the road section; particularly, inspection of methods, materials and equipment.
 - b) Coordination of soil compaction testing.
 - c) Verification of grade for each layer of the road section.
 - d) All concrete work, i.e., curb, gutter, and pedestrian ramps.
 - e) Final adjustment of all castings including curb inlets.
 - f) Pavement markings.
 - g) Coordination of private utility companies.

The following documentation is to be submitted to the Engineering Division by the Developer's consultant:

- a) Daily reports which reference:
 - Field problems and corrective measures
 - Meeting minutes including attendance
 - Engineering directives to contractors
 - Tabulation of construction items including locations and quantities
 - b) Delivery tickets
 - c) Material test reports
 - d) Soil density test reports
 - e) As-built information
 - f) Certification by letter that all work associated with the road construction was constructed to these Standards. This letter must be prepared and sealed by a professional engineer registered in the State of Michigan.
- II. The Engineering Division will perform random spot checks of the public road construction associated with a private development project, and perform formal inspections at the following times:
- a) Edge drain installation.
 - b) Final proof rolling and inspection of subgrade when the Developer's consultant has approved the subgrade for inspection. Engineering must approve the subgrade and issue a Permit To Place prior to subbase construction.
 - c) After placement of sand subbase, but prior to gravel placement, when the Developer's consultant has approved the subbase for inspection. Engineering must approve the subbase and issue a Permit To Place prior to base construction.
 - d) After placement of gravel base, but prior to bituminous coat placement, when the Developer's consultant has approved the base for inspection. Engineering must approve the base and issue a Permit To Place prior to asphalt placement.
 - e) Prior to placement of concrete for sidewalks, curb, gutter, drive approaches and pedestrian ramps.
 - f) After final adjustment of all castings, prior to placement of the wearing course of asphalt. Engineering must approve the casting adjustments and issue a Permit To Place prior to

- placement of the wearing course.
- g) At other times as may be necessary, including the placement of pavement markings.

The Contractor shall provide the Engineering Division a minimum of two working days notice prior to the start of construction in order to allow for the scheduling of inspection personnel. Once construction begins, it is the Contractor's responsibility to schedule further work with the Engineering Technician on a daily basis. No work shall be performed without notifying the Inspector. If work on the site ceases for more than two consecutive work days, two working days notice is required prior to restarting the work. For private development projects, if the Contractor schedules an inspection but does not arrive on the site at the scheduled time without prior notification to the Engineering Division, the Contractor will be charged a "no-show fee" for each occurrence, at the most current approved fee rate. If work is to take place on any Saturday, the Engineering Division shall be notified at least 48 hours but no more than five days in advance of the work in order to allow scheduling of inspection personnel.

The Engineering Division will also inspect the construction of all new sidewalks, bikepaths, and drive approaches within City rights-of-way or public access easements. Replacements of existing sidewalks and drive approaches which are not associated with utility service lead construction or private utility construction will also be inspected by the Engineering Division. The Engineering Division will inspect the forms and base for concrete sidewalks, bikepaths and drive approaches; and the subgrade and base for asphalt bikepaths and drive approaches. The Contractor shall provide the Engineering Division a minimum of one full working day notice prior to this inspection.

- **The Utilities Department** is to make all water main taps for testing corporations and copper water services. Service taps for copper water services will not be made in a new water main until the main has passed all required testing and has been preliminarily accepted by the Engineering Division. The Utilities Department will extend the copper water service to the curb stop location and set the curb stop and box. The location of the curb stop is to be staked by the Engineer with either straddle or double offset stakes, marked with finished grade. In addition, the adjacent property corners shall be staked.

The Utilities Department will also make connections to existing water mains for ductile iron water service leads. The Utilities Department will install the service lead up to and including the service gate valve. Inspection of the service lead from the service gate valve to the building will be performed by the Building Department.

The Utilities Department will make taps into existing City sewers for sewer service leads where a service lead has not been previously constructed. The Utilities Department will tap the existing sewer, install a saddle for the connection, and inspect the connection of the service lead to the tap. In the case of a connection to be made to an existing sewer where a tee of wye fitting is already in place with no lead stub, the Utilities Department will inspect the connection to this fitting. The location of the adjacent property corners shall be staked.

- **The Building Department** will inspect; construction of water service leads from the curb stop box or service gate valve to the building; connection of sewer service leads to existing service lead stubs; construction of sewer service leads from the point of connection to the building; and construction of all private storm sewers. The Building Department will also inspect all grading and soil erosion controls related to any construction project on a monthly basis and in response to complaints.
- **The Transportation Division** will inspect the backfilling and restoration within City rights-of-way associated with utility service lead construction from existing utility mains, and all construction by private utility companies (Michigan Consolidated Gas, Detroit Edison, Michigan Bell, Cable TV, etc.).

The Transportation Division will also inspect all street light construction.

The Transportation Division will designate and assign all approved truck routes.

All required permits as described in Section 1D. above must be obtained for all items of work.

