



PUBLIC WORKS
Engineering Services Division
P.O. Box 1609 Mammoth Lakes, CA 93546
TELEPHONE (760) 965-3650, FAX (760) 934-7493

IMPROVEMENT PLAN APPLICATION

Date: _____

Job #: _____
(TOML #)

Please complete the items listed below. The application, plan-checking fees must be paid in full at the time application is made (print or type legibly).

Project	Owner/Developer	Assessor's Parcel Number
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Contractor	Contractor Contact Name	Contractor Phone
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Contractor Address	Contractor City/ ST / Zip	Contractor Fax
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1. Briefly describe the work to be covered by this permit:

2. Describe the site on which the proposed work is to be performed. (Indicate by subdivision lot number or street address, or other description.)

3. Estimated Cost of Proposed Public Improvements: \$ _____
(provide copy of Engineer's Estimate)

4. Describe the purpose for the proposed work.

5. Application Fee: (**SEE ENGINEERING FEE SCHEDULE**)

Application Submitted By: (Print Name)	Representing
Signature	Date



IMPROVEMENT PLAN SUBMITTAL REQUIREMENTS

Improvement plans shall be used to depict public and/or private improvements that cross or are built in the public right of way. Any associated grading plans, easements and maps must be submitted concurrently for plan checking.

In order for your application to be reviewed, the following items are required with this submittal. Please check the appropriate box if submitted at this time:

YES	NO	SUBMITTAL ITEM
<input type="checkbox"/>	<input type="checkbox"/>	Transmittal Letter from Engineer of Work listing all items being submitted.
<input type="checkbox"/>	<input type="checkbox"/>	(3) Three complete sets copies of the improvement plans on 24" x 36" D size sheets numbered consecutively. One set wet stamped and signed
<input type="checkbox"/>	<input type="checkbox"/>	Engineers cost estimate for bonding purposes, including detailed cost for erosion control, and drainage structures wet stamped and signed. (Estimate shall equal 140% of engineers cost)
<input type="checkbox"/>	<input type="checkbox"/>	Drainage study/hydrology report bound. Wet stamped and signed.
<input type="checkbox"/>	<input type="checkbox"/>	Copy of SWPPP (3-ring bound) with attached and flagged NOI and WDID for sites over 1 acre, or SWMP for sites disturbing less than 1 acre. (Area of disturbance = _____).
<input type="checkbox"/>	<input type="checkbox"/>	Plan check fee deposit.
<input type="checkbox"/>	<input type="checkbox"/>	Bound Soil report. Wet stamped and signed.
<input type="checkbox"/>	<input type="checkbox"/>	Copies of all calculations that apply (Earthwork at a minimum).
<input type="checkbox"/>	<input type="checkbox"/>	Landscape plans, if applicable
<input type="checkbox"/>	<input type="checkbox"/>	Current town business license.
<input type="checkbox"/>	<input type="checkbox"/>	Project conditions of approval. <input type="checkbox"/> final <input type="checkbox"/> draft (need signed letter from applicant acknowledging changes may occur as a result of the conditions).
<input type="checkbox"/>	<input type="checkbox"/>	Preliminary title report
<input type="checkbox"/>	<input type="checkbox"/>	Inspection fee (2% of engineer's estimate)
<input type="checkbox"/>	<input type="checkbox"/>	Copy of street dedication/preliminary final map (if applicable)

**THE TOWN OF MAMMOTH LAKES
PUBLIC WORKS DEPARTMENT**

IMPROVEMENT PLAN REQUIREMENTS

The following information shall be included on all improvement plans submitted for plan check prior to plan approval.

FOR WATER AND SEWER PLAN REQUIREMENTS, PLEASE CONTACT THE MAMMOTH COMMUNITY WATER DISTRICT AT (760) 934-2596.

