VILLAGE OF OSWEGO

SUBDIVISION AND DEVELOPMENT CONTROL REGULATIONS
FOR
THE VILLAGE OF OSWEGO, ILLINOIS
KENDALL COUNTY

February 5, 2004
Rev. February 2008

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THE SUBDIVISION AND DEVELOPMENT CONTROL ORDINANCE
VILLAGE OF OSWEGO, ILLINOIS

SECTION 1.00 – TITLE

This title shall be known as the official Subdivision and Development Control Regulations of the Village of Oswego, and may be cited and referred to as the Subdivision and Development Regulations.

SECTION 2.00 – PURPOSE

In an era of increasing complexity in urban life, the subdivision and development of private land can have a profound impact upon the cost and efficiency of providing public services such as police and fire protection, sanitary sewer and water service, vehicular and pedestrian circulation systems, storm water runoff control and educational and recreational facilities and upon environmental qualities conducive to the well being of citizens. Therefore, in order to advance the public health, safety and welfare in an era of increasingly rapid improvement of vacant land; in order to encourage the use of the best planning and engineering practices by private developers in an age when sophisticated technology in building and design is available; in order to promote the growth of the Village of Oswego in a manner that will not only provide its citizens with a safe, healthy and beneficent environment but also will protect property values thereby securing the fiscal base for public services; in order to ensure adequate and economical provision of necessary public services caused by and attributable to improvement of vacant land; in order to promote those qualities in the environment that bring value to the community, to foster the attractiveness and functional utility of the community as a place to live and work, to preserve the character and quality of our neighborhood areas by maintaining the integrity of those areas which have a discernible character or are harmonious in design, to protect investments in the community, and to raise the level of community expectations for the quality of its environment; in order to prescribe the standards for the preparation, submission of preliminary and final subdivision plats and development plans, to specify the types of development or land use for which such submissions shall be required, to define and establish the responsibilities and standards for processing, review and approval of such plat and plan, to designate the approving and reviewing authorities for the Village, the following regulations applicable to subdivision and development of certain land within the jurisdiction of the Village of Oswego are hereby adopted.

SECTION 3.00 – APPLICATION OF ORDINANCE

No person shall subdivide any tract of land which is located within the Village of Oswego or in any unincorporated area which is located entirely or in part within one and one-half (1 ½) miles of the nearest limits of the village, nor develop any property within the corporate limits of the Village except in conformity with the provisions of this ordinance. The subdivision plans and plats, proposed improvements to be installed, and all procedures relating thereto, shall in all respects be in full compliance with the regulations herein.

SECTION 4.00 – GENERAL PROVISIONS

A. Prohibition of Subdivision. No person shall subdivide or resubdivide any parcel of land within the corporate limits of the Village or within contiguous unincorporated territory not more than one and one-half (11/2) miles beyond the incorporated boundaries of the Village, unless a subdivision plat has been reviewed by the Plan Commission and has been reviewed and approved by the Village Board as required in this Ordinance.

B. Until a final plat for a subdivision is approved:
   1. No lot, tract or parcel of land within any subdivision shall be offered for sale, nor shall any sale, contract for sale, or option be made or given.
   2. No improvements – such as sidewalks, water supply, storm water drainage, sanitary sewerage facilities, gas service, electric service, lighting, grading, paving, or surfacing of streets shall hereafter be made by any owner or owners or his or their agent or by any public service corporation at the request of such owner or owners or his or their agent, except that mass grading and earthwork may proceed, provided that the Village Engineer has approved final mass grading and erosion control plans for such work, and provided further that the subdivider or developer has posted a financial guarantee, in a form and amount acceptable to the Village Engineer.

C. Prohibition of Development. No person shall commence or cause to be commenced any development within the corporate limits of the Village unless a final site plan has been reviewed and approved by Staff, the Plan Commission and/or Village Board as provided in this Ordinance.

D. Until a final site plan for a development is approved:
   1. No improvements – such as sidewalks, water supply, storm water drainage, sanitary sewerage facilities, gas service, electric service, lighting, grading, paving, or surfacing of streets shall hereafter be made by any owner or owners or his or their agent or by any public service corporation at the request of such owner or owners or his or their agent, except that mass grading and earthwork may proceed, provided that the Village Engineer has approved final mass grading and erosion control plans for such work, and provided further that the subdivider or developer has posted a financial guarantee, in a form and amount acceptable to the Village Engineer.
   2. No building permit shall be issued for construction of any building, structure or improvement on any parcel subject to this Ordinance.

E. All offerings or dedications of land to the village for use as streets, highways, alleys, schools, parks, playgrounds, or other public uses shall be referred to the Plan Commission for review and recommendations before being accepted by the Village Board or by any other governing authority of the Village of Oswego.

F. Where a tract of land proposed for subdivision is part of a larger, logical subdivision unit in relation to the village as a whole, the Plan Commission may, before approval, cause to be prepared a plan for the entire area or neighborhood, such plan to be used by the Plan Commission as an aid in judging the proposed plat.

SECTION 4.01 – INTERPRETATION

A. In interpretation and application, the provisions of this ordinance shall be held to be the minimum requirements.

B. Where the conditions imposed by any provision of this ordinance upon the use of land are either more restrictive or less restrictive than comparable conditions imposed by any other provision of this ordinance or of any other law, ordinance, resolution, rule or regulation of any kind, the regulations which are more restrictive or which impose higher standards or requirements shall govern.

C. This ordinance is not intended to abrogate any easement, covenant, or any other private agreement, provided that where the regulations of this ordinance are more restrictive or impose higher standards or requirements than such easements, covenants or other private agreements of this ordinance shall govern.

SECTION 4.02 – SEVERABILITY

If any section, subsection, sentence, clause, phrase or portion of this ordinance is for any reason held invalid or unconstitutional by any court of competent jurisdiction, such portion shall be deemed a separate, distinct and independent provision and such holding shall not affect the validity of the remaining portions thereof.

SECTION 5.00 – RULES AND DEFINITIONS

In the interpretation of this ordinance, the rules and definitions contained in this Section (5.00 – 5.02) shall be observed and applied, except when the context clearly indicates otherwise:

SECTION 5.01 – RULES

A. Words used in the present tense shall include the future; and words used in the singular number shall include the plural number, and the plural the singular.
B. The word “shall” is mandatory and not discretionary.
C. The word “may” is permissive.
D. The word “lot” shall include the words “plot”, “piece”, and “parcel.”
E. The phrase “used for” shall include the phrases “arranged for,” “designed for,” “intended for,” “maintained for,” and “occupied for.”

SECTION 5.02 – DEFINITIONS

<u>Alley</u>
A public right-of-way primarily for vehicular traffic along the side or in the rear of properties which affords only a secondary means of access to abutting properties.

<u>Block</u>
A track of land bounded by streets, or by a combination of streets and public parks, cemeteries, railroad right-of way, bulkhead lines or shore lines of waterways, or corporate boundary lines of the Village.

Building
Any structure with substantial walls and roof securely affixed to the land and entirely separated on all sides from any other structure by space or by walls in which there are no communicating doors, windows or openings. A structure which is designed or intended for shelter, enclosure or protection of persons, animals or chattels.

Building Line
A line parallel to the street line touching that part of a building closest to the street.

Comprehensive Plan
Reference to "Comprehensive Plan" shall mean the approved Comprehensive Plan of the Village of Oswego, Illinois.

Crosswalk
A public right-of-way located across a block to provide pedestrian access to adjacent streets or alleys.

Cul-de-sac
A minor street having one open end and being permanently terminated by a vehicular turnaround.

Datum Plane
A reference point from which elevations are measured. The datum plane is mean sea level as established by the (U.S.G.S.) United States Geodetic Survey.

Development
A planning or construction project involving substantial property improvement and, usually, a change of land-use character within the site; development can also include the redevelopment of an existing property for any permitted or special land use, as defined in the Village's Zoning Ordinance.

Easement
A grant by a property owner for the use of a strip of land by the general public, a corporation, or a certain person or persons for a specific purpose or purposes.

Engineer, Village
The person or firm charged with the responsibility of municipal engineering matters.

Gross Land Area
The entire area of a development including lots, streets and alleys, measured to the centerline of any bounding streets.

Jurisdictional Wetland
Wetlands under the regulatory authority of the US Army Corps of Engineers. The US Army Corps of Engineers regulates waters of the U.S., which are defined as: Traditional navigable waters, Interstate waters including interstate wetlands, Other waters including intrastate, non-

navigable waters with interstate/foreign commerce connections, Impoundments of waters otherwise defined as waters of the U.S. , Tributaries of the above, Territorial seas, Adjacent wetlands.

Lot
A parcel of land legally described as a district portion or piece of land of record.

Lot, Through
A lot having frontage on two parallel or approximately parallel streets, and which is not a corner lot. On a through lot both street lines shall be deemed front lines.

Parkway
A route intended to be used primarily by passenger vehicles and whose right-of-way is or is intended to be developed in a park-like character.

Plan Commission
The words "Plan Commission" as used herein refer to the Plan Commission of the Village of Oswego, Illinois.

Planned Unit Development (PUD)
A unified development of one or more parcels of contiguous land in single ownership or unified control including two or more principal buildings and more than one principal use – planned and constructed as a unified development where specific regulations of a given zoning district are modified, if an application is processed and approved under the planned unit development procedures of the Zoning Ordinance.

Plat
A plan, map, drawing or chart on which the subdivider's plan for the subdivision of land is presented and which he submits for approval and intends to record in final form.

Plat, Final
The drawings and documents presented for final approval as described in Section 6.05.

Plat, Preliminary
The drawings and documents presented for tentative approval as described in Section 6.03.

Roadway
The paved area within a street right-of-way intended for vehicular traffic, including all curb and gutter facilities.

Street
A public way other than an alley, which affords a primary means of access to abutting property.

Street, Arterial

A street of considerable continuity which serves or is intended to serve as a major traffic artery connecting various sections of Oswego, with standards as outlined in Figure 2 Street Geometric Criteria.

Street, Collector
A street that collects traffic from local streets and connects with arterials, with standards as outlined in Figure 2 Street Geometric Criteria; since its function is to promote free traffic flow, direct residential driveway access should be prohibited.

Street, Public
Any street which is shown on a subdivision plat and is or is to be dedicated for public use.

Street, Residential
A street which provides frontage for access to private lots, and carries traffic having destination or origin on the street itself, with standards as outlined in Figure 2 Street Geometric Criteria.

Street Width
The shortest distance between lines of lots delineating the public street.

Subdivider
The person or persons responsible for preparing the plats of the subdivision and for carrying out all appropriate requirements relating thereto as outlined in this ordinance.

Subdivision
The division of land into two (2) or more parts, any of which is less than five (5) acres, for the purpose, whether immediate or future, or transfer of ownership or building development, including all public streets, alleys, ways for public service facilities, parks, playgrounds, school grounds or other public grounds, and all the tracts, parcels, lots or blocks, and numbering of all such lots, blocks, or parcels by progressive numbers, giving their precise dimensions; provided, however, that the following shall not be considered a subdivision and shall be exempt from the requirements of this ordinance:

1. The division of lots or blocks of less than one (1) acre, in any recorded subdivision which does not involve any new streets or easements of access;
2. The sale or exchange of parcels of land between owners of adjoining and contiguous land;
3. The conveyance of parcels of land or interest therein for use as right-of-way for railroads or other public utility facilities which does not involve any new streets or easements of access;
4. The conveyance of land owned by a railroad or other public utility which does not involve any new streets or easements of access;
5. The conveyance of land for highway or other public purposes or grants or conveyances relating to the dedication of land for public use or instruments relating to the vacation of land impressed with a public use;
6. Conveyance made to correct descriptions in prior conveyances;

7. The division of lots of record after the adoption of this ordinance into no more than two (2) parts and not involving any new streets or easements of access, provided that the two (2) parts meet the requirements of the applicable zoning ordinance and all other ordinances of the Village of Oswego, or the applicable ordinances of the County of Kendall when said lot or lots are in the unincorporated area.

SECTION 6.00 – PROCEDURE FOR APPROVAL AND SUBMITTAL REQUIREMENTS

SECTION 6.01 – PROCEDURE FOR CONCEPT PLAN REVIEW.

In order to discuss the general purpose of the subdivision or development in the context of the established planning policies and practices of the Village and to ensure that required data is properly prepared and presented before expending the time and money in preparation and review of a preliminary plat or plan, any person desiring to subdivide or develop land subject to this Chapter before filing a preliminary plat or development plan or seeking annexation or rezoning, may file a Concept Plan of the subdivision or development with the Community Development Department. This concept plan shall contain such information as suggested by the Community Development Department in order to delineate the concept of the subdivision or development adequately including but not limited to a plat of survey, a topographic map, soils information, current aerial photographs, and a sketch of the proposed development showing a road system and general land use categories. The Community Development Department shall refer the matter to the Plan Commission and the Village Board for informal discussion with the Applicant at applicable public meetings.

SECTION 6.02 – PROCEDURE FOR PRELIMINARY PLAT OR PRELIMINARY SITE PLAN REVIEW.

No person shall subdivide or develop any parcel of land until a preliminary plat or preliminary site plan shall have been reviewed by the Plan Commission and reviewed and approved by the Village Board.

SECTION 6.03 – SUBMITTAL REQUIREMENTS FOR PRELIMINARY SITE PLAN AND PRELIMINARY PLAT REVIEW.

Whenever a preliminary site plan or preliminary plat is required by this ordinance, the following documents shall be submitted to the Community Development Department in a quantity as required by said Department. All plans submitted as part of this review process shall be twenty-four inches by thirty-six inches (24” x 36”) in size.

A. PRELIMINARY SITE PLAN APPROVAL

1. **Preliminary Site Plan** - The preliminary site plan shall include the following information:

a. Date of preparation, north arrow, and scale of drawing which shall not be less than 1 inch = 200' for areas over 100 acres, and 1 inch = 100 feet for areas under 100 acres.
b. Existing parcel lines indicating the bearings and distances from the Plat of Survey.
c. Existing conditions on the tract, including: Water courses, jurisdictional wetlands, floodplains, marshes, rock outcrop, wooded areas, isolated desirable trees one (1) foot or more in caliper at one (1) foot above ground level; houses, barns, shacks and other significant features.
d. Existing conditions on adjacent land including: approximate direction and gradient of ground slope, including any embankments or retaining walls, character and location of buildings railroads, power lines, towers, jurisdictional wetlands, floodplains, and other nearby nonresidential land uses or adverse influences; and owner of adjacent unplatted land (for adjacent platted land refer to subdivision plat by name, recording date, and number and show approximate percent built-up, typical lot size and dwelling type.)
e. Easements: Location, width and purpose.
f. Existing streets on and adjacent to the tract; Name and right-of-way width and location; legally established center line elevations, walks, curbs, gutters, culverts, etc.
g. Existing utilities on and adjacent to the tract: Location, size of sanitary, storm and combined sewers; location and size of water mains. If water mains and sewers are not on or adjacent to the tract, indicate the direction and distance to, and the size of nearest useable facilities.
h. Photographs, if required: Camera locations, directions of views and key numbers.
i. Zoning classification and land use of all properties adjacent to the tract; the names of all owners of record of all properties adjacent to the tract.
j. Planned public improvements: Highway or other major improvements planned by public authorities for future construction on or near the tract.
k. Location map showing the subject property in relation to the corporate limits of the Village and existing streets and adjoining subdivided areas.
l. Present tract designations according to official records in offices of the County Recorder; title under which proposed subdivisions to be recorded with names and addresses of owners, notation stating acreage, scale, and north arrow.
m. Ground elevations on the tract, based on the U.S.G.S. Datum Plane: For land that slopes less that one-half (0.5%) percent, show not less than one (1) foot contours: for land that slopes one-half (0.5%) to two (2%) percent show not less than two (2) foot contours and for land that slopes more than two (2%) percent, should not be less than two (2) foot contours.
n. Location of proposed improvements including:
    1. buildings
    2. streets and right-of-ways
    3. parking areas and loading areas, including dimensions of parking spaces, drive aisles and loading zone
    4. walks and bike trails
    5. parks

6. storm water management areas
7. building setback lines
8. Any other data reasonably necessary to provide an accurate overview of the proposed improvements.

o. Site Data including:
   1. total acreage
   2. square footage of buildings for non-residential projects
   3. Number of units by product type for residential projects.
   4. Number of required and proposed parking spaces
   5. Total impervious and pervious area for non-residential projects.

p. Name and address of developer.

q. Name and address of planner or engineer.

2. **Plat of Survey** - The Plat of Survey shall include legal descriptions of parcels, property lines with bearings and distances, and shall be certified by an Illinois Professional Land Surveyor. For publication purposes, a disk copy of the legal description must be provided (Village uses the Microsoft word program).

3. **Preliminary Engineer Plan** - The Preliminary Engineering Plan shall be prepared in accordance with this ordinance and shall be signed/dated by an Illinois Professional Engineer. The plan shall be prepared over the preliminary site plan, and shall include:

   a. Existing and proposed utilities on and adjacent to the tract including location, size of sanitary, storm and combined sewers; location and size of water mains. If water mains and sewers are not on or adjacent to the tract, indicate the direction and distance to, and the size of nearest useable facilities

   b. When required, profiles showing existing ground surface and proposed street grades, including extensions for a reasonable distance beyond the limits of the proposed subdivision; typical cross sections of the proposed grading, roadway, and sidewalks and preliminary plan of proposed sanitary and storm water sewers with grades and sizes indicated. All elevations shall be based on the U.S.G.S. Datum Plane and where possible, tied into Oswego approved benchmarks/control points.

   c. Preliminary Detention Calculations, including proposed detention areas and any emergency overflow routes, in accordance with the provisions in this Ordinance.

4. **Preliminary Tree Preservation Plan and Tree Survey** – The Preliminary Tree Preservation Plan and Tree Survey shall be prepared in accordance with the provisions in this Ordinance.

5. **Preliminary Architectural Plan** – The Preliminary Architectural Plan shall include all sides of the building and floor plan.

6. **Preliminary Landscape Plan** – The Preliminary Landscape Plan shall be prepared in accordance with Section 17 of the Zoning Ordinance.

7. **Preliminary Lighting Plan** - The Preliminary Lighting Plan shall include photometrics and details of the proposed lighting standard/s, in accordance with the provisions in this Ordinance.

8. **Proposed Sign Package** – The Proposed Sign Package shall include elevations, locations and quantities.

9. **Declarations, Restrictive Covenants** – A copy of any Declarations, Restrictive Covenants, or Homeowners Association Documents.

10. **Traffic Study/Analysis** – The Traffic Study/Analysis shall include estimated daily/peak hour traffic generation from development, in accordance with the provisions in this Ordinance.

11. Written tentative approval from all outside jurisdictions having permit authority over any proposed access to the subject property (i.e. IDOT, County).

B. INTENTIONALLY LEFT

SECTION 6.04 – PLAN COMMISSION REVIEW OF PRELIMINARY SITE PLAN OR PRELIMINARY PLAT.

Upon receipt of all the materials required under Section 6.03 for the preliminary site plan or preliminary plat, the Community Development Department shall circulate the preliminary plat or plan among various Village departments and agencies for their review and comment. The Community Development Department shall place the matter on the Plan Commission agenda and shall serve notice upon the Applicant of the time and place of its meeting at which said matter will be discussed. The Plan Commission shall review the preliminary site plan or preliminary plat for compliance with the rules, regulations and other ordinances of the Village, as well as the comprehensive and long-range plan of the community. The Plan Commission shall recommend approval or disapproval of the preliminary site plan or preliminary plat within ninety (90) days from the date of the application or the filing by the applicant of the last item of required supporting data, whichever date is later, unless such time is extended by mutual consent.

If the Plan Commission finds that changes, additions or corrections are required on the preliminary site plan or preliminary plat, the Plan Commission shall so advise the developer or subdivider. The developer or subdivider may resubmit the preliminary site plan or preliminary plat to the Plan Commission for its consideration at the next regular meeting of said Commission. The Plan Commission shall forward its written report to the Village Board recommending approval or disapproval of the preliminary site plan or preliminary plat.

SECTION 6.05 – VILLAGE BOARD REVIEW OF PRELIMINARY SITE PLAN OR PRELIMINARY PLAT.

The Village Board shall not act upon the preliminary site plan or preliminary plat until the engineering drawings have been reviewed by the Village Engineer and a letter of approval has been received by the Community Development Department or conditional approval has been provided by the Village Engineer and the Community Development Director.

The Village Board, by Ordinance, shall accept or reject the preliminary site plan or preliminary plat within thirty (30) days after its next regularly scheduled meeting following the date of action of the Plan Commission. The applicant and the Village Board may mutually agree to extend the thirty (30) day period.

SECTION 6.06 – EFFECT OF APPROVAL OF PRELIMINARY SITE PLAN OR PRELIMINARY PLAT

Approval of the preliminary site plan or preliminary plat by the Plan Commission and Village Board is tentative only, involving merely the general acceptability of the layout as submitted. During review of any final site plan or final plat, the Plan Commission and Village Board may require such changes or revisions as are deemed necessary in the interests of the needs of the community. Approval of the preliminary site plan or preliminary plat shall be effective for a maximum period of one (1) year, unless upon application of the developer or subdivider, the Village Board grants an extension for any additional one (1) year.

SECTION 6.07 – VILLAGE RECORD.

A certified copy of the ordinance approving or disapproving the preliminary site plan or preliminary plat shall be filed in the office of the Village Clerk attached to said preliminary site plan or preliminary plat.

SECTION 6.08 – PROCEDURE FOR FINAL SITE PLAN OR FINAL PLAT REVIEW.

No person shall subdivide or develop any parcel of land until a final site plan or final plat shall have been reviewed by the Plan Commission and reviewed and approved by the Village Board as set forth herein.

A. The final plat or plan shall conform substantially to the preliminary plat or plan as approved and, if desired by the subdivider or developer, it may constitute only that portion of the approved preliminary plat or plan which he/she proposes to record and develop at the time, provided, however, that such portion conforms to all requirements of these regulations.
B. Application for approval of the final plat including all engineering drawings shall be submitted to the Community Development Department and shall be accompanied by the fee and engineering review fee as required in these regulations.
C. Six (6) copies of the final engineering plans and specifications required for approval shall be prepared as specified, and shall be submitted to the Community Development Department within one (1) year after approval of the preliminary plan; otherwise such

approval shall become null and void unless application for an extension of time is made to and granted by the Village Board.

D. The Village Board shall not act upon the final plat or plan until the engineering drawings have been reviewed by the Village Engineer and a letter of approval has been received by the Community Development Department.

SECTION 6.09 – SUBMITTAL REQUIREMENTS FOR FINAL SITE PLAN OR FINAL PLAT REVIEW.

Whenever a final site plan or final plat is required by this ordinance, the following data shall be included on the plan or plat submitted to the Community Development Department in a quantity as required by said Department. Final PUD Plan requires a separate final plat. All plans submitted as part of this review process shall be twenty-four inches by thirty-six inches (24" x 36") in size.

A. FINAL SITE PLAN APPROVAL

1. **Final Site Plan -** The final site plan shall include the following information:

   a. Date of preparation, north arrow, and scale of drawing which shall not be less than 1 inch = 200' for areas over 100 acres, and 1 inch = 100 feet for areas under 100 acres.
   b. Existing parcel lines indicating the bearings and distances from the Plat of Survey.
   c. Existing conditions on the tract, including: Water courses, wetlands, floodplains, marshes, rock outcrop, wooded areas, isolated desirable trees one (1) foot or more in caliper at one (1) foot above ground level; houses, barns, shacks and other significant features.
   d. Existing conditions on adjacent land including: approximate direction and gradient of ground slope, including any embankments or retaining walls, character and location of buildings railroads, power lines, towers, jurisdictional wetlands, floodplains, and other nearby nonresidential land uses or adverse influences; and owner of adjacent unplatted land (for adjacent platted land refer to subdivision plat by name, recording date, and number and show approximate percent built-up, typical lot size and dwelling type.)
   e. Easements: Location, width and purpose.
   f. Existing streets on and adjacent to the tract; Name and right-of-way width and location; legally established center line elevations, walks, curbs, gutters, culverts, etc.
   g. Existing utilities on and adjacent to the tract: Location, size of sanitary, storm and combined sewers; location and size of water mains. If water mains and sewers are not on or adjacent to the tract, indicate the direction and distance to, and the size of nearest useable facilities.
   h. Photographs, if required: Camera locations, directions of views and key numbers.
   i. Zoning classification and land use of all properties adjacent to the tract; the names of all owners of record of all properties adjacent to the tract.

j. Planned public improvements: Highway or other major improvements planned by public authorities for future construction on or near the tract.
k. Location map showing the subject property in relation to the corporate limits of the Village and existing streets and adjoining subdivided areas.
l. Present tract designations according to official records in offices of the County Recorder; title under which proposed subdivisions to be recorded with names and addresses of owners, notation stating acreage, scale, and north arrow.
m. Ground elevations on the tract, based on the U.S.G.S. Datum Plane: For land that slopes less that one-half (0.5%) percent, show not less than one (1) foot contours: for land that slopes one-half (0.5%) to two (2%) percent show not less than two (2) foot contours and for land that slopes more than two (2%) percent, should not be less than two (2) foot contours.
n. Location of proposed improvements including:
    1. buildings
    2. streets and right-of-ways
    3. parking areas and loading areas, including dimensions of parking spaces, drive aisles and loading zone
    4. walks and bike trails
    5. parks
    6. storm water management areas
    7. building setback lines
    8. Any other data reasonably necessary to provide an accurate overview of the proposed improvements.
o. Site Data including:
    1. total acreage
    2. square footage of buildings for non-residential projects
    3. number of units by product type for residential projects.
    4. number of required and proposed parking spaces
    5. total impervious and pervious area for non-residential projects.
p. Name and address of developer.
q. Name and address of planner or engineer.

2. **Plat of Survey** – The Plat of Survey shall include legal descriptions of parcels, property lines with bearings and distances, and shall be certified by an Illinois Professional Land Surveyor. For publication purposes, a disk copy of the legal description must be provided (Village uses the Microsoft word program).

3. **Final Engineering Plan** - The Final Engineering Plan shall be prepared in accordance with this ordinance and shall be signed/dated by an Illinois Professional Engineer. The plan shall be prepared over the final site plan, and shall include:

    a. Existing and proposed utilities on and adjacent to the tract including location, size of sanitary, storm and combined sewers; location and size of water mains. If water mains and sewers are not on or adjacent to the tract, indicate the direction and distance to, and the size of nearest useable facilities

b. When required, profiles showing existing ground surface and proposed street grades, including extensions for a reasonable distance beyond the limits of the proposed subdivision; typical cross sections of the proposed grading, roadway, and sidewalks and final plan of proposed sanitary and storm water sewers with grades and sizes indicated. All elevations shall be based on the U.S.G.S. Datum Plane and where possible, tied into Oswego approved benchmarks/control points.
c. Final Detention Calculations, including proposed detention areas and any emergency overflow routes, in accordance with the provisions in this Ordinance.

4. **Final Tree Preservation Plan and Tree Survey** – The Final Tree Preservation Plan and Tree Survey shall be prepared in accordance with the provisions in this Ordinance.

5. **Final Architectural Plan** – The Final Architectural Plan shall include all sides of the building and floor plan.

6. **Final Landscape Plan** – The Final Landscape Plan shall be prepared in accordance with Section 17 of the Zoning Ordinance.

7. **Final Lighting Plan** - The Final Lighting Plan shall include photometrics and details of the proposed lighting standard/s, in accordance with the provisions in this Ordinance.

8. **Final Sign Package** – The Final Sign Package shall include elevations, locations and quantities in accordance with Oswego's Zoning Ordinance.

9. **Declarations, Restrictive Covenants** – A copy of any Declarations, Restrictive Covenants, or Homeowners Association Documents.

10. **Traffic Study/Analysis** – The Traffic Study/Analysis shall include estimated daily/peak hour traffic generation from development, in accordance with the provisions in this Ordinance.

11. Written approval from all outside jurisdictions having permit authority over any proposed access to the subject property (i.e. IDOT, County).

12. **Street and Traffic Identifiers Plan** – The Street and Traffic Identifiers Plan shall include the location of all stop signs, speed limit signs and "no parking" areas. This plan shall be submitted as a separate document for approval and recording. The ultimate location of street and traffic identifiers shall be determined by the Police Department as part of this review process.

13. **Soils Report** – The Soils Report, including a corrosive soil analysis, shall be submitted then required by the Village Engineer.

14. **Field Tile Study** – A Field Tile study shall be submitted when required by the Village Engineer.

B. FINAL PLAT APPROVAL

1. **Final Plat** – Final Plat shall be drawn in ink on Mylar or vellum, and the final plat and all other plans submitted as part of this review process shall not exceed twenty-four inches by thirty-six inches (24" x 36") and shall be at a scale of one hundred feet to the inch (1" = 100'). Where necessary, the plat may be on several sheets accompanied by an index sheet showing the entire subdivision. The final plat shall be prepared by an Illinois Professional Land Surveyor and show the following information and be accompanied by the additional plans and documentation, when applicable:
   a. Primary control points, approved by the Village Engineer, or descriptions and "ties" to such control points, to which all dimensions, angles, bearings, and similar data on the plat shall be referred.
   b. Tract boundary lines, right-of-way lines of streets, easements, and other rights-of-way, and property lines of residential lots and other sites, with accurate dimensions, bearings or deflection angles and radii, arcs, and central angles of all curves.
   c. Name and right-of-way width of each street or other right-of-way.
   d. Location dimensions and purpose of any easement.
   e. Number to identify each lot or site and block.
   f. Purpose for which sites, other than residential lots, are dedicated or reserved.
   g. Proposed building setback lines on all lots and other sites.
   h. Location and description of monuments.
   i. Forms and certificates as identified in Section 24.00 of this Ordinance.
   j. Utilities Easement.
   k. Statement by owner dedicating streets, right-of-way and any sites for public use.
   l. Name of subdivision.
   m. Location by section, township and range.
   n. Title, scale, north arrow and date.
   o. Cross sections and profiles of streets showing grades approved by the Village Engineer. The profiles shall be drawn to Village standards. The scales and elevations shall be based on the U.S.G.S. Datum Plane and where possible, tied into Oswego approved benchmarks/control points.
   p. Other data such other certificates, affidavits endorsements, and dedications as may be required in the enforcement of these regulations. Plat of Survey. The plat must include a legal description and be certified by a surveyor. For publication purposes, a disk copy of the legal description must be provided (Village uses the Microsoft word program).

2. **Final Engineering Plan** - The Final Engineering Plan shall be prepared in accordance with this ordinance and shall be signed/dated by an Illinois Professional Engineer. The plan shall be prepared over the final site plan, and shall include:

   a. Existing and proposed utilities on and adjacent to the tract including location, size of sanitary, storm and combined sewers; location and size of water mains. If water mains and sewers are not on or adjacent to the tract, indicate the direction and distance to, and the size of nearest useable facilities
   b. When required, profiles showing existing ground surface and proposed street grades, including extensions for a reasonable distance beyond the limits of the proposed subdivision; typical cross sections of the proposed grading, roadway, and sidewalks and final plan of proposed sanitary and storm water sewers with grades and sizes indicated. All elevations shall be based on the U.S.G.S. Datum Plane and where possible, tied into Oswego approved benchmarks/control points.
   c. Final Detention Calculations, including proposed detention areas and any emergency overflow routes, in accordance with the provisions in this Ordinance.

3. **Final Tree Preservation Plan and Tree Survey** – The Final Tree Preservation Plan and Tree Survey shall be prepared in accordance with the provisions in this Ordinance.

4. **Final Architectural Plan** – The Final Architectural Plan shall include all sides of the building and floor plan.

5. **Final Landscape Plan** – The Final Landscape Plan shall be prepared in accordance with Section 17 of the Zoning Ordinance.

6. **Final Lighting Plan** - The Final Lighting Plan shall include photometrics and details of the proposed lighting standard/s, in accordance with the provisions in this Ordinance.

7. **Final Sign Package** – The Final Sign Package shall include elevations, locations and quantities in accordance with Oswego's Zoning Ordinance.

8. **Declarations, Restrictive Covenants** – A copy of any Declarations, Restrictive Covenants, or Homeowners Association Documents.

9. **Traffic Study/Analysis** – The Traffic Study/Analysis shall include estimated daily/peak hour traffic generation from development, in accordance with the provisions in this Ordinance.

10. Written approval from all outside jurisdictions having permit authority over any proposed access to the subject property (i.e. IDOT, County).

15. **Street and Traffic Identifiers Plan** – The Street and Traffic Identifiers Plan shall include the location of all stop signs, speed limit signs and "no parking" areas. This plan shall be submitted as a separate document for approval and recording. The ultimate location of street and traffic identifiers shall be determined by the Police Department as part of this review process.

16. **Soils Report** – The Soils Report, including a corrosive soil analysis, shall be submitted when required by the Village Engineer.

17. **Field Tile Study** – A Field Tile study shall be submitted when required by the Village Engineer.

18. Any items as required by Illinois State statutes with regards to Plats of Subdivision.

SECTION 6.10 – PLAN COMMISSION REVIEW OF THE FINAL SITE PLAN OR FINAL PLAT.

Upon receipt of the complete final plat or plan, the Community Development Department shall circulate the final plat or plan among various Village departments and agencies for their review and comment. The Community Development Department shall place the matter on the Plan Commission agenda and serve notice upon the applicant of the time and place of its meeting at which said matter will be discussed. The Plan Commission shall forward its written report to the Village Board recommending approval or disapproval, of the final plat or plan.

SECTION 6.11 – VILLAGE BOARD REVIEW OF THE FINAL SITE PLAN OR FINAL PLAT.

The Village Board shall approve or disapprove the final site plan or final plat within sixty (60) days from the date filing the last required document or other paper or within sixty (60) days from the date of filing application for final approval, whichever is later. The applicant and the Village may mutually agree to extend the sixty (60) day period.

SECTION 6.12 – VILLAGE RECORD.

A certified copy of the ordinance approving the final site plan or final plat shall be filed in the office of the Village Clerk attached to said final site plan or final plat. The final site plan or final plat, together with all other applicable documents shall be recorded by the Village Clerk

SECTION 7.00 – GUARANTEES –

The applicant shall supply the following forms of guarantee to the Village.

A. 1. Public Improvements Guarantee. Prior to the commencement of construction for a certain phase of the development, the OWNER and/or DEVELOPER shall provide the VILLAGE with a financial surety, in a form acceptable to the VILLAGE and

issued by an institution approved by the VILLAGE in an amount equal to one hundred ten percent (110%) of the VILLAGE approved estimate of the established costs of the public improvements to be undertaken for said phase to be developed on the TERRITORY. The estimate of cost shall be initially prepared by the engineer for the OWNER and/or DEVELOPER to the costs for similar projects determined over the preceding year's time and the project bids actually received by the OWNER and/or DEVELOPER and shall then be submitted to the VILLAGE engineer for ultimate determination and approval.

2. Public Improvements Completion. The Surety shall constitute a guarantee that all the public improvements required will be constructed by the OWNER and/or DEVELOPER pursuant to the applicable VILLAGE Ordinances, and the approved final engineering plans and specifications, and shall be completed within a period of time, not to exceed two (2) years from the Final P.U.D. Plan and Plat approval for the TERRITORY or any given Phase thereof and that should the OWNER and/or DEVELOPER fail or default in the completion of such obligation within the permitted time, then the VILLAGE may, after complying with the terms and conditions of the Surety, use the Surety to the extent necessary to complete or repair any and all of the improvements secured thereby.
3. The OWNER'S and/or DEVELOPER'S shall provide a warranty for a period of 5 years for any wet bottom storm water management facilities. The timing of the warranty will begin upon acceptance of the storm water management facility by the VILLAGE OF OSWEGO. The OWNER'S and/or DEVELOPER'S shall provide a letter of credit in the amount of 110% of the cost of the stormwater facility to ensure that the stormwater management facility improvement shall be warranted during the 5-year period.

B. School and Park Donation Guarantee. The school and park donation guarantee to be provided as per the Village's Land/Cash Ordinance, as from time to time amended.

SECTION 8.00 – DESIGN STANDARDS

8.01 INTRODUCTION

A. This section authorizes the Plan Commission to recommend and the Village Board to require, as a condition of the approval of any final plat or plan, that certain improvements be provided or installed on or adjacent to the parcel. It establishes specifications to be followed in the design and installation of those improvements.

B. These standards have been prepared to ensure that the design and construction of public improvements will meet the minimum requirements of the Village of Oswego. The intent of Section 8 is to provide an overview of requirements and procedures required by the Subdivision and Development Control Ordinance, which govern the design and construction of public improvements. These standards are also intended to provide uniform design criteria for facilities designed for, or directly built by the Village, as well as provide specifications for private development within the Village.

C. In order to ensure the orderly development and improvement of land within the jurisdiction of the Village of Oswego, to ensure the provision of vehicular and pedestrian

circulation ways, utilities, services and facilities necessary and desirable for the citizens of Oswego, to protect and enhance the value of public and private property, the Plan Commission may recommend and the Village Board may require that, as a condition of approval of any final plat or plan subject to this Section, certain improvements set forth in this Section shall be provided and that certain design standards and improvement specifications be followed. Only those improvements which are specifically and uniquely attributable to the impact to be generated by the subdivision or development of a parcel may be required hereunder unless specific recapture agreements are reached with the developer, in order to effect the above mentioned goals. The Village may require that vehicular and pedestrian access, water, sanitary sewer, storm sewer, sidewalks and other public improvements be placed in such a manner that access to and use by adjoining properties is facilitated. This may be accomplished thru the aforementioned recapture agreements.

8.02 DEFINITION OF TERMS – Refer to Section 5.02

8.03 SCOPE

In addition to the Village, the review and approval of contract documents for certain types of improvements may also fall within the jurisdiction of other public agencies. These standards are not intended as a substitute for the requirements of other public agencies. It shall be the owner/developer's responsibility to insure that the proposed contract documents meet the requirements of all other public agencies and that any and all permits and bonds required by such agencies are secured.

8.04 PRE-DESIGN CONFERENCE

It is recommended that after preliminary plat or plan approval and prior to the development of detailed drawings, the Owner/Developer and the Design Engineer meet with the Village Engineer to review Village requirements and any other proposed projects or existing conditions that may affect the final project design. The request for this preliminary meeting, if desired, shall be initiated by the Design Engineer.

8.05 DRAWING PREPARATION REQUIREMENTS

All drawings submitted for approval shall bear the name, address, and phone numbers of the Owner/Developer and Design Engineer, and the imprint of the Professional Engineer seal. Where feasible, preferences for drawings shall consist of 24 inch by 36-inch sheets. Drawings shall be clear and legible, and shall be drawn to a conventional, even scale that will permit all necessary information to be plainly shown. All elevations shall be referenced to the U.S.G.S. datum and where possible, tied into Oswego approved benchmarks/control points. All materials proposed for use on the project shall be indicated on the drawings. All proposed improvements and all existing municipal and privately owned utilities shall be shown in both plan and profile. The minimum plan set will consist of the following sheets:

1. Title sheet;

2. Specifications and General Notes – append Village approved listing of General Notes and Specifications. Additional project specific notes and specifications are allowed as approved by the Village Engineer;
3. Pavement markings, parkway trees, traffic control signage, street lights;
4. Overall grading plan;
5. Overall erosion control plan;
6. Overall utility plan;
7. Street plan and profile;
8. Street cross-sections; and
9. Construction details.

Additional sheets will be utilized to present more information for lot grading, water and sewer services, mains, roadway geometrics, etc.

8.06 SPECIFICATION REQUIREMENTS

The latest "Village of Oswego General Notes and Specifications" and the General Notes/construction details from the Fox Metro Water Reclamation District (FMWRD) shall be appended to the plans as a minimum. The most recent editions of the various standard published material specifications, prepared by associations such as the "American Society for Testing and Materials" (ASTM), the "American Water Works Association" (AWWA), the Illinois Department of Transportation (IDOT), the Illinois Urban Manual, and the Standard Specification for Water and Sewer Main Construction in Illinois may be incorporated by reference.

The specifications may also include more project specific general notes not referenced in the Village General Notes and Specifications. Wherever there is conflict between the written specifications and the drawings, the more stringent requirements, as determined by the Village Engineer, shall apply.

The specification shall include a clause that all work included shall be guaranteed by the Contractor to be free from defects in construction and materials, and in substantial conformance with the approved drawings and specifications. A statement of comprehensive liability insurance shall also be provided as required in Section 8.09 of the Subdivision Ordinance.

8.07 DESIGN COMPUTATION REQUIREMENTS

The Design Engineer shall make design computations for all phases of the project when such computations are required to facilitate review by the Village Engineer. Said computations shall be neat and legible and in a form considered acceptable by the Village Engineer. Said computations shall include, but not necessarily be limited to, the following:

- Detention/Retention Reservoir Capacity Design;
- Compensatory Flood Plain Storage;
- Wetlands Mitigation;
- Fire Flow Determination and Water Main Sizing;
- Sanitary Sewer Design;

- Structural Strength Design for Conduits (>20' below finished grade);
- Storm Sewer Design;
- Pavement Design; and
- Structural Designs for Retaining Walls or Other Structures.

8.08 OPINION OF PROBABLE COST

The Design Engineer shall prepare an itemized opinion of the probable cost for all of the site improvements. Said opinion shall use standard IDOT nomenclature and include headings for sanitary sewer, water main, storm sewers, paving, curbing, sidewalks, grading, erosion control, landscaping, storm water management facilities, traffic control signage, and site lighting. The opinion shall be delineated into public and private (on-site) improvements when applicable. The opinion shall be included with the final plan submittal and will be used to establish the Letter of Credit amount.

8.09 INSURANCE

Prior to starting work, the Owner/Developer responsible for construction of public improvements shall file with the Village Clerk a Certificate of Insurance for Comprehensive General Liability Insurance in the amount of $500,000 per accident for property damage and $1,000,000 per person and $3,000,000 aggregate for bodily injury, sickness, disease or death as protection for any and all claims by anyone, including the Owner/Developer's, Contractor's or Employee's which may arise out of or result from Owner/Developer's work or by anyone for whose acts the Owner/Developer may be liable. The insurance policy should name the Village of Oswego, their employees and consultants/agents as additional insured. This certificate shall state that the coverage will not be terminated or reduced without 30 days advance written notice to the Village of Oswego.

8.10 OTHER PERMIT APPLICATIONS AND APPROVALS

Other governmental agencies may review and approve for construction all or certain parts of the work included in a project and may require a permit for such work. The other government agencies may also require that the Village execute an application for a permit. When such permit application is required, it shall be necessary that the authorizations from other governmental agencies shall be secured by the Owner/Developer and copies submitted to the Village.

8.11 NOTICE TO PROCEED

Prior to the commencement of any construction activity, Village must issue a Notice To Proceed (i.e. NTP). The NTP form must be signed by the appropriate Village officials prior to issuance. The NTP form can be obtained from the Village. The Public Works Department must be notified a minimum of 48 hours in advance of starting ANY construction/demolition activity.

8.12 REVISIONS TO APPROVED DRAWINGS AND SPECIFICATIONS

The Village Engineer shall approve any deviations from previously approved drawings and specifications affecting capacity, stability, or operations of the system in writing before such changes are made. Minor changes not affecting capacity, stability, or operation of the system will not require formal approval, but must be approved in writing by the Field Inspector.

8.13 CONSTRUCTION SUPERVISION

While periodic visits to private project developments shall be conducted by the Village Engineer and/or Field Inspector; full-time inspection and performance certifications are the responsibility of the Design Engineer or other independent professional employed by the Owner/Developer. Confirmation of approved grades and utility installation and preparation of Record Drawings are likewise the responsibility of the Design Engineer or other independent professional employed by the Owner/Developer.

8.14 EXISTING FACILITIES

Drawings and specifications shall provide for the continuous operation of existing facilities without interruption during construction, unless otherwise specifically authorized by the Village Engineer.

8.15 RECORD "AS BUILT" DRAWINGS

One (1) mylar and two (2) prints of record "as built" drawings signed and sealed by the Design Engineer or other independent professional employed by the Owner/Developer shall clearly show any and all changes from the approved engineering drawings. The format of said record "as built" drawings will consist of the approved final engineering drawings with the proposed information stricken and the record information appended adjacent to the stricken information, in a legible fashion. Other "as built" exhibits may be allowed for the sake of clarity, at the discretion of the Village Engineer. Said record "as built" drawings shall also be submitted via electronic format or in a format acceptable to the Village's mapping system. Record "as built" drawings shall be submitted to the Village Engineer prior to the Owner/Developer's request for inspection of the required improvements. The record "as built" drawings shall be based on actual measurements of both horizontal and vertical dimensions, made after completion of the work. Record "as built" drawings must include verification of all stormwater management basin volumes with stage vs. storage calculations, overflow weir size/elevations, all associated storm sewers, and restrictor(s).

8.16 FINAL PROCESSING AND INITIAL/FINAL ACCEPTANCE

Upon written request of the Owner/Developer, and after the required improvements have been completed and supporting documents have been submitted, the Village Engineer or Public works representative shall make a preliminary inspection of the completed work. The Village Engineer or Public Works representative shall then prepare a punch list, itemizing all items not meeting the requirements of the approved drawings and specifications. The supporting documents for

"Initial Acceptance" shall be submitted to the Village Engineer and shall consist of the following:

1. Record "As Built" Drawings. See Section 8.15 above.
2. Bill of sale; Contractor's Affidavit and Lien Waivers. The bill of sale will transfer ownership of the public improvements to the Village for a nominal sum, typically $10. The Contractor's Affidavit and Lien Waivers in accordance with the Illinois Mechanics Lien Act, for all land improvements to be accepted by the Board.
3. Surveyor's Statement. Statement signed by an Illinois Registered Land Surveyor stating that all of the required monuments and irons are in place.
4. Satisfactory Performance Guarantee. The submission from the Owner/Developer of a deposit in cash, irrevocable letter of credit, or surety bond, equal to ten (10%) percent of the approved estimate of cost for the public improvements. This deposit shall be a guarantee of satisfactory performance of the public improvements and shall be held by the Village for a minimum of twelve (12) months after "Initial Acceptance". Upon recommendation from the Village Engineer, the Village Board shall by resolution make "Initial Acceptance" of the public improvements.

