



**MCKENNA**

# Memorandum: Site Grading

**TO:** Grosse Pointe Woods Planning Commission  
**FROM:** Brigitte Smith Wolf, AICP  
**SUBJECT:** **Site Grading for Residential (Plot Plan) and Commercial Development Projects – ZO Language**  
**DATE:** July 18, 2024

The Building Department with AEW Engineering offers the following revisions to the City Code of Ordinances Chapter 26 – Land Development Section 26-5 Residential plot plan and site plan submittals and Section 26-34 to provide clarity the site grading information needed for residential versus commercial projects.

Section 26-5 Residential plot plan and site plan submittals is proposed to be entirely replaced with new language to clarify the information needed, in regard to grading, for additions or accessory buildings added exceeding 300 sq. ft.

Section 26-34 Site grading has been revised to clarify that it pertains to non-residential development projects.

In the pages following the proposed revisions, I have attached a version of the Ordinance as each Section currently reads.

Further explanation can be provided at the public hearing and in discussion at the Planning Commission meeting. I am also available to address questions prior to the meeting via email ([bsmith@mcka.com](mailto:bsmith@mcka.com)) or by phone.

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**CITY OF GROSSE POINTE WOODS  
WAYNE COUNTY, MICHIGAN**

**ORDINANCE NO. \_\_\_\_ \_**

**AN ORDINANCE TO AMEND THE CODE OF ORDINANCES OF THE CITY OF GROSSE POINTE WOODS, CHAPTER 26 – LAND DEVELOPMENT TO AMEND ARTICLE 1. SECTION 26-5. RESIDENTIAL PLOT PLAN AND SITE PLAN SUBMITTALS TO PROVIDE CLARITY TO SITE GRADING REQUIREMENTS.**

**THE CITY OF GROSSE POINTE WOODS ORDAINS:**

**Section 1.** The City of Grosse Pointe Woods Code of Ordinances, Chapter 26 – Land Development, Section 26-5 Residential plot plan and site plan submittals, is hereby amended to strike the existing language and replace with the regulations of submittals with grading information as follows:

**26.5. Residential plot plan and site plan submittals**

(a) ~~*Topographical survey requirements.* For all plot plans and acreage/nonplatted parcels, a full topographic survey is required. Surveys require location and description of all underground utilities; rims and inverts of all manholes, catchbasins and stop boxes; north arrow; property corners, irons, monuments and fences; a 50-foot grid of existing elevations to 100 feet offsite (including lot corners); existing structures with finished grade and finished floor elevations of all structures on adjacent lots; all vegetation and trees on adjacent lots and lot to be developed; and the public drainage course to which the proposed lot will drain. Elevations must be corrected to conform to the North American Vertical Datum (NAVD)/city datum with a minimum of two benchmarks being depicted on the plans. This list is not intended to be all inclusive.~~

(a) *Required.* Whenever grading is altered on a site and/or there is a proposed addition to a residential principal or accessory building exceeding 300 sq. ft., the owner and/or building contractor must submit a topographical survey to the building department.

(1) *Contents.* The plot plan shall provide all the information required in the Grosse Pointe Woods Plot Plan Requirements Checklist

- a. Existing elevations of the parcel;
- b. Elevations within 50 [consider 25 feet; preserve the 100 feet for Grading Plans] feet of the property lines of the parcel;
- c. Final grade elevation of any existing building within 100 feet of the property lines of the parcel;

- d. Elevations every 50 feet along the centerline of all roads and road ditches adjacent to the parcel;
- e. All utilities including sanitary and storm sewer, water main, gas, telephone, and electrical. Inverts, castings and finished grades are required, where applicable;
- f. Confirmation that a MISS DIG ticket has been requested and processed by noting the permit number on the plan, when applicable.
- g. All vegetation and trees on adjacent lots (within 50' of subject parcel) and lot to be developed; [confirm how far into adjacent lots must be captured]
- h. Proposed elevations of the surface after the earth moving operation is complete, including detailed surface drainage pattern defined by flow arrows, percentages of surface grades and the surface drainage outlet;
- i. North arrow and dimensions of the parcel;

(2) A minimum of two (2) NAVD 88 benchmarks are required. All elevations shown on the plan must be to NAVD 88.