1F. Hours of Work

Hours of work as stated in the City Code, Title IX, Chapter 119, Sec. 9:363(5) are weekdays, Monday through Saturday, between the hours of 7:00 a.m. and 8:00 p.m. At other times, work will not be permitted unless authorized by the City Administrator.

Hours of work on State trunklines are subject to the MDOT Right-of-Way Occupancy Permit for said work. Hours of work on major City roadways are subject to permit of the Public Services Director.

Contractors shall work **ONLY** when there is adequate daylight.

1G. Working in the Rain

The Contractor shall not work in the rain unless authorized in writing by the Public Services Director. The Contractor shall not be compensated for unused materials or downtime caused as a result of rain. The Contractor is solely responsible for repairing all damage to the work and to the site, including road infrastructure, road subgrades, and any adjacent properties, which are caused as a result of working in the rain.

1H. Work in Right-of-Way
General

Prior to undertaking any work in a public right-of-way, the Contractor must obtain all required permits, including a Right-of-Way Permit from the Building Department, a Lane Closure Permit from the Transportation Division, and all required permits from the WCRC and MDOT as described in **Section 1D. Permits**, above.

It shall be the Contractor's sole responsibility to locate or have located all existing utility structures prior to commencement of construction activities. This shall be done in accordance with the State of Michigan Miss Dig Law as set forth in MCL 460.701 through MCL 460.718, Public Act 248 of 19.

Street Cuts

The Public Services Director may, if the public safety requires immediate action, grant permission to make an emergency street cut or excavation before a permit is issued.

Partial or complete transverse crossings of recently paved or resurfaced streets by utility main or service lead construction shall be bored in accordance with these Specifications, in lieu of open cut construction, based on the following time restrictions. Arterial street crossings shall be bored for all crossings within ten years of the completion of paving or resurfacing. Urban collector street crossings shall be bored for all crossings within five years of the completion of paving or resurfacing. All other street crossings shall be bored for all crossings within three years of the completion of paving or resurfacing. Longitudinal pavement cuts in these streets shall also be prohibited based on the above time restrictions. Below are the arterial and urban collector streets included in these restrictions:

Arterial Streets

(Principal Arterials)

Ann Arbor-Saline Road
Beakes

Urban Collector Streets

Arlington
Ashley (William to Kingsley)

Ellsworth Road	Barton Drive
Huron Street	Brooks (Summit to Sunset)
Jackson Avenue	Depot Street
Main Street (M-14 to AA-Saline)	Dhu Varren Road
Packard Road (Main to State)	Earhart
Plymouth Road	First St. (William to Kingsley)
Stadium Boulevard	Fourth Ave. (Packard to Beakes)
State Street (Ellsworth to Packard)	Fuller (Depot to Glen)
Washtenaw Avenue	Geddes (Washtenaw to Huron Pkwy)
	Glazier Way (Huron Pkwy to Earhart)
<i>(Minor Arterials)</i>	Green Rd. (Glazier Way to Nixon)
Dexter Road	Hill Street
Division (Packard to Beakes)	Huron Pkwy (Nixon to Tuebingen)
Eisenhower Parkway	Kingsley (Main to First)
Fifth Avenue (Packard to Beakes)	Newport Road
Fuller Road (Glen to Huron Parkway)	Nixon Road
Geddes (US-23 to Huron Parkway)	Pauline
Glazier Way (Fuller Rd. to Huron Pkwy)	Seventh St. (Scio Church to Miller)
Glen Street	S. Industrial Highway
Huron Parkway (Platt Rd. to Nixon Rd.)	State St. (Packard to Fuller)
Huron River Drive (N. Main to Maple)	Stone School Road
Liberty Street (Main to I-94)	Summit (Main to Brooks)
Maiden Lane	Sunset (Brooks to Newport)
Main Street (AA-Saline to Eisenhower)	Traverwood Drive
Maple Road	William (Main to First)
Miller Road	
Packard Road (State Street to US-23)	
Platt Road (Ellsworth to Huron Parkway)	
Pontiac Trail	
Scio Church Road	

Pavement cuts earlier than specified above may be permitted by the Public Services Director if necessary as a public safety measure or if other just cause is shown to exist.

In all cases other than sidewalk or drive approach construction the permit applicant for a street cut shall notify the City a minimum of two working days prior to the time when the work is proposed to commence so, if necessary, arrangements may be made to have an inspector present while the work is in progress. The applicant may be billed for the necessary expense of the Inspector.

Whenever a part of a block, square or section of curb, sidewalk, or driveway is broken or damaged by the person making any excavation or opening in or under any street, alley or within any public right-of-way, the entire block, square or section shall be removed to the score, groove or saw cut line and replaced or reconstructed. Where the line of cut would be less than two feet from an existing expansion or weakened plane joint, the concrete shall be removed to that joint.

At no time shall more than 200 feet of trench be opened and incompletely backfilled during working hours. The remainder of the area of trenching operation shall be available for safe vehicular and pedestrian traffic at all times. Special exceptions may be allowed by the Public Services Director. Specifications elsewhere herein may impose additional constraints on trench openings.