The Village may reduce the posted Performance Guarantee as each division of the required land improvements is "Initial Accepted". Land improvements shall be divided into the following categories as applicable:

a. Sanitary sewer mains and appurtenances;
b. Water mains and appurtenances;
c. Storm sewer mains, drainage ways, and storm water management facilities;
d. Streets and parkway grading and seeding/sodding;
e. Miscellaneous improvements (landscaping, street traffic signs, street lights, pedestrian paths, traffic signals, etc.).

The posted Performance Guarantee shall only be reduced by authorization of the Village Board, after review and recommendation by the Village Engineer. Approximately two to three months prior to the expiration of the "Initial Acceptance" Performance Guarantee, the Village Engineer or Public Works representative shall make a final inspection of the public improvements and prepare a punch list of minor repairs. Upon satisfactory completion of this final punch list, with the Village Engineer's written recommendation, the Village Board shall by resolution make "Final Acceptance" of the public improvements. The maintenance responsibility for the public improvements shall then be with the Village.

8.17 BURYING OF OVERHEAD LINES REQUIRED

All existing overhead utility lines must be buried underground upon development of an undeveloped parcel. All costs associated with said burying shall be born by the developer. All proposed utility lines must be similarly buried underground with the proposed development. No overhead utilities will be allowed in proposed developments.

SECTION 8.20 EROSION CONTROL, PROTECTION/RESTORATION OF EXISTING IMPROVEMENTS

8.201 INTRODUCTION

Project construction required in connection with a development often occurs in or adjacent to areas with existing surface or underground improvements. The intent of this Section 8.2 is to specify Village requirements relative to construction affecting existing improvements. Drawings and specifications presented for Village approval shall provide for the implementation of the requirements of this Section.

8.202 EROSION CONTROL

Erosion and sediment control due to run-off, equipment leaving and entering a construction site, wind, etc., are required for all construction, including individual single-family lots, in the Village of Oswego. Site engineering or grading plans for projects shall either contain specific provisions for erosion control or a separate erosion control plan. The provisions or plan will follow accepted techniques and details as found in the "Illinois Urban Manual", or as directed by the Village Engineer *(latest revision)*. Projects disturbing one acre or greater of land area shall comply with Illinois Environmental Protection Agency (IEPA) regulations with a Notice of Intent for Construction Site Activities permit application; and a copy shall be provided to the Public Works Department. A Stormwater Pollution Prevention Plan (SWPPP) shall also be required per IEPA requirements and kept at the project site.

Steep slopes (exceeding 3:1) are to be avoided whenever possible. As much natural vegetation as possible should be retained, especially next to lakes, creeks, or other natural water sources. The erosion control plan should indicate the location of soil stockpiles that are to remain on-site longer than four weeks. These stockpiles shall be immediately surrounded by functioning silt fences, and if the stockpiles are to be left undisturbed for more than 15 days then the stockpile shall be seeded to minimize erosion. Undeveloped lots within an industrial/commercial development, left inactive for more than 90 days, shall be rough graded and seeded. See also section 8.613I for the timing of rough grading and seeding of undeveloped lots.

Erosion control measures should be used which include, but are not limited to, sediment basins, diversion channels, stabilized aggregate haul roads at all construction entrances and pavement cleaning operations, silt fences, straw bales, and any other measures necessary or as directed by the Village Engineer. Village roadways must be free and clear of any dirt or construction debris at the end of each construction day.

The Design Engineer's opinion of probable cost must include specific line items pertaining to erosion and sedimentation control, and the installation and maintenance costs thereof shall be included in the Owner/Developer's letter of credit.

8.202A – DESIGN REQUIREMENTS

On-site sediment control measures, as specified by the following criteria, shall be constructed and functional prior to initiating clearing, grading, stripping, excavating or fill activities on the site.

1. For disturbed areas draining less than one (1) acre, filter barriers (including filter fences, straw bales, or equivalent control measures) shall be constructed to control all off-site runoff as specified in referenced handbooks. Vegetated filter strips, with a minimum width of 25 feet, may be used as an alternative only where runoff in sheet flow is expected. Silt filter fences and straw bales shall be inspected weekly or after rainfall events greater than ½" for repair, maintenance, or replacement. Straw bales and silt filter fences shall be replaced as directed by the Village Engineer or at a minimum every three months. Silt accumulations must be removed as necessary to maintain effectiveness of the erosion control measure.
2. For disturbed areas draining more than one (1) but less than five (5) acres, a sediment trap or equivalent control measure shall be constructed at the down slope point of the disturbed area.
3. For disturbed areas draining more than five (5) acres, a sediment basin or equivalent control measure shall be constructed at the down slope point of the disturbed area.
4. Sediment basin design shall provide for both detention storage and sediment storage. Sediment storage shall be designed such that sediment removal from the basin is only required once a year.
5. Disturbed areas shall be stabilized within seven (7) days with any of the temporary or permanent measures defined in this section.
6. Any required disturbance of stream channels shall be re-stabilized within 48 hours of disturbance.
7. All affected open grated storm structures will be provided with internal filter assemblies as furnished by Marathon Materials, Inc. or approved equal.

8.202B – MAINTENANCE OF CONTROL MEASURES

All soil erosion and sediment control measures necessary to meet the requirements of this ordinance shall be maintained periodically by the applicant or subsequent landowner during the period of land disturbance and development of the site in a satisfactory manner to ensure adequate performance.

8.202C – INSPECTION

The Village shall make periodic inspections and shall either approve that portion of the work completed or shall notify the permittee wherein the work fails to comply with the erosion and

sedimentation control plan as approved. Plans for grading, stripping, excavating, and filling work approved by the Village shall be maintained at the site during the progress of the work.

Inspections can take place during any or all of the following:

1. Upon completion of installation of sediment and runoff control measures (including perimeter controls and diversions), prior to proceeding with any other earth disturbance of grading;
2. After stripping and clearing;
3. After rough grading;
4. After final grading;
5. After seeding and landscaping deadlines;
6. After final stabilization and landscaping, prior to removal of sediment controls; and
7. Every week or after rainfall events of a ½" or more.

At the completion of any project, the storm sewers, gutters, etc. will be inspected by the Village Engineer or Public Works representative to determine any cleaning or flushing of trapped sediment which may be required. Where required by the Village, and at the Owner's/Developer's expense, storm sewers shall be internally video taped (VHS color) and the tape shall be submitted to the Village Engineer.

8.202D – SPECIAL PRECAUTIONS

If at any stage of the grading of any development site the Village determines by inspection that the nature of the site is such that further work authorized by an existing permit is likely to imperil any property, public way, stream, lake, wetland, or drainage structure, the Village may require, as a condition of allowing the work to continue, that such reasonable special precautions to be taken as is considered advisable to avoid the likelihood of such peril. "Special precautions" may include, but shall not be limited to, a more level exposed slope, construction of additional drainage facilities, berms, terracing, compaction, or cribbing, installation of plant materials for erosion control, and recommendations of a registered soils engineer and/or engineering geologist which may be made requirements for further work.

Where it appears that storm damage may result because the grading on any development site is not complete, work may be stopped and the Owners/Developers may be required to install temporary structures or take such other measures as may be required to protect adjoining property or the public safety. On large developments or where unusual site conditions prevail, the Village may specify the time of starting grading and time of completion or may require that the operations be conducted in specific stages so as to insure completion of protective measures or devices prior to the advent of seasonal rains.

8.203 – PROTECTION OF PROPERTY AND SURFACE STRUCTURES

Trees, shrubbery, fences, poles and all other property and surface structures shall be protected during construction operations. Any fences, poles or other man-made surface improvements

which are moved or disturbed shall be restored to their original condition or replaced in kind with new material; as soon as possible after construction is completed.

8.204 – INTERRUPTION TO UTILITIES AND DAMAGE TO SURFACE IMPROVEMENTS

A minimum of 48 hours prior to commencement of work, J.U.L.I.E. (1-800-892-0123) and the Village's Department of Public Works must be notified for location of any existing utilities. All reasonable precautions shall be taken against damage to existing utilities.

In the event of a break in an existing water main, gas main, sewer, or underground cable, the Contractor shall immediately notify the Village of Oswego Public Works Department and the appropriate utility. The Contractor shall lend all possible assistance in restoring service and shall assume all costs, charges, or claims connected with the interruption and repair of such services unless it is determined that the utility has not been properly located. In the case of repairing Village utilities, the Village's cost of such work will be billed to the contractor.

8.205 – TRAFFIC CONTROL

All work approved by the Village within public rights-of-way shall conform to the requirements of the latest edition of the Manual of Uniform Traffic Control Devices for Highway Control and Maintenance Operations as published by the Department of Transportation, State of Illinois. The provisions of these standards will be enforced:

1. When an opening is made into the existing pavement;
2. When construction takes place adjacent to the edge of the existing pavement;
3. When a utility crossing is made beneath the existing pavement;
4. When it is necessary to close a lane of traffic due to construction operations;

Permission for road closure must be reviewed and recommended by the Director of Public Works and ultimately approved by the Village Board prior to commencing construction. Signing will be required in strict conformance to the Traffic Control Manual. No construction operation is to commence until such time that all required signs and barricades have been properly erected.

8.206 – PAVEMENT CROSSING

Unless otherwise specifically approved by the Director of Public Works, all conduits crossing existing pavements shall be installed by tunneling, jacking, or auguring. The open cutting of a roadway will only be allowed when the tunneling, jacking, or auguring requirement presents a hardship on the conduit installation. Allowable hardships would include a conflict with another existing utility, adverse weather conditions, a need for expediency, or adverse ground and/or groundwater conditions. A monetary hardship for the developer will not be considered. In all instances, the safety of the public and the construction crews will be considered. When the carrier pipe is a conduit intended to operate under internal pressure, a casing pipe of adequate strength for all applied loads shall be used. The carrier pipe shall be centered and suspended within the casing pipe with poly blocks held in place with stainless steel bands as manufactured by Cascade, or approved equal. Installation requirements for the bands shall follow the manufacturer's recommendations. The nearest face of pits or other open excavations on each side

of a traveled pavement shall be at least 10-feet from the edge of pavement, and secured against hazards.

When open cutting is allowed or other pavement opening required, they shall be backfilled prior to the end of the working day unless otherwise authorized by the Village. All excavations shall be backfilled with an IDOT approved mix #2 design of "Controlled Low Strength Material" (i.e. CLSM or Flowable Fill) dispensed from a redi-mix truck up to the sub-grade level. Said CLSM shall be fluid enough to fill all voids and undermines. Upon placement of the CLSM, the trench shall be properly protected with barricades and plated with appropriate steel plates to minimize traffic disruption until the CLSM has sufficiently set up to allow for the remainder of the restoration. In inclement weather a temporary hot-mix asphalt patch of at least 2-inches in thickness shall be constructed after the steel plates have been removed. It is understood that such patching is only temporary and that permanent pavement repair will be required as specified in Article 8.210 of this Section.

8.207 – TRENCHING

Trenches shall be excavated to the depths and grades necessary for pipelines including allowances for bedding materials. As determined by the Village Engineer, unsuitable soils found at or below the bottom of the trench shall be excavated to meet firm subsoil. Maximum trench widths will comply with IDOT Standards and Specifications.

8.208 – BRACING AND SHEETING

Open-cut trenches shall be sheeted and braces as required by governing federal and state laws including all OSHA Safety and Health Standards (29CFR 1926/1910), and as may be necessary to protect life, property, and work.

8.209 – BEDDING AND BACKFILL REQUIREMENTS

8.209A – BEDDING

Bedding shall be provided for all pipes, except where concrete encasement, concrete cradles, boring or jacking are indicated. Bedding shall be a minimum thickness of 4-inches and consist of gravel, or crushed stone ¼ -inch to 1-inch in size. As a minimum, the bedding material shall conform to the requirements of the "Standard Specifications for Road and Bridge Construction", Illinois Department of Transportation. The gradations shall conform to CA6, CA7, CA11 or CA13 therein. Note that when PVC or ABS pipe is used, the bedding material shall extend to a minimum of 12" over the top of the pipe. Bedding shall be properly compacted. Wherever two or more pipes or conduits are placed in the same trench or excavated area, backfill the trench with granular bedding material to support the uppermost pipe or conduit.

8.209B – BACKFILL

For conduits not requiring selected granular backfill, backfill shall be made with materials available from the trench excavation. The material shall be free from rocks and be carefully placed in 12-inch lifts.

For conduits requiring excavation as described in the "Standard Specifications for Road and Bridge Construction" beneath or within 2-feet horizontally of existing or proposed pavements, driveways, or sidewalks or in other areas which, in the opinion of the Village Engineer, are or may be subject to vehicular traffic loading, selected granular backfill shall be provided above the bottom of the trench and shall extend upward to the surface of the ground or pavement. Material for selected granular backfill shall consist of CA-7 Crushed Stone with a 12" thick CA-6 crushed stone "cap". The select granular backfill shall be mechanically compacted according to the Standard Specifications for Water and Sewer Main Construction in Illinois.

8.210 – RESTORATION OF EXISTING IMPROVED SURFACES

8.210A – GENERAL

The Contractor shall restore all permanent type pavements, sidewalks, driveways, curbs, gutters, trees, shrubbery, lawns, fences, poles, and other property and surface structures removed or disturbed during or as a result of construction operations to a condition that existed or better before the work began. The surface of all improvements shall be constructed of the same material and match in appearance the surface of the improvements which were removed.

8.210B – SAW CUTTING

When necessary to remove sections of existing pavement, sidewalk, or curb and gutter, and prior to removal, the edges of the section to be removed shall be cleanly cut out with a concrete saw.

8.210C – REMOVAL OF ROADWAY PAVEMENTS, SIDEWALKS, DRIVEWAYS AND CURBS

Where concrete pavement, sidewalk, driveway, or curbing is cut, the width of the cut shall exceed the actual width of the top of the trench at sub-grade by a minimum of twelve (12) inches on each side. Exposed surface of Portland cement or asphalt concrete shall be cut with a pavement saw to full depth before removal. The pavement must be sawcut perpendicular to the centerline along the edge of the pavement. Sidewalks must be removed and replaced by the whole square.

8.210D – CONCRETE PAVEMENT SURFACE

Where the existing roadway pavement surface is Portland Cement Concrete (PCC), the pavement replacement shall consist of six (6) inch PCC pavement or existing concrete depth, whichever is greater. PCC and construction methods for PCC shall conform to the current requirements of the "Standard Specifications for Road and Bridge Construction" of the Illinois Department of

Transportation, applicable Sections for Portland Cement Concrete pavement. Pavement joints and reinforcing in the replacement pavement shall conform to and match that in the adjacent pavement area.

8.210E – BITUMINOUS CONCRETE PAVEMENT SURFACE

Where the existing pavement surface is bituminous concrete and the base consists of a rigid material such as brick or PCC, the base replacement shall consist of 8-inch PCC base course. The PCC shall be as noted in Section 8.210D above.

The minimum surface replacement shall consist of a bituminous prime coat (applied at a rate of 0.1 gal/sy), a 2 1/2 - inch binder course and a 2 - inch minimum surface course conforming to the requirements of the "Standard Specifications for Road and Bridge Construction" of the Illinois Department of Transportation for Hot-Mix Asphalt Binder and Surface Course. Said replacement shall be completed as soon as conditions allow or at the discretion of the Village Engineer.

8.210F – BITUMINOUS PLANT MIX PAVEMENT OR BITUMINOUS TREATED SURFACE – FLEXIBLE BASE

Where the existing pavement is bituminous plant mix material or bituminous surface treatment and the base consists of a flexible material such as gravel, crushed stone, Bituminous Aggregate Mixture, Pozzolanic Material or Soil Cement, the base replacement shall consist of a 6-inch compacted thickness of Bituminous Aggregate Mixture Base Course conforming to the "Standard Specifications for Road and Bridge Construction" of the Illinois Department of Transportation and special provisions thereof. The surface replacement shall be as specified in 8.210E above.

8.210G – CONCRETE SIDEWALKS, DRIVEWAYS, CURB, CURB AND GUTTER

Where necessary to remove and replace concrete sidewalk, driveways, curb, and curb and gutter, replacements shall be made according to the Village's Standards regulating the construction of driveways, approaches and sidewalks. Curb or curb and gutter dimensions and cross-sections shall conform, as nearly as practical, with the existing installations except that at intersections with sidewalk that does not conform to State of Illinois handicap requirements, sufficient depressed curb and gutter along with sidewalk with preformed expansion joints shall be replaced to meet said handicap specifications. One-half-inch (1/2") preformed expansion joints shall be placed at intervals not exceeding 50-feet and at the junction with existing work. Saw cut (IDOT specs govern) crack control contraction joints shall be made every 10 feet (minimum) and shall be a minimum of one-half-inch in depth. Sidewalks shall be finished to match existing adjacent sidewalk surfaces. Finish shall meet current A.D.A. regulations and be required on all handicap sidewalk sections.

8.210H – CULTIVATED LAWNS

Provide topsoil, seeding, sodding, watering, and care of grass during establishment period for a complete surface restoration of lawns, parkways, and other areas disturbed as a result of the construction.

1. Topsoil

Topsoil shall be furnished pulverized and properly placed, raked, and rolled to a minimum depth of 8-inches. The topsoil furnished shall consist of loose, friable, loamy, non-acid soil, having at least 90 percent passing a no. 10 sieve, free of large roots, brush, sticks, weeds, stones larger than one-fourth (1/4") inch in diameter, and any other debris.

Before topsoil is placed, the area to be covered shall be brought to the proper grade. If the existing surface has become hardened or crusted, it shall be loosened to a recommended minimum depth of 12" to provide a suitable bond with the topsoil.

Apply commercial grade fertilizer uniformly at a rate of 20 pounds per 1,000 square feet. Work fertilizer into soil prior to seeding or sodding.

2. Sodding

Provide sod in developed areas that were grassed prior to construction and as indicated on the drawings. Sodding shall be used in ditches and drainage swales and on all embankment slopes steeper than 4 to 1 unless protection is provided against erosion of seeding. At the Contractor's option, sodding may be substituted for seeding.

The cut sod from a local sod farm shall be not less than 2-inches thick. Sod that has been cut more than 48-hours prior to installation shall not be used without the approval of the Village Engineer.

Sod shall be placed according to the applicable section of the IDOT Standard Specifications. Place sod with edges in close contact and alternate courses staggered. On slopes 2:1 or steeper, sod shall be staked with at least one stake for each piece of sod. Do not place sod when the ground surface is frozen or when air temperatures may exceed 90 degrees Fahrenheit.

New sod shall be watered daily at the rate specified in the IDOT specification for a minimum of seven-days after the specified initial watering. Village water used shall be metered and paid for by the Contractor. Any defective, dead or dying sod shall be removed and replaced up to one-year after completion of the sodding.

In ditches, the sod shall be placed with the longer dimension perpendicular to the flow of water in the ditch. On slopes, starting at the bottom of the slope, the sod shall be placed with the longer dimension parallel to the contours of the ground.

3. Seeding

Seed all grassed areas disturbed by construction operations and not receiving sod in accordance with the IDOT specifications. Seed mix shall be a 50/50 blend of blue grass and

rye grass applied at a rate of 5-7 #/1000 s.f. Over-seeding operations shall use the same mix, but applied at a rate of 2-5 #/1000 s.f. Do not seed in windy weather or when soil is very wet. Sow seed either mechanically or by broadcasting in two directions at right angles to each other to achieve an even distribution.

After seeding, rake seed lightly into the ground and roll with a roller weighing between 100 and 200 pounds per foot of roller width.

Immediately after rolling seeded areas, apply vegetative mulch unless hydraulic seeding method is used. Apply mulch in accordance with the IDOT Standard Specifications. Place erosion control excelsior blanket or fiber mat on slopes steeper than 3 horizontal to 1 vertical. Unless otherwise indicated, also place erosion control material at sides and bottoms of itches, swales, and all areas within 10 feet of catch basins or inlets in seeded areas.

Immediately after placing erosion control matting or mulch, water seeded areas thoroughly. Keep soil thoroughly moist until seeds have sprouted and achieved a growth of 1-inch.

SECTION 8.30 – SANITARY SEWAGE FACILITIES

8.301 – INTRODUCTION

All developments with ready access to sanitary sewer mains, regardless of size within the corporate limits or otherwise within the jurisdiction of the Village, shall include provisions for the construction of sanitary sewage facilities, designed in accordance with this Section and with the provisions of the Fox Metro Water Reclamation District (FMWRD). The Village and the FMWRD share a joint interest in the construction of sanitary sewer systems. The general notes, specifications, and construction details required by the FMWRD shall be appended to the engineering plans. Sanitary sewers shall be constructed throughout and to the extremities of a development to facilitate future extension of the Village sewer system to adjacent areas. Septic sewer systems will only be allowed with the Village Engineer's approval for those areas not readily accessible to sanitary sewer mains and upon adequate evidence that the necessary tests demonstrate the feasibility of a septic system.

The design of all sanitary sewage facilities proposed for construction or reconstruction as independent projects under Village jurisdiction shall also meet the technical requirements of this section.

8.302 – SERVICE AREAS

The Service Area shall include the entire area proposed to be ultimately served by all or a portion of the sanitary sewer system submitted for approval.

If over-sizing on-site facilities or extending the sanitary sewer system beyond the limits of the development results in additional construction cost, provisions shall be made for the Owner/Developer's recapture of the incremental cost upon submittal of all waivers of lien and paid invoices for such on-site and off-site improvements.

Adequate details shall be shown on submitted drawings relative to future sewer sizes, elevations and topography to establish the adequacy of the proposed improvements to ultimately serve future sewer extensions.

8.303 – SEWER DESIGN

8.303A– SANITARY SEWAGE FLOW FROM RESIDENTIAL DEVELOPMENT

Sanitary sewage flow used in developing Design Average Flow from residential areas shall be computed using not less than 100 gallons per capita per day. The Design Peak Flow need not exceed 400 gallons per capita per day but shall not be less than 250 gallons per capita per day.

8.303B – SANITARY SEWAGE FLOW ESTIMATION (RESIDENTIAL)

Sanitary sewage flow from both single family and multiple family residential areas shall be based on the population after full development of the area. For areas where the details of a proposed development are known, population shall be estimated as follows:

Type of Dwelling Unit	Number of Persons
Studio	1
1 bedroom	2
2 bedroom	3
3 bedroom	4
4 bedroom	5

For undeveloped residential areas where the details of future development are not known, design population per acre shall be estimated based on the zoning classification and any comparable developments within the Village.

8.303C SANITARY SEWAGE FLOW ESTIMATION (OTHER THAN RESIDENTIAL)

In other than residential areas, estimated sanitary sewage flow shall be based on the type of development and the following table:

Type of Establishment	**Unit**	**Average Flow in Gal/day/unit**	**Maximum Flow for Sewer Design in Gal/day/unit**
Shopping Center	Employee (1 shift)	50	200
Store	Employee (1 shift)	30	120
Offices	Person (1 shift)	25	100
Industrial	Person (1 shift)	35	140
Restaurant	Meal Served	7	30
Theater	Per Seat	5	20
Hotel	Per Guest	100	400

For other than residential developments where the details of the development are not established, sanitary sewage flow shall be estimated by the Design Engineer and approved by the Village Engineer. Such approval shall not relieve the Owner/Developer of the responsibility of providing adequate sanitary sewers to meet any and all future requirements within the development.

DESIGN FORMULA

Sanitary sewers shall be designed to provide adequate capacity without surcharge for the Design Flow, using Manning's Formula:

$$\mathbf{V = \frac{1.486}{N} R2/3\ S1/2}$$

(Where R = the hydraulic radius, S = the slope of the energy grade line, N = appropriate coefficient of roughness for the pipe material proposed) Flowing full velocity shall not be less than 2.0 feet per second. Where velocities greater than 10 feet per second will occur in a sanitary sewer flowing full, special provisions shall be taken to prevent erosion or displacement of the pipe. Design flow at any point in the system shall be the total of the allowable infiltration at that point plus sanitary sewage flow from the fully developed service area (computed in accordance with Articles 8.303B and 8.303C) plus all potential additional flow from the Ultimate Service Area. Infiltration shall not exceed 200 gallons per 24 hours per mile per inch diameter of the sewer pipe for any section of the system at any time during its service life.

8.304 – DESIGN DETAILS FOR SANITARY SEWERS

8.304A – PIPE AND JOINT TYPES

Sanitary sewer pipe and the joint specification required for the various types of pipe shall be as follows:

Pipe	Pipe Material	Joint
Ductile Iron Pipe	AWWA C-151 CL50	ASTM F477 & D3139
PVC SDR 26	ASTM D-3034	ASTM D-3212

8.304B – MINIMUM SIZE

No sanitary sewer main shall be less than 8 inches in diameter.

8.304C – ALIGNMENT

Sewers with diameters less than 24 inches shall be laid straight in both horizontal and vertical planes between manholes.

8.304D – LOCATION

All sanitary sewers shall be located on the same side of the roadway as the water main, in the front yard easements, a minimum of 10' away from the Village water main, or in other easements as approved by the Village Engineer. All sanitary sewers must be accessible to

Village maintenance vehicles. All manholes must be located in alignment with the side property lines, so that the inconvenience of having a manhole in the front yard is shared between the property owners.

8.304E – SEWER SIZE CHANGES

Under normal conditions, when sanitary sewers of different diameters join, the invert elevations shall be adjusted to maintain a uniform energy gradient. The alignment of the top of pipe *or* 0.8 depth points of the sewers will be accepted as meeting this requirement.

8.304F – DEWATERING

Prior to pipe laying and jointing, the trench shall be sufficiently de-watered to maintain the water level in the trench at or below the base of the bedding.

8.305 – BEDDING

Bedding shall be provided in accordance with Article 8.209A of Section 8.2.

8.306 – DESIGN DETAILS FOR SANITARY MANHOLES

Manholes shall be provided at all changes in grade, size or alignment. Manholes shall be no less than 48 inches in diameter and shall be constructed according to the sanitary manhole detail. Manholes shall be spaced at a recommended maximum distance of 400' or on the nearest property line as per 8.304D above.

8.307 – SANITARY SEWER SERVICE LINES

8.307A – DESCRIPTION

A sanitary sewer service line, for the purposes of these standards is defined as a pipe designed to receive flow from a single building, extending from the sewer main to the building.

8.307B – MINIMUM DIAMETER/MATERIAL

Minimum diameter of sanitary sewer services is 6 inches. If the service is larger than 6-inch diameter, a manhole shall be constructed at the point of its connection with the sewer main. Allowable service pipe materials are ductile iron and PVC as specified in Section 8.304A.

8.307C – DESIGN STANDARDS

Capacity requirements and design details described in Articles 8.302 through 8.304 for sanitary sewers shall apply to sanitary service lines, except the minimum slope shall be 1/8-inch per foot (1%).

8.307D – PLUGS

In those instances when the service line is not immediately connected to the building to be served, it shall be tightly plugged, using a plug provided by the pipe manufacturer for such use. Plugs shall be marked by 4”x 4” posts painted green.

8.307E – SANITARY SEWER SERVICE LINE CONNECTIONS

When sanitary sewer service lines are constructed as part of the same project as the sewer, they shall be connected to the sewer using a wye.

Where a sanitary sewer service line is to be connected to an existing sewer, or where specific approval has been granted by the Village Engineer for the construction of a service line after the completion of the sewer main or lateral, the connection shall be made by one of the methods detailed below:

1. Install a manhole.
2. Circular saw-cut sewer using proper tools. Install a hub wye saddle or a hub tee saddle in accordance with manufacturer’s recommendations.
3. Using pipe cutter, neatly and accurately cut out desired length of pipe for insertion of proper fittings. Use “Band-Seal” couplings and shear rings and clamps to fasten the inserted fitting. Follow manufacturer’s recommendations for the installation. Cement joints are prohibited.

Risers shall be required for services where sewers are over twelve (12) feet deep and shall extend within eight (8) feet of finished grade as a minimum.

8.307F –TEMPORARY CLOSURES

1. Place a 4”x 4” x 36” long hardwood stake flush with the ground surface at the property line directly opposite the end of the service line; or
2. Where service piping has been installed, make connection to the building piping system.
3. Keep a record of branch fittings, riser pipes, and service lines by measurement to the nearest downstream manhole.
4. Deliver the records to the Village Engineer upon completion of the project.

8.308 – SEWER DEPTH

Sanitary sewers shall be constructed sufficiently deep so as to prevent freezing. For the purposes of this specification, a depth of 3 1/2 feet to the sewer top of pipe shall be required. Sewers placed less than 3 ½ feet deep will be at the discretion of the Village Engineer and shall be appropriately insulated. In addition, sewers shall be sufficiently deep to provide gravity service for all sanitary sewage within the Service Area, both existing and future; assuming all present and future basement floor drains and sanitary fixtures below finished grade will be connected to ejector pumps discharging to the sanitary sewer mains.

8.309 – WATER MAIN PROTECTION

The requirements relative to water main protection set out in Section 8.5 are applicable to sanitary sewer facility construction.

8.310 – TESTING AND INSPECTING

8.310A – METHODS

Test sewer mains and services for water tightness by the low-pressure air testing, or other method as approved by the Village Engineer.

8.310B – LEAKAGE TESTS

Low pressure air test:

a. Prior to testing for leakage, flush and clean the sewers.
b. Seal pipe openings with airtight plugs and braces.
c. Whenever the sewer to be tested is submerged under groundwater, insert a pipe probe by boring or jetting into the backfill material adjacent to the center of the sewer to determine the groundwater hydrostatic pressure by forcing air to flow slowly through the probe pipe.
d. Add air to the plugged sewer sections under test until internal air pressure reaches 4.0 psi greater than any groundwater hydrostatic pressure.
e. Allow at least two minutes for air temperature to stabilize and adding air to maintain the initial test pressure.
f. Shut off the air supply after stabilizing the air temperature and record the time in seconds for the internal sewer pressure to drop from 3.5 psi to 2.5 psi greater than any groundwater hydrostatic pressure.
g. Allowable limits: Total rate of air loss not to exceed 0.0030 cubic feet of air per minute per square foot of internal pipe area.
h. If the air test fails to meet these requirements, locate and repair, or remove and replace the faulty sections of sewer in a manner approved by the Engineer, as necessary to meet the allowable limits upon re-testing.
i. Do not use acrylamid gel sealant to correct leakage.

8.310C – DEFLECTION TEST FOR FLEXIBLE THERMOPLASTIC PIPE

1. Test the deflection in the installed PVC and other flexible thermoplastic pipe.
2. Perform the test no sooner than 30 days after backfilling has been completed.
3. Perform the test by pulling a mandrel or rigid ball having a diameter equal to 95 percent of the inside diameter of the pipe through the pipe from manhole to manhole without using mechanical pulling devices.
4. Allowable deflection limits: 5.0 percent of the base inside diameter of the PVC pipe.
5. Wherever the deflection limitation is exceeded, uncover the pipe, carefully replace compacted embedment and backfill material, and re-test for deflection. After initial testing,

should the deflected pipe fail to return to its original size (inside diameter), then the pipe shall be replaced.

8.310D – VIDEO TESTING

All public sanitary sewer mains shall be internally video taped by remote camera. Tapes shall be in color of VHS format (or other format acceptable to the Village) and submitted to the Village Public Works Department for their review and approval prior to acceptance of the sewer improvements by the Village.

8.310E – MANHOLE VACUUM TESTING

All sanitary sewer manholes shall be vacuum tested immediately after installation and prior to backfilling, by the contractor, as per the standards established by the Fox Metro Water Reclamation District (FMWRD):

1. All lift holes should be plugged with an approved non-shrink grout, or rubber plug. No grout will be placed in the horizontal joints before testing.
2. All pipes entering the manhole shall be plugged, taking care to securely brace the plugs from being drawn into the manhole.
3. The manhole frame and adjusting rings shall be in place for the testing.
4. A vacuum of ten (10") inches of mercury shall be placed on the manhole and the time measured for the vacuum to drop to nine (9") inches of mercury. The vacuum shall not drop below nine (9") inches of mercury for the following time periods:
   48" diameter manhole – sixty (60) seconds
   72" diameter manhole – ninety (90) seconds
5. If the test fails, the contractor shall seal all leaks and re-test until acceptable.
6. All necessary repairs or seals shall be done on the exterior of the manhole, not from the inside.

SECTION 8.40 – STORM WATER DRAINAGE

8.401 – INTRODUCTION

All developments, regardless of size within the corporate limits or under the control of the Village, shall include provisions for the construction of storm water drainage facilities designed in accordance with this Section. (The only exception allowed by the Village Engineer would be the redevelopment of a site that is already predominantly covered with impervious surfaces, then the Village Engineer may use "Best Management Practices" i.e. BMPs for storm water management and water quality at the discretion of the Village Engineer) The design of all storm water drainage facilities proposed for construction as independent projects under the control of the Village shall also meet the technical requirements of this Section. The requirements of Section 8.2 are also applicable to storm water facility construction.

8.402 – GENERAL PROJECT REQUIREMENTS

8.402A. SURFACE FLOW:

Surface swales/ditches are described in Article 8.404C. Natural swales and depressional storage areas shall be incorporated into storm water facilities design wherever practicable. Swales and ditches, together with any underground storm sewer system, shall provide an adequate outfall for runoff from the 100-year frequency, critical duration rainstorm. In case the storm sewers or the inlets get blocked, there shall always be a viable 100-year overland flow route. Said 100-year overland flow routes shall be designed to:

- Limit depth of ponding to a maximum of one foot on top of a storm sewer structure in a rear/side yard;
- Limit depth of ponding to a maximum of six inches at a street crown or extend a maximum of six feet into the street from the gutter (in a designated overland flood route) and the top of curb shall remain visible;
- Streets designated as an overland flood route shall limit the ponding to the roadway and not encroach into the parkway area; and,
- Limit the computed design velocities to a maximum of 4 ft/sec; applicable to both swales and street overflows.

Where allowed by the Village Engineer, storm sewers may be constructed to drain the development and any contiguous drainage areas. The owner/developer shall submit to the Village Engineer two (2) copies of the storm drainage computations.

8.402B. STORM WATER DETENTION:

Storm detention is required and subject to the review of the Village Engineer. In concept, a detention pond shall have high-water level based on a 100-year design storm and shall have an outlet for low flows and flood (100 year) flows. Detention to be provided shall be for the entire site evaluated in its developed state and shall be constructed prior to all other improvements. This shall include mass grading and all necessary erosion control measures. See section 8.403 for further details.

8.402C. DRAINAGE BASIN DIVIDES:

The design of storm water drainage systems shall not result in the inter-basin transfer of drainage, unless no reasonable alternative exists and there is no legal restraint preventing such transfer. Any transfer will require detailed supporting calculations showing no net change up to and including the 100-year storm event.

8.402D. SUMP PUMP CONNECTIONS:

All new subdivisions will supply a minimum 4” diameter PVC service connection for each unit or habitable lot in said subdivision. The minimum size of a sump collection line servicing more than one house sump connection shall be a 6” diameter PVC SDR 26 and all such lines shall have an approved clean out structure at its terminus. The pipe from the house shall be the responsibility of the house builder and shall be a minimum 4” diameter PVC pipe with an approved air-gap system immediately outside the house for the event of a pipe blockage. Minimum depth of cover shall be 36”. All connections to the storm sewer system shall be through a neat, tight fitting bored hole and the joint shall be sealed with hydraulic cement. In no

case shall the sump pump connection extend beyond the inner surface of the storm structure to which it is connected. All work must be approved, inspected and verified by the Village or their representative prior to the issuance of an occupancy permit.

8.402E. LOT GRADING:

The location and top of foundation elevation for all proposed structures shall be shown on the engineering drawings. Generally, the top of foundation of any structure must be constructed at least 18 inches above the centerline (or back of curb) of the abutting street. Where foundations are lower than the street centerline, or in the case of depressed driveways, alternate means of surface drainage diversion must be shown to avoid structure flooding. Sufficient finished grade elevations must be shown on the drawings to ensure positive drainage away from each structure. The top of foundation should be at least 18" above the 100-year water surface elevation of adjacent overflow routes. The lowest opening in the foundation must also be taken into consideration when siting overflow routes and the high water levels of adjacent retention basins. All rear yard, side yard, ditch, and drainage way grades should be at least 2 percent minimum slopes, unless otherwise approved by the Village Engineer.

8.403 – DESIGN CRITERIA FOR STORM WATER MANAGEMENT

8.403A – RELEASE RATES

The maximum allowable release rates are 0.04 cubic feet per second per acre for the two-year frequency storm and 0.15 cubic feet per second per acre for the 100-year storm. A single release rate of 0.10 cubic feet per second per acre for the 100-year frequency storm is also considered to satisfy the requirement of this Section. The Village Engineer shall require a developer to adhere to a release rate as recommended by a published watershed study, for example, the Blackberry and Aux Sable Creeks unless approved by the Village Engineer. In no case shall the allowable release rate from the site exceed the site's existing release rate.

8.403B – DESIGN CALCULATIONS

The design of storm water detention facilities shall be based on runoff hydrographs from the two (2) year and one hundred (100) year frequency, critical duration rainstorms. The modified rational formula shall not be used for development of hydrographs. All design rainfall events shall be based on the Illinois State Water Survey, Bulletin 70 isohyetal intensities, as established by the Village Engineer. All design computations that do not rely on continuous accounting of antecedent soil moisture conditions shall assume "wet" conditions. Storm water runoff from areas tributary to the site shall be considered in the equations for the design of the project site drainage system. If the tributary areas are undeveloped or do not meet release rate requirements, the Owner/Developer may bypass all tributary area flows around rather than through the storage facility. Runoff calculations for all undeveloped tributary land shall assume a reasonable fully developed land cover based on anticipated zoning.

8.403C – BASIN DESIGN

Wet Bottom: The use of wet-bottom detention basins shall be designed to be safe, aesthetically pleasing, and available for recreational use if desired by the Village or Park District. The Village places a preference on dry-bottom basins over wet-bottom basins. In considering allowing wet-bottom basins within a development, the Village will only allow wet-bottom basins in areas that: have natural springs, high groundwater tables, large diameter and continually flowing field tiles, or some other source of continual water supply. Basins to be deeded to the Park District for recreational uses, shall meet the Park District criteria for vegetation, basin slope, and placement of the storm sewer structures, and shall be accepted by the Park District prior to the release of financial sureties. Wet-bottom basins shall be a recommended minimum six feet (6') deep, excluding near-shore banks and safety ledges, with a recommended ratio of watershed area (i.e. tributary area) to basin normal pool surface area of 25:1 to enhance the frequency of "turnover" of water in the basin and the overall water quality of the basin. Wet detention basins shall be designed to have a natural appearance with undulating shorelines and varying side slopes. If fish habitat is provided, at least 25 percent (25%) of the bottom area shall be a minimum of ten feet (10') deep. Wet-bottom basins shall be designed to remove storm water pollutants and sediments with pretreatment basins capable of capturing and retaining the initial ¾ inch of rainfall unless approved by the Village Engineer, and designed in such a manner to reduce nuisance problems such as embankment erosion and algae. Wet-bottom basins shall provide a recommended maximum "bounce" or storage depth of four (4') feet. Aeration shall be provided (with the preferred method being natural appearing waterfalls or cascades and "bubblers", over mechanical fountain type aerators) as required by the Village Engineer. Embankments above normal water levels shall be either terraced or sloped at not greater than four to one (4:1) slopes to the 100-year high water level. Safety ledges shall be 1' below the normal water level measured from the highest point of the ledge. Such ledges shall be not less than ten (10') feet wide and shall be back pitched at a 2% slope towards the basin embankment. The safety ledges shall be sufficiently planted with emergent vegetation as per the Village's Landscape Ordinance. A minimum of the first ten (10') feet of the shoreline extending up from the normal water level of wet-bottom basins shall be stabilized and protected from erosion with deep-rooted appropriate native plantings; or reinforced turf mat (geotextiles) may be used at the Village Engineer's discretion. These native plantings must be properly maintained/weeded and protected.

In areas of permeable soils, a suitable basin lining must be constructed with either a minimum of three (3') feet of properly compacted clay or a manufactured lining system/polymer installed in full compliance with the manufacturer's recommendations. The developer's geotechnical consultant shall be responsible for: assuring the field conditions are consistent with those identified in the project geotechnical report, oversight of the basin/lining construction, compaction testing, and to ensure the basin holds water as per design. Utility trenches that cross or connect the basin shall have compacted clay cut-off trench seals installed to prohibit the migration of ground water from the basin. The use of a privately owned well for replenishment purposes will not be allowed, and the basin shall not be used for irrigation purposes without the Village's consent.

All wet-bottom basins shall be maintained by the developer for plantings and leakage for a minimum of five (5) years after substantial completion of the basin. The developer shall also be required to provide the Village with a separate acceptable financial surety covering the cost of the construction of the basin, including the cost of excavation, pertinent storm sewer structures,

weirs/restrictors, erosion control, and plantings. The Village will hold onto the surety until the five (5) year maintenance period has been successfully completed. The developer must submit to the eventual owner of the basin (i.e. Homeowner's Association, Park District, or Village) a basin maintenance plan and estimated budget for the basin prior to transfer of ownership. The developer shall also provide the eventual owner of the basin with Village Engineer approved record "as-built" drawings and stage versus storage calculations for the basin. The developer shall notify the Village prior to the transfer of ownership of the basin.

Dry Bottom: Dry-bottom detention basins shall be encouraged and designed to be safe, aesthetically pleasing, easily maintainable, and available for multiple uses. The Village places a preference on dry-bottom basins over wet-bottom basins. Basins to be deeded to the Park District for recreational uses, shall meet the Park District criteria for vegetation, basin slope, and placement of the storm sewer structures, and shall be accepted by the Park District prior to the issuance of any occupancy permits within that development. Dry-bottom detention basins shall be designed and sized such that a minimum of eighty (80%) percent of the bottom area shall have standing water no longer than 72 hours for the 100-year frequency storm. The basin bottom shall have a minimum slope of two (2%) percent and a maximum embankment slope of four to one (4:1). The length of low flow channels across the bottom of the basin shall be maximized. Concrete low flow channels across the bottom are prohibited. Wherever geologically feasible, the design of the dry basin should promote the safe recharge of the ground water aquifer, and provide for enhanced water quality with native deep rooted vegetation and pretreatment basins capable of capturing and retaining the initial ¾ inch of rainfall. Other methods of enhancing the water quality include filter strips, buffer strips, level spreaders, and rain gardens, as approved by the Village Engineer. All of these measures are dependant upon an ongoing maintenance program by the basin owner to keep these measures operating correctly.

Wetland Bottom: Wetland bottom basins having pools of water less than six (6') feet deep will not be allowed by the Village Engineer. Such basins are only allowed by the Village Board.

8.403D – OUTLET

All concentrated storm water discharges leaving a site must be directed into a well-defined receiving channel with adequate capacity for safe conveyance of flows. Computations addressing the downstream tailwater conditions, if applicable, shall be provided for review by the Village Engineer.

Single pipe outlets shall have a minimum inside diameter of 12-inches. All outlets greater than 12 inches shall be grated. The preferred structure is an IDOT approved slope box, but flared end sections may be used at the discretion of the Village Engineer. If design release rates call for smaller outlets, structures such as perforated risers, flow control orifices, etc., shall be used with the approval of the Village Engineer. Restrictor pipes shall be a minimum of 4-inches in diameter; smaller structures shall be at the discretion of the Village Engineer and shall be designed to limit potential for clogging. If offsite tributary areas are to be routed through the detention basin, the restrictor sizes shall be increased to accommodate these tributary areas at Ordinance required release rates while maintaining calculated basin high water levels.

8.403E – TIME OF CONCENTRATION

Time of concentration (Tc) shall be provided for all calculations. The maximum Tc for rational method calculations will be 20 minutes. The maximum length of overland flow for the Tc calculation for sheet flow is three hundred (300') feet. An overland flow route delineated through the development should be submitted with all calculations.

8.403F – WEIR DESIGN AND FREE BOARD

The overflow weir shall be based on a design flow of 1 cfs/acre of tributary area (including off-site areas, if any). The basin's berm shall have a minimum of one (1') foot free board between the water surface elevation through the weir and the top of berm. Example: If the 100 year flow depth through the weir is 0.5', then the difference between the weir invert and the top of the berm shall be 1.5'.

8.404 – DESIGN CRITERIA FOR STORM SEWERS AND SURFACE SWALES

8.404A – STORM SEWERS

1. Storm sewers shall be designed to convey a ten-year storm flowing full (no pressure flow), using Manning's Formula with an appropriate roughness coefficient based on pipe material. If a storm sewer is designed with a constantly submerged outfall, the sewer shall be designed using the "hydraulic gradient" being at least 1'below all rim elevations.
2. The rational method shall be employed when computing storm runoff for storm sewer design. The storm system shall be designed with "positive street and swale drainage" such that in the event of a complete storm system failure, storm water runoff will be directed overland to the storm water detention area in a manner to minimize property damage due to flooding in accordance with the requirements in 8.402A "Surface Flow".
3. Storm sewers shall be designed to flow full and have a velocity between three (3) feet per second and ten (10) feet per second. The IDF curve for a ten (10) year storm intensity in the Oswego, Illinois area shall be used for design purposes.
4. In areas where curb and gutter and storm sewers are approved, inlets shall be installed so that the approximate distance between each inlet shall not exceed three hundred feet (300') and each inlet shall drain a maximum street gutter length of three hundred (300') feet. The Design Engineer shall provide inlet spacing calculations based on the type of proposed grate and slope to verify the inlet spacing. Where the inlet is located at a low point, the Village Engineer may require additional inlets. No more than two (2) inlets shall be interconnected. Inlets shall be so located that storm water encroaches no more than three (3) feet into the pavement. Depressed street crowns to facilitate drainage will not be permitted.
5. Yard inlets shall be placed where required by the Village Engineer and shall have the appropriate grate type.
6. The minimum size public storm sewer shall be twelve (12") in diameter. To avoid conflicts with electric/phone/cable utilities, storm sewers larger than twenty four (24") inches in diameter will not typically be allowed in either the side or rear yards of residential lots, unless otherwise approved by the Village Engineer. All public storm sewers shall be located in dedicated utility easements.