General Requirements

Plans conform to Mammoth Lakes conditions of approval
(if not, return plans without further review)

Verify requirements of Mammoth Lakes for electronic submittal

Horizontal and vertical alignments conform to Mammoth Lakes geometric design standards, such as: sight distance, minimum centerline radii, minimum and maximum street grades, vertical curve lengths, intersecting street offsets, intersecting street angles, length of tangent between reverse curves, superelevation requirements, etc.

All sheets signed and properly stamped by the Engineer in responsible charge.

All sheets prepared in ink on sheets of standard size (24"x 36") as determined by the Town.

All sheets numbered consecutively. "Sheets ____ of ____", in the lower right corner.

All plans drawn to a scale of 1" = 40', 1" = 20', or other approved scales. Graphic scale shall be placed on all sheets.

All lettering to be of font size acceptable to Mammoth Lakes.

North arrows should point to top or right of sheets, if possible.

All stationing shall refer to centerline of street unless otherwise noted and shall increase left to right, and run upstation from south to north or west to east. No negative stationing allowed.

Stationing has preference over north arrow

All Streets have continuous stationing and shall be consistent with, or continue, prior (existing) street stationing, if applicable.

Mammoth Lakes project number shown in lower right hand corner of all sheets.

Construction notes shall be designated by circles.

Curve data shall be designated by hexagons.

Construction removals shall be designated by squares.

Plan revisions indicated by triangle with cloud around revision.

I. Title Sheet

Project location on vicinity map.

Index map showing the following:

Street configuration within project limit.

Lot configurations.

Tract boundary.

Street names/street signs.

Index map of sheets & written index of street names.

Town limits lines, in contiguous tract.

North arrow.

Scale.

Streetlights, if requested.

Basis of bearings.

Benchmark – BM description, date (year of adjustment), and full elevation to three decimal places.

Engineering firm name, address, telephone number, date plans prepared, seal, signature, registration number and expiration date of responsible Engineer registered by the State of California.

Soils engineer firm name, address, and telephone number.

Archeologist/Paleontologist firm name, address and telephone number, if applicable.

Public agency name, address, telephone number and contact name.

Developer/owner name, address, and telephone number.

Title block containing tract number and tentative tract number, if applicable; otherwise, give the street name and limits of improvements.

Water district approval, if applicable.

Sewer district approval, if applicable.

Fire marshal approval, if applicable.

Other agency approvals as may be required.

Utility company contacts and phone numbers.

Revision block.

General notes.

Separate individual sheet index listing all sheet descriptions.

Underground Service Alert (USA) statement.

Abbreviations

II. Detail Sheet(s)

- A. Typical sections showing:
 - 1. All geometric dimensions.
 - 2. Existing pavement to be joined or removed.
 - 3. Level line from centerline crown to top of curb with vertical dimension. Cross-fall rates shall also be shown.
 - 4. Structural section to be determined in accordance with Town public works standards with due consideration to the soils report and shall be included as a detail on the title sheet.
 - 5. Parkway and sidewalk widths in accordance with public agency standards.
 - 6. Rough grading lines, if applicable.
 - 7. Town standards applicable to the project.
- B. Listing of construction notes.
- C. Construction details not included in standard drawings.
- D. Street intersection details at a scale acceptable to the Town.
- E. Street name sign schedule, if applicable.
- F. Summary of quantities.
- G. Miscellaneous details as needed to delineate construction.

B. Drainage Plans and Hydrology

- A. General
 - 1. Criteria utilized for the hydrology and hydraulics shall be to the standards acceptable to the Town. Frequency of design year storm shall be as required by the Town.
 - 2. The use of existing underground storm drain systems shall be in accordance with the public agency requirements.
 - 3. Drainage acceptance agreement from adjacent owner, if required.
 - 4. Improvement plans, hydrology and hydraulic calculations sealed and signed by the responsible engineer in charge, registered by the State of California.
- B. Hydrology Map
 - 1. The hydrology map and street plans agree as to the grades and configurations of drainage areas.
 - 2. The hydrology map is on a topographic map of sufficient scale and quality to allow for readability.
 - 3. All Q shown (with time of concentration) flowing in the streets. Design year Q to be designated by the public agency.