(b) *Grading and drainage.*

- ~~(1) *Plan.* A grading plan is required with all plot plan submittals and must include the following information:
 
  - a. Proposed elevations at all lot corners, along side lot lines immediately adjacent to existing and/or proposed structures, in swales and ditches at regular intervals not to exceed 50 feet, and at all proposed building corners.
  - b. The plan must contain sufficient information to detail the drainage of the lot. All site drainage must be directed to a public drain. If no public drain is immediately available or adjacent to the site, it will be the responsibility of the site developer to extend drainage to the site from an approved outlet. When insufficient depth exists to service a site, it may be necessary for the developer to deepen the existing drain to service the site.~~
- ~~(2) *Elevation.* Existing elevations at property lines shall be met by new construction. In no case shall on site drainage be directed to an adjacent site or shall existing offsite drainage patterns be interrupted.~~
- ~~(3) *Slopes.* Slopes of swales on site shall be 0.50 percent or greater.~~
- ~~(4) *Storm drainage.* Storm drains shall be designed to conform to [section 26-3](#), Site grading and drainage water collection and disposal. On site storm sewers, when servicing only the parcel being developed, are to be a minimum of eight inch diameter and are to be constructed of minimum schedule [40](#) PVC or SDR 23.5 ABS, or equal.~~
- ~~(5) *Pipes.* Minimum pipe slopes shall be sufficient to provide a velocity of 2.5 fps or greater. When servicing more than one parcel, the pipe shall be a minimum eight inch diameter and be constructed in a 12 foot wide easement dedicated to the city. A larger pipe or easement may be necessary as determined by the city engineer.~~
- ~~(6) *System compliance.* All the components of the stormwater system, including rims and grates shall be in accordance with the current city storm sewer detail sheets.~~

(b) *Grading plan.*

- (1) *Required.* Prior to issuance of a building permit for any new residential principal building or for an addition to a residential principal building that increases the footprint of the principal residential building by more than 50%, and prior to any grading or other land improvement that may alter or increase drainage or contribute to soil erosion or sedimentation, the owner or building contractor must submit a grading plan to the Building Department. However, even if the foregoing standards are not met, the Building Official has full discretion to require the submission of a grading plan.

The grading plan must be signed and sealed by a licensed engineer or surveyor and must be reviewed by the Building Official and/or City Engineer to determine whether the proposed structure and any proposed grading changes will negatively impact adjacent property owners.

- (2) *Contents.* The grading plan must depict one half foot contours of the area, be on a scale of at least one-inch equals 10 feet, and must show all property and structures within 100 feet of the property for which the permit is being sought. Specifically, the grading plan must include the following:
- a. Identify benchmarks, existing grades and elevations at each lot corner and grade change points; if applicable, indicate existing structure(s) to be demolished.
  - b. Finish grade and finish floor elevations for the first floor, garage, and basement for all structures on the parcel;
  - c. The location and elevations of all utilities and proposed tie-ins, including manholes on or within 100 feet of the parcel;
  - d. Drainage arrows showing the flow of stormwater runoff to be directed to approved discharge areas, including, but not limited to, the location of pop-ups, French drain(s), a sump pump, or connection to the existing storm/sewer system.
  - e. Location of existing and proposed sidewalk and driveway, including the slope of the driveway to the street.
  - f. Temporary and permanent soil erosion and sedimentation control, including, but not limited to, silt fencing, catch basin inserts I the street adjacent to the subject parcel, etc.;
  - g. Location of existing trees within the right-of-way.

**Section 2.**      **Repealer Clause.** Any ordinances or parts of ordinances in conflict herewith are hereby repealed only to the extent necessary to give this Ordinance full force and effect.

**Section 3.**      **Validity and Severability.** Should any portion of this Ordinance be found invalid for any reason, such a holding shall not be construed as affecting the validity of the remaining portions of the Ordinance.

**Section 4.**      **Effective Date.** This Ordinance shall be effective twenty (20) days from and after its adoption by the City of Grosse Pointe Woods City Council.

AYES.....

NAYS.....

ABSENT.....

\_\_\_\_\_  
Arthur W. Bryant, Mayor

Attested:

\_\_\_\_\_  
Paul Antolin, City Clerk

**CERTIFICATION OF CLERK**

I, Paul Antolin, City Clerk of the City of Grosse Pointe Woods, Wayne County, Michigan, do hereby certify that Ordinance No. \_\_\_\_\_ was adopted by the City Council of Grosse Pointe Woods, assembled in regular session on August \_\_\_\_\_, 2024. Said Ordinance was posted in the following places:

Notice of said posting was published in \_\_\_\_\_(*insert newspaper*) on July \_\_\_\_\_, 2024.