7. Unless otherwise approved by the Village Engineer, storm sewers shall be reinforced concrete pipe conforming to ASTM C76 minimum Class III with O-ring joints conforming to ASTM C443. All inlet connections shall be concrete sewer pipe, ASTM C14 for extra strength pipe.
8. Minimum cover shall be generally three feet (3'-0") for all storm sewers unless special precautions are taken to protect the pipe, as approved by the Village Engineer.
9. All manholes, inlet manholes, inlets, and catch basins, and headwalls shall be designed in accordance with the standard details of the Village.
10. Upon installation, all public storm sewer mains shall be internally video taped by remote camera. Tapes shall be in color of VHS format (or other format acceptable to the Village) and submitted to the Village Public Works Department for their review and approval prior to acceptance of the sewer improvements by the Village.
11. The developer/contractor shall supply to the Village Public Works Department an inventory equal to at least one (1%) percent (minimum one casting) of the number of manhole, inlet, or catch basin castings installed along the public streets and for public parking lots for the development. This inventory type shall be at the discretion of the Public Works Director and used by the Village to replace storm sewer system components that are damaged after expiration of the guarantee period.

8.404B – CULVERTS

Wherever culverts are allowed by the Village Engineer, culverts shall meet the following minimum standards:

1. Minimum pipe diameter of twelve (12") inches.
2. Corrugated metal pipe (CMP) shall be hot-dipped galvanized steel or aluminum steel conforming to AASTO M36. Provide 16 gauge CMP for pipe diameter twenty-one (21") inches and smaller. Provide 12 gauge CMP for pipe diameters twenty-four (24") inches and larger.
3. Reinforced concrete pipe (RCP) shall conform to ASTM C76, minimum Class III.
4. Plastic culvert pipe will not be allowed within the public right of way, unless allowed by the Village Engineer.
5. Culvert invert elevations shall be 3" less than the ditch invert elevations.
6. Minimum cover at driveways shall be six (6") inches.
7. Culverts will be designed to convey a thirty-(30) year storm with less than 0.1' of head created above the natural (without culvert) conditions. The calculation method shall be the rational method for areas up to 20 tributary acres. Tributary areas greater than 20 acres shall be computed using a hydrograph method (HEC-1, HEC-HMS or TR-20, or approved equivalent).
8. No one hundred (100) year storm overtopping of the road is allowed.

8.404C – SWALES/DITCHES

Wherever swales and ditches are allowed by the Village Engineer, swales and ditches shall meet the following minimum standards. (Ditches and culverts may be used in lieu of storm sewers if curbs and gutters are not required.)

1. Minimum grade of one and one-half (1.5%) percent. Preferred slope is two (2%) percent.

2. Maximum grade of ten (10%) percent.
3. Minimum depth of twenty-four (24”) below the shoulder of the street.
4. Maximum bank slope of 3:1 under normal conditions.
5. The bottom and banks of ditches with grades between 4 and 8 percent shall be sodded and equipped with permanent ditch checks.
6. The bottom and banks of ditches with grades between 8 and 10 percent shall be paved or otherwise stabilized as approved by the Village Engineer.
7. All areas of the property must be provided with an overland flow path that will pass the 100-year flow at a stage at least eighteen inches (18”) below the lowest foundation grades in the vicinity of the flow path. Overland flow paths designed for flows in excess of the minor drainage system capacity are required to be contained in dedicated drainage easements.
8. Ditches will be designed to convey a minimum of a thirty-(30) year storm, and in some instances, a one hundred (100) year storm ditch may be necessary at the discretion of the Village Engineer.
9. Ditches should be trapezoidal shaped and have a 2’ bottom.

8.405 – WETLANDS/DEPRESSIONAL AREAS

8.405A – DETENTION IN WETLANDS

Existing jurisdictional wetlands as defined in Section 5 shall not be modified or used for the purposes of storm water detention unless it is demonstrated that the proposed modifications will maintain or improve the wetlands beneficial functions. Concurrence from a wetland specialist and/or the Army Corps of Engineers will be required. Prior to discharge into wetlands, all runoff from development shall be routed through an appropriately planned and designed sedimentation basin as described in the “Procedures and Standards for Urban Soil Erosion and Sedimentation Control”. This basin shall be constructed before site clearing and grading. Wetlands will be delineated by the owner’s/developer’s Design Engineer or a sub-consultant. Where the terms of this ordinance conflict with the Village’s separate wetland ordinance, the terms of the separate wetland ordinance shall govern.

8.405B – DEPRESSIONAL STORAGE AREAS

Existing depressional storage in wetlands or depressional areas shall be analyzed as part of the critical duration existing watershed analysis. In no case shall the developed release rate exceed the existing release rate of the watershed. If the existing release rate is found to be less than that required by Ordinance for developments, then the developed release rate shall be reduced as to not exceed the existing release rate.

8.405C – CONSTRUCTION IN WETLANDS

If jurisdictional wetlands are part of a storm water management system that proposes topographic change activities involving excavation and/or deposition within the wetlands, a permit may be required from the U.S. Army Corps of Engineers (COE).

As a condition of Village approval of any storm water management system including all detention areas, swales, sewers, berms, etc. which involve wetlands and prior to submission of the final plat of subdivision to the Plan Commission, a permit shall be obtained from the COE or, if a permit is not required, a sign-off letter from the COE must be provided. Any development that has wetlands on the site must obtain a COE sign-off even if the wetlands are not being impacted by the proposed development.

8.405D – ENDANGERED SPECIES

In conformance with the Endangered Species Protection Act, effective December 3, 1990, the Village is required to consult with the Illinois Department of Natural Resources (IDNR) prior to final platting of certain land developments.

As a condition of Village approval of such plats, a determination must be obtained from IDOC, either stating that no further consultation is required or stating recommendations for minimizing or avoiding impacts on endangered species. Although the Village will file the application for an IDOC determination, the Owner/Developer will be required to prepare the application, and to provide any subsequent documentation that may be requested to conform to the intent of the Act.

8.405E – CONSTRUCTION IN FLOODPLAIN

If construction activities are necessary in the regulatory floodplain, all requirements of the Village of Oswego floodplain ordinance shall be met and IDNR-OWR permits may also be required. Detention shall not be allowed in floodplain or floodway unless it can be demonstrated that a regional benefit will result and that water quality and habitat for plants and animals is maintained or enhanced. Any development related correspondence between the Design Engineer and the IDNR-OWR shall be submitted for review to assist in determining proper jurisdiction. Where the terms of this ordinance conflict with the Village's separate floodplain ordinance, the terms of the separate floodplain ordinance shall govern.

8.406 – FARM TILES

All developments, regardless of size within the corporate limits or under the control of the Village, shall investigate the site for existing farm tile drainage systems. Any field tile systems cut during the process of land development must be properly reconnected. All existing farm tile drainage systems shall be either connected into the development's proposed storm sewer system or left intact. Connection of existing agricultural drain tiles to new storm water management systems may be approved if proper allowance for flows from said tiles are incorporated in the new system design. Connecting farm tiles to sanitary sewers will not be permitted.

SECTION 8.50 – WATER SYSTEM

8.501 – INTRODUCTION

All developments within the corporate limits, and any development under Village jurisdiction shall include provisions for a complete water supply system and the construction of water

distribution facilities, complete with valves, fire hydrants and other appurtenances designed in accordance with this Section and with the applicable "Standard Specifications for Water and Sewer Main Construction in Illinois" unless noted otherwise in the following sections. As a minimum, the distribution system shall include a system of water mains and service lines between a connection or connections to the existing distribution system at approved locations.

The design of all water distribution system facilities proposed for construction as independent projects under the Village jurisdiction shall also meet the technical requirements of this Section. The requirements of Sections 1 and 2 are also applicable to water distribution system construction.

8.502 – GENERAL DESIGN CONSIDERATIONS

Extensions to the distribution system shall include feeder mains and distribution mains. Feeder mains are those mains forming the arterial system of the Village and are further defined as mains larger than 8 inches in diameter or as required to meet local fire protection needs. Distribution mains shall form a grid to supply water to the local fire hydrants and service lines, and shall have a minimum diameter of 8 inches. Six-inch diameter water main may be used when interconnecting the distribution main in lengths not exceeding 600 feet. Water distribution systems shall be designed for circulation of flow; dead ends shall be avoided whenever possible. All commercial and industrial properties shall provide a minimum of a 10-inch main across the front of the property.

All water mains shall be located in the parkway, on the same side as the sanitary sewer main and approximately eight feet (8') from the property line. Water mains in the side or back yards are only allowed by the Village Engineer when site conditions do not allow for parkway installations, but these water mains must remain accessible to Village repair/maintenance vehicles with a paved surface suitable for carrying the loads of repair/maintenance vehicles.

All water main bends shall be made with 45 degree or less elbows and 90 degree elbows will not be accepted. Fittings, building service connections, hydrants, valve vaults/boxes, and appurtenances should not be located in the pavement, sidewalks, or curb. All fittings, building service connections, hydrants, valve vaults/boxes and appurtenances should not be located along water main sections that have been lowered to meet the IEPA vertical separation requirement.

8.503 - MAIN CAPACITY

Feeder and distribution mains shall be sized to provide sufficient capacity to deliver the required fire flow to all areas served by the proposed construction with consumption at the maximum daily rate.

8.503A – REQUIRED FIRE FLOWS

Type of Development	Fire Flow	Duration	Volume
Single-family residential	1,000 gpm	2 hours	120,000 gallons
Duplex residential	1,500 gpm	2 hours	180,000 gallons

Other multi-family residential	2,500 gpm	2 hours	300,000 gallons
Commercial/business (general)	2,500 gpm	2 hours	300,000 gallons
Office/research	2,500 gpm	2 hours	300,000 gallons
General manufacturing	3,000 gpm	3 hours	540,000 gallons
Commercial/business (downtown)	3,500 gpm	3 hours	630,000 gallons
Institutional	3,500 gpm	3 hours	630,000 gallons

The fire flow rates must be available while maintaining a twenty (20) psi residual pressure throughout the existing distribution system and extensions that serve the new service area.

Other required fire flows for the type of development and associated structure may be acceptable if the installation of fire sprinkler systems is required. Required fire flows of 2500 gpm or less will have an associated volume based on a duration of two (2) hours and fire flows greater than 2500 gpm will have an associated volume based on a duration of three (3) hours.

8.503B – MAXIMUM DAY CONSUMPTION

For purposes of water system design, maximum day consumption in residential areas shall be based on a minimum of 300 gallons per capita per day. Alternately, the maximum day consumption may be based on the following values of flow rate per dwelling unit:

1. 1050 gallons per unit per day for single-family residences,
2. 975 gallons per unit per day for duplex residences,
3. 900 gallons per unit per day for townhouse buildings with four or fewer individual dwelling units,
4. 750 gallons per unit per day for apartment buildings with greater than four individual dwelling units.

For purposes of water system design, maximum day consumption in non-residential areas shall be based on a calculation of expected maximum day water demand for each building in the area. For each building, a description of the building use, occupancy, and unit consumption value shall be included with the calculation. Unless the descriptions and calculations for each building in the area justify a lower value or when the details of the development are not known, the amount of maximum day consumption for non-residential areas shall be at least equal to 1500 gallons per day for each acre included in the total area devoted to non-residential categories of land use, plus process water requirements. In all cases, the maximum day consumption value shall be approved by the Village Engineer. Such approval shall not relieve the Owner/Developer of the responsibility of providing adequate main capacity for any and all future developments within the development. In such cases, minimum main size shall be 12 inches.

8.504 – FIRE HYDRANTS

8.504A – SPACING

Fire hydrants shall be installed along all mains constructed in public rights-of-way at a maximum spacing of 300 feet in residential areas and 300 feet in commercial/industrial areas with the most

remote part of any building being no farther than 300 feet from a hydrant. Hydrants in remote areas must be accessible at all times with paved surfaces for emergency vehicles and Village repair/maintenance vehicles. Hydrant spacing will also be coordinated with the Oswego Fire Department to address adequate hydrant coverage per their specifications.

8.504B – MATERIAL

Fire hydrants shall meet AWWA C-502 and shall be "Waterous Pacer WB-67-250" or Clow Medallion type with a 5-1/4 inch valve opening, two 2-1/2 inch hose nozzles and one pumper nozzle. Threads shall conform to National Standard Specifications. Construction shall conform to that indicated on the fire hydrant detail. Each hydrant shall be equipped with an auxiliary gate valve complete with roadway box from A. Y. McDonald, or approved equal, and valve box stabilizer. Hydrants shall be installed no closer than two feet or further than six feet from the back of curb. No hydrant shall be installed within 48 inches of any obstruction nor shall any obstruction be placed within 48 inches of a hydrant. The manufacturer shall paint the hydrants red. Hydrants shall be installed with a valve box brace as supplied by BLR Enterprises Inc. or with a trench adapter as supplied by American Flow Control, or approved equals.

8.504C – SAMPLING HYDRANTS

Water sampling hydrants shall be required in all new developments, at a rate of one sampling hydrant for every three hundred fifty (350) population equivalents or fraction thereof. All 55 sampling hydrants shall be model TF 600 "Sampling Station Hydrant" as manufactured by the Truflo Manufacturing Co. Inc., Washington, Missouri, or approved equal.

8.505 – VALVES

8.505A – SPACING

A sufficient number of valves shall be provided so that a break or other failure will not affect more than 800 feet of mains in residential areas or 600 feet of mains in other areas. Valves shall be placed so that closure of a maximum of three (3) valves is necessary to shut down any point in the system.

8.505B – VAULTS

All main valves shall be installed in precast concrete vaults conforming to ASTM C478 as detailed in the Valve Vault Detail. All vaults for newly constructed water main shall have flexible rubber watertight pipe connectors. Pressure connection taps/vaults shall seal the pipe entrances for the existing pipe with anti-hydro cement. All auxiliary valves at fire hydrants shall be installed in cast iron valve boxes with stabilizers. Vaults and boxes shall not be allowed in driveways or sidewalks, and must be located on the property lines accessible to Village repair/maintenance vehicles. All valves eight-inch diameter or less shall be in a minimum four-foot diameter vault. All valves ten-inch diameter or greater shall be in a minimum five-foot diameter vault. Pressure connection taps/valves shall be in a minimum five-foot diameter vault. Valve vault frames shall be Neenah R-1530 and lids shall be a "Neenah" type B, or approved

equal, with the word “WATER” stamped into the lid. Each valve vault cone and barrel section joint shall also be externally sealed with a 9" wide (min.) sealing band of rubber and mastic. The band shall have an outer layer of rubber or polyethylene with an under layer of rubberized mastic (with a protective film), meeting the requirements of ASTM C-877, type II or type III.

8.505C – TYPES

All valves shall be AWWA C515-01, ductile iron body, bronze fitted, modified wedge disc, resilient seat type with non-rising stem and O-ring packing designed for 250 pound working pressure, as manufactured by American Flow Control, or approved equal.

8.506 – GENERAL DESIGN DETAILS FOR WATER MAINS, 3 – 24 INCH DIAMETER

8.506A – DUCTILE IRON PIPE, FITTINGS AND JOINT TYPE

Provide ductile iron pipe complying with ANSI A21.51, thickness Class 52, with joints complying with ANSI A21.11. External coating shall be standard, as specified for general use in ASA Specification A21.51. All pipe and fittings shall be manufactured in the United States of America, or approved equal. Use internal cement lining complying with ANSI A21.4 or AWWA C205, standard thickness. Whenever river-crossing pipe is required, provide restrained joint, or ball and socket type joints allowing 15 degrees maximum deflection. Use ductile iron fittings with mechanical joint complying with ANSI A21.10 or A21.53. Use internal cement lining complying with ANSI A021.4, standard thickness.

8.506B – PVC PLASTIC PIPE AND JOINTS

PVC pipe shall not typically be used for water main applications. HDPE, PVC, or other approved plastic pipe may be allowed for special conditions, at the discretion of the Village Engineer.

8.506C – DEPTH OF COVER

The depth between the finished grade and the top of the water main shall be not less than five and one-half (5.5’) feet or more than seven (7’) feet. Where conflicts arise with other underground improvements, the Village Engineer will consider lesser/greater depths.

8.506D – THRUST BLOCKS

Blocking to prevent movement of mains under pressure at bends and fittings shall be Portland Cement Concrete (PCC), a minimum of 12-inches thick pre-cast blocks, placed between solid ground and the fittings in such a manner that pipe fittings and joints will be accessible for repairs. All bends of 22 ½ degrees or greater, and all tees and plugs shall be thrust protected to prevent movement of the line under pressure. Thrust protection may also be attained by the use of a combination of mechanical retaining glands and threaded stainless steel rods. Wood blocks or shims will not be allowed for thrust blocking.

8.506E – TRENCH

Minimum trench width shall be ample for proper jointing, but in no case less than 1'-6". Bedding and backfill shall be as specified in Section 8.209.

8.507 – CONNECTIONS TO EXISTING MAINS

All connections to the Village water distribution system shall be under full water service pressure. The following specifications shall apply when pressure connections are made to the existing Village distribution system:

A. Tapping Sleeves:
   1. Use two-piece stainless steel bolted sleeve type with mechanical joints, Clow F-5205, or approved equal.
   2. Provide joint accessories.

B. Tapping Valves:
   1. Use fully ported gate valves complying with AWWA C500.
   2. Use mechanical joint type, Clow F-5093, or approved equal.

Tapping valves shall be placed in pre-cast concrete vaults as specified in Section 8.505B and in accordance with the "Pressure Connection" detail.

8.508 – WATER SERVICE LINES

8.508A – DESCRIPTION

A water service line is designed to deliver water from a water main to a single building, extended from the water main to the building, and includes corporation stop, curb stop and service box. Service lines shall be approximately at a right angle to the centerline of the right-of-way whenever possible. The preferred location for the service box is 1 foot outside of the public right of way and not located within any driveways or sidewalks/paths. The service line should be a continuous length of pipe and couplings are not allowed.

8.508B – MATERIALS

1. Service lines: Type K soft temper seamless copper water tubing complying with ASTM B-88.
2. Corporation stops: A. Y. McDonald, or approved equal.
3. Curb stops: A. Y. McDonald, or approved equal.
4. Service boxes: Buffalo type, Minneapolis pattern for 1" copper service. Lid marked "Water".
5. All service taps shall be either with a manufactured tap coupling or full stainless steel. For service lines greater than 1 ½ inches in diameter, taps shall be made with a ductile type or stainless steel (full body) tapping sleeve.

8.508C – MINIMUM DIAMETER

No water service line shall be less than 1-inch internal diameter. For building services greater than 100 feet in length, a larger diameter service may be required in order to maintain adequate service pressure. Couplings are not allowed.

8.509 – WATER MAIN PROTECTION

All water main, storm sewer and sanitary sewer construction shall meet the requirements of this section and the Illinois EPA Standard Specification for Water and Sewer Main Construction.

8.509A – HORIZONTAL SEPARATION

1. Whenever possible, water main shall be laid at least 10-feet horizontally from any existing or proposed sewer.
2. Should local conditions prevail which would prevent a horizontal separation of 10-feet, a water main may be laid closer to or in the same trench as a storm or sanitary sewer, provided the main is laid on an undisturbed earth shelf located to one side of the sewer and at such an elevation that the bottom of the water main is at least 18-inches above the top of the sewer.

8.509B – VERTICAL SEPARATION

1. Whenever water mains must cross house sewers, storm drains, or sanitary sewers, the water main shall be laid at such an elevation that the bottom of the water main is 18-inches above the top of the drain or sewer. This vertical separation shall be maintained for that portion of the water main located within 10-feet horizontally of any sewer or drain crossed, said 10-feet to be measured from the outside edge of the watermain to the outside edge of the drain or sewer.
2. Where conditions exist that the minimum vertical separation set forth in (1) cannot be maintained, or it is necessary for the water main to pass under a sanitary sewer, then, within a distance of 10-feet either side of the outside edge of the water main, construct the sewer or drain of pressure pipe, conforming to the specification for water main materials. For storm sewer ASTM C361 pipe shall satisfy this requirement. The sewer or drain line shall be supported to prevent settling and breaking of the water main.
3. When a new sanitary sewer and a new water main are proposed to cross, the 18 inch vertical separation **MUST** be maintained.

8.510 – WATER SERVICE LINE PROTECTION

The horizontal and vertical separation between water service lines and all sanitary sewers, storm sewers, or any drain shall be the same as for water mains, as detailed in Section 8.509.

8.511 – TESTING

The following procedures are to be strictly followed by all persons engaged in the pressure testing and/or disinfection of public water distribution mains and private water services 3-inches and larger in diameter. The requirements of these design standards and the requirements of the Illinois Environmental Protection Agency water permit shall be strictly enforced. The contractor is required to provide any and all equipment necessary to complete the pressure testing and/or disinfection of the water mains and services. Prior to any test, the contractor shall arrange with the Village Public Works Department (630) 554-3242 to have the required tests witnessed, and shall give a minimum of two working days advance notice.

The contractor shall not operate any valves in the existing public water supply system. Requests for valve operations are to be made through the Public Works Department. Requests for valve operations shall be made 24 hours prior to any scheduled operations or tests.

8.511A – PRESSURE AND LEAKAGE TESTS

The contractor shall perform a preliminary pressure/leakage test to ensure that all segments of the system meet the pressure/leakage rates as set forth herein. When the contractor has assured himself that the system will meet the required leakage rates, the contractors shall arrange (two working days in advance) witnessing of the pressure test with the Village Public Works Department. The tests shall be conducted as follows:

1. Hydrostatic Test:
    a. Where any section of a water line is provided with concrete thrust blocking for fittings, the hydrostatic tests shall not be made until at least 5 days after installation of the concrete thrust blocking.
    b. Disposal of wastewater from hydrostatic tests, and for disinfection, shall be approved in advance by the Village Public Works Department.
    c. The new water mains and service lines including valves and hydrants shall be subjected to a hydrostatic pressure of 150 psi.
    d. The test pressure shall be held for a duration of two hours without pressure loss or further pressure application.
    e. Each valve shall be opened and closed several times during the test.
    f. Careful examination of exposed pipe, joints, fittings, and valves is required.
    g. Joints showing visible leakage shall be remade or replaced.
    h. Cracked pipe, defective pipe, and cracked or defective joints, fittings, and valves shall be replaced with sound material and the test repeated until results are satisfactory.

8.511B – DISINFECTION

After all mains have been satisfactorily pressure tested and accepted by the Village, the contractor shall proceed to disinfect the main in accordance with AWWA Standard C651. A chlorine concentration during disinfection shall be maintained at a minimum 50 mg/l available chlorine. The chlorinated water shall be retained in the main for a period of at least 24 hours. At the end of the 24-hour period, the treated water shall contain no less than 25 mg/l chlorine

throughout the main. The contractor will sample the chlorinated disinfecting solution to assure that these minimums are maintained.

After an applicable retention period, the heavily chlorinated water shall be flushed from the main until the chlorine concentration in the water leaving the main is not higher than that generally prevailing in the system. After final flushing, and as witnessed by the Village Public Works Department, the contractor shall obtain two samples of water from the main for bacteriological testing. For major water main installation, the number of samples may be increased as determined by the Village Public Works Department. A second series of samples shall be collected no less than 24-hours after the first set of samples has been collected. The individual sets of samples shall be bacteriologically tested to show the absence of coliform organisms.

If both sets of samples are satisfactory, the Village Public Works Department shall open all valves on the system. The contractor and the Village will be furnished with copies of the bacteriological report for their records. Only Village Public Works staff is allowed to operate valves.

8.512 – WELL AND TREATMENT CAPACITY

New well production and treatment capacity shall be provided by the developer in an amount that at least equals the sum of expected maximum day consumption from residential and nonresidential areas as determined in Section 8.503B and as approved by the Village Engineer. Existing well(s) and treatment facilities with excess capacity, and/or planned well(s) and treatment facilities with excess capacity may be used to offset all or part of the total required well production and treatment capacity as verified and approved by the Village Engineer and as subject to the payment of any recapture amounts determined by the Village.

8.513 – STORAGE REQUIREMENTS

8.513A – OPERATING STORAGE VOLUME

The required operating volume associated with new demands shall not be less than an amount equal to the sum of the following five components:

1. For single-family residences, 175 gallons for each dwelling unit;
2. For duplex residential units, 165 gallons for each dwelling unit;
3. For townhouse residential buildings with four or fewer individual dwelling units, 150 gallons for each dwelling unit;
4. For apartment residential buildings with greater than four individual units, 125 gallons for each dwelling unit; and
5. For non-residential units, an amount equal to the maximum day water consumption in gallons determined in Section 8.503B divided by six.

The increase in required operating storage volume resulting from the new demands from new developments shall be the financial responsibility of the developer and is available from any combination of the following: (1) a new storage tank in the vicinity of the service area and operating zone, (2) existing storage tank(s) with excess capacity, and/or (3) planned storage

tank(s) with excess capacity. The available volume from each contributing storage tank shall be a reserve volume only allocated for operating storage. The availability of this reserve operating volume shall be verified by the Village Engineer using a computer model of the Village's existing water system. The model should be modified to include the new demands, the water system extension to provide service to the area of new demands, and any planned water system facilities not yet constructed.

8.513B – FIRE RESERVE VOLUME

The largest fire flow volume indicated in any one of the categories of the development provided in Section 8.503A and included in the new water service area shall be the financial responsibility of the developer and is available from any combination of the following: (1) a new storage tank in the vicinity of the service area and operating zone, (2) existing storage tank(s) with excess capacity, and/or (3) planned storage tank(s) with excess capacity. The available volume from each contributing storage tank shall be a reserve volume only allocated for fire protection. The availability of this reserve volume shall be verified by the Village Engineer using a computer model of the Village's existing water system. The model should be modified to include the new demands, the water system extension to provide service to the area of new demands, and any planned water system facilities not yet constructed.

8.513C – STORAGE

Sufficient storage shall be provided by the developer to equal the sum of the required operating and fire reserve volumes described in Sections 8.512A and 8.512B and as approved by the Village Engineer. Existing storage tank(s) with excess capacity, and/or planned storage tank(s) with excess capacity may be used to offset all or part of the total required storage volume as verified and approved by the Village Engineer and as subject to the payment of recapture amounts determined by the Village.

8.514 – WORKMANSHIP

As a minimum requirement, the specifications for the construction of water distribution facilities shall not be less stringent than the "Standard Specification for Water and Sewer Main Construction in Illinois", adopted by a joint committee of the Illinois Society of Professional Engineers, Consulting Engineers Council of Illinois, Illinois Chapter of the American Public Works Association, Illinois Municipal League, and the Associated General Contractors of Illinois.

SECTION 8.60 – ROADWAYS, SIDEWALKS, AND STREET LIGHTING

8.601 INTRODUCTION

All developments, regardless of size within the corporate limits or under the Village's jurisdiction, shall include provisions for the construction of roadways and appurtenant construction to serve each parcel of property within the development. Where more than one building, other than an accessory building, is located or planned on one parcel of property, the

proposed construction shall also include access roadways as required to serve each such building. The design of all roadways proposed for construction as independent projects under the control of the Village shall also meet the technical requirements of this Section. The requirements of Section 8.2 are also applicable to roadway construction.

8.602 STREET CLASSIFICATION

Certain variables in geometric and structural design discussed in this Section are dependent on the functional classification of the street in question. For the purposes of these standards, all streets will be classified based on ADTs as shown in Figures 1 and 2 appended to this Section or as determined by the Village Engineer. In
developments where more than one building is located or planned on one parcel of property and a roadway is provided to serve such buildings, that roadway shall be classified as residential unless established by the Village Engineer.

8.602A STUB STREET CONNECTION

The subdivider or developer shall provide stub street connections to adjacent undeveloped property and provide street connection(s) to existing stub streets located in existing, adjacent developments. The subdivider or developer shall be responsible for installing signs indicating that a future roadway connection will be installed when a stub street connection is provided from adjacent undeveloped property.

8.602B STREET AND TRAFFIC IDENTIFIERS

The “Street and Traffic Identifiers” Plan (the “Plan” hereafter), including but not limited to stop signs, speed limit signs, traffic signals, parking restriction signs, pedestrian crossing signs, future street connection signs, pavement markings, directional signs, school crossing signs, and those signs/markings as may be required by the Village Engineer and/or Oswego Police Department, shall be incorporated into a separate plan titled “Street and Traffic Identifiers” for final approval and recording. The ultimate location of street and traffic identifiers shall be determined by the Police Department as part of the final plat or plan review process. A Street and Traffic Identifiers Plan shall be approved by Ordinance and recorded by the Village Clerk. A copy of said plan shall be kept on file in the Village Clerk’s Office and at the Oswego Police Department.

In all cases, the street and traffic identifiers in the approved plan, or in an approved portion or phase of the plan, shall be installed and/or activated prior to the issuance of any “conditional occupancy” or “certificate of occupancy” in that approved plan, or approved portion or phase of said plan.

The Plan shall include the following:

1. Plan shall use a legend format. The legend must identify sign type and size and classify each sign with an alphabetical label starting with “A”. Plan shall be detailed using the alphabetical label.
2. Signs shall be organized and illustrated in the legend in accordance with the approved Village detail sheet and in sizes, heights, and colors as specified in the detail sheets.

3. All residential streets shall be posted for twenty five (25) miles an hour speed limits unless otherwise determined by the Oswego Police Department to warrant a greater speed limit.
4. All Village streets shall be restricted parking 2:00 a.m. to 6:00 a.m (or as amended). The signs shall be posted at the entrances to the development.
5. Rights of way less than sixty six (66) feet in width and streets less than thirty three (33) feet in pavement and curb width shall be posted for parking restrictions to one (1) side of the street every three hundred (300) feet. Parking shall be restricted on the fire hydrant side of the street other then when adjacent to a school or park site. There will be parking allowed on school or park site side and restricted parking on the opposite side of the roadway.
6. Pedestrian crossing signs shall be posted at all school, park and bike paths/crossings including striping and signage. The W11-2 pedestrian crossing signs along with the W16-7P arrow indicator will be used. These signs shall be fluorescent yellow/green in color.
7. All signs shall be installed at the Developer's expense prior to issuance of the first building occupancy permit and shall be placed on four (4) sided break-away type posts.
8. The following note shall be included on all Preliminary and Final Plats and Street and traffic Identifiers Plans: Developer shall be responsible for the payment and installation of all necessary street and traffic identifiers in quantities and locations to be determined by the Oswego Police Department and the Village Engineer.
9. Pedestrian stop signs shall be posted at all intersections of trails with roadways.
10. Three (3) red diamond shaped signs and additional signs reading "Future Street Connection" shall be posted on all street stubs. See Village detail for the "Future Street Connection" sign.
11. The Developer shall provide monies for the purchase and proper installation of all school zone signs and school zone crossing signs including posts required to be installed at the time the school site is developed. The cost of said signs shall be determined by the Director of Public Works at the time of Final Plat review. Funds shall be provided to the Village prior to the recording of an approved Final Plat.
12. All traffic signals shall include an "Opticom" (or approved equal) Pre-emptive Device.
13. "No Parking Fire Lane" striping and signage shall be provided in all commercial areas in which traffic flow is adjacent to the front entries of the development.
14. The Plan shall include approved street names. Commercial developments shall label interior commercial roads as "Road" A, B, C etc…
15. The Median (stay right) signs R4-7 shall be posted where raised medians exist in residential and commercial developments.
16. The Plan shall include a diagram in accordance with the Village approved detail for right-in/right-out access locations.
17. All approved Street and Traffic Identifiers Plans shall be provided to the Community Development Department in duplicate in reduced (11" x 17") and full-size (24" x 36") scaled formats for recording purposes.

In all applicable projects, the street and traffic identifiers in the approved plan shall be properly installed and/or activated prior to the issuance of any full or conditional occupancy permits within that project.

8.603 TRAFFIC IMPACT STUDY

All roadway access requests must be accompanied by a Traffic Impact Study. Based upon the results of this study, the developer may be required to make improvements to a Village roadway, including but not limited to exclusive left turn lanes, right-turn lanes, signalized intersections, additional through lanes, etc. In determining the nature of, and magnitude of the required improvements, the volume of traffic estimated to be generated by the development during the morning and evening peak hours is compared with the existing level of morning and evening peak hour traffic on the adjacent Village roadway utilizing the criteria contained in this Ordinance. The developer shall be responsible for the costs of preparing the Traffic Impact Study.

If a Traffic Impact Study is more than two (2) years old or changes in the size and/or types of land uses of the development have occurred in the area, a new or updated study will be required. The Village Engineer shall review the study, data sources, methods and findings. Revisions to the study may be required before acceptance.

8.603A TRAFFIC IMPACT STUDY FORMAT

The following format shall be used when preparing a Traffic Impact Study:

Introduction

This shall include a brief description of the size of the property or development, the location (including an area location map), the principal highways and roads in the site vicinity, the boundary or limits of the study area, and any other general information that would assist in the review of the development's traffic impact.

Land Uses

Existing and proposed land-uses of the development shall be described. If several alternative land-uses are being proposed, the highest trip generation uses shall be used for each land-use.

Road Network Area

Traffic volumes (total daily volumes and A.M. /P.M. peak), road geometrics, intersection geometrics and traffic control devices shall be shown or described in the site vicinity. The influence area shall be determined by the traffic generated from the site, the trip distribution of the traffic, and the trip assignment of the traffic generated by the development over the surrounding area road network.

Peak-Hour Trip Generation Rates and Volumes

A summary table shall be prepared listing each type of proposed land-use, the size or area for each type of land-use, the average trip generation rates (both total daily traffic and the A.M./P.M. peaks) for each type of land use, and total number of trips generated. The trip generation rates, both the average total daily traffic and the A.M./P.M. peaks, shall be calculated from the latest

data available contained in the Institute of Transportation Engineer's ITE Trip Generation Manual. In the event that data is not available from the ITE Trip Generation Manual for a proposed land use, the Village Engineer must approve any estimated rates.

Trip generation rates other than those contained in the ITE Trip Generation Manual may be used provided that the following criteria and information are submitted to the Village Engineer for review and approval:

- Five studies of trip generation rates for each land-use under consideration.
- At least three of the five studies must have been conducted within the County, while the remaining two studies must have been conducted in the suburban area of the six-county Chicago metropolitan area.
- The five studies must be from differing geographic areas.
- All five studies must have been conducted within the last five years.
- The entire study, including traffic counts, summaries, and results, shall be submitted for each of the five studies.
- The average total daily traffic and the A.M. /P.M. peak hour volumes shall be calculated based on the average of the three highest rates obtained among the five studies.

Trip Distribution

Both a figure and table shall be presented to show the directional distribution of site-generated traffic approaching and departing the site on the area road network. An explanation of the rationale behind the trip distribution shall also be included.

Trip Assignment

The technical analysis, methods, and assumptions used in the assignment shall be clearly stated. The distribution and subsequent assignment shall represent the most logically traveled routes.

Existing and Projected Traffic Volumes

The following traffic volumes for access facilities, intersections and the area road network within the area of influence shall be provided in a graphic map format.

- Existing A.M. peak-hour traffic volumes.
- Existing P.M. peak-hour traffic volumes.
- Projected A.M. peak-hour traffic volumes.
- Projected P.M. peak-hour traffic volumes.
- A.M. peak-hour site-generated traffic volumes.
- P.M. peak-hour site-generated traffic volumes.
- A.M. peak-hour total traffic volumes.
- P.M. peak-hour total traffic volumes.
- Existing total daily traffic within the site vicinity.
- Projected total daily traffic within the site vicinity.

All maps of traffic volumes shall show both entering and exiting traffic at the proposed access points, as well as all turning movement volumes and through traffic at critical intersections. Total traffic refers to the background traffic plus site-generated traffic. Projected volumes are typically those expected at project completion. The Village Engineer should be contacted to

confirm the design period, as site specific conditions may warrant a different design period. Additional figures showing intermediate calculations or additional background traffic may be required.

Capacity Analyses

Capacity analyses shall be conducted at proposed access points and impacted intersections. These analyses shall follow the techniques described in the most recent edition of the Highway Capacity Manual. Analyses of projected conditions shall include the effects of any committed developments within the influence area. In designing an access facility or operation of impacted intersections, consideration must be paid to the existing and projected levels of service and the adequacy of storage for projected queue lengths. Computer print-outs of the capacity analyses shall be included in the report.

Traffic Control Measures

The type and extent of traffic control measures shall be examined. These may include, but are not limited to, regulatory signage, signalization, and pavement markings.

Conclusions and Recommendations

A clear, concise description of the findings shall be presented. These finding shall include all recommended improvements for access facilities, intersections and the area road network.

8.603B - IMPROVEMENTS BASED ON TRAFFIC IMPACT STUDY

All highway improvements recommended in the findings of the Traffic Impact Study that are a direct result of the proposed development shall be constructed or caused to be constructed by the developer. The total costs for these improvements shall be borne solely by the owner and/or developer.

8.603C – TURN LANES

Right and left turn lanes (consisting of an approach, widening, turn bay taper, median and storage lane) shall be provided for all entrances and roadways that intersect with arterial and collector roadways as defined by the Village of Oswego Subdivision Regulations or as determined by the Village Engineer. This includes installing right and left turn lanes on the arterial and/or collector roadway and on the entrance/intersecting roadway. Unless it is determined by the Village Engineer, interior subdivision streets may not require additional turn lanes.

Although turn lanes for major roadways will be required despite the results of a traffic impact study, a traffic impact study is still needed to confirm traffic numbers, determine if additional geometric improvements are necessary, including but not limited to additional through and turn lanes, additional ROW, and/or traffic signals, and to determine if any cost participation is warranted.

8.604 – GEOMETRICS

Roadway geometrics shall be as depicted in Figure 2.

8.605 – COMBINATION CONCRETE CURB AND GUTTER

Combination concrete curb and gutter shall be constructed along the edge of all pavement (roadways and parking lots) except as provided in Section 8.210G. Cross section and details for barrier/modified continuously reinforced type curb shall conform to those on the standard details. Material and construction shall conform to the requirements of the "Standard Specifications for Road & Bridge Construction" of the Illinois Department of Transportation for Combination Concrete Curb and Gutter.

Minor repairs to the curb and gutter will be completed with either an epoxy polymer concrete, joint sealer, ("Crown Polymers", or approved equal) or a remove/replace technique at the discretion of the Village Engineer or their representative.

8.605A – STAMP "S" & "W"

Shortly after the concrete curb is poured, the contractor shall mark the curb with an "S" for sewer and a "W" for water to locate the service stubs. The contractor shall provide the stamps.

8.606 – PAVEMENT TYPES

Pavement construction required under this Section may be either hot-mix asphalt (HMA) pavement or Portland Cement Concrete (PCC) pavement in accordance with Figure 1.

In all cases, material and construction shall apply with the requirements of the "Standard Specifications for Road and Bridge Construction", prepared by the Illinois Department of Transportation, and as modified by these standards.

8.607 – STANDARD DESIGN METHOD FOR PAVEMENTS

When, in the opinion of the Village Engineer, the volume and composition of the traffic anticipated to be carried by the pavement can be estimated within reasonable limits and, in all cases, where the roadway is designed as a four or more lane facility, the structural design for hot-mix asphalt pavements shall be based on the latest edition of the IDOT Bureau of Local Roads and Streets Manual. The structural design for PCC pavement shall be based on the latest edition of the IDOT Bureau of Local Roads and Streets Manual. However, in no case shall the design result in a pavement of lesser strength than those shown in Figure 1.

8.608 – SUBGRADE SUPPORT STRENGTH

Structural design procedures acceptable under this Section require the determination of the subgrade support strength. Regardless of the design method used, a soil report shall be submitted by a soils testing laboratory, approved by the Village Engineer, in which sub-grade support

strength is recommended. Such recommendation shall be based on an Illinois Bearing Ratio no less than 3.0. Field compaction tests, where required by the Village Engineer to verify conformance with the soils report recommendation, shall be provided at the Owner/Developer's expense.

8.609 – SPECIAL REQUIREMENTS FOR HOT-MIX ASPHALT PAVEMENT

The following qualifications and requirements shall apply to hot-mix asphalt pavements regardless of design method used:

1. No construction required by this Section shall be permitted after November 1 without written authorization of the Village Engineer.
2. In new construction, surface course shall be placed no earlier than the construction season following the season in which the base is placed, unless otherwise approved by the Village Engineer.
3. Minimum acceptable I. B. R. for sub-grade is 3.0.
4. Where I. B. R. for underlying soil is less than 3.0, it shall be removed or otherwise modified as required to meet this minimum.
5. Minimum sub-base thickness shall be 4 inches.
6. Minimum base course thickness shall be 6 inches.
7. Minimum thickness for combined surface and binder course shall be 4.75 inches.

8.610 – SPECIAL REQUIREMENTS FOR CONCRETE PAVEMENT

The following qualifications and requirements shall apply to Portland Cement Concrete (PCC) pavement, regardless of design method used:

1. No PCC pavement shall be constructed in any year after November 1st without the written approval of the Village Engineer and, in no case, when frost is present in the sub-grade.
2. In all roadways, PCC pavement shall be reinforced in accordance with the Standard Design for Pavement Fabric, Standard 420701 in the "Highway Standards", of the Department of Transportation, State of Illinois.
3. In residential streets, pavement with integral curbs, as specified in "Specification for Portland Cement Concrete Pavement (Special)", prepared by the Illinois Department of Transportation, may be used. Standard epoxy coated reinforcing throughout and epoxy coated tie bars and epoxy coated dowel bars at all joints shall be provided. Joints shall be provided at 12-foot maximum spacing and sawed, cleaned, and sealed as per IDOT requirements.
4. Sub-base shall be a minimum of 4-inches thick, constructed of granular material, except that for major streets, stabilized granular material shall be used.

8.611 – SPECIAL REQUIREMENTS FOR UNDERGROUND UTILITIES

8.611A – STRUCTURE ADJUSTMENT

When finished grade or alignment for existing underground structures, such as inlet basins, catch basins, manholes or valve vaults is affected by proposed work, the project drawings shall provide for the adjustment of such structures as required. Where a project is to be constructed under two

or more construction contracts, one or more of which includes the construction of pavement, the contract documents for those contracts including paving work shall provide for the adjustment of underground structures that may be constructed under other contracts as may be required to fit the proposed pavement.

8.611B – UTILITY CROSSING PROTECTION

All trenches that either cross or are within 2 feet of the street pavement, sidewalk, curb and gutter and driveways shall consist of mechanically compacted CA-7 with a 12 inch thick, mechanically compacted CA-6 cap. The select granular backfill shall be mechanically compacted according to the Standard Specifications for Water and Sewer Main Construction in Illinois.

8.612 – DRIVEWAYS AND APPROACHES

8.612A – GENERAL

1. In all developments, driveways and approaches meeting the requirements of this article shall be provided at all locations where vehicular traffic is intended to leave the roadway and move onto private property. The requirements of this article shall also apply to driveways to be constructed in developed areas where the roadway is already in place. The limits of driveways to be constructed in compliance with this section shall be the roadway itself and the street side of the sidewalk, except that in the case of isolated driveway construction in developed single family zoning districts only, subject to the approval of the Village, driveway construction may be terminated at the street side of an existing sidewalk. Driveways extending through previously constructed curbs shall be installed using a curb cutting machine approved by the Village Inspector. No curb cuts shall be allowed without written approval of the Village Inspector. Valve vaults, b-boxes, or manholes are not allowed in driveways.
2. Village Streets/Roadways:
    a. Full access driveways: The location and number of full access driveways for a non-residential development shall be determined during the site plan or PUD review process. Said driveways shall be reviewed for compliance with practices supporting public health, welfare and safety.
    The number of access driveways for a single family residential lot shall be limited to one driveway access for every 45 feet of linear frontage per side (two access drives will be allowed for lots containing a minimum of 90 feet of linear frontage per side).
    b. (ii) Right-in/right-out (limited) access driveways: In general, the use of right-in/right-out (limited) access driveways shall be discouraged. The Village reserves the right to review said driveway access for compliance with practices supporting public health, welfare and safety.

    The prohibition of left turn movements into right-turn only access shall be controlled by barrier medians constructed along roadway centerlines and by channelizing islands and signage on the access as determined by the Village

Engineer. However, if determined by the Village Engineer that a barrier median is not desirable, a right-turn only access design approved by the Village Engineer and supplemented with signage may result in effective left-turn control.

Design standards for the right-in/right-out entrance are shown in the standard details. The minimum length of the barrier median may be increased based on site specific conditions. Also, the barrier median shall be a full-depth median. The entire cost of any required barrier median shall be paid by the Developer.

3. Other Jurisdictions Streets/Roadways: On roadways where full access or right-in/right-out (limited) access driveways are reviewed and permitted by another jurisdictional authority, the Village reserves the right to further review said driveway access for compliance with practices supporting the public health, welfare and safety.
4. Internal Access & Outlot Development: Driveways for access to an outlot of an overall non-residential development shall be allowed only from the access roadway or "ring road" which connects the main component/s of a development with the outlot/s component. Driveway access to an outlot from an access roadway which connects the overall development to the public roadway/s shall be prohibited.

