VILLAGE OF ORLAND PARK

14700 Ravinia Avenue
Orland Park, IL 60462
www.orlandpark.org

Ordinance No: 5167 **File Number: 2016-0590**

AN ORDINANCE AMENDING THE LAND DEVELOPMENT CODE OF THE VILLAGE OF ORLAND PARK, AS AMENDED (SECTIONS 2-102, 3-101, 3-105, 3-106, 3-107, 4-101, 5-101, 5-105, 5-106, 6-205.1, 6-207, 6-208, 6-210, 6-211, 6-212, 6-302, 6-305, 6-306, 6-308, 6-404, 6-406, 6-408, 6-409, 6-411, 6-412, 6-413, 6-415, 9-101 AND SCRIVENERS ERRORS)

VILLAGE OF ORLAND PARK

STATE OF ILLINOIS, COUNTIES OF COOK AND WILL

Published in pamphlet form this 21st day of February, 2017 by authority of the President and Board of Trustees of the Village of Orland Park, Cook and Will Counties, Illinois.

VILLAGE OF ORLAND PARK

Ordinance No: 5167

AN ORDINANCE AMENDING THE LAND DEVELOPMENT CODE OF THE VILLAGE OF ORLAND PARK, AS AMENDED (Sections 2-102, 3-101, 3-105, 3-106, 3-107, 4-101, 5-101, 5-105, 5-106, 6-205.1, 6-207, 6-208, 6-210, 6-211, 6-212, 6-302, 6-305, 6-306, 6-308, 6-404, 6-406, 6-408, 6-409, 6-411, 6-412, 6-413, 6-415, 9-101 and scriveners errors)

WHEREAS, the Corporate Authorities of the Village of Orland Park, an Illinois home rule municipality, have on February 8, 1991, adopted a Land Development Code ("the Code") and zoning map; and

WHEREAS, amendments to the Code are adopted from time to time to ensure that the Code is up to date and responsive to community needs; and

WHEREAS, amendments have been proposed regarding major and minor special use permits, references to the Community Development Department, public hearing notice sign dimensions, complete application requirements, appearance review requirements, tensile canopy regulations, motor vehicle services as a special use in the VCD and COR districts, accessory structures and uses, landscape corridor requirements, parking lot landscape screening requirements, village tree mitigation bank, driveway side setback requirements, sanitary sewer system revisions, and the correction of several scrivener's errors; and

WHEREAS, the Plan Commission of the Village held a public hearing on January 10, 2017 on whether the proposed amendments should be approved, at which time all persons present were afforded an opportunity to be heard; and

WHEREAS, a public notice in the form required by law was given of said public hearing by publication not more than thirty (30) days nor less than fifteen (15) days prior to said hearing in the Orland Park Prairie, a newspaper of general circulation in this Village; and

WHEREAS, the Plan Commission of this Village has filed its report of findings and recommendation that the proposed amendments to Sections 2-102, 3-101, 3-105, 3-106, 3-107, 4-101, 5-101, 5-105, 5-106, 6-205.1, 6-207, 6-208, 6-210, 6-211, 6-212, 6-302, 6-305, 6-306, 6-308, 6-404, 6-406, 6-408, 6-409, 6-411, 6-412, 6-413, 6-415, 9-101 of the Land Development Code of the Village be made, and this Board of Trustees has duly considered said report and findings and recommendations; and

NOW, THEREFORE, Be It Ordained by the President and Board of Trustees of the Village of Orland Park, Cook and Will Counties, Illinois, as follows:

VILLAGE OF ORLAND PARK

Ordinance No: 5167

SECTION 1

This Board finds and determines that the adoption of the following amendments to the Land Development Code of the Village of Orland Park is in the best interests of the Village and its residents, is in the public interest, constitutes an improvement to the Land Development Code of the Village of Orland Park, and is in keeping with the spirit and in furtherance of the purpose of the Land Development Code of the Village of Orland Park, as set forth in Section 1-102 thereof.

SECTION 2

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to add the following new terms and definitions "Arbor", "Tensile Canopy", "Tensile Canopy Structure". "Trellis", and "Pergola" to Section 2-102 "Definitions," which shall read as follows and to delete in its entirety the terms "Detached Parking Lot Island", "Development" and "Use, Special" and to substitute the following as new text for the terms "Detached Parking Lot Island", "Development" and "Use, Special":

Arbor means an open landscaping structure that may serve as a passage, which is designed and intended to support vegetation and which may include lattice work.

Tensile Canopy means a membrane that is attached to three or more independent anchor points to create rigidity, and is used as protection from weather elements.

Tensile Canopy Structure is a freestanding structure that the membrane of a Tensile Canopy is independently anchored to.

Trellis means a vertical landscaping structure or wall section which is designed and intended to support vegetation and which may include lattice work.

Pergola means a landscaping structure with overhead coverage that frames a space and which may be designed to support vegetation.

Detached Parking Lot Island means a parking lot island not physically connected in any way to the perimeter of a parking lot.

Development means the carrying out of any building activity, the making of any material change in the use or appearance of any structure or land, or the subdividing of land into two or more parcels.

1. Except as provided in subsection (3) hereof, for the purposes of these regulations, the following activities or uses shall be considered to involve "development:"
a. A reconstruction, alteration of the size, or material change in the external appearance of a structure on land or water.
b. A change in the intensity of use of land, such as an increase in the number of dwelling units in a structure or on land or a material increase in the number of businesses, manufacturing establishments, offices, or dwelling units in a structure or on land.
c. Alteration of the shore or bank of a pond, lake, river, or other waterway.
d. Commencement of drilling (except to obtain soil samples), mining, or excavation on a parcel of land.
e. Demolition of a structure which is designated on Exhibit 1 as an architecturally significant or historic structure.
f. Clearing of land, including clearing or removal of vegetation and any significant disturbance of vegetation or soil manipulation, but not including farming.
g. Deposit of refuse, solid or liquid waste, or fill on a parcel of land.
2. "Development" includes all other activity customarily associated with it. When appropriate to the context, "development" refers to the act of developing or to the result of development of land within the Village and within one and one-half (1-1/2) miles beyond the corporate limits of the Village. Reference to particular operations is not intended to limit the generality of this definition.
3. For the purpose of these regulations the following operations or uses shall not be taken to involve "development:"
a. Except as provided in Section 5-111 of these regulations, work involving the maintenance, renewal, improvement, or alteration of any structure, if the work affects only the color or decoration of the exterior of the structure or interior alterations that do not change the use for which the structure was constructed.
b. Work involving the maintenance of existing landscaped areas and existing rights-of-way such as yards and other non-natural planting areas.
c. Work involving the maintenance of areas of native vegetation through prescribed burns, selective removal of alien plant species or similar activities intended to upgrade the quality of areas of native vegetation.
d. Work involving the installation of landscaping of a single family dwelling.
e. A change in use of land or structure from a use within a specified category of use to another use in the same category unless the change involves a change from a use permitted as of right to one permitted as a special use.
f. A change in the ownership or form of ownership of any parcel or structure.
g. The creation or termination of rights of access, riparian rights, easements, covenants concerning development of land, or other rights in land unless otherwise specifically required by law.
h. Demolition of buildings not listed on Exhibit 1 which shows historic and architecturally significant structures.

Use, Special means a use (to be defined in the zoning districts) that has operational, physical and other characteristics that may be different from those of the predominant permitted uses in a zoning district, but which is a use that complements or is otherwise compatible with the intended over-all development within a district, provided that specified standards are met.

SECTION 3

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Section 3-101 "Board of Trustees" and to substitute the following as new text for Section 3-101:

Section 3-101. Board of Trustees.

In addition to any authority granted the President and Board of Trustees by state law or other ordinances of the Village, the President and Board of Trustees shall have the following powers and duties:
A. To adopt, review and amend the Comprehensive Plan for the Village, the Capital Improvements Plan and such overlay plans as they may deem necessary and appropriate;
B. To review by Committee all applications for special use permits, map and text amendments and preliminary plans prior to public hearing by the Plan Commission in accordance with the provisions of Sections 5-105(I), 5-108 and 5-112(D).
C. To hear, review, approve or disapprove special use permits after recommendation by the Plan Commission in accordance with the provisions of Section 5-105(I);
D. To hear, review and approve appeals from special use permits in accordance with the provisions of Section 5-105(H);
E. To initiate, hear, review and adopt amendments to the Zoning District Map after recommendation by the Plan Commission in accordance with the provisions of Section 5-108;
F. To initiate, hear, review and adopt amendments to the text of these regulations after recommendation by the Plan Commission in accordance with the provisions of Section 5-108;
G. To hear, review and approve or disapprove all applications for approval of plats of subdivision in accordance with the provisions of Section 5-112; and
H. To take such other action not delegated to the Plan Commission as the Board of Trustees may deem desirable and necessary to implement the provisions of these regulations and the Comprehensive Plan.

SECTION 4

VILLAGE OF ORLAND PARK

Ordinance No: 5167

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Section 3-105 "Department of Community Development" and to substitute the following as new text for Section 3-105:

Section 3-105. Department of Development Services.

A. General. The Department of Development Services shall perform the planning functions for the Village, provide technical support and guidance for action on applications for development approval and perform such other functions as may be requested by the Board of Trustees, the Plan Commission, or the Village Manager. The Department of Development Services shall coordinate the review of all applications for development approval by the Department of Development Services and other Village departments.

B. Director of Development Services.
1. Creation and Appointment. The Director of Development Services shall be the department head of the Department of Development Services and shall be appointed by and serve at the pleasure of the Village Manager.
2. Jurisdiction, Authority and Duties. In addition to the jurisdiction, authority and duties which may be conferred upon the Director of Development Services by other ordinances, the Director of Development Services shall have the following jurisdiction, authority and duties:
a. To serve as staff to the Plan Commission and to inform such body of all facts and information at his disposal with respect to applications for development approval or any other matters brought before it;
b. To serve as chairman of the Development Review Committee;
c. To assist the Plan Commission in the review and preparation of the Comprehensive Plan, any special area plans, the Capital Improvements Program, these regulations and proposed amendments thereto;
d. To maintain the Zoning District Map and to make an annual presentation of the Map to the Board of Trustees for certification;
e. To maintain development review files and other public records related to the Department's affairs;
f. To review and approve or disapprove applications for special use permits;
g. To review, or cause to be reviewed, all applications for special use permits and plat approval;
h. To render interpretations of the Comprehensive Plan, these regulations or the boundaries of
the Zoning District Map;
i. To evaluate and act upon claims of non-conforming uses and structures in conjunction with Building Department and make recommendations;

j. To coordinate all local, regional, state and federal environmental and other land development permitting processes affecting development in the Village;
k. To plan for and evaluate all transportation improvements for the Village, and coordinate such activities with the Department of Transportation of the State of Illinois;
l. To issue development compliance certificates and sign pre-application conference letters of understanding in accordance with these regulations;
m. To determine whether an application for development approval is materially different from a previously denied application in accordance with the provisions of Section 5-101(H);
n. To establish such rules of procedure as are necessary for the administration of his responsibilities under these regulations; and
o. Whenever requested to do so by the Board of Trustees with the assistance of other Village departments, to conduct or cause to be conducted surveys, investigations and studies, and to prepare or cause to be prepared such reports, maps, photographs, charts and exhibits as may be requested.

SECTION 5

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Section 3-106 "Development Review Committee" and to substitute the following as new text for Section 3-106:

Section 3-106. Development Review Committee.

A. Creation and Composition. The Development Review Committee shall be composed of the Director of Development Services, the directors of the Village's Public Services Department, Recreation and Parks Department, the Building Department, the Finance Department, the Police Department, the Village Engineer, the Village Attorney, any other Village employee or official designated by the Board of Trustees or Village Manager, and at their option, representatives of the fire and school districts.

B. Duties. The Development Review Committee shall meet at least weekly to consider such matters as are prescribed by these regulations, including:
1. Meeting with any developer at a preapplication conference when requested or required;
2. Reviewing all applications for development approval, submitting comments on such applications to the Director of Development Services who shall consolidate such applications for submission to the Plan Commission; and
3. Reviewing all applications for amendments to these regulations.

SECTION 6

Ordinance No: 5167

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Paragraph B "Director of Building Department" of Section 3-107 "Building Department" and to substitute the following as new text for Paragraph B of Section 3-107:

B. Director of Building Department.

1. Creation and Appointment. The Director of the Building Department shall be appointed by and serve at the pleasure of the Village Manager.
2. Jurisdiction, Authority and Duties. In addition to the jurisdiction, authority and duties which may be granted the Director of the Building Department by other ordinances, the Director shall have the following jurisdiction, authority and duties:
a. To issue and revoke building permits in accordance with the procedures of these regulations;
b. To issue and revoke certificates of occupancy in accordance with these regulations;
c. To serve as the Building Official under the provisions of the Village's Building Code;
d. To serve on the Development Review Committee;
e. To conduct such inspections and investigations as are necessary to enforce the provisions of these zoning regulations;
f. To determine the extent of damage or destruction of non-conforming uses and structures, in cooperation with the Director of Development Services;
g. To verify and record the actual land use of property subject to these regulations;
h. To verify and enforce the conditions required by special use permits;
i. To enforce the provisions of these regulations; and
j. To provide the Board of Trustees and the Plan Commission and Hearing Officer with reports and recommendations with respect to matters before such bodies, as directed by the Board of Trustees or the Director of Development Services or Director of the Building Department.

SECTION 7

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Paragraph A "Authority" of Section 4-101 "Comprehensive Plan" and to substitute the following as new text for Paragraph A of Section 4-101:

A. Authority. The Department of Development Services has the authority, as authorized by the Board of Trustees, to formulate and recommend a Comprehensive Plan or elements thereof, and amendments thereto, from time to time, for review by the Plan Commission and adoption by the Board of Trustees.

SECTION 8

Ordinance No: 5167

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subsubsection 3 of Subparagraph b "Notification Requirements" of Subsection 2 "Notice of Public Hearing" of Paragraph G "Public Hearing Procedures" of Section 5-101 "Development Review Procedures" and to substitute the following as new text for Subsubsection 3 of Subparagraph b of Subsection 2 of Paragraph G of Section 5-101:

3. It is the petitioner's / applicant's responsibility to post a weatherproof sign(s) at least three (3) feet by four (4) feet (or 48 inches by 36 inches) in front surface area, the bottom of which shall be mounted at least four (4) feet above the ground, and to have at least one (1) sign in the most visible location to the general public such as along a primary roadway. Such sign(s) shall be posted on private property and shall remain until the conclusion of the public hearing. Failure to comply with the provisions of this Subsection shall not render the public hearing invalid, provided that a good faith effort was made to comply. The petitioner must remove the public hearing notice sign(s) no later than thirty (30) days after the Village Board action on the proposal. The sign must display wording that at a minimum notifies the public about the public hearing for the procedure, which has triggered the public hearing. It must include the date, time, place and the contact information of the Development Services Department. Arial or Arial Narrow shall be the font in which the public hearing signs are printed. The notice, date and time of the sign must be no less than 3.5 inches in height and the remaining information on the sign no less than 2.5 inches in height.

SECTION 9

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subparagraph a "Determination of Completeness" of Subsection 3 "Complete Applications" of Paragraph K "Role of the Development Services Department" of Section 5-101 "Development Review Procedures" and to substitute the following as new text for Subparagraph a of Subsection 3 of Paragraph K of Section 5-101:

a. Determination of Completeness. Within fifteen (15) days after receipt of an application for development approval, the Development Services Department shall determine whether the application is complete. If it is determined that the application is complete, the applicant will be notified in writing that the application has been accepted for filing. If the application is not complete, the applicant shall be notified, specifying the deficiencies of the application, including any additional information which must be supplied. A complete application shall consist of a fully completed notarized petition form, a site plan, elevations, required review fees as set by the Village Board of Trustees, preliminary engineering plans and the following supporting documents when applicable

as determined by the Development Services Department. Additional documents not listed here may be requested as needed by the Development Services Departments but shall not be used to determine completeness. A complete petition does not mean automatic scheduling rights to public meetings.

1. Original, sealed Plat of Survey (ALTA or otherwise), including legal description.
2. Receipted copy of the most recent property tax bill, or evidence of payment (copy of bill, canceled check etc.).
3. Responses to the Special Use Standards, Variance Standards and/or Rezoning Factors as needed on a per project basis (if applicable).
4. Letter of authorization to petition from the property owner, if the property is rented/ leased by the Petitioner.
5. Copy of the contract to purchase and a letter of authorization to petition from the property owner, if the property is undergoing due diligence for a contract sale.
6. Certified copy of the trust agreement, a list of beneficiaries, and a letter of authorization from the trust officer, if the property is owned by a Trust.

SECTION 10

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Paragraph B "Authority" of Section 5-105 "Special Use Permits" and to substitute the following as new text for Paragraph B of Section 5-105:

B. Authority. The Plan Commission may in accordance with the procedures and standards of this Section recommend approval of special use permits to the Board of Trustees.

SECTION 11

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Paragraph C "Authorized Special Uses" of Section 5-105 "Special Use Permits" and to substitute the following as new text for Paragraph C of Section 5-105:

C. Authorized Special Uses. Only those uses which are authorized in Article 6, or in the zoning districts currently in effect, or those nonconforming uses which are damaged or destroyed and are permitted to be re-established in Section 8-101, may be approved as special uses. The designation of a use in a zoning district does not constitute an authorization or an assurance that such use will be approved; rather, each proposed special use shall be evaluated by the Plan Commission and Board of Trustees for compliance with the standards and conditions set forth in this Section and for each zoning district. Wherever a use existing on the effective date of these regulations is terminated

or demolished, subsequent use of the property upon which the use was located shall be permitted only as a special use. Whenever the property underlying a special use changes ownership and the Development Services Department is notified of such change, the Department shall determine whether the potential impacts of such new ownership or other changed condition merit renewed special use review and approval. If the Development Services Department determines that the impacts of the use will be significantly altered by virtue of the new ownership, the Department shall notify the new owner that he or she must initiate an application for a special use permit. Conversely, if the Development Services Department determines that the impacts of the land use will not be significantly altered and that such other changed conditions will not occur, no additional special use approval shall be required. However, such a determination shall not eliminate the need for the new owner to obtain any other types of approvals or permits that may be required by these regulations due to the change of ownership.

SECTION 12

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Paragraph G "Special Uses" of Section 5-105 "Special Use Permits" and to substitute the following as new text for Paragraph G of Section 5-105:

G. Special Uses.
1. Applications. An application for a special use permit, including applications for all planned developments, shall be submitted to the Development Services Department in a form provided by the Development Services Department. Applicants for special use permits for development of 1,000 acres or more must also apply for rezoning to the Large Scale Planned Development District. Petitions or applications for special uses must move through the public hearing process as outlined in Section 5-101 of these regulations.

SECTION 13

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Section 5-106 "Appearance and Related Plan Review" and to substitute the following as new text for Section 5-106:

Section 5-106. Appearance Review.

A. Purpose.
The Appearance Review process aims to maintain and enhance the appearance of existing development throughout the Village, inclusive of building and site changes, without

necessitating the need for formal public meetings. The general purpose of the Appearance Review process is to:

1. Authorize the Development Services Department to conduct and approve minor site and exterior building changes;
2. Confirm conformance with requirements outlined in this Code, in particular, but not limited to, Section 6-308 Design Standards;
3. Maintain harmony with the community character of the area within which the development is located;
4. Discover improvements above and beyond minimum Code requirements that will result in enhancements to the private and public realms; and
5. Function as a backup documentation, if and as needed, for the purpose of determining the distribution of any Village incentives, as offered at the Village's discretion, such as the Appearance Improvement Grant (AIG).

B. Authority.

The Development Services Department is authorized to conduct and approve Appearance Reviews. The administration actions and the appeals process are set forth in Section 5-106.D.

C. Applicability.

The Development Services Department shall determine if a petition qualifies for an Appearance Review or if a petition must proceed to a full site plan review, based upon the scope and type of work contemplated. The Development Services Department reserves the right to convert an Appearance Review to a full site plan review, therefore requiring public meetings, due to changes in the scope of work, finding of unknown field conditions, or discovery of new information.

1. Zoning Districts.

The Appearance Review process applies to all zoning districts in the Village, except for property in the OOH Zoning District. See Section 6-209 for applicable regulations for the OOH Zoning District.

