

VILLAGE OF WILMETTE
SITE GRADING AND DRAINAGE PLAN
MINIMUM REQUIREMENTS

The responsibility for adequacy of the Site Grading and Drainage Plan shall rest solely with the Design Engineer and the issuing of a permit by the Village shall not relieve the Design Engineer of that responsibility. When a Site Grading and Drainage Plan is necessary, the required specifications and level of plan detail may include:

GENERAL

1. Signature and seal by a State of Illinois registered professional civil engineer including date signed and license expiration date.
2. Contact information of the engineer responsible for the preparation of the plan.
3. Certification by the engineer that the proposed project will not result in drainage, erosion, or run-off, which adversely impacts adjacent properties or public rights-of-way.
4. Provide a 4 inch by 4 inch blank space on the cover sheet for a Village review stamp.
5. The plan shall be sized 11 inches by 17 inches and drawn at a scale of 1:20. For certain larger projects, the plan may be submitted on paper measuring 24 inches by 36 inches. Electronic submission is required. PDF's shall be compiled into a single document. Hard-copy submittal is noncompulsory.
6. An address and legal description of the subject property.
7. A legend, north arrow, and scale.
8. The property lines, their dimensions, and the distance of the structure to the property lines.
9. The required setbacks (front, sides and rear); shown on plan or provided in a table.
10. All drainage and utility easements on, under, or across the property.
11. Mapped floodplain and wetlands, as applicable. Development of properties within these designations is subject to additional review, requirements, and permitting by other agencies.
12. Location of all utilities and associated structures, fire hydrants, street lights, trees, curbs, and sidewalks within the public right-of-way, or in any easements on the subject property.
13. Location of any existing and proposed buildings, structures, and hardscape features (i.e. decks, patios, sidewalks, etc.).
14. Location and representation of existing natural drainage patterns and manmade drainage facilities, and all proposed natural and manmade drainage facilities, including all surface and subsurface drainage facilities and appurtenances including downspouts, sump pump pits and discharge locations.
15. The elevation, location, and description of the benchmark must be referenced on the plans. The Village requires NAVD 1988 vertical datum and NAD83 horizontal datum. Under no circumstances shall a tree located in the right-of-way be used as a benchmark.
16. Existing and proposed topography of the entire site taken at one-foot or half-foot contour intervals.
17. Contour intervals shall extend a minimum of 25 feet off-site, sufficient enough to illustrate on- and off-site drainage patterns. Proposed contours shall be represented as solid black lines and existing contours shall be represented as dashed gray lines.
18. The proposed top of foundation for the subject lot and existing top of foundations for the adjacent structures. The proposed top of foundation (and top of window wells) shall be at least 0.5 feet above the proposed grade at the foundation. There shall be between 4 to 6 inches of foundation exposed above grade. Drop-siding shall be provided where the top of foundation is greater than 0.5 feet above grade.
19. Spot elevations as may be appropriate, including along the property lines, top of foundation, foundation floor, garage slab, and finished grade at all significant points around the buildings or structures, including top of window wells, patios, swimming pools, etc.

UTILITIES

1. Location of all existing utilities, including but not limited to water main, storm sewer, sanitary sewer, combined sewer, electric, and street lighting. All structures must be shown including hand holes, utility boxes, utility poles, and overhead wires.
2. Location of all existing electric service, b-box, water service, sanitary service, and storm service, including the connection points. Any existing services to be abandoned/removed shall be properly disconnected at the main.
3. Location of proposed electric service, water service, sanitary service, including the connection points. All new services must connect to the main. New water service line and b-box location must be shown on the plans. The b-box shall be located within the public right-of-way within the parkway. Sanitary sewer clean-out location must be shown on the plans. Clean-out shall be of the same size and material as the new sewer service pipe. Any cleanouts shall be located outside of the building, easily accessible, and on private property only.
4. The Village, in accordance with IEPA and Illinois Plumbing Code, requires a minimum 10-foot horizontal separation from proposed sanitary services and water services.
5. Proposed sanitary services and water services shall be constructed a minimum of 5-feet from the side property lines.
6. Proposed service lines must be perpendicular to the main within the public right-of-way.