8.612B – GEOMETRICS

1. All residential driveways and approaches shall have a street radius or straight flare of three (3') feet on each side. No driveway or approach shall be less than ten (10) feet or more than twenty (20') feet wide as measured at the property line. The driveway shall have a minimum slope of two (2%) percent and a maximum slope of eight (8%) percent and the approach shall have a maximum grade of six (6%) percent. The algebraic difference between the approach and driveway shall not exceed eight (8%) percent.
2. All non-residential driveways and approaches shall have a street radius or straight flare of five (5') feet on each side. No driveway or approach shall be more than twenty (20') feet wide for one-way traffic or more than thirty-five (35') wide for two-way traffic measured at the property line. The driveway shall have a minimum slope of two (2%) percent and a maximum slope of eight (8%) percent and the approach shall have a maximum grade of six (6%) percent. The algebraic difference between the approach and driveway shall not exceed eight (8) percent.

8.612C – MATERIALS

Material and construction of driveways and approaches in urbanized areas shall conform to the requirements of the "Standard Specifications for Road and Bridge Construction" of the Illinois Department of Transportation for PCC driveway pavement. PCC driveways and approaches in residential areas shall be a minimum of 6-inches thick on a minimum of 4-inches of compacted CA-6 crushed stone. PCC driveways and approaches in non-residential areas shall be a minimum of 8-inches thick on a minimum of 6-inches of compacted CA-6 crushed stone. Crushed stone base compaction shall equal or exceed 90 percent of maximum dry density.

Bituminous driveways and approaches in residential areas shall be a minimum of three (3") inches of hot-mix asphalt surface course, over a compacted stone base of CA-6 at least eight (8")

inches thick. Bituminous driveways and approaches in non-residential areas shall be a minimum of four (4") inches of hot-mix asphalt, over a compacted stone base of CA-6 at least twelve (12") inches thick.

Alternate materials of comparable strength may be allowed at the discretion of the Village Engineer.

8.613 – SIDEWALKS

8.613A – GENERAL

Sidewalks shall be required in all appropriate zoning districts as specified in Figure 1. As a minimum requirement, the specifications for the construction of sidewalk facilities shall be no less stringent than the requirements set out in the following sections. Valve vaults, b-boxes, or manholes are not allowed in sidewalks.

8.613B – SPECIFICATIONS

All sidewalks shall be a minimum of 5-inches thick. Sidewalks shall be continuous through residential driveways with a minimum thickness of 6-inches through the driveway section. Sidewalks in non-residential areas shall be a minimum of 5-inches thick, except it shall be a minimum of 8-inches thick through non-residential driveways. Sidewalk width shall be as specified in Figure 1 or as determined by the Village Engineer when a greater width is justified on the basis of anticipated traffic.

8.613C – MATERIALS

All materials shall meet the requirements of the "Standard Specifications for Road and Bridge Construction" of the Illinois Department of Transportation. All sidewalks shall be constructed of Portland Cement Concrete. Concrete shall be at least a 6 bag mix, 4 percent to 6 percent air-entrained, and shall have a slump of not less than 2-inches or more than 4-inches. Sidewalk shall be placed on a minimum of 4-inches of compacted CA-6 crushed stone.

8.613D – EXCAVATION

If organic material is present at the proposed sub-grade, the organic material shall be removed to a minimum of 5-inches below the sub-grade and replaced with compacted CA-6 crushed stone.

8.613E – EMBANKMENT

When necessary to construct sidewalks on fill, the fill shall be placed in 6-inch lifts, and thoroughly compacted. Embankment shall extend 1-foot beyond the edge of the walk. Sideslopes shall not be steeper than 4:1, except as approved by the Village Engineer.

8.613F – PLACING AND FINISHING

The sub-grade shall be adequately moistened before placement. The concrete shall be thoroughly spaded along the edges, struck off to the true grade, and finished to a true and even surface. The surface shall be divided by grooves constructed at right angles to the centerline of the sidewalk and shall have rounded edges. No slab shall be longer than 6 feet or less than 4 feet unless otherwise approved by the Village Engineer. The side edges of the walk shall also have rounded edges. The surface shall be "broom" finished.

8.613G – EXPANSION JOINTS

Pre-molded bituminous expansion joints one-half (1/2) inch thick shall be placed every 50 feet minimum and between the sidewalk and all driveways, approaches and curbs, and all structures such as light standards, traffic standards, and traffic poles which extend through the sidewalk.

8.613H – HANDICAPPED REQUIREMENTS

All sidewalk construction intersecting public or private roadways shall be ramped to meet a depressed curb and gutter section in conformance with the Illinois Accessibility Code and the Illinois Americans with Disabilities Act, as amended.

8.613I – SIDEWALK/PARKWAY COMPLETION

All sidewalks and landscaped parkways will be completed by the developer in a timely manner to provide for the safety of the pedestrians and to minimize the inconvenience to the pedestrians. In a residential development, any gaps in the sidewalk/parkway or undeveloped lots with missing sidewalks/parkways will be completed by the developer when 80% of the overall residential lots have been completed. For industrial or commercial developments, when 50% of the lots have been completed, all of the remaining gaps in the sidewalk/parkway will be completed by the developer. In all developments, the undeveloped lots shall also be rough graded and seeded upon completion of the sidewalks/parkways. The sidewalks/parkways will be considered complete when the parkway has been fine graded and acceptable grass is growing, parkway trees are satisfactorily installed, the sidewalks have been installed, and (if necessary) the immediate area behind the sidewalk (outside of the right of way) has been ramped down to the existing grade to prevent the collapse or undermining of the sidewalk. The developer may assign this responsibility to another builder only with the satisfactory submittal of an acceptable financial surety (in the amount of the missing sidewalks/parkways) to the Village, to serve as the applicable warranty for the missing sidewalk/parkway improvements.

8.614 – GENERAL CONSTRUCTION REQUIREMENTS FOR PCC DRIVEWAYS, APPROACHES, AND SIDEWALKS

8.614A – SUB-GRADE PREPARATION

When the sub-grade has been prepared and no later than 24-hours prior to placing concrete, the contractor shall notify the Village Inspector that forms are in place and the sub-grade is ready for

inspection. Sub-grade compaction tests at the Owner/Developer's expense, may be required where deemed appropriate by the Village Inspector. No concrete shall be placed until the sub-grade and forms have been inspected and approved in writing by the Village Inspector.

8.614B – PLACING AND FINISHING

All forms shall be set true to line and elevation, substantially built and rigidly braced to prevent bulging. Forms shall be constructed of steel or clean lumber surfaced on four (4) sides and be uniform in width and thickness. Final surfaces shall have an appropriate sealant applied in accordance with State "Standard Specifications".

All concrete surfaces shall have a light broom finish.

8.614C – PROTECTION AND CURING

All exposed surfaces of concrete shall be protected against rain. The concrete shall be cured for a minimum period of three days after placing by one of the following methods:

- Wet burlap
- Impervious paper
- Membrane curing compound

When the temperature of the air is expected to drop below 40 degrees F within 24-hours after placing, the concrete shall be protected with 9-inches of loose, dry straw and a layer of burlap, or other acceptable material, for a period of at least five days.

8.614D – COLD WEATHER REQUIREMENTS

No concrete shall be placed when the air temperature is below 40 degrees F or is between 40 degrees and 45 degrees F and falling unless approved by the Village Engineer. The temperature of the concrete when placed shall not be less than 50 degrees F. In no case shall concrete be placed on frozen sub-grade.

8.615 – LIGHTING

(All definitions and terms used in this section shall be as defined by the Illuminating Engineering Society of North America i.e. IES, handbook latest edition)

8.615A – STREET LIGHTING PLAN REQUIREMENTS

A Professional Engineer registered in the State of Illinois shall design all street lighting plans. Said plans will indicate as a minimum: the proposed routing of the electric cable and conduits (under hard surfaces) from the power supply to the streetlight standard, construction detail(s) indicating the pole size, bracket size, and catalog numbers for all of the streetlight components. The plan must also include a time schedule or other schedule setting forth the time frame for when the streetlights will be installed and ready for activation. Said schedule shall be subject to

review and approval by the Director of Public Works. In all cases, the streetlights shall be installed and activated prior to the issuance of any occupancy permits.

8.615B – SPACING AND LOCATIONS

The maximum spacing between streetlights shall not exceed three hundred (300') feet. This maximum spacing may be reduced at the discretion of the Village Engineer to accommodate roadway widths in excess of 33' b-b or smaller decorative poles. Roadways in excess of 33' b-b may need streetlights alternating on both sides of the roadway to provide even light coverage. Streetlights are required at each intersection, roadway curve, and cul-de-sac. The Village Engineer may require additional streetlights at other points on the roadway as necessary to serve the public interest for unusual or special conditions. Streetlights shall be located in-line with the property lines and shall be set three (3') feet behind the back of curb to the face of the pole.

8.615C – POWER SUPPLY AND CABLE

All connections to the power supply shall be made to comply with power company's rules and regulations as amended from time to time. All underground cable shall be continuous and be buried at a minimum depth of thirty inches (30") below the finished grade. In the event of a repair all necessary splices shall be made with a weatherproof, heat shrink, UL approved splice. All direct bury cable shall be installed in uniduct material under all hard surfaces (i.e. sidewalks, driveways, streets, paths, etc.) and not less than two (2') feet from the back edge of the curb away from the street.

8.615D – STREET LIGHT COMPONENTS

Individual photo controls shall be Tork turn-lock photo control instant response model #2007. Grounding components for the streetlights shall be in accordance with the Village adopted electrical Code.

All underground electrical feeders shall be fused at or below their rated capacity. Each streetlight standard shall contain an in-line fuse holder with proper fusing in series with each underground conductor to protect the luminary located on that pole. A hand-hole should be provided in each pole base for splicing purposes and should be located on the side opposite the traffic flow. Local and minor streets shall use a Centrecon Inc. concrete pole and bracket #MEO-6 MOAD 4 with #114 appearance code, or approved equivalent. Bracket shall be furnished with the pole. Luminaries shall be a General Electric Company #C728 N 609, or approved equal, with one and one-fourth (1 ¼") inch side mount built-in ballast. The luminaries shall be fitted with a General Electric Company metal halide 175 watt #MVR 175/U with ballast M57. The luminary shall be provided with a vandal proof shield. Luminaries shall be mounted 19'7" above the street, shall have a 4' arm, and shall be buried a minimum of 4'3" below grade. Pole shall be backfilled with crushed CA-6 limestone, watered, and compacted around the base of the pole. Major collector and Major streets shall use a Centrecon Inc. concrete pole and bracket #MEO-9 MOAD 8 with #114 appearance code, or approved equivalent. Bracket shall be furnished with the pole. Luminaries same as above except using a 250W metal halide bulb. Luminaries shall be mounted 29'6" above the street, shall have an 8' arm, and shall be buried a minimum of 5'3" below grade.

The streetlight poles will be designed to hold the luminary arms as indicated on the plans in accordance with the latest edition of the "Standard Specifications for Supports for Highway Signs, Luminaries, and Traffic Signals" as written by AASHTO. The design wind velocity shall be 80 mph with a 1.3 gust factor.

All underground cable shall be minimum #10 gauge direct bury cable. All wire installed from the hand-hole in the base of the pole to the photocell/luminary shall be #13 Type RHW.

8.615E – PARKING LOT LIGHTING

Lighting shall be provided in accordance with the standards of the Illuminating Engineering Society of North America (IESNA) as follows:

1. A photometric plan will be required as a supporting document to the final development plan for all non-residential projects, for residential developments that utilize a parking lot, and for billboards/signage where a final development plan is not required. Said photometric plan must show the locations, size, height, orientation, design, construction details, catalog cuts and plans for all of the outdoor lighting and signs, including wall mounted lighting. The plan must show the levels of illumination measured in horizontal foot-candles at ground level in a regularly spaced grid pattern extending sufficiently past the project property lines. A catalog sheet showing the proposed lighting fixtures must be included.
2. To reduce glare, only "fully shielded" or "cut-off" light fixtures are allowed. Fully shielded means that no light is emitted above the horizontal plane of the luminaries. Flat lenses are allowed, sag lenses and wall packs are prohibited. Abutting or nearby residential properties shall not be able to see the actual light source, unless the luminaries are less than 100 watt incandescent.
3. All under-canopy lights must be fully recessed into the canopy.
4. The average maintained luminance shall not exceed nor be less than 80% of the levels set below. Uses not listed below shall not exceed nor be less than 80% of the levels set by the Illuminating Engineering Society of North America (IES). The uniformity ration shall not exceed the level set by the IES. The levels include:
5.

	Hor. Foot-Candles		*Uniformity Ratio*
Use	**Ave**	**Min**	**(ave/min)**
Regional Shopping Center	3.6	0.9	4:1
Fast Food Facility	3.6	0.9	4:1
Community Shopping Center	2.4	0.6	4:1
Office Parking	2.4	0.6	4:1
Private Parks	TBD	TBD	TBD
Neighborhood Shopping Sites	2.4	0.6	4:1
Employee Parking	2.4	0.6	4:1
Church Parking	2.4	0.6	4:1
Entrances	-0-	5.0	-0-
Apartment Parking	1.6	0.6	4:1
Service Stations			4:1
Pump Islands	20.0	-0-	4:1

	Service Areas	3.0	-0-	4:1
Auto Lots		7.0	-0-	4:1

Note: TBD = To Be Determined (on a case by case basis, depending on park function, safety, nuisance)

6. Where non-residential sites are adjacent to residential sites, the light level at the property line produced by the non-residential lighting shall not exceed 0.2 foot-candles. The lighting shall be designed to avoid casting direct light or glare onto the adjacent residential property. Acceptable means to prevent glare or direct light onto the residential property include pole/luminary-mounted shields and dense vegetation. On abutting non-residential properties or public streets the maximum illumination at the property line shall be five (5.0) foot-candles. Where residential is across a street, the maximum illumination at the use's boundary shall be two (2.0) foot-candles.
7. The maximum mounting height (including fixture, pole and base) for light standards located in the parking lot of an outlot located within a shopping center, and single lot development as determined by the Village, shall not exceed twenty (20) feet. The maximum wattage for outlot light fixtures must not exceed 400 watts.
8. All non-residential lighting is required to be turned off no later than sixty (60) minutes after business hours, only leaving lighting necessary for site security.
9. Non-residential out lot lighting fixtures must be architecturally compatible with fixtures used elsewhere in the development.
10. All fixtures shall be numbered to ease in communication of needed maintenance. The numbers shall not exceed 4 inches in height and shall be located not more than ten (10) feet from the ground.
11. Decorative seasonal lighting shall be limited to a power rating of less than or equal to 75 watts.

8.615F – TESTING

1. Public streetlights - The developer/contractor shall test the street lighting system by measuring insulation resistance, amperages, voltage drops, ground system continuity, and ground system resistance. Insulation resistance shall exceed fifty (50) megohms for circuits carrying over twenty (20) amperes and shall exceed one hundred (100) megohms for circuits carrying less than twenty (20) amperes. Amperage readings shall be within ten (10%) of the connected load based on equipment ratings. Voltage drops shall not exceed three (3%) percent. In addition, the developer/contractor shall manually trigger the photocell in order to have each street light burn continuously for at least forty-eight (48) hours. Any component found to be faulty shall be repaired and that component shall be retested. All testing shall be done in the presence of the Village Engineer or their duly appointed representative.
2. Parking Lot Lights – All underground feeders shall be tested for grounds and shorts before being connected to the ballast or pole feed. A "megger" shall be used for these tests, imposing voltage on the cable being tested, not in excess of the voltage for which the cable was designed as attested by the Underwriters label. Maximum leakage to ground of the cable being tested is dependent upon the length of the cable and shall

conform to IES standards for street lighting cable buried under the ground. All testing shall be done in the presence of the Village Engineer or their duly appointed representative.

8.615G – RECORD "AS BUILT" DRAWINGS AND GUARANTEE

Upon satisfactory installation of the streetlight poles, underground cables, and completed connection to the power supply, the developer/contractor shall schedule a joint meeting with the electrical contractor, the Director of Public Works, and the Village Engineer to verify the proper working order of the entire street lighting system prior to the acceptance of the system by the Village. Furthermore, the developer/contractor shall submit two (2) sets of record "as built" documents to the Director of Public Works for review and approval.
The manufacturer and/or distributor shall guarantee the streetlight poles, luminaries, ballasts, lamps, and cables for one (1) year from the date of acceptance by the Village.

8.615H – INVENTORY

The developer/contractor shall supply to the Village an inventory (a minimum of one complete unit) equal to at least ten (10%) percent and rounded down to the nearest whole number, of the number of poles, luminaries, photocells, ballasts, fuses, etc., installed along the public streets and for public parking lots for the development. This inventory shall be used by the Village to replace lighting system components that fail or are damaged after expiration of the guarantee period.

8.616 – PARKWAY LANDSCAPING

All disturbed public parkways shall be restored as soon as possible to their original or better condition according to the following regulations.

8.616A – SODDING/SEEDING

All unpaved areas in any residential development within a street right of way and all swales forming the drainage system for a development shall be sodded. Said sodded areas shall be watered in accordance with applicable IDOT standards. In all commercial, office and industrial developments, an approved water supply for maintaining adequate moisture levels in the parkways shall be provided within at least one hundred (100') feet of all points within the parkway. The Village Engineer may allow parkway seeding with an approved sprinkler system in the parkway in a commercial, office, or industrial development. Upon recommendation of the Village Engineer, the Village Board may require additional seeding of a lot to prevent soil erosion and blockage of drainage systems. A guarantee of a minimum of two (2) growing seasons shall cover all sodded/seeded areas. For purposes of this section, a growing season is May 15th through October.

See 8.613I for the timing of the completion of the parkways/sidewalks.

8.616B – TREES

1. General Criteria
    a. All trees shall be grown in a nursery located in the northern half of the State of Illinois and licensed by the State of Illinois.
    b. Trees selected for planting in Oswego shall be healthy, free of insects and diseases, bark bruises, and scrapes on the trunk of limbs before and after planting. Selected trees shall have a straight trunk with limbs not lower than five (5) feet above the ground.
    c. Tree holes may be machine dug, provided that all sides of holes dug in such manner shall be scored to prevent glazing. If any existing lawn is damaged, it shall be the responsibility of the applicant to restore said lawn to its original condition. All trees shall be hand planted and planted straight. (Ordinance No. 89-84, 08.22.89)
    d. The planting season shall be approximately September 15, to December 1, and March 15, to June 1.
    e. Trees shall have a trunk diameter of not less than two (2) inches. Caliper of the trunk of nursery stock shall be measured six (6) inches above the ground for up to and including four (4) inch caliper size, and twelve (12) inches above the ground for larger sizes. The root system of all trees shall be BALLED AND BURLAPPED with a minimum ball diameter of twenty-eight (28) inches for two (2) inch caliper trees.
    f. Trees shall be planted in the parkway along all streets no closer than five (5) feet from driveways and forty (40) feet from intersections, as measured from the right of way lines extended. In addition, no trees shall be planted within five (5) feet of a fire hydrant or underground utility or 15 feet from above ground utility structure or pole.

       Trees shall be planted on a maximum forty (40) foot spacing such that the total number of trees shall equal or exceed the ratio of one (1) tree for each forty (40) feet of street frontage, except as specified below.

       For single family detached residential subdivisions, trees shall be planted in the parkway in line with the side lot lines. Additional trees shall be planted in the space in between, such that the minimum thirty five (35)/maximum forty (40) foot spacing is maintained without violating the setbacks from driveways, intersections, fire hydrants and above-ground utility structures and poles. Final determination of the quantity and location of parkway trees necessary to meet the above requirements shall be made by the village representative.
    g. Prior to planting, the Applicant shall submit to the Village Engineer or his designated representative a list of the number and types of trees that are to be planted and a statement that they will comply with Subsection (B)(1)(a). A minimum number of species of trees shall be required on each parcel as follows:

Size of Parcel Acres	Quantity of Tree Species
0 up to but not including 5	3
5 up to but not including 15`	5

15 up to but not including 30	7
30 up to but not including 110*	1 additional species for each 10 acres or part thereof

*For parcels that are 110 acres or more in size, additional species shall be provided at the same 1 species per additional 10 acres as availability and the number of allowed species permits. As directed by the Village Engineer, the trees shall be planted by alternating the different species on the (max. 40'/min. 25') foot spacing rotation.

h. The Applicant shall provide the Village Engineer with a minimum 24-hour notice prior to beginning of planting.
i. All trees planted by an applicant shall be guaranteed for two (2) years from the date of acceptance and shall be replaced by the applicant at no charge to the Village, should they die or be in a declining condition in the opinion of the Village arborist. The replacement tree shall be of the same size, species and quality, and shall carry the same two (2) year guarantee.

2. Planting Requirements

a. Trees shall normally be planted on the centerline of the parkway. Also, all newly planted trees shall be staked if needed.
b. The perimeter of the planting hole shall extend a minimum of two (2) feet beyond the sides of the root ball on all sides. The sides of the hole shall slope gradually, making the hole saucer-shaped or bowl-shaped. The hole shall be no deeper than necessary to cover the root ball.
c. A doughnut-like circle of soil shall be cultivated eight (8) to twelve (12) inches deep and eighteen (18) inches wide around the root ball. A three (3) inch layer of organic mulch shall be spread over the planting hole coming no closer to the trunk than six (6) inches. The trees shall be initially watered to remove air pockets from the soil and later as necessary to maintain a healthy, vigorous condition. The
d. Each tree will be properly pruned back to compensate for any root loss. Such pruning may include roots and lateral branches (up to 1/3 of their length) but in no case may the main leader be cut. Any tree which has the main leader cut in any way will be removed and replaced. Any damaged or broken branches shall be removed at this time.
e. Any excess soil, clay, or construction debris shall be removed from the planting site, prior to planting of individual tree.
f. All tags, wires, plastic ties and rope shall be removed from each tree to prevent girdling the tree. The burlap shall be removed from the upper third of the rootball. If plastic "burlap" is used, it shall be removed in its entirety from the rootball.
g. All trees shall have their trunk protected with tree wrap paper, from the base of the trunk up to the first branch. In addition, all trees shall be planted straight and shall be maintained in an upright position. Trees greater than three (3) inch caliper shall be staked for a minimum of one growing season to provide for the trees' support and prevent the tree from leaning. Trees with a caliper of three (3) inches or less do not have to be staked unless environmental factors (such as exposure to

high winds) predispose the trees to leaning. The Village engineer shall determine whether or not staking is required in these cases.

8.616C – PERMITTED WOODY PLANT MATERIAL SPECIES

Plant Material Type	Botanical Name	Common Name	Street & Parking Lot	General
Canopy	Acer X freemanii	Silver X Red Maple	Yes	Yes
	Acer Nigrum	Black Maple	Yes	Yes
	Acer rubrum	Red Maple	Yes	Yes
	Acer saccharum	Sugar Maple	Yes	Yes
	Acer X truncatum	Norwegian or Pacific Sunset Maple	Yes	Yes
	Aesculus glabra	Ohio Buckey	No	Yes
	Aesculus pippocasianum	Horsechestnut	No	Yes
	Carya cordiformis	Bitternut Hickory	No	No
	Carya ovata	Shagbark Hickory	No	No
	Catalpa speciosa	Northern Catalpa	No	Yes
	Celtis occidentalis	Common Hackberry	Yes	Yes
	Facus grandifolia	American Beech	No	Yes
	Fraxinus Americana	White Ash	Yes	Yes
	Fraxinus quadrangulata	Blue Ash	Yes	Yes
	Ginkgo biloba	Ginkgo (male)	Yes	Yes
	Gleditsia triacanthos var. inermis	Patented Thornless Honeylocust	Yes	Yes
	Gymocladus dioicus	Kentucky Coffeetree (male)	Yes	Yes
	Juglans nigra	Black Walnut	No	Yes
	Liriodendron Tulipifera	Tulip Tree	No	Yes
	Nyssa sylvatica	Black Tupelo	No	Yes
	Plellodendron amurense	Amur Cork tree	No	Yes
	Platanus occidentalis	Sycmore-London Plain	No	Yes
	Populus deltoids	Eastern cottonwood (male)	No	Yes
	Populus iremuloides	Quaking Aspen	No	Yes
	Prunus serotina	Black Cherry	No	Yes
	Pyrus calleryana	Callery, Redspire & Arisocrat Pears	Yes	Yes
	Quercus alba	White Oak	Yes	Yes
	Quercus bicolor	Swamp White Oak	Yes	Yes
	Quercus cocinea	Scarlet Oak	Yes	Yes
	Quercus imbricaria	Shingle Oak	Yes	Yes
	Quercus macrocarpa	Bur Oak	Yes	Yes
	Quercus muhlembergii	Chinkapin Oak	Yes	Yes

Plant Material Type	Botanical Name	Common Name	Street & Parking Lot	General
	Quercus robur	English Oak	Yes	Yes
	Quercus rubur	Red Oak	Yes	Yes
	Quercus velutina	Black Oak	No	Yes
	Salix babylonica	Weeping Willow	No	Yes
	Salix nigra	Black Willow	No	Yes
	Taxodium distichum	Baldcypress	No	Yes
	Tilia Americana	American Linden or Basswood	Yes	Yes
	Tilia cordata	Littleleaf Lnden	Yes	Yes
	Tilia tomentosum	Silver Linden	Yes	Yes
	Ulmus Americana	Pioneer or Homestead or approved disease resistant American Elm	Yes	Yes

Table N
PERMITTED WOODY PLANT MATERIAL SPECIES

Plant Material Type	Botanical Name	Common Name	Street & Parking Lot	General
Understory Trees	Acer campestre	Hedge Maple	No	Yes
	Acer ginnala	Amur Maple	Yes	Yes
	Amelanchier arborea (Canadensis)	Shadblow Serviceberry	Yes	Yes
	Amelanchier X grandiflor	Apple Serviceberry	Yes	Yes
	Amelanchier laevis	Allegheny Serviceberry	No	Yes
	Asimina triloba	Paw Paw	No	Yes
	Betula nigra	River Birch	Yes	Yes
	Betula papyrifera	White or Paper Birch	Yes	Yes
	Betula platyphylla “Whitespire”	Whitespire White Birch (Senior)	Yes	Yes
	Carpinus caroliniana	Ironwood	Yes	Yes
	Cercis Canadensis	Eastern Redbud	Yes	Yes
	Cornus alternifolia	Pagoda Dogwood	Yes	Yes
	Cornus mas	Cornelian Cherry Dogwood	Yes	Yes
	Crataegus viridis	Green Hawthorn	No	Yes
	Crataegus crusgallis var.	Thornless Cockspur Hawthorn	Yes	Yes
	Magnolia soulangiana	Saucer Magnolia	No	Yes
	Magnolia stellata	Star Magnolia	No	Yes
	Malus ioensis	Prairie Crabapple	Yes	Yes
	Malus spp.	Other Crabpple	Yes	Yes
	Ostrya virginiana	Hophoornbean	Yes	Yes
	Prunus Americana	American Plum	Yes	Yes

Plant Material Type	Botanical Name	Common Name	Street & Parking Lot	General
	Prunus virginiana	Chokecherry	Yes	Yes
	Sassafras albidum	Sassafras	No	Yes
	Viburnum lentago	Nannyberry	No	Yes
	Viburnum pruniflium	Blackhaw	No	Yes

Table N
PERMITTED WOODY PLANT MATERIAL SPECIES

Plant Material Type	Botanical Name	Common Name	Non R.O.W. or Parking Lot	General
Evergreen Trees	Abies concolor	Wite Fir	Yes	Yes
	Picea abies	Norway Spruce	Yes	Yes
	Picea glauca	White Spruce	No	Yes
	Picea mariana	Black Spruce	Yes	Yes
	Picea pungens	Colorado Blue spruce	Yes	Yes
	Pinus flexilis	Limber Pine	No	Yes
	Pinus nigra	Austrian Pine	Yes	Yes
	Pinus resinosa	Red Pine	No	Yes
	Pinus strobes	White Pine	Yes	Yes
	Pinus sylvestris	Scotch Pine	No	Yes
	Thuja occidentalis	Eastern Arborvitae	Yes	Yes
	Thuja orientalist	Chinese Arborvitae	Yes	Yes
	Tsuga canadensis	Canadian Hemlock	No	Yes

Table N
PERMITTED WOODY PLANT MATERIAL SPECIES

Plant Material Type	Botanical Name	Common Name	Street & Parking Lot	General
Shrubs	Aesculus parviflora	Bottlebrush Buckey	No	Yes & bufferyard
	Amelanchier sanguinea	Round-Leaved Serviceberry	No	Yes & bufferyard
	Amelanchier stolonifera	Running Serviceberry	No	Yes & bufferyard
	Aronia arbutifolia	Red Chokeberry	Yes	Yes &

Plant Material Type	Botanical Name	Common Name	Street & Parking Lot	General
				bufferyard
	Aronia melanocarpa	Black Chokeberry	Yes	Yes & bufferyard
	Buxus microphylla	Japanese Boxwood	Yes	Yes
	Busus sempervirens	English or Common Box	Yes	Yes
	Calycanthus floridus	Sweetshrub	No	Yes and bufferyard
	Ceanothus americanus	New Jersey Tea	No	No
	Cephalanthus occidentalis	Buttonbush	Yes	Yes and bufferyard
	Comptonia peregrine	Sweetgern	No	Yes
	Cornus oblique (amomum)	Silky Dogwood	No	No
	Cornus racemosa	Gray Dogwood	No	Yes & bufferyard
	Cornus rugosa	Roundleaf Dogwood	No	Yes & bufferyard
	Cornus sericea	Red-osler or Redtwig dogwood	No	Yes & bufferyard
	Carylus Americana	Hazelnut	No	Yes & bufferyard
	Cotoneaster lucidus	Hedge Cotoneaster	Yes	Yes & bufferyard
	Cotoneaster multiflorus	Many-flowered Cotoneaster	Yes	Yes
	Cotoneaster spp.	Other Cotoneaster	Yes	Yes & bufferyard
	Chaenomeles speciosa	Flowering Quince	Yes	Yes & bufferyard
	Diervilla lonicera	Dwarf Bushhoneysuckle	Yes	Yes
	Euonymus alata	Burning Bush	Yes	Yes & bufferyard
	Fothergilla gardenia	Dwarf Fothergilla	Yes	Yes
	Forsythia spp.	Forsythia	Yes	Yes & bufferyard
	Hamamelis mollis	Chinese Witchhazel	Yes	Yes & bufferyard
	Hamamelis vernalis	Vernal Witchhazel	Yes	Yes & bufferyard
	Hamamelis virginiana	Common Witchhazel	No	Yes & bufferyard
	Hydrangea spp.	Hydrangea	Yes	Yes & bufferyard
	Hypericm kalmianum	Kalm St. Johnswort	Yes	Yes

Plant Material Type	Botanical Name	Common Name	Street & Parking Lot	General
	Ilex verticillata	Winterberry	No	Yes & bufferyard
	Juniper spp.	Juniper	Yes	Yes
	Kerria japonica	Japanese Kerria	Yes	Yes
	Kolkwitzia amabilis	Beautybush	Yes	Yes & bufferyard
	Ligustrum spp.	Privet	Yes	Yes & bufferyard
	Lonicera fragrantissima	Winter Honeysuckle	Yes	Yes & bufferyard
	Physocarpus apulifolius	Common Ninebark	Yes	Yes & bufferyard
	Potentilla spp.	Potentilla	Yes	Yes
	Rhus aromatica	Fragrant Sumac	Yes	Yes & bufferyard
	Rhus glabra	Smooth Sumac	Yes	Yes & bufferyard
	Rhus typhinia	Staghorn sumac	Yes	Yes & bufferyard
	Ribes alpinum	Alpine Currant	Yes	Yes
	Ribes missouriense	Wild Gooseberry	Yes	Yes & bufferyard
	Spiraca x bumalda	Bumald Spirea	Yes	Yes
	Spiraca japonica	Japanese Spirea	Yes	Yes
	Spiraca spp.	Other Spirea	Yes	Yes & bufferyard
	Stephanandra incise	Cutleaf Stephanandra	Yes	Yes & bufferyard
	Syringa meyeri	Meyer Lilac	Yes	Yes & bufferyard
	Syringa patula	Manchurian Lilac	Yes	Yes & bufferyard
	Syringa vulgaris	Common Lilac	Yes	Yes & bufferyard
	Taxus spp.	Yew	Yes	Yes & bufferyard
	Viburnum acerfolium	Maple-Leafed Arrowwood	No	Yes
	Viburnum spp.	Other Viburnum	Yes	Yes & bufferyard
	Bivurnum trilobum	Highbush Cranberry	No	Yes & bufferyard

The planting of tree species not listed above in Village parkways may be allowed on a case-by-case basis upon written approval by the Village Arborist.

Additional plantings may be required as outlined in Section 17.00 Landscaping of the Municipal Code

8.616D – EXISTING TREE PRESERVATION

For any parcel of land with a proposed site plan or development plan containing trees, shall include a tree preservation plan submitted at the time of application for preliminary plan/plat approval. Said tree preservation plan shall be reviewed by the Village Staff, Plan Commission and approved by the Village Board as part of the Preliminary Development Plan.

1. The Developer shall follow the design criteria as outlined below:
   a. As many as possible of the trees on the site that are six (6) inches or greater in diameter or eighteen and eight tenths (18.8) inches in circumference (as measured two (2) feet above grade) shall be saved. In the event a tree has more than one trunk, each trunk which is greater than six inches (6”) in diameter measured two feet (2’) above grade, shall count as a separate tree. The developer is encouraged to save as many trees as possible.
   b. Each tree (six (6) inches or greater in diameter) removed on the site in accordance with the Tree Preservation Plan shall be replaced with the quantity of replacement trees in an amount equal to what is being removed. Replacement trees shall be a minimum of two and one half (2-1/2) inches in diameter. (for example, one (1) six (6) inch diameter tree to be removed shall be replaced with three (3) two and one-half (2.5) inch diameter trees).
   c. Replacement trees shall be planted according to the procedures specified for parkway trees. Only the species of trees listed below shall be planted as replacement trees. Replacement shall occur in areas that will safely accommodate tree growth within the boundaries of the development. The location, type and size of trees to be planted as replacements shall be indicated on the Tree Preservation Plan or Landscape Plan.
   d. Tree List for Replacements: Refer to Section 8.616C.

The planting of tree species not listed above may be allowed on a case by case basis upon written approval by the Village Arborist.

   e. In the event there is not adequate room on the site to plant the required replacement trees, as determined by the Village Arborist, on a case by case basis, other plant material may be planted as a substitute. The unit value of substitute plant material shall equal the unit value of required replacement trees being substituted as follows:

Plant Type	Unit Value
Replacement tree 2-1/2” caliper	1.00
Shrub 24” height	.10

Evergreen tree 6' height	.66
Ornamental tree 2-1/2" caliper	.66

The substitute species, sizes and quantities shall be approved by the Village Arborist. The species shall be of equal or greater quality than the replacement tree species.

f. Trees located in proposed rights-of-way shall not be considered desirable, but must be compensated for as required above.
g. All trees four (4) inches or greater in diameter which are severely diseased or structurally unsound shall be labeled as such on the Tree Preservation Plan. If, in the opinion of the Village, corrective measures would be ineffective toward saving these trees and the trees pose a threat to the health, safety and welfare of the community, these trees shall not count towards the total number of trees to be preserved or replaced.
h. Notwithstanding the above, the developer shall identify and make a special effort to preserve trees which are noteworthy due to their size, age, historic, cultural or aesthetic value.

2. The following information shall be submitted and/or indicated on the tree preservation plan:
   a. Survey showing location of each existing tree four (4) inch or greater in diameter.
   b. Species, size and condition of each tree.
   c. Trees, which are noteworthy due to size, age, historic, cultural or aesthetic value.
   d. Trees to be removed. Include a statement indicating the reason why the tress will be removed.
   e. Location and type of tree protective fencing (orange snow fence or red picket fence).
   f. Proposed grading and site changes around trees to be preserved. In addition, when a house/structure footprint is available, it shall be drawn on the plan and staked on the lot for the division's tree Preservation Review.
   g. A statement concerning where and how deliveries for construction purposes are to be made to the site. Deliveries for the construction of a house or building shall not be made through the rear of the lot, unless permitted by the Village.
   h. Location, size, number and species of replacement trees. These shall be labeled to differentiate them from other landscaping being provided.
3. The Village, at its discretion, has the right to retain a professional tree consultant/forester to review submitted tree preservation plans and submit a written report to the Plan Commission. All expense incurred by the Village for the use of the tree consultant shall be reimbursed by the developer.

At the time of final plan/plat approval of the project by the Village Board, the approved tree plan will become part of the final plan/plat, and the developer shall not deviate from the approved plans during construction.

4.
   a. Prior to commencing any grading or construction activity on a site, the developer shall tag the trees that are planned to be removed, and fence off an area large

enough to accommodate the construction of the building/structure and accessory uses and appurtenances. Trees up to 6" caliper to be saved in any development shall be surrounded by orange plastic or red picket snow fencing placed fifteen (15) feet beyond the drip line of each such tree. Trees greater than 6" caliper shall have the fence placed 25' beyond (or greater depending on species) the dripline. The area within this fence shall be known as the Root Preservation Zone. The snow fencing shall be secured in place by posts spaced six (6) feet apart and sunk two (2) feet into the ground with a minimum above ground height of 4 (four) feet. If a proposed structure will encroach upon the root preservation zone, then the location of the fenced off area may be adjusted as approved by the Village representative, in accordance with the Morton Arboretum's guidelines "Tree preservation on wooded lots.

b. No mechanical vehicles or construction machinery shall be allowed within any fenced off area surrounding a tree to be saved. In addition, any construction activity which endangers the health of any tree in the fenced off area shall be prohibited. This includes, but is not limited to, stockpiling of materials within the root preservation zone, flooding and the deposit of wash water in the root preservation zone.

c. Encroachment into the root preservation zone, whether by equipment or materials detrimental to the health of the tree shall result in a fine of $300.00 (three hundred dollars) per occurrence or per day, to be paid by the builder, and stoppage of all construction activities until all provisions of this code have been met to the satisfaction of the Village agent.

d. In the event that any tree in a protected area is damaged in any way, a fine of $1,000.00 shall be paid by the builder and all construction activities stopped until all provisions of this code have been met to the satisfaction of the Village agent. In addition, corrective measures shall be taken to repair, treat and/or trim away the damaged portion of the tree, as recommended by the Village Forester, prior to construction activities recommencing.

e. If a tree is (i) damaged beyond saving by reasonable measures, (ii) damaged such that corrective measures would result in a disfigured, aesthetically undesirable appearance, or (iii) otherwise destroyed or razed, the builder shall supply replacement trees, at the builder's sole cost and expense, within 30 days. In addition, the builder shall be fined not less than $500.00 or more than $1,000.00 for each damaged/destroyed tree larger than six (6) inches in diameter and less than 10 inches in diameter. For each damaged/destroyed tree in excess of 10 inches in diameter, the builder shall be fined not less than $50.00 or more than $100.00 for each inch of tree diameter. Replacement trees shall be a minimum of four (4) inches (in open areas) and shall be taken from the approved list. The quantity of replacement trees required shall be based on the size of the existing tree which was severely damaged/destroyed, as indicated in the chart below.

Size of Existing Tree (diameter in inches)	Number of Replacement trees (4: diameter)	Financial Guarantee per replacement tree

36 or greater	8	$2,600.00
30-35	7	2,275.00
24-29	6	1,950.00
18-23	5	1,625.00
12-17	4	1,300.00
6-11	3	975.00

The builder shall post a financial guarantee in the corresponding amount listed in the chart to ensure that the trees will be planted. Construction activities shall not recommence until the trees are planted or a financial guarantee is provided in a form acceptable to the Village.

f. If, in the opinion of the Village, there is not adequate room on the site for all of the replacement trees, the dollar amount that corresponds to the unplantable trees shall be used to plant parkway trees elsewhere in the Village. The Village shall determine the location of these trees.

g. All replacement trees shall be guaranteed to live and thrive for up to two years after Village acceptance of the improvements. Documentation of the guarantee shall be provided to the Village Engineer prior to acceptance of the improvements. In the event that a replacement tree dies or is in a declining condition, the tree shall be replaced by the party bound by the guarantee with another tree of the same species and size.

5.

a. Prior to removal of any trees, the developer shall call the Public Works Department at least 24 hours in advance of any cutting operation to obtain tree removal permission. Any tree removal contractor must be registered with the Village. The Public Works Director, or his agent, shall then inspect the site to ensure that only the trees indicated for removal on the approved tree preservation plan are tagged to be removed and any other conditions specified in the approved tree plan are adhered to. The Public Works Director, or his agent, shall then issue tree removal permission for the tree cutting operation to commence. The Public Works Department will make periodic inspections of the site after the initial tree cutting operation has begun.

b. The owner will be required to pay a fee at the time of application for a tree removal permit for an individual lot. The fee of $100.00 shall cover the cost of up to three (3) inspections. In the event that more than three (3) inspections are needed and conducted, the owner will be billed $16.50 for each additional inspection. Tree removal permits for mass grading, right of way clearance and other mass removals shall be billed at the standard hourly rate.

c. If the developer desires to remove existing trees after receiving preliminary development plan approval but prior to obtaining final approval of the development plan and tree preservation plan, he shall post a financial guarantee at the time of application for tree removal permit in the amount of $125.00 per inch diameter of each tree proposed to be removed. Upon obtaining final approval of the development plan and the tree preservation plan, the financial guarantee shall be released. In the event that trees are removed but final development plan approval is not obtained and the project is abandoned, the amount of the bond,

which corresponds to the actual trees removed, shall be used to replant trees in the community. The location, size and type of trees planted shall be at the discretion of the Public Works Director.

6. Failure of the developer to contact the Village Engineer before removing any tree will result in a fine of One Thousand Dollars ($1,000.00) per tree, which has been cut. and/or stoppage of all construction activity shall cease until such time as all provisions of this code have been met, to the satisfaction of the Village Engineer or his agent.

C. All public areas, including but not limited to the periphery of detention ponds (above rip-rap), buffer zones, and ingress and egress easements shall be covered by Buffalo Grass or possibly open rough mix with rye grass blend (i.e. Morgan Valley Pond).

SECTION 8.617 – STREET NAME SIGNS

A. Street Names: All street names shall be approved by the Oswego Police Department.

B. Time of Installation. Street names signs shall be installed as follows:

1. Temporary Signs: Temporary street name signs constructed of wood with neat lettering shall be installed with seven (7) foot clearance prior to the issuance of the first building permit within the development.
2. Permanent Signs: Permanent street name signs, in accordance with the State of Illinois Manual of Uniform Traffic Control Devices for streets and highways, latest edition, including size, color and erection thereof, shall be installed prior to the approval of the final inspection for the first model unit. In cases where there is no model unit/s, said permanent street name signs shall be installed prior to the issuance of the first occupancy for the development.

SECTION 8.618 – PARK DESIGN STANDARDS

All areas to be deeded to the Oswegoland Park District, including open areas, stormwater management basins, trail corridors, creeks, and parks shall be designed as per the latest Oswegoland Park District Standards. When the Oswegoland Park District design standards conflict with Village Standards, the Village Standards shall take precedence.

SECTION 9.00 – ENGINEERING SPECIFICATIONS

The subdivider or developer shall install storm and sanitary sewers, water supply system, street grading and pavement, alleys, sidewalks, cross walkways, public utilities, street lighting in accordance with applicable ordinances and standards of construction of the Village of Oswego.

No subdivision or development of land shall be approved without receiving a statement signed by the Village Engineer, certifying that the improvements described in the subdivider's plans and specifications, together with agreements, meet the minimum requirements of all ordinances of the Village.

SECTION 9.01 – FILING OF ENGINEERING PLANS AND REVIEW FEE

A. Six (6) complete sets of engineering plans and specifications of required land improvements, together with an estimate of the cost of improvements. Said plans, estimate and specifications to bear the seal of an Illinois registered professional engineer along with this signed statement that such plans and specifications have been prepared in compliance with this ordinance and with good engineering practice. Said plans shall be drawn to a minimum horizontal scale of five (5) feet to the inch. Plan shall show profiles of all utility and street improvements, with elevations referred to U.S. Geological Survey datum and Village approved benchmarks.

B. Plan review fee, based on the following percentages of total land improvement costs, as estimated by the design engineer and approved by the Village Engineer.
   1. One and one-half (1 1/2) percent of the construction cost of the improvements when such cost is Fifty Thousand Dollars ($50,000) or less.
   2. One (1) percent of the construction cost of the improvements when such cost is over Fifty Thousand Dollars ($50,000) but less than Two Hundred and Fifty Thousand Dollars ($250,000).
   3. Three quarters of one percent (0.75) of the construction cost of the improvements when such cost is over Two Hundred and Fifty Thousand Dollars ($250,000).

SECTION 9.02 – SUPERVISION

The design engineer engaged by the subdivider, builder or land developer shall be responsible for, and establish, all line and grade for the proposed improvements. The subdivider, builder, or land developer shall also be responsible for providing the services of a competent materials testing firm to test all applicable materials for compliance with IDOT requirements. Said testing firm will provide the Village with a written report detailing their testing procedures, results of the tests, and recommendations.

SECTION 10.00 – INSPECTION AT SUBDIVIDER'S OR DEVELOPER'S EXPENSE

A. The Village Engineer or a duly designated deputy shall inspect all public improvements proposed to be made under the provisions of this ordinance during the course of construction.

B. During the course of construction of the improvements, the subdivider/developer shall be required to notify the Village Engineer forty-eight (48) hours before the inspection of all utilities.

C. The subdivider/developer shall pay the cost of all inspection services, consultant and legal fees. The fee shall be established by the Village, based on current rates and standard engineering practice.