2. Non-residential.

a. Applicability.

i. Commercial structures; and

ii. Mixed-use buildings of any size.

b. Not Required.

i. Routine property maintenance;

ii. Proposals that do not visibly change the appearance of the property and its structures;

iii. Replacement of building materials with like building materials of the same color and dimension;

iv. Replacement of landscape materials with like landscape materials of the same species, quality and location; and

v. Restaurants, not requiring a special use, occupying an existing or vacant former restaurant space and proposing no exterior changes.
c. Required.
i. Alterations or expansions to the exterior of a building;
ii. Changes in materials, either primary and accent;
iii. Changes in colors, either primary and accent;
iv. Painting of existing brick. See standards in Section 6-308;
v. Additions or modifications to building appendages, such as awnings, rooftop screening, fencing and dumpster enclosures;
vi. Modifications to the existing signage format, such as moving the established sign band location or changing its background color;
vii. Addition or modification of outdoor congregation areas, including any ancillary improvements such as fencing, barriers, lighting and overhead features either freestanding or attached to a structure.
viii. Addition or modification to onsite lighting, including freestanding, string (excluding holiday decorations) and affixed to a structure;
ix. An increase in a parcel's lot coverage;
x. Any changes to a parking lot and its associated landscape zones;
xi. Any modifications to a previously approved landscape plan, including the relocation of existing landscape materials;
xii. Modifications to a previously approved stormwater management area, provided that engineering approval is granted;
xiii. Addition or modification to off-site improvements, such as sidewalks and multi-use paths, provided that engineering approval is granted;
xiv. Restaurants, not requiring a special use, occupying an existing or vacant former restaurant space and proposing exterior changes; and
xv. The expansion of lawfully existing restaurants operating pursuant to a special use where the expansion will occur in an adjoining space, regardless of its proximity to a residential parcel, provided that the expansion does not exceed 100% of the area initially approved for the special use for the restaurant.
3. Residential.
a. Applicability.
i. Multifamily structures comprised of six (6) or more units; and
ii. Common areas, inclusive of building and site changes, associated with a Home Owner's Association, or equivalent, with at least four (4) principle structures.
b. Not Required.
i. Routine property maintenance;
ii. Proposals that do not visibly change the appearance of the property and its structures;
iii. Replacement of building materials with like building materials of the same color and dimension; and
iv. Replacement of landscape materials with like landscape materials of the same species, quality and location.

c. Required.
i. Alterations or expansions to the exterior of a building;
ii. Changes in materials, either primary and accent;
iii. Changes in colors, either primary and accent;
iv. Painting of existing brick. See standards in Section 6-308;
v. Additions or modifications to building appendages, such as awnings, rooftop screening, fencing and dumpster enclosures;
vi. Addition or modification of outdoor congregation areas, including any ancillary improvements such as fencing, barriers, lighting and overhead features either freestanding or attached to a structure.
vii. Addition or modification to onsite lighting, including freestanding, string (excluding holiday decorations) and affixed to a structure;
viii. An increase in a parcel's lot coverage;
ix. Any changes to a parking lot and its associated landscape zones;
x. Any modifications to a previously approved landscape plan, including the relocation of existing landscape materials;
xi. Modifications to a previously approved stormwater management area, provided that engineering approval is granted; and
xii. Addition or modification to off-site improvements, such as sidewalks and multi-use paths, provided that engineering approval is granted.

D. Approval Process
The Development Services Department is authorized to conduct Appearance Reviews. The available administration actions include:
1. Approval.
The request is granted. Approval of an Appearance Review does not grant authority for activity in violation of Ordinances. Furthermore, separate review and approval is still required for building permits, final engineering, legal determinations, and zoning certificates, along with their respective direct and pass-through fees, as required.
2. Approval with Conditions.
The request is granted with the same qualifiers stated in Section 5-106.C.1 above, but the applicant must meet certain among other things, within an allotted amount of time as stipulated by the Development Services Department.
3. Denial.
The proposal is denied. The applicant may appeal the decision of the Development Services Department to the Plan Commission at one of its next two (2) regularly scheduled meetings. The Plan Commission shall review the application and the report and recommendation of the Development Services Department and shall grant or deny the application by a majority vote within thirty (30) days of receipt of the appeal.

E. Expiration of Appearance Approval. Appearance Review approval of a proposal shall expire one year after the date of approval by the Development Services Department or the Plan Commission unless extended specifically by application to the Plan Commission.

SECTION 14

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Paragraph A "Purpose" of Section 6-205.1 "LSPD Large Scale Planned Development District" and to substitute the following as new text for Paragraph A of Section 6-205.1:

A. Purpose. Large Scale Planned Developments possess characteristics of unique and special form with such a large impact on the entire community that each development must be considered individually. The following use will be permitted only upon presentation of a concept plan of development to the Director of Development Services and final approval by the Board of Trustees. The Large Scale Planned Development District is established to provide mixed uses including residential opportunities at a higher density than that of the R-4 District and appropriate commercial uses. The minimum property size that may be zoned LSPD is 1,000 acres of property under single ownership or unified control. To the extent this Section conflicts or is inconsistent with other provisions of the Land Development Code, this Section shall control. All land uses must conform to the approved Spring Creek Concept Plan or be approved as a special use amendment.

SECTION 15

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Paragraph C "Major Special Use" of Section 6-205.1 "LSPD Large Scale Planned Development District" and to substitute the following as new text for Paragraph C of Section 6-205.1:

C. Special Use. A Large Scale Planned Development may be established as a special use only in the LSPD District, in accordance with the terms and conditions set forth in Section 5-105.I.

SECTION 16

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to add a new Subparagraph k to Subsection 3 "Permitted Uses in Building Setback Areas along Streets" of Paragraph E "Setbacks" of Section 6-205.1 "LSPD Large Scale Planned Development District", which shall read as follows:

k. Tensile Canopies that project over outdoor congregation areas.

SECTION 17

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to add a new Subparagraph j to Subsection 3 "Permitted Uses in Building Setback Areas along Streets" of Paragraph F "Setbacks" of Section 6-207 "BIZ General Business District", which shall read as follows:

j. Tensile Canopies that project over outdoor congregation areas.

SECTION 18

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subsection 7 of Paragraph C "Special Uses" of Section 6-208 "MFG Manufacturing District" and to substitute the following as new text for Subsection 7 of Paragraph C of Section 6-208:

7. Indoor recreation areas equal to or greater than 5,000 square feet;

SECTION 19

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subsection 14 "Motor Vehicle Services" of Paragraph C "Special Uses" of Section 6-210 "COR Mixed Use District" and to renumber accordingly.

SECTION 20

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to add a new Subparagraph k to Subsection 3 "Permitted Uses in Building Setback Areas along Streets" of Paragraph F "Setbacks" of Section 6-210 "COR Mixed Use District", which shall read as follows:

k. Tensile Canopies that project over outdoor congregation areas.

SECTION 21

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subsection 5 of Paragraph C "Special Uses" of Section 6-211 "ORI Mixed Use District" and to substitute the following as new text for Subsection 5 of Paragraph C of Section 6-211:

5. Indoor recreation areas equal to or greater than 5,000 square feet.

SECTION 22

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to add a new Subparagraph j to Subsection 1 "Permitted Uses in Building Setback Areas along Streets" of Paragraph E "Design Standards" of Section 6-212 "Village Center District (VCD)", which shall read as follows:

j. Tensile Canopies that project over sidewalks and outdoor congregation areas.

SECTION 23

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete from Subsection 4 "Commercial Use" of Table 6-212.C.1 "Allowable Uses in the Village Center District" the reference to "Motor Vehicle Services."

SECTION 24

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to amended to delete in its entirety the text of Paragraph C "Permitted Accessory Structures and Uses" of Section 6-302 "Accessory Structures and Uses" and to substitute the following as new text for Paragraph C of Section 6-302:

C. Permitted Accessory Structures and Uses. The following tables summarize the accessory structures listed in Section C. Please refer to the text following the tables for further details:

Table 6-302.C. 1(A) – Attached Accessory Structures
(INSERT EXHIBIT A HERE)

Table 6-302.C. 1(B) – Detached Accessory Structures
(INSERT EXHIBIT B HERE)

The following accessory structures and uses are permitted and may be located in setbacks subject to the following restrictions:
1. Air Conditioning: May project into all rear setbacks and may project into side yard only if it is not a required setback.
2. Arbors, Pergolas and Trellises: Are not allowed in front setback between building

and property line and shall be five (5) feet from the property line. Arbors and trellises shall not exceed eight (8) feet in height; pergolas shall not exceed ten (10) feet in height.
3. Awnings, Marquees, and Canopies: May project not more than three (3) feet into front (including approved existing front setbacks, which are less than the required front setback), side and rear setbacks.
4. Balconies: May project not more than three (3) feet into a front (including approved existing front setbacks which are less than the required front setbacks), side or rear setback.
5. Basketball Poles, Courts and Hoops: May be permitted on driveways in front, side and rear setbacks of all zoning districts except the BIZ General Business District and Village Center District. No lights shall be permitted accessory to the court.
6. Bay Windows: May project not more than three (3) feet into a front (including approved existing front setbacks which are less than the required front setbacks), side or rear setback.
7. Chimneys: Attached chimneys and foundations for attached chimneys may project not more than twenty-four (24) inches into a side setback, and may be permitted in rear setbacks.
8. Decks: See Terraces.
9. Eaves and Gutters: On principal buildings or attached accessory buildings may project not more than four (4) feet into a front (including approved existing front setbacks which are less than the required front setbacks) and rear setback, and not more than twenty-four (24) inches into a side setback.
10. Fences: May be permitted in front, side and rear setbacks, in accordance with the provisions of Section 6-310.
11. Fire Escapes: Open or enclosed, may be permitted in rear setbacks, and may project into a required front setback or side setback adjoining a street not more than five (5) feet, and into a required interior side setback not more than three and one-half (3-1/2) feet.
12. Flagpoles: May be permitted in front, side, or rear setbacks, but no more than ten feet (10') from the front of a building, no higher than eighteen (18) feet, and the flag shall be no larger than twenty-five (25) square feet. No more than one (1) flagpole is permitted per residential lot.
13. Garages:
a. In the E-1 Estate Residential District detached and attached garages are both allowed on the same property. In the R-1, R-2, R-2A, R-3, R-3A Residential Districts and the OOH Historic District either an attached garage or a detached garage is allowed, but not both on the same property when under 21,780 square feet. In the OOH Historic District, the attached garage may front-load to the right-of-way if it is at least 25 feet behind the street-facing façade.
b. Attached garages shall not exceed 50% of first floor gross area of the entire building including the garage, with the maximum size of the garage not to exceed 1,500 square feet.

c. Detached garages may be permitted in rear and side setbacks within five (5) feet of the lot lines subject to staying outside of existing easements.
d. Detached garages on single family lots in the R-2, R-3 and R-4 Districts may not exceed 720 square feet in size. Detached garages may be no higher than thirteen (13) feet to the mean height or sixteen (16) feet to the mean height in Old Orland Historic District, unless a second story is added over the garage, or it is to be used as an accessory dwelling (see Section 6-302.B) or as additional space for uses such as personal office, weight room, hobby space etc. subject to Section 6-303. In no case may it be higher than two stories or 17 feet to the mean height.
e. In the E-1 District, one attached and one detached garage no larger than 1,000 square feet each is allowed per dwelling unit. In the R-1 Districts, one attached or detached garage no larger than 800 square feet is allowed per dwelling unit. Detached garages may be no higher than thirteen (13) feet to the mean height.
f. In any subdivision or development located in a Residential District, which subdivision or development was finally approved by the corporate authorities of the Village subsequent to January 1, 2000, and for which subdivision or development building permits had been issued on or before March 19, 2008, attached garages are permitted to encroach into the front setback, but outside of any existing easement, by no more than five (5) feet.
14. Garbage Containers and Enclosures: May not be stored in residential front setbacks. Also, see Section 6-302.D.
15. Geothermal Energy Systems: See Section 6-314 Environmental Technology Standards.
16. Green Roof/ Eco-Roof: See Section 6-302.I.
17. Ice Skating Rinks: May be permitted in rear setbacks in all districts except the BIZ General Business District, Village Center District and the MFG Manufacturing District, and must be at least ten (10) feet from the side and rear lot line.
18. Lawn Furniture: Including benches, sun dials, bird baths, statues and similar architectural features may be permitted in rear, side and front setbacks.
19. Lawn Sprinklers: Lawn sprinklers and irrigation systems are allowed in the front and rear yards. Lawn sprinkler heads may be permitted in public parkways (at the risk of the private property owner) but must be either installed along the sidewalk's edge when available or setback a minimum of three (3) feet from the curb of the street. Private property owners with sprinklers installed in the public right-of-way are responsible for any damage incurred by any public work maintaining right-of-way infrastructure (i.e. snow plowing, water/sewer maintenance etc.).
20. Laundry drying equipment: May be permitted in side and rear setbacks in all districts except the BIZ General Business District, Village Center District and the MFG Manufacturing District, so long as they are located at least five (5) feet within the lot lines and do not obstruct storm water flow.
21. Mailboxes: May be permitted in any front and side setbacks. Mailboxes damaged beyond repair by Village personnel or their agents in the performance of their duty shall

be replaced by a standard 4 x 4 wood post and support and a standard metal type mailbox, model type 1C. Structures shall be no greater than 54" in height, 34" in width (parallel to the street), or 24" in depth. No mailbox structure base can be closer than 12" to the back of curb for the first 36" above grade. No mailbox or mailbox structure shall be permitted to contain any electrical or plumbing. Mailboxes shall be used only for the purposes of mail delivery. The bottom of the mailbox shall be 40" - 44" above the grade. The front of the mailbox shall be even with the back of curb.

22. Ornamental Lights: May be permitted in front, side, and rear setbacks subject to lighting standards provided in Section 6-407.1.

23. Outdoor Fireplaces: May be permitted in rear setbacks at least five (5) feet from the lot line in all districts except the BIZ General Business District, Village Center District and except as otherwise permitted for outdoor eating areas in commercial districts.

24. Parking Lots: May be permitted only as accessory uses and structures to a principal structure. Accessory parking lots shall be either pervious or impervious but shall not be made of gravel, dirt or other aggregate/loose material. They shall be asphalt, concrete, paver or similarly firm material and comply with the landscaping, parking and lot coverage regulations of this Code accordingly.

25. Patios: See Terraces.

26. Pet Shelters: May be permitted in rear setbacks of all districts except the BIZ General Business District and Village Center District.

27. Playgrounds: May be permitted in side and rear setbacks in all districts except the MFG Manufacturing District, so long as they are located at least five (5) feet within the lot lines and do not obstruct storm water flow.

28. Playhouses, Treehouses and Open-Sided Summer Houses: May be permitted in side and rear setbacks in all districts except the BIZ General Business District, Village Center District and the MFG Manufacturing District, so long as they are located at least five (5) feet within the lot lines and do not obstruct storm water flow.

29. Porches: See Terraces.

30. Rain Barrels and Rain Gardens: See Section 6-302.I.

31. Retaining Walls: May be permitted in front, side, and rear setbacks, so long as they are located at least three (3) feet inside the lot lines and do not obstruct storm water flow. Retaining walls shall be limited to a maximum three (3) feet in height. Any retaining wall in a side yard associated with a side loading garage or driveway cannot exceed two (2) feet in height, nor be closer than three (3) feet to the nearest side property line. When the consequence of grading land results in the necessity for a total retaining wall height greater than three (3) feet, the retaining wall must be tiered and each wall on the tiered retaining wall system shall be limited to three (3) feet in height. The formula for determining the tiered wall setback shall be two (2) times the lower wall height. A structural permit is required if the retaining wall system exceeds three (3) feet (triggering the need for a second wall or more) in total height.

32. Satellite Dishes: May be permitted in rear setbacks. See Section 6-311 for further requirements on satellite dishes.

33. Sheds and Storage Buildings: May be permitted in rear setbacks so long as they are:
a. Limited to one (1) per lot, not exceeding one hundred (100) square feet, or for lots over ten thousand (10,000) square feet, one percent of lot size, or no more than two hundred (200) square feet in floor area, whichever is less, sheds and storage buildings exceeding (100) square feet for non-residential uses must be brick;
b. Located off easements, at least five (5) feet from the lot lines and do not obstruct storm water flow; and no closer than ten (10) feet to the principal building; and
c. Do not exceed thirteen (13) feet in height to the highest point of the roof.
34. Signs: May be permitted in front, side and rear setbacks, as provided in Section 6-307.
35. Sills, Belt Courses, Cornices and Other Ornamental Features of the Principal Structure: May be permitted in front, side, and rear setbacks, so long as they do not project more than eighteen (18) inches into a setback.
36. Solar Energy Systems: See Section 6-314 Environmental Technology Standards.
37. Steps, open: May be permitted in front, side, and rear setbacks.
38. Storm Water Cistern: See Section 6-302.I.
39. Swimming Pools: See Section 6-310.1 Swimming Pools. May be permitted in rear setbacks in all districts except the BIZ General Business District, Village Center District and the MFG Manufacturing District, and must be at least ten (10) feet from the side and rear lot line.
40. Television and Radio Antennae: May be permitted in rear setbacks and on roofs, but may be no higher than forty-five (45) feet if ground mounted or ten (10) feet higher than the peak of the roof if roof mounted.
41. Tennis Courts: May be permitted in rear setbacks, not less than five (5) feet from the lot line in all districts except the BIZ General Business District, Village Center District and MFG Manufacturing District. No lights shall be permitted accessory to the court. A fence may be located at the perimeter of a tennis court subject to the following conditions:
a. No such fence shall exceed ten (10) feet in height.
b. Materials for tennis court fences may include green vinyl coated chain link or a comparable material as may be determined appropriate by the Development Services Director.
c. The view of tennis court fences from adjacent properties shall be obscured by the planting of shrubbery, evergreen trees, or comparable plant materials subject to the approval of the Development Services Director.
42. Tensile Canopies: Tensile Canopies shall be permitted with the following regulations:
a. The Tensile Canopy shall not extend more than fifty percent (50%) or fifteen (15) feet into the setback area, whichever is less;
b. A minimum of forty four (44) inches of unobstructed width of the sidewalk shall be maintained from the subject curb line;

c. A minimum vertical clearance of eight (8) feet shall be maintained in all areas below the Tensile Canopy;
d. The Tensile Canopy width shall not exceed seventy five percent (75%) of the subject building face;
e. All Tensile Canopy materials and structures shall comply with the rules and regulations set forth in Chapter 5 (Fire Code) of the Village Code of Ordinances; and
f. All Tensile Canopy materials and structures shall be removed from November 1st to May 1st of the following year.
43. Terraces, Patios, Porches and Decks: May be permitted to project not more than five (5) feet into a front (including approved existing front setbacks which are less than the required front setbacks) setback in front of the building line, and terraces, patios, and decks may be permitted up to five (5) feet from the rear and side lot lines. Porches may be permitted to project not more than five (5) feet into a rear setback behind the building line.
44. Underground Storm Water Cistern / Dry Well: See Section 6-302.I.
45. Vending Machines: Permitted for non-residential uses in the VC, BIZ, COR and ORI districts, and must be positioned as close to the building as possible and meet the requirements of the Village Code and applicable rules and regulations.
46. Wind Energy Conversion Systems: See Section 6-314 Environmental Technology Standards.

SECTION 25

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subsection 1 of Paragraph I "Outside Storage" of Section 6-302 "Accessory Structures and Uses" and to substitute the following as new text for Subsection 1 of Paragraph I of Section 6-302:

1. Outside storage of materials, equipment or vehicles essential to the operation of a business, on land other than the lot on which the business is located, shall be considered as a special use if the land is in the MFG Manufacturing District and is on a lot adjacent to and in possession of the same title holder of record as the lot occupied by the business for which the outside storage items are accessory.

SECTION 26

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subparagraph c "Special Conditions" of Subsection 3 "Landscape Corridors" of Paragraph D "Landscape Zones" of Section 6-305 "Landscape and Tree Preservation" and to substitute the following as new text for Subparagraph c of Subsection 3 of Paragraph D of Section 6-305:

c. Special Conditions.
1. New Residential Rear and Side Yard Corridors: Where the rear or side yard of a new residential development borders an arterial or collector street, the following requirements shall apply:
i. The plant material requirements detailed in "Typical Landscape Corridors" shall be installed along the entirety of the rear or side yard that adjoins an arterial or collector street. Refer to Table 6-305.D.3.b (A) – Corridor Types for planting requirements.
ii. Additionally, a uniform fence shall be installed along the entirety of the rear or side yard that adjoins an arterial or collector street. Fencing shall comply with the requirements set forth in Section 6-310 Fences.
iii. Small infill projects in established areas adjacent to public streets shall follow the existing pattern of rear yard screening, as determined by the Development Services Department.
iv. The location of plant materials and fences shall be determined by the Development Services Department.

SECTION 27

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subsubsection 1 "Perimeter Screening" of Subparagraph a "General" of Subsection 6 "Parking Lot Area Landscape" of Paragraph D "Landscape Zones" of Section 6-305 "Landscape and Tree Preservation" and to substitute the following as new text for Subsubsection 1 of Subparagraph a Subsection 6 of Paragraph D of Section 6-305:

1. Perimeter Screening. The design of the landscape screening around a parking lot area shall meet the following standards:
i. All parking lot areas greater than seven (7) parking spaces shall be significantly screened from view from adjacent properties and streets with landscaping, ornamental fencing, masonry wall, or a combination thereof. A minimum ten (10) foot wide planting bed shall be required around the perimeter of all required parking lots. The setback distance between a parking lot and a property line shall in all cases be a minimum of ten (10) feet, as measured from the parking lot back of curb.
ii. A minimum of seventy-five percent (75%) of perimeter plant materials shall attained a minimum mature height of three (3) feet. A minimum of seventy-five percent (75%) of the area of the planting bed shall be covered with plant materials. Plant material quantities and diversity shall comply with Section 6-305.E.6 Landscape Material Requirements.
iii. The size and placement of plant material at maturity shall allow for a three (3) foot bumper overhang from the face of the curb.

SECTION 28

Ordinance No: 5167

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subsubsection 7 of Subparagraph b "Requirements" of Subsection 8 "Stormwater Management Area Landscape" of Paragraph D "Landscape Zone" of Section 6-305 "Landscape and Tree Preservation" and to substitute the following as new text for Subsubsection 7 of Subparagraph b of Subsection 8 of Paragraph D of Section 6-305:

7. Where a stormwater basin is proposed to be located within or bordered on a required buffer, the intensity of landscaping around the basin shall be increased to comply with the applicable standard for the buffer. In these circumstances, the fifteen (15) foot naturalized landscape area is still required.

SECTION 29

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subparagraph b of Subsection 1 "General Maintenance Standards" of Paragraph F "Maintenance and Preservation" of Section 6-305 "Landscape and Tree Preservation" and to substitute the following as new text for Subparagraph b of Subsection 1 of Paragraph F of Section 6-305:

b. The obligation for continuous maintenance is binding on the petitioner who received landscape plan approval, to any subsequent property owner(s) or any other parties having a controlling interest in the property.