\_\_\_\_\_  
Paul Antolin, City Clerk

First Reading: \_\_\_\_\_

Proposed Second Reading: \_\_\_\_\_

Published by Title: \_\_\_\_\_

Adopted: \_\_\_\_\_

Effective: .....

Published Final: .....

**CITY OF GROSSE POINTE WOODS  
WAYNE COUNTY, MICHIGAN**

**ORDINANCE NO. \_\_\_\_ \_**

**AN ORDINANCE TO AMEND THE CODE OF ORDINANCES OF THE CITY OF GROSSE POINTE WOODS, CHAPTER 26 – LAND DEVELOPMENT TO AMEND ARTICLE 2. SECTION 26-34. SITE GRADING TO PROVIDE CLARITY TO SITE GRADING REQUIREMENTS.**

**THE CITY OF GROSSE POINTE WOODS ORDAINS:**

**Section 1.** The City of Grosse Pointe Woods Code of Ordinances, Chapter 26 – Land Development, Section 26-34 Site Grading, is hereby amended to amend the first sentence to clarify development project requiring a complete site grading plan:

**26.34. Site Grading**

A site grading and stormwater collection and disposal plan is required for all developments with a **non-residential component**. If the building site is in a subdivision or other project for which a general site grading plan has been submitted and approved, no separate grading plan or permit will be required. An enclosed storm drainage system shall be designed for all land development projects. If there are any upstream watershed drainage areas which need to be drained through the site under design consideration, sufficient capacity shall be provided to take fully developed upstream watershed drainage areas. Surface water runoff from the proposed improved site shall not be drained on adjacent property.

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|-----|---|---|---|
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| (2) | * | * | * |
| (3) | * | * | * |
| (4) | * | * | * |
| (5) | * | * | * |
| (6) | * | * | * |
| (7) | * | * | * |
| (8) | * | * | * |

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**Section 3.** **Validity and Severability.** Should any portion of this Ordinance be found invalid for any reason, such a holding shall not be construed as affecting the validity of the remaining portions of the Ordinance.

**Section 4.** **Effective Date.** This Ordinance shall be effective twenty (20) days from and after its adoption by the City of Grosse Pointe Woods City Council.

AYES.....

NAYS.....

ABSENT.....

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First Reading: \_\_\_\_\_

Proposed Second Reading: \_\_\_\_\_

Published by Title: \_\_\_\_\_

Adopted: \_\_\_\_\_

Effective: .....

Published Final: .....

## Sec. 26-5. - Residential plot plan and site plan submittals.

- (a) *Topographical survey requirements.* For all plot plans and acreage/nonplatted parcels, a full topographic survey is required. Surveys require location and description of all underground utilities; rims and inverts of all manholes, catchbasins and stop boxes; north arrow; property corners, irons, monuments and fences; a 50-foot grid of existing elevations to 100 feet offsite (including lot corners); existing structures with finished grade and finished floor elevations of all structures on adjacent lots; all vegetation and trees on adjacent lots and lot to be developed; and the public drainage course to which the proposed lot will drain. Elevations must be corrected to conform to the North American Vertical Datum (NAVD)/city datum with a minimum of two benchmarks being depicted on the plans. This list is not intended to be all inclusive.
- (b) *Grading and drainage.*
- (1) *Plan.* A grading plan is required with all plot plan submittals and must include the following information:
    - a. Proposed elevations at all lot corners, along side lot lines immediately adjacent to existing and/or proposed structures, in swales and ditches at regular intervals not to exceed 50 feet, and at all proposed building corners.
    - b. The plan must contain sufficient information to detail the drainage of the lot. All site drainage must be directed to a public drain. If no public drain is immediately available or adjacent to the site, it will be the responsibility of the site developer to extend drainage to the site from an approved outlet. When insufficient depth exists to service a site, it may be necessary for the developer to deepen the existing drain to service the site.
  - (2) *Elevation.* Existing elevations at property lines shall be met by new construction. In no case shall on-site drainage be directed to an adjacent site or shall existing offsite drainage patterns be interrupted.
  - (3) *Slopes.* Slopes of swales on site shall be 0.50 percent or greater.
  - (4) *Storm drainage.* Storm drains shall be designed to conform to section 26-3, Site grading and drainage water collection and disposal. On site storm sewers, when servicing only the parcel being developed, are to be a minimum of eight-inch diameter and are to be constructed of minimum schedule 40 PVC or SDR 23.5 ABS, or equal.
  - (5) *Pipes.* Minimum pipe slopes shall be sufficient to provide a velocity of 2.5 fps or greater. When servicing more than one parcel, the pipe shall be a minimum eight-inch diameter and be constructed in a 12-foot wide easement dedicated to the city. A larger pipe or easement may be necessary as determined by the city engineer.
  - (6) *System compliance.* All the components of the stormwater system, including rims and grates shall be in accordance with the current city storm sewer detail sheets.