SECTION 11.00 – RURAL DEVELOPMENTS

A. PURPOSE. The following requirements are provided for subdivisions/developments outside the corporate limits when the Plan Commission finds and recommends the area

may be developed as a rural subdivision and either part or all of the following circumstances exists:

1. The properties to be developed are located too far from public water and sewer to economically provide connection to such utilities.
2. The topographic conditions are such that connections to public utilities are impractical.
3. Where the characteristics of the property, in the opinion of the Plan Commission, are such that a large lot rural subdivision is the most proper means of preserving the natural characteristics of the area; such as existing wooded areas, precipitous topography, historical values, lakes, rivers or similar features.

B. Improvement Requirements. All improvements required for rural Developments shall conform to all requirements of this ordinance except as modified herein for rural developments. Street improvements shall conform to this ordinance.

C. Sanitary Sewage Systems. Where sanitary sewers are not reasonably available in an area approved for rural subdivision development, sanitary sewage treatment shall be provided in accordance with one of the following and shall provide the minimum lot requirements permitted with the designated type of treatment system and in relation to the provisions of domestic water supply.

REQUIRED IMPROVEMENTS
BASED UPON MINIMUM LOT SIZES

Minimum Lot Area In Sq. Ft.*	Minimum Lot Width	With Individual Septic System	Central or Municipal Sewage System	With Individual Water System	Central or Municipal Water System	Curbs and Gutter	Storm Sewers
30,000	125 ft.	X	-	X	-	-	-
20,000	100 ft	-	X	X	-	X	X
20,000	10 ft.	X	-	-	X	X	X

X Improvement Proposed and Required

- Improvement Not Proposed

* Minimum Lot Area Does Not Include Road But May Include Utility Easements

SECTION 12.00 – VARIATIONS

Upon a finding that severe hardship caused by conditions uniquely attributable to the land under consideration would be imposed upon the applicant by compliance with these regulations and upon a finding that there are alternate feasible means of fulfilling the purpose of the regulations to protect the public health, safety and welfare, the Plan Commission may recommend and the Village Board may grant variances form the regulations of this Section.

The Village Engineer may vary and make exceptions to some of the design alternatives and/or modify existing requirements where there is sufficient evidence in his/her opinion, that other design methodology will serve same design principle and is the most suited to the site because of topographic or other conditions peculiar to the site, and that such exceptions may be made without being contrary to the intent of these regulations.

SECTION 13.00 – BUILDING PERMIT

No building permit shall be issued by any governing official for the construction of any building, structure or improvement to the land or any lot within a subdivision as defined herein, which has been approved for platting or re-platting, until all requirements of this ordinance have been complied with.

SECTION 14.00 – OCCUPANCY PERMIT

No occupancy permit shall be granted by any governing official for the use of any structure within an approved subdivision or development until required utility facilities have been installed and made ready to service the property, and until roadway providing access to the subject lot or lots have been constructed.

SECTION 15.00 – BLASTING

No blasting shall take place in connection with any work in a subdivision or development until appropriate Village authorities have been notified and the applicable village ordinance complied with.

SECTION 16.00 – ENFORCEMENT

No plat of any subdivision shall be entitled to be recorded in the County Recorder’s office until it has been approved in the manner prescribed herein.

SECTION 17.00 – RECORD OF PLATS

All such plats of subdivisions, after the same have been submitted and approved, as provided in this ordinance, shall be filed and kept by the Village Clerk.

SECTION 18.00 – VALIDITY

If any section, subsection, sentence, clause, or phrase of this ordinance is adjudged to be void, such decision shall not affect the validity of the remaining portions of this ordinance.

SECTION 19.00 – VIOLATION PENALTY

Any person, firm or corporation who constructs any public improvement or portion thereof in violation of the provisions of this ordinance shall be, upon conviction, fined not less than Fifty Dollars ($50.00) or more than One Thousand Dollars ($1,000) for each offense; and a separate offense shall be deemed committed on each day during or on which a violation occurs or continues.

Whoever shall sell or offer for sale, lease or offer for lease, while this ordinance is in effect any lot or lots or block or blocks, within the incorporated limits of the village of Oswego, or any re-subdivision of any lot or block therein, or within contiguous unincorporated territory and not more than one and one-half (1 ½) miles beyond the incorporated boundary of the village of Oswego, before a final plat of subdivision has been approved by the Plan Commission and the Village Board as required by this ordinance, shall be fined not less than Fifty Dollars ($50.00) nor more than One Thousand ($1,000) for each lot, or part thereof so disposed of, offered for sale or leased.

SECTION 20.00 – FEES

A. PRELIMINARY PLAT. Filing Fee: One Hundred Dollars ($100.00) for each preliminary plat plus Five Dollars ($5.00) for each lot within the proposed subdivision; Review Fee: $1,500, plus One Hundred Dollars ($100.00) per acre.

B. FINAL PLAT. Filing Fee: Five Dollars ($5.00) for each lot within each subdivision plat submitted; Review Fee: $1,500.00, plus One Hundred Dollars ($100.00) per acre; Engineering Review Fee: See Section 9.01.

C. CONCEPT PLAN. Filing Fee: One Hundred Dollars ($100.00), plus Five Dollars ($5.00) per acre.

D. PRELIMINARY PUD. Filing Fee: One Hundred Dollars ($100.00), plus Five Dollars ($5.00) per lot; Review Fee: $1,500, plus One Hundred Dollars ($100.00) per acre.

E. FINAL PUD. Filing Fee: One Hundred Dollars ($100.00), plus Five Dollars ($5.00) per lot; Review Fee: $1,500.00, plus One Hundred Dollars ($100.00) per acre; Engineering Review Fee: See Section 9.01.

F. COMMERCIAL/INDUSTRIAL SITE PLAN. Review Fee: Seven Hundred Fifty Dollars ($750.00); Engineering Review Fee: See Section 9.01.

The applicant shall be obligated to reimburse the Village of Oswego for all expenses incurred by the Village relative to the request for petition. Expenses will include, but not be limited to charges for publication of notices, fees for consulting engineers, planners, traffic experts, attorneys, surveyors, soil analysis, laboratory testing, recording secretary and/or court reporter. The funds deposited in such escrow account shall be used by the Village of Oswego for the payment of such expenses, but the obligation of the applicant or petitioner to reimburse the Village shall not be limited by the amount on deposit from time to time. In addition to the foregoing charges, the applicant or petitioner, as the case may be, shall reimburse the Village of Oswego for the time of staff personnel required for reviews and site inspections at two (2) times the respective actual hourly rate of the following personnel, as established from time to time by the Village Clerk, based upon their respective salary scales.

Such reimbursement shall include, without further charge, routine secretarial and clerical charges, provided, however, that extraordinary or overtime secretarial or clerical services required by the petitioner of applicant to meet his request for an expedited schedule shall be charged to the petitioner or applicant.

Where it appears from the initial conference and/or public hearings, that the proposed project will involve additional expenditures, the applicant or petitioner shall be required to deposit with the Village Treasurer such additional amounts reasonably necessary to pay the estimated amount of such expenses and charges. Any portion of such deposit not expended by the Village shall be refunded to the applicant or petitioner at such time as no further expenditures or charges by the Village of Oswego are reasonably anticipated. If any applicant or petitioner fails to comply with any of the foregoing provisions, the Village, in addition to such other remedies as provided by law or the provisions of this ordinance or other applicable ordinances, may refuse:

1. To process applications for permits,
2. To make inspections as otherwise required, or
3. To issue any applicable permits.

In addition to the foregoing remedies, and not by way of limitation, the Village may bring any action at law to collect any amounts due under any of the foregoing provisions.

All such fees shall be payable to the Village of Oswego by certified check or money order.

SECTION 21.00 – SAMPLE FORMS AND CERTIFICATES

Exhibit A	Owners Certificate
Exhibit B	Notary Certificate
Exhibit C	Surveyor’s Certificate
Exhibit D	County Clerk’s Certificate
Exhibit E	Drainage Overlay Certificate
Exhibit F	Village Treasurer’s Certificate
Exhibit G	Plan Commission Certificate
Exhibit H	Village President’s Certificate
Exhibit I	Village Clerk’s Certificate

Exhibit J	Certificate of Superintendent of Highways
Exhibit K	Illinois Department of Transportation Certificate
Exhibit L	Kendall County Right to Farm
Exhibit M	Certificate of Recorder
Exhibit N	Easement Provisions

EXHIBIT A, OWNER'S CERTIFICATE

STATE OF ILLINOIS)
) ss.
COUNTY OF KENDALL)

This is to certify that the undersigned is the owner of the land described in the attached plat and has caused the same to be surveyed and subdivided, as indicated thereon, for the uses and purposes therein set forth, and does hereby acknowledge and adopt the same under the style and title thereon indicted.

The undersigned hereby dedicates for public use the lands shown on this plat for thoroughfares, streets, alleys and public services and hereby also reserves and grants easements for public use and for the installation of various public utilities as designated and/or as stated in the utility easement provisions stated hereon.

All easements indicated as public utility and drainage easements on this plat are reserved for and granted to the Village of Oswego and to any entity operating under franchise from the Village including, but not limited to Illinois Bell Telephone Company, Northern Illinois Gas Company, Commonwealth Edison Company, Comcast Cablevision and their successors and assigns for the perpetual right, privilege and authority to construct, reconstruct, repair, inspect, maintain and operate various transmission, distribution and collection systems, drainage swales and all necessary lines. The right is also granted to cut down, trim or remove any trees, shrubs or other plants on the easement that interfere with the operation of the sewers or other utilities. No permanent buildings or trees shall be placed on said easements, but same may be used for gardens, shrubs, landscaping and other purposes that do not then or later interfere with the 94 *aforesaid uses or rights. Location of utility installations within the easement shall be subject to the approval of the Village of Oswego as to design and location. All installations are subject to the ordinances of the Village of Oswego.*
(Must also certify to the specific School District as per State statute)

_____
_____
_____

Address

Dated this _____ day of _____, 20___.

EXHIBIT B, NOTARY CERTIFICATE

STATE OF ILLINOIS)
: ss.
COUNTY OF KENDALL)

I,_____, a Notary Public in and for said County, in the State aforesaid, do hereby certify that _____, personally known to me to be the same persons whose names are subscribed to the aforesaid instrument as such owners, appeared before me this day in person and acknowledged that they signed the plat as their own free and voluntary act for the uses and purposes therein set forth.
Given under my hand and Notarial Seal this ____ day of _____, 20___.

_____
Notary Public

EXHIBIT C, SURVEYOR'S CERTIFICATE

STATE OF ILLINOIS)
: ss
COUNTY OF KENDALL)

This is to certify that I, _____, Illinois Professional Land Surveyor No. _____, at the request of the owner(s) thereof, have surveyed, subdivided and platted the following described property: (legal description)

I further ~~*do*~~ *hereby certify that the foregoing property falls within the corporate limits of the Village of Oswego, which has adopted a Village Plan and is exercising the special powers authorized by Division 12 of Article 11 of the Illinois Municipal Code. In accordance with S.B. 908-P.A. 85- 267, I further certify that no part of the property covered by this subdivision is located within a Special Flood Hazard Area as identified by the Federal Emergency Management Agency. As shown on FIRM map _____, Community Panel No. _____, dated_____.*

I further hereby certify that all subdivision monuments will be set and I have described them on this Final Plat as required by the Plat Act (765 ILCS 205/). The exterior monuments have been set and the interior monuments will be set within 12 months of the recording of this plat as provided by state statute.

EXHIBIT D, COUNTY CLERK'S CERTIFICATE

STATE OF ILLINOIS): ss.

COUNTY OF KENDALL)

I, _____, County Clerk of Kendall County, Illinois, do hereby certify that here are no delinquent general taxes, no unpaid forfeited taxes and no redeemable tax sales gainst any of the land included in the plat hereon drawn. I further certify that I have received all statutory fees in connection with the plat hereon drawn.

Given under my hand and seal at _____, Kendall County, Illinois, this ____day of _____, 20___.

_____
County Clerk

EXHIBIT E, DRAINAGE OVERLAY CERTIFICATE:

STATE OF ILLINOIS)
) ss.
COUNTY OF KENDALL)

To the best of our knowledge and belief the drainage of surface waters will not be changed by the construction of such subdivision of any part thereof, or, that if such surface water drainage will be changed, adequate provision has been made for collection and diversion of such surface waters into public areas or drains which the subdivider has a right to use, and that such surface waters will not be deposited on the property of adjoining land owners in such concentrations as may cause damage to the adjoining property because of the construction of the subdivision.

Dated this _____ day of _____, 20___.

_____ _____
Engineer *Owner or Attorney*

EXHIBIT F, VILLAGE TREASURER'S CERTIFICATE

STATE OF ILLINOIS)
) ss.
COUNTY OF KENDALL)

I, _____, Village Treasurer of the Village of Oswego, do hereby certify that there are no delinquent or unpaid current or forfeited special assessments or any deferred installments thereof that have been apportioned against the tract of land included in the plat. Dated at Oswego, Kendall County, Illinois this _____ day of _____, 20___.

_____
Village Treasurer

EXHIBIT G, PLAN COMMISSION CERTIFICATE

STATE OF ILLINOIS)
) ss.
COUNTY OF KENDALL)

Reviewed by the Plan Commission of the Village of Oswego, Kendall County, Illinois, this _____ day of _____, 20___.

_____
Chairman

EXHIBIT H, VILLAGE PRESIDENT'S CERTIFICATE

STATE OF ILLINOIS)
) ss.
COUNTY OF KENDALL)

Approved by the Village President of the Village of Oswego, Kendall County, Illinois, this _____ day of _____, 20___.

_____
Village President

EXHIBIT I, VILLAGE CLERK'S CERTIFICATE

STATE OF ILLINOIS)
) ss
COUNTY OF KENDALL)

I, _____, Village Clerk of the Village of Oswego, Illinois, hereby certify that the annexed plat was presented to and duly approved by the Board of Trustees of said Village at its meeting held on _____, 20___.

IN WITNESS WHEREOF I have hereto set my hand and the seal of the Village of Oswego, Illinois, this _____ day of _____, 20___.

_____
Village Clerk

EXHIBIT J, CERTIFICATE OF SUPERINTENDENT OF HIGHWAYS

STATE OF ILLINOIS)
) ss.
COUNTY OF KENDALL)

Approved this _____ day of _____, A.D., 20____.

_____
Kendall County Superintendent of Highways

EXHIBIT K, ILLINOIS DEPARTMENT OF TRANSPORTATION CERTIFICATE

When required, the certificate of the Illinois Department of Transportation shall be stamped on the final plat and signed in accordance with IDOT requirements.

EXHIBIT L, KENDALL COUNTY RIGHT TO FARM CERTIFICATE:

NOTICE:
Kendall County has a long, rich tradition in agriculture and respects the role that farming continues to play in shaping the economic viability of the country. Property that supports this industry is indicated by a zoning indicator - A-1 or Ag Special Use. Anyone constructing a residence or facility near this zoning should be aware that normal agricultural practices may result in occasional smells, dust, sights, noise and unique hours of operations that are not typical in other zoning areas.

EXHIBIT M, CERTIFICATE OF RECORDER

STATE OF ILLINOIS)
) ss.
COUNTY OF KENDALL)

This instrument No. _____ was filed for record in the Recorder's Office of Kendall County aforesaid on the _____ day of _____, A.D., 20___, at _____o'clock __.M., and recorded in Book _____ of Plats on Page_____.

_____
Kendall County Recorder

EXHIBIT N, EASEMENT PROVISIONS

A NONEXCLUSIVE EASEMENT IS HEREBY RESERVED FOR AND GRANTED TO Illinois Bell Telephone Company, Northern Illinois Gas Company, Commonwealth Edison Company, Cablevision, other public utilities and holders of existing franchises granted by the Village of Oswego, Illinois, and their respective successors and assigns within the areas shown on the plat as "Drainage and Utility Easement" to construct, install, reconstruct, repair, remove, replace, inspect, maintain and operate underground transmission and distribution systems and lines under the surface of the "Drainage and Utility Easement", including without limitation telephone cables, gas mains, electric lines, and cable television lines and all necessary facilities appurtenant thereto, together with the right of access thereto for the personnel and equipment necessary and required for such uses and purposes, and together with the right to install required service connections under the surface of each lot to serve improvements thereon.

A nonexclusive easement is also hereby reserved for and granted to the Village of Oswego, Illinois to construct, install, reconstruct, repair, remove, replace and inspect facilities for the transmission and distribution of water, storm sewers and sanitary sewers, within the areas shown on the plat as "Drainage and Utility Easement", together with a right of access thereto for the personnel and equipment necessary and required for such uses and purposes.

The above names entities are hereby granted the right to enter upon the easements herein described for the uses herein set forth and the right to cut, trim, or remove any trees, shrubs or other plants within the areas designated as "Drainage and Utility Easement", which interfere with the construction, installation, reconstruction, repair, removal, replacement, maintenance and operation of their underground transmission and distribution systems and facilities appurtenant thereto. No permanent buildings, structures, or obstructions shall be constructed in, upon, or over any areas designated as "Drainage and Utility Easement", but such areas may be used for gardens, shrubs, trees, landscaping, driveways, and other related purposes that do not unreasonably interfere with the uses herein described.

The occupation and use of the nonexclusive easements herein granted and reserved for the above named entities by each of such entities shall be done in such a manner so as not to interfere with or preclude the occupation and use thereof by other entities for which such easements are granted and reserved. The crossing and recrossing of said easements by the above named entities shall be done in such a manner so as not to interfere with, damage, or disturb any transmission and distribution systems and facilities appurtenant thereto existing within the easements being crossed or recrossed. No use or occupation of said easements by the above named entities shall cause any change in grade or impair or change the surface drainage patterns.

Following any work to be performed by the Village of Oswego in the exercise of its easement rights herein granted, said Village shall have no obligation with respect to surface restoration, including but not limited to the restoration, repair or replacement of pavement, curb, gutters, trees, lawn or shrubbery; provided, however, that said Village shall be obligated following such maintenance work to backfill and mound all trenches created so as to retain suitable drainage, to cold patch any asphalt or concrete surface, to remove all excess debris and spoil, and to leave the maintenance area in a generally clean and workmanlike condition.

REFERENCES

"Standard Specifications for Road and Bridge Construction", as published by the Department of Transportation, State of Illinois, Bureau of Design, 2300 S. Dirksen Parkway, Springfield, IL 62764 (217) 782-5597 and the various standard published material specifications prepared by other associations, such as the:

"American Society for Testing and Materials" (ASTM) 1916 Race Street Philadelphia, PA 19103-1187 (215) 299-5585

"American Water Works Association" (AWWA) 6666 W. Quincy Avenue, Denver, CO 80235 (303) 794-7711

Illinois "Procedures and Standards for Urban Soil Erosion and Sedimentation Control", hereinafter known as "The Green Book" "Association of Illinois Soil and Water Conservation Districts" Suite 2, 40 Adloff Lane, Springfield, IL 62703 (217) 529-7788

"Manual of Uniform Traffic Control Devices for Highway Control and Maintenance Operations" (MUTCD) Supt. of Documents, Government Printing Office, Washington DC 20402

OSHA Safety and Health Standards (29CFR 1926/1910) Government Institutes, Inc. 4 Research Place #200 Rockville, MD 20850 (301) 921-2323

"Illinois State Water Survey" (ISWS) Bulletin 70 2204 Griffith Drive Champaign, IL 61820 (217) 333-8888

"Fire Suppression Rating Schedule" of the "Insurance Services Office" (ISO) (312) 930-0070 "State of Illinois Handicap Standards" Illinois Accessibility Code – State of Illinois Capital Development Board 401 South Spring Street, Springfield, IL 62706 (217) 782-8529

"Standard Specifications for Water and Sewer Main Construction in Illinois" Illinois Society of Professional Engineers 1304 South Lowell Avenue Springfield, IL 62704

"Ten State Standards" for water Works or for Wastewater Facilities, Health Education Services P.O. Box 7126 Albany, N.Y. 12224 (518) 439-7286

"Building Officials and Code Administrators" (BOCA) 451 W. Flossmoor Road, Country Club Hills, IL 60478-5795

"American Association of State Highway and Transportation Officials" (AASHTO) 444 North Capital Street N. W. Suite 225 Washington DC 20001 (202) 624-5800

"American Society of Civil Engineers" (ASCE) 345 E 47th Street, New York NY 10017-2384 (212) 705-7496

Village of Oswego

SCHEDULE OF MATERIALS				
	Material	**Specification**	**Manufacturer**	**Comments**
SANITARY SEWERS				
Mains, Force	DIP CL52	AWWA C-151	Clow Corp. or equal	
Mains, Gravity	PVC SDR 26, SDR 21	ASTM D3034		Cell Class 12454-C
Manholes, Type A	Precast rein. Conc.	ASTM 478		See FMWRD Specs.
Manhole, Watertight Connections	Flexible Rubber Boots	ASTM C-923		
Manhole, External Wrap	*6" or 9" wide sealing band of rubber and mastic*	*ASTM C-877, type II or type III*		
Manhole Steps	Plastic coated rebar		MA Industries or equal	Model PS-1
Frame	Cast iron	ASTM A-48	Neenah or equal	*No. R-1713 w/ Self Sealing, Concealed Pick Holes*
Lid	Cast Iron	ASTM A-48	Neenah or equal	Marked "Oswego Sanitary"
Services	PVC SDR 26	ASTM D3034		6" Diameter Min.
Joints	Flexible Gasket	ASTM D3212		
Trench Backfill	*CA-7 with 12" CA-6 cap*	Sec. 20-2.20C		SSWSMC
Air Test-Exfiltration		Sec. 31-1.11		SSWSMC
Televise-Color VHS		Sec. 31-1.11		SSWSMC
Deflection Test-Mandrel		Sec. 31-1.11		SSWSMC
Manhole Vacuum Test		ASTM C1244		FMWRD Specifications
WATER MAINS				
Mains	Duct Iron Pipe CI 52	AWWA C-151	Clow Corp. or equal	Made in USA
Cement Lined		AWWA C-104		
Joints	Flexible Gasket	ASTM F477 & D3139		
Gate Valve 16" and Under	Ductile Iron	AWWA C-515-01	American Flow Control	A-2370-20, Resilient Wedge
Vault Frame	Cast Iron	ASTM A-48	Neenah or equal	R-1530
Vault Lid	Cast Iron	ASTM A-48	Neenah or equal	Type B Marked "Oswego Water"
Vault, Watertight Connections	*Flexible Rubber Boots*	*ASTMC-923*		
Vault, External Wrap	*9"(min) wide sealing band of rubber and mastic*	*ASTM C-877, type II or type III*		
Valve Box Lid	Cast Iron	ASTM A-48	Clow Corp.	F-2493
Hydrants	Cast Iron	AWWA C-502	Waterous Pacer, *Clow Medallion*	*Waterous Pacer* Model #67-250
Hydrant Brace	Steel		BLR Enterprises, Inc.	Gray iron top
Hydrant Trench Adapter	Polyethylene		American Flow Control	

Main Fittings	Ductile Iron	AWWA C-110		Compression
Services	Copper Type K	ASTM B-88 & B-251	Clow Corp. or equal	Compression
Corp. Stop	Brass		A Y McDonald	
Pressure Test		AWWA C-600 AWWA C-603		
Disinfection		AWWA C-651-92		
Curb Stop	Brass		A Y McDonald	Minneapolis Pattern
Curb Box	Cast Iron		A Y McDonald	Cap Marked "Water"
Tapping Sleeves	*Ductile type*		*A Y McDonald*	*C-NS-2*
	Stainless Steel (full body)		*A Y McDonald*	*C-SC-2*
Joints, Mains	M.J. or Push-on	AWWA C-111		Brass wedges will not be required.
Joints, Services	Compression			
Trench Backfill	*CA-7 with 12" CA-6 cap*	Sec. 20-2.20C		SSWSMC
STORM SEWER				**IDOT STANDARDS**
Mains	Reinf. Conc. Pipe	ASTM C-76		ASTM C-443 Joints
Inlet Frame	Cast Iron	ASTM A-48	Neenah or equal	B6.12 curb R-3281-A, B6.18 curb R-3278-A, Depressed B6.12 R-3506-AZ, rear yard "beehive" R-4340-B M3.12 curb R-3501-P
Manholes, Type A	Precast reinf. Conc.	ASTM 478		
Manhole Frame, Type 1	Cast iron	ASTM A-48	Neenah or equal	No. R-1713
Manhole Lids (closed)	Cast iron	ASTM A-48	Neenah or equal	Type B marked "Oswego Storm"
Manhole Steps	Plastic coated rebar		MA Industries or equal	Model PS-1
Pipe Drains	PVC	ASTM F-679		6" Diameter
Trench Backfill	*CA-7 with 1 2" CA-6 cap*	Sec-20-2.20C		SSWSMC
Catch Basin and Inlet Frames	Cast Iron	ASTM A-48	Neenah or equal	See above inlet types
Pipe Culvert		Sec. 511		IDOT standard specs.
Sump Pump Line	*PVC SDR 26*	ASTM D3034		
Junction Box Frame & Lid (marked "Sump")	Cast Iron	ASTMA A-48	Neenah or Equal	R-2525-E (Med.)
Internal Filters, chimney seals			Marathon Materials	
Street Light Poles				
Minor and Local Streets (300' max. spacing)	Concrete		Centrecon, Inc.	#MEO-6 MOAD-4 Finish #114
Major and Collector Streets	Concrete		Centrecon, Inc.	#MEO-9 MOAD-9 Finish #114

Luminaire Photocell			General Electric Tork	#C728 N 609 175 W Metal Halide (Minor) 250 W Metal Halide (Major) No. 2007

Note: IDOT = Illinois Department of Transportation
SSWSMC = Standard Specifications for Water and Sewer Main Construction in Illinois
FMWRD = Fox Metro Water Reclamation District
AWWA = American Water Works Association
ASTM = American Society for Testing and Materials

Manufacturer's catalog or model numbers are subject to change and the numbers provided in this Schedule may be obsolete. The Village reserves the right to specify similar or approved equal materials.

FIGURE 1
STREET PAVEMENT CRITERIA

	STREET/ROADWAY CLASSIFICATIONS				
	ARTERIAL	**COLLECTOR**	**COMMERCIAL**	**INDUSTRIAL**	**RESIDENTIAL**
SIDEWALK WIDTH (1) (2)	5 FT.	5 FT.	6 FT.	N/A	5 FT.
CURB TYPE (3)	B6.24	B6.12	B6.12	B6.12	*M3.12 or B6.12*
MINIMUM STRUCTURAL NUMBER (4)(6)	4.3	3.65	4.0	4.3	3.0
MINIMUM BINDER (5)	6”	4”	5”	6”	2.75”
MINIMUM SURFACE	2.5”	2.5”	2.5”	2.5”	2”
MAXIMUM ADT	>12,500	12,500	3,500	1,000	2,500

Notes:
(1) Sidewalk shall be placed in public right-of-way, 1 foot from the property line unless otherwise approved by the Village Engineer
(2) Sidewalk designated as bike path shall be a minimum width of 8 feet
(3) Minimum gutter flag width shall be 12 inches
(4) Parking lots: Primarily auto traffic = 3.0 Primarily truck traffic = 3.65 Minimum binder thickness = 2” Minimum surface thickness = 2”
(5) All streets shall have a minimum of four (4”) inches and a maximum of twelve (12”) inches combined total thickness of stone base course and/or sub-base
(6) Pavement design calculations shall be provided for all roadway classifications, with the exception of the residential classification. If the calculated structural number is different than the minimum required, then the greater of the two structural numbers shall govern.

Location(s)	*Arterial*		*Collector*		*Commercial*		*Industrial*		*Residential*	
Mixture Use(s)	*Binder*	*Surface*	*Binder*	*Surface*	*Binder*	*Surface*	*Binder*	*Surface*	*Binder*	*Surface*
PG	*64-22*	*64-22*	*64-22*	*64-22*	*64-22*	*64-22*	*64-22*	*64-22*	*64-22*	*64-22*
RAP %: (Max)	*15%*	*10%*	*25%*	*15%*	*25%*	*15%*	*25%*	*15%*	*25%*	*15%*
Design Air Voids	*N70*	*N70*	*N50*	*N50*	*N50*	*N50*	*N50*	*N50*	*N50*	*N50*
Mixture Composition (Gradation)	*IL-19.0*	*IL-9.5 or IL-12.5*	*IL-19.0*	*IL-9.5 or IL-12.5*	*IL-19.0*	*IL-9.5 or IL-12.5*	*IL-19.0*	*IL-9.5 or IL-12.5*	*IL-19.0*	*IL-9.5 or IL-12.5*
Friction Aggregate		*Mix D*		*Mix D*		*Mix C/D*		*Mix C/D*		*Mix C/D*
Mixture Weight:	*112 lb/sy/in*	*112 lb/sy/in*	*112 lb/sy/in*	*112 lb/sy/in*	*112 lb/sy/in*	*112 lb/sy/in*	*112 lb/sy/in*	*112 lb/sy/in*	*112 lb/sy/in*	*112 lb/sy/in*

All hot-mix asphalt mixes shall be in accordance with IDOT Road & Bridge Standard Specifications

FIGURE 2
STREET GEOMETRIC CRITERIA

	STREET/ROADWAY CLASSIFICATIONS				
	ARTERIAL	COLLECTOR	COMMERCIAL	INDUSTRIAL	RESIDENTIAL
RIGHT-OF-WAY	120 FT.	80 FT.	80 FT.	80 FT.	66 FT.
ROADWAY WIDTH (1)	65 FT.	39 FT.	39 FT.	39 FT.	33 FT.
NUMBER OF TRAFFIC LANES (2)(3)	4 w/median/LTL	2 w/median/LTL	2 w/median/LTL	2 w/median/LTL	2 (LTL=left turn lane)
LANE WIDTH – MINIMUM	12 FT.	12 FT.	12 FT.	12 FT.	15 FT.
PARKING	NO	NO	NO	NO	(SEE NOTE (7)
MINIMUM CUL-DE-SAC PAVEMENT RADIUS (4)	N/A	N/A	55 FT.	55 FT.	45 FT.
MAXIMUM CUL-DE-SAC LENGTH (5)	N/A	N/A	1000 FT.	1000 FT.	600 FT.
MAXIMUM PROFILE GRADE	6%	6%	6%	6%	6%
MINIMUM PROFILE GRADE	0.5%	0.5%	0.5%	0.5%	0.5%
DESIGN SPEED (8)	50 MPH	40 MPH	35 MPH	35 MPH	30 MPH
POSTED SPEED (8)	45 MPH	35 MPH	30 MPH	30 MPH	25 MPH
MINIMUM CENTERLINE RADIUS	500 FT.	500 FT.	250 FT.	250 FT.	250 FT.
RETURN RADIUS	30 FT.	30 FT.	30 FT.	40 FT.	30 FT.

Notes:

(1) Dimensions are measured back to back of curb

(2) Five (5) lanes shall be required for traffic volumes over 12,500 ADT

(3) Three (3) lanes shall be required for the collector roadway when the traffic volumes exceed 2500 ADT or where the roadway is designated as a collector type roadway by Village staff.

(4) Cul-de-sac R.O.W. radius shall be 75 feet for commercial and industrial streets and 65 feet for all others

(5) The combined length of the street and diameter of the cul-de-sac

(6) Roadway shall be sloped (from centerline to edge of pavement) at the rate of ¼" per foot, or 2% on two lane roads; and 1.5% on the inside lanes – 2% on outside lanes of multi-lanes

(7) On-street parking shall be determined at the time of Preliminary Plat and /or PUD review.

(8) Posted/Design speed limits may be adjusted based on valid traffic engineering principals.

(9) Minimum centerline offset of adjacent intersections between residential to residential streets is 125 feet.

(10) Minimum centerline offset of adjacent intersections between residential to arterial streets is 150 feet.

(11) Maximum uninterrupted block length should not exceed 1500'.

VILLAGE OF OSWEGO
GENERAL NOTES AND SPECIFICATIONS

I. GENERAL NOTES

1. All items of this project shall be governed by specifications included in the documents listed below:
   A. "Standard Specifications for Road and Bridge Construction" prepared by the Department of Transportation of the State of Illinois and adopted by said department (latest revision) and hereinafter referred to as the “Standard Specifications”.
   B. "Supplemental Specifications and Recurring Special Provisions" adopted by the Illinois Department of Transportation (latest revision date).
   C. "Standards and Specifications for Soil Erosion and Sediment Control" by IEPA-Illinois Urban Manual - a technical manual designed for Urban Ecosystem Protection and Enhancement, 1995.
   D. "Standard Specifications for Water and Sewer Main Construction in Illinois” (latest revision).
   E. “Illinois Manual on Uniform Traffic Control Devices for Streets & Highways”.
   F. “Fox Metro Water Reclamation District Standard Specifications” (latest revision)
   G. In the event of a conflict between these various standards, the Village of Oswego standards shall apply.
2. All traffic control and other advisory signs needed for construction are to be furnished by the developer/contractor in accordance with Section 107 of the Standard Specifications.
3. All work performed shall comply with all applicable rules and regulations of the OSHA. The developer/contractor is responsible for providing a safe and healthful working condition throughout the construction of the various improvements.
4. The developer/contractor is responsible for notifying JULIE 1-800-892-0123 at least 48 hours in advance of construction operations. All utilities must be staked/located before construction.
5. The developer/contractor is responsible for notifying the Village of Oswego Public Works Dept. (630) 554-3242 a minimum of 48 hours before construction activities. A 24-hour notice must be provided for inspections and tests. Village staff must operate all watermain valves and hydrants only.
6. The developer/contractor shall protect and preserve all section/subsection monuments or property monuments until the owner; their agent or an authorized surveyor has witnessed or otherwise referenced their locations.
7. The developer/contractor shall be aware of potential conflicts with existing utilities as indicated on the plans. These areas shall be excavated to determine elevations before beginning construction and any irregularities turned over to the design engineer.

II. EARTHWORK AND GRADING

1. All fill placed under the proposed pavement shall conform to Section 205 of the referenced IDOT "Standard Specifications". This includes (but is not limited to) the removal of topsoil from fill areas and the proper compaction of fill.
2. The subgrade for roadways and sidewalks shall be free of unsuitable material and shall be compacted to a minimum of 95% of modified proctor dry density. Testing for compaction shall be the responsibility of the developer/contractor and the Village shall be provided with a copy of the testing report.
3. All earthwork shall result in a final black dirt placement within ~0.10 feet of the approved plan with record “as-built” drawings (and stage vs. storage calculations where appropriate) prepared by the design engineer of record and submitted for Village review and approval.
4. All excess earthwork materials, if not to be utilized as fill material, shall be completely removed from the site and disposed of off-site by the developer/contractor unless otherwise directed by the Village Engineer.
5. All topsoil and organic materials shall be stripped and removed before the placement of fill materials.
6. Testing: The developer/contractor shall provide as a minimum, a fully loaded six wheeled truck for proof rolling the roadway subgrade prior to the installation of curbs and base material. The truck shall be driven slowly over the subgrade and the Village Engineer or their designated representative shall witness any deflections/depressions exceeding one (1”) inch in depth. These areas of unsuitable material shall be marked for removal and replacement with suitable materials as specified by the “Standard Specifications”. The granular sub-base shall be similarly proof rolled for deflections/depressions exceeding one-half (1/2”) inch in depth.
7. The developer/contractor shall use care in grading operations around trees, shrubs, and bushes, which are to be saved so as not to cause injury to the roots, trunks, or limbs. Protective fencing shall be placed around vegetation to be saved. Root saw-cutting shall be at the direction of the Village Engineer.

III. EROSION CONTROL MEASURES

1. All erosion control measures shall be in compliance with the latest revision of the Standards and Specifications for Soil Erosion and Sediment Control" by IEPA-Illinois Urban Manual - a technical manual designed for Urban Ecosystem Protection and Enhancement, 1995 and in accordance with the erosion control plan.
2. All erosion control measures must be checked by the developer/contractor on a weekly basis and after every storm of one half inch of rainfall or greater. Any repairs or sediment removal needed to ensure adequate erosion control must be completed immediately, at the expense of the developer/contractor.
3. The work site shall be mass graded to provide for positive drainage at all times during construction. Final grades shall be protected from erosion and accumulation of sediments.

A. SOIL STABILIZATION

1. Existing vegetation cover and topsoil – strip topsoil and remove existing vegetation. Stockpile on-site for future re-use at the location designated on the plan.
2. Temporary seeding – temporary seeding shall be placed within 15 days to all disturbed areas that are scheduled to remain stripped for more than 60 days.
3. Permanent seeding – install permanent seeding or sod immediately following the finished grading and topsoil placement.
4. Slope protection – protect all seeding on slopes with mulch, secured excelsior blankets, or equal.

B. SEDIMENT CONTROL

1. Protect adjacent properties from encroaching sediments by preserving a vegetated buffer strip or with siltation fencing placed around the perimeter of the site.
2. All stockpile areas shall be protected with erosion barriers around the perimeter of the stockpile base.
3. All newly constructed storm sewer structures shall be provided with either straw bale rings or filter fabric under the frames.
4. Straw bale ditch checks shall be placed a minimum of every 250’ in all overland flood swales, rear yard swales, or other longitudinal swales.
5. All construction traffic shall be restricted to enter and leave the construction site through one designated stabilized construction access road. Said stabilized construction access shall consist of a minimum 150’ x 30’ crushed 3” stone strip that is intended to minimize the tracking of mud onto state, county, township, or municipal roadways. The developer/contractor is responsible for daily cleaning or the roadways or as directed by the Village Engineer. Water flushing is not an acceptable method for removal of dirt and debris from the roadways.
6. The developer/contractor must remove all erosion control measures within 30 days of final site stabilization.

IV. SANITARY SEWER CONSTRUCTION

1. All sanitary sewer work shall be constructed in accordance with the applicable "Standard Specifications for Water and Sewer Main Construction In Illinois" latest edition.
2. All sanitary sewer construction shall comply with the rules and regulations of the Fox Metro Water Reclamation District, and their "General Notes" and construction details are to be appended to the plans in addition to the Village notes and details.
3. Sanitary sewer mains shall have a minimum cover of 5.5' and shall be installed in a straight alignment unless specifically shown otherwise on the approved plans. Minimum cover may be reduced, at the discretion of the Village Engineer, provided that satisfactory measures are taken to insulate and protect the pipe.
4. All existing utilities and improvements, including but not limited to walks, curbs, pavement, landscaping, and parkways, damaged or removed by construction shall be promptly restored to their original (or better) condition.
5. "Non-shear" or similar couplings approved by the Village Engineer shall be used when joining sewer pipes of dissimilar materials.
6. All new sanitary sewer mains shall have wyes installed for proposed building services. Said wyes shall be installed in the same direction as the main flow direction. All service connections to existing sanitary sewer mains not having wyes shall be made with an "Insert-a-Tee" type fitting or other similar approved equal fitting.
7. All trenches under or within 2' of a <u>proposed</u> sidewalk, curb, pathway, or roadway must be backfilled with properly compacted CA-7 trench backfill.
8. All trenches under or within 2' of an <u>existing</u> sidewalk, curb, pathway, or roadway must be backfilled with an IDOT approved mix #2 design of "Controlled Low Strength Material" (i.e. CLSM or Flowable Fill) dispensed from a redi-mix truck up to the sub-grade level. Said CLSM shall be fluid enough to fill all voids and undermines. Upon placement of the CLSM, the trench shall be properly protected with barricades and plated with appropriate steel plates to minimize traffic disruption until the CLSM has sufficiently set up to allow for the remainder of the restoration. Roadway restoration shall be completed immediately after the setting of the CLSM.
9. Materials permitted for use in sanitary sewer mains and services are PVC SDR 26 ASTM D-3034 with ASTM D3212 joints.
10. Manholes shall be constructed of prefabricated concrete sections meeting the requirements of ASTM C-478. Sections shall be joined using either flexible rubber gaskets or preformed bituminous plastic gaskets. The manhole bottom shall be precast with the first riser section. Manholes shall have the pipe cast in place through the manhole or a watertight joint cast in the manhole wall to receive the pipe. Manhole frames and lids shall be of self-sealing type Neenah Foundry Company (Catalog No.R-1712 in pavement, or equal with approval by the Village, with Type B lid and concealed pick-hole with the word "Sanitary" cast in the lid.
11. All sanitary sewers shall be tested using several methods. Infiltration-exfiltration shall not exceed 200-gallons/inch diameter/day/mile of pipe. Testing shall be done after the service lines have been installed and capped. Testing procedures for water tightness shall be established by the Village Engineer and may include infiltration or exfiltration or low pressure air testing. Minimum testing procedure shall comply with the Standard Specifications for Sewer and Watermain Construction in Illinois Section

31-1.11. Testing will also include video taping in color (VHS format and submitted to the Village for review) and vacuum testing of manhole structures.

12. All sanitary sewers shall be tested for deflection using a rigid ball or mandrel having a diameter equal to 95% of the base diameter of the pipe as established in proposed ASTMD-3034. The test shall be performed without mechanical pulling devices. The individual lines to be tested shall be so tested no sooner than 30 days after they have been installed. Whenever possible and practical, the testing shall initiate at the downstream lines and proceed toward the upstream lines. No pipe shall exceed a deflection of 5% of the base inside diameter. Where deflection is found to be in excess of 5% of the original pipe diameter, the Contractor shall excavate to the point of excess deflection and carefully compact around the point where excess deflection was found. The line shall then be re-tested for deflection. However, should after the initial testing the deflected pipe fail to return to the original size (inside diameter) the line shall be replaced.
13. Granular pipe bedding and cover material shall extend 12" above the crown of the sanitary sewer main. The granular pipe bedding material shall conform to ASTM specification 2321-89 (CL I B). Said material shall be 100% crushed stone CA-7 gradation.

V. STORM SEWER CONSTRUCTION

1. All storm sewer work shall be constructed in accordance with the applicable "Standard Specifications for Water and Sewer Main Construction in Illinois" latest edition.
2. All storm sewer structure adjustments shall be made with precast concrete adjusting rings set in a full bed of butyl rope joint sealant. The rings must be in good shape with no visible cracks or missing pieces, and no more than 8" of adjusting rings may be used. No more than two 2" rings may be used.
3. All storm sewer structures shall have poured inverts conforming to the shape of the pipes.
4. All existing field drainage tile encountered or damaged during utility construction or mass earthwork must be restored to their original condition, or properly re-routed, or if feasible, connected into the storm sewer system. All locations, sizes, and depths of encountered field tile shall be properly referenced and documented for the record "as-built" drawings.
5. All trenches under or within 2' of a proposed sidewalk, curb, pathway, or roadway must be backfilled with properly compacted CA-7 trench backfill and 12" CA-6 cap.
6. All trenches under or within 2' of an existing sidewalk, curb, pathway, or roadway must be backfilled with an IDOT approved mix #2 design of "Controlled Low Strength Material" (i.e. CLSM or Flowable Fill) dispensed from a redi-mix truck up to the sub-grade level. Said CLSM shall be fluid enough to fill all voids and undermines. Upon placement of the CLSM, the trench shall be properly protected with barricades and plated with appropriate steel plates to minimize traffic disruption until the CLSM has sufficiently set up to allow for the remainder of the restoration. Roadway restoration shall be completed immediately after the setting of the CLSM.
7. Where shown on the plans, or as directed by the Village Engineer, existing storm sewer structures shall be cleaned of debris/sediments. All drainage structures installed as a part of the improvements shall be maintained by the developer/contractor until the improvements are "final" accepted by the Village.
8. All storm sewer crossing over watermains shall be constructed of either reinforced concrete pipe with o-ring joints conforming to ASTM C-443 standards, or other watermain class pipe as approved by the Village Engineer.

VI. WATERMAIN CONSTRUCTION

1. All watermain work shall be constructed in accordance with the applicable "Standard Specifications for Water and Sewer Main Construction in Illinois" latest edition.
2. Watermains shall have a minimum cover of 5.5' and shall be installed in a straight alignment unless specifically shown otherwise on the approved plans. Minimum cover may be reduced, at the discretion of the Village Engineer, provided that satisfactory measures are taken to insulate and protect the pipe.
3. All watermains shall be cement lined ductile iron pipe, class 52 conforming to AWWA C-151 with push-on or mechanical joints and shall be encased in polyethylene film in accordance with AWWA C-105-82. Fittings shall be cement lined, tar coated cast iron with mechanical joints rated 250 psi per AWWA C110/ANSI 21.20.
4. All pipe and fittings shall be manufactured in the United States or approved equal.
5. All main line valves shall be "American Flow Control" type gate valves and housed in a precast concrete vault of the appropriate size.
6. All hydrants shall be "Waterous Pacer" model WB-67 –250 or Clow Medallion type and include a gate valve in a metal box with bracing and trench adapter.
7. All corporation stops shall be "A Y McDonald" model, compression type.
8. All curb stops shall be "A Y McDonald" model.
9. All watermains shall be pressure tested and disinfected in accordance with the standards and procedures set by the Village. Minimum testing procedure shall comply with the Standard Specifications for Sewer and Watermain Construction in Illinois Section 41-2.13 and Section 41-2.14.
10. Only Village staff is allowed to operate valves and hydrants. A minimum of 24 hours advance notice must be given to the Village Public Works Department for the operation of valves and hydrants.

VII. PROTECTION OF WATERMAIN AND WATER SERVICE LINES

Watermains and water service lines shall be protected from sanitary sewers, storm sewers, combined sewers, sewer service lines, and drain tiles as follows:

A. WATERMAINS

1. Horizontal Separation
   a. Watermains shall be laid at least ten feet horizontally from any existing or proposed sanitary sewer, storm sewer, combined sewer, sewer service, and drain tile.
   b. Watermains may be laid closer than ten feet to a sewer line when:
      i. Local conditions prevent a lateral separation of ten feet.
      ii. The watermain invert is at least 18 inches above the crown of the sewer; and
      iii. The watermain is either in a separate trench or in the same trench on an undisturbed earth shelf located to one side of the sewer.
   c. Both the watermain and sewer/drain shall be constructed of slip-on or mechanical joint cast or ductile iron pipe, pre-stressed concrete pipe or PVC pipe meeting the requirements of section 653.111 when sewer shall be pressure tested to the maximum expected surcharge head before backfilling.