4. All street flow confluences shown with their calculations.
5. All Q approaching, entering and carried over from catch basins shown.
6. All catch basins identified by numbers or letters as requested by the public agency.
7. All Q entering and leaving the project shown with their time of concentration and verified with legible contours of other adequate means. If previous studies were used, they must be referenced. Need for comparative analysis of interim and ultimate flow rates for off-site drainage to be determined by the public agency.
8. North arrow and scale shown.
9. Names or some other designation for all streets in and around the project shown.
10. Tract number shown, if applicable.
11. Show storm drains with design year flow rates.
12. Drainage areas acreage shown.
13. Initial areas limits per Town standards (for example, 10 acres with a maximum flow path of 1,000 feet).

C. Hydrology Calculations

1. Time of travel, rainfall intensity, runoff coefficient, soil group, allowable flooded width, and catch basin interception requirements in conformation with the standards acceptable to the Town.

D. Hydraulic Calculations

1. Design criteria for hydraulic calculations and format for presentation of the calculations shall be in conformation with the public agency requirements (i.e. catch basin free board, calc for HGL, catch basin interception, use of grate type catch basins and parkway culverts, etc.)

E. Storm Drain Improvement Plan Preparation

1. Storm drain alignment, grade and easements in conformation with the public agency requirements (i.e. horizontal location relative to curb, minimum pipe size and depth of cover, manhole locations and spacing, minimum grades and velocities, minimum radius, maximum velocities relative to requirements for additional steel clear cover, existing facility abandonment procedures, etc.) Alignment traverses tied to project boundaries.
2. Reinforced Concrete Box (RCB), Reinforced concrete Channel (RCC) improvement plans, details and reinforcing schedule in conformation with public agency requirements.
3. Hydraulic grade line plotted on profile.
4. If required by the Town, prepare hydraulic elements table showing design year storm, Q, Vn, Dc, Vc, n, Fr, slopes, pipe size, and pertinent stationing and place on each relevant plan sheet.

5. All storm drain laterals shown in profile.
6. D-loads for all pipes.
7. Curve data and bearing for storm drain centerlines.
8. Pertinent storm drain stationing and equations, including reference to street station at BC, EC, and manholes. Identification of existing facilities showing public agency plan file numbers.
9. Applicable construction notes.
10. Catch basin type and sizes including length and height of opening.
11. Easement lines and widths shown and checked to make sure they conform with easement document and are an adequate width for maintenance as determined by the public agency.

III. Street Plan and Profile Sheets

A. Profile shall be on top half of sheet and include:

1. Centerline profile.
2. Existing ground at centerline (not necessary if site has been mass graded).
3. Top of curb profiles including curb returns. Rate of grade shown on profiles to be based on centerline stationing rather than true length of curves (except for curb returns, cul-de-sacs and knuckles).
4. Scale (horizontal and vertical).
5. Vertical curves, including tangent grades, BVC, EVC, P.I.V.C. station and elevation, and elevations every 50 feet. Indicate resultant design speed of the vertical curve.
6. Elevations on curb returns at ECR and BCR locations and at $\frac{1}{4}$ delta points.
7. Limits of superelevation, if applicable. A separate sheet may be required to show actual superelevation diagram.
8. Identification of existing improvements showing public agency plan file numbers, if requested.
9. Utility line crossings and substructures, which could interfere with road and other underground construction. (Check potential conflicts and advise if potholing is warranted).
10. Curb height transitions.
11. For pavement widening projects, profile of existing edge of pavement with elevations at a minimum of 50-foot intervals.
12. X- section (see section IX.B for requirements)