In no case shall any opening or trench made by a permittee be considered in the charge or care of the City, or any of its officers or employees, and no officer or employee is authorized in any way to take or assume any jurisdiction over any such opening, except in the exercise of police power, when it is necessary to protect life and property.

All openings or trenches across traffic lanes, where it becomes necessary to remove any existing surfacing or pavement, shall be provided with temporary pavement, after proper compaction of the backfill and pavement base material as specified elsewhere herein. Minimum requirements for temporary pavement shall be a bituminous patching mixture conforming to MDOT Specification Section 7.11 for mixtures, CP-3 or CP-5 as specified by the Public Services Director. Temporary pavement shall be properly maintained in a safe condition at all times by the permittee until permanent pavement is placed. Each party making street openings shall routinely check their temporary pavement. All temporary patches made between November 15 and April 15 shall be checked at least every fourteen days and repairs made as needed.

A steel plate or an approved bituminous patching mixture shall be placed on all openings within the roadway surface at the close of each working day. An exception may be granted by the Public Services Director for complete reconstruction of a street.

If the paving surfaces adjacent to the street opening may be damaged where trenches are made parallel to the street, or where a number of cross trenches are laid in close proximity to one another, or where the equipment used may cause such damage, the Public Services Director may require a negotiated contribution from the permittee for the resurfacing of such street, instead of patching, if the total area of the proposed patch (or probably damaged area) exceeds twenty-five percent of the total pavement surfacing in any block. Such negotiations shall be carried on and contributions agreed upon prior to issuance of a Right-of-Way Permit.

The work of final restoration, including both paving surface and paving base, shall be performed by the permittee in accordance with **Division V, Street Construction and Repair**, of these Specifications.

The final pavement surface shall be placed within fourteen days of the completion of construction within the right-of-way, as specified herein. All cuts made in the off-season (November 15th to April 15th) shall be completed before June 15 of the following construction season. Any permittee found in violation of these requirements will be denied additional permits until all openings produced by that permittee have been properly repaired.

The permittee is responsible to correct any defect in a restored area which occurs within a period of three years

from date of completion of the permanent restoration. Corrections must be completed within the time specified in the notification from the City, which shall be no longer than one work day; however, the City may correct such defect if it is determined to be a public hazard or if the permittee fails to respond in accordance with the time requirement specified herein. In either case, any expense incurred by the City in correcting such defect shall be paid by the permittee. The permittee shall receive no additional permits until such payment is received in full by the City.

In granting any permit, the Public Services Director may attach such other conditions thereto as may be reasonably necessary to prevent damage to public or private property or to prevent the operation from being conducted in a manner hazardous to life or property or in a manner likely to create a nuisance. Such conditions may include, but shall not be limited to: (1) limitations on the period of the year in which the work may be performed; (2) restrictions as to the size and type of equipment commensurate with the work to be done; (3) designation of routes upon which materials may be transported; (4) the place and manner of disposal of excavated materials; (5) requirements as to the laying of dust control materials, the cleaning of streets, the prevention of noise, and other results offensive or injurious to the neighborhood, the general public, or any portion thereof; and (6) regulations as to the use of streets in the course of the work.

Any operation in the right-of-way not covered by these Specifications, submitted with this permit, shall be done in accordance with the instructions of the Public Services Director.

11. Traffic and Pedestrian Control and Access

The Contractor shall maintain local vehicular and pedestrian traffic and access to all properties, private drives, etc., throughout the project at all times unless otherwise noted on the Plans and arranged and approved in writing by the Public Services Director. Traffic control devices and personnel to control and direct traffic movement to residences along a road are the responsibility of the Contractor. Traffic control shall meet or exceed all MDOT minimum requirements, and be in accordance with Part VI of the Michigan Manual of Uniform Traffic Control Devices (MMUTCD), 1981 revised edition.

The Contractor shall maintain two-way traffic on major streets, access for local traffic on local streets, and keep intersections open to traffic at all times, unless specifically authorized otherwise in writing by the Public Services Director.

If it is expected that road closure will be necessary during certain construction operations, this shall be minimized as much as possible and limited to a maximum of 500 feet at any time, and a time duration of 48 hours maximum. Approval for such road closure must be obtained in writing by the Contractor from the Public Services Director prior to the closure. The Contractor shall notify each residence in writing a minimum of two days prior to such closure. A copy of this notice shall be supplied to the Public Services Director, City Solid Waste, Police and Fire Departments, Ann Arbor Transit Authority (AATA), Ann Arbor Public Schools, and U.S. Postal Service, a minimum of two working days prior to the closure. Emergency access to all residences must be maintained at all times. The Contractor shall obtain a Lane Closure Permit from the Transportation Division, a minimum of two working days in advance of any street closing or restriction of traffic.

Pedestrian traffic shall be maintained at all times. For maintaining normal pedestrian traffic while performing sidewalk and driveway repair, lighted Type II barricades shall be placed by the Contractor, as directed by the Public Services Director. Reflective "Sidewalk Closed-Cross Here" signs shall be placed by the Contractor, as needed and as directed by the Public Services Director.

