

SITE PLAN SUBMITTAL REQUIREMENTS
& SITE PLAN REVIEW CHECKLIST

PURPOSE

The purpose of a Site Plan is to allow the City of Oakland (and other permitting agencies) to review proposed construction compliance with City ordinances; to protect the public health, safety, environment and general welfare; to minimize public and private losses due to erosion, siltation and water pollution; and to maintain proper management of stormwater runoff.

SITE PLAN SUBMITTAL REQUIREMENTS

Two (2) sets of the Site Plan shall be included with the Permit Application and Fee.

All applications that include proposed land disturbance (excludes existing structure interior renovations) shall be required to include a "Site Plan". The extent of information required on a Site Plan is dependent on the type of construction proposed and will typically be dictated by site-specific conditions such as stormwater management, building setbacks, site coverage, work proposed near adjacent properties, types of structures, etc. The Building Commissioner is authorized to make determinations of Site Plan information requirements on a case-by-case basis when specific requirements are onerous and inappropriate for a particular project.

More complex land disturbances, including but not limited to land disturbances that include foundation, clearing, grading, & drainage construction, shall be prepared and sealed by a qualified Missouri Licensed Professional Engineer or Architect. A survey by a Missouri licensed Land Surveyor may also be necessary to establish property line locations when the area disturbed is close to the property line and no recent survey or corner stakes/rods exist.

A list of information to be included on a Site Plan is provided below under "SITE PLAN CHECKLIST".

The requirements for submittal to the City of Oakland may not be inclusive of all items needed by other Permitting Agencies, including: Metropolitan St. Louis Sewer District; AmerenUE; Missouri-American Water Company; Spire Gas Company; St. Louis County Health Department; St. Louis County Department of Highways and Traffic; Missouri Department of Transportation; Missouri Department of Natural Resources; U.S. Army Corps of Engineers; and/or any other agency where applicable and appropriate.

Homeowners applying for a permit do not need to have their Site Plans sealed by a Missouri registered architect or engineer, as long as the proposed land disturbance is relatively simple, is not located near adjacent property or within a building setback and there is no engineering required. Homeowners drawing their own construction plans may use as a site plan base drawing a copy of either the survey of the house obtained at the time of purchase (typically required by the Title Company that closed the sale of the house), the building permit for the house, or the St. Louis County Assessor's Plat Book maps (NOTE: The plat book parcels include the lot dimensions; however the existing structures are not indicated on the parcel). And in some cases, a graphic representation (aerial photo) of subject property complete with property lines and proposed improvements may be accepted.

Utility Contractors performing public or private utility repairs or new service connections in City Right-of-Way shall provide at minimum a graphic representation (aerial photo) of subject work area clearly indicating the location of the work relative to a landmark (street intersection, etc), the anticipated limits of proposed land disturbance and any improvements that may be affected and require replacement. If work area is in a public easement on private property, the contractor shall include a copy of the recorded easement.

Builders / Developers / Private Contractors shall provide a Site Plan prepared, signed, sealed, and dated by a Missouri registered architect or engineer unless otherwise determined that the proposed improvements will not alter existing site conditions (eg removal and replacement of a concrete slab with no change to its original horizontal and vertical location) and or sufficient information is provided that demonstrates the proposed construction activity will not adversely affect adjacent properties.

Single-Family Residential Teardowns and Additions shall be required to provide a Site Plan prepared, signed, sealed, and dated by a Missouri registered architect or engineer.

All Site Plans shall include at minimum the following information:

1. Location Map
2. Subject site and adjacent property and owner information
3. Graphical representation of the subject site
4. Scale and North Arrow
5. Distances to adjacent property boundary lines (include source of information as provided)
6. Existing and proposed improvements with dimensions and materials
7. The direction of the slope or stormwater drainage indicated on the site plan by arrows
8. Location and width of easements (Easements give access rights to Utility Companies and other duly authorized agencies, thus building within a dedicated easement is restricted unless authorized by easement holder)
9. Setback lines per zoning district
10. Area of disturbance (which must include any equipment access routes to work location if not adjoining pavement)
11. Subdivision Trustee approval (if residential driveway accesses a private street)
12. Excavation Permit application (if residential driveway accesses a public right-of-way area).
13. Tree Preservation Plan (if the dripline of a tree on the subject site or on an adjoining property offsite are located in the work area, in the equipment access to the work area, or in a temporary material storage area. NOTE: All trees within twenty (20') feet of a proposed work area must be shown on the Site Plan and protected per tree protection procedures.