B. Plan view shall include:

1. North arrow.
2. Existing improvements shown (dashed).

3. Improvements to be constructed.
4. Approved street names.
5. Station equations at all intersections.
6. Stations at each 100 feet marked on all construction centerlines and aligned with profile.
7. Bearings for all street centerlines. Curve data for all curves.
8. Existing and proposed utilities, including, but not limited to, valves, manholes, vaults, poles, meters. etc.
9. Tract number, boundary and lot lines for each adjacent parcel.
10. Applicable construction notes shown on each sheet.
11. Match lines clearly shown and referenced.
12. Street lighting layout, if applicable.
13. Removals.
14. Local depression details showing top of curb elevations and curb height and width transitions.
15. Centerline station reference and grades of all BC's, EC's, PCC's; angle points, etc. in the curb or edge of pavement lines.
16. Identify limits of new paving, old paving, overlay and removal using appropriate shading to delineate areas.
17. Special considerations for cold weather climate and its effect in the design of striping, pavement markings such as raised RPMs, and other features that might be affected by snow plowing operations.

IV. Signing/Striping Traffic Control Plans

- A. General notes and details
- B. Identify disposition of existing signs (i.e. remain, remove, salvage, etc.).
- D. Warning, guide and regulatory signs shall be conformance with the State Standards.
- E. Striping in conformance with State Standards.
- F. Identification of appropriate State Standard Detail for striping shown
- G. Label lane widths, return pocket lengths, flare lengths, transition rates and taper lengths.
- H. Identify BC, EC, and angle points in striping consistent with street improvement plans.
- I. Identify type, size, and location of street name signs.
- J. Provide detail of non-standard signs that may be needed.
- K. Bikeways, if required, in conformance with the public agency Master Plan of Bikeways.

V. *Traffic Control Plans*

- A. General notes and details
- B. Identify disposition of existing signs (i.e. remain, remove, salvage, etc.).
- C. Warning, guide and regulatory signs shall be conformance with the State Standards.
- D. Temporary construction signing and striping in conformance with the most current edition of the Work Area Traffic Control Handbook, OSHA requirements and State Standards.
- E. Identify BC, EC, and angle points in striping consistent with street improvement plans.
- F. Bikeways, if required, in conformance with the public agency Master Plan of Bikeways.
- G. Indicate any temporary parking restrictions that are needed.
- H. Indicate the day(s) of week and time(s) of day that the plan will be in effect.
- I. Provide a 24-hour contact phone number for the traffic control superintendent.
- J. Provide a pedestrian detour or temporary sidewalk through or around the work zone.
- C. Indicate pavement restoration technique or whether steel trench plates are to be used in the event the site cannot be restored at the end of each working day.
- D. Indicate the location and duration of any driveway closures as well as any traffic control plan features needed to accommodate access to private property.
- E. Provide a canopied walkway for pedestrians in accordance with the U.B.C.
- F. Notification must be provided to the MLFPD and MLPD at least 2 hours in advance of any approved street closures.
- G. All plans shall include the traffic control general notes. Construction notes and a legend shall also be included.
- H. All existing regulatory, warning, guide and any special signs shall be shown. This includes parking prohibition signs, advance street name signs (G7), bus stops signs, etc. All existing sign locations shall be field verified. Signs to be covered (bagged or removed and reinstalled shall be identified).
- I. All existing striping, pavement markings and curb markings shall be shown, including bike lanes, parking layouts, and crosswalks and limit lines. Locations and types of existing striping and pavement markings shall be field verified.
- J. Design speed shall be shown at all approaches to the work area.
- K. Lane dimensions shall be shown at 300-foot intervals and at each end of lane or pavement transitions, match lines and join locations. Also, show length of turn lanes, flares, reverse tapers.

- L. Minimum of 500 feet of roadway with striping details beyond project limits (showing joint points) shall be shown.
- M. All signs placement shall be dimensioned.

VI. Miscellaneous

- A. Separate utility improvement or relocation plans, if required.
- B. Cross-sections at 50' or 100' intervals for review of pavement widening joint conditions and/or earthwork calculations, if requested.
- C. Retaining wall plans and details, if required.
- D. Traffic signal plans and details, if required.
- E. Quantity summary and back up in a format as required by the public agency.
- F. Special provisions, if applicable.
- G. Cost estimate, as required by public agency.
- H. Verification that all required permits, rights-of-entry, etc. have been obtained.