2. Vertical Separation
   a. A watermain shall be laid so that its invert is 18 inches above the crown of the sewer or drain whenever watermains cross storm sewers, sanitary sewers or sewer services. The vertical separation shall be maintained for that portion of the watermain located within ten feet horizontally of any sewer or drain crossed. A length of watermain pipe shall be centered over the sewer to be crossed with joints equidistant from the sewer or drain.
   b. The sewer or drain shall be constructed of slip-on or mechanical joint cast or ductile iron pipe, pre-stressed concrete pipe, (storm sewer only), or PVC pipe meeting the requirements of section 653.111, or the sewer or drain shall be sleeved with steel pipe or constructed of reinforced concrete pipe conforming to ASTM C-76 with gasket joints conforming to ASTM C-361 (storm sewers only) for a distance of ten feet either side of the conflict,
      i. It is impossible to obtain the proper vertical separation as described in a) above; or
      ii. The watermain passes under a sewer or drain
   c. A vertical separation of 18 inches between the invert of the sewer or drain and the crown of the watermain shall be maintained where a watermain crosses under a sewer. In addition, the sewer shall be constructed of watermain quality pipe. Support the sewer or drain lines to prevent settling and breaking the watermain.
   d. Construction shall extend on each side of the crossing until the normal distance from the watermain to the sewer or drain line is at least ten feet.

B. WATER SERVICE LINES

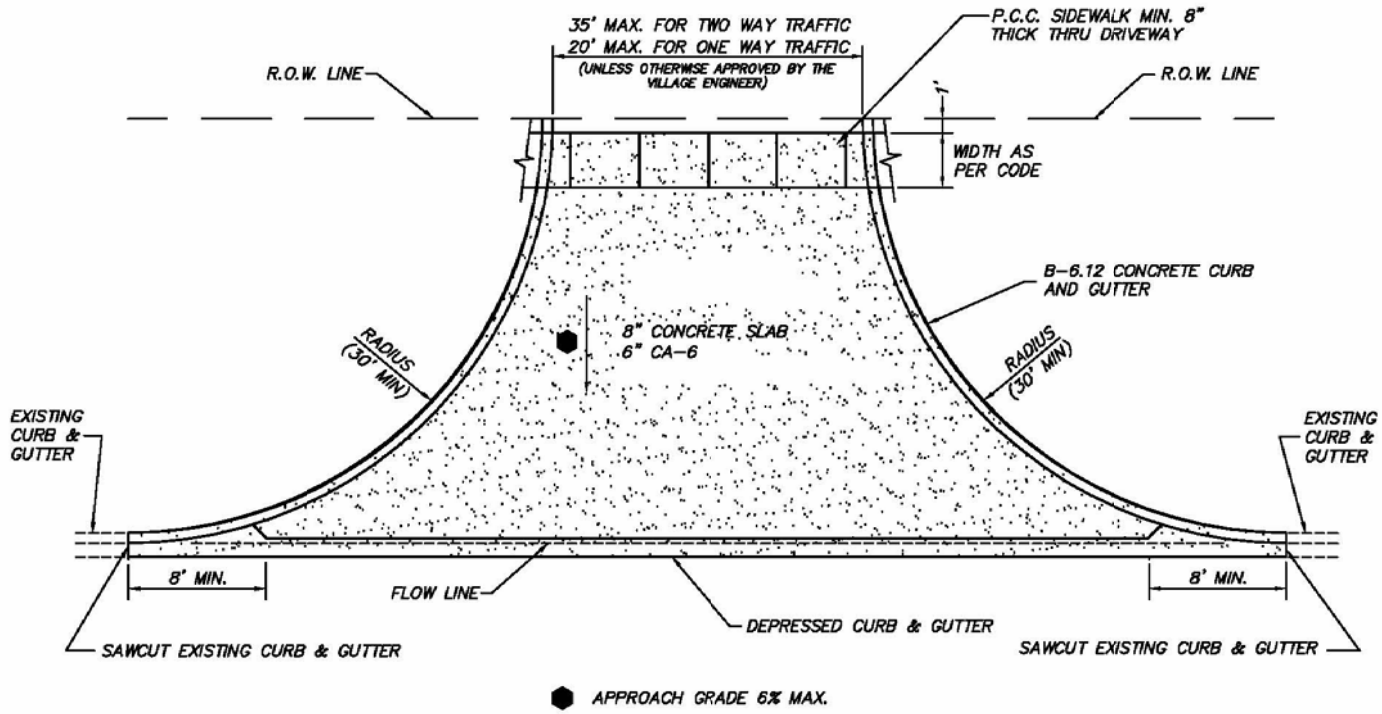
1. The horizontal and vertical separation between water service lines and all storm sewers, sanitary sewers, combined sewers, sanitary sewer services, or any drain tiles shall be the same as watermain separation described in (A) above.
2. Water pipe described in (A) above shall be used for sewer service lines when minimum horizontal and vertical separation cannot be maintained.

C. SPECIAL CONDITIONS
Alternate solutions shall be presented to the agency when extreme topographical, geological, or existing structural conditions make strict compliance with (A) or (B) above technically and economically impractical. Alternate solutions will be approved provided watertight construction structurally equivalent to approved watermain material is proposed.

D. Watermains shall be separated from septic tanks, disposal fields and seepage beds by a minimum of 25 feet.

E. Watermains and water service lines shall be protected against entrance of hydrocarbons through diffusion through any material used in construction of the line.

INDUSTRIAL/COMMERCIAL DRIVEWAY DETAIL



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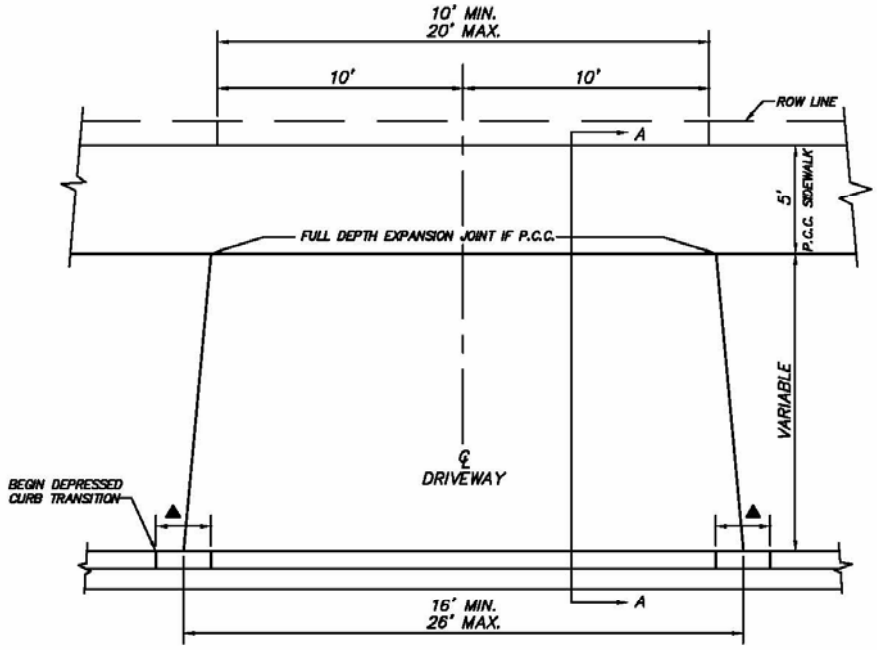
NOTE:
CHECK WITH THE VILLAGE FOR STANDARD DETAILS FOR PAVEMENT CROSS SECTIONS AND OVERALL GEOMETRICS.

OSW-R-1

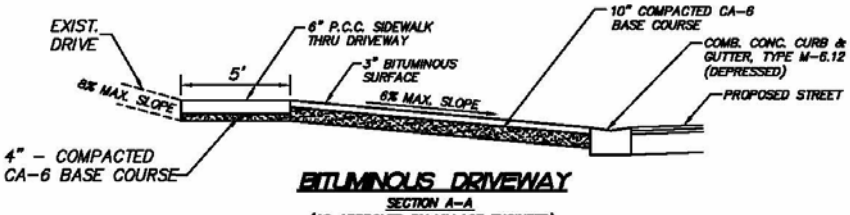
RESIDENTIAL DRIVEWAY APPROACH DETAIL



▲ – TRANSITION FROM FULL CURB IN 2 LINEAL FEET.

– DRIVEWAY APPROACH SHALL MEET CURB AND GUTTER AT A POINT BETWEEN FULL CURB AND ONE-HALF CURB HEIGHT.

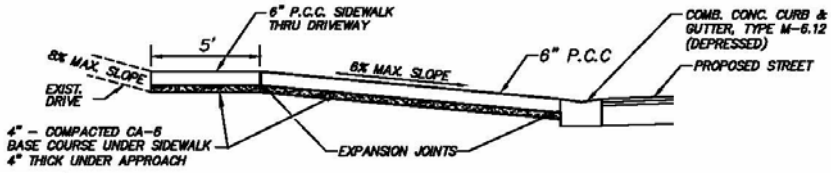
– DRIVEWAY FLARE SHALL BE SYMETRIC ABOUT THE DRIVEWAY CENTERLINE UNLESS OTHERWISE APPROVED BY THE ENGINEER.



BITUMINOUS DRIVEWAY

SECTION A-A

(AS APPROVED BY VILLAGE ENGINEER)



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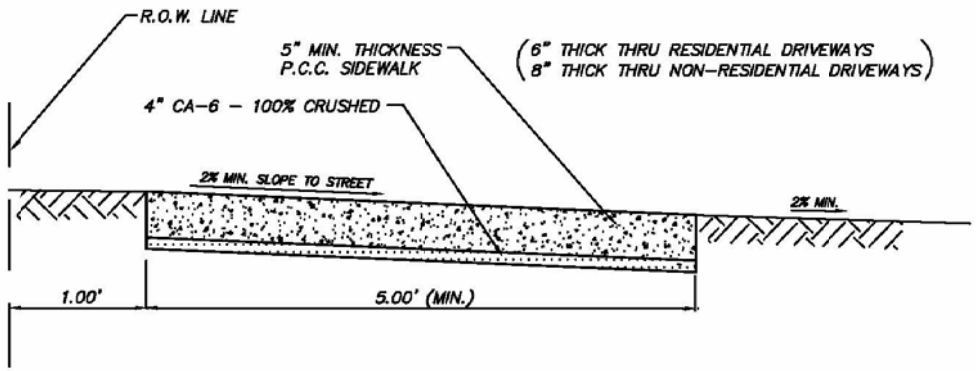
P.C.C. DRIVEWAY

SECTION A-A

OSW-R-2

SIDEWALK DETAIL



NOTES:

ALL SIDEWALKS SHALL HAVE CONTRACTION JOINTS AT 5' INTERVALS AND EXPANSION JOINTS AT 50' INTERVALS.
MINIMUM SIDEWALKS AS PER VILLAGE OF OSWEGO SUBDIVISION CONTROL ORDINANCE - FIGURE 1

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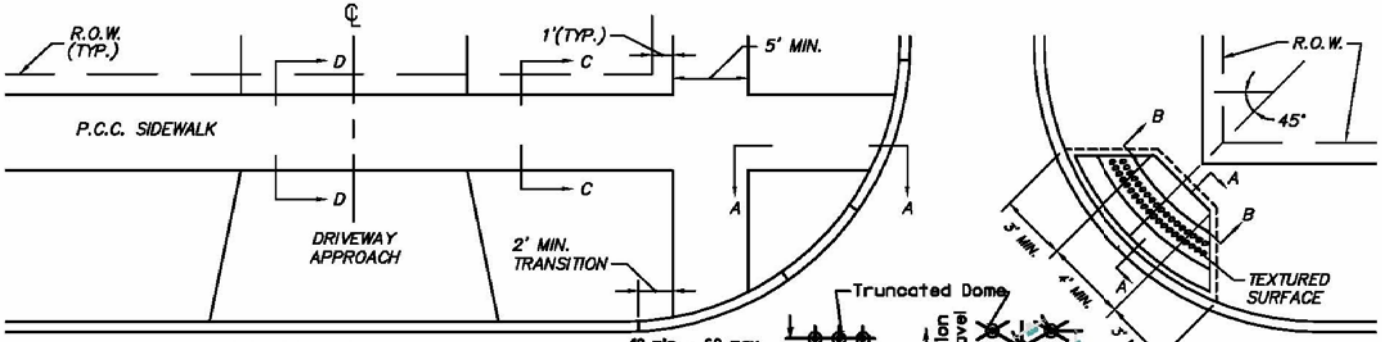
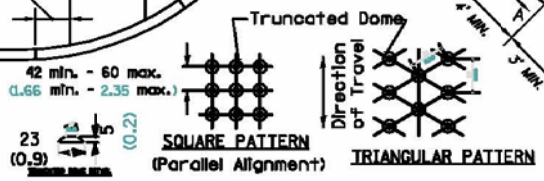
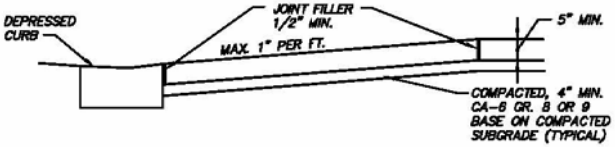
PUBLIC SIDEWALK AND HANDICAP RAMP DETAIL

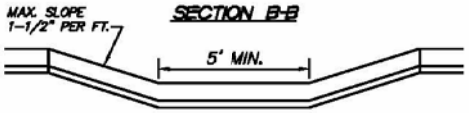




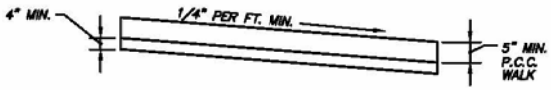
SECTION A-A



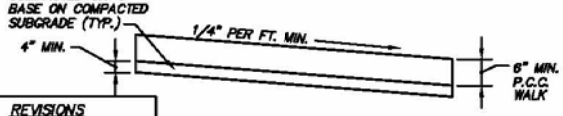
SECTION B-B



SECTION C-C



SECTION D-D



RAMP TEXTURE DETAIL

1. ALL SIDEWALKS SHALL BE CONSTRUCTED OF 6-BAG MIX PORTLAND CEMENT CLASS 'S1' CONCRETE WITH A TRANSVERSE BROOM FINISH AND TOOLED EDGES AND JOINTS IN ACCORDANCE WITH THE IDOT STANDARD SPECIFICATIONS OF ROAD AND BRIDGE CONSTRUCTION. RAMP TEXTURING IS TO BE DONE WITH AN APPROVED MOLD PLACED AND REMOVED FROM WET RED DYED CONC. TO LEAVE A TRUNCATED CONE PATTERN AS SHOWN. THE LONG AXIS OF THE PATTERN SHALL BE PERPENDICULAR TO THE CURB. GROOVES SHALL BE 1/8" DEEP AND 1/4" WIDE. A CURING COMPOUND SHALL BE APPLIED TO ALL SURFACES. SPECIAL ATTENTION SHALL BE GIVEN TO POURING CONCRETE IN COLD WEATHER. NO CONCRETE SHALL BE POURED ON A FROZEN SUBGRADE OR BASE. REFER TO THE VILLAGES COLD WEATHER SPECIFICATIONS FOR ALL SUCH CONSTRUCTION.
2. CONCRETE SHALL BE CONSTRUCTED ON A WELL COMPACTED SUBGRADE AND GRANULAR BASE. SUBGRADE, BASE, FORMS, AND ALIGNMENT SHALL BE INSPECTED BY THE VILLAGE INSPECTOR PRIOR TO PLACEMENT.
3. CONTRACTION JOINTS SHALL BE PLACED ON 5-0" CENTERS. FULL DEPTH EXPANSION JOINTS ARE REQUIRED EVERY FIFTY FEET.
4. THE THICKNESS OF SIDEWALKS SHALL BE 5" MIN. ON 4" MIN. CA-6 BASE AND 6" MIN. THICK THRU RESIDENTIAL DRIVEWAY APPROACHES. PEA GRAVEL AND SAND ARE NOT ACCEPTABLE BASE COURSE MATERIAL. THEY SHALL BE A MINIMUM OF 5' WIDE.
5. THE FINISH GRADE OF THE SIDEWALK SHALL BE A MINIMUM PITCH TOWARD THE STREET 1/4" PER FOOT OF WIDTH.
6. NO SIDEWALK MAY BE CONSTRUCTED OVER A WATER SERVICE BOX UNLESS APPROVED BY THE VILLAGE ENGINEER.
7. RAMPS SHALL BE LOCATED AS SHOWN ON PLANS WITH CONSIDERATION GIVEN TO ALIGNMENT WITH NORMAL SIDEWALK OR CROSSWALK AND MAINTENANCE OF SUFFICIENT CURB LENGTH AT CORNER RADIUS TO PREVENT VEHICULAR ENCROACHMENT.
8. RAMPS SHALL NOT HAVE A SLOPE GREATER THAN 1" PER FOOT EXCEPT WHERE BUILDING OR OTHER RESTRICTIONS WILL NOT PERMIT.
9. ALL HANDICAP RAMP INFORMATION SHALL BE VERIFIED WITH CURRENT ADA REQUIREMENTS.

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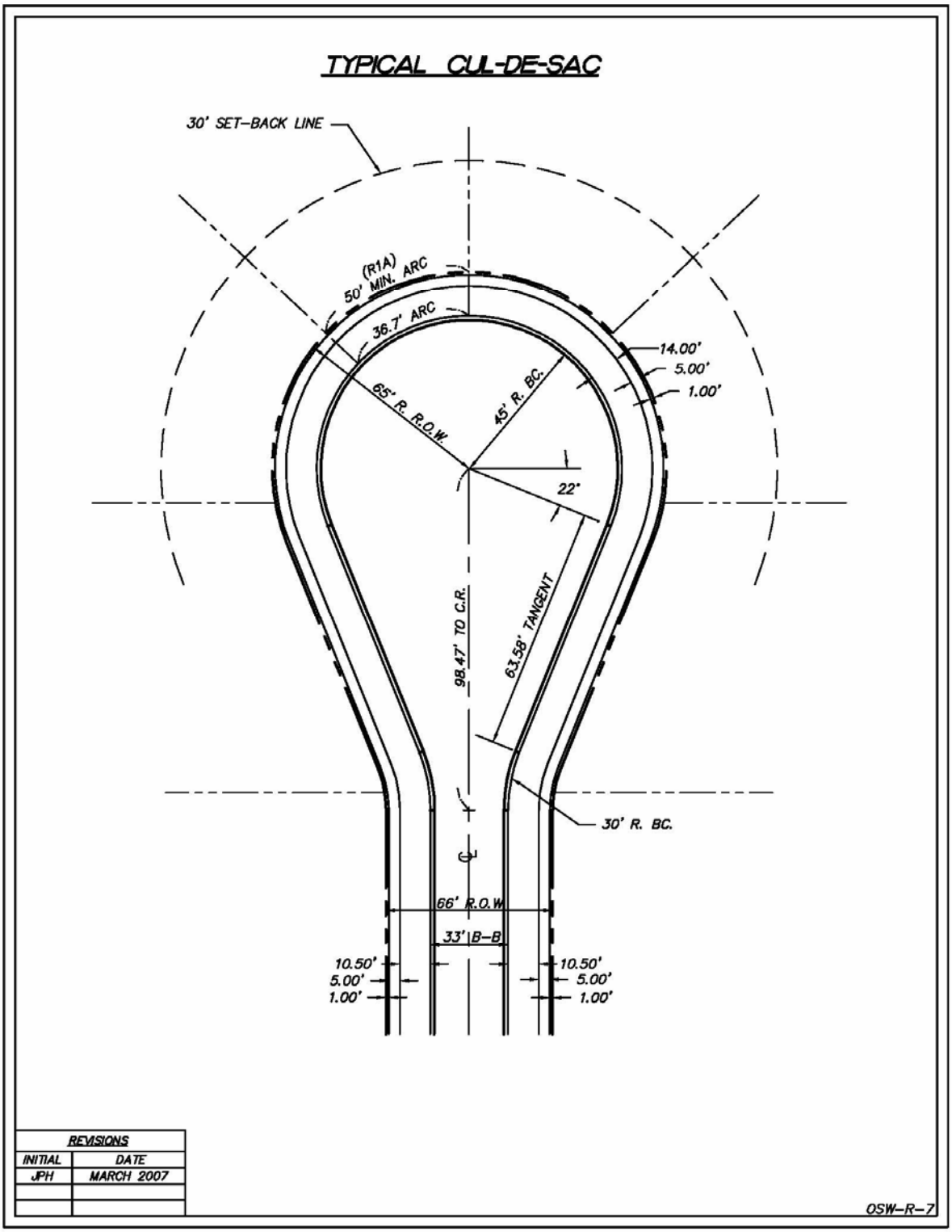
TYPICAL CUL-DE-SAC
30' SET-BACK LINE
(R1A)
50' MIN. ARC
36.7' ARC
14.00'
5.00'
1.00'
65' R. R.O.W.
45' R. BC.
22°
98.47' TO C.R.
63.58' TANGENT
30' R. BC.
66' R.O.W.
33' B-B
10.50'
5.00'
1.00'
10.50'
5.00'
1.00'
REVISIONS
INITIAL
DATE
JPH
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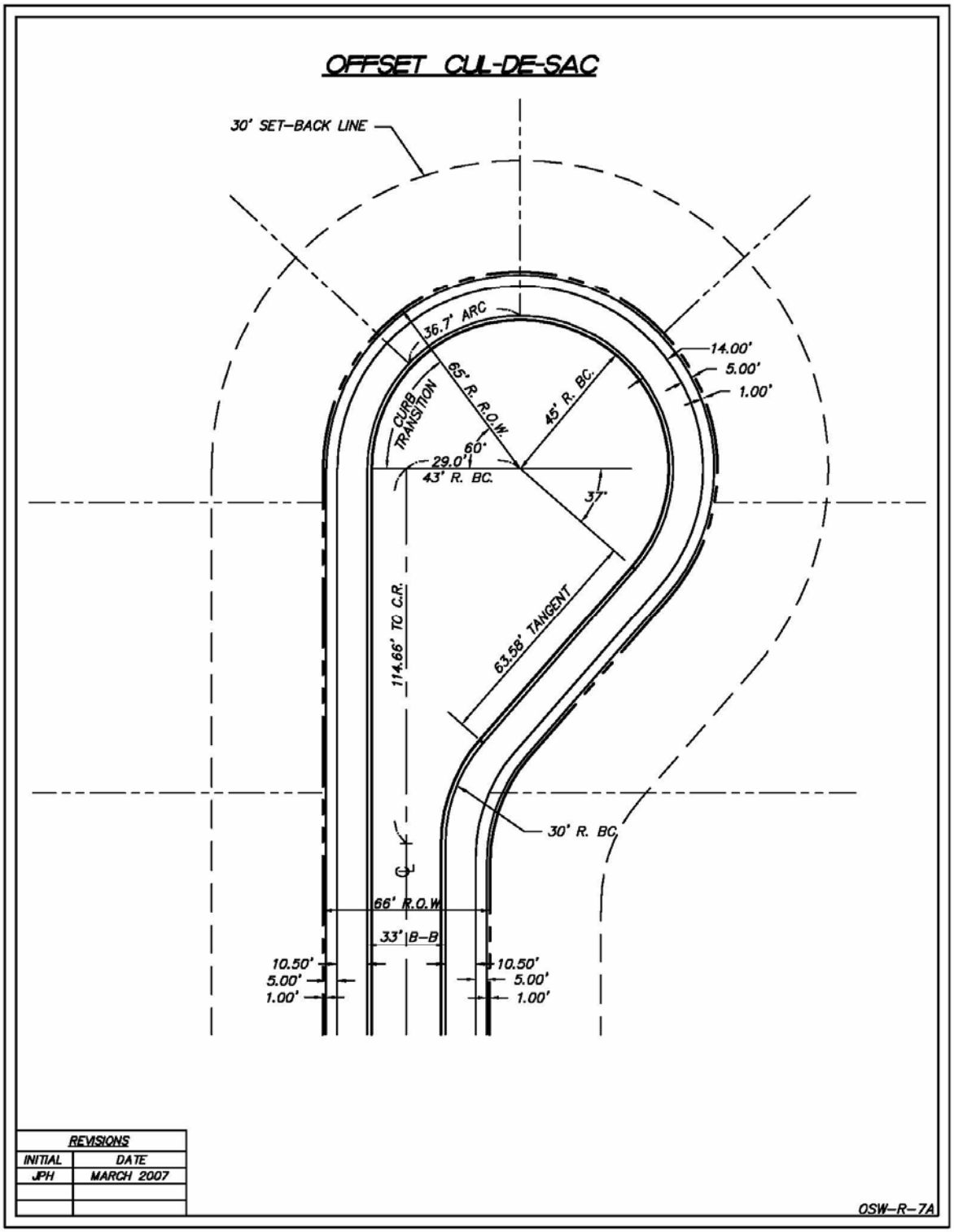
OFFSET CUL-DE-SAC
30' SET-BACK LINE
36.7' ARC
65' R. R.O.W.
45' R. BC.
CURB TRANSITION
60°
29.0'
43' R. BC.
37°
14.00'
5.00'
1.00'
114.66' TO C.R.
63.58' TANGENT
30' R. BC.
66' R.O.W.
33' B-B
10.50'
5.00'
1.00'
10.50'
5.00'
1.00'
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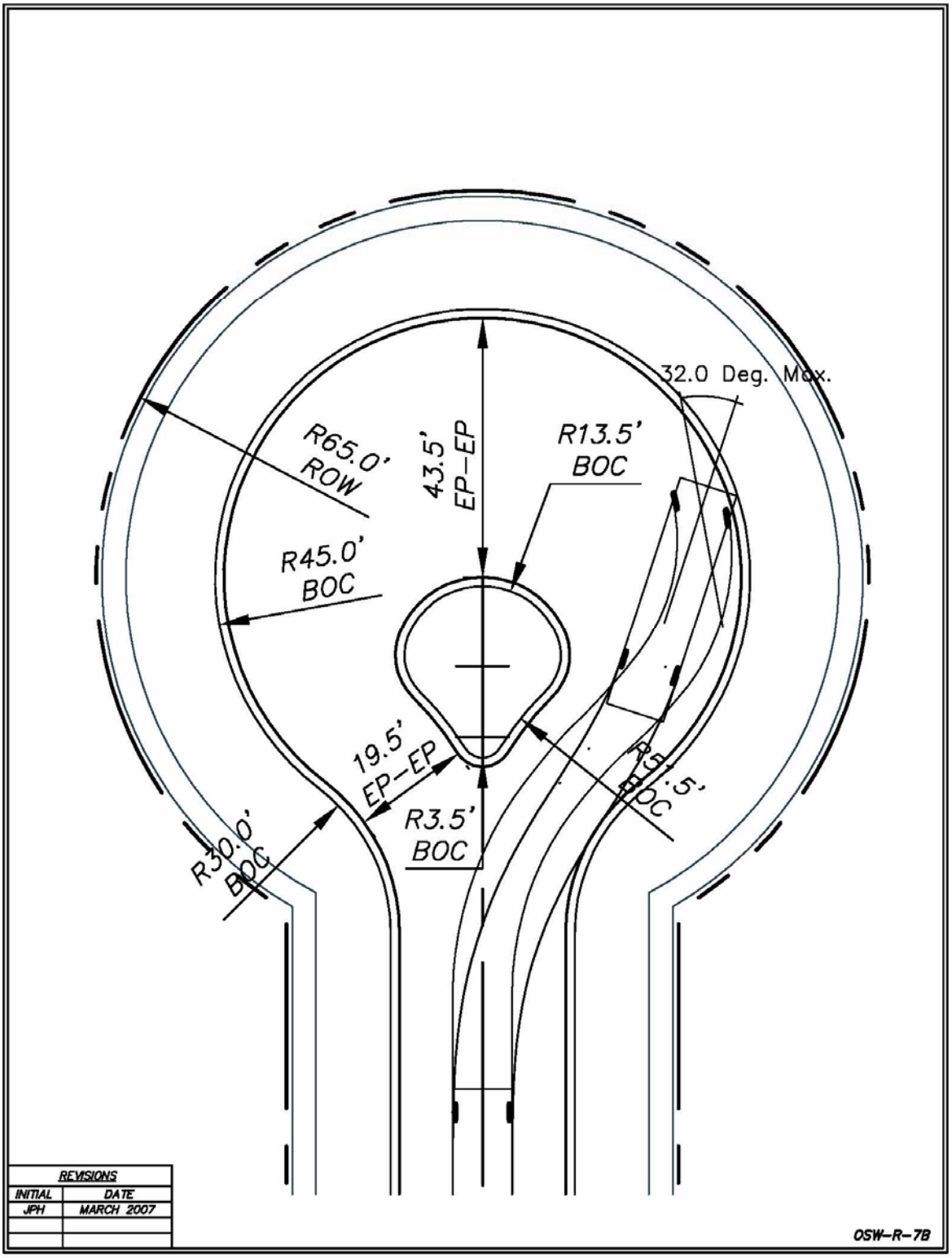
MARCH 2007
OSW-R-7A


32.0 Deg. Max.
R65.0'
ROW
43.5'
EP-EP
R13.5'
BOC
R45.0'
BOC
19.5'
EP-EP
R3.5'
BOC
R30.0'
BOC
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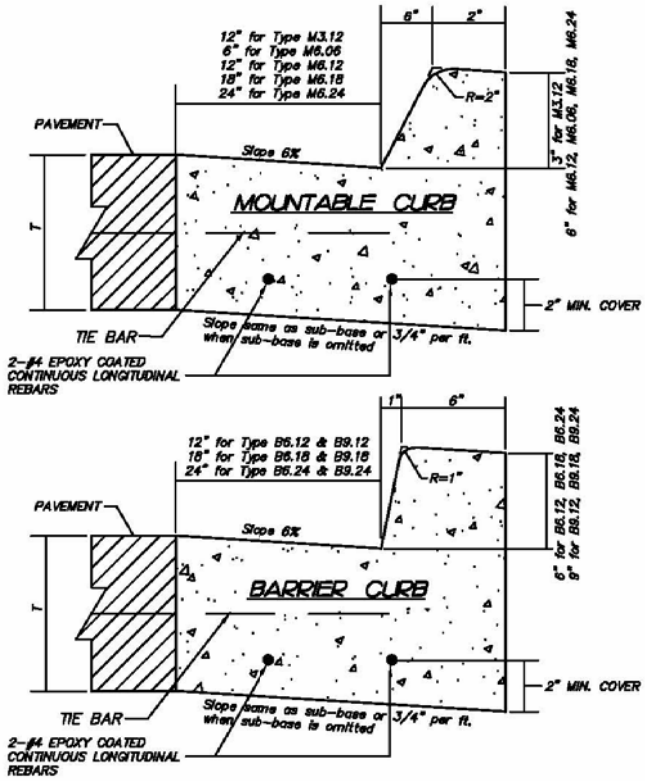
OSW-R-7B

CONCRETE CURB AND GUTTER DETAIL



THICKNESS – T – Thickness of pavement. When curb & gutter is constructed adjacent to flexible pavement, the vertical thickness of the gutter flag shall be 9". Also, tie bars shall be omitted.

DRAINAGE OPENINGS – At all locations where metal casings are to be incorporated in the curb and gutter, a 1" thick preformed joint filler, conforming to the cross sections of the curb and gutter, shall be installed in the curb and gutter a distance of 10 ft. from each side of the metal casing. When the width of the metal casing is less than the width of the curb and gutter, 2 – No. 4 continuous long rebars & reverse pitch (L = 12" + casting length + 12") shall be incorporated in the continuous portion of concrete gutter in front of the casting.

TRANSITIONS – The transition from full height curb to depressed curb shall be made at the rate of 3" per foot of length or flatter.

JOINTS – In addition to the requirements of the Standard Specifications, joints shall be constructed as follows.

Contraction joints and expansion joints shall be installed in the curb and gutter in prolongation with joints in adjacent P.C.C. pavement or base course.

When curb and gutter is constructed adjacent to flexible pavement, a 1" thick preformed expansion joint filler, conforming to the cross section of the curb and gutter shall be installed at points of curvature for short radius curves and at construction joints. Contraction joints shall be placed between expansion joints at distances not to exceed 10 feet.

All expansion joints shall be provided with a 1 1/4 dia. X 18" epoxy coated dowel bar conforming to the Standard Specifications. The dowel bar shall be fitted with a cap having a pinched stop that will provide 1" of expansion.

All construction joints shall be provided with 1/2" dia. deformed epoxy coated steel tie bars 30' long conforming to AASHTO M-31 of M-53. Tie bars shall be placed on 9'± centers (minimum 2 per joint).

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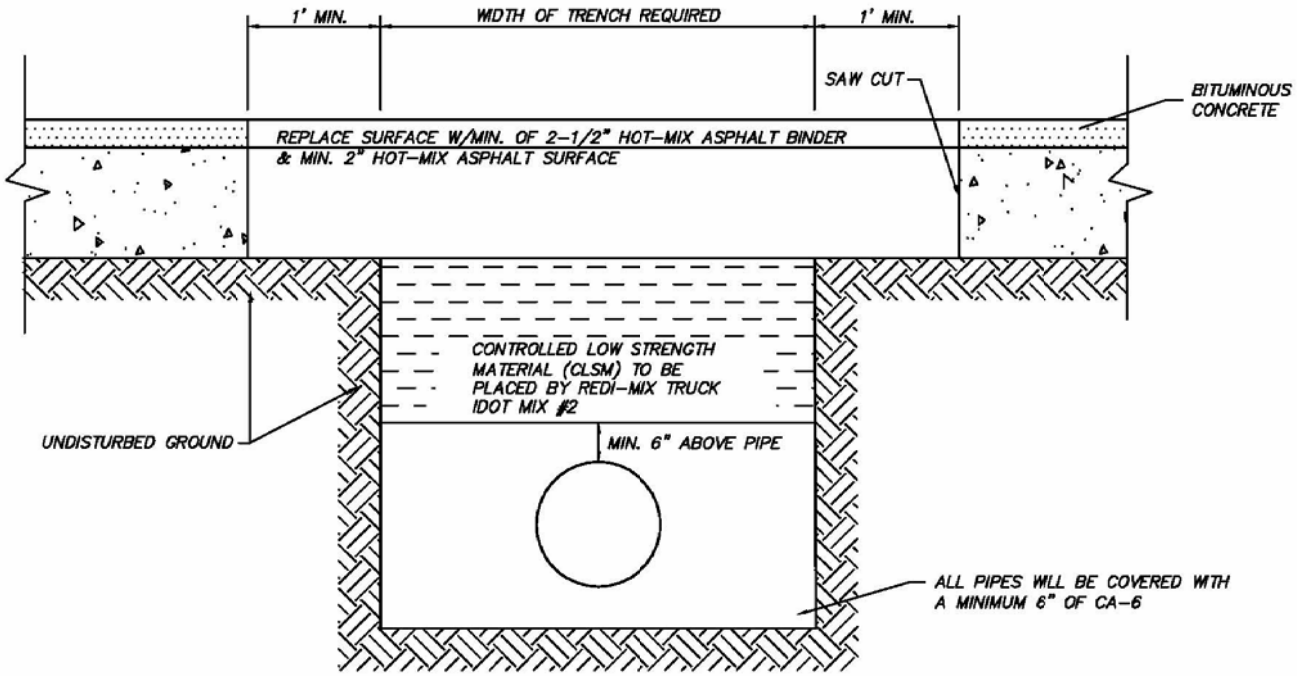
PAVEMENT REMOVAL AND REPLACEMENT DETAIL



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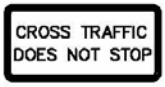
OSW-R-10

STREET & TRAFFIC IDENTIFIERS PLAN
SAMPLE LEGEND

(A)

R1–1
STOP SIGN
30" X 30"

(B) 

W4–4p
CROSS TRAFFIC
DOES NOT STOP
24" X 12"

(C)

R2–1
SPEED LIMIT
24" X 30"

(D)

R3–1
TURN PROHIBITION
24" X 24"

(E)

R5–1
DO NOT ENTER
30" X 30"

(F)

R7–1d
NO PARKING ANYTIME
12" X 18"

(G)

W11–2
PEDESTRIAN CROSSING
30" X 30"

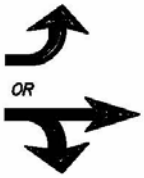
(H)

S1–1
SCHOOL ADVANCED WARNING
36" X 36"

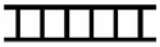
W16–7P
DIAGONAL ARROW
24" X 12"

(I)

OSW–STUBSIGN
FUTURE STREET CONNECTION
24" X 36"

(J) 

WHITE ARROWS

(K) 

6" WHITE
CROSSWALK STRIPING

(L)

24" WHITE
STOP BAR

NOTES:

1. ALL SIGNS & STRIPING SHALL CONFORM TO THE LATEST EDITION OF THE M.U.T.C.D., IDOT DISTRICT 3 PAVEMENT MARKING STANDARDS & VILLAGE APPROVED DETAILS.
2. SIGNS & STRIPING LEGEND MAY BE MODIFIED AS NEEDED ON A PER PROJECT BASIS.

OSW–R–11

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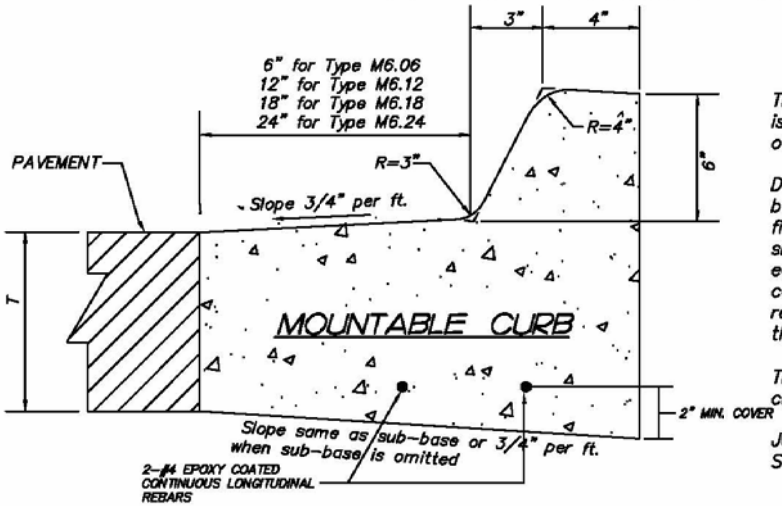
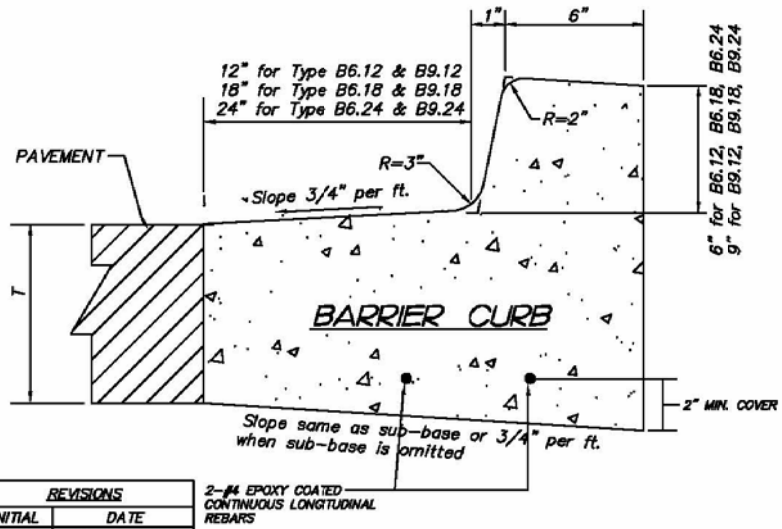
REVERSE CONCRETE CURB AND GUTTER





THICKNESS – T – Thickness of pavement. When curb & gutter is constructed adjacent to flexible pavement, the vertical thickness of the gutter flag shall be 9". Also, tie bars shall be omitted.

DRAINAGE OPENINGS – At all locations where metal casings are to be incorporated in the curb and gutter, a 1" thick preformed joint filler, conforming to the cross sections of the curb and gutter, shall be installed in the curb and gutter a distance of 10 ft. from each side of the metal casing. When the width of the metal casing is less than the width of the curb and gutter, 2 – No. 4 rebars (L = 12" + casting length + 12") shall be incorporated in the continuous portion of concrete gutter in front of the casting.

TRANSITIONS – The transition from full height curb to depressed curb shall be made at the rate of 3" per foot of length or flatter.

JOINTS – In addition to the requirements of Article 606.06 of the Standard Specifications, joints shall be constructed as follows.

Contraction joints and expansion joints shall be installed in the curb and gutter in prolongation with joints in adjacent P.C.C. pavement or base course.

When curb and gutter is constructed adjacent to flexible pavement, a 1" thick preformed expansion joint filler, conforming to the cross section of the curb and gutter shall be installed at points of curvature for short radius curves and at construction joints. Contraction joints shall be placed between expansion joints at distances not to exceed 25 feet.

All expansion joints shall be provided with a 1 1/4 dia. X 18" coated smooth dowel bar conforming to Article 1006.11(b) of the Standard Specifications. The dowel bar shall be fitted with a cap having a pinched stop that will provide 1" of expansion.

All construction joints shall be provided with 1/2" dia. deformed steel tie bars 30' long conforming to AASHTO M–31 of M–53. Tie bars shall be placed on 9'± centers (minimum 2 per joint).

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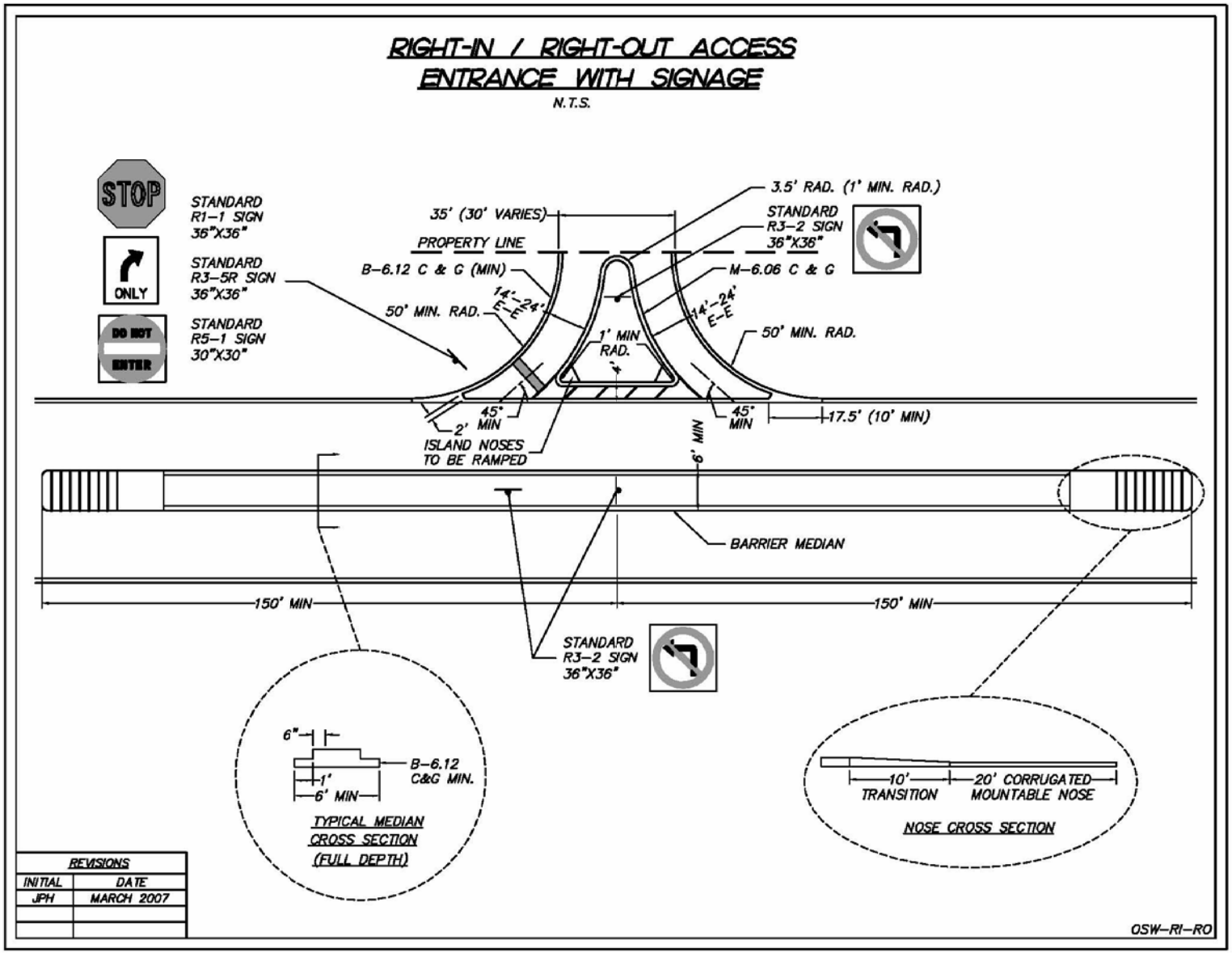
RCURB


RIGHT-IN / RIGHT-OUT ACCESS
ENTRANCE WITH SIGNAGE
N.T.S.
STOP
STANDARD R1-1 SIGN 36"X36"
ONLY
STANDARD R3-5R SIGN 36"X36"
DO NOT ENTER
STANDARD R5-1 SIGN 30"X30"
35' (30' VARIES)
PROPERTY LINE
B-6.12 C & G (MIN)
50' MIN. RAD.
14'-24' E-E
1' MIN RAD.
3.5' RAD. (1' MIN. RAD.)
STANDARD R3-2 SIGN 36"X36"
M-6.06 C & G
50' MIN. RAD.
45° MIN
2' MIN
ISLAND NOSES TO BE RAMPED
6' MIN
17.5' (10' MIN)
BARRIER MEDIAN
150' MIN
150' MIN
STANDARD R3-2 SIGN 36"X36"
6"
B-6.12 C&G MIN.
1'
6' MIN
TYPICAL MEDIAN CROSS SECTION (FULL DEPTH)
10' TRANSITION
20' CORRUGATED MOUNTABLE NOSE
NOSE CROSS SECTION
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TEMPORARY SILTATION FENCE DETAIL

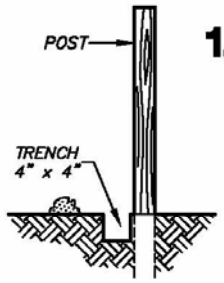
MAINTENANCE

1. Filter barriers shall be inspected immediately after each rainfall greater than 1/2" and at least daily during prolonged rainfall. Any required repairs shall be made immediately.