SITE PLAN REVIEW CHECKLIST

For construction that proposes alteration of site elevations, surfaces, drainage, structures, the following checklist items may be required to be included on a Site Plan. For all **Single-Family Residential Teardowns and Additions** a Site Plan shall include all of the following information:

General

1. **Description of work** with sequence of anticipated construction schedule/duration for all proposed land disturbance activities.

2. **Graphical plan** depicting the all existing and proposed improvements (as further specified below), signed and sealed by a professional engineer licensed in the state of Missouri.
3. **Title Block** including project name, applicant/developer and architect/engineer contact information, date of submission with provision for dating revisions.
4. **Pertinent Data** including site address, County Property Locator Number, lot number, plat or addition to subdivision number with recorded subdivision name, FEMA FIRM Panel #, and zoning district.
5. **Location Map** indicating the site in relation to the surrounding streets.
6. **Graphic scale and north arrow** (scale shall be of sufficient size to clearly show all required information).
7. **A recent Boundary and Improvement Survey** of the subject property signed and sealed by a professional surveyor licensed in the state of Missouri. Survey shall include property lines with meets and bounds labeled, site area in square feet and acres, easements labeled and dimensioned with easement recorded book & page numbers, any existing improvement encroachment on or by adjoining property, all existing improvements including buildings / structures, flatwork, decks, retaining walls and swimming pools.
8. **Now & Formerly** of subject property and adjoining properties, adjoiner property zoning district(s), street addresses, septic systems, wells, public and private utilities, all structures / foundations labeled and dimensioned to property lines
9. **Street** name(s), right-of-way improvements adjacent to the development labeled and dimensioned including pavements, curbs, sidewalks, street signs.
10. **Existing public utility mains** (buried and overhead), valves, hydrants, structures, facilities and markers.
11. **Existing private utility services** (buried and overhead, electric, gas and water and communication), cleanouts, meters, valves, stop boxes and vaults.
12. **Adjoiner property building locations** dimensioned to front and adjoin property lines.
13. **Adjoiner property building elevations** at first floor sill and adjacent door or window sills.
14. **Building Setback Lines** in accordance with the specific structure as established in the governing zoning district.
15. **Existing site topography** per survey measurements at a minimum two (2') foot contour interval, and spot grade elevations. Topography shall extend a minimum of twenty (20') feet offsite into all adjoining properties. Additional offsite topography information should be included as needed to show significant or physical features that may affect the subject site design requirements (ie existing drainage features, right-of-way improvements, trees/tree driplines and root zones, etc.). Contours extending offsite beyond twenty (20') feet may be supplemented from available GIS data if so labeled and verified by designer (with reasonable accuracy) field reconnaissance.
16. **Site elevation benchmark** (to be maintained thru project completion).
17. **Area of Land Disturbance** delineation lines labeled on plan and net area quantity in sq ft and acres.
18. **Architectural Building Plans** of the proposed building addition or new building, signed and sealed by an architect licensed in the state of Missouri, including all City building code submittal information requirements as required by Building Code, footing and foundation plan, roof plan with location of downspouts, building exterior wall facade elevations, and the total number of stories
19. **Gross Floor Area (GFA)** of finished building(s). Additional information may be required per applicable codes as established in the governing zoning district.
20. **Proposed principal and or accessory buildings/structures** including location on site, top of foundation and finished floor elevations, low-sill elevations (walk out basement, buck windows, window wells), foundation horizontal locations and dimensions, roof overhangs/building projections, distance of buildings/structures to property lines and from adjacent buildings /

structures on site, building construction type, number of building stories, building height, decks, light wells and egress wells. All overhangs/projections beyond the primary facade should be drawn with dotted lines and labeled.

