

**BOULDER COUNTY UTILITY CONSTRUCTION PERMIT REQUIREMENTS**

**RESOLUTION NO. 2019-53**

**Approved by the Boulder County Board of County Commissioners on  
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# **BOULDER COUNTY UTILITY CONSTRUCTION PERMIT REQUIREMENTS**

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# UTILITY CONSTRUCTION PERMIT REQUIREMENTS

## I. GENERAL REQUIREMENTS

### 1.1 Authority

Authority for the administration and enforcement of the Utility Construction Permits is derived from the Colorado Revised Statutes (C.R.S.), Sections: 37-84-103; 38-5-101; 38-5.5-104.5; 38-5.5-106; 42-4-101 through 42-4-512; 43-2-111; 43-2-147; 43-5-301; and 43-5-307 and 32-1-1006.

Failure to comply with the requirements set forth herein may be considered a misdemeanor offense as provided for within the statutes.

### 1.2 Permit Application Process

Any person, business, or agency, including contractors, developers, owners, governmental agencies, etc., (hereinafter referred to as the "Applicant") who proposes to perform new construction, exclusive of work which is deemed routine maintenance or does not entail the disturbance of the right of way (hereinafter referred to as the "ROW") or is at the discretion of the County Engineer, within Boulder County (hereinafter referred to as the "County") road rights of way must obtain a Utility Construction Permit from the Boulder County Transportation Department in accordance with these requirements. However, any and all activities in County road right of way shall adhere to all applicable safety requirements (e.g. OSHA) and County and State statutes and regulations.

It is the Applicant's responsibility to obtain both a Floodplain Development Permit (FDP) and a Utility Construction Permit for work conducted within County right of way and a floodplain. The FDP is issued by the Boulder County Floodplain Manager or designee.

In addition, and when applicable, the Applicant shall obtain the necessary County Stormwater Quality Permit (SWQP). The SWQP is required for projects that: disturbs one acre or more in size; are less than one acre and construction activity is part of a larger common plan of development that will ultimately disturb one acre or more, even if multiple, separate, and distinct land development activities may take place at different times; or, are within 100 horizontal feet of a watercourse.

An application and inspection fee will be charged in accordance with the following schedule:

**Minor installations** - utility services bores or a single pole sets: \$100.00 Fee

**Major installations** - Work within roadway pavement and or ROW:

\$150.00 Base Fee + \$.25 per linear foot for all construction for the purpose of defraying the administrative and inspection costs of the permit program.

**FDP and SWQP fees** are as designated by the permitting agency.

**Refer to Sample Permit Form (attachment A) and Utility Construction Permit Request (attachment B).**

Application for the Utility Construction Permit must be submitted attachment A) at least 10 working days prior to the planned commencement of construction. The Applicant shall submit engineered construction plans and specifications prepared by a professional engineer registered by the State of Colorado and, as applicable, an FDP and/or County SWQP. Minor projects may be exempt from the professional engineer standard plans and specifications as determined by the County Engineer or designee. Submission of a traffic control plan prepared by a certified traffic control supervisor is required. A written schedule covering the general sequence, and staging of the work to be performed shall also be submitted. An 8.5" by 11" drawing may suffice for minor installations, such as a service crossing. The methods specified for road construction and restoration on all permits are subject to the approval of the County Engineer or designee. The schedule and the plans shall not be changed after the permit is approved without the written consent of the County Engineer or designee. Permits must be available at the work site on demand by County personnel at all times. Utility Construction Permits expire on the approved scheduled ending date and must be renewed five working days in advance of the scheduled ending date in order to be considered valid. In the event of an emergency and when time is not available to follow the procedures outlined herein, a verbal notification shall be made by calling the County Transportation Department (303-441-3900) or the County Sheriff's Office at (303-441-4444) if the

County Transportation Department is not available. A written permit to ratify the verbal authorization must be obtained within the next two working days.

### **1.3 Bonding Requirements, Insurance, SMM, SME/Registration Requirements**

Upon demand by the County, the Applicant shall provide the County a bond, or other suitable performance guarantee, for the total amount required to restore public property as specified herein and at an amount based on contract prices for performing such work as approved by the County Engineer or designee. If said work and installation are not completed as herein called for and in accordance with the standards and specifications approved by the County, the bond shall be in default, and the County shall recover on same, provided notice of defect of installation and standards is given by the County in writing to the Applicant 30 calendar days prior to the date the bond will be redeemed.

An Applicant requesting to work within County rights of way must be adequately insured and submit a certificate of insurance issued within the prior 30 days. Certificates must be updated annually and should be forwarded to Boulder County Transportation, P.O. Box 471, Boulder, Colorado 80306.

Commercial General Liability should be provided on an Occurrence Form, ISO CG001 or equivalent, with minimum limits of \$1,000,000 Each Occurrence, \$2,000,000 General Aggregate and \$2,000,000 Products Completed Operations Aggregate. Automobile Liability, Bodily Injury and Property Damage for any owned, hired, and non-owned vehicles used in the performance of this permit: Minimum limits \$1,000,000 Each Accident. Workers' Compensation must be maintained with the statutory limits. Employer's Liability is required for minimum limits of \$100,000 Each Accident/\$500,000 Disease-Policy Limit/\$100,000 Disease-Each Employee. The County shall be named as additional insured for General Liability. The additional insured wording should be as follows: "County of Boulder, State of Colorado, a body corporate and politic, is named as Additional Insured."