Parking violation citations issued to the Contractor, subcontractors and material suppliers, including their employees, shall be enforced under the appropriate section(s) of the City Code.

Existing City owned signs which are damaged by the Contractor during the course of construction will be repaired by the City at the Contractor's expense.

The Contractor shall temporarily cover conflicting traffic and/or parking signs only when directed by the Public Services Director. In addition, the Contractor shall submit a plan to the Public Services Department indicating the signs to be covered, for review and approval by the Public Services Director.

Where there is metered parking, the Contractor shall obtain, install and maintain at the Contractor's expense meter bags from the Transportation Division.

1J. Truck Routes

Truck traffic within the City must travel on designated truck routes listed below, and shown on the route map contained herein, to the point on the truck route nearest the desired destination. The shortest legal route must then be travelled between the destination and the truck route. Cut-through traffic is prohibited on any street within the City that is not designated as a truck route. The operation of trucks exceeding twenty-two feet in length or five tons gross weight (including operator and cargo) is prohibited on all non-truck routes, unless the truck is making a delivery or pick-up by means of the shortest route from, or to, a truck route.

On all truck routes, load limits shall be in accordance with the Michigan Vehicle Code, Section 257.722, except when frost limits are in effect. Frost limits may be placed on City streets during the months of February, March, and April. At these times, the load limit restrictions are reduced by 35%, excluding MDOT trunkline streets (Washtenaw Avenue, North Main Street, Huron Street, and Jackson Road between Huron Street and I-94). Frost limits shall be in effect at the time that Washtenaw County frost limits are put into effect by the Washtenaw County Weigh Master.

Requests for load limit waivers must be made in writing to the Public Services Director.

All weight restrictions shall be enforced by the City Police Department, as authorized by Chapter 126, Section 10:102 of the City Code and Section 257.726b of the Michigan Vehicle Code.

Further information regarding truck routes may be obtained from the City Police Department's Special Services Division (994-2865).

Truck Route List

Ann-Arbor Saline Rd. (I-94 to S. Main St.)	Main S. (M-14 to Ann Arbor-Saline Rd.)
Ashley (William St. to Huron St.)	Maple Rd. (M-14 to Stadium Blvd.)
Beakes (Broadway to Main St.)	Miller Ave. (M-14 to Main St.)
Broadway (Plymouth Rd. to Beakes)	Packard Rd. (US-23 to Main St.)
Division St. (Packard to Beakes St.)	Platt Rd. (Ellsworth Rd. to Huron Pkwy)
Eisenhower Pkwy (State St. to Packard Rd.)	Plymouth Rd. (US-23 to Broadway)
Ellsworth Rd. (State St. to Platt Rd.)	Stadium Blvd. (Maple Rd. to Washtenaw)
Fifth Avenue (Beakes to Packard Rd.)	State St. (Stimson to Ellsworth Rd.)
Huron St. (Jackson Rd. to Washtenaw Ave.)	Stimson (State St. to S. Industrial)
Huron Pkwy (Platt to Washtenaw Ave.)	S. Industrial (Stadium to Eisenhower Pkwy)
Jackson Rd. (Huron St. to Wagner Rd.)	Washtenaw Ave. (Huron St. to US-23)
Liberty Road (Stadium to I-94)	William St. (Division St. to Ashley St.)

TRUCK ROUTE MAP

1K. Material Delivery and Handling

The Contractor shall provide the Engineering Division a minimum of one full working day notice prior to delivery at the project site of any materials required for the work to be inspected by Engineering in order to allow for scheduling of inspection personnel. Engineering is to also be notified when the material has arrived at the site. Notice for material delivery will not be acknowledged unless the Engineering Division Permit has been approved and all fees have been paid.

Pipe, fittings, valves, hydrants, appurtenances and accessories shall be loaded and unloaded by lifting with hoists or skidding so as to avoid shock or damage. Under no circumstances shall such material be dropped. Pipe handled on skidways shall not be skidded or rolled against pipe already on the ground.

In distributing the material at the site of the work, each piece shall be stored off of the ground surface by means of skids or bunks, and stacked neatly. The ends of water main pipe are to be covered by means which will prevent the intrusion of animals or debris into the pipe.

Pipe shall be so handled that coatings and linings will not be damaged. If, however, any part of any coating or lining is damaged, repairs shall be made by the Contractor at the Contractor's expense in a manner satisfactory to the Public Services Director, or the material will be rejected.

Building materials for private development projects shall be stored on the site, and shall not be stored in the public right-of-way.

1L. Rock

The word "rock", wherever used as the name of an excavated material, shall mean a boulder or piece of concrete/masonry exceeding 250 lbs. in weight, or solid ledge rock and masonry which, in the opinion of the Public Services Director, requires for its removal, drilling and blasting, wedging, sledging, or barring, or breaking up with a power-operated tool.

Blasting for excavation will be permitted only after securing the written approval of the Public Services Director and only when proper precautions are taken for the protection of persons and property. The hours of blasting will be fixed by the Public Services Director. Any damage caused by blasting shall be repaired by the Contractor at the Contractor's expense. The Contractor's methods and procedure in blasting shall conform to Michigan State laws and municipal ordinances.