SECTION 30

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subsubsection 5 of Subparagraph f "Tree Replacement Standards" of Subsection 3 "Tree Preservation Standards" of Paragraph F "Maintenance and Preservation" of Section 6-305 "Landscape and Tree Preservation" and to substitute the following as new text for Subsubsection 5 of Subparagraph f of Subsection 3 of Paragraph F of Section 6-305:

5. If the required mitigation trees cannot be provided on the site, the petitioner shall pay cash, in the amount of $400 for each two and one-half (2.5) inch caliper tree, in lieu of tree replacement to the Village's Tree Preservation and Green Infrastructure Account. This account shall be used only for tree preservation and green infrastructure projects approved by the Village Board. Such a fee in lieu of mitigation must be approved by the Development Services Department and can only be used when replacement on site is not possible. Trees requiring mitigation do not count towards a reduction in the quantity of trees or landscaping required by this Section.

SECTION 31

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of the Subsection titled "Unacceptable Trees" of Paragraph G of "List of Recommended Plant Species" of Section 6-305 "Landscape and Tree Preservation" and to substitute the following as new text for Paragraph G of Section 6-305:

UNACCEPTABLE TREES		
All Ash (green, white, blue and all their varieties)	Fraxinus spp.	
Austrian pine	Pinus nigra	
Black locust	Robinia spp.	
Boxelder	Acer negundo	
Buckthorn	Rhamnus frangula	
Cottonwood, Eastern	Populous deltoides	
Mulberry	Morus spp.	
Osage orange	Maclura pomifera	
Persimmon	Diospyros spp.	
Russian olive	Elaeagnus angustifolia	
Siberian Elm	Ulmis pumila	
Silver maple	Acer saccharinum	
Tree of Heaven	Ailanthus altissima	
Walnut	Juglans spp.	
Willow	Salix spp.	

SECTION 32

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subsection 3 of Paragraph L "Configuration of Off-Street Parking and Loading Ingress and Egress" of Section 6-306 "Off-Street Parking and Loading Requirements" and to substitute the following as new text for Subsection 3 of Paragraph L of Section 6-306:

3. On arterial roadways, the number of access points shall be limited to one (1), unless a competent traffic engineering study determines that site access would be improved by additional access points. The minimum space between access drives shall be based on roadway speed and not on speed type and shall be determined by the Department of Development Services.

SECTION 33

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Paragraph C "Administration" of Section 6-308 "Design Standards" and to substitute the following as new text for Paragraph C of Section 6-308:

C. Administration.
1. An applicant for development approval shall submit a site plan, exterior elevations, and such other data deemed necessary by the Department of Development Services to evaluate a proposed architectural design, along with an application for development approval, as required by Sections 5-101 (General Procedures) and 5-106 (Appearance/Site Plan Review).
2. Final plans and elevations shall be drawn to scale and shall indicate the nature and extent of the work proposed.
3. The Department of Development Services shall develop graphic illustrations of the standards set forth in this Section. The Department shall also ensure that development within the district complies with the guidelines established in the Old Orland Historic District Guidelines, as amended from time to time, copies of which shall be kept on file in the Department's offices.
4. The review of architecture and site plans provided for in this Section is intended to be only a part of the whole review procedure laid out in these regulations. Approval of architectural design does not in any way signify final approval of any portion of any project.

SECTION 34

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Paragraph D "Pre-Application Conference" of Section 6-308 "Design Standards" and to substitute the following as new text for Paragraph D of Section 6-308:

D. Pre-Application Conference. An applicant for architectural design approval may request in writing that the Department of Development Services hold an informal pre-application conference to review the preliminary architectural design of a proposed development. This pre-application conference may be conducted concurrently with the

pre-application conference provided for in Section 5-101(A) and shall be conducted pursuant to the same terms and conditions set forth in that Section.

SECTION 35

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Paragraph E "Review" of Section 6-308 "Design Standards" and to substitute the following as new text for Paragraph E of Section 6-308:

E. Review. The Development Services Department shall review the complete application for appearance review in conjunction with site plan review provided for in Section 5-106. Recommendations of the Department shall be based upon the criteria set forth in Subsections F through O, below.

SECTION 36

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subsection 8 of Paragraph F "Building and Structure Design" of Section 6-308 "Design Standards" and to substitute the following as new text for Subsection 8 of Paragraph F of Section 6-308:

8. While it is recognized that color is a very subjective matter and that creativity should not be stifled, colors should nonetheless be used harmoniously and with some restraint. Color schemes should consider and respect the character and quality of structures in the area. Excessively bright or brilliant colors should be used only for accent. Materials and colors should withstand the weather well over a twenty-five (25) year period.

SECTION 37

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Paragraph M "Miscellaneous Structures" of Section 6-308 "Design Standards" and to substitute the following as new text for Paragraph M of Section 6-308:

M. Miscellaneous Structures. Miscellaneous structures located on private property, public ways, and other public property, including light standards, utility poles, newspaper stands, bus shelters, plants, traffic signs and signals, benches, guardrails, rockeries, retaining walls, mailboxes, awnings, tensile canopies and fire hydrants shall be designed to be part of the architectural concept of design and landscape. Materials shall be compatible with buildings, scale should be appropriate, and colors should be in harmony with nearby buildings and surroundings, and proportions shall be attractive.

SECTION 38

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Paragraph C "Pedestrian/Bikepath Easement" of Section 6-404 "Easements" and to substitute the following as new text for Paragraph C of Section 6-404:

C. Pedestrian/Bikepath Easements. Easements containing pedestrian ways or bikepaths must be a minimum of twelve (12) feet in width, in accordance with Section 6-415, unless otherwise approved by the Director of Development Services.

SECTION 39

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subsection 4 "Development Plan" of Paragraph D "Scenic Corridor Easements" of Section 6-404 "Easements" and to substitute the following as new text for Subsection 4 of Paragraph D of Section 6-404:

4. Development Plan. As a condition of approval of a final plat, a subdivider or developer shall submit a development plan of all scenic corridor easements, showing the dimensions thereof, the extent and nature of all significant natural vegetation, both forest and prairie, all berms sought to be constructed, the amount and size and type of all planting sought to be installed. Such plan shall be reviewed by the Director of Development Services with written comments being forwarded for consideration by the Plan Commission. The Plan Commission shall approve, disapprove or suggest whatever modifications are necessary in keeping with this subsection.

SECTION 40

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to add a new Subsection 15 "Driveway Side Setback Requirements for All Properties" to Paragraph B "Driveways and Driveway Aprons" of Section 6-406 "Sidewalks, Driveways, and Parking Lots," which shall read in its entirety as follows:

15. Driveway Side Setback Requirements for All Properties. Driveways shall be located at least one (1) foot from the nearest side property line and shall not obstruct storm water flow. Shared driveways or driveways providing vehicular cross-access between adjacent parcels that are approved by the Village and/or established by agreement between the subject property owners shall be exempt from this one (1) foot side setbacks requirement. Driveways in a side yards associated with side loading garages shall comply with setback requirements of the applicable zoning district.

Ordinance No: 5167

SECTION 41

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Section 6-408 "Sanitary Sewer System" and to substitute the following as new text for Section 6-408:

Section 6-408. Sanitary Sewer System.

A. General.
1. All development, whether public or private, shall include provisions for the construction of sanitary sewers and appurtenances designed in accordance with this Section. Developers shall use either the public sewer system or an alternative sewer system, certified by the agency or municipality with jurisdictional authority, provided that the development is proximate to a transmission line that has adequate capacity to handle such proposed development.
2. All sanitary sewer improvements shall be installed in accordance with the material installation and testing requirements of the "Standard Specifications for Water and Sewer Main Construction in Illinois," Sixth Edition July 2009 latest edition, unless otherwise modified in this Section. Sanitary sewer improvements shall conform to all applicable requirements of the current Metropolitan Water Reclamation District of Greater Chicago ("MWRDGC") Watershed Management Ordinance ("WMO").

B. Service Areas. All sewers shall be designed to accommodate an ultimate service area as defined by the Village Board of Trustees.

C. System Extension. The size and location of proposed extensions to the existing sanitary sewer system shall be as approved by the Village Engineer.

D. Basic Design Standards.
1. Design Flows.
a. Design flows for single and multiple residential developments shall be based upon full development of the service area with the population served, estimated as follows:

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

The maximum daily per capita design flow shall be calculated using the formula:
$Q = 500$
$P^{1/5}$

Q = 500(P)1/5
Where Q* = maximum design flow, in gallons per capita per day ("gpcpd") gpcpd
P = population served, in thousands
*Not to exceed four hundred (400) 400 gpcpd or be less than two hundred fifty (250) 250 gpcpd.
For undeveloped residential areas where the details of future developments are not known, design population (P) per acre may be estimated by the Village Engineer.
b. Design flows for non-residential developments shall be based on full development of service area with the maximum daily per capita design flow calculated as follows:

Type of Establishment	Unit	Average Flow in Gals/day/unit*
Shopping Center (without food service or laundries)	Employee	0.10 gal/sq. ft.
Store	Employee (1 shift)	25
Office	Person (1 shift)	25
Industrial		
- with showers	Person	35
- without showers	Person	25
Restaurant	Meal Served	7
Theater	Per Seat	5
Hotel	Per Guest	100

* Quantities are exclusive of process water requirements which must be estimated and added.
For non-residential developments where the details of the development are not established, domestic design flows may be estimated by the Village Engineer. Such flow estimate shall not relieve the owner or developer of the responsibility to provide adequate sanitary sewer capacity in order to meet any and all future requirements within the development.
2. Sewer Design Hydraulics.
a. Sanitary gravity sewer mains shall be designed to provide design flow capacity, without surcharging, using typical Manning's formula:

$$Q = (A)\ \frac{1.486}{n}\ (R)2/3\ (S)1/2$$

Where Q= design flow in units of cubic feet per second ("cfs")
A= area in units of square feet
R= hydraulic radius in units of feet
S= slope in units of feet per foot (dimensionless)
n= roughness coefficient, independent on conduit material
b. Roughness coefficient utilized shall be as follows:
1. Concrete pipe - 0.013
2. A.B.S. Truss pipe - 0.012

2. Ductile iron - 0.014
3. Polyvinyl Chloride (PVC) – 0.009
c. Design mean velocity, flowing full, shall not be less than two (2) feet per second or greater than fifteen (15) feet per second.
d. Design flow shall include total allowable infiltration at any point based on two hundred (200) one hundred (100) gallons per inch of diameter of sewer per mile per twenty-four (24) day at any time for any section of the system.
e. Minimum and maximum design slopes are found in Part F.3 and are per the MWRDGC WMO.
3. Minimum Sewer Size.
a. Minimum sanitary sewer main size shall be eight (8) inch diameter.
b. Minimum building sanitary service sewer size shall be six (6) inch diameter.
4. Alignment. Sewers shall be laid straight in both horizontal and vertical planes between manholes, unless otherwise approved by the Village Engineer.
5. Sewer Size Changes. Sanitary sewers of different diameters shall join only at manholes. The invert elevations shall be adjusted to maintain a uniform energy gradient by matching the 0.8 depth points of different diameters.
6. Sanitary Sewer Manholes.
a. Manholes shall be provided at the following locations:
1. Termination of existing and future lines
2. Changes in direction, horizontal or vertical
3. Changes in shape or pipe size
4. Junctions with other sewers
5. Access spacing shall be:
Maximum manhole spacing shall be 400 feet.

Sewer Pipe Size (in inches)	Maximum Interval (in feet)
8 - 30	400
33 - 54	500
60 or larger	1000

b. Where possible, sanitary sewer facilities shall be designed to avoid the use of a drop manhole. A drop manhole shall be provided for manholes with any pipe having a difference in invert elevation more than twenty-four (24) seventy-two (72) inches above the invert of the sewers leaving such manholes. Small drops may be used in the event of utility conflicts, where approved by the Village Engineer. The invert of the outlet pipe from a drop pipe must match the springline elevation of the precast manhole bench. All drop manholes must be precast with monolithic drop pipe assemblies.
c. Where flows and other conditions dictate, special manholes or junction chambers shall be designed and constructed.
d. The invert of the outlet pipe from a drop pipe must match the springline elevation of the precast manhole bench. All drop manholes must be precast with monolithic drop pipe assemblies.
e. All manholes shall have a precast base.

7. Sewer Depth. Sanitary sewers shall be constructed at a minimum depth of six (6) eight (8) feet and shall provide an outfall for all sanitary sewage within the existing and future ultimate service area, unless approved by the Village Engineer. The eight (8) foot depth is intended to eliminate the service line separation deficiencies which commonly occur between sanitary sewer placed at six (6) feet deep and water mains at five (5) feet deep.
8. Lift Stations.
a. Whenever possible, sanitary sewerage facilities shall be appropriately designed per this Code section so as to avoid the necessity of providing lift stations.
b. Lift station and force main designs shall be submitted for review and approval to the Director of Engineering Village Engineer, the Illinois Environmental Protection Agency, and the Metropolitan Water Reclamation District of Greater Chicago.
c. Lift stations shall be of the single wet well type utilizing submersible pumps and shall be comparable to other recently constructed lift stations within the service area of the Village.
d. A stand-by internal combustion power source shall be provided for lift stations. The power source shall be natural gas-fueled for output rating less than 100 kW and shall be diesel-fueled for 100kW and above. As an alternate, the Village Engineer may require or approve allow a dual connection to the power system as a method of providing stand-by power in cases where such an alternate would provide an equal degree of reliability, and also would provide an economy to the Village over the useful service life of the alternate stand-by power system. All stand-by power sources must be installed within a weatherproof building structure suitable to accommodate the power source, controls, alarm system, and all other required appurtenances. The structure must be large enough to allow for servicing of all equipment and must meet all Village building codes.
e. Force mains shall be designed and constructed of cement epoxylined ductile iron pipe or PVC pressure pipe ASTM 2241-SDR 21. A tracer wire shall accompany all force main piping installations for the purpose of future locating with an electronic locating device. A pipeline marker shall be installed above the force main every 400 feet and at horizontal bends in the pipe. The tracer wire shall terminate in an enclosure (typically a pipeline marker) with sufficient wire slack for connecting to an electronic locating device.
f. A compatible telemetered alarm system shall be installed and connected to the Village's existing computerized reporting and alarm panel.
g. The force main wet well shall be epoxy-lined after installation of the well structure itself and associated piping.
9. Sewer Pipe Class. Sewer pipe class shall be determined by using ASTM rigid and flexible pipe design strength formulas.
10. Sewer Pipe Bedding.
a. Sewer pipe bedding shall, as a minimum, conform to the requirements established in Construction Standards Governing Public Improvements Standard Specifications for Water and
Sewer Construction in Illinois, July 2009, and/or latest revision as adopted by the Village Engineer and as amended from time to time.

b. Sewer pipe concrete cradle, arch, or full encasement shall be constructed whenever dictated by trench or embankment conditions as directed by the Village Engineer.

E. Material Specifications. All sanitary sewer system elements shall conform to the following specifications:
1. Sewer and Service Connection Pipe.
a. Reinforced concrete pipe - circular reinforcement, minimum Class 3, ASTM C76, with epoxy lining, 18" diameter and larger.
b. ABS Truss - ASTM D2680 for 8" to 15" and ASTM D2751 for 6", solid wall SDR23.5.
b. Ductile iron pipe - ANSI A21.51 (AWWA C151), minimum thickness, Class 52 per ANSI A21.50 (AWWA C150), cement calcium aluminate cement-lined.
c. Polyvinyl Chloride (PVC) – ASTM D-3034, SDR 26 less than 20 foot depth at final grade for sizes 6" through 12" inside diameter and AWWA C905, DR 25 for sizes 14" through 36" inside diameter.
d. Polyvinyl Chloride Molecularly Oriented Pressure Pipe (PVCO) –ASTM F1483, AWWA C909 Class 150 for sizes 6" through 12" I.D. at 20 feet or greater depth.
e. High Density Polyethylene Pipe (HDPE) for force main only – AWWA C906.
2. Sewer and Service Connection Pipe Joints.
a. Reinforced concrete pipe - ASTM C443.
b. ABS Truss pipe - Type OR, ASTM D2680.
b. Ductile iron pipe - ANSI A21.11 (AWWA C111).
c. Polyvinyl Chloride (PVC) – ASTM D-3212
d. Polyvinyl Chloride Molecularly Oriented Pressure Pipe (PVCO) –Gaskets meeting ASTM F477, Joints meeting ASTM D-3139
3. Sewer and Service Connection Pipe Fittings.
a. ABS Truss - ASTM D2680, for 8" and larger and ASTM D2751 for 6".
a. Ductile iron - ANSI A21.10 (AWWA C110).
b. Polyvinyl Chloride (PVC) – ASTM D-3034
c. Polyvinyl Chloride Molecularly Oriented Pressure Pipe (PVCO) requires ductile iron fittings meeting the specifications above.

d. Materials	Joints
1. ABS TRUSS pipe (ASTM D-2680)	ASTM D2680
2. Reinforced Concrete Sewer Pipe (A.S.T.M. C-76)	A.S.T.M. C-361
3. Ductile Iron Pipe ANSI A 21.51 (AWWA 151-75)	ANSI 21.11 (AWWA C111)
4. 6" diameter Sanitary Sewer Pipe ABS SDR 23.5 (services only)	ASTM D-2751 (ASTM-2751)
5. Polyvinyl Chloride (PVC) (ASTM D-3034)	ASTM D-3212 (SDR 26)

Nothing herein shall constitute or imply an endorsement by the Village of any one material over another, or an opinion by the Village regarding equality or superiority of the performance qualities of any of the above materials.
4. Casing Pipes (Exhibit PC-01). Bituminous coated steel pipe - ASTM A120, 0.375" minimum thickness. All casing pipes shall utilize appropriate stainless steel spacers, per manufacturer's specifications, to support the sewer pipe as directed by the Village Engineer.
5. Manholes (Exhibit Sanitary Manhole Standard Details No. SS-01, SS-02, SS-03).
a. Precast Reinforced Concrete. ASTM C478 and ASTM C443 conforming to the Standard Specifications for Water and Sewer Main Construction in Illinois, Sixth Edition July 2009 and/or latest revision.
b. Sizes:
1. For sewer eighteen (18) inch diameter or less, manhole shall have a forty-eight (48) inch inside diameter.
2. For sewer twenty-one (21) inch to thirty-six (36) inch diameter, manhole shall have a sixty (60) inch inside diameter.
3. For sewer greater than thirty-six (36) inch diameter, manhole shall be a minimum of seventy-two (72) inches inside diameter and have an offset riser pipe cone section of forty-eight (48) inch inside diameter.
c. Adjustment. No more than two (2) precast concrete adjusting rings with six (6) inch maximum height adjustment shall be allowed.
1. Any frame adjustment shall use at least one rubber adjustment riser (Infra-Riser brand or approved equal) to establish the final seating surface of the structure frame. Any structure located within the paved roadway shall require the use of at least of one (1) rubber riser, and, if necessary, said riser shall be of the tapered wedge-type in order to match the proposed cross-slope of the pavement surface.
2. No more than two (2) rubber adjustment risers, with six (6) inches total maximum adjusted height, shall be allowed per structure.
3. A frame adjustment less than three (3) inches in height shall consist of only rubber riser(s). The minimum thickness of a rubber riser shall be one (1) inch
4. A frame adjustment greater than three (3) inches in height shall use a minimum three (3) inch precast concrete riser for the lower riser, and the final riser shall be rubber.
d. Sealing. All mating surfaces of concrete adjustment riser(s), structure sections, and frames shall be sealed with a mastic sealant. No concrete mortar or epoxy mortar shall be allowed as a sealant for adjustment risers, structure sections or frames. If multiple adjustment risers are required, a continuous application of sealant shall be applied between each unit. Rubber adjustment risers must be sealed with an approved sealant such as XSeal brand hydrophobic non-shrinking polyurethane sealant, or approved equal.
e. Pipe and Frame Seals. All pipe connection openings shall be precast with resilient rubber water tight pipe to manhole sleeves or rubber boot seals. External flexible water tight sleeves shall also extend from the manhole cone to the manhole frame.

f. Connections. All sewer connections to existing manholes shall be "core-drilled" and rubber boot seals installed.
g. Bottom Sections. All manhole bottom sections shall be monolithically precast, including bases and invert flow lines.
h. Drop Manholes. Drop manhole assemblies shall be monolithically precast with manhole barrel section. Refer to Drop Manhole Standard Details. SS-02, SS-03.
6. Castings.
a. Manhole Frame & Cover Manhole frame and cover – 7" East Jordan Iron Works, Inc. #1022Z3 #1022Z1 with embossed 1020A HD GS lid embossed with "SANITARY SEWER" and "VILLAGE OF ORLAND PARK", with a lid design as shown on Exhibit Sanitary Manhole Frame and Cover- Standard Detail No. SS-04.
b. Manhole steps - East Jordan Iron Works, Inc. #8518.
c. Pick Hole. All lids shall be cast with a concealed pick hole.
d. Water Tightness: Where necessary to prevent entry of overland flow, a water tight frame and self-sealing lid shall be used: 7" East Jordan Iron Works, Inc. 1058ZPT and shall be embossed 1058APT SANITARY SEWER and VILLAGE OF ORLAND PARK with a lid design as shown on Exhibit #1022Z1 PT4 (4 bolt lock down) frame and 1020A HD GS lid embossed with "SANITARY SEWER" and "VILLAGE OF ORLAND PARK", Sanitary Manhole Frame and
Cover- Standard Detail No. SS-04 or as required by the Director of Engineering Village Engineer.
7. Crushed Granular Bedding (Exhibit No. SS-07). Crushed gravel or crushed stone - ASTM C33. The only gradation allowed shall be 100% retained on a 3/8" sieve and 100% passing 3/4" sieve.

F. Design Flows.
1. Average Daily Flow for Sanitary Sewer. Average daily flow for sanitary sewer shall be 100 GPCPD. Maximum design flow for sanitary sewer lines shall be determined by one of the following equations indicated below; provided, however, that the maximum design flow for sewer laterals need not exceed 400 GPCPD and the maximum design flow for sewer mains and trunks shall not be less than 250 GPCPD.