DRIVEWAYS & PUBLIC SIDEWALKS

1. Label the material of any proposed driveway. Concrete, asphalt, and pavers (including permeable) are acceptable materials; gravel shall not be used.
2. Driveway and apron slopes must be between 2% and 10% and direct water away from the building and from neighboring properties. Permeable pavements are allowed to have slopes less than 2%. If the surrounding terrain is flat, slopes as low as 1% are allowed for concrete driveways.
3. The driveway width at the right-of-way line must be between 9 and 18 feet. The driveway width may flare such that the width at the curb is increased by up to 3 feet on each side.
4. Driveways shall not encroach over the side property line extension in the parkway.
5. Where a driveway width exceeds 18 feet on private property, the driveway must taper down to 18 feet wide at the front property line. The taper should begin no closer than 10 feet from the front property line (measured toward the building). A curvilinear taper may be used provided that all driveway pavement is located within an area formed by a straight line between the start and end of the taper.
6. Where a driveway is located near a property line (within 5 feet), a curb may be needed along the property line to ensure driveway runoff does not negatively impact the adjacent property.
7. Where an existing driveway that has depressed curb is relocated the depressed curb must be replaced with a curb type consistent with the adjacent full-depth curb. Shaving of curbs for new driveways is not permitted; new full-depth depressed curb is required. In addition, a 4-inch diameter galvanized steel pipe shall be installed across the new apron 18" below grade, with ends properly capped and extending a minimum of 24" beyond driveway edge. This shall be to accommodate Village streetlight cables.
8. Sidewalks must be constructed through driveways.
9. The cross-slope of the public sidewalk does not exceed 2 percent, including through the driveway. Spot grades should be provided at the four corners of sidewalk where it intersects with the driveway. A design of 1.5% is preferred to ensure that the slope is less than or equal to 2% when constructed.
10. Indicate on the plans any sidewalk that is damaged, vertically displaced, or not ADA compliant. These and any sidewalk damaged due to construction must be replaced prior to final inspection approval.

GRADING & STORMWATER MANAGEMENT

1. In accordance with Illinois Drainage Code, property owners shall not fill or obstruct existing natural drainage patterns. Sufficient existing elevations along the common property lines of all adjoining properties must be provided for this to be confirmed.
2. In accordance with Village Code, proposed projects shall not result in drainage or run-off, which adversely impacts adjacent properties or public rights-of-way. Proposed grading shall allow existing drainage patterns to be maintained such that additional drainage or run-off is not directed onto adjacent properties.
3. For structures with basements, additional consideration needs to be given towards management of sump pump discharge so as not to create a nuisance for adjacent properties or the public right-of-way. In all cases where a basement is proposed, provide a geotechnical report signed and sealed by a professional engineer including date signed and license expiration date. The report must include information on the soil composition, elevation of the water table, and elevation of seasonal high water table. The minimum depth of the soil borings must extend a minimum of five (5) feet below the bottom elevation of the proposed foundation drain tile. The design engineer shall need to consider the geotechnical report when determining adequate means and methods for management of foundation drainage. Note: This requirement is notwithstanding any requirement imposed by the Community Development Department to provide geotechnical reports.
4. Slopes within landscape areas should be between 2 and 20 percent. Slopes may be as flat as 1.5 percent if specific spot grades are noted. Flow arrows may be appropriate to delineate drainage patterns where grades are flatter.
5. Swales must be provided to facilitate proper drainage. Swales must be completely contained on the subject property. Spot elevations should be indicated at break points. The proposed high point of side-yard swales shall need to be a minimum of 0.1 foot below the adjacent elevation at the common property line or the lowest adjacent elevation in the neighboring side yard, whichever is lower.
6. Providing cross-sections of the side yards may be required, particularly where the structure's foundation(s) fall near to the common property line. Cross-sections shall extend between the top of foundation of the proposed structure and the top of foundation of the existing neighboring structure.
7. In cases where a property may require an overland overflow route, the black arrow and typical cross-section should be shown. The overland flow route shall drain to the public right-of-way.
8. Where the minimum yard slopes cannot be achieved to facilitate proper drainage of the property, a private storm sewer, and pumping system may be implemented. Private storm sewer systems must meet the following requirements:
 - Connection to the public sewer are not permitted.
 - Storm sewers must be a minimum of 6 inches in diameter RCP, PVC SDR 26, ductile iron or ADSM-12.
 - Storm sewers must be a minimum of 3 feet below grade.
 - Storm sewers must have a minimum 1% slope throughout.
 - Pumping structures may not be located within any easement.
9. Dry wells may be permitted under the following requirements:
 - Inlets or access structures must be provided for maintenance.
 - Dry wells may not be located within any easement.
 - The bottom elevation of the drywell's infiltration zone is a minimum of 2 feet above the seasonal high water table.
10. Proposed curbs or retaining walls must be shown, with the top and bottom of the wall elevations called out. Walls greater than three feet in height require submittal of structural calculations prepared and signed and sealed by a State of Illinois registered professional structural engineer.