21. **Floor Area Ratio (FAR)** calculation (the ratio of the adjusted gross area of a primary structure to the total area of the site) not to exceed FAR as established in the governing zoning district.
22. **Lot Coverage Calculation** (the total area of all principal and accessory buildings as measured along the outside wall at ground level or above as viewed from above and include all projections other than open porches, fire escapes or the first (1st) three (3') feet of a roof overhang. Roads, driveways, parking lots and swimming pools shall not be included in the maximum lot coverage requirement. The percent of lot coverage shall be computed as the percent area of ground coverage of all principal and accessory buildings per the total lot area.
23. **Proposed building elevation heights** including finished floor, basement floor and garage floor.
24. **Calculation of finished floor height above finished grade at center of foundation** proposed for subject site and as existing for adjacent properties (per Infill Residential Building Finished Floor Height code).
25. **Flatwork** locations, dimension and type of all proposed including walkways, driveway and driveway aprons with distances to any adjacent stormwater inlets and/or the radius point at any adjacent street intersections. Include note on plan: *"All work in public right of way shall be per St. Louis County Standard Details"*.
26. **Fences locations and type** including railings, gates / doors to fenced-in areas shall be shown on site plan with dimensions and type of material proposed. Location of fences shall not be in the public Right-of-Way or street easement, shall be no closer than 12' from the street's back of curb or edge of pavement, and located minimum of 1' from public Right-of-Way, walkway or sidewalk.
27. **Sight Distance Triangle** including an area extending 25' from the back of curb or edge of pavement of intersecting streets and driveways shall be maintained clear of improvements and vegetation exceeding three (3') feet in height.
28. **Proposed private utility service** lines including any work to be performed offsite. Indicate all provision for or access to major utilities including water, storm sewers, sanitary sewers, gas and electricity.
29. **Proposed grading plan** with topographical contours at two (2') foot contour intervals and spot grade elevations established at building corners, sills (garage, basement windows, window/egress wells, and basement walk outs), stairways, retaining walls, flatwork, driveway aprons, pavement at right of way and at street curb/gutter, and at all drainage features (swales, diversion berms, pipes, yard drains, pop-up emitters, attenuation facilities, etc). Delineate any proposed grade slopes steeper than 3:1 (requires geotechnical report). Grading shall be designed in such a fashion as to direct any increased water runoff into existing stormwater sewers or otherwise designed to minimize the impact of such runoff onto adjoining downhill parcels and to avoid sending concentrated streams of water.
30. **Existing trees** to be saved and/or removed indicated (corresponds with approved Tree Preservation Plan) including a line shown on the site plan and tree preservation plan that identifies the clearing limits, limit of construction, grading, or excavation activity of any kind. This line will typically delineate the tree preservation area / protected tree(s) and protected tree canopies.
31. **FEMA designated floodplain and floodway boundaries**, and base flood elevation (BFE) if published. If floodplain is located on site, indicate the lowest floor and/or sill a minimum of one (1') foot above the 100-yr FEMA BFE. Buildings located within a floodplain shall be in conformance with City of Oakland Ordinance Chapter 415 "Flood Damage Prevention" and all Federal Emergency Management Agency (F.E.M.A) regulations. Buildings constructed in a floodplain shall have the low

sill elevation certified by a registered engineer or registered land surveyor before approval of the foundation inspection can be given.

32. **Natural watercourses** on and serving subject site as may be depicted on the most current USGS 7.5-Minute Series (Topographic) Maps.
33. **Proposed retaining wall(s)** horizontal location(s) including swales on top of retaining walls, drain tile discharge location(s), fence/railing locations and detail, base and top elevations at each end, curve/corner, and highest point, and height dimension at the tallest point. Note on plan and provide additional engineering design information if any section of the retaining wall which exceeds six (6') feet in height within a single tier not set back at least four (4) feet from the top of the lower retaining wall, and/or will carry a surcharged load. Include maintenance / access easements as may be required.
34. **Proposed swimming pool** location, dimensions and type of layout including drainage design details, fencing and gates or doors.
35. **Proposed outdoor sports court** location, dimensions and type of layout including drainage design details, fencing and gates or doors.
36. **Proposed construction of public improvements** (Roads, sewers, retaining walls, & utilities).
37. **Proposed excavations in roadway and or sidewalks** including dimensions and type (bore crossing / open trench).
38. **Subdivision Trustee approval** (via letter or signatures on plans), if applicable.