Equation No. 1: $Q = 500$

$P^{1/5}$

Equation No. 2: $Q = 100(1+14)$

$(4+P)$

Where: Q = Maximum design flow in GPCPD

P = Population in thousands

2. Minimum Size. No public sewer conveying raw sewage shall be less than 8 inches in diameter.
3. Design Slopes. Minimum and maximum slopes are tabulated below. The slopes are those that produce minimum and maximum velocities of 2.0 ft/sec. and 15.0 ft/sec.

respectively, based on Kutter's formula, with n = 0.013 and the pipe flowing full, unless approved by the Village Engineer.

Sewer Size (Inches)	Minimum Slope (Percent)	Maximum Slope (Percent)
8	0.40	22.0
10	0.28	15.0
12	0.22	11.0
14	0.17	9.0
15	0.15	8.3
16	0.14	7.8
18	0.12	6.5
21	0.10	5.1
24	0.08	4.2

G. Protection of Water Mains. Water mains shall be protected in accordance with the applicable Illinois Pollution Control Board Regulations and the Illinois Environmental Protection Agency, Division of Public Water Supplies, Technical Policy Statements. Wherever the sanitary sewer main, building service sewer, or any storm drain crosses a water main, a minimum eighteen (18) inches vertical separation shall be provided between the top of the lower pipe and the bottom of the upper pipe. If an eighteen (18) inch vertical separation cannot be maintained, the sanitary or storm sewer shall be constructed of watermain quality pipe, for a minimum distance of ten (10) feet on each side of the water main. If storm or sanitary sewer crosses above a watermain and an 18" clearance cannot be maintained, both sewer and water pipes must be of the same pipe material as the watermain.

H. Survey Lines and Grades.

1. Depth of Pipe Cover. All pipe shall be laid to a minimum depth of six (6) feet measured from the existing or proposed ground surface to the top of the pipe barrel unless specifically allowed otherwise in special circumstances by the Village Engineer.
2. Pipe Bedding. Granular pipe bedding material or granular cradle shall be required on all sanitary sewers installed in the Village. Granular pipe bedding shall be a minimum of four (4) inches in earth excavation and a minimum of six (6) inches in rock excavation. At depths greater than 10' below finished grade, the trench is backfilled with granular material to six (6) inches over the top of the pipe. At depths less than ten (10) feet, the granular material shall be placed up to the "spring line" prior to final backfilling of trench. The granular material shall conform in gradation to Type B, listed in Section 20, paragraph 20-2.20A of the Standard Specifications for Water and Sewer Main Construction in Illinois, as amended, Division 1 –Second Edition and/or latest revision.
3. Selection Granular Backfill. All trenches for sanitary sewers falling under and within two feet of a proposed or existing paved surface shall be backfilled with select granular material conforming to gradation Types A or B only as listed in Section 20, paragraph

20-2 21c (2) of the Standard Specifications for Water and Sewer Main Construction in Illinois. Selected granular backfill shall be placed in uniform layers not exceeding six (6) inches (loose measure) and compacted with mechanical equipment to 90% of maximum density in accordance with AASHOT-99.

I. Sewers in Relation to Streams.
1. Location of Sewers on Streams.
a. Cover Depth. The top of all sewers entering or crossing streams shall be at a sufficient depth below the natural bottom of the stream bed to protect the sewer line. In general, the following
cover requirements shall be met:
1. One (1) foot of cover is required where the sewer is located in rock.
2. Three (3) feet of cover is required in other material. In major streams, more than three feet of cover may be required.
3. In paved stream channels, the top of the sewer line should be placed one (1) foot below the bottom of the channel pavement. Concrete encasement may be required.
Note: Less cover will be approved only if the proposed sewer crossing will not interfere with the future improvements to the channel stream.
b. Horizontal Location. Sewers located along streams shall be located outside of the stream bed and sufficiently removed there separated from the stream bank to provide for future possible stream widening remediation and to prevent siltation pollution by siltation during construction.
c. Structures. The sewer outfalls, headwalls, manholes, gate boxes, or other structures shall be located so they do not interfere with the free discharge of flood flows of the stream. Watertight covers per Section 6-408.E.6.c shall be required for manholes set at elevations below flood hazard elevations.
d. Alignment. Sewers crossing streams should be designed to cross the stream as nearly perpendicular to the stream flow as possible and shall be designed without change in grade. Sewer systems shall be designed to minimize the number of stream crossings.
2. Construction Requirements.
a. Materials and Backfill. Sewers entering or crossing streams shall be constructed of calcium aluminate cement lined ductile cast iron pipe with mechanical joints; otherwise they shall be constructed so they will remain watertight and free from changes in alignment and grade. The backfill used in the trench shall be coarse aggregate, gravel, or other materials which will not cause siltation, pipe damage during placement, or chemical corrosion in place.
b. Siltation and Erosion. Construction methods that will minimize siltation and erosion shall be employed as stated in Land Development Code article 6-411 Soil Erosion and Sedimentation Control. The design engineer shall include in the project specifications the methods to be employed in the construction of sewers in or near streams to provide adequate control of siltation
and erosion.

3. Aerial Crossings.
a. Structural Support. Support for all joints shall be provided in pipes utilized in aerial crossings. The supports shall be designed to prevent frost heave, overturning and settlement.
b. Freeze and Expansion Protection. Protection against freezing shall be provided. This may be accomplished through the use of insulation, and increased slope expansion jointing shall be provided between the aerial and buried sections of the sewer line.
c. Flood Clearance. For aerial stream crossings the impact of flood waters and debris shall be considered. The bottom of the pipe should be placed no lower than the elevation of the 100 fifty year (1% annual chance of occurrence) flood.
4. Inverted Siphons. Inverted siphons shall have not less than two (2) barrels with a minimum pipe size of six (6) inches and shall be provided with the necessary appurtenances for convenient flushing and maintenance. The inlet and outlet structures shall have adequate clearances for cleaning, and sufficient head shall be provided and pipe sizes shall be selected to secure ensure velocities of at least three (3) ft./sec. for average flows. The inlet and outlet structures shall be
designed so that normal flow is diverted to one (1) barrel so such that either barrel may be taken out of service for cleaning.

J. Handling of Pipe. Sanitary sewer pipe shall be handled in a manner that will prevent damage prior to installation. Damaged or defective material on the job site shall be rejected and replaced to the satisfaction of the Village Engineer. Methods of construction conducive to the damage of sewer pipe shall be corrected when called to the attention of the contractor. All pipe and fittings shall be examined by the contractor above grade before placement in the trench.

K. Laying of Pipe.
1. Sanitary Sewer Pipe. Sanitary sewer pipe shall be laid true to line and grade as set forth in Section 31, paragraph 31-1.02 of the Standard Specifications for Water and Sewer Main Construction in Illinois, Sixth Edition (July 2009), and/or latest revision. Dirt or other foreign material shall be prevented from entering the pipe or pipe joint during handling or laying operations and any pipe or fitting that has been installed with dirt or foreign material in it shall be removed, cleaned, and re-laid. At times when pipe laying is not in progress, the open end of the installed pipe shall be closed with a water tight plug or by other means approved by the Village Engineer to ensure absolute cleanliness and avoidance of extraneous flows inside the pipe.
2. Laying of Pipe on Curves. The curvature of sanitary sewers is not allowed unless, in the opinion of the Village Engineer, special circumstances dictate otherwise. Pipe required to be laid on curved alignment shall be joined in straight alignment and then deflected, joint by joint. Special care shall be taken in blocking the pipe, and in no case shall the degree of deflection exceed the manufacturer's recommendations for the respective pipe size, material and barrel length.

3. Sanitary Sewer Services. (Sanitary Service Riser SS-05 and SS-05-20): Sanitary sewer services shall be a minimum of six (6) inches in diameter and connected to the sewer main with a manufactured wye at a minimum angle of thirty (30) degrees and a maximum angle of forty-five
(45) degrees. Sanitary sewer services shall be extended to the property line or building at a minimum gradient of one (1) percent. Sanitary sewer service connections to sewer mains twelve (12) feet or more in depth shall be constructed with a six (6) inch tee and riser and backfilled with select granular material or encased in concrete at the option of the Village Engineer. On a temporary basis, sanitary services may be terminated with a manufactured plug in which case the location shall be staked and an accurate record kept of the stub distance from the nearest downstream manhole along the sewer main. Sanitary sewer service connections to existing sewer mains shall be made with a dedicated tapping machine and the saddle shall be tightly secured to the existing sanitary sewer.
4. Depth of Pipe Cover. All pipe shall be laid to a minimum depth of eight (8) feet measured from the proposed ground surface to the top of the pipe barrel unless specifically allowed otherwise under special circumstances by the Village Engineer.
5. Pipe Bedding. (Trench Section Sanitary Sewer Detail No. SS-06). Crushed gravel or crushed stone - ASTM C33. The only gradation allowed shall be 100% retained on a 3/8" sieve and 100% passing 3/4" sieve. Granular pipe bedding material or granular cradle shall be required on all sanitary sewers installed in the Village. Granular pipe bedding shall be a minimum of four (4) inches in earth excavation and a minimum of six (6) inches in rock excavation. The trench shall be backfilled with granular material to six (6) inches over the top of the pipe. The granular material shall conform in gradation to Type B, of the Standard Specifications for Water and Sewer Main Construction in Illinois, Sixth Edition (July 2009) and/or latest revision.
6. Selection of Granular Backfill. All trenches for sanitary sewers falling under and within two feet of a proposed or existing paved surface shall be backfilled with select granular material conforming to only gradation Types A or B as listed in the Standard Specifications for Water and
Sewer Main Construction in Illinois, Sixth Edition (July 2009) and/or latest revision. Selected granular backfill shall be placed in uniform layers not exceeding six (6) inches (loose measure) and compacted with mechanical equipment to 90% of maximum density in accordance with AASHTO-99.

L. Sanitary Sewer Manholes.
1. Manholes for Sanitary Sewers. Manholes for sanitary sewers shall have a minimum inside diameter of forty-eight (48) inches and shall be constructed of precast concrete units in accordance with Section 32 of Standard Specifications for Water and Sewer Main Construction in Illinois, and shall follow the Village's standards.
2. Manhole Location. Manholes shall be located at the junction of two sanitary sewer pipes or at any change in grade, alignment, or pipe size in accordance with Subsection D(6) of this Section.

3. Construction. Sanitary manholes shall have precast inverts made to conform accurately to the sewer grades with smooth, well rounded junctions and transitions satisfactory to the Village Engineer. It is preferred that the sewer pipe to manhole joint be a flexible gasket or mechanical seal to insure a leak-proof joint. The completed manhole shall be rigid, true to dimensions, and water tight.
4. Manhole Appurtenances. Manholes shall be furnished with a water tight frame and solid cover as specified in section 6-408.E.6 with the words, "Sanitary Sewer" imprinted on the cover in raised letters.

M. Installation Requirements.
1. The No connection of any section of new sanitary sewer to an existing Village sanitary sewer must be plugged and remained plugged is allowed until the Village approves the new sewer(s) for service.
2. Sewer system design and construction shall in all respects be in accordance with the regulations of the M.S.D. MWRDGC and the Illinois Environmental Protection Agency of the State of Illinois. No construction shall commence until a copy evidence of the approved permits from these agencies is filed with the Village Engineer.
3. The installation of sanitary sewer and appurtenances shall conform to the requirements of this Section and the following:
a. Reinforced concrete pipe - Section 603, SSR & BC Standard Specifications for Water and Sewer Main Construction in Illinois, Sixth Edition (July 2009) and/or latest revision.
b. ABS composite pipe and fittings - ASTM D-2321
c. Ductile iron pipe and fittings - AWWA C600
d. PVC pipe and fittings- ASTM D-2321
4. The installation of sewer service connections shall conform to the requirements of this Section.
5. Where the installation of a grease separator is required, the basin shall be exterior to the building where possible. However, should the establishment prefer to have an internal grease basin, it will be allowed if ample basin capacity can be provided. Basin capacity shall be dictated by applicable plumbing code(s).
6. The contractor shall keep a record of the location of all sewer services by measurement to the nearest downstream manhole. Such records shall be delivered to the Village Engineer at the completion of the work.

N. Inspection and Test.
1. Cleaning. All sewers and appurtenances shall be high pressure cleaned prior to inspection and testing required by this Section.
2. Visual Inspection.
a. All sewer and appurtenances shall be visually inspected by representatives of the developer during and following construction.
b. Sewers designed to be straight between manholes will be tested for straightness by flashing a light from manhole to manhole, lamping or by other suitable means.

3. T.V. Inspections.
a. Upon completion of construction and prior to initiation of the maintenance guarantee period, and if determined to be necessary by the Village during the construction of the sanitary sewer, a T.V. inspection shall be performed on the sections or portions of the sewer as directed by the Village Engineer. Video tapes and a written report of all television inspections shall be provided to the Village prior to the initial acceptance provided for by this Section. The form of the report and type and format of the video tape format shall be approved by the Village Engineer.
b. Fees and costs connected with T.V. inspections shall be paid for by the developer or owner.
c. All dips, cracks, leaks, improperly sealed joints, and departures from approved grades and alignment shall be repaired by removing and replacing the involved sections of pipe and
manholes.
d. All defects and corrective work required as the result of T.V. inspection shall be performed by the developer without delay. Upon completion thereof, the sewer shall be retested and such further inspection made as may appear warranted.
4. Infiltration Testing.
a. It is the intent of this Section to secure a sewer system with a minimum amount of infiltration. The maximum allowable infiltration shall not exceed two hundred (200) one hundred (100) gallons per inch of diameter of sewer per mile per twenty-four (24) hour day at any time for any section of the system. The joints shall be tight and any joint with visible leakage or leakage in excess of that specified above, shall be repaired at the developer's expense.
b. The repair must be of a permanent nature and of a quality equal to initial work which is constructed new construction in conformance with the applicable specifications.
c. Immediately after backfilling, the entire length of the sewer trench, including stubs, shall be inundated to normal ground water level or eighteen (18) inches above the top of sewer pipe, whichever is higher. At that time, infiltration tests shall be made to determine compliance with the allowable infiltration criteria. To measure the amount of infiltration, the contractor shall furnish, install, and maintain a V-notch shape crested weir in a metal frame tightly secured at the lower end of each sewer test section as directed by the Village Engineer. The Village Engineer shall check the infiltration by measuring the flow over such weirs. When infiltration is demonstrated to be within the allowable limits, the contractors shall remove such weirs.
5. Exfiltration Testing. If during the construction of the sewer system, the Village Engineer shall determines that it is impractical to obtain a proper infiltration test, then a test for watertightness shall be made by bulkheading the sewer at the manhole at the lower end of the section under test and filling the sewer with water to eighteen (18) inches above the tip top of the sewer in the manhole at the upper end of the section. Leakage will then be calculated as the measured amount of water added to maintain the above described level at a maximum allowable exfiltration rate of two hundred (200) one

hundred (100) gallons per inch of diameter of sewer per mile per twenty-four (24) hour day at any time for any section of the system.
6. Air Testing. In lieu of infiltration or exfiltration testing, All Polyvinyl Chloride (PVC) and Polyvinyl Chloride Molecularly Oriented Pressure Pipe (PVCO) will require low pressure air testing meeting ASTM F1417. The Village Engineer may permit require air testing for other pipe materials in accordance with ASTM C828.
7. Deflection Testing.
a. All Polyvinyl Chloride (PVC) and Polyvinyl Chloride Molecularly Oriented Pressure Pipe (PVCO) require deflection testing. The 5% deflection test for pipe sizes six (6) to fifteen (15) inches in diameter is to be run using a nine-arm mandrel having a diameter equal to 95% of the base diameter of the pipe as established in ASTM D-3034. For pipe sizes eighteen (18) to twenty-seven (27) inches diameter, the nine-arm mandrel size shall be 95% of the inside diameter and wall thickness dimensions shown in Table 1 of ASTM F-679, latest issue. The test shall be performed without mechanical pulling devices.
b. The individual lines to be tested shall be so tested no sooner than thirty (30) days after they have been installed.
c. Wherever possible and practical, the testing shall initiate at the downstream lines and proceed towards the upstream lines. d. No pipe shall exceed a deflection of 5%. 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 retested for deflection. If the deflected pipe fails to return to the original size (inside diameter) after the second test, the line shall be replaced accordingly to the standards set forth in this Section.

O. Exhibits. Standard Detail Exhibits labeled SS-01 through SS-07, SS-02, SS-03, SS-04, SS-05, SS-05-20, SS-06 and PC-01 are typical specifications of Village sanitary sewer standards that shall be applied to any improvements required by these regulations.

P. Acceptance of Sanitary Sewer System.
1. Once the sanitary sewer system has been completed according to the specifications set forth in this Section, the Director of Engineering Development Services Department shall, upon the request of the developer, inspect the system and prepare a list of items for repair (punch list). The list shall be given or sent to the developer and when repairs have been made, the Director of Engineering Village shall accept the system for operational use only. During the time after the acceptance by the Village for maintenance, the developer shall be responsible for any delinquencies deficiencies identified incurred within the system, including but not limited to sewer blockages, adjustment to manhole frames and leaking joints. Upon reaching approximately eighty (80) percent development of building construction, the Director of Engineering Development Services Department will re-inspect the sanitary sewer system for any existing delinquencies which may have been incurred deficiencies and prepare a list of items for repair. The list shall be given or sent to the developer and when the repairs have been made to the satisfaction of the

Director of Engineering Village, the Director shall accept the system shall be formally accepted by the Village in letter form sent to the developer for the Village.
2. All construction shall meet the requirements and acceptance procedures by of the Metropolitan Water Reclamation District of Greater Chicago prior to the acceptance by the Director of Engineering Village.
3. T.V. Inspections and reports shall be completed for all storm systems and sanitary systems installed in the Village of Orland Park.

SECTION 42

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subparagraph d of Subsection 18 "Storm Water Detention Facilities" of Paragraph E "Basic Design Standards" of Section 6-409 "Storm Sewers and Storm Water Detention" and to substitute the following as new text for Subparagraph d of Subsection 18 of Paragraph E of Section 6-409:

d. In order to prevent soil erosion and weed problems, "dry" detention basins must be landscaped including the establishment of a groundcover over all unpaved areas through sodding of native natural growth plant material or material as designated by the Director of Development Services. Such groundcover shall not be of a plant type which can be carried by water plow to aggressively invade other downstream lands or properties, and crown vetch shall be prohibited. Native natural plant growth may comprise of a variety of techniques that employ in concert according to the needs of the site. Some of these include biologs, aquatic plants, wattles, natural native grasses, tri lok, and vegetated geogrids. Detention Basins shall be designed so that the portion of their bottom area which is intended to be dry shall have standing water no longer than seventy two (72) hours for all runoff events less than the 100 year frequency storm.
If detention facilities are proposed, they shall also be reviewed by the Director of Recreation and Parks for usability as active recreational areas during dry weather conditions. Additional underdraining may be required. Pipe runs and spacing shall be designed to ensure good drainage. Detention facilities shall be designed so that the cross slope is at least two (2) percent. The bottom of the facility shall be provided with an underdrain (minimum six (6) inch diameter perforated drain tile) covered on all sides with a minimum of six (6) inches of crushed stone conforming to ASTM C33, Size No. 67. The underdrain shall be installed to drain the basin below grade during periods of low flow and shall connect to a storm sewer outfall pipe. Detention facilities shall be designed with side slopes not steeper than four (4) horizontal to one (1) vertical (4:1). The inflow storm piping system shall be constructed in such a manner so as to allow for "low" flows to bypass the basin.

SECTION 43

Ordinance No: 5167

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subparagraph c of Subsection 2 "Exceptions" of Paragraph C "Soil Erosion Control Plan Permit Requirements" of Section 6-411 "Soil Erosion and Sedimentation Control" and to substitute the following as new text for Subparagraph c of Subsection 2 of Paragraph C of Section 6-411:

c. Single lots in established subdivisions, subject to the approval of the Director of Development Services.

SECTION 44

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Paragraph F "Expiration of Permit" of Section 6-411 "Soil Erosion and Sedimentation Control" and to substitute the following as new text for Paragraph F of Section 6-411:

F. Expiration of Permit. Each permit shall expire and become null and void if the work authorized by such permit has not been commenced within six (6) months, or work is not completed by a date, which shall be specified in the permit; except that the Director of Development Services may, if the permittee presents satisfactory evidence that unusual difficulties have prevented work being commenced or completed within the specified time limits, grant a reasonable extension of time if written application is made before the expiration date of the permit.

SECTION 45

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subsection 2 of Paragraph D "Development Activity in, and Minimum Setback from Streams, Lakes and Ponds" of Section 6-412 "Local Stream and Waterbody Protection" and to substitute the following as new text for Subsection 2 of Paragraph
D of Section 6-412:

2. The following activities are permitted within the minimum setback area only if, as a practical matter, they cannot be located outside the setback area. Such modification shall be approved only after preparation of a report prepared by a qualified professional and approved by the Director of Development Services. The report shall note that the modification will not adversely affect water quality; destroy, damage, or disrupt a significant habitat area; adversely affect drainage and/or stormwater retention capabilities; lead to unstable earth conditions; create erosion hazards or be materially detrimental to any other property in the area of the subject property or to the Village as a whole, including the loss of open space or scenic vistas:

a. minor improvements, such as walkways, benches, footbridges, observation decks and docks;
b. the maintenance, repair, replacement and reconstruction of existing highways and bridges, electrical transmission and telecommunication lines, poles, and towers; and
c. the establishment and development of public and private parks and recreation areas, outdoor education areas, historic, natural and scientific areas, game refuges, fish and wildlife habitat improvement projects, game bird and animal farms, wildlife preserves and public boat launching ramps.