All equipment used on County roads must have proper registration from the State of Colorado.

### **1.4 General Policies**

Work is to be planned so as not to create safety hazards, maintenance problems, unreasonable traffic delays, obstruct drainage ways, or render portions of right of way unusable for future road improvement. Longitudinal installations shall be placed outside the maintained portions of the roadbed when possible. Longitudinal installations shall be discouraged from being placed in the wheel path. Manholes or valves shall not be designed or constructed in the wheel path of the travel lane or shoulder. Transverse installations shall be directional boring under the road. Water missile bore techniques will not be allowed without special approval. When using trenchless excavation methods, the Applicant may be required to expose existing facilities and visually observe/verify with County staff the location, elevation, and safe crossing of underground facilities. Open excavations will be permitted only in instances where boring is proven infeasible due to site geology or the presence of existing utility conflicts.

All utilities shall be installed in accordance with the plans approved by the utility owner and the County. As applicable, plans for installations must conform to C.R.S 9-1.5-103 and the name, seal, and signature of a Colorado Registered Professional Engineer responsible for their preparation. The alignment of all the utilities within County rights of way (ROW), including drainage ways within County ROW is subject to approval by the County. The issuance of a Utility Construction Permit does not guarantee that deeded ROW exists where the utility is planned. The Applicant is responsible for verifying and surveying, as per State and County statutes, the proposed utility corridor as part of plan preparation. The Contractor shall take proper precautions for the protection of existing utilities and per state statute or local requirements.

#### **1.4.1 Underground Utilities**

All road level accesses (manholes, vaults, etc.) to utilities, where permitted, shall be of heavy-duty construction, capable of safely supporting legal highway loading, anticipated maintenance equipment and vehicular traffic, and shall conform to a 1/8" below finish grade of the road. All underground utilities within public ROW shall be suitably marked per industry standards. When requested, new or replacement pedestals shall be clearly labeled with the owner's name.

Where the possibility exists of lowering the surrounding water table by installing a buried utility thereby adversely affecting wells and vegetation dependent on the water table elevation in the area, suitable engineered methods shall be employed to mitigate the situation.

#### 1.4.2 **Aboveground Utilities**

All aboveground utilities shall be located and installed so as not to cause unnecessary obstruction to pedestrian, bicycle, and vehicular traffic or damage to the utility itself that could be harmful to the general public. The minimum overhead transverse clearance shall conform to National Electrical Safety Code Standards but shall not be less than 18-feet measured from the highest point of the road prism to the bottom of the cable. No pole, structure, or aboveground installation shall be set to be in conflict with a sidewalk/pedestrian facility or shared use path, nor be set less than 10-feet from the edge of traveled way on local roads, and 20-feet on arterials. A lesser distance will require a design exception from the County Engineer and will be based on the guidelines contained in the American Association of State Highway and Transportation Officials (AASHTO) Guide for "Accommodating Utilities within Highway Right-of-Way." A design exception will be considered if insufficient right of way does not permit the minimum distance and safety is adequately addressed. Acquisition of additional easements will be the Applicant's responsibility.

**Vertical Bore Holes** subgrade shall be filled with flow-able fill and patched with an approved surface treatment commensurate with the existing surface and depth (cold mix is not acceptable). The repair shall be flush with the surrounding surface free of indentation or recess. Numerous vertical openings may result in a larger repair and surface treatment to include mill and overlay. Repair of the bore holes shall be the responsibility of the contractor who made the holes.

#### 1.4.3 **Utilities in Floodplain**

All utilities within the County right of way must be located and installed in a manner that will prevent damage such as land erosion, water pollution, or flood diversions. Any utility placed within a floodplain, which is located within the public right of way, must also obtain a County Floodplain Development Permit (FDP), and, as appropriate, other requirements for work including, but not limited to, a County Storm Water Quality Permit (SWQP), State Dewatering Permit, or State Stormwater Construction Permit.

#### 1.4.4 **Non-Public Utilities in County Road Right of Way**

In general, only public utility agencies have the right to be allowed within County road right of way; however, on occasion, situations arise where an irrigation conduit or other privately-owned buried conduit needs to be placed. These situations will be reviewed on a site-specific basis and, if approved, must adhere to all the same requirements for design, construction, and safety as if they were a utility.

Under CRS 9-1.5-101 et seq, an individual person who has the right (e.g. by license from the County) to bury underground facilities in or near a public road is required to join the State Utility Notification System, and that person shall be liable for failure to comply.

## **1.5 Road Closures Policies and Requirements**

If any emergency road closure is needed, the Applicant must contact the Boulder County Sheriff dispatch center, 303-441-4444. Non-emergency road closures are not permitted unless justified on the basis of overall benefit and safety to the general public and approved by the County Engineer or designee.

When road closures are proposed, the Applicant must follow the Road Closure Notification Procedure as follows:

1. The County Transportation Department Traffic Engineer must be notified of a proposed road closure at least 15 working days in advance.
2. The Applicant develops a road closure signing plan and detour, for approval by the County Traffic Engineer. Boulder County reserves the right to deny the closure of a road.
3. Ten working days prior to the road closure, the County Traffic Engineer will contact the County's Transportation Public Information Officer to set up the creation and distribution of a news release to all applicable media sources. The Applicant shall provide information specifying the closure location, start and end dates and times, and project contact information 15 working days prior to the road closure for use in the news release. The news release will be issued upon approval of road closure by the County Engineer.



4. The County Traffic Engineer drafts a road closure memorandum to be submitted