Trees

39. **Tree Preservation Plan (TPP)** prepared and signed by a certified arborist and provide in tabular format a current tree "study" include the tree species, diameter at breast height (DBH), save/remove designation, condition and comment. The total area in square footage of the site; and the on site square footage of the existing tree canopy, square footage of the tree canopy proposed to be removed, square footage of the tree canopy to be saved, the percent of on site proposed canopy to remain, and a resulting calculated square footage required new canopy to be planted (if required for tree canopy mitigation per code). The TPP shall also include a tree "survey" drawn to scale on site plan, with approximate location and dimension of all tree mass canopy (wooded areas), and the location and description of all isolated trees having a trunk diameter of six (6) inches or more. The survey shall include subject site and extend a minimum of twenty (20') feet offsite. The tree survey shall include the location of property lines, building setback lines, existing easements location and easement-holder names, all existing and proposed structures and flatwork, a line depicting the proposed area of land disturbance, a line or depicting the limits of tree removal and/or isolated tree removal, and details for tree protection procedures as required by the City. All trees within twenty (20') feet of the propose work area must be shown on plan. All TPP tree protection measures (tree fence locations and/or special procedures) shall be shown on site plan.
40. **Landscape Plan** for proposed tree canopy coverage required tree replacement (if required for tree canopy mitigation per code).

Stormwater

41. **Minimum slope** of one percent (1%) is required on any grassed area; minimum slope of two percent (2%) in grassed swales.
42. **Inlet blockage factor** of forty percent (40%) is to be used in sizing inlets at low points. Inlet capacities are to be determined by the HEC (hydraulic engineering circulars).
43. **Concentrated flow directed across sidewalks** is limited to one (1) cfs (as in unincorporated County).
44. **Lowest sill of structure(s) adjacent to 100-year overflow or ponding areas** shall be at least one (1') foot above the high-water elevation.

45. **Existing and proposed Stormwater Drainage Area Map** with drainage paths delineated by flow arrows, all tributary drainage areas onto and off subject site, point source discharge locations (eg end of pipes, swales, etc), rooftop drainage routes. Sub-watershed flow shall be labeled for each drainage area (or include designator label and shown in a table). Calculations shall include the 15-year / 20-minute and 100-year / 20-minute (per MSD standards) storm events flows (Q) in cubic-feet per second. Swales / open channels shall be dimensioned on plan and the velocity calculated for same storm events.
46. **Existing and proposed stormwater drainage structures** shall be shown on plan including locations of roof downspouts, culverts, swales and all points of stormwater discharge.
47. **Differential Stormwater Runoff Calculations** shall be shown on plan including the total site differential (existing v. proposed) 15-year / 20-minute and 100-year / 20-minute (per MSD standards) storm events. NOTE: include roof overhangs.
48. **Stormwater Management Plan** shall be including with a design that clearly demonstrates that all proposed improvements and site alterations in all sub-watershed discharge locations leaving the subject site will not increase stormwater flow rate, volume or velocity onto any adjoining property. The adequacy of any existing downstream storm sewer is to be verified by the design professional and upgraded if necessary. Undersized downstream storm sewers are to be replaced until overflow(s) can be accommodated on the right-of-way. Drainage systems shall have sufficient capacity to route the 15-year / 20-minute storm event, and also an overland flow path or temporary ponding easement for the 100-year / 20-minute storm event. NOTE: The builder will be required to provide as-built final measurements certified by a design professional if determined necessary by the City Building Commissioner.
49. **Permanent Stormwater BMPs** including “Green Infrastructure Practices” such as evapotranspiration (retention of mature trees), infiltration, or capture and attenuation of stormwater runoff, also known as “Best Management Practices” (BMP) may be incorporated into the Site Plan. If the stormwater management plan includes permanent stormwater BMPs, such features shall be capable of conveying the 15-year / 20-minute and 100-year / 20-minute storm events, ie include an overflow route for each of these storm events, or a 100-year / 20-minute ponding easement recorded on the owner’s property deed. The overflow routes and or ponding easement shall in no way adversely affect adjoining and downstream properties. It is recommended that BMPs be designed as “off-line” systems to avoid increasing non-intended point-source discharges that may occur during the larger storm events. Stormwater BMPs are not to be located within existing utility easements or right-of-way. The designer shall provide details and calculations demonstrating clearly the proposed stormwater mitigation and methods of construction. In some cases a soil infiltration test may be required to demonstrate proper function (NOTE: If the proposed BMP location is disturbed during construction activities then a new test may be required). Common industry standard BMPs include but are not limited to:
- o Routing downspouts to underground dry wells,
 - o Directing sheet flow to adequately sized vegetated filter strips / areas (also known as Amended Soil),
 - o Routing downspouts to modified French drains,
 - o Replacing traditional impervious surfaces (driveways, patios, etc.) with pervious paving,
 - o Installing a rain garden or bioretention area,
 - o or any appropriate combination of techniques’
50. **Sump Pump discharge locations** shall be designed as part of the stormwater management plan. Designers shall include sump pump discharges as a contributing stormwater runoff source with equivalent stormwater runoff equal to 175 SF of impervious surface. Sump pump discharge locations shall follow all stormwater management requirements. Sump pumps may either discharge