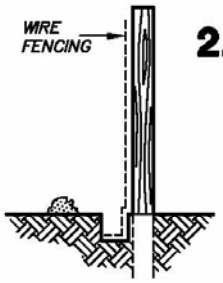
2. Should the fabric decompose or become ineffective prior to the end of the expected usable life and the barrier still be necessary, the fabric shall be replaced promptly.

3. Sediment deposits should be removed after each storm event. They must be removed when deposits reach approximately half the height of the barrier.

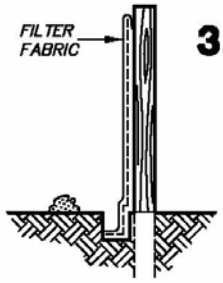
4. Any sediment deposits remaining in place after the silt fence or filter barrier is no longer required shall be dressed to conform with the existing grade, prepared and seeded.



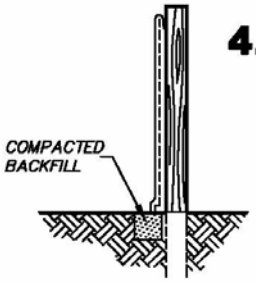
1. SET POSTS AND EXCAVATE A 4" x 4" TRENCH UPSLOPE ALONG THE LINE OF THE POSTS.



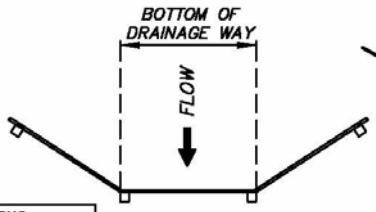
2. STAPLE THE WIRE MESH FENCING TO EACH POST



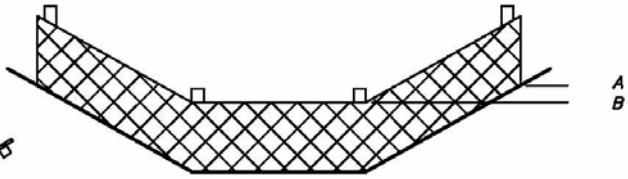
3. ATTACH THE FILTER FABRIC TO THE WIRE FENCING AND EXTEND IT INTO THE TRENCH



4. BACKFILL THE TRENCH AND COMPACT THE EXCAVATED SOIL



PLAN



ELEVATION
POINT "A" SHOULD BE HIGHER THAN POINT "B".

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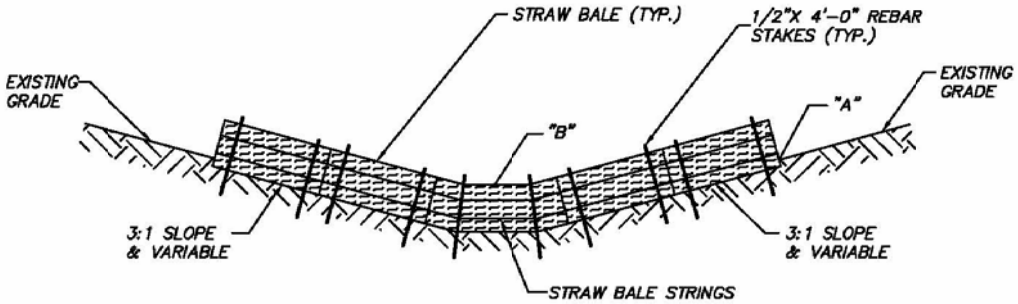
TEMPORARY STRAWBALE DITCH CHECK DETAIL



NOTE: STRAW BALES ARE TO BE ENTRENCHED INTO THE EXISTING GRADE BY A MIN. OF 4".

EXTEND BARRIER UNTIL POINT "A" IS HIGHER THAN POINT "B".

SEE URBAN MANUAL (IL-635) FOR ADDITIONAL NOTES

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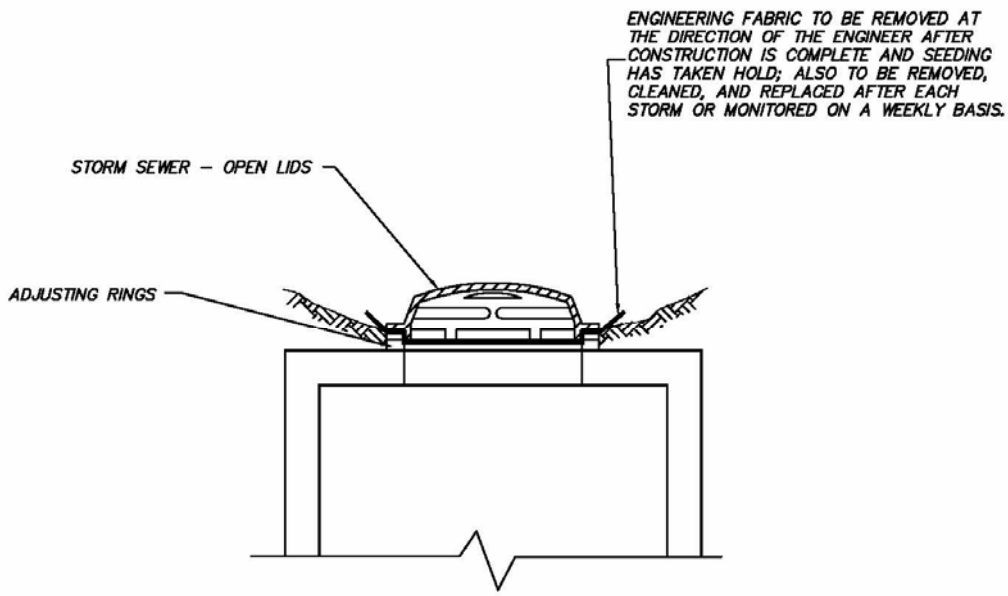
TEMPORARY SILTATION FABRIC INSTALLATION BETWEEN FRAME AND LID (FOR STORM SEWER STRUCTURES WITH OPEN LIDS)



NOTE: ENGINEERING FABRIC SHALL BE PLACED AS SHOWN, ON ALL INLETS TO THE STORM SEWER.

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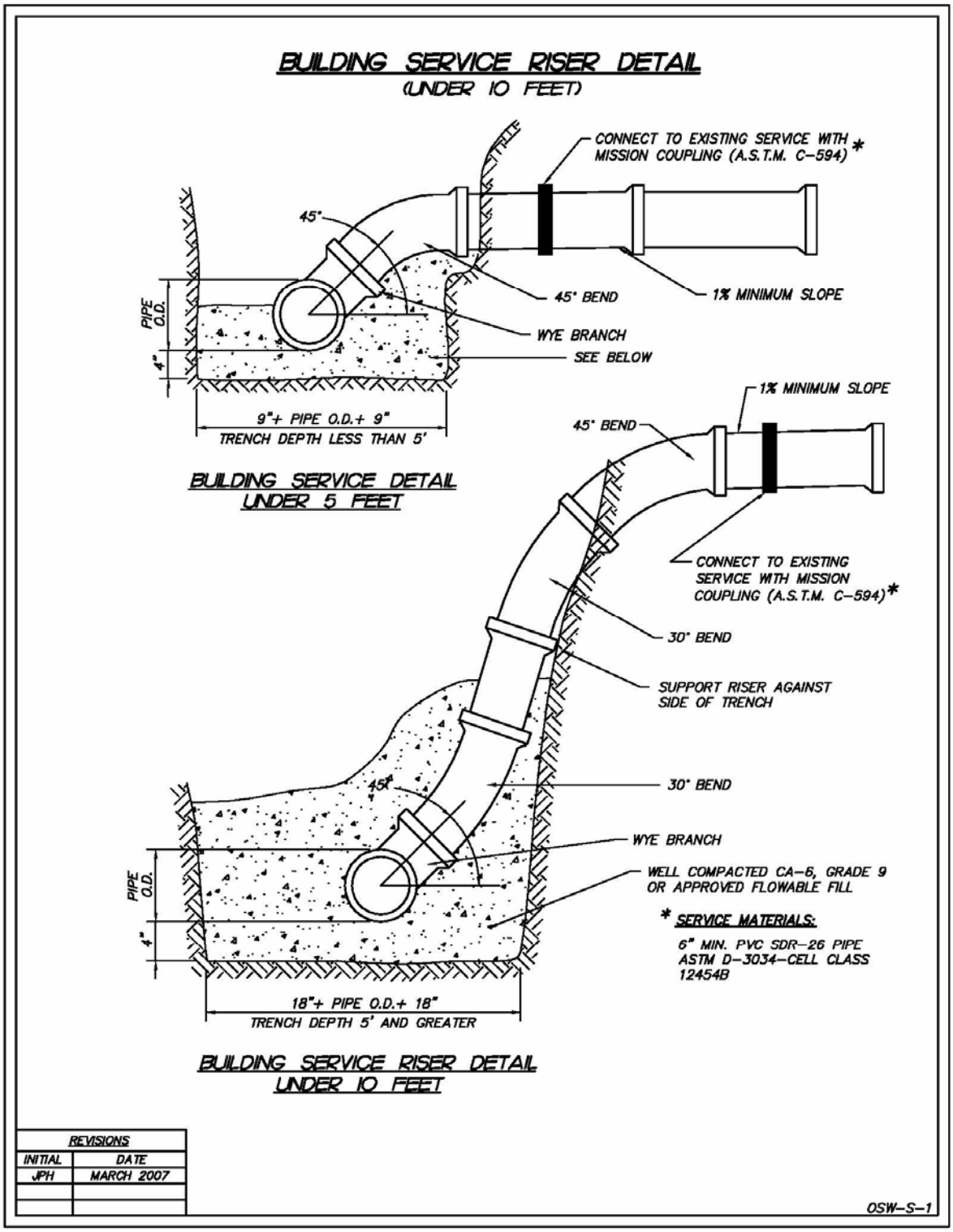
BUILDING SERVICE RISER DETAIL
(UNDER 10 FEET)
CONNECT TO EXISTING SERVICE WITH MISSION COUPLING (A.S.T.M. C-594) *
45°
45° BEND
1% MINIMUM SLOPE
WYE BRANCH
SEE BELOW
PIPE O.D.
4"
9"+ PIPE O.D.+ 9"
TRENCH DEPTH LESS THAN 5'
BUILDING SERVICE DETAIL
UNDER 5 FEET
1% MINIMUM SLOPE
45° BEND
CONNECT TO EXISTING SERVICE WITH MISSION COUPLING (A.S.T.M. C-594)*
30° BEND
SUPPORT RISER AGAINST SIDE OF TRENCH
45°
30° BEND
WYE BRANCH
WELL COMPACTED CA-6, GRADE 9 OR APPROVED FLOWABLE FILL
PIPE O.D.
4"
* SERVICE MATERIALS:
6" MIN. PVC SDR-26 PIPE
ASTM D-3034-CELL CLASS 12454B
18"+ PIPE O.D.+ 18"
TRENCH DEPTH 5' AND GREATER
BUILDING SERVICE RISER DETAIL
UNDER 10 FEET
REVISIONS
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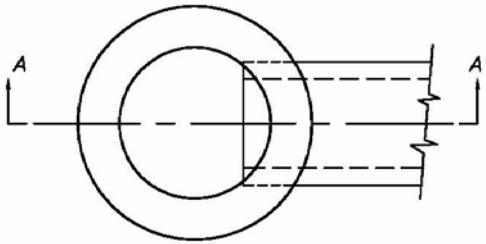
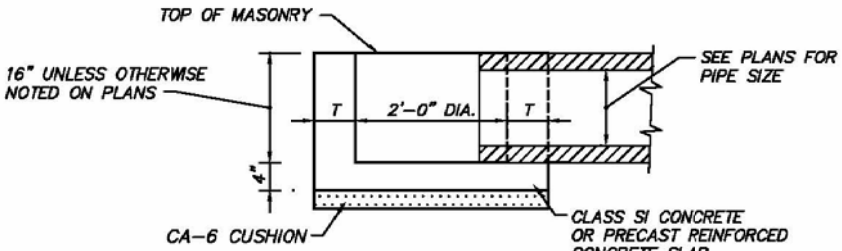
STORM INLET TYPE A



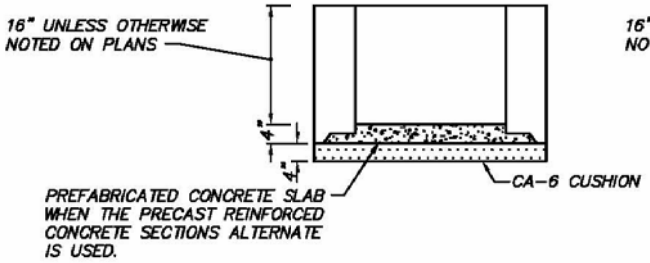
PLAN

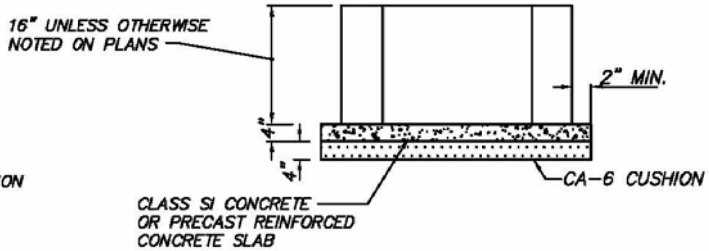
CASTING SCHEDULE	
LOCATION	NEENAH, OR APPROVED EQUAL
B OR M6.12 C&G	R-3281-A
DEPRESSED CURB	R-3506-AZ
NON-PAVED	R-4340-B

MATERIALS FOR STRUCTURE	T
PRECAST REINFORCED CONCRETE SECTIONS	3"
CAST-IN-PLACE CONCRETE	6"



SECTION A-A





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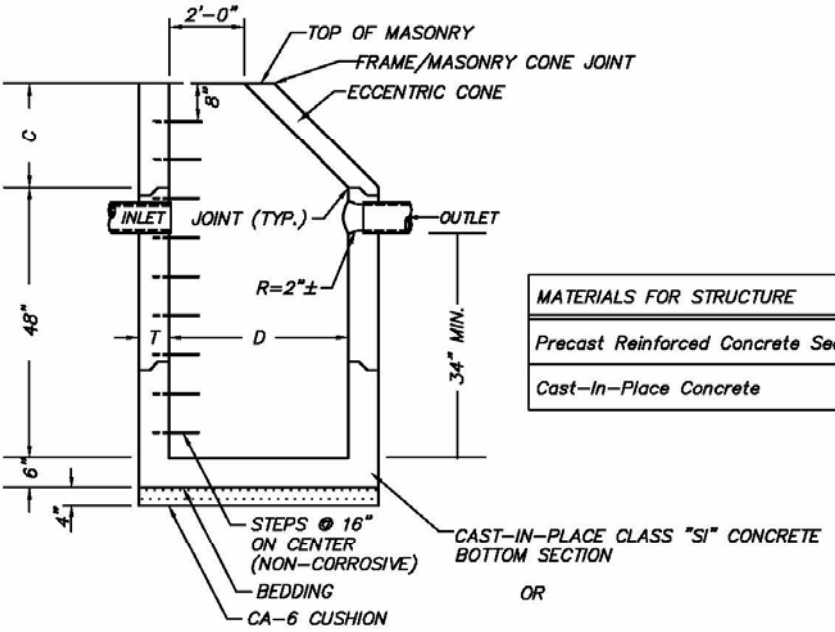
IN ADDITION TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS, THE CONTRACT UNIT PRICE FOR INLET, TYPE A SHALL INCLUDE THE CA-6 CUSHION, WHEN REQUIRED, AND FURNISHING AND COMPACTING OF THE SPECIFIED BACKFILL MATERIAL.

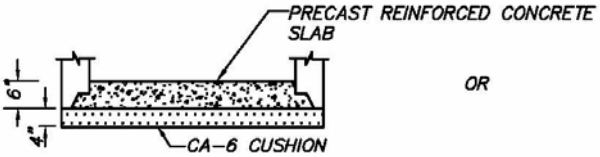
OSW-SS-1

CATCH BASIN TYPE A

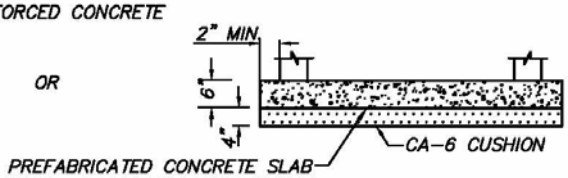


MATERIALS FOR STRUCTURE	D	C	T
Precast Reinforced Concrete Sections	4'-0"	2'-6"	4"
	5'-0"	3'-9"	5"
Cast-In-Place Concrete	4'-0"	2'-6"	6"
	5'-0"	3'-9"	6"

OR



OR



PREFABRICATED CONCRETE SLAB WHEN THE PRECAST REINFORCED CONCRETE SECTIONS ALTERNATE IS USED.

All Catch Basins shall be 4'-0" in diameter unless otherwise noted on plans.

In addition to the requirements the standard Specifications the contract unit price for Catch Basins, Type A shall include the CA-6 cushion when required, furnishing and placing steps when required, and furnishing and compacting the specified backfill material.

Dimension "C" for Precast Reinforced Concrete sections may vary from the dimension given to plus 6 inches.

External chimney seal to be installed on catch basin frame/ masonry cone joint. (Not required for catch basins in grassy areas).

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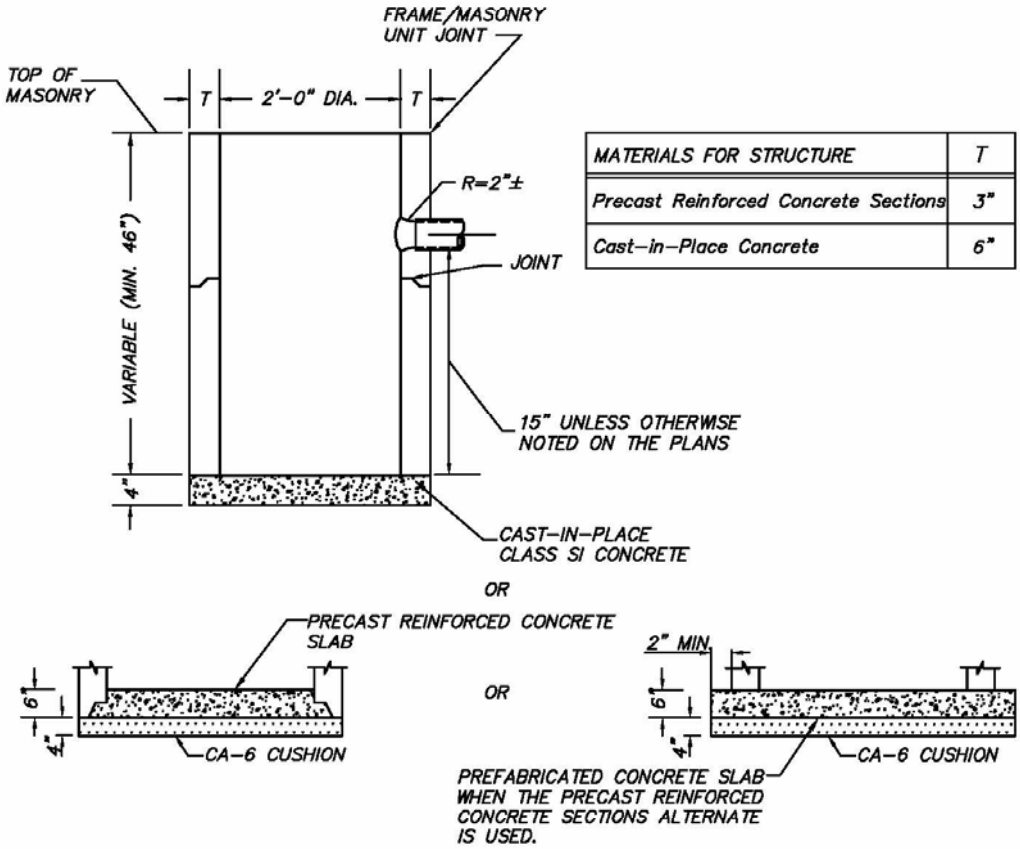
OSW-SS-2

CATCH BASIN TYPE C



MATERIALS FOR STRUCTURE	T
Precast Reinforced Concrete Sections	3"
Cast-in-Place Concrete	6"

In addition to the requirements of the standard Specifications the contract unit price for Catch Basins, Type C shall include the CA-6 cushion when required, and furnishing and compacting the specified backfill material.

External chimney seal to be installed on catch basin frame/masonry unit joint (Not required for storm manholes in grassy areas).

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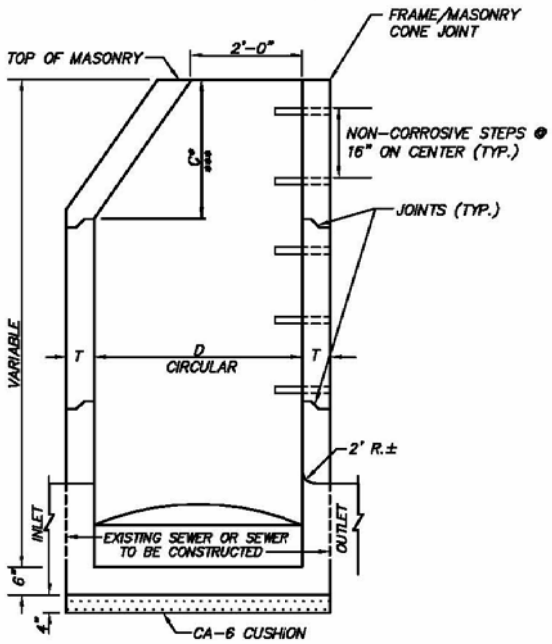
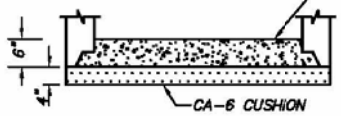
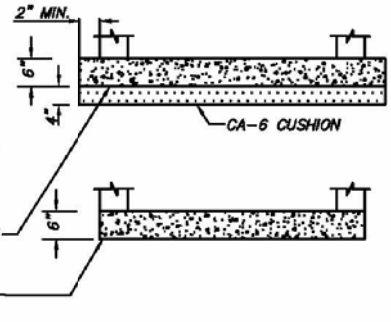
STORM MANHOLE DETAIL TYPE A

PLAN - ECCENTRIC







PREFABRICATED CONCRETE SLAB WHEN THE PRECAST REINFORCED CONCRETE SECTIONS ALTERNATE IS USED.

OR

PRECAST REINFORCED CONCRETE SLAB

OR

CAST-IN-PLACE CLASS SI CONCRETE

MATERIALS FOR STRUCTURE	D	C	T (MIN)
PRECAST REINFORCED CONCRETE SECTIONS	4'-0"	2'-6"	4"
	5'-0"	3'-9"	5"
CAST-IN-PLACE CONCRETE SECTIONS	4'-0"	2'-6"	6"
	5'-0"	3'-9"	8"

NEENAH No. R-1712 (CLOSED LID)
NEENAH No. R-2502 (OPEN LID)

NOTES:

CONCRETE SECTIONS MAY VARY FROM THE DIMENSION GIVEN TO PLUS 6 INCHES.

* DIMENSION "C" FOR PRECAST REINFORCED HEREON ARE TYPICAL. STEPS OF OTHER DESIGN AND MATERIAL THAT WILL CONFORM TO THE MINIMUM REQUIREMENTS OF THE STEPS SHOWN, MAY BE USED WHEN APPROVED BY THE ENGINEER.

*** FOR OPTIONAL PRECAST CONCRETE FLAT SLAB TOP REFER TO STANDARD 602601

IN ADDITION TO THE REQUIREMENTS OF ART. 602 OF THE STANDARD

FOR MANHOLES, TYPE A SHALL INCLUDE THE CA-6 CUSHION WHEN REQUIRED, FURNISHING AND INSTALLING STEPS WHEN REQUIRED, AND FURNISHING AND COMPACTING THE SPECIFIED BACKFILL SPECIFICATIONS, THE CONTRACT UNIT PRICE MATERIAL.

NON-CORROSIVE PLASTIC COATED CAST IRON STEPS SHALL BE GRAY IRON CONFORMING TO THE REQUIREMENTS OF ART. 1006.14 OF THE STANDARD SPECIFICATIONS.

STEPS SHALL BE EMBEDDED INTO WALL A MINIMUM OF 3 INCHES. STEPS SHALL NOT BE EXTENDED ON THE OUTSIDE.

EXTERNAL CHIMNEY SEAL TO BE INSTALLED ON MANHOLE FRAME/MASONRY CONE JOINT. (NOT REQUIRED FOR STORM MANHOLES IN GRASSY AREAS).

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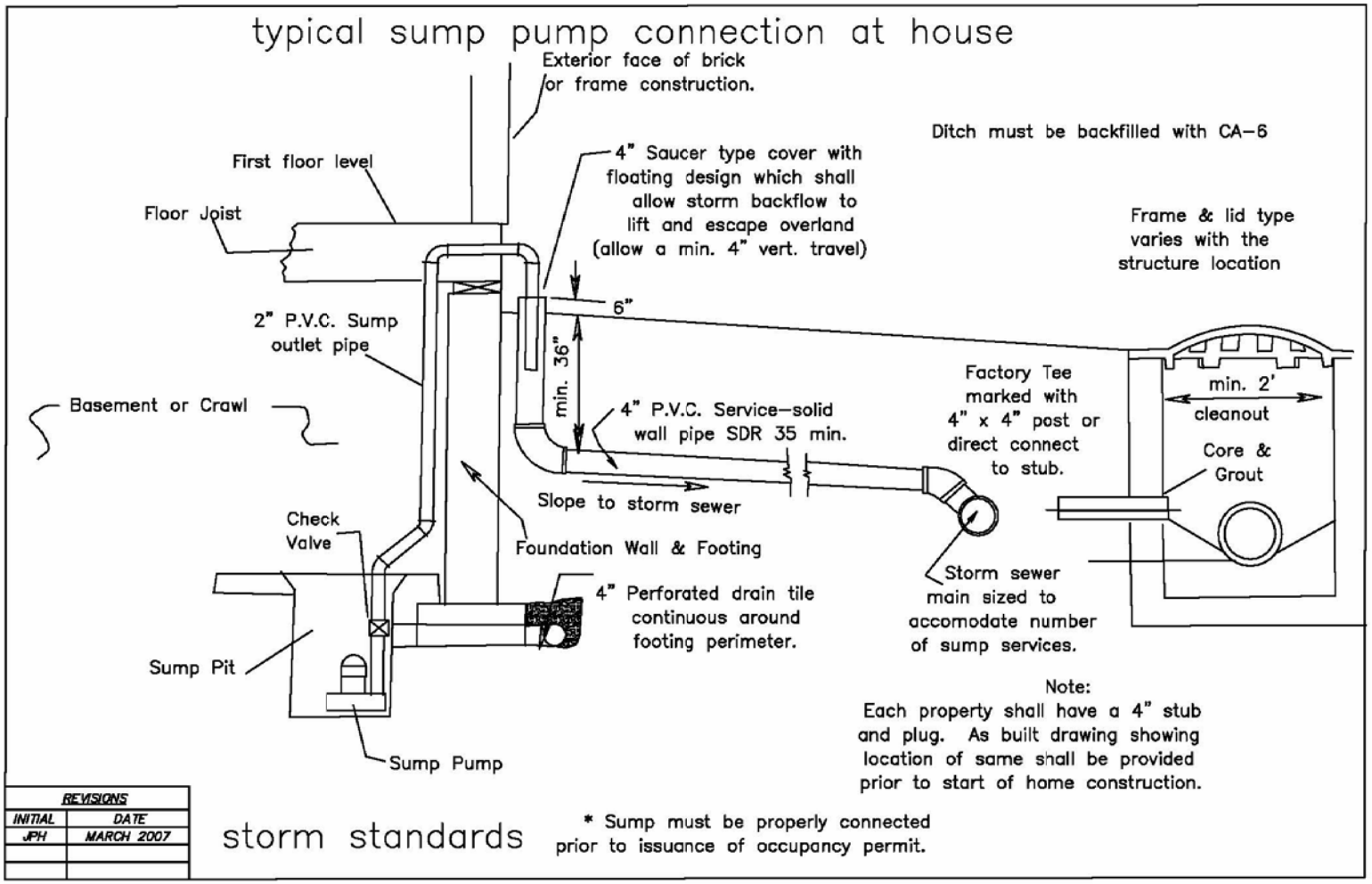
typical sump pump connection at house
Exterior face of brick or frame construction.
Ditch must be backfilled with CA-6
First floor level
Floor Joist
4" Saucer type cover with floating design which shall allow storm backflow to lift and escape overland (allow a min. 4" vert. travel)
Frame & lid type varies with the structure location
6"
2" P.V.C. Sump outlet pipe
min. 36"
Basement or Crawl
4" P.V.C. Service-solid wall pipe SDR 35 min.
Factory Tee marked with 4" x 4" post or direct connect to stub.
min. 2' cleanout
Core & Grout
Slope to storm sewer
Check Valve
Foundation Wall & Footing
4" Perforated drain tile continuous around footing perimeter.
Storm sewer main sized to accomodate number of sump services.
Sump Pit
Sump Pump
Note:
Each property shall have a 4" stub and plug. As built drawing showing location of same shall be provided prior to start of home construction.
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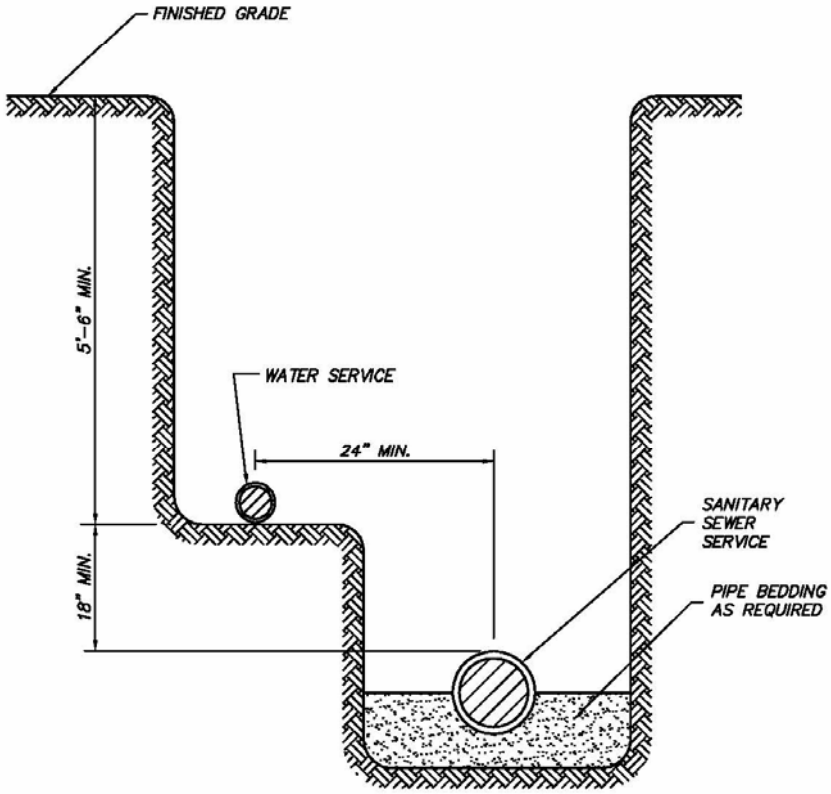
storm standards
* Sump must be properly connected prior to issuance of occupancy permit.

COMMON TRENCH FOR WATER AND SANITARY SEWER SERVICES



THE WATER SERVICE PIPING AND BUILDING SEWER PIPING MAY BE INSTALLED IN A COMMON TRENCH PROVIDED THAT THE WATER SERVICE PIPE IS PLACED ON A SHELF A MINIMUM OF EIGHTEEN (18) INCHES ABOVE AND TWENTY-FOUR (24) INCHES HORIZONTALLY FROM THE BUILDING SEWER PIPING.

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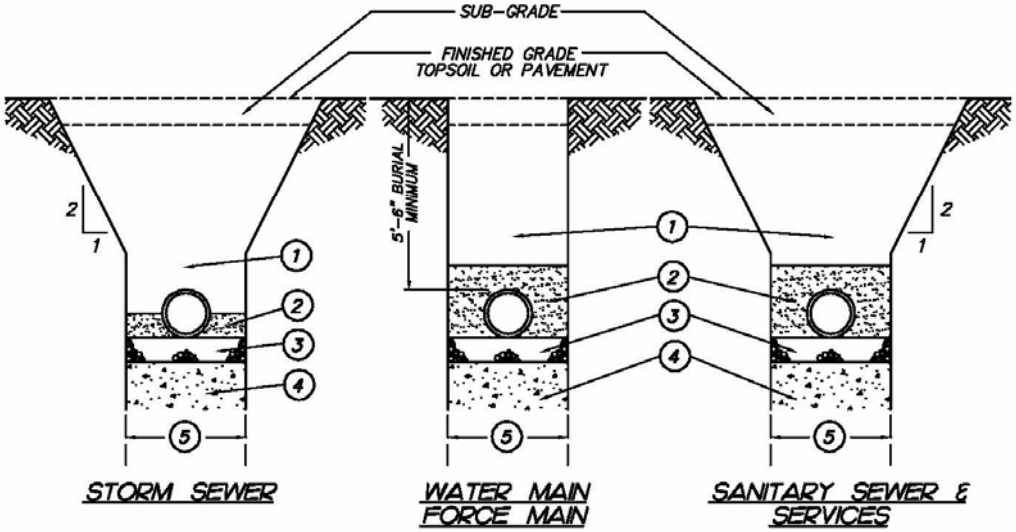
TRENCH BEDDING/BACKFILLING CROSS SECTION



(1) Trench backfill under pavement, curb and gutter as indicated in road subgrades and within 2 feet of any proposed curb and gutter or sidewalk. Mechanically compacted backfill of excavated materials in other locations if approved by the Village Engineer. Refer to trench backfill special provisions for materials and compaction requirements.

(2) WATER MAIN FORCE MAIN (D.I.P.)

Compacted granular material CA-7 to 4" above top of pipe.

(2) SANITARY SEWER (PVC)

Compacted granular material CA-7 to 12" above top of pipe (also see note #1 below).

(2) STORM SEWER

Compacted granular backfill material CA-7 to spring line of pipe

(3) 4" compacted granular bedding, CA-7 gradation.

(4) Unsuitable material to be removed where directed by Engineer and replaced with suitable material and compacted.

(5) Trench Width – Pipe O.D. + 12" minimum
Pipe O.D. + 18" maximum

NOTES:

1. PVC pipe conforming to the SDR specified in the plans shall be installed to the latest revised specification requirements of ASTM D-2321 using either compacted Class I or Class II granular embedment materials for bedding, haunching and initial backfill of 12 inches over the top of pipe to provide the necessary support for the pipe so that the maximum deflection does not exceed 5% of the pipe's original internal diameter.
2. All CA-7 to be IDOT approved or meet IDOT specifications.

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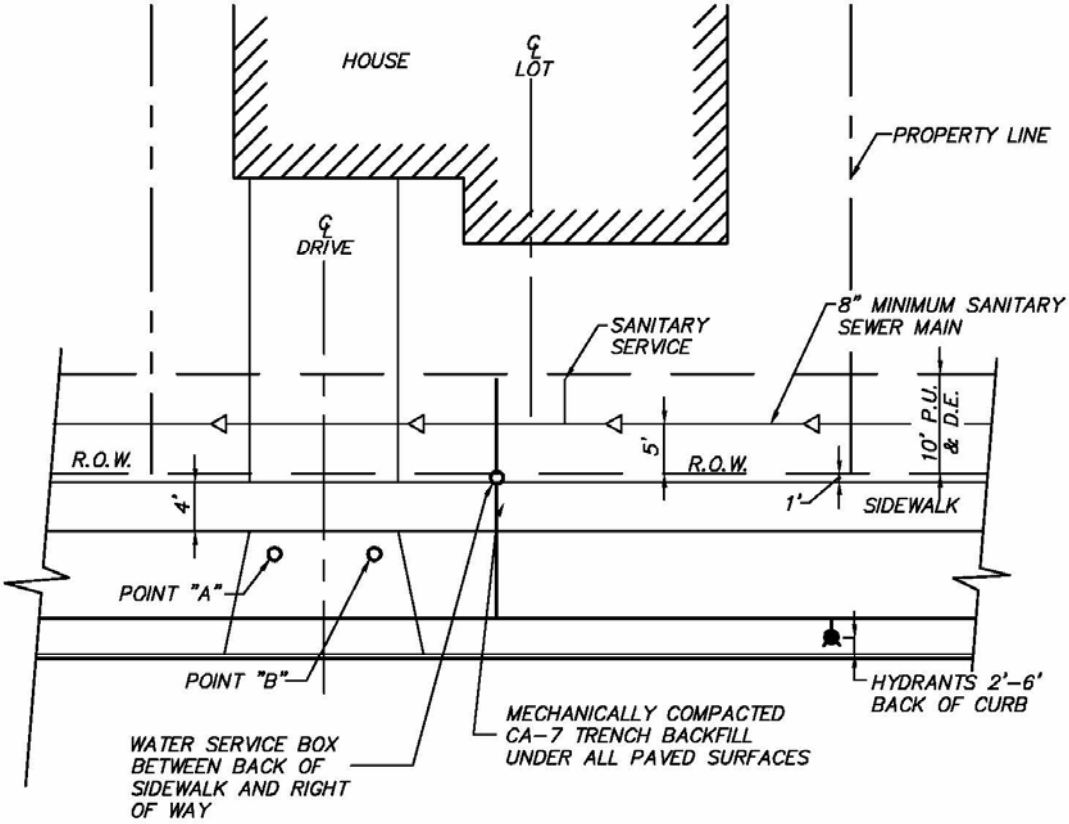
WATER SERVICE AND SANITARY SEWER LOT LOCATION DETAIL



NOTES:

1. WATER SHUTOFF BOX MAY NOT BE LOCATED IN PROPOSED SIDEWALK OR DRIVEWAY. THE RELOCATED BOX SHALL BE LOCATED AT THE HOUSE SIDE OF THE DRIVEWAY AS PER DETAIL ABOVE.

2. IF WATER SHUTOFF BOX RELOCATION IS REQUIRED IT SHALL BE DONE AS FOLLOWS:

   CASE 1 – EXISTING SHUTOFF BOX AT POINT "A"

   WATER MAIN SHALL BE RE-TAPPED OUT OF PROPOSED DRIVEWAY LOCATION. A CONTINUOUS LENGTH OF COPPER (NO COUPLINGS) SHALL BE RUN FROM THE NEW CORPORATION STOP TO THE RELOCATED SHUTOFF BOX. THE ABANDONED CORPORATION STOP SHALL BE CAPPED ACCORDING TO WATER DEPARTMENT STANDARDS.

   CASE 2 – EXISTING SHUTOFF BOX AT POINT "B"

   THE EXISTING CORPORATION STOP MAY REMAIN A CONTINUOUS LENGTH OF COPPER (NO COUPLINGS) SHALL BE RUN FROM THE CORPORATION STOP TO THE RELOCATED SHUTOFF BOX.

3. FOR FAR SIDE SERVICE CONNECTIONS CONSULT THE PUBLIC WORKS DEPARTMENT.

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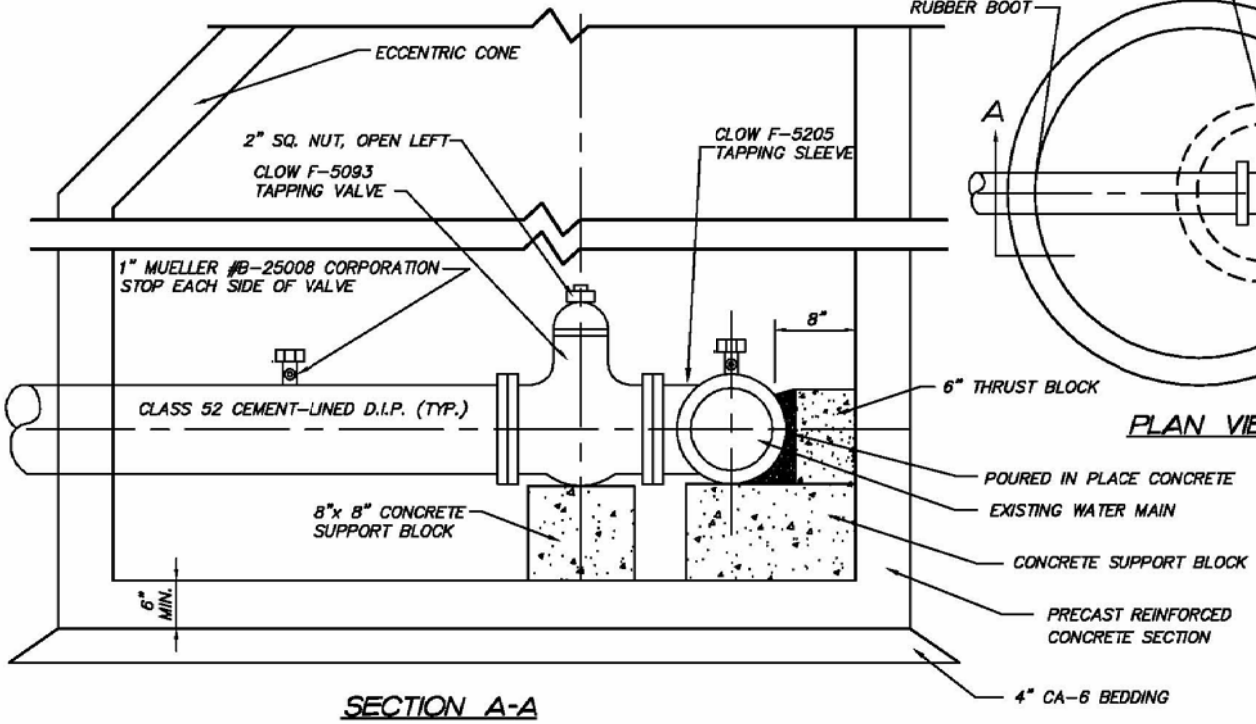
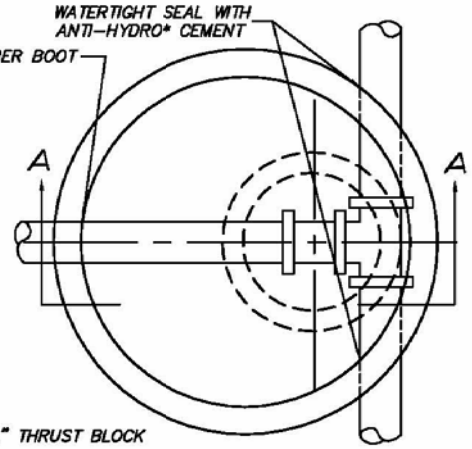
WATER MAIN PRESSURE CONNECTION DETAIL



SECTION A-A



PLAN VIEW

NOTES:

C.I. MANHOLE FRAME AND COVER NEENAH R-1530 OR APPROVED EQUAL WITH STANDARD DUTY, NON-ROCKING TYPE LIDS. ADJUSTING RING HEIGHT NOT TO EXCEED 8" STANDARD VALVE VAULT SPECIFICATIONS REQUIRE ECCENTRIC CONES (SEE SEPARATE DETAIL).

SPLIT BOTTOMS MUST BE WATER TIGHT SEAL WITH ANTI-HYDRO* CEMENT.

ALL EXTERNAL JOINTS MUST BE WRAPPED.

* OR APPROVED EQUAL.

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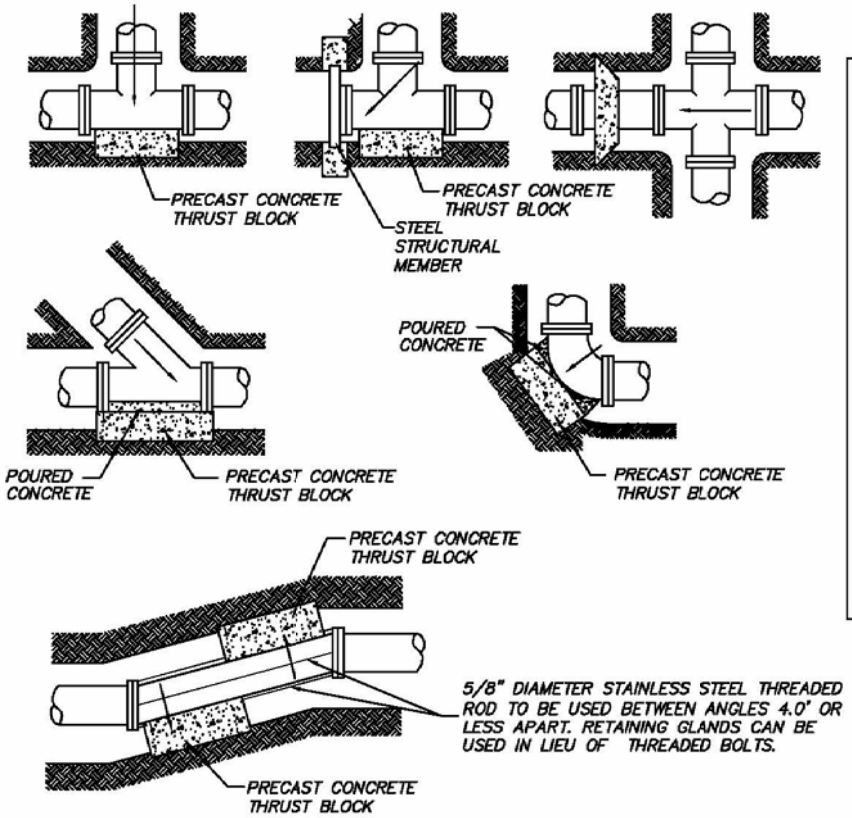
OSW-W-1

THRUST BLOCK INSTALLATION DETAIL



BEARING AREA (SQ. FT.)