SECTION 46

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subparagraph j of Subsection 1 of Paragraph E "Local Stream and Waterbody Protection Plan" of Section 6-412 "Local Stream and Waterbody Protection" and to substitute the following as new text for Subparagraph j of Subsection 1 of Paragraph E of Section 6-412:

j. such other information as reasonably requested by the Director of Development Services.

SECTION 47

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subsection 4 of Paragraph H "Site Grading and Excavation" of Section 6-412 "Local Stream and Waterbody Protection" and to substitute the following as new text for Subsection 4 of Paragraph H of Section 6-412:

4. The Village may limit construction activity in or near a stream, lake or pond to specific months and to a maximum number of continuous days or hours in order to minimize adverse impacts. The Director of Development Services may also require that equipment be operated from only one side of a stream, lake, or pond in order to minimize bank disruption. Other construction techniques, conditions, and restrictions may be required in order to minimize adverse impacts on streams, lakes or ponds and on any related areas not subject to development

SECTION 48

Ordinance No: 5167

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Paragraph O "Expiration of Permit" of Section 6-412 "Local Stream and Waterbody Protection" and to substitute the following as new text for Paragraph O of Section 6-412:

O. Expiration of Permit. Each permit shall expire and become null and void if the work authorized by such permit has not been commenced within six (6) months, or work is not completed by a date which shall be specified in the permit; except that the Director of Development Services may, if the permittee presents satisfactory evidence that unusual difficulties have prevented work being commenced or completed within the specified time limits, grant a reasonable extension of time if written application is made before the expiration date of the permit.

SECTION 49

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subsection 2 "Special Permit Uses in a Nontidal Wetland" of Paragraph E "Uses by Right in a Nontidal Wetland" of Section 6-413 "Wetlands Protection" and to substitute the following as new text for Subsection 2 of Paragraph E of Section 6-413:

2. Special Permit Uses in a Nontidal Wetland.
Regulated activities other than those specified in Section 6-413 E.1 may not be conducted except upon application to the Development Services Department and issuance of a special use permit.

SECTION 50

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subsection 1 "Procedures" of Paragraph F "Standards and Procedures for Special Use Permits" of Section 6-413 "Wetland Protection" and to substitute the following as new text for Subsection 1 of Paragraph F of Section 6-413:

1. Procedures. Application for a special use permit to conduct a regulated activity shall be made to the Development Services Department on forms furnished by that office. All special uses must be established in nontidal wetlands as special uses in accordance with the procedures and standards set forth in Section 5-105 (I) of this Code. Permits shall ordinarily be valid for a period of one year from the date of issue and shall expire at the end of that time unless a longer period is specified by the Director of Development Services upon issuance of the permit. The request for renewal of a permit shall follow the same form and procedure as the original application except that the Director of

Development Services shall have the option to not hold a hearing if the original intent of the permit is not altered or extended in any significant way.

SECTION 51

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subsection 1 "Standards" of Paragraph G "Nontidal Wetland Restoration and Creation" of Section 6-413 "Wetlands Protection" and to substitute the following as new text for Subsection 1 of Paragraph G of Section 6-413:

1. Standards. As a condition of a permit issued or as an enforcement action under this ordinance, the Director of Development Services may require that the applicant engage in the restoration or creation of other nontidal wetlands in order to offset, in whole or in part, the losses resulting from the action of an applicant or violator under these regulations. In making a determination of whether such a requirement will be imposed, and, if so, the degree to which it would be required, the Director of Development Services will consider the following:
a. Recommendations by the Army Corp of Engineers.
b. The long and short term effects of the action upon the nontidal wetland and associated aquatic ecosystem, and the reversible or irreversible nature of the impairment or loss;
c. The type and benefit of the wetland functions and associated resources lost;
d. The type, size, and location of the wetland altered, and the effect it may have upon the remaining system or watershed of which the wetland is a part;
e. Observed or predicted trends with regard to the gains or losses of this type of wetland in the watershed of which the wetland is a part;
f. The cost and likely success of the possible compensation measures in relation to the magnitude of the proposed project or violation; and
g. The degree to which an applicant has demonstrated a good-faith effort to incorporate measures to minimize and avoid wetland impacts within the proposed project.
An applicant or violator may prepare or be required by the Director of Development Services to develop a nontidal wetlands restoration or creation plan of review and approval of the Director of Development Services The approval shall be based on the recommendation of a qualified consultant which shall be at the cost of the applicant. The creation or restoration of wetlands shall not be an alternative to the standards set forth in Section 6-413. G.1. but shall be used only to compensate for unavoidable losses.

SECTION 52

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Paragraph H "Suspension,

Revocation" of Section 6-413 "Wetlands Protection" and to substitute the following as new text for Paragraph H of Section 6-413:

H. Suspension, Revocation.
The Director of Development Service may suspend or revoke a permit if he or she finds that the applicant has not complied with the conditions or limitations set forth in the permit or has exceeded the scope of the work set forth in the permit. The Director of Development Services shall cause notice of his or her denial, issuance, conditional issuance, revocation, or suspension of a permit by written notice to the petitioner.

SECTION 53

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Subsection 2 of Paragraph B "Requirements" of Section 6-415 "Bikeways and Bikepaths" and to substitute the following as new text for Subsection 2 of Paragraph B of Section 6-415:

2. Developers shall be required to install bicycle parking and racks sufficient to serve all new commercial and industrial developments. Developers of other uses may be required to install bicycle parking and racks, provided that the uses generate such need, and subject to the approval of the Director of Development Services.

SECTION 54

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Paragraph C "Construction Requirements" of Section 6-415 "Bikeways and Bikepaths" and to substitute the following as new text for Paragraph C of Section 6-415:

C. Construction Requirements. The construction requirements and other standards set out in the Guide For Development of New Bicycle Facilities, 1981, or as hereinafter updated, published by the American Association of State Highway and Transportation Officials (AASHTO), 444 North Capital Street, N.W., Suite 225, Washington, D.C. 20001, that pertain to the planning, operation and maintenance of roadways, bikeways and bikepaths shall be applicable to all development located within the Village. Copies of this Guide shall be kept on file at the Department of Development Services and the Building Department.

SECTION 55

The Land Development Code of the Village of Orland Park, as amended, is hereby further amended to delete in its entirety the text of Paragraph A of Section 9-

101"Enforcement Procedures" and to substitute the following as new text for Paragraph A of Section 9-101:

A. Direct the Director of Development Services not to continue any development review process for the developer until the violation has been corrected;

SECTION 56

All sections of the Land Development Code not addressed in this Ordinance or another amending ordinance shall remain in full force and effect.

SECTION 57

All ordinances or parts of ordinances in conflict with the provisions of this Ordinance are hereby repealed insofar as they conflict herewith.

VILLAGE OF ORLAND PARK

Ordinance No: 5167

SECTION 58

This Ordinance shall become and be effective immediately upon its passage, approval and publication in the manner provided by law. It is ordered that publication of this Ordinance be made by the duplication thereof in pamphlet form, said pamphlets to be deposited in the office of the Village Clerk of the Village of Orland Park, for general distribution.

PASSED this 20th day of February, 2017

/s/ John C. Mehalek

John C. Mehalek, Village Clerk

Aye:	7	Trustee Fenton, Trustee Dodge, Trustee Gira, Trustee Griffin Ruzich, Trustee Calandriello, Trustee Carroll, and President McLaughlin
Nay:	0	

DEPOSITED in my office this 20th day of February, 2017

/s/ John C. Mehalek

John C. Mehalek, Village Clerk

APPROVED this 20th day of February, 2017

/s/ Daniel J. McLaughlin

Daniel J. McLaughlin, Village President

PUBLISHED this 21st day of February, 2017

/s/ John C. Mehalek

John C. Mehalek, Village Clerk

Permitted Structures P = Permitted PC = Permitted with Conditions NP = Not permitted	Residential Zoning Districts					Mixed Use Zoning Districts						Non-Residential Zoning Districts			Setbacks Permitted F= Front S = Side R = Rear * = specific limits	Specific Standards See Section:
	E-1	R-1	R-2 & R-2A	R-3	R-4	LSPD	OOH	COR	ORI	VCD	RSB	BIZ	MFG	OL		
Air Conditioning	P	P	P	P	P	P	P	P	P	P	P	P	P	P	R	6-302.C.1
Awnings, Marquees, and Canopies	P	P	P	P	P	P	P	P	P	P	P	P	P	P	F*, S*, R*	6-302.C.3
Balconies	P	P	P	P	P	P	P	P	P	P	P	P	P	P	F*, S*, R*	6-302.C.4
Bay Windows	P	P	P	P	P	P	P	P	P	P	P	P	P	P	F*, S*, R*	6-302.C.6
Chimneys	P	P	P	P	P	P	P	P	P	P	P	P	P	P	S*, R	6-302.C.7
Decks	P	P	P	P	P	P	P	P	P	P	P	P	P	P	F*, S*, R*	6-302.C.42
Eaves and Gutters	P	P	P	P	P	P	P	P	P	P	P	P	P	P	F*, S*, R*	6-302.C.9
Fire Escapes	P	P	P	P	P	P	P	P	P	P	P	P	P	P	F*, S*, R	6-302.C.11
Garages – See Section 6-302.C.13																
Green Roof/Eco-Roof	P	P	P	P	P	P	P	P	P	P	P	P	P	P	N/A	6-302.H.1.C
Ornamental Lights	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	F, S, R	6-302.C.22
Ornamental Features of the Principal Structure including Sills, Belt Courses & Cornices	P	P	P	P	P	P	P	P	P	P	P	P	P	P	F*, S*, R*	6-302.C.35

(A)

Permitted Structures P = Permitted PC = Permitted with Conditions NP = Not permitted	Residential Zoning Districts					Mixed Use Zoning Districts						Non-Residential Zoning Districts			Setbacks Permitted F= Front S = Side R = Rear * = specific limits	Specific Standards See Section:
	E-1	R-1	R-2 & R-2A	R-3	R-4	LSPD	OOH	COR	ORI	VCD	RSB	BIZ	MFG	OL		
Patios	P	P	P	P	P	P	P	P	P	P	P	P	P	P	F*, S*, R*	6-302.C.25
Porches	P	P	P	P	P	P	P	P	P	P	P	P	NP	P	R*	6-302.C.29
Satellite Dishes	P	P	P	P	P	P	NP	P	P	P	P	P	P	P	R	6-311
Steps (open)	P	P	P	P	P	P	P	P	P	P	P	P	P	P	F, S, R	6-302.C.37
Television and Radio Antennae	P	P	P	P	P	P	P	P	P	P	P	P	P	P	R	6-302.C.40
Tensile Canopies	NP	NP	NP	NP	NP	PC	NP	PC	NP	PC	NP	PC	NP	NP	F*, S*, R*	6-302.C.43
Terraces	P	P	P	P	P	P	P	P	P	P	P	P	P	P	F*, S*, R*	6-302.C.42

(A)

Permitted Structures P = Permitted PC = Permitted with Conditions NP = Not permitted	Residential Zoning Districts					Mixed Use Zoning Districts						Non-Residential Zoning Districts			Setbacks Permitted F= Front S = Side R = Rear * = specific limits	Specific Standards See Section:
	E-1	R-1	R-2 & R-2A	R-3 & R-3A	R-4	LSPD	OOH	COR	ORI	VCD	RSB	BIZ	MFG	OL		
Arbors, Pergolas and Trellises	P	P	P	P	P	P	P	P	P	P	P	P	P	P	S*, R*	6-302.C.2
Basketball Poles, Courts and Hoops	P	P	P	P	P	P	P	P	P	NP	P	NP	P	P	F, S, R	6-302.C.5
Dumpsters, Garbage Containers and Enclosures	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	S, R	6-302.C.14 6-302.D 6-304.C.8
Fences	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	F*, S*, R*	6-310
Flagpoles	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	F*, S*, R*	6-302.C.10
Garages – See Section 6-302.C.13																6-302.C.13
Geothermal Energy Systems	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	F, S, R	6-314.F
Green Roof/Eco-Roof	P	P	P	P	P	P	P	P	P	P	P	P	P	P	N/A	6-302.H.1.C
Ice Skating Rinks	P	P	P	P	P	P	P	P	P	NP	P	NP	NP	P	R*	6-302.C.17
Lawn Furniture	P	P	P	P	P	P	P	P	P	P	P	P	P	P	F, S, R	6-302.C.18
Lawn Sprinklers	P	P	P	P	P	P	P	P	P	P	P	P	P	P	F, R	6-302.C.19
Laundry Drying Equipment	P	P	P	P	P	P	P	P	P	NP	P	NP	NP	P	S, R	6-302.C.20
Mailboxes	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	F, S	6-302.C.21

Outdoor Fireplaces	P	P	P	P	P	P	P	P	P	NP	P	NP	P	P	R*	6-302.C.23
Outside Storage	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	F*, S*, R*	6-302.I
Parking Lots	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	F*, S*, R*	6-306
Pet Shelters	P	P	P	P	P	P	P	P	P	NP	P	NP	P	P	R	6-302.E
Playgrounds	P	P	P	P	P	P	P	P	P	P	P	P	NP	P	S*, R*	6-302.C.27
Playhouses, Treehouses and Open-Sided Summer Houses	P	P	P	P	P	P	P	P	P	NP	P	NP	NP	P	S*, R*	6-302.C.28
Rain Barrels and Rain Gardens	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	S*, R*	6-302.H.1.h
Retaining Walls	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	F*, S*, R*	6-302.C.31
Sheds and Storage Buildings	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	R*	6-302.C.33
Signs	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	F, S, R	6-307
Solar Energy Systems	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	F*, S*, R*	6-314.E
Stadia and Auditoria (accessory to schools only)	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	F*, S*, R*	6-302.F
Storm Water Cistern	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	S*, R*	6-302.H.1.j
Swimming Pools	PC	PC	PC	PC	PC	PC	PC	PC	PC	NP	PC	NP	NP	PC	R*	6-310.1
Tennis Courts	PC	PC	PC	PC	PC	PC	PC	PC	PC	NP	PC	NP	NP	PC	R*	6-302.C.41

Vending Machines	NP	NP	NP	NP	NP	NP	NP	P	P	P	NP	P	NP	NP	F*, S*, R*	6-302.C.45
Wind Energy Conversion Systems	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	PC	F*, S*, R*	6-314.D

SECTION 6-408. SANITARY SEWER SYSTEM.

A. **General**.

1. All development, whether public or private, shall include provisions for the construction of sanitary sewers and appurtenances designed in accordance with this Section. Developers shall use either the public sewer system or an alternative sewer system, certified by the agency or municipality with jurisdictional authority, provided that the development is proximate to a transmission line that has adequate capacity to handle such proposed development.

2. All sanitary sewer improvements shall be installed in accordance with the material installation and testing requirements of the "Standard Specifications for Water and Sewer Main Construction in Illinois," ***Sixth Edition July 2009*** ~~latest edition~~, unless otherwise modified in this Section. ***Sanitary sewer improvements shall conform to all applicable requirements of the current Metropolitan Water Reclamation District of Greater Chicago ("MWRDGC") Watershed Management Ordinance ("WMO").***

B. **Service Areas**. All sewers shall be designed to accommodate an ultimate service area as defined by the Village Board of Trustees.

C. **System Extension**. The size and location of proposed extensions to the existing sanitary sewer system shall be as approved by the Village Engineer.

D. **Basic Design Standards**.

1. **Design Flows**.

a. Design flows for single and multiple residential developments shall be based upon full development of the service area with the population served, estimated as follows:

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

The maximum daily per capita design flow shall be calculated using the formula:

~~$Q = \frac{500}{P^{1/5}}$~~

$$Q = 500(P)^{1/5}$$

Where Q* = maximum design flow, ***in gallons per capita per day***

("gpcpd") ~~gpcpd~~

P = population served, in thousands

*Not to exceed ~~four hundred (400)~~ ***400*** gpcpd or be less than ~~two hundred fifty (250)~~ ***250*** gpcpd.

For undeveloped residential areas where the details of future developments are not known, design population ***(P)*** per acre may be estimated by the Village Engineer.

b. Design flows for non-residential developments shall be based on full development of service area with the maximum daily per capita design flow calculated as follows:

Type of Establishment	**Unit**	**Average Flow in Gals/day/unit***
Shopping Center (without food service or laundries)	Employee	0.10 gal/sq. ft.
Store	Employee (1 shift)	25
Office	Person (1 shift)	25
Industrial		
- with showers	Person	35
- without showers	Person	25
Restaurant	Meal Served	7
Theater	Per Seat	5
Hotel	Per Guest	100

* Quantities are exclusive of process water requirements which must be estimated and added.

For non-residential developments where the details of the development are not established, domestic design flows may be estimated by the Village Engineer. Such flow estimate shall not relieve the owner or developer of the responsibility ~~of providing~~ ***to provide*** adequate sanitary sewer capacity ***in order*** to meet any and all future requirements within the development.

2. <u>Sewer Design Hydraulics</u>.

a. Sanitary gravity sewer ***mains*** shall be designed to provide design flow capacity, without surcharging, using ***typical*** Manning's

formula:

$$Q = (A)\ \frac{1.486}{n}\ (R)^{2/3}\ (S)^{1/2}$$

Where Q= design flow in units of cubic feet per second ***("cfs")***

A= area in units of square feet
R= hydraulic radius in units of feet
S= slope in units of feet per foot ***(dimensionless)***
n= roughness coefficient, ~~in~~dependent on conduit material

b. Roughness coefficient utilized shall be as follows:

1. Concrete pipe - 0.013
~~2. A.B.S. Truss pipe - 0.012~~
2. Ductile iron - 0.014
3. Polyvinyl Chloride (PVC) – 0.009

c. Design mean velocity, flowing full, shall not be less than two (2) feet per second or greater than fifteen (15) feet per second.

d. Design flow shall include total allowable infiltration at any point based on ~~two hundred (200)~~ ***one hundred (100)*** gallons per inch of diameter of sewer per mile per twenty-four (24) day at any time for any section of the system.

e. Minimum and maximum design slopes are found in Part F.3 and are per the MWRDGC WMO.

3. **Minimum Sewer Size**.

a. Minimum sanitary sewer ***main*** size shall be eight (8) inch diameter.

b. Minimum building sanitary service sewer size shall be six (6) inch diameter.

4. **Alignment**. Sewers shall be laid straight in both horizontal and vertical planes between manholes, unless otherwise approved by the Village Engineer.

5. **Sewer Size Changes**. Sanitary sewers of different diameters shall join only at manholes. The invert elevations shall be adjusted to maintain a uniform energy gradient by matching the 0.8 depth points of different diameters.

6. **Sanitary Sewer Manholes**.

a. Manholes shall be provided at the following locations:

1. ***T***ermination of existing and future lines
2. ***C***hanges in direction, horizontal or vertical
3. ***C***hanges in shape or pipe size
4. ***J***unctions with other sewers
5. ~~Access spacing shall be:~~ ***Maximum manhole spacing shall be 400 feet.***

~~Sewer Pipe Size (in inches) — Maximum Interval (in feet)~~
~~8 - 30 — 400~~

~~33 - 54 — 500~~

~~60 or larger — 1000~~

b. ***Where possible, sanitary sewer facilities shall be designed to avoid the use of a drop manhole.*** A drop manhole shall be provided for manholes with any pipe having a difference in invert elevation more than ~~twenty-four (24)~~ ***seventy-two (72)*** *inches above the invert of the sewers leaving such manholes.* ***Small drops may be used in the event of utility conflicts, where approved by the Village Engineer. The invert of the outlet pipe from a drop pipe must match the springline elevation of the precast manhole bench. All drop manholes must be precast with monolithic drop pipe assemblies.***

c. Where flows and other conditions dictate, special manholes or junction chambers shall be designed and constructed.

d. ~~The invert of the outlet pipe from a drop pipe must match the springline elevation of the precast manhole bench. All drop manholes must be precast with monolithic drop pipe assemblies.~~

e. All manholes shall have a precast base.

7. **Sewer Depth**. Sanitary sewers shall be constructed at a minimum depth of ~~six (6)~~ ***eight (8)*** feet and shall provide an outfall for all sanitary sewage within the existing and future ultimate service area, unless approved by the Village Engineer. ***The eight foot depth is intended to eliminate the service line separation deficiencies which commonly occur between sanitary sewer placed at six feet deep and water mains at five feet deep.***

8. **Lift Stations**.

a. Whenever possible, sanitary sewerage facilities shall be ***appropriately*** designed ***per this Code section*** so as to avoid the necessity of providing lift stations.

(c)

b. Lift station and force main designs shall be submitted for review and approval to the ~~Director of Engineering~~ ***Village Engineer***, the Illinois Environmental Protection Agency, and the Metropolitan Water Reclamation District of Greater Chicago. ~~**(Ord. 2570 - 5/2/94)**~~

c. Lift stations shall be of the ***single*** wet well type ***utilizing submersible pumps.*** and shall be comparable to other recently constructed lift stations ***within*** the ***service area of the*** Village.

d. A stand-by internal combustion power source shall be provided for lift stations. ***The power source shall be natural gas-fueled for output rating less than 100 kW and shall be diesel-fueled for 100kW and above.***

As an alternate, the Village Engineer may ~~require or approve~~ ***allow*** a dual connection to the power system as a method of providing stand-by power in cases where such an alternate would provide an equal degree of reliability, and ***also*** would provide an economy to the Village over the ~~useful~~ ***service*** life of the alternate stand-by power system.

All stand-by power sources must be installed ***with***in a weatherproof building structure suitable to accommodate the power source, controls, alarm system, and all ***other*** required appurtenances. The structure must be large enough to allow for servicing of all equipment and must meet all Village building codes.

e. Force mains shall be designed and constructed of ~~cement~~ ***epoxy***-lined ductile iron pipe or PVC pressure pipe ASTM 2241-SDR 21. ***A tracer wire shall accompany all force main piping installations for the purpose of future locating with an electronic locating device. A pipeline marker shall be installed above the force main every 400 feet and at horizontal bends in the pipe. The tracer wire shall terminate in an enclosure (typically a pipeline marker) with sufficient wire slack for connecting to an electronic locating device.***

f. A ***compatible*** telemetered alarm system shall be installed and connected to the Village's existing computerized reporting and alarm panel.

g. The force main wet well shall be epoxy-lined after installation of the well structure itself and associated piping.