(c) *Utilities.*

- (1) *Sanitary sewer.* A six-inch diameter sanitary sewer lead shall be provided for each residence leading to a sanitary sewer. The lead shall have a minimum slope of one percent and shall be constructed of a minimum schedule 40 PVC or SDR 23.5 ABS. No more than one single-family residence shall utilize an individual lead.
- (2) *Storm sewer.* A sump pump lead shall be provided for each residential structure so equipped. The lead shall be a minimum three-inch diameter and be constructed of a minimum schedule 40 PVC or SDR 23.5 ABS. The lead must outlet to an approved public drain.

(Code 1997, § 48-5; Ord. No. 735, § 1, 4-19-1999)

## Sec. 26-34. - Site grading.

A site grading and stormwater collection and disposal plan is required for all developments. If the building site is in a subdivision or other project for which a general site grading plan has been submitted and approved, no separate grading plan or permit will be required. An enclosed storm drainage system shall be designed for all land development projects. If there are any upstream watershed drainage areas which need to be drained through the site under design consideration, sufficient capacity shall be provided to take fully developed upstream watershed drainage areas. Surface water runoff from the proposed improved site shall not be drained on adjacent property.

- (1) Each development shall have an overall grading plan showing grades for side yards, rear yards, sidewalks, and catchbasins. Storm sewers, building finish floor grades, brick ledge (ground) grades and direction of surface drainage flow shall be shown.
- (2) Rear yard storm sewers shall be required in all subdivisions and residential condominium developments. Catchbasins (two-inch minimum diameter) shall be placed at every other lot corner so that every dwelling directly abuts a catchbasin in at least one corner. All catchbasin outlet sewers shall extend in side lot easements to the public storm sewer in the road right-of-way.
- (3) Any required rear yard and side yard drain easements shall be a minimum of 12 feet wide. The city engineer shall require additional easement width when sewer size depth, soils or other conditions warrant a wider easement.
- (4) Site grading for all building sites shall be reviewed to determine that proposed and/or actual site grading is proper and that drainage from land lying upstream is not obstructed and that downstream properties will not be diversely effected by runoff from the property under design consideration.
- (5) Before a certificate of occupancy for any building is issued, the building inspector shall approve the final site grading and drainage for each building; and/or the building inspector shall require that a survey, drawing, and certificate done by a registered professional

engineer or registered land surveyor be furnished by the developer indicating that the work has been done in conformity to the approved site grading and drainage plan.

- (6) It shall be unlawful for any person to interfere with, modify or obstruct the flow of drainage water across any property in any manner different from the approved plan.
- (7) During periods of the year when weather conditions make site grading work unfeasible, a temporary certificate of occupancy may be issued, subject to the furnishing of a satisfactory bond, letter of credit or cash deposit in an amount determined by the city engineer or building inspector and approved by the city administrator, guaranteeing the completion of the work when weather conditions permit.
- (8) Any property owner claiming to be aggrieved by any site grading work, or decision of the administrator relative to site grading of a parcel of property, shall have the right to appeal the decision of the administrator to the city council. Such an appeal must be requested in writing, stating fully and clearly the reasons for the request and including any supplemental information and data that may aid in the analysis of the proposed request. Written notice of the date and time of the hearing shall be delivered to the owner of the property on which the grading work has, is or will be performed. In conjunction with a determination on the appeal, the council has express authority to assess actual costs against the owner of the property on which the grading work has, is or will be performed. The amount of the filing fee will be reimbursed to the applicant in the case of a successful appeal.

(Code 1997, § 48-32; Ord. No. 735, § 1, 4-19-1999)