CITY OF ASPEN

Major Engineering Design

Public Improvements Requirements

City of Aspen Engineering Department

There are three main components to a Major Engineering Design.

1. Stormwater and Drainage
2. Utilities
3. Public Improvements

The following checklist contains all information that must be included within a Major Engineering Submittal in regard to **Public Improvements**. Please reference supporting documents for Utilities and Stormwater/Drainage Requirements.

Refer to the COA Engineering Design standards for installation standards for sidewalks, curb and gutter, alley and driveway aprons, and ramps.

If a project triggers a Major Engineering Review, property owners are required to install and maintain sidewalk, curb and gutter, ADA ramps, and alley aprons along the street frontage adjacent to their properties. Refer to the document titled "Criteria for Major Engineering Review" to determine if your project triggers the need for a Major Engineering Submittal in the permit submittal.

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Exemptions

Properties within certain areas of the City are not required to install sidewalk and curb and gutter. These locations are shown on the "Sidewalk Free Zones" and the "No Curb and Gutter Zones" maps dated February 22, 2002. See pages 66 and 67 of the COA Engineering Design Standards for maps of sidewalk and curb and gutter deferred zones.

Additionally, sidewalk and curb and gutter do not need to be installed as part of the project if the cost of installing sidewalk, curb, and gutter exceeds 50% of the project cost excluding the cost of the sidewalk curb and gutter. For example, the project would not need to install sidewalk, curb and gutter if the project cost is $20,000 and the cost to install sidewalk curb and gutter is more than $10,000.

Public Improvements Submittal Requirements

Design Parameters

1. Standard City details for sidewalk, curb and gutter, drive ramps, ADA ramps, and curb radius are available within the COA Engineering Design Standards. Minimum width of sidewalk is five feet for residential, 6 feet for high density and multi-family and 8 feet for commercial. Sidewalk cross slope: 2%. Gutter should be designed to drain with a slope of 0.75% or greater.

General

2. Public improvements including pavement, sidewalk, curb and gutter plans must be stamped by a Colorado licensed professional engineer.
3. Provide a drainage study that delineates the drainage sub-basin, runoff flows, and the flow capacity of the curb and gutter.
4. If the property is located in a curb and gutter deferred zone as defined on page 66 of the COA Engineering Design Standards the project is required to show street drainage conveyed via swale or alternative manner alongside the property. Show where street runoff is routed at the downstream side of the property frontage.
5. Any deficient ramp adjacent to the project must be brought into ADA compliance.
6. Any alley apron or driveway adjacent to the property must meet pedestrian crossing standards. If the existing alley crossing does not meet City standards it is the properties responsibility to bring it into compliance.
7. New curb and gutter is required unless existing curb and gutter is compliant after completion of the project. Any curb or gutter damaged by construction activity is required to be replaced.
8. Show proposed landscaping in the landscape island (between the curb and sidewalk).
9. If no curb and gutter exists on the adjacent properties, the curb and gutter needs to be designed for the adjacent property. (This is necessary in order to ensure that the location and elevation of the new curb and gutter is coordinated with the future curb and gutter on adjacent properties.

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Site Plan

10. Show all existing utilities and structure with appropriate stationing including: Waterline, valves, hydrants, sanitary sewer line, manholes, storm drainage facilities, telephone line including junction and control box, gas, electric, cable, fiber optic, floodways and plains, driveway locations, street lights, curb and gutter, traffic signal poles and controllers, pavement edges, trees
11. Show the location of the sidewalk, curb and gutter on the site plan and grading plan, spot elevations in the gutter flow line every 10 feet, and the extent of new pavement.
12. Station and elevation of all curb returns, horizontal PCs, PTs etc existing and proposed. Also at high or low point for all curbs , at inlets (including invert and 100 foot maximum intervals along the streets.
13. Curb return radius, existing and proposed.
14. Pedestrian access ramp locations.
15. Complete horizontal curve data (radius angle, length and tangent)
16. All crown lines were departing from the normal cross sections (transitions to existing roadways) with appropriate transition stating elevation.

Profiles

17. All design elevations, at centerline, flow line, pipe inverts. Including water lines and all distribution or collection lines under pressure and gravity lines.
18. Existing and proposed grade, drawn and labeled.
19. Centerline stations continuous for the entire length of the street or project, with centerline stationing of all intersection streets.
20. Existing utilities particularly where crossed, with grades and elevations.
21. Station and elevation of grade breaks, existing and proposed.
22. Proposed vertical curves with VPI, VPC, VPT, high point or low point (not the middle ordinate) stations and elevations.
23. Proposed slope and distance for all tangent lines.
24. Proposed Curb return profiles.
25. Proposed Size, type and structural class of pipe.
26. Proposed Pipe bedding.
27. Station and elevation on all drainage and other proposed utilities
28. Provide a profile of curb flow line showing both the existing and proposed grade.
29. Provide cross sections across the sidewalk and/or curb and gutter every 50 feet including cross sections at both ends of the proposed sidewalk, curb and gutter.
30. Typical Cross section(s), shown for all streets, including profile street width, ROW and cross slope.

Details

31. The construction plans shall include adequate technical information in text format, complete design details and design calculations for special structures.

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Signing and Pavement Marking

32. A complete signing and marking plan must be submitted as a part of the design documents for review by the Engineering Department All signing and marking design must conform to MUTCD

Snow Melt Systems

33. Snowmelt systems installed within the ROW must be maintained by the adjacent property owner. Snowmelt within the ROW must be placed on a separate zone and drain in a manner that results in no icing on adjacent non-snowmelted walking surfaces. A permanent encroachment license for the snowmelt will be required post construction and prior to certificate of occupancy or permit close out. Call this out on the plans.

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