9. **Sewer Pipe Class**. Sewer pipe class shall be determined by using ASTM rigid and flexible pipe design strength formulas.

10. **Sewer Pipe Bedding**.

a. Sewer pipe bedding shall, as a minimum, conform to the requirements established in ~~Construction Standards Governing Public Improvements~~ ***Standard Specifications for Water and Sewer Construction in Illinois, July 2009, and/or latest revision.*** ~~as adopted by the Village Engineer and as amended from time to time.~~

b. Sewer pipe concrete cradle, arch, or full encasement shall be constructed whenever dictated by trench or embankment conditions ***as directed by the Village Engineer.***

E. **Material Specifications**. All sanitary sewer system elements shall conform to the following specifications:

1. **Sewer and Service Connection Pipe**.

a. Reinforced concrete pipe - circular reinforcement, minimum Class 3, ASTM C76, with epoxy lining, 18" diameter and larger.

~~b. ABS Truss - ASTM D2680 for 8" to 15" and ASTM D2751 for 6", solid wall SDR23.5.~~

b. Ductile iron pipe - ANSI A21.51 (AWWA C151), minimum thickness, Class 52 per ANSI A21.50 (AWWA C150), ~~cement~~ ***calcium aluminate cement***-lined.

c. Polyvinyl Chloride (PVC) – ASTM D-3034, SDR 26 less than 20 foot depth at final grade for sizes 6" through 12" inside diameter and AWWA C905, DR 25 for sizes 14" through 36" inside diameter.

d. Polyvinyl Chloride Molecularly Oriented Pressure Pipe (PVCO) – ASTM F1483, AWWA C909 Class 150 for sizes 6" through 12" I.D. at 20 feet or greater depth.

e. High Density Polyethylene Pipe (HDPE) for force main only – AWWA C906.

2. **Sewer and Service Connection Pipe Joints**.

a. Reinforced concrete pipe - ASTM C443.

~~b. ABS Truss pipe - Type OR, ASTM D2680.~~

b. Ductile iron pipe - ANSI A21.11 (AWWA C111).

c. Polyvinyl Chloride (PVC) – ASTM D-3212

d. Polyvinyl Chloride Molecularly Oriented Pressure Pipe (PVCO) – Gaskets meeting ASTM F477, Joints meeting ASTM D-3139

3. **Sewer and Service Connection Pipe Fittings**.

~~a. ABS Truss - ASTM D2680, for 8" and larger and ASTM D2751 for 6".~~

a. Ductile iron - ANSI A21.10 (AWWA C110).

b. ***Polyvinyl Chloride (PVC) – ASTM D-3034***

c. ***Polyvinyl Chloride Molecularly Oriented Pressure Pipe (PVCO) requires ductile iron fittings meeting the specifications above.***

d.

Materials		Joints
~~1.~~	~~ABS TRUSS pipe (ASTM D-2680)~~	~~ASTM D2680~~
1.	Reinforced Concrete Sewer Pipe (A.S.T.M. C-76)	A.S.T.M. C-361
2.	Ductile Iron Pipe ANSI A 21.51 (AWWA 151-75)	ANSI 21.1*1* (AWWA C111)
3.	6" diameter Sanitary Sewer Pipe ABS SDR 23.5 (services only)	ASTM D-2751 ~~(ASTM-2751)~~
4.	***Polyvinyl Chloride (PVC) (ASTM D-3034)(SDR 26)***	***ASTM D-3212***

Nothing herein shall constitute or imply an endorsement by the Village of any one material over another, or an opinion by the Village regarding equality or superiority of the performance qualities of any of the ***above*** materials.

4. Casing Pipes ***(Exhibit PC-01)***. ***Bituminous coated*** steel pipe - ASTM A120, 0.375" minimum thickness. ***All casing pipes shall utilize appropriate stainless steel spacers, per manufacturer's specifications, to support the sewer pipe as directed by the Village Engineer.***

5. Manholes (~~Exhibit~~ ***Sanitary Manhole Standard Details*** ~~No.~~ SS-01, ***SS-02, SS-03***).

   a. ***Precast Reinforced Concrete.*** ASTM C478 and ASTM C443 ***conforming to the Standard Specifications for Water and Sewer Main Construction in Illinois, Sixth Edition July 2009 and/or latest revision.***

   b. Sizes:

      1. For sewer eighteen (18) inch diameter or less, manhole shall have a forty-eight (48) inch inside diameter.

2. For sewer twenty-one (21) inch to thirty-six (36) inch diameter, manhole shall have a sixty (60) inch inside diameter.

3. For sewer greater than thirty-six (36) inch diameter, manhole shall ***be a minimum of seventy-two (72) inches inside diameter and*** have an offset riser ~~pipe~~ ***cone section*** of forty-eight (48) inch inside diameter.

c. **Adjustment**~~. No more than two (2) precast concrete adjusting rings with six (6) inch maximum height adjustment shall be allowed.~~

1. Any frame adjustment shall use at least one rubber adjustment riser (Infra-Riser brand or approved equal) to establish the final seating surface of the structure frame. Any structure located within the paved roadway shall require the use of at least of one (1) rubber riser, and, if necessary, said riser shall be of the tapered wedge-type in order to match the proposed cross-slope of the pavement surface.

2. No more than two (2) rubber adjustment risers, with six (6) inches total maximum adjusted height, shall be allowed per structure.

3. A frame adjustment less than three (3) inches in height shall consist of only rubber riser(s). The minimum thickness of a rubber riser shall be one (1) inch

4. A frame adjustment greater than three (3) inches in height shall use a minimum three (3) inch precast concrete riser for the lower riser, and the final riser shall be rubber.

d. Sealing. All mating surfaces of concrete adjustment riser(s), structure sections, and frames shall be sealed with a mastic sealant. No concrete mortar or epoxy mortar shall be allowed as a sealant for adjustment risers, structure sections or frames. If multiple adjustment risers are required, a continuous application of sealant shall be applied between each unit. Rubber adjustment risers must be sealed with an approved sealant such as XSeal brand hydrophobic non-shrinking polyurethane sealant, or approved equal.

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e. ***Pipe and Frame Seals.*** All pipe connection openings shall be precast with resilient rubber water tight pipe to manhole sleeves or ***rubber boot*** seals. ~~External flexible water tight sleeves shall also extend from the manhole cone to the manhole frame~~.

f. ***Connections.*** All sewer connections to existing manholes shall be "core-drilled" and rubber ***boot*** seals installed.

g. ***Bottom Sections.*** All ***manhole*** bottom sections shall be monolithically precast, including bases and invert flow lines.

h. ***Drop Manholes.*** Drop manhole assemblies shall be monolithically precast with manhole barrel section. ***Refer to Drop Manhole Standard Details. SS-02, SS-03.***

6. Castings.

a. ***Manhole Frame & Cover*** Manhole frame and cover – ***7"*** East Jordan Iron Works, Inc. ~~#1022Z3~~ ***#1022Z1*** with ~~embossed~~ 1020A HD ***GS lid embossed with*** "SANITARY SEWER" and "VILLAGE OF ORLAND PARK", ~~with a lid design~~ as shown on ~~Exhibit~~ ***Sanitary Manhole Frame and Cover- Standard Detail*** No. SS-04.

~~b. Manhole steps - East Jordan Iron Works, Inc. #8518.~~

b. ***Pick Hole***. ***All lids shall be cast with a*** concealed pick hole.

c. ***Water Tightness:*** ***Where necessary*** to prevent entry of overland flow, a water tight frame and self-sealing lid shall be used: ***7"*** East Jordan Iron Works, Inc. ~~1058ZPT and shall be embossed 1058APT SANITARY SEWER and VILLAGE OF ORLAND PARK with a lid design as shown on Exhibit~~ ***#1022Z1 PT4 (4 bolt lock down) frame and 1020A HD GS lid embossed with "SANITARY SEWER" and "VILLAGE OF ORLAND PARK", Sanitary Manhole Frame and Cover- Standard Detail*** No. SS-04 or as required by the ~~Director of Engineering~~ ***Village Engineer*** (Ord/ 2570 – 5/2/94).

~~7. Crushed Granular Bedding (Exhibit No. SS-07). Crushed gravel or crushed stone - ASTM C33. The only gradation allowed shall be 100% retained on a 3/8" sieve and 100% passing 3/4" sieve.~~

F. Design Flows.

1. Average Daily Flow for Sanitary Sewer. Average daily flow for sanitary sewer shall be 100 GPCPD. Maximum design flow for sanitary sewer lines shall be determined by one of the following equations indicated below; provided, however, that the maximum design flow for sewer laterals need not exceed 400 GPCPD and the maximum design flow for sewer mains and trunks shall not be less than 250 GPCPD.

Equation No. 1:

$$Q = \frac{500}{P^{1}/_{5}}$$

Equation No. 2:

$$Q = \frac{100(1+14)}{(4+P)}$$

Where: Q = Maximum design flow in GPCPD
P = Population in thousands

2. **Minimum Size**. No public sewer conveying raw sewage shall be less than 8 inches in diameter.

3. **Design Slopes.** Minimum and maximum slopes are tabulated below. The slopes are those that produce minimum and maximum velocities of 2.0 ft/sec. and 15.0 ft/sec. respectively, based on Kutter's formula, with n = 0.013 and the pipe flowing full, unless approved by the Village Engineer.

Sewer Size (Inches)	Minimum Slope (Percent)	Maximum Slope (Percent)
8	0.40	22.0
10	0.28	15.0
12	0.22	11.0
14	0.17	9.0
15	0.15	8.3
16	0.14	7.8
18	0.12	6.5
21	0.10	5.1
24	0.08	4.2

G. **Protection of Water Mains**. Water mains shall be protected in accordance with the applicable Illinois Pollution Control Board Regulations and the Illinois Environmental Protection Agency, Division of Public Water Supplies, Technical Policy Statements. Wherever the sanitary sewer main, building service sewer, or any storm drain crosses a water main, a minimum eighteen (18) inches vertical separation shall be provided between the top of the lower pipe and the bottom of the upper pipe. If an eighteen (18) inch vertical separation cannot be maintained, the sanitary or storm sewer shall be constructed of watermain quality pipe, for a minimum distance of ten (10) feet on each side of the water main. If storm or sanitary sewer crosses above a watermain and an 18" clearance cannot be maintained, both sewer and water pipes must be of the same pipe material as the watermain.

~~H. **Survey Lines and Grades.**~~

~~1. **Depth of Pipe Cover**. All pipe shall be laid to a minimum depth of six (6) feet measured from the existing or proposed ground surface to the top of the pipe barrel unless specifically allowed otherwise in special~~

~~circumstances by the Village Engineer.~~

~~2. **Pipe Bedding**. Granular pipe bedding material or granular cradle shall be required on all sanitary sewers installed in the Village. Granular pipe bedding shall be a minimum of four (4) inches in earth excavation and a minimum of six (6) inches in rock excavation. At depths greater than 10' below finished grade, the trench is backfilled with granular material to six (6) inches over the top of the pipe. At depths less than ten (10) feet, the granular material shall be placed up to the "spring line" prior to final backfilling of trench. The granular material shall conform in gradation to Type B, listed in Section 20, paragraph 20-2.20A of the Standard Specifications for Water and Sewer Main Construction in Illinois, as amended, Division 1 Second Edition and/or latest revision.~~

~~3. **Selection Granular Backfill**. All trenches for sanitary sewers falling under and within two feet of a proposed or existing paved surface shall be backfilled with select granular material conforming to gradation Types A or B only as listed in Section 20, paragraph 20-2 21c (2) of the Standard Specifications for Water and Sewer Main Construction in Illinois. Selected granular backfill shall be placed in uniform layers not exceeding six (6) inches (loose measure) and compacted with mechanical equipment to 90% of maximum density in accordance with AASHOT 99.~~

~~I~~ *H.* **Sewers in Relation to Streams**.

1. **Location of Sewers on Streams**.

   a. **Cover Depth**. The top of all sewers entering or crossing streams shall be at a sufficient depth below the natural bottom of the stream bed to protect the sewer line. In general, the following cover requirements shall be met:

      1. One (1) foot of cover is required where the sewer is located in rock.

      2. Three (3) feet of cover is required in other material. In major streams, more than three feet of cover may be required.

      3. In paved stream channels, the top of the sewer line should be placed one (1) foot below the bottom of the channel pavement. Concrete encasement may be required.

         Note: Less cover will be approved only if the proposed sewer crossing will not interfere with the future improvements to the channel stream.

   b. **Horizontal Location**. Sewers located along streams shall be located outside of the stream bed and sufficiently ~~removed there~~ ***separated*** from ***the stream bank*** to provide for future ~~possible~~

~~stream widening~~ ***remediation*** and to prevent ***siltation*** pollution ~~by siltation~~ during construction.

c. **Structures**. The sewer outfalls, headwalls, manholes, gate boxes, or other structures shall be located so they do not interfere with the free discharge of flood flows of the stream. Watertight covers per ***Section 6-408.E.6.c*** shall be required for manholes set at elevations below flood hazard elevations.

d. **Alignment**. Sewers crossing streams should be designed to cross the stream as nearly perpendicular to the stream flow as possible and shall be designed without change in grade. Sewer systems shall be designed to minimize the number of stream crossings.

2. **Construction Requirements**.

a. **Materials and Backfill**. Sewers entering or crossing streams shall be constructed ***of calcium aluminate cement lined*** ductile ~~cast~~ iron pipe with mechanical joints; otherwise they shall be constructed so they will remain watertight and free from changes in alignment and grade. The backfill used in the trench shall be coarse aggregate, gravel, or other materials which will not cause siltation, pipe damage during placement, or chemical corrosion in place.

b. **Siltation and Erosion**. Construction methods that will minimize siltation and erosion shall be employed ***as stated in Land Development Code article 6-411 Soil Erosion and Sedimentation Control.*** The design engineer shall include in the project specifications the methods to be employed in the construction of sewers in or near streams to provide adequate control of siltation and erosion.

3. **Aerial Crossings**.

a. **Structural Support**. Support for all joints shall be provided in pipes utilized in aerial crossings. The supports shall be designed to prevent frost heave, overturning and settlement.

b. **Freeze and Expansion Protection**. Protection against freezing shall be provided. This may be accomplished through the use of insulation, and increased slope expansion jointing shall be provided between the aerial and buried sections of the sewer line.

c. **Flood Clearance**. For aerial stream crossings the impact of flood waters and debris shall be considered. The bottom of the pipe should be placed no lower than the elevation of the ***100*** ~~fifty~~ year ***(1% annual chance of occurrence)*** flood.

4. **Inverted Siphons**. Inverted siphons shall have not less than two (2) barrels with a minimum pipe size of six (6) inches and shall be provided

with the necessary appurtenances for convenient flushing and maintenance. The inlet and outlet structures shall have adequate clearances for cleaning, ~~and~~ sufficient head shall be provided and pipe sizes ***shall be*** selected to ~~secure~~ ***ensure*** velocities of at least three (3) ft./sec. for average flows. The inlet and outlet structures shall be designed so that normal flow is diverted to one (1) barrel ~~so~~ ***such*** that either barrel may be taken out of service for cleaning.

~~I~~ ***I.*** **Handling of Pipe**. Sanitary sewer pipe shall be handled in a manner that will prevent damage ***prior to installation.*** Damaged or defective material on the job site shall be rejected and replaced to the satisfaction of the Village Engineer. Methods of construction conducive to the damage of sewer pipe shall be corrected when called to the attention of the contractor. All pipe and fittings shall be examined by the contractor above grade before placement in the trench.

~~K~~ ***J.*** **Laying of Pipe**.

1. **Sanitary Sewer Pipe**. Sanitary sewer pipe shall be laid true to line and grade as set forth in ~~Section 31, paragraph 31-1.02 of~~ ***the*** Standard Specifications for Water and Sewer Main Construction in Illinois, ***Sixth Edition (July 2009), and/or latest revision.*** Dirt or other foreign material shall be prevented from entering the pipe or pipe joint during handling or laying operations and any pipe or fitting that has been installed with dirt or foreign material in it shall be removed, cleaned, and re-laid. At times when pipe laying is not in progress, the open end of the installed pipe shall be closed with a water tight plug or by other means approved by the Village Engineer to ensure absolute cleanliness and ***avoidance of*** extraneous flows inside the pipe.

2. **Laying of Pipe on Curves**. The curvature of sanitary sewers is not allowed unless, in the opinion of the Village Engineer, special circumstances dictate otherwise. Pipe required to be laid on curved alignment shall be joined in straight alignment and then deflected, joint by joint. Special care shall be taken in blocking the pipe, and in no case shall the degree of deflection exceed the manufacturer's recommendations for the respective pipe size, material and barrel length.

3. **Sanitary Sewer Services.** ***(Sanitary Service Riser SS-05 and SS-05-20):*** Sanitary sewer services shall be a minimum of six (6) inches in diameter and connected to the sewer main with a manufactured wye at a minimum angle of thirty (30) degrees and a maximum angle of forty-five (45) degrees. Sanitary sewer services shall be extended to the property line or building at a minimum gradient of one (1) percent. Sanitary sewer service connections to sewer mains twelve (12) feet or more in depth shall be constructed with a six (6) inch tee and riser and backfilled with select granular material or encased in concrete at the option of the Village Engineer. On a temporary basis, sanitary services may be terminated with a manufactured plug in which case the location shall be staked and an accurate record kept of the ***stub*** distance from the nearest downstream manhole along the sewer main. Sanitary sewer service

connections to existing sewer mains shall be made with a ***dedicated*** tapping machine and ***the*** saddle ***shall be*** tightly secured to the existing sanitary sewer.

4. ***Depth of Pipe Cover. All pipe shall be laid to a minimum depth of eight (8) feet measured from the proposed ground surface to the top of the pipe barrel unless specifically allowed otherwise under special circumstances by the Village Engineer.***

5. ***Pipe Bedding. (Trench Section Sanitary Sewer Detail No. SS-06). Crushed gravel or crushed stone - ASTM C33. The only gradation allowed shall be 100% retained on a 3/8" sieve and 100% passing 3/4" sieve. Granular pipe bedding material or granular cradle shall be required on all sanitary sewers installed in the Village. Granular pipe bedding shall be a minimum of four (4) inches in earth excavation and a minimum of six (6) inches in rock excavation. The trench shall be backfilled with granular material to six (6) inches over the top of the pipe. The granular material shall conform in gradation to Type B, of the Standard Specifications for Water and Sewer Main Construction in Illinois, Sixth Edition (July 2009) and/or latest revision.***

6. ***Selection of Granular Backfill. All trenches for sanitary sewers falling under and within two feet of a proposed or existing paved surface shall be backfilled with select granular material conforming to only gradation Types A or B as listed in the Standard Specifications for Water and Sewer Main Construction in Illinois, Sixth Edition (July 2009) and/or latest revision. Selected granular backfill shall be placed in uniform layers not exceeding six (6) inches (loose measure) and compacted with mechanical equipment to 90% of maximum density in accordance with AASHTO-99.***

~~L Sanitary Sewer Manholes.~~

~~1. Manholes for Sanitary Sewers. Manholes for sanitary sewers shall have a minimum inside diameter of forty-eight (48) inches and shall be constructed of precast concrete units in accordance with Section 32 of Standard Specifications for Water and Sewer Main Construction in Illinois, and shall follow the Village's standards.~~

~~2. Manhole Location. Manholes shall be located at the junction of two sanitary sewer pipes or at any change in grade, alignment, or pipe size in accordance with Subsection D(6) of this Section.~~

~~3. Construction. Sanitary manholes shall have precast inverts made to conform accurately to the sewer grades with smooth, well rounded junctions and transitions satisfactory to the Village Engineer. It is preferred that the sewer pipe to manhole joint be a flexible gasket or mechanical seal to insure a leak-proof joint. The completed manhole shall be rigid, true to dimensions, and water tight.~~

~~4. Manhole Appurtenances. Manholes shall be furnished with a water tight frame and solid cover as specified in section 6-408.E.6 with the words, "Sanitary Sewer" imprinted on the cover in raised letters.~~ (Ord. 2570 - 5/2/94)

~~M~~ *K.* Installation Requirements.

1. ~~The~~ *No* connection of any section of new sanitary sewer to an existing Village *sanitary* sewer ~~must be plugged and remained plugged~~ *is allowed* until the Village approves the new sewer(s) for service.

2. Sewer system design and construction shall in all respects be in accordance with the regulations of the ~~M.S.D~~. *MWRDGC* and the *Illinois* Environmental Protection Agency ~~of the State of Illinois~~. No construction shall commence until ~~a copy~~ *evidence* of the approved permits from these agencies is filed with the Village Engineer.

3. The installation of sanitary sewer and appurtenances shall conform to the requirements of this Section and the following:

   a. Reinforced concrete pipe - ~~Section 603, SSR & BC~~ *Standard Specifications for Water and Sewer Main Construction in Illinois, Sixth Edition (July 2009) and/or latest revision.*

   ~~b. ABS composite pipe and fittings - ASTM D-2321~~

   b. Ductile iron pipe and fittings - AWWA C600

   c. PVC pipe and fittings- ASTM D-2321

4. The installation of sewer service connections shall conform to the requirements of this Section.

5. Where the installation of a grease separator is required, the basin shall be exterior to the building where possible. However, should the establishment prefer to have an internal grease basin, it will be allowed if ample basin capacity can be provided. Basin capacity shall be dictated by applicable plumbing code(s).