PIPE SIZE	TEE/PLUG	90°	45°	22-1/2°	11-1/4°
6	4	2	1	1	1
8	6	4	3	1	1
10	7	5	3	2	1
12	8	6	4	3	2
14	12	9	6	4	3
16	15	12	7	5	3
18	18	15	9	5	4
24	40	30	15	10	5

ALL BLOCKING SHALL BE 12" PRE-CAST CONCRETE BLOCK AGAINST UNDISTURBED EARTH.

ALL BENDS OR ELBOWS GREATER THAN AND INCLUDING 11-1/4° SHALL HAVE THRUST BLOCKING.

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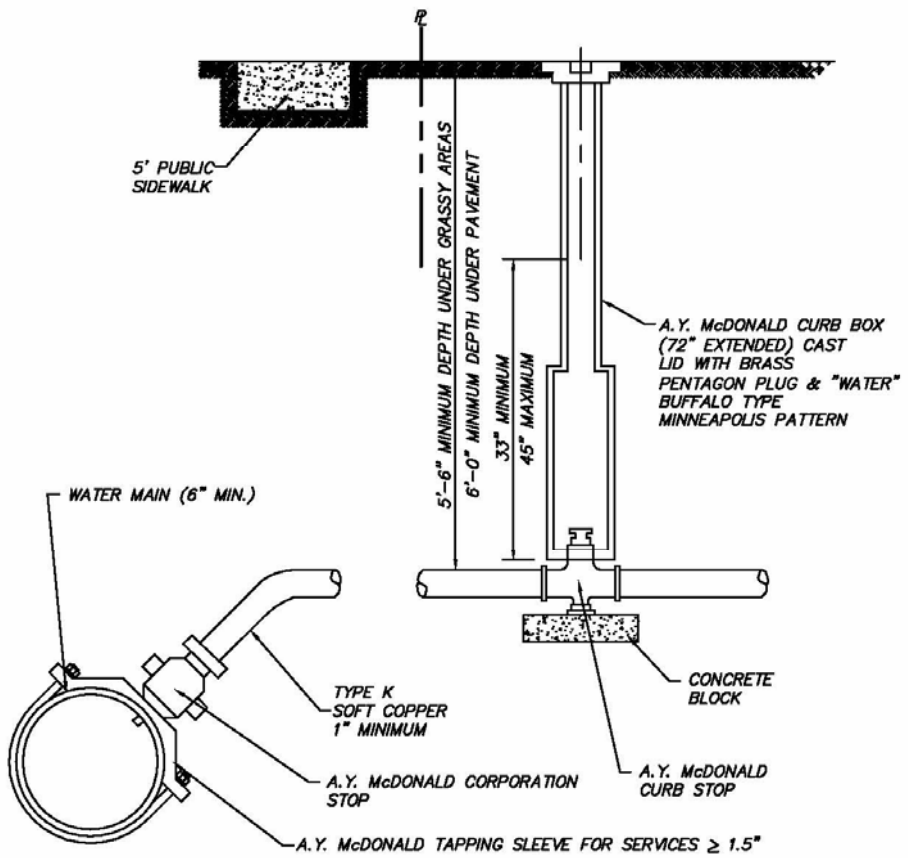
CURB BOX INSTALLATION DETAIL



NOTES:

1. NO CORPORATION STOPS, SERVICE COPPERS, OR CURB BOXES MAY BE LOCATED UNDER PAVED AREAS INCLUDING DRIVES AND SIDEWALKS.
2. ALL WATER MAIN HARDWARE SHALL BE A.Y. McDONALD.
3. SERVICE TO BE CONTINUOUS WITHOUT JOINTS FROM CORPORATION STOP TO CURB STOP.
4. MULTIPLE TAPS INTO MAIN SHALL BE NO CLOSER THAN 2' APART.
5. TRENCH FROM MAIN TO BACK OF SIDEWALK TO BE COMPACTED TRENCH BACKFILL CA-6.

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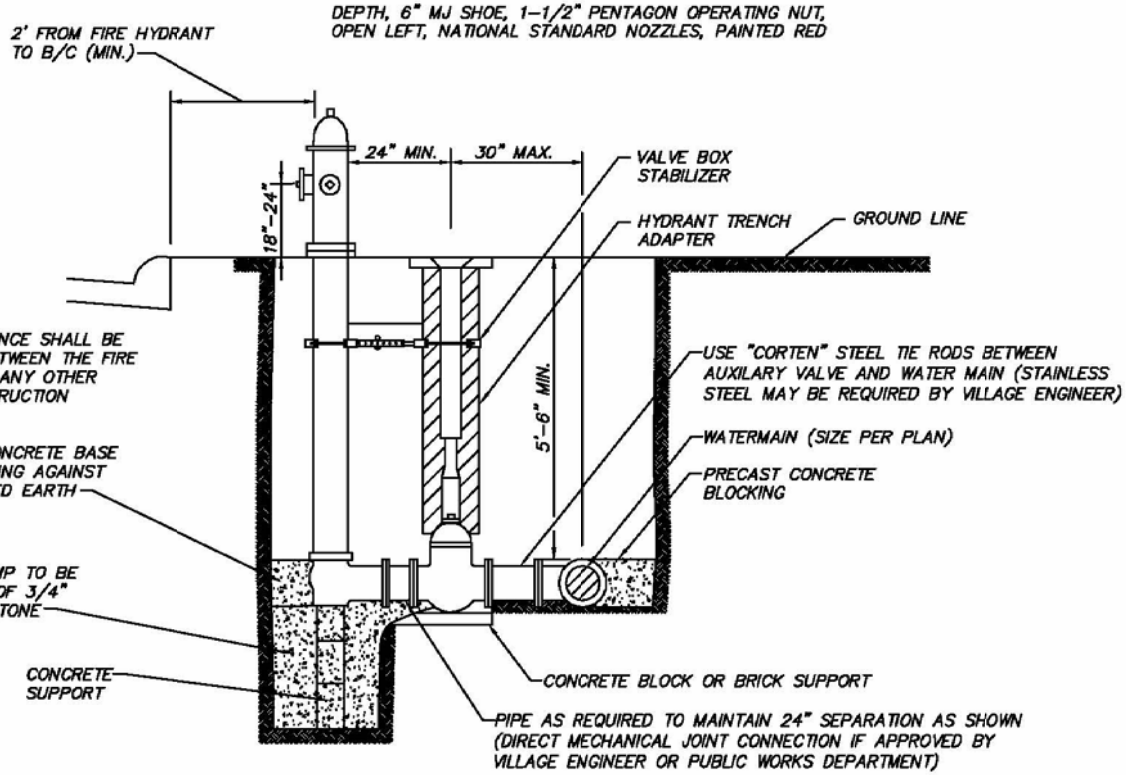
FIRE HYDRANT INSTALLATION DETAIL

CLOW MEDALLION TYPE HYDRANT (5-1/4" BARREL)

WATEROUS PACER WB-67-250 FIRE HYDRANT (5-1/4" BARREL)

ALL AMERICAN FLOW CONTROL VALVES & HARDWARE AUXILLARY VALVE 6' GATE VALVE NO. A-2370-20 MODIFIED WEDGE RESILIENT SEAT

USE WATEROUS PACER WB-67-250 HYDRANT 6" TRENCH DEPTH, 6" MJ SHOE, 1-1/2" PENTAGON OPERATING NUT, OPEN LEFT, NATIONAL STANDARD NOZZLES, PAINTED RED



NOTE:

48" MIN. DISTANCE SHALL BE MAINTAINED BETWEEN THE FIRE HYDRANT AND ANY OTHER VERTICAL OBSTRUCTION

NOTE:

FIRE HYDRANTS SHALL BE PLACED APPROXIMATELY 300 FEET APART. LOCATION OF HYDRANTS MUST BE APPROVED BY VILLAGE ENGINEER OR PUBLIC WORKS DEPARTMENT.

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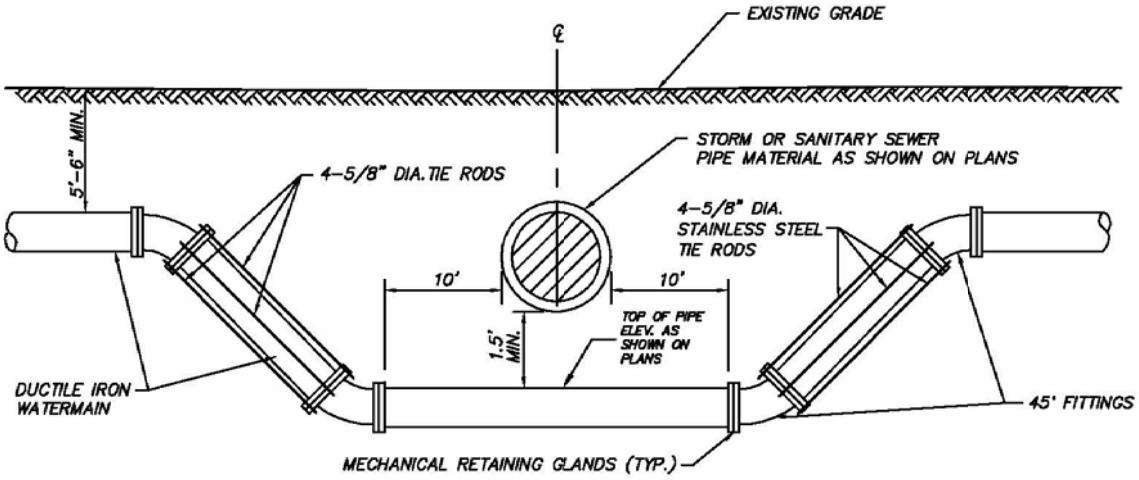
OSW-W-5

WATER MAIN LOWERING DETAIL



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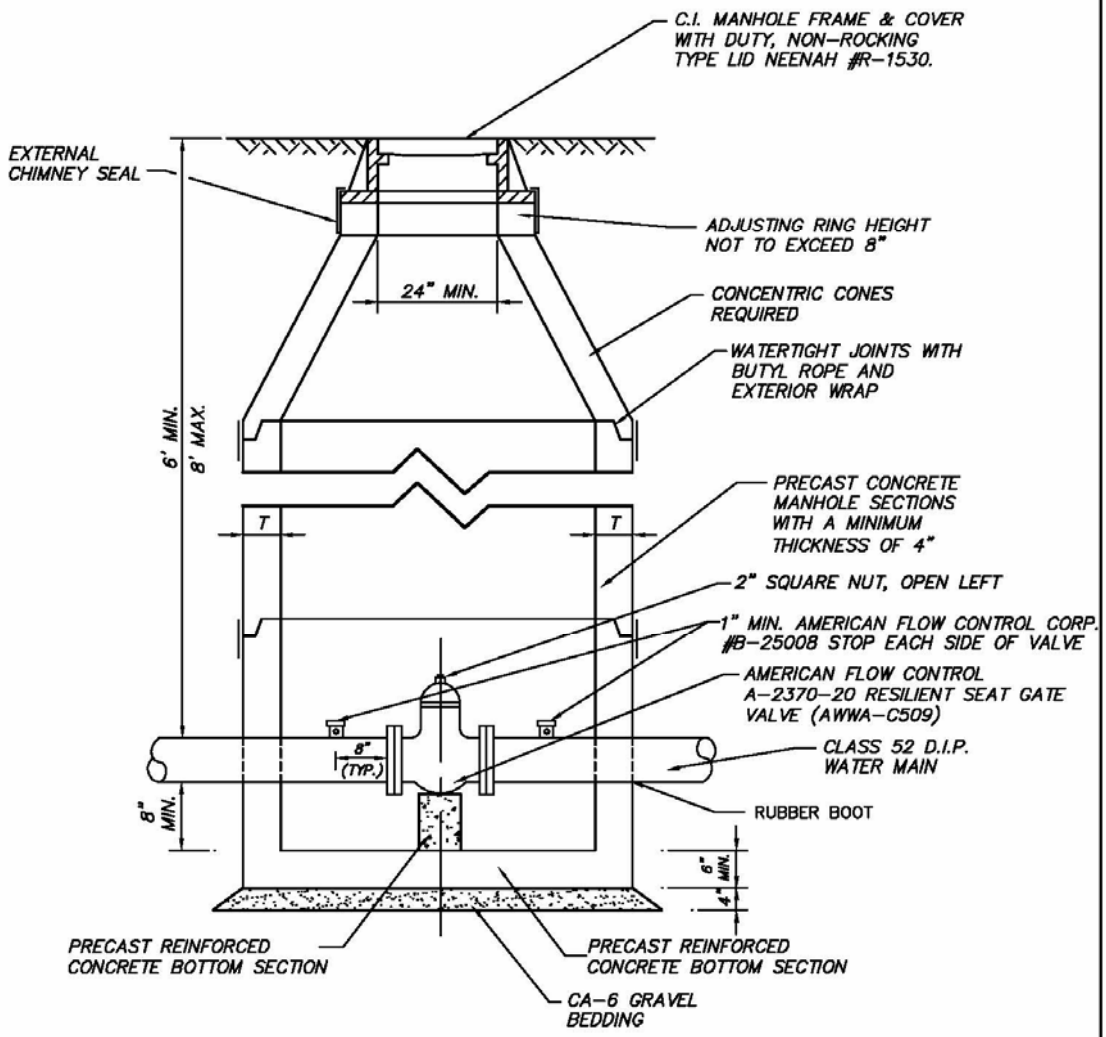
NOTE ; VILLAGE APPROVED MECHANICAL RETAINING GLANDS CAN BE USED IN-LIEU OF STAINLESS STEEL TIE RODS. NO HYDRANTS OR VALVE VAULTS CAN BE LOCATED WITHIN DEPRESSED SECTION OF WATERMAIN.

OSW-W-6

STANDARD VALVE VAULT DETAIL



NOTES:

1. DRAIN FOR VALVE VAULT SHALL BE CONSTRUCTED ONLY WHEN SHOWN ON PLANS.
2. FOR PRESSURE CONNECTION SEE SEPARATE DETAIL.

DIAMETER OF WATER MAIN	D	T
8 INCHES AND UNDER	4'-0"	4"
10 INCHES AND OVER	5'-0"	5"

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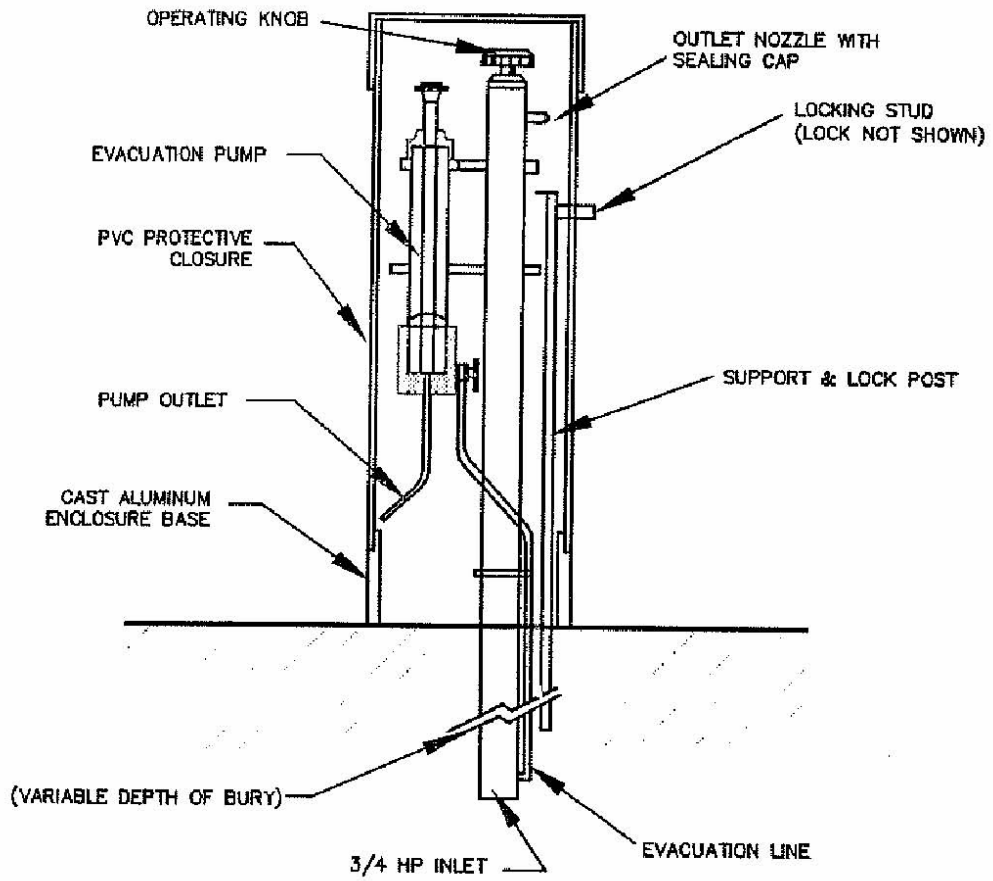
OSW-W-8

WATER SAMPLING HYDRANT



TRUFLO MANUFACTURING CO, INC
1797 W. MAIN ST.
WASHINGTON MO, 63090
800-878-3561

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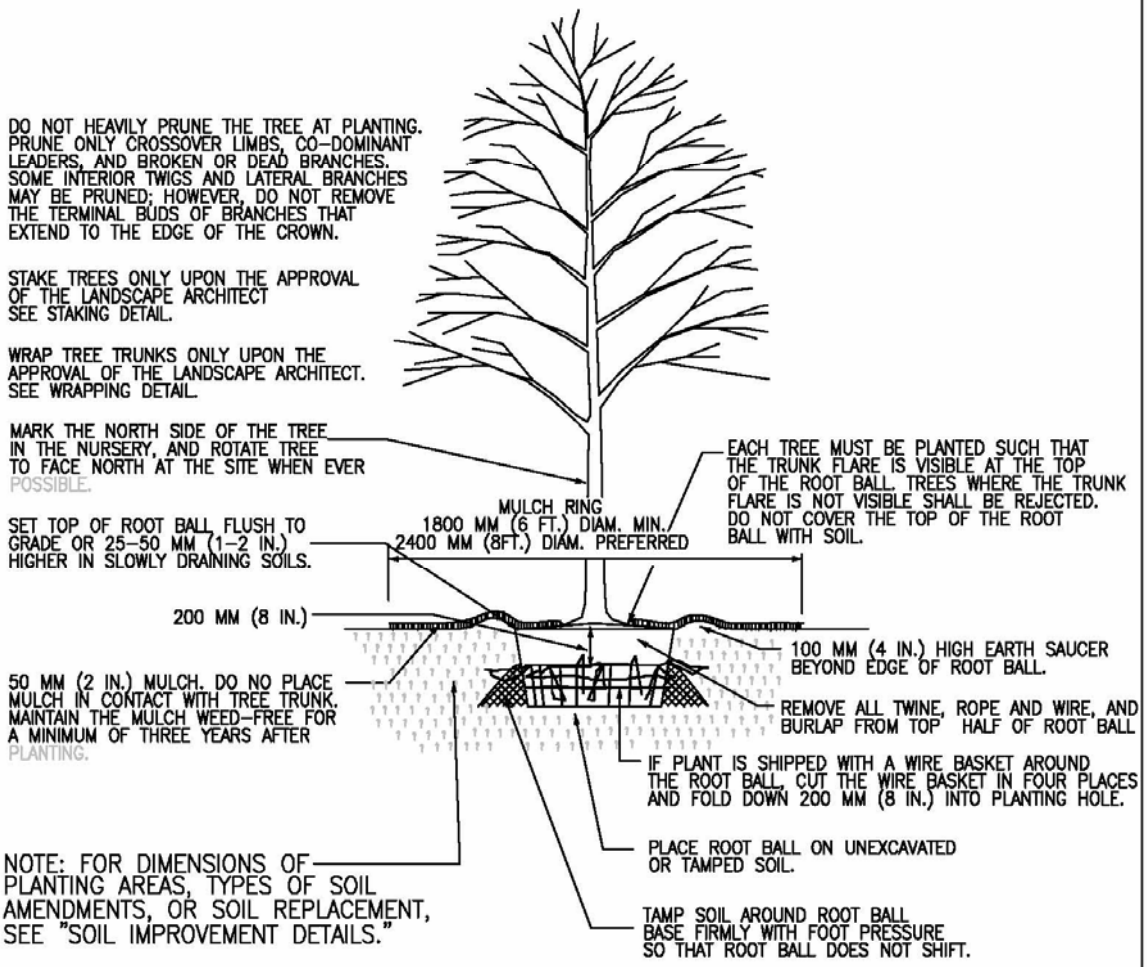
OSW-W-9

INTERNATIONAL SOCIETY OF ARBORICULTURE

INTERNATIONAL SOCIETY OF ARBORICULTURE
1400 WEST ANTHONY DRIVE
CHAMPAIGN, IL 61821
(217) 355-9411
(217) 355-9516 FAX



NOTES

1. PLEASE REFER TO INTRODUCTION AND USE CRITERIA PRIOR TO USING THIS DETAIL.

TREE PLANTING DETAIL – B&B TREES IN ALL SOIL TYPES

NOTE: THIS DETAIL ASSUMES THAT THE PLANTING SPACE IS LARGER THAN 2400 MM (8 FT.) SQUARE, OPEN TO THE SKY, AND NOT COVERED BY ANY PAVING OR GRATING.

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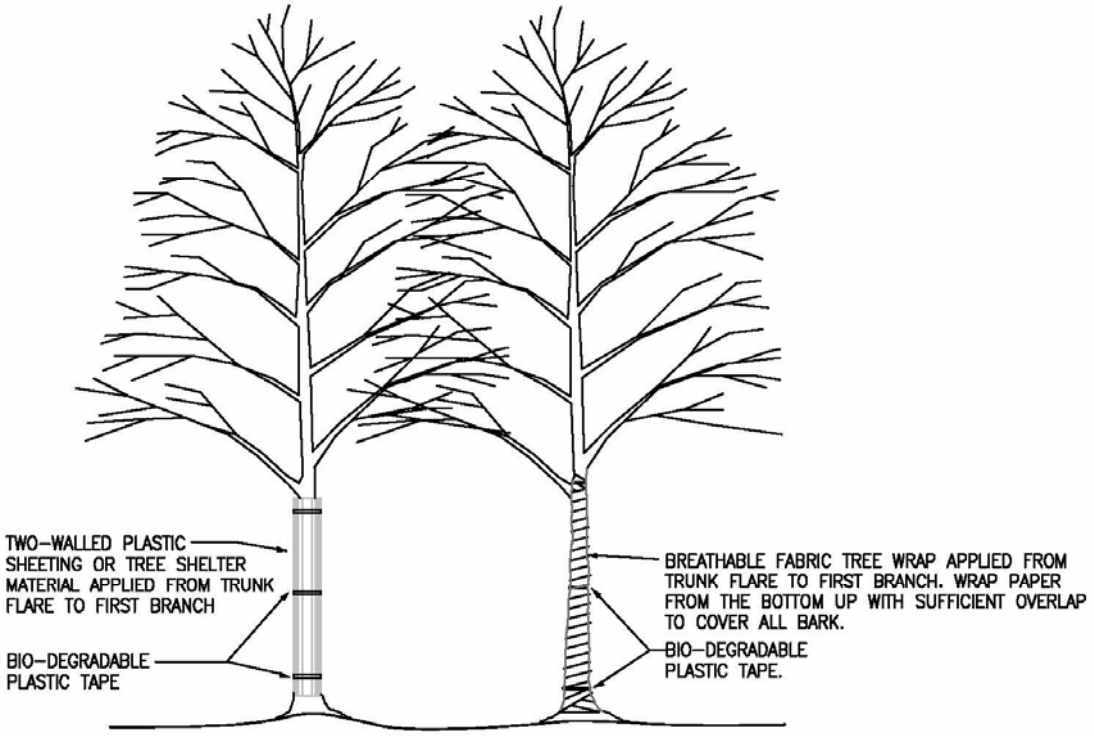

APPLY THE PLASTIC SHEETING LOOSELY AROUND THE TRUNK TO LEAVE A 12 MM (0.5 IN.) GAP BETWEEN THE TRUNK AND THE SHEETING.

OPTION 1 OPTION 2

TREE WRAP SHOULD BE INSTALLED AT TIME OF PLANTING AND BE REMOVED WHEN DIRECTED BY THE LANDSCAPE ARCHITECT, BUT NO LATER THAN 12 MONTHS AFTER PLANTING.

TREES WHOSE NORTH ORIENTATION IS NOT CHANGED FROM THE NURSERY DO NOT NEED TO BE WRAPPED EXCEPT TREES WITH VERY THIN BARK, SUCH AS RED MAPLE, SHOULD BE WRAPPED IF APPROVED BY THE LANDSCAPE ARCHITECT.

NOTES

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TREE WRAPPING DETAIL

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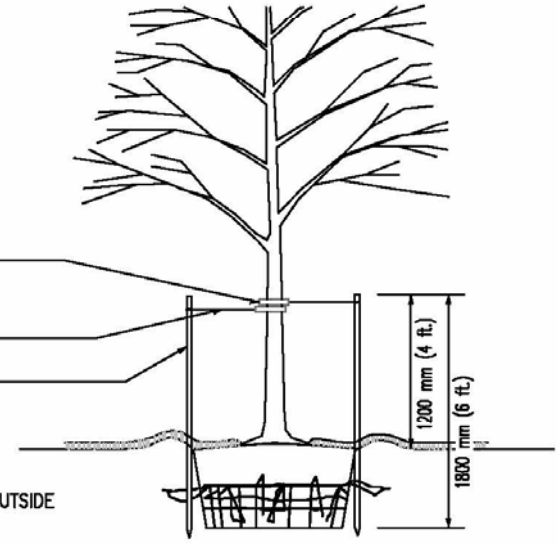
WIRE OR CABLE SIZES SHALL BE AS FOLLOWS:
TREES UP TO 65 MM (2.5 IN.) CALIPER – 14 GAUGE
TREES 65 MM (2.5 IN.) TO 75 MM (3 IN.) CALIPER – 12 GAUGE

TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOMMODATE 35MM (1.5 IN.) OF GROWTH AND BUFFER ALL BRANCHES FROM THE WIRE.

TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE ENDS ARE EXPOSED.



ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM OF 12 MM (0.5 IN.).

REMOVE ALL STAKING AS SOON AS THE TREE HAS GROWN SUFFICIENT ROOTS TO OVERCOME THE PROBLEM THAT REQUIRED THE TREE TO BE STAKED. STAKES SHALL BE REMOVED NO LATER THE END OF THE FIRST GROWING SEASON AFTER PLANTING.

TREES NORMALLY DO NOT NEED TO BE STAKED AND STAKING CAN BE HARMFUL TO THE TREE. STAKING SHOULD BE DONE ONLY WITH THE APPROVAL OF THE LANDSCAPE ARCHITECT IF IT IS EXPECTED THAT THE TREE WILL NOT BE ABLE TO SUPPORT ITSELF. THE FOLLOWING ARE REASONS WHY TREES DO NOT REMAIN STRAIGHT.

- TREES WITH POOR – QUALITY ROOT BALLS OR ROOT BALLS THAT HAVE BEEN CRACKED OR DAMAGED. REJECT RATHER THAN STAKE.
- TREES THAT HAVE GROWN TOO CLOSE TOGETHER IN THE NURSERY, RESULTING IN WEAK TRUNKS. REJECT RATHER THAN STAKE.
- PLANTING PROCEDURES THAT DO NOT ADEQUATELY TAMP SOILS AROUND THE ROOT BALL. CORRECT THE PLANTING PROCEDURE.
- ROOT BALLS PLACED ON SOFT SOIL. TAMP SOILS UNDER ROOT BALL PRIOR TO PLANTING.
- ROOT BALLS WITH VERY SANDY SOIL OR VERY WET CLAY SOIL. STAKING ADVISABLE.
- TREES LOCATED IN A PLACE OF EXTREMELY WINDY CONDITIONS. STAKING ADVISABLE.

NOTES

1. PLEASE REFER TO INTRODUCTION AND USE CRITERIA PRIOR TO USING THIS DETAIL.

TREE STAKING DETAIL – TREES 75MM (3 IN.) CALIPER OR LESS

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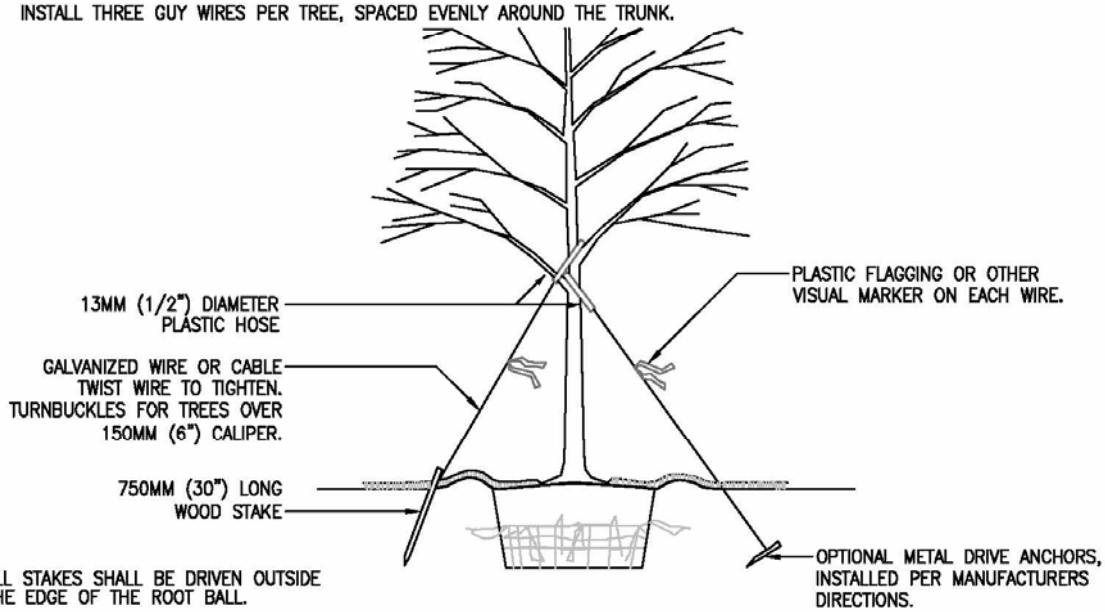
TREES UP TO 65 MM (2.5 IN.) CALIPER – 14 GAUGE
TREES 65 MM (2.5 IN.) TO 75 MM (3 IN.) CALIPER – 12 GAUGE

TIGHTEN WIRE OR CABLE ONLY ENOUGH TO KEEP FROM SLIPPING. ALLOW FOR SOME TRUNK MOVEMENT. PLASTIC HOSE SHALL BE LONG ENOUGH TO ACCOMMODATE 35MM (1.5 IN.) OF GROWTH AND BUFFER ALL BRANCHES FROM THE WIRE.

TUCK ANY LOOSE ENDS OF THE WIRE OR CABLE INTO THE WIRE WRAP SO THAT NO SHARP WIRE ENDS ARE EXPOSED.

INSTALL THREE GUY WIRES PER TREE, SPACED EVENLY AROUND THE TRUNK.



ALL STAKES SHALL BE DRIVEN OUTSIDE THE EDGE OF THE ROOT BALL.

ASSURE THAT THE BEARING SURFACE OF THE PROTECTIVE COVERING OF THE WIRE OR CABLE AGAINST THE TREE TRUNK IS A MINIMUM OF 12 MM (0.5 IN.).

REMOVE ALL STAKING AS SOON AS THE TREE HAS GROWN SUFFICIENT ROOTS TO OVERCOME THE PROBLEM THAT REQUIRED THE TREE TO BE STAKED. STAKES SHALL BE REMOVED NO LATER THE END OF THE FIRST GROWING SEASON AFTER PLANTING.

TREES NORMALLY DO NOT NEED TO BE STAKED AND STAKING CAN BE HARMFUL TO THE TREE. STAKING SHOULD BE DONE ONLY WITH THE APPROVAL OF THE LANDSCAPE ARCHITECT IF IT IS EXPECTED THAT THE TREE WILL NOT BE ABLE TO SUPPORT ITSELF. THE FOLLOWING ARE REASONS WHY TREES DO NOT REMAIN STRAIGHT.

- TREES WITH POOR-QUALITY ROOT BALLS OR ROOT BALLS THAT HAVE BEEN CRACKED OR DAMAGED. REJECT RATHER THAN STAKE.
- TREES THAT HAVE GROWN TOO CLOSE TOGETHER IN THE NURSERY, RESULTING IN WEAK TRUNKS. REJECT RATHER THAN STAKE.
- PLANTING PROCEDURES THAT DO NOT ADEQUATELY TAMP SOILS AROUND THE ROOT BALL. CORRECT THE PLANTING PROCEDURE.
- ROOT BALLS PLACED ON SOFT SOIL. TAMP SOILS UNDER ROOT BALL PRIOR TO PLANTING.
- ROOT BALLS WITH VERY SANDY SOIL OR VERY WET CLAY SOIL. STAKING ADVISABLE.
- TREES LOCATED IN A PLACE OF EXTREMELY WINDY CONDITIONS. STAKING ADVISABLE.

NOTES:

1. PLEASE REFER TO INTRODUCTION AND USE CRITERIA PRIOR TO USING THIS DETAIL.

TREE STAKING DETAIL – TREES 75MM (3 IN.) CALIPER OR LARGER

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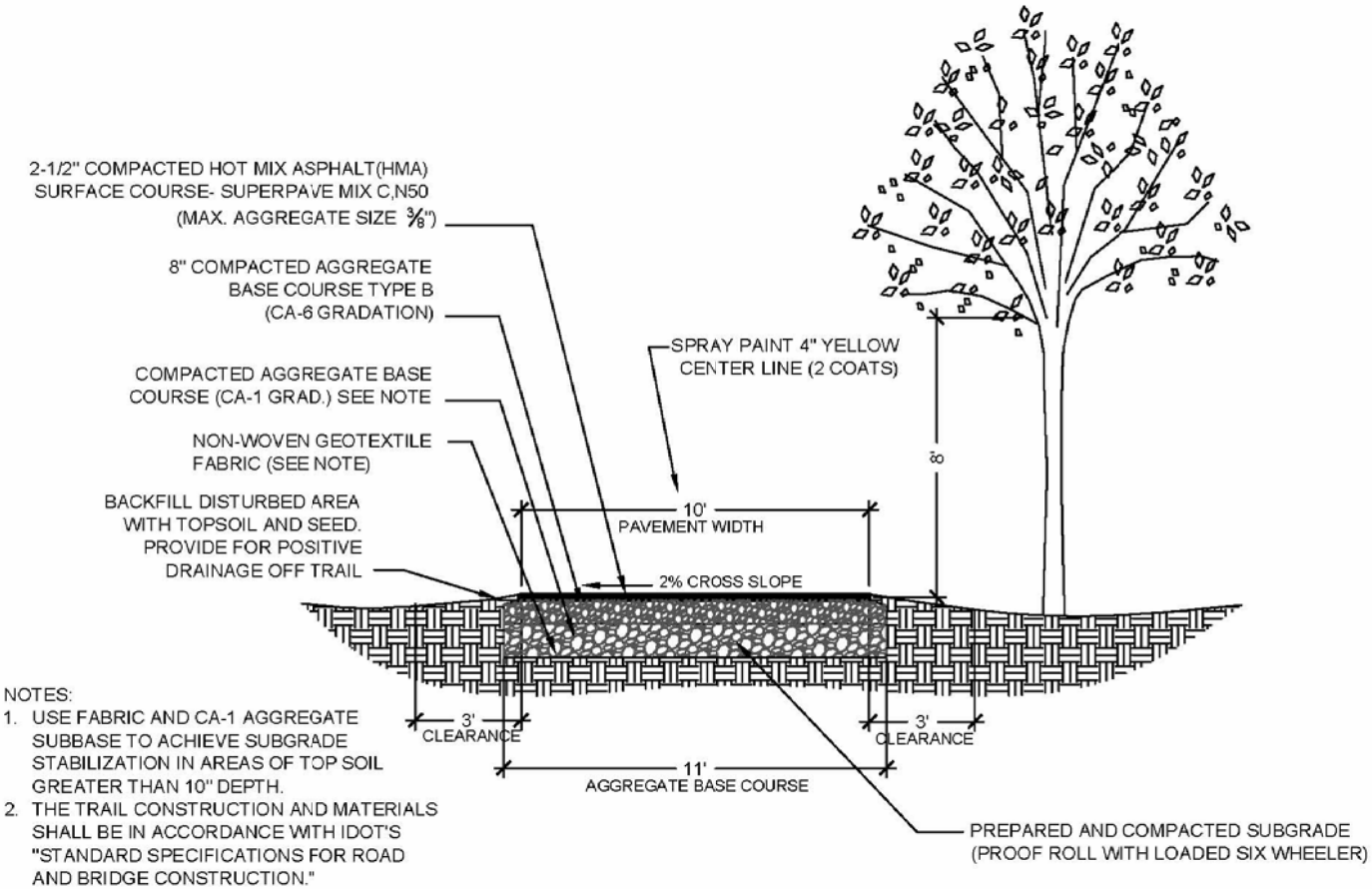

NOTES:

1. USE FABRIC AND CA-1 AGGREGATE SUBBASE TO ACHIEVE SUBGRADE STABILIZATION IN AREAS OF TOP SOIL GREATER THAN 10" DEPTH.
2. THE TRAIL CONSTRUCTION AND MATERIALS SHALL BE IN ACCORDANCE WITH IDOT'S "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION."

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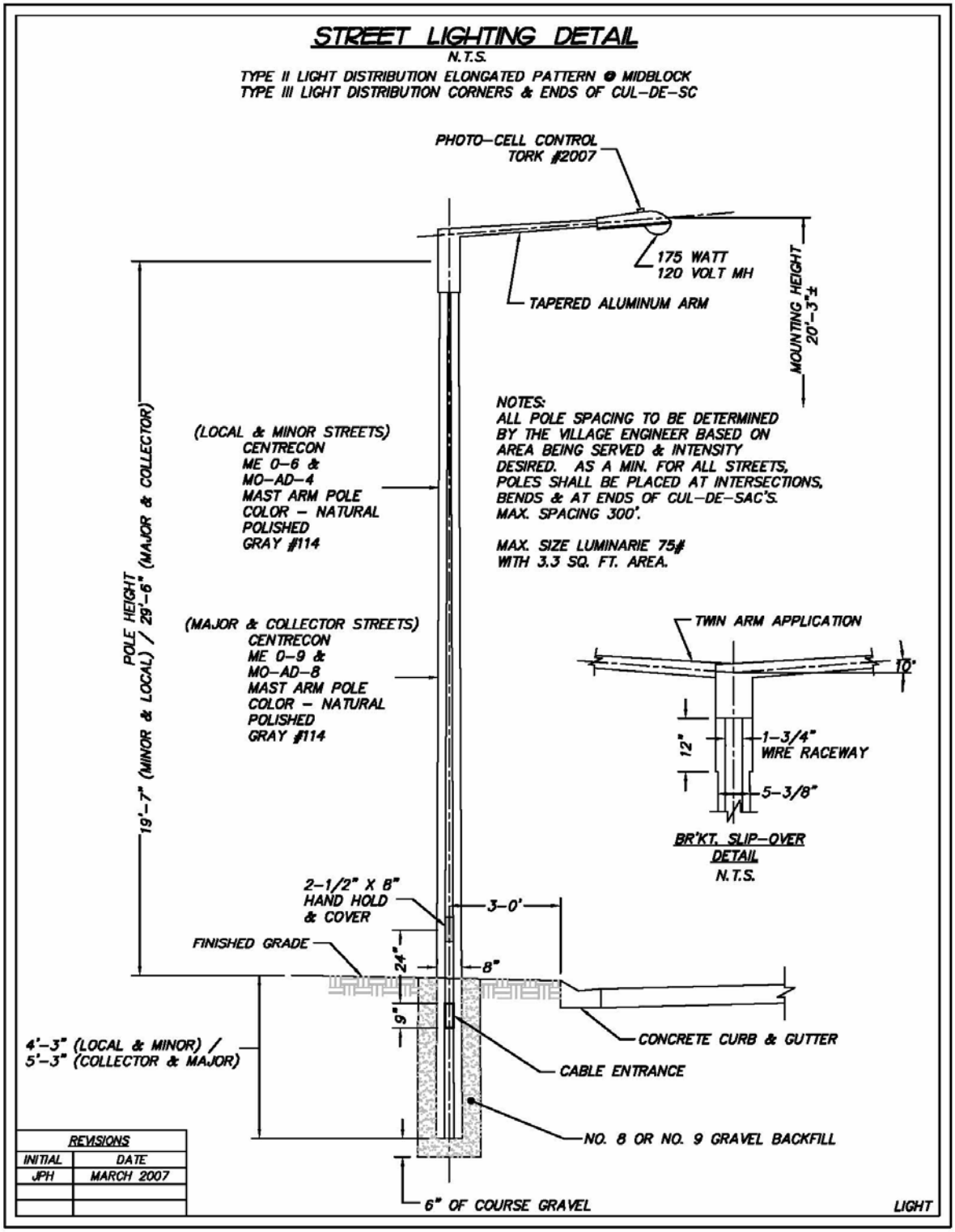
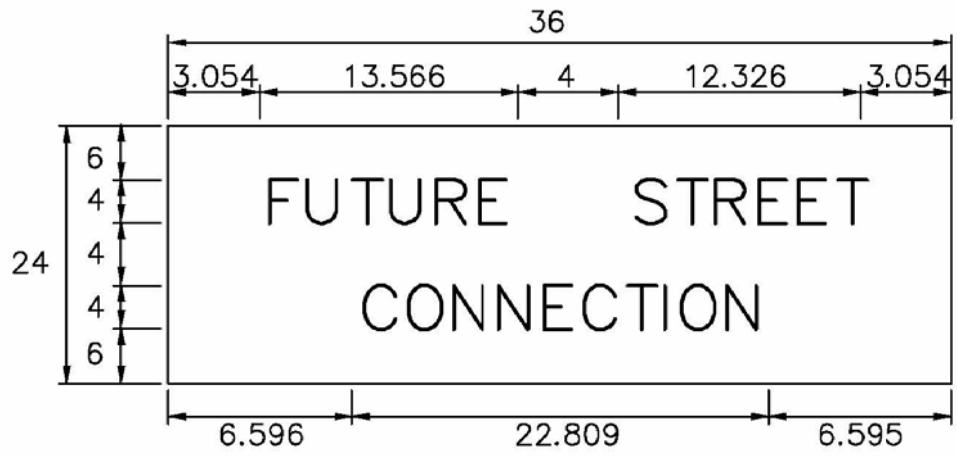
10' PAVEMENT WIDTH

NOT TO SCALE


STREET LIGHTING DETAIL
N.T.S.
TYPE II LIGHT DISTRIBUTION ELONGATED PATTERN @ MIDBLOCK
TYPE III LIGHT DISTRIBUTION CORNERS & ENDS OF CUL-DE-SC
PHOTO-CELL CONTROL
TORK #2007
175 WATT
120 VOLT MH
TAPERED ALUMINUM ARM
MOUNTING HEIGHT
20'-3"±
NOTES:
ALL POLE SPACING TO BE DETERMINED BY THE VILLAGE ENGINEER BASED ON AREA BEING SERVED & INTENSITY DESIRED. AS A MIN. FOR ALL STREETS, POLES SHALL BE PLACED AT INTERSECTIONS, BENDS & AT ENDS OF CUL-DE-SAC'S. MAX. SPACING 300'.
MAX. SIZE LUMINARIE 75# WITH 3.3 SQ. FT. AREA.
(LOCAL & MINOR STREETS)
CENTRECON
ME 0-6 &
MO-AD-4
MAST ARM POLE
COLOR - NATURAL
POLISHED
GRAY #114
(MAJOR & COLLECTOR STREETS)
CENTRECON
ME 0-9 &
MO-AD-8
MAST ARM POLE
COLOR - NATURAL
POLISHED
GRAY #114
POLE HEIGHT
19'-7" (MINOR & LOCAL) / 29'-6" (MAJOR & COLLECTOR)
TWIN ARM APPLICATION
10°
12"
1-3/4"
WIRE RACEWAY
5-3/8"
BR'KT. SLIP-OVER
DETAIL
N.T.S.
2-1/2" X 8"
HAND HOLD
& COVER
3-0'
FINISHED GRADE
24"
8"
9"
CONCRETE CURB & GUTTER
4'-3" (LOCAL & MINOR) /
5'-3" (COLLECTOR & MAJOR)
CABLE ENTRANCE
NO. 8 OR NO. 9 GRAVEL BACKFILL
6" OF COURSE GRAVEL
REVISIONS
INITIAL
DATE
JPH
MARCH 2007
LIGHT

STUB STREET SIGN



- ALL DIMENSIONS IN INCHES
- GREEN BACKGROUND
- WHITE LETTERS
- WHITE BORDER = 0.75 INCHES WIDE
- TYPE A SHEETING
- MIN HEIGHT OF LETTERS = 4 INCHES

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DSW-STUBSIGN