Ledge rock, boulders and large stones shall be removed to provide a clearance of at least 9 inches below and on each side of all pipe, valves, and fittings. The specified minimum clearances are the minimum clear distances which will be permitted between any part of the pipe and appurtenances being laid and any part, projection, or point of such rock, boulder, or stone.

Where excavation is made in rock or boulders, the subgrade shall be made by backfilling with an approved material, as described elsewhere herein. The layers shall be thoroughly compacted as specified elsewhere herein and as directed by the Public Services Director so as to provide a uniform and continuous bearing and support for the pavement or pipe. The finished subgrade shall be prepared accurately with hand tools.

1M. Easements and Right-of-Way

No public utility, public road or public access walkway/bikepath construction shall commence until all required easements and rights-of-way have been granted to the City, in accordance with **Division II** of these Specifications.

1N. Excavated Material and Backfill Material

All excavated material which has not been certified for use as backfill material shall be removed from the site immediately. Excavation may be suspended by the Public Services Director if sufficient equipment for immediate removal of excavated material is not available. Any and all material to be used for backfilling purposes shall be stored on-site as directed by the Public Services Director. It may be required that backfill material be moved on the site during a workday or removed from the site at the end of each workday. The intent of this section is to insure that material stored on-site does not impede traffic flows, drainage, or sight distances. It is the sole responsibility of the Contractor to coordinate and control the amount of material on-site at any one time for this purpose. Written permission may be required from the Public Services Director for on-site storage of materials. Any and all costs for the above items on City projects are the Contractor's expense.

All excavated earthen material which has not been certified for use as backfill material shall be disposed of by the Contractor at the Contractor's expense. Locations for placing and disposing of this excavated material shall be arranged by the Contractor at the Contractor's expense.

1O. Existing Utilities, Structures, Features and Site Conditions

The existing utilities, structures, features, and site conditions above, at, and below ground are shown on the Plans from the best available information. These include but are not limited to soil borings, pipelines, conduits, manholes, pavement, utility poles/overhead wires, mailboxes, buildings, and the like.

It is the Contractor's sole responsibility to perform its own site investigations and/or research, and to incorporate into its bid all necessary costs to insure that any extra costs arising from the work are planned for. If, as a result of the Contractor's investigations and/or research prior to the bid, any utilities, structures, features and/or site conditions are discovered or are known by the Contractor to be different than shown on the Plans, the Contractor is obligated to notify the Engineer immediately in writing so an addendum may be issued or the bid date revised. In any case, no payments in excess of the bid price will be paid.

The Contractor is solely responsible for any delays, damages, costs and/or charges incurred due to and/or by reason of any utility, structure, feature, and/or site condition whether shown on the Plans or not, and the Contractor shall repair and/or replace, at the Contractor's expense, to as good or better condition, any and all utilities, structures, features and/or site conditions which are impacted by reason of the work or injured by the Contractor during its operations or injured during the operations of its subcontractors or suppliers.

Neither extra payments nor adjustments to unit prices will be made on City projects for damages, delays, costs and/or charges due to existing utilities, structures, features and/or site conditions not shown, or being incorrectly shown or represented on the Plans.

1P. Soil Data

Soil data which may be included on the Plans and/or in the contract documents are provided to help the Engineer and Contractor determine the soil conditions existing within the construction area. The City in no way guarantees existing conditions to be the same as shown in the data. The Contractor is solely responsible for any

and all conclusions he/she may draw from the data.

1Q. Contractor's Drawings

The Contractor shall supplement the Plans with detailed drawings and data covering any special material and/or method of construction. This information must be submitted in triplicate to the Public Services Director for approval with such promptness as to cause no delay in the work. Fabrication shall not be started until the working submittals have been approved by the Public Services Director. Approval by the Public Services Director shall not relieve the Contractor of its responsibility for design, errors in drawings, or details of the work. Additional Plans or changes in the Plans will be made by the Engineer as required during the work.

1R. Records and Measurements

The Contractor shall keep careful and accurate records showing measured over-all length, width, and depth of underground facilities installed, and dimensions of such from any available lines, benchmarks, landmarks, property lines, and/or other facilities, as may be required by the Public Services Director to prepare Record Drawings. Such records shall be turned over to the Public Services Director as the work progresses and the records must be accurate and complete.

1S. Elevations, Lines, and Grades

All elevations shown on the Plans or referred to herein shall be referenced to NAVD 88 datum. **Note that this datum is not identical to the prior City of Ann Arbor datum, nor the USGS or USC & GS systems.** The Contractor shall verify all existing structure locations and elevations at points of connection for possible interference between his work and the existing structures and shall report at once to the Engineer any interferences or discrepancies discovered.

As part of a Private Development Project, the Developer's Engineer shall locate a vertical control point adjacent to the site. This vertical control point ("benchmark") shall be located such that it will not be disturbed by the project's construction. The control point shall be constructed by the Developer in accordance with the Standard Details in **Division X** of these Specifications. The disc for this control point will be provided by the City. The elevation for this control point shall be established by the Developer's Engineer, referenced to NAVD 88 datum.