IMPERVIOUS SURFACE AREA CALCULATION & BEST MANAGEMENT PRACTICES (BMP'S)

1. A table outlining the existing impervious area, the proposed impervious area, and the calculated difference (see table shown within the example plan). A statement regarding whether Best Management Practices (BMP's) are required must accompany the table. BMP's are required if at least one of the two below conditions are met:
 - Any net increase in impervious surface area shall require Best Management Practices.
 - Any alterations to existing impervious surfaces or existing BMP's that will generate additional drainage or run-off.
2. If BMP's are required, the following shall be provided on the detailed grading plan:
 - The location of the BMP(s) should be called out.
 - Details of the BMP design should be included (type, materials, dimensions, etc).
 - The calculated storage capacity of the BMP. The BMP shall have the capacity to capture, at minimum, all runoff from the net increase in impervious surface area and for any additional drainage, from a 2-year, 24-hour rainfall event (3.34 inches – Bulletin 75).
3. Delineation of the measures that will be used to control surface erosion and run-off from the site after all buildings, structures, and permanent improvements have been erected on the site.

BMP DEFINITION & DESIGN CONSIDERATIONS

1. BMP's generally consist of retention-based practices that are designed to capture, retain, and infiltrate stormwater drainage or run-off, have quantifiable storage, and provide water quality benefits. Examples of BMP's include, but are not limited to, the following:
 - Infiltration trenches and basins
 - Bio-retention facilities (rain gardens)
 - Porous/permeable pavement
 - Dry-wells
 - Bioswale with check dam
2. BMP's shall be designed with consideration of the site conditions, which may include but are not limited to:
 - Location of buried utilities and building foundations (any BMP implementing infiltration, shall need to be located a minimum of 10 feet from such facilities)
 - Seasonal high water tables
 - Light availability (particularly in cases of bio retention facilities)
 - Soil composition and profile
 - Soil infiltration capacity (BMP's shall have the infiltration capacity to infiltrate and drain its storage capacity within 72 hours. BMP's constructed in soils with infiltration capacities of less than 0.50 inch/hour shall have a designated overland flow route which drains towards the public right-of-way)

SITE DEVELOPMENT PLAN AND TREE PROTECTION & PRESERVATION REQUIREMENTS

1. Perimeter erosion barrier (silt fence or other) must be shown.
2. Existing storm structures must be protected from silt runoff during construction. Filter baskets are the required method of open-lid sewer structure protection.
3. A stabilized construction entrance must be provided. Existing driveways may be adequate. The construction entrance for any property abutting an alley shall need to be provided via the alley, unless directed otherwise by the Village Engineer.
4. Indicate location of concrete washout and include a note stating, "A concrete washout area shall be provided on-site. Concrete cannot be washed out into the public right-of-way or sewer system."
5. A note is provided on the plan stating, "Submersible pumps used during construction must discharge onto a stabilized surface and have an approved sediment filter bag connected to the discharge hose."
6. Location of the proposed areas of excavation, fill, storage and disposal of earth materials, including the method of soil protection such as silt fence, seeding, burlap, or hay bales.
7. A note is provided on the plan stating, "The excavation of the foundation of the principal structure may be no closer than two feet to any lot line. The excavation of any foundation element that is permitted to encroach less than five feet from a lot line shall be excavated by hand. This includes, but is not limited to, window wells and chimneys. Proper stabilization of the excavation shall be required.
8. Appropriate tree protection must be shown for all trees located within the public right-of-way and any trees to be saved in the construction area.
9. Location of existing trees on and within fifteen (15) feet of the property, proposed trees to be placed on the site, and trees proposed to be removed from the site. A tree removal permit is required for removal of any tree that is designated by the Village Code of Ordinances as a Protected Tree. If any of the proposed trees are defined in the Code as "Replacement Trees" then those shall need to be clearly labeled as such.
10. Specify the species and size of each tree. The size of each tree shall be the diameter at breast height (DBH) in inches as measured at 4½ feet above the existing grade and shall be labeled at the base of every existing tree located on the subject property.
11. Per Village Code, a Tree Survey & Tree Protection Plan shall need to be prepared by a Certified Arborist and submitted with the Site Grading and Drainage Plan for all projects involving:
 - a) Construction or demolition of a principal structure on lots zoned for single-family residential, or;
 - b) For any construction projects involving a 50% or greater expansion of the total structure coverage

DETAILS

1. Include any Village standard details that are applicable. PDF copies of the standard details are located at <https://www.wilmette.com/engineering-public-works/engineering-construction-standards/>. The following are commonly required:
 - Residential Driveway
 - Sidewalk
 - Curb & Gutter
 - Site development details (i.e. filter baskets, silt fence, construction entrance, tree protection)
 - Sump Pump Discharge Connection
 - Appropriate drainage structure and stormwater management details
 - Utility trench pavement restoration details
 - Sanitary and water connection details

PLAN REVISIONS AND MODIFICATIONS

1. A disposition of review comments shall be provided with each plan resubmittal.
2. At minimum, the cover page, and all pages that had been revised shall include an updated revision date.
3. Revisions shall be bubbled out on the plans.