6. The contractor shall keep a record of the location of all sewer services by measurement to the nearest downstream manhole. Such records shall be delivered to the Village Engineer at the completion of the work.

~~N~~ *L.* Inspection and Test.

1. Cleaning. All sewers and appurtenances shall be high pressure cleaned prior to inspection and testing required by this Section.

2. Visual Inspection.

   a. All sewer and appurtenances shall be visually inspected by

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representatives of the developer during and following construction.

b. Sewers designed to be straight between manholes will be tested for straightness by flashing a light from manhole to manhole, lamping or by other suitable means.

3. **T.V. Inspections**.

a. Upon completion of construction and prior to initiation of the maintenance guarantee period, ~~and if determined to be necessary by the Village during the construction of the sanitary sewer,~~ a T.V. inspection shall be performed ~~on the sections or portions of the sewer as directed by the Village Engineer~~. Video ~~tapes~~ and a written report of all television inspections shall be provided to the Village prior to the initial acceptance provided for by this Section. The form of the report and ~~type and format of the~~ video ~~tape~~ ***format*** shall be approved by the Village Engineer.

b. Fees and costs connected with T.V. inspections shall be paid for by the developer or owner.

c. All dips, cracks, leaks, improperly sealed joints, and departures from approved grades and alignment shall be repaired by removing and replacing the involved sections of pipe ***and manholes.***

d. All defects and corrective work required as the result of T.V. inspection shall be performed by the developer without delay. Upon completion thereof, the sewer shall be retested and such further inspection made as may appear warranted.

4. **Infiltration Testing**.

a. It is the intent of this Section to secure a sewer system with a minimum amount of infiltration. The maximum allowable infiltration shall not exceed ~~two hundred (200)~~ ***one hundred (100)*** gallons per inch of diameter of sewer per mile per twenty-four (24) hour day at any time for any section of the system. The joints shall be tight and any joint with visible leakage or leakage in excess of that specified above, shall be repaired at the developer's expense.

b. The repair must be of a permanent nature and of a quality equal to ~~initial work which is constructed~~ ***new construction*** in conformance with the applicable specifications.

c. Immediately after backfilling, the entire length of the sewer trench, including stubs, shall be inundated to normal ground water level or eighteen (18) inches above the top of sewer pipe, whichever is higher. At that time, infiltration tests shall be made

to determine compliance with the allowable infiltration criteria. To measure the amount of infiltration, the contractor shall furnish, install, and maintain a V-notch shape crested weir in a metal frame tightly secured at the lower end of each sewer test section as directed by the Village Engineer. The Village Engineer shall check the infiltration by measuring the flow over such weirs. When infiltration is demonstrated to be within the allowable limits, the contractors shall remove such weirs.

5. **Exfiltration Testing**. If during the construction of the sewer system, the Village Engineer ~~shall~~ determine*s* that it is impractical to obtain a proper infiltration test, then a test for watertightness shall be made by bulkheading the ~~sewer at the~~ manhole at the lower end of the section under test and filling the sewer with water to eighteen (18) inches above the ~~tip~~ ***top*** of the sewer in the manhole at the upper end of the section. Leakage will then be ***calculated as*** the measured amount of water added to maintain the above described level at a maximum allowable exfiltration rate of ~~two hundred (200)~~ ***one hundred (100)*** gallons per inch of diameter of sewer per mile per twenty-four (24) hour day at any time for any section of the system.

6. **Air Testing**. ~~In lieu of infiltration or exfiltration testing,~~ ***All Polyvinyl Chloride (PVC) and Polyvinyl Chloride Molecularly Oriented Pressure Pipe (PVCO) will require low pressure air testing meeting ASTM F1417.*** ~~t~~The Village Engineer may ~~permit~~ ***require*** air testing ***for other pipe materials*** in accordance with ASTM C828.

7. ***Deflection Testing.***

   a. ***All Polyvinyl Chloride (PVC) and Polyvinyl Chloride Molecularly Oriented Pressure Pipe (PVCO) require deflection testing. The 5% deflection test for pipe sizes six (6) to fifteen (15) inches in diameter is to be run using a nine-arm mandrel having a diameter equal to 95% of the base diameter of the pipe as established in ASTM D-3034. For pipe sizes eighteen (18) to twenty-seven (27) inches diameter, the nine-arm mandrel size shall be 95% of the inside diameter and wall thickness dimensions shown in Table 1 of ASTM F-679, latest issue. The test shall be performed without mechanical pulling devices.***

   b. ***The individual lines to be tested shall be so tested no sooner than 30 days after they have been installed.***

   c. ***Wherever possible and practical, the testing shall initiate at the downstream lines and proceed towards the upstream lines.***

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d. ***No pipe shall exceed a deflection of 5%. 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 retested for deflection. If the deflected pipe fails to return to the original size (inside diameter) after the second test, the line shall be replaced accordingly to the standards set forth in this Section.***

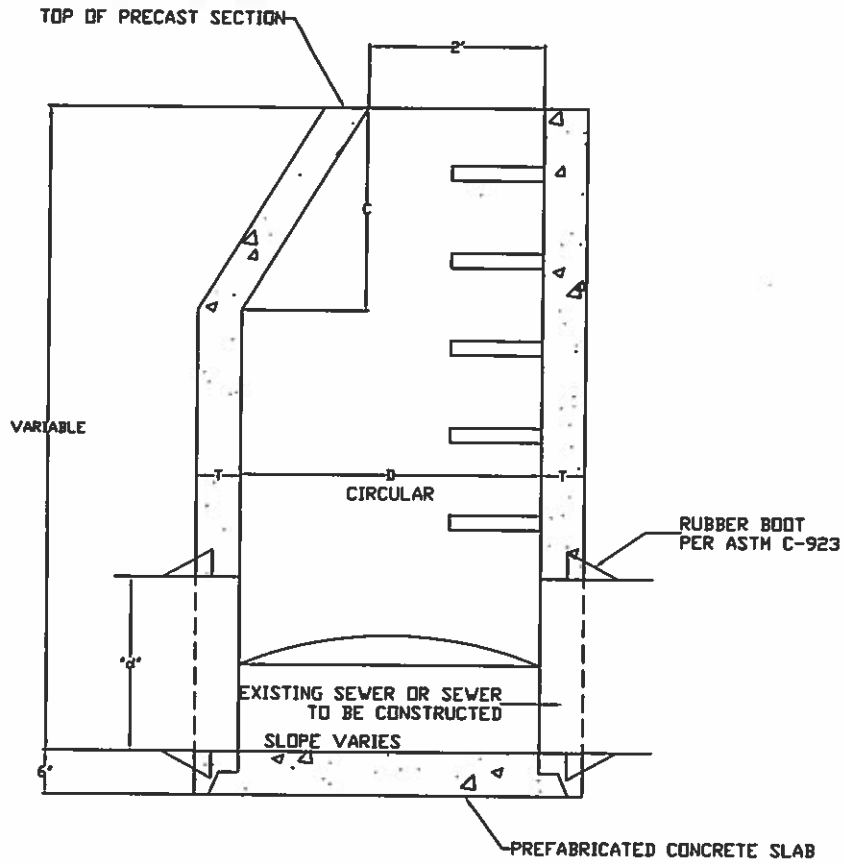
~~O~~ ***M.*** Exhibits. ***Standard Detail*** Exhibits ~~labelled~~ ***labeled*** SS-01 ~~through SS-07~~, ***SS-02, SS-03, SS-04, SS-05, SS-05-20, SS-06 and PC-01*** are typical specifications of ***Village*** sanitary sewer standards that shall be applied to any improvements required by these regulations.

~~P~~ ***N.*** Acceptance of Sanitary Sewer System. (Ord. 2570 - 5/2/94)

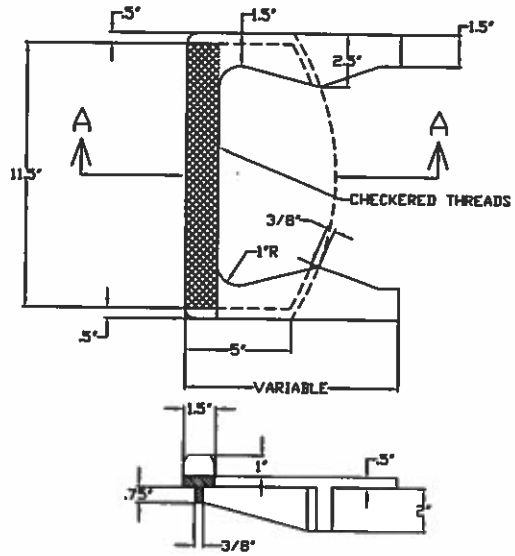
1. Once the sanitary sewer system has been completed according to the specifications set forth in this Section, the ~~Director of Engineering~~ ***Development Services Department*** shall, upon the request of the developer, inspect the system and prepare a list of items for repair (punch list). The list shall be ~~given or~~ sent to the developer and when repairs have been made, the ~~Director of Engineering~~ ***Village*** shall accept the system for operational use only. During the time after the acceptance by the Village for maintenance, the developer shall be responsible for any ~~delinquencies~~ ***deficiencies identified*** ~~incurred~~ within the system, including but not limited to sewer blockages, adjustment to manhole frames and leaking joints. Upon reaching approximately eighty (80) percent development of building construction, the ~~Director of Engineering~~ ***Development Services Department*** will reinspect the sanitary sewer system for any ***existing*** ~~delinquencies which may have been incurred~~ ***deficiencies*** and prepare a list of items for repair. The list shall be ~~given or~~ sent to the developer and when the repairs have been made to the satisfaction of the ~~Director of Engineering~~ Village, the ~~Director shall accept the~~ ***system shall be formally accepted by the Village in letter form sent to the developer*** ~~for the Village~~. ~~(Ord. 2570 - 5/2/94)~~

2. All construction shall meet the requirements and acceptance ***procedures*** ~~by~~ ***of*** the Metropolitan Water Reclamation District of Greater Chicago prior to the acceptance by the ~~Director of Engineering~~ ***Village***. (~~Ord. 2570 - 5/2/94~~)

3. ~~T.V. Inspections and reports shall be completed for all storm systems and sanitary systems installed in the Village of Orland Park. (Ord. 3837 - 12/1/03)~~



PLAN-ECCENTRIC

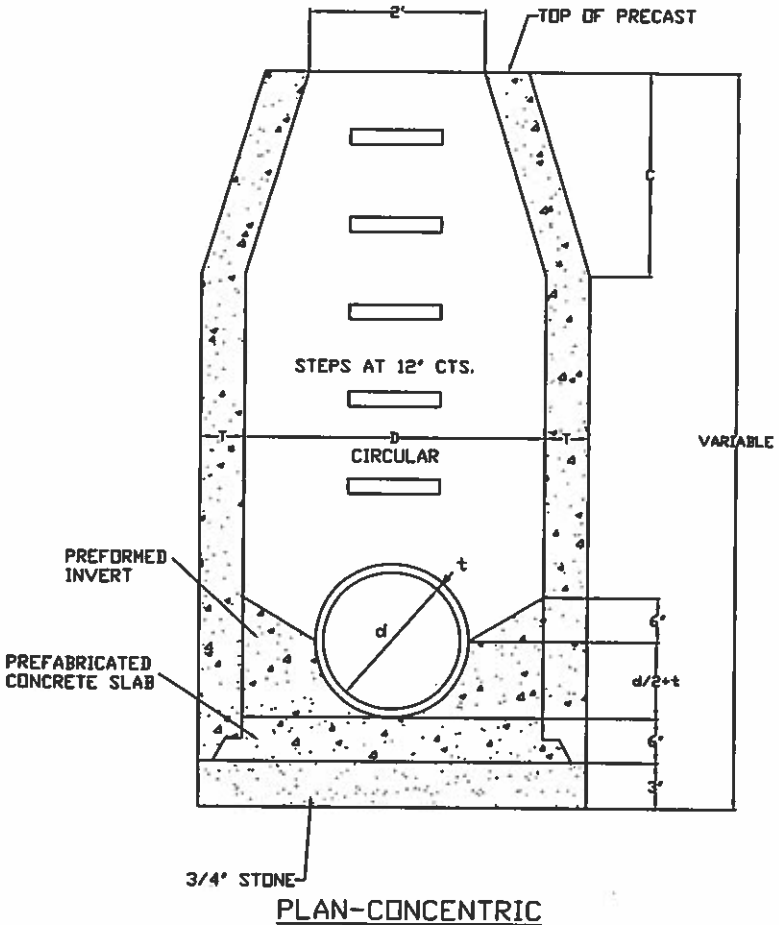


SECTION A-A

CAST IRON STEPS

MANHOLE DIAMETERS:

D:	d
48"	≤ 15"
60"	21" to 36"
72"	> 36"



PLAN-CONCENTRIC

NOTES:

DIMENSION "C" FOR PRECAST REINFORCED CONCRETE SECTIONS MAY VARY FROM THE DIMENSION GIVEN TO PLUS 6 INCHES.

THE CAST IRON STEOPS AS DETAILED 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 DIRECTOR OF PUBLIC WORKS & ENGINEERING.

CAST IRON STEPS SHALL BE GRAY IRON CONFORMING TO THE REQUIREMENTS OF ART. 710.17 OF THE STANDARD SPECIFICATIONS.

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

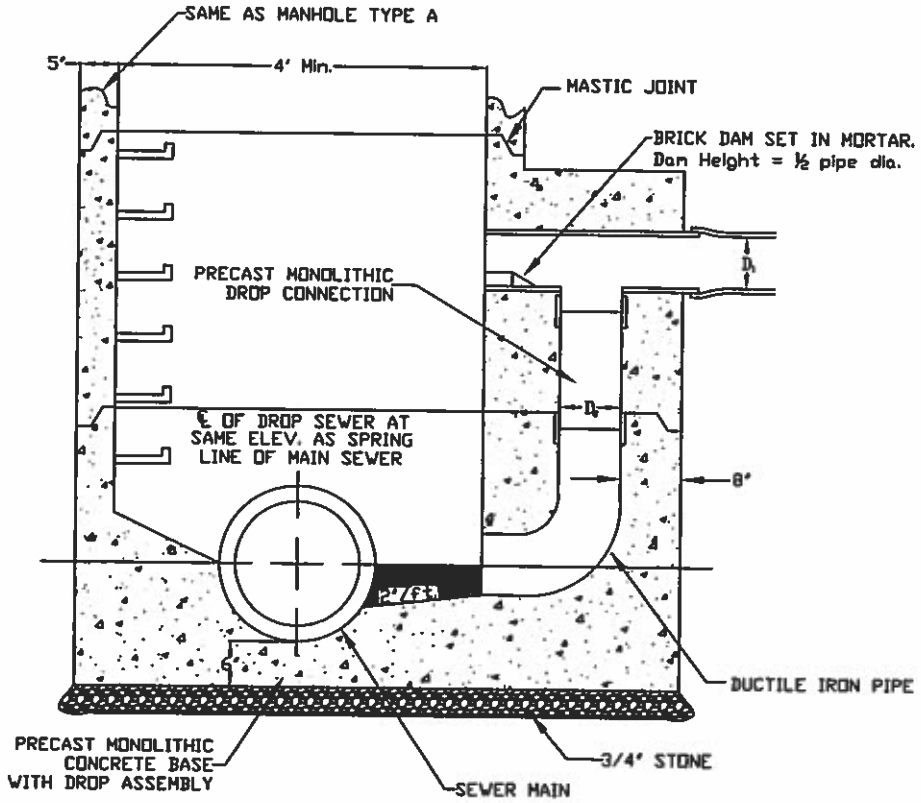
NO MORE THAN 2 ADJUSTMENT RINGS WITH A MAXIMUM OF 6 INCHES IS ALLOWED. SPECIFIC REQUIREMENTS FOR FINE ADJUSTMENT ARE PER LAND DEVELOPMENT CODE SECTION 6-408

(D)

MANHOLE TYPE A		
Mh_TypeA.dwg	SANITARY SEWER IMPROVEMENT	DATE: 11-28-11
DRAWN BY: KTL		REVISED: 01-03-17
Village of ORLAND PARK		REVISED:
		REVISED:
Public Works Department		DRAWING NO. SS-01

D_1 (inches)	D_2 (inches)
8	8
10	8
12	8
15	10
18	12
21	15
24	18

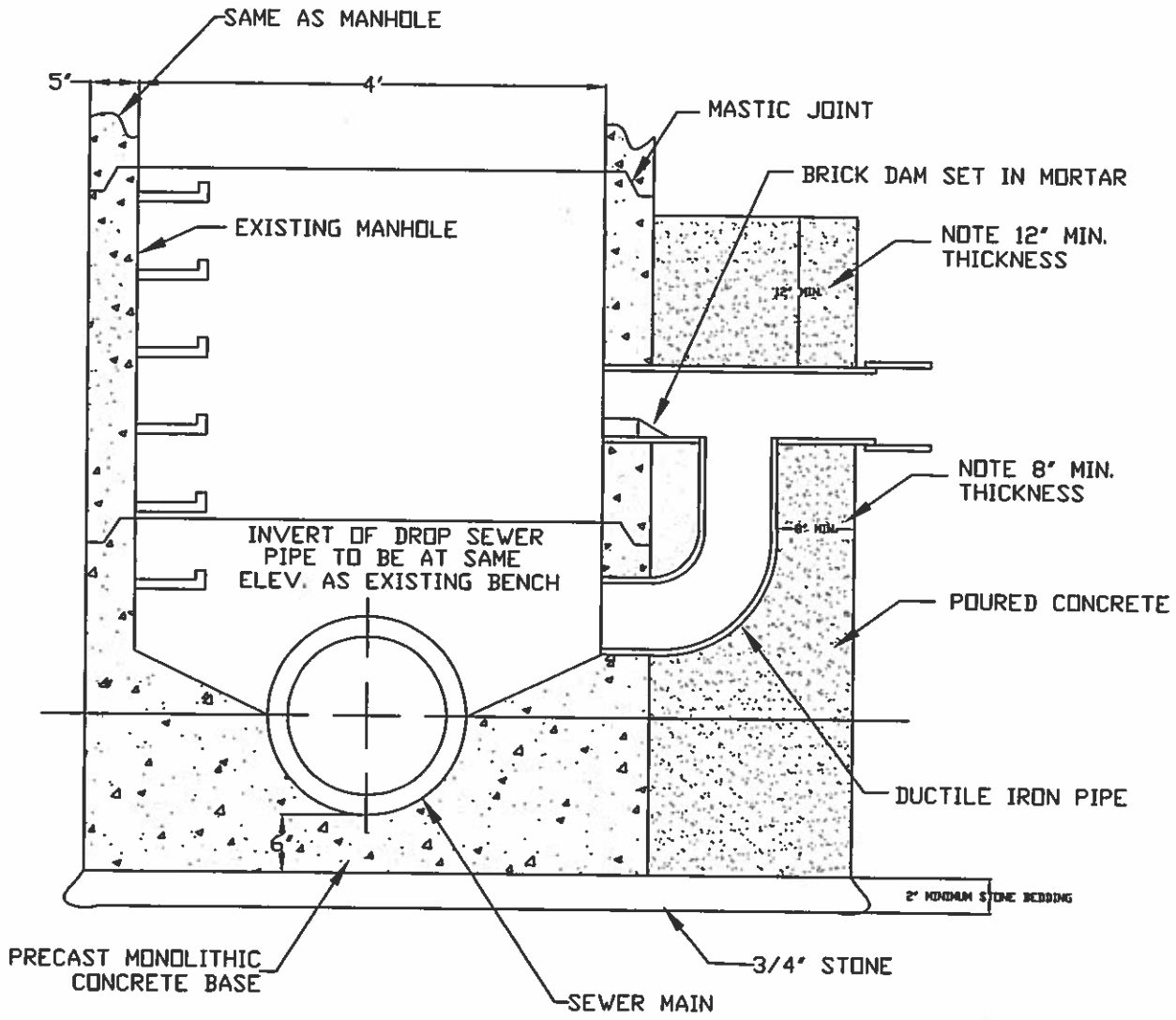
For D_2=8" use 8" L.R. elbow



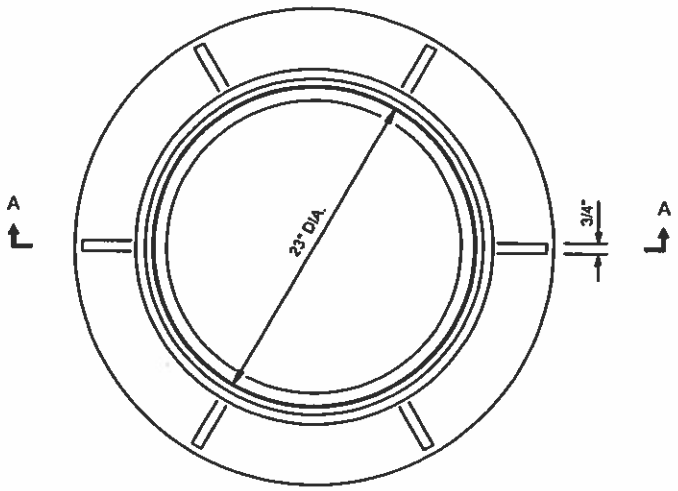
Note: Minimum allowed depth of drop manholeis 6 ft. Depth is measured from invert of incoming pipe to invert of receiving main pipe

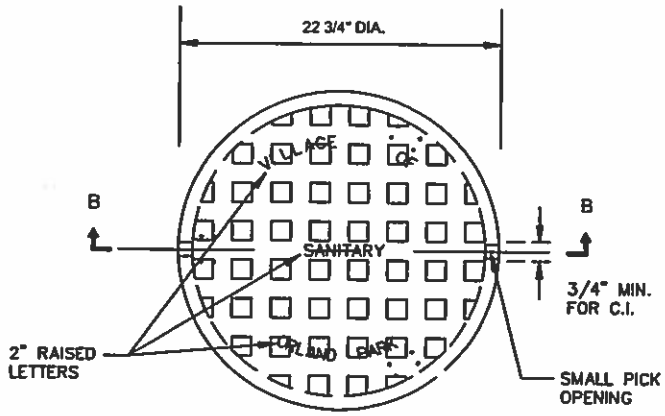
(D)

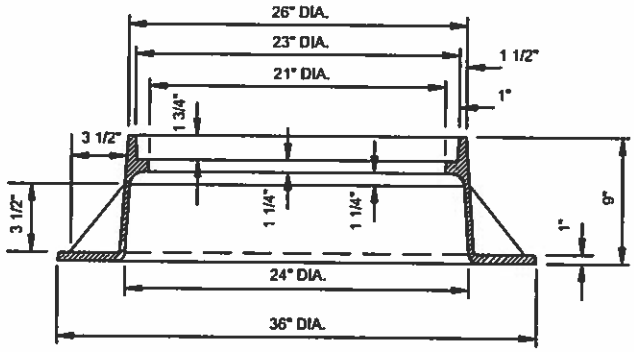
DROP MANHOLE PROPOSED		
DROPMH SS-02.DWG	SANITARY SEWER IMPROVEMENT	DATE: 1-25-13
DRAWN BY: KTL		REVISED: 1-25-13 KTL
Village of ORLAND PARK		REVISED:
		REVISED:
Public Works Department		DRAWING NO. SS-02



DROP FOR EXISTING MANHOLE		
DROPMANH.DWG	SANITARY SEWER IMPROVEMENT	DATE: 10/28/2002
DRAWN BY: WDC		REVISED: 1/3/2017 KTL
Village of ORLAND PARK		REVISED:
		REVISED:
Public Works Department		DRAWING NO. SS-03



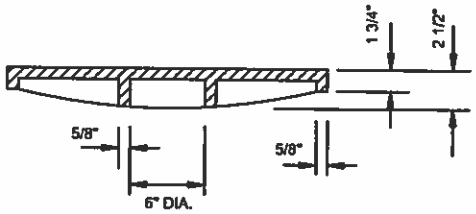




SECTION A-A

CAST FRAME

WT. = 330 LBS.