The Developer's Engineer shall also complete and return to the Engineering Division a Vertical Control Point Witness Form.

General control lines and grades shall be established by the City for a City project and by the Developer for a private development project as described in **Division II, Section 1B. Construction Plan Approval and Construction Procedure**. The Contractor shall carefully preserve the general control lines and grades. If any portion of this construction staking is damaged, buried or in any other way becomes unusable, the Contractor's construction activities shall be halted until the Engineer re-establishes the staking.

Cut sheets for all proposed utilities to be inspected by the Engineering Division must be submitted and approved by the Public Services Director prior to their construction. Construction will be allowed only for that portion for which cut sheets have been approved. A minimum of one full working day is required for the review and approval of the cut sheets.

Cut sheets shall indicate an on-site benchmark elevation, invert elevations of sewers, top-of-main elevations for water main, stake elevations, cut or fill, offset distance length, all utility crossings, top-of-casting elevations for all structures (for curb inlets top-of-casting shall be at the front of the casting at the edge-of-metal), and hydrant finish grade-ring elevations.

Staking for utilities shall be every half and full station, with the exception of water main to be laid in a horizontal curve which shall be staked every 25 feet or more often if required by the Public Services Director. Every manhole, sewer tee, and water main fitting and appurtenance shall be staked and included on the cut sheet. A minimum of two offset stakes as well as a centerline stake shall be used for all manholes, fire hydrants, and gate valves. For storm sewer structures to be located in the curbline, staking shall be placed establishing the back-of-curb line for a minimum of five feet on each side of the storm sewer structure. This curb staking is in addition to, and is to be placed at the same time as, the centerline stake and two offset stakes for the structure itself.

Sanitary sewer leads are to be staked with dual offset stakes at the termination point of the lead. Sanitary leads inspected by the Engineering Division are to be included on a cut sheet.

For copper water services, the location of the curb stop box is to be staked with either straddle or double offset stakes, marked with finished grade. Ductile iron water services shall be staked as detailed above for water main, and shall be included on the cut sheet.

Staking for curb and gutter shall be every quarter station (25 feet), with horizontal and vertical curves staked every 12.5 feet. All low points, high points, PVC's, PVT's, PC's and PT's shall be staked. The maximum allowed offset will be 5 feet.

For sidewalk, bikepath and/or drive approach work, staking shall be provided by the Owner, to the satisfaction of the Public Services Director, that establishes the right-of-way line and all property corners for the limit of the work.

Construction lines and grades shall be transferred and set by the Contractor from the control lines and grades, and the Contractor shall furnish necessary instruments and competent personnel for performing such work, and shall be responsible for the accuracy of the transferred lines and grades. The Engineer and Public Services Director may check the work at intervals as they deem necessary and the Contractor shall make correction of error, if any, at the Contractor's own expense.

1T. Property Markers/Monuments/Benchmarks

The Contractor shall take precautions not to move or destroy any property irons, monuments, benchmarks, or stakes marking the boundaries of property along or near the work. The Contractor shall notify the Public Services Director with such promptness that all property markers, monuments, and benchmarks may be properly protected or witnessed for later replacement by the Public Services Director.

1U. Sales Taxes (Applicable to City Projects)

Section 42 of the General Conditions states that in accordance with State law, the City is exempt from the assessment of State Sales Tax on direct purchases. Contractors who acquire materials, equipment, supplies, etc. for incorporation into City projects are not likewise exempt. State Law shall prevail. The Bidder shall become familiar with the State Law and prepare its bid accordingly. No extra payment will be allowed under a City Contract for failure of the Contractor to make proper allowance in its bid for taxes that must be paid.

1V. Temporary Facilities

Fire Protection Facilities

The Contractor shall provide its own fire protection facilities as required by all applicable codes and insurance requirements, and shall be fully responsible for maintaining complete fire protection for its work, as approved by the Fire Marshal.

Water Facilities

Water will be furnished by City personnel at the Contractor's expense from City hydrants when necessary and where available, only with approval of the Public Services Director and the Utilities Director. Water taken from City hydrants shall be metered by a Utilities Department hydrant meter. All required fees must be paid to the Utilities Department by the Contractor. This meter shall also have a backflow prevention device approved by the Public Services Director or Utilities Director. The Contractor shall not operate hydrants or valves unless authorized by the Public Services Director or Utilities Director. Unauthorized use of a fire hydrant is a violation of Title II, Chapter 27, Section 2:30 of the City Code. Violators will be subject to citation by City personnel.

Toilet Facilities

The Contractor shall provide temporary chemical toilet facilities for the use of its own employees. The Contractor shall dispose of all wastes from chemical toilets off the City's property. All costs for disposal of wastes, and for maintenance of chemical toilets, shall be at the Contractor's own expense. All chemical toilet facilities and disposal of wastes, shall be satisfactory in every respect to the City's representative and all governing bodies having jurisdiction.

Light and Power

The Contractor shall provide its own temporary light and power.