directly to public stormwater system (approval required by MSD), to a stormwater BMP located a minimum of ten (10') feet from property line, or to vegetated area a minimum of twenty (20') feet from property line where it can be demonstrated not to concentrate towards on site or neighboring private structures, patios, driveways or walkways.

51. **Temporary Siltation Control** installation locations and details shall be included on the site plan. Siltation control details shall be included for any proposed permanent stormwater BMPs including installation/construction procedures. Stormwater erosion control provisions to direct and detain silt on site shall be in accordance with applicable City regulations and shall mitigate erosion both during and following the completion of construction. All devices shall be located at least two (2') feet inside the property line or street line and along all downhill portions of the site. Silt fence and filter strips shall be installed level with site contours so as to not create a concentrated discharge location (if not intended). Siltation control shall be installed prior to the start of any excavation work and shall be maintained in good condition until such time as all the seed, sod and any planter beds have been established. The permit applicant / developer's erosion and sediment control emergency contact's name address, phone number and E-mail shall be included and clearly labeled on plan.
52. **Common property line swales** shall not be reduced in size.
53. **Grading** shall not block existing swales or watercourses and shall not redirect water flow onto other sites. Sufficient spot elevations to confirm runoff is directed away from all structures and towards an acceptable discharge location.
54. **Downspouts, yard drains and piping** shall have energy dissipaters and erosion control devices at their downstream end.
55. **Piping discharge locations** must end closer than ten (10) feet inside of the property lines unless such piping is fully connected underground to a storm sewer structure or approved creek. Discharge points shall not drain towards neighboring private structures, patios, driveways or walkways.
56. **Driveway entrances** shall not received proposed stormwater routing greater than one (1) CFS.
57. **Sidewalks** shall not receive stormwater point-discharges directed across its surface.
58. **MSD Standard Construction Specifications for Sewers and Drainage Facilities & Standard Details** shall be followed for new, improved or replaced public stormwater structures including private connections, conduits and swales that are tributary.
59. **Basement / foundation drain routing** shall be shown on plan.

Sanitary Sewer

60. **Sanitary sewer** main, lateral piping and cleanout locations including flow line elevations at the public main connection, all cleanouts and at or near the proposed building
61. **Elevated or pumped sanitary systems** (hung plumbing strapped drains, sanitary grinder pumps or sump pumps) details shall be shown on plan.

Sidewalks

62. **Existing sidewalks** adjoining subject site shall be ADA/PROWAG compliant or sidewalk replacement will be required and shall to meet ADA/PROWAG standards (cross slope, trip hazards, shattered slabs, width, etc).
63. **ADA/PROWAG compliant curb ramps** are required where improvements are adjacent to street intersections.