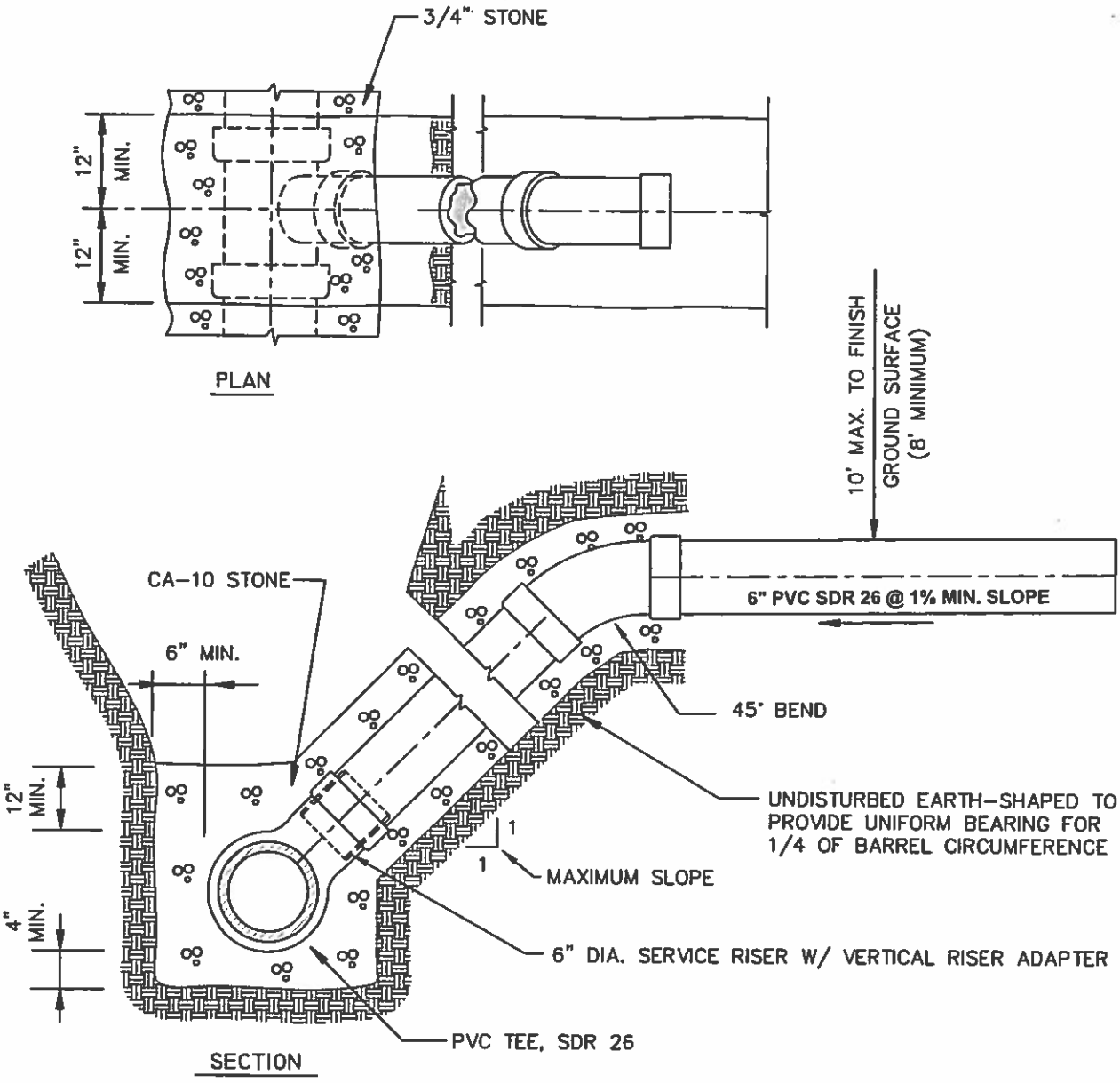


SECTION B-B

CAST CLOSED LID

1. DUCTILE IRON CASTINGS SHALL BE GRADE 60-40-18 & SHALL BE TESTED IN ACCORDANCE WITH FEDERAL SPECIFICATIONS.
2. CASTINGS SHALL BE EAST JORDAN IRON WORKS 1022Z1 FRAME AND 1020A HD GS COVER.

SANITARY MANHOLE FRAME & COVER		
MANHLFRM.DWG	SANITARY SEWER IMPROVEMENT	DATE: 7/13/2006
DRAWN BY: WDC		REVISED: 1/3/2017 KTL
Village of Orland Park		REVISED:
		REVISED:
Public Works Department		SS-04

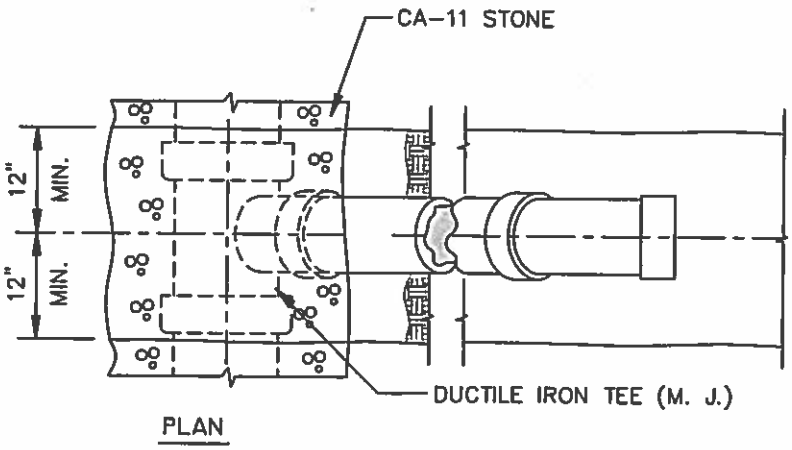


NOTES:

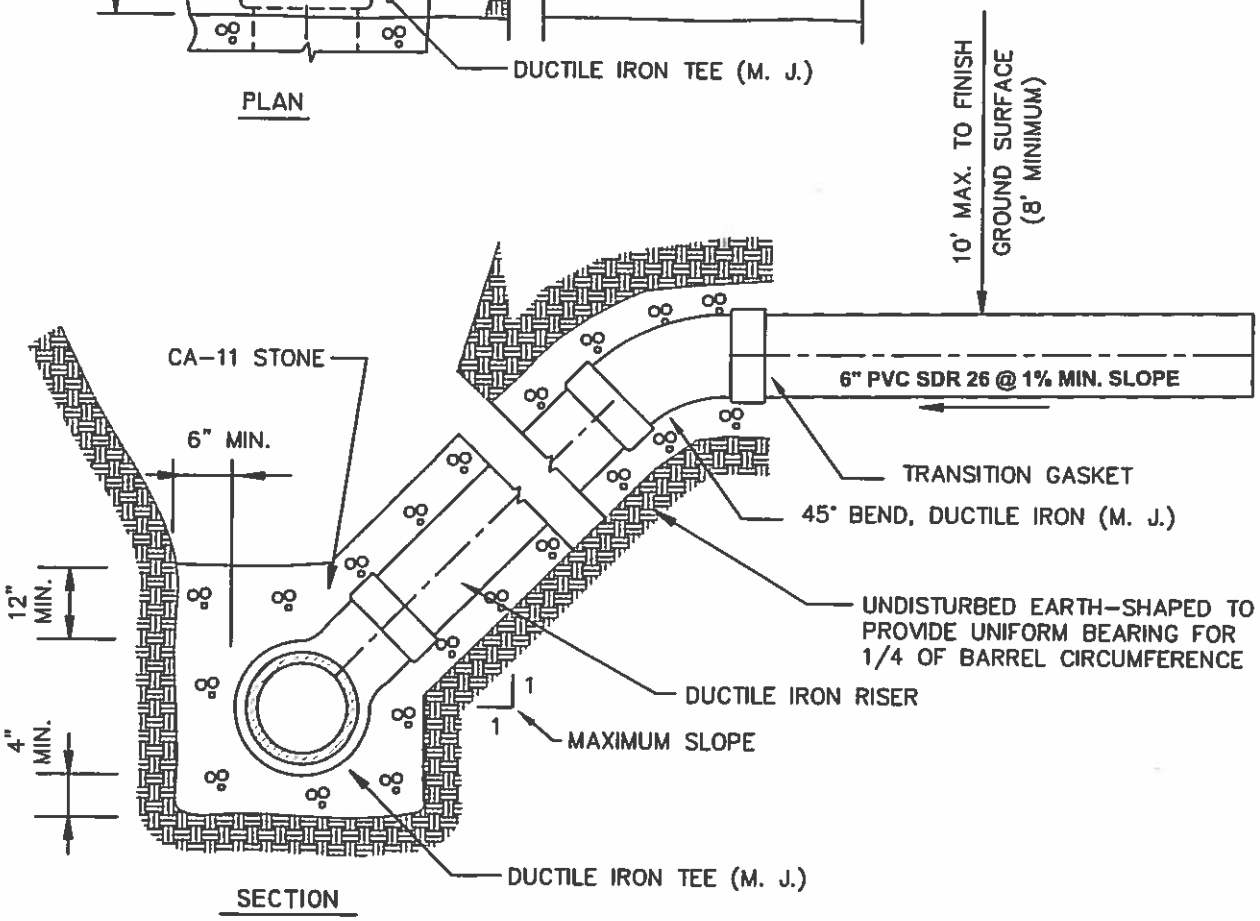
1. IF Φ < 45° USE PVC PUSH-ON JOINT WYE, PVC ELBOW, PVC RISER PIPE & PVC TOP ELBOW.
2. IF Φ > 45° USE DUCTILE IRON M.J. TEE W/ PVC-DUCTILE TRANSITION GASKET, DUCTILE IRON RISER PIPE & DUCTILE IRON TOP ELBOW COATED W/ PROTECTO 401 OR EQUAL.
3. PVC PIPE & FITTINGS < 14" DIA., PIPE MATERIALS SHALL COMPLY W/ ASTM D3034, SDR 26, ELASTOMER GASKET JOINTS COMPLYING W/ ASTM F477 & ASTM D3212.
4. PVC PIPE & FITTINGS > 14" DIA., PIPE MATERIALS SHALL COMPLY W/ ASTM F679, PS115, ELASTOMER GASKET JOINTS COMPLYING W/ ASTM F477 & ASTM D3212
4. A MINIMUM DISTANCE OF 3 FEET IS REQUIRED BETWEEN 45° BENDS.
5. TRENCH BACKFILL SHALL BE INSTALLED PER THE SANITARY SEWER TRENCH DETAIL.

(P)

SANITARY SERVICE RISER < 20 FT.		
DRAWN BY: WDC	SANITARY SEWER IMPROVEMENT	DATE:
		REVISED: 11/06/09
Village of ORLAND PARK		REVISED: 1/3/2017 KTL
		REVISED:
Public Works Department		DRAWING NO. SS-05



PLAN



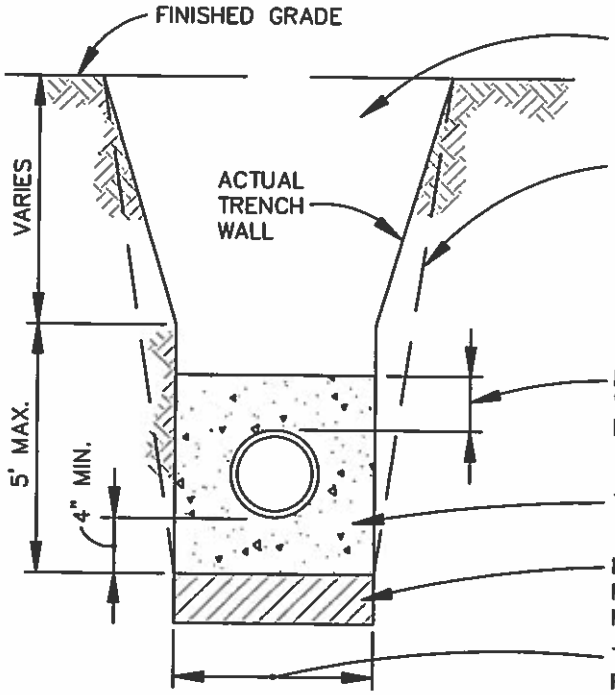
SECTION

NOTES:

1. IF Φ < 45° USE DUCTILE IRON SEWER SAFE TEE, DUCTILE IRON SEWER SAFE RISER PIPE, DUCTILE IRON SEWER SAFE ELBOW W/ TRANSITION GASKET TO PVC.
2. ALL PVCO (POLYVINYL CHLORIDE MOLECULARLY ORIENTATED) PIPE < 14" DIA., SHALL CONFORM TO ASTM F1483, AWWA C909 CLASS 150, W/ ELASTOMER GASKET TYPE JOINTS COMPLYING W/ ASTM F477 & ASTM D3139.
3. ALL PVC PIPE > 14" DIA. SHALL COMPLY W/ AWWA C905, DR 25, W/ ELASTOMER GASKET JOINTS ACCORDING TO ASTM F477 & ASTM D3212.
4. A MINIMUM DISTANCE OF 3 FEET IS REQUIRED BETWEEN 45° BENDS.
5. TRENCH BACKFILL SHALL BE INSTALLED PER THE SANITARY SEWER TRENCH DETAIL.
6. DUCTILE IRON SEWER SAFE PIPE SHALL HAVE MECHANICAL JOINTS.

(D)

SANITARY SERVICE RISER 20' AND GREATER DEPTH		
DRAWN BY: WDC	SANITARY SEWER IMPROVEMENT	DATE:
		REVISED: 11/18/09
Village of ORLAND PARK		REVISED: 1/3/2017 KTL
		REVISED:
Public Works Department		DRAWING NO. SS-05-20



BACKFILL WITH EXCAVATED MATERIAL EXCEPT WHERE GRANULAR MATERIAL IS REQUIRED.

ANGLE OF REPOSE AS CALCULATED BY OSHA FOR SLOPING EXCAVATIONS IN VARIOUS TYPES OF SOIL (AVG. SOIL = 1:1 SLOPE) NOTE THAT PORTABLE TRENCH BOXES OR SLIDING TRENCH SHIELDS MAY BE USED IN LIEU OF SLOPING.

MIN. 6" GRANULAR COVER – TRENCH > 10'. WHEN REQUIRED EXTEND TO SUBGRADE ELEVATION IN PAVED AREAS

1/4" – 1" STONE

IF ENCOUNTERED, REMOVE UNSUITABLE MATERIAL AND REPLACE WITH SUITABLE MATERIAL AS DIRECTED BY THE ENGINEER.

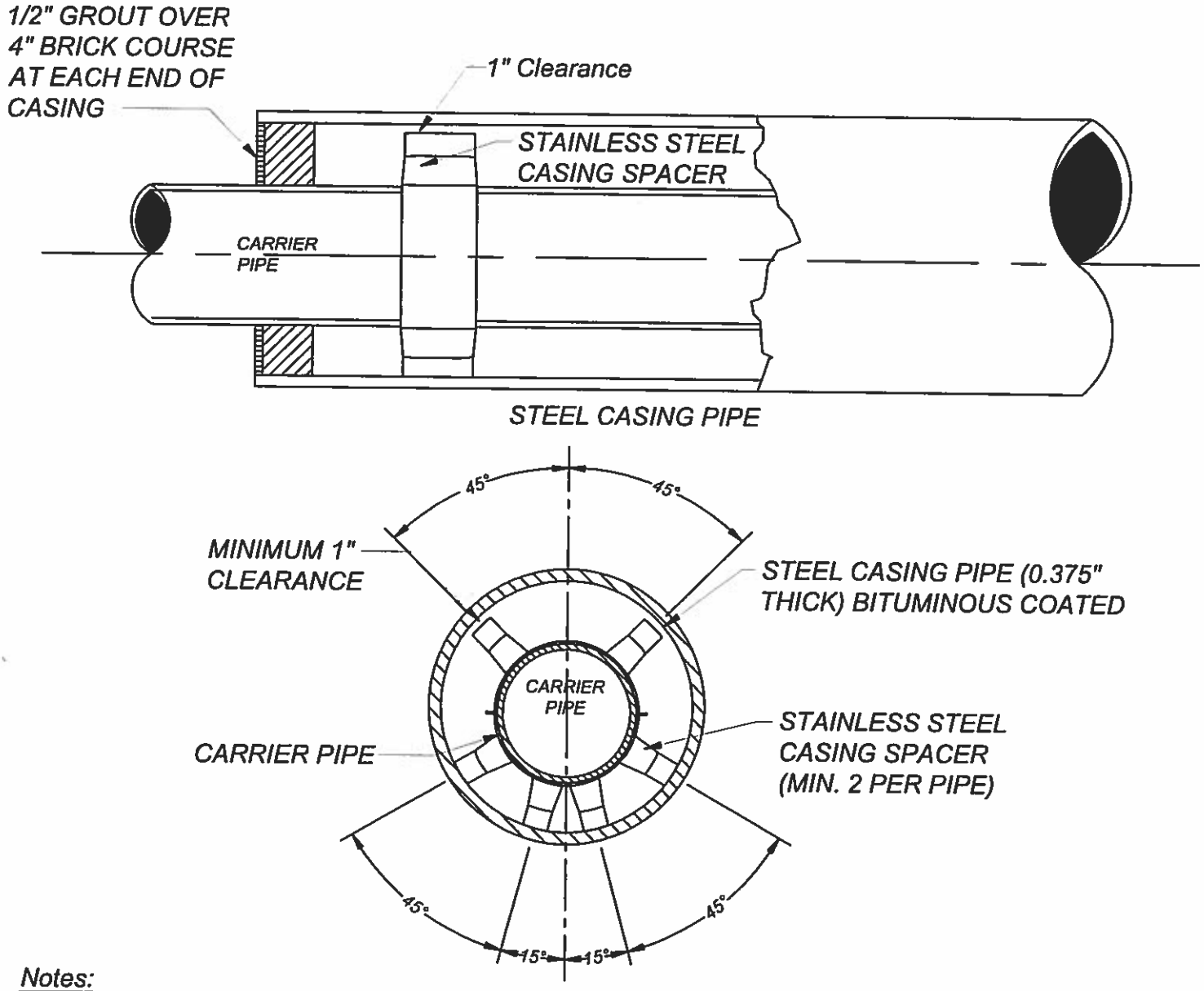
TRENCH WIDTH SHALL BE THE MINIMUM REQUIRED IN ORDER TO COMPLY WITH OSHA SAFETY STANDARDS.

ABS AND PVC WHEN USED AS SANITARY SEWER SHALL REQUIRE GRANULAR BEDDING AND COVER AS DETAILED.

DIP WHEN USED AS SANITARY SEWER SHALL REQUIRE GRANULAR TO TOP OF PIPE.

(P)

TRENCH SECTION SANITARY SEWER		
SANTRENCH.DWG	SANITARY SEWER IMPROVEMENT	DATE:
DRAWN BY:		REVISED:
Village of ORLAND PARK		REVISED:
		REVISED:
Engineering Department		SHEET NO. SS-06



Notes:

1. The watermain shall be 'CENTER SPACED' and restrained on top and bottom utilizing two casing spacers equally spaced per length of pipe.
2. Casing spacers are to be CASCADE WATERWORKS MFG. brand or an equal approved by the Village Engineer.
3. Casing is to be sealed at both ends with a masonry cap and made water-tight.
4. Watermain joints within the casing shall be restrained utilizing U.S. Pipe Field Lok Gasket or an equal approved by the Village Engineer.

(D)

PIPE CASING DETAIL		
PIPE CASING DETAIL.DWG		DATE: 7/30/2009
DRAWN BY: WDC		REVISED: 1/3/2017 KTL
Village of ORLAND PARK		REVISED:
		REVISED:
Public Works Department		DRAWING NO. PC-01