Office and Storage

The Contractor may establish and maintain, at the Contractor's own expense, office headquarters at the site of the work and such storage space and the like as may be required. The Contractor must make all arrangements for such space.

Prior to erection or placement of any temporary buildings or facilities, the Contractor shall submit plans of these buildings or facilities to the Public Services Director for general approval of materials and appearance. Approval of temporary buildings or facilities may be required from the Building Department. Burning, or burying on the site of any materials will NOT be permitted.

On-site handling and storage of flammable liquids and all other chemicals shall comply with all safety

regulations and codes pertaining thereto. The Contractor may store materials on the site for future incorporation into the work entirely at the Contractor's own risk until the work is accepted in its entirety by the City. Storage practice and location shall be subject to City inspection and approval.

Barricades

The Contractor shall provide all barricades, warning signs, warning lights, etc., as detailed on the Plans, in compliance with all requirements of the City and of all authorities having jurisdiction.

Removal of Temporary Facilities

The Contractor shall remove all temporary facilities provided by it at the termination of their usefulness or the termination of the work, or when requested by the Public Services Director and shall leave the site in a condition satisfactory to the City in every respect.

1W. Protection of Property and Safety

During the progress of the work, the Contractor shall continuously maintain adequate facilities for the protection and safety of all persons and property. Any damages or interruptions which do occur to any property, structures, or facilities as a result of acts of commission or omission by the Contractor, its subcontractor(s) or supplier(s) shall be remedied by the Contractor at the Contractor's own expense, including all premium wages (if any) required to remedy any such damages or interruptions in the shortest possible time and to the complete satisfaction of the Public Services Director. Any item on private property outside the easement limits removed or damaged by the Contractor shall be restored to its original condition or better than its original condition at the expense of the Contractor. All work to restore the existing conditions to the satisfaction of the property owner or City is the responsibility of the Contractor.

1X. Protection of Trees

Existing trees within the area of the work which are indicated on the Plans to be saved shall be protected in accordance with the Standard Details in **Division X** of these Specifications.

Damage to City owned trees by the Contractor's operation(s) or the operation(s) of the Contractor's subcontractor(s) or supplier(s) shall be repaired under the direction of the City Forester by an approved forestry contractor retained by the Contractor; or, at the discretion of the City Forester, the required repairs may be performed by the City Forester with all associated costs being charged directly to the Contractor. Payment of these charges is the Contractor's responsibility and is not a part of any City Project Contract.

1Y. Good Will

The Contractor shall carry on the work at all times so as to maintain the best possible relations among the City, other Public Authorities, other Contractors and the Public. The Contractor shall provide courtesy or detour signs if requested by the Engineer or Public Services Director.

The Contractor shall at all times conduct its working manner such that disturbance to the surrounding community will be minimized. Such action shall consist of proper dust, noise, traffic, erosion, and site sedimentation control.

1Z. Guarantee

The Contractor shall guarantee that all equipment and materials delivered and incorporated into all work will be new and first class, and made from materials suitable and adequate for the purposes intended as described in the Plans and Specifications; and that the Contractor's work will be performed in a workmanlike manner in accordance with the best engineering practice; and that such equipment and materials comply with these Specifications in every respect. When requested, the Contractor shall be required to submit manufacturer's drawings and performance data and any independent laboratory test results that may be required to assure product or material conformance with these Specifications.

All manufacturer's warranties and guarantees, including all rights to receive warranted service and repair, shall be in the City's name.

1AA. Quality of Materials and Equipment Furnished

All materials and equipment furnished shall be new and first-class in every respect and suitable for the intended purpose, and shall meet all the requirements of these Specifications. All work under these Specifications shall comply in all respects with any and all applicable local codes and regulations. All material and equipment furnished shall fully comply with the latest ACI, ANSI, ASA, ASTM, ASSA, IEEE, and NEMA standards.

1BB. Quantities and Unit Prices (Applicable to City Projects)

The Bid Form section of City Contract Documents describe the estimated quantities of construction units for the proposed work. As these quantities are estimated, they should not be used solely in the estimating of construction costs for work performed. A thorough familiarization of all work described in the Plans and Specifications should be completed prior to any estimating of construction quantities and unit prices.

Quantities as given are approximate for bidding purposes and are not guaranteed. Quantities may vary by any amount. While it is the City's intent to complete the project substantially as drawn and specified, quantities may be changed or reduced to zero for cost savings or other reasons. The City reserves the right to change quantities, and no adjustment in unit price will be made for any change in any quantity.

1CC. Pre-Construction Meeting

A pre-construction meeting shall be held at least one week prior to commencement of the work. The following personnel will be notified of this meeting: Public Services Director, Technician, Technician Supervisor, Land Development Coordinator, Utilities Department Field Superintendent, Transportation Division Traffic Engineer, Developer, Contractor(s), Engineer, soils and density testing firm, private utility companies, and any outside governmental agencies affected by the project.

At this meeting, matters pertinent to the project schedule, daily reports, measurement of quantities, material testing, utility coordination, traffic control, soil erosion control and the like will be reviewed. Minutes of this meeting shall be taken by the Public Services Director and distributed to all attendees prior to commencement of the work.

1DD. Daily Reports

All work performed on any day will be measured (as practical), and recorded on the City of Ann Arbor Daily

Inspection Report for work items. The Contractor, or its previously designated agent, is required to review the report with the Inspector no later than the day following the report preparation and to sign the report, which constitutes the agreed quantity of work in the report. All measurements and agreements reported on the City of Ann Arbor Daily Inspection Report are final, and subject only to verification for mathematical accuracy. The Contractor shall receive a copy of the report.

1EE. Soil Erosion Control

The Contractor shall install and maintain soil erosion and sedimentation control measures as required by statute, City ordinance and these Specifications, and as indicated on the Plans.

1FF. Drainage Maintenance

Any drainage problem resulting from the Contractor's operations shall be corrected by the Contractor at the Contractor's expense.

1GG. On Street Parking; No-Parking Zones; Parking Enforcement

A portion of the proposed work may be along streets which contain parking meters for on-street parking. The Contractor shall arrange with the Transportation Division for the rental and placement of a sufficient number of "Meter Bags". These meter bags, in conjunction with existing No-Parking signs, when properly installed in a timely manner, will enable the Contractor to have use of the curb lanes of streets which normally have metered on-street parking. Requests for meter bags must be made at least 24 hours prior to the desired enforcement date.

The cost of meter bags where required by the Engineer, shall be the sole responsibility of the Contractor. The Transportation Division will be unable to enforce the desired "No-Parking Zone" should the Contractor fail to install the meter bags in a proper and timely manner. The Contractor has the sole responsibility for any and all meter bag rental, placement, and maintenance. Delays due to on-street parking shall not be cause for any extra payments to the Contractor.

Certain areas of proposed construction may allow for unmetered on-street parking. In order to perform construction in these areas, the Contractor shall arrange with the Transportation Division for the placement of No-Parking signs and other traffic control devices as are necessary. The Contractor is solely responsible for any and all delays encountered due to vehicles parked on the street. Enforcement of No-Parking Zones can only be performed by the City's crews and only if No-Parking signs had been properly placed at least 48 hours prior to the desired enforcement date.

1HH. Dust and Noise Control

The Contractor shall provide, operate, and maintain adequate (in the opinion of the Public Services Director) means of noise and dust control during the course of construction 24 hours per day.

2. CONTROL OF MATERIALS AND MATERIAL TESTING

2A. General

The Contractor is responsible for all off-site testing of materials, except aggregate testing for City Projects. Tests shall be performed by a testing firm acceptable to the City. All materials incorporated into the work shall conform to the Specifications herein.

2B. Basis for Acceptance or Rejection of Materials

The Public Services Director shall accept or reject materials on the basis of standard test results. The Public Services Director's findings with respect to a proposed material's suitability for its intended use and its substantial conformance to the Specifications shall be final.

Sieve and proctor analyses shall be performed on all granular material and dense-graded aggregates prior to their introduction to the site. The results of these analyses shall be forwarded to the Engineering Division prior to the commencement of construction activities. Additional sieve and proctor analyses will be required when, in the opinion of the Technician, the character of the material differs from that previously tested and approved. Copies of all soils and density reports related to construction inspected by the Engineering Division are to be submitted to the Engineering Division.

Bituminous and concrete materials may be rejected for use in the project when, in the opinion of the Technician, the character of the material obviously differs from that previously tested and/or utilized on the project, and approved.

2C. Weighmen

Weighmen will not be furnished by the City for weight certification.

2D. Use of State Tested Materials

Materials for concrete and bituminous mixtures shall conform to MDOT Specifications including fine aggregates, coarse aggregates and cements except as modified in **Division III** of these Standards. The Contractor shall furnish test results for materials furnished and shall bear the cost of any testing required.

2E. Mix Designs

The Contractor shall prepare and furnish mix designs for all concrete and/or asphalt mixes to the Public Services Director for review and approval. A minimum of three working days is required for the review of the mix design. All mix designs are to be tested and verified by an independent testing agency. A minimum one week notification to the Public Services Director is required for any changes in material for mix design, to allow testing and review of the modified mix design.

All job mix designs and retests required due to the Contractor's failure to supply specified and approved materials, will be paid for in their entirety by the Contractor.

2F. Suppliers Lists

The Contractor shall provide a list of materials and suppliers at the preconstruction meeting for the Public Services Director's review and approval.

2G. Certification

The following materials shall be certified by the manufacturer and/or supplier as having been tested for compliance with the Specifications:

- Water Main Pipe
- Sanitary Sewer Pipe
- Storm Sewer Pipe
- Corrugated Metal Pipe
- High Density Polyethylene Pipe
- Underdrain Pipe
- Precast Concrete products
- Cements, coatings, admixtures and curing materials
- Bituminous materials
- Steel and fabricated metal
- Timber for retaining walls
- Modular concrete blocks for retaining walls
- Geotextile Filter Fabric
- Geotextile Stabilization Fabric
- Geogrid
- Dense Graded Aggregates
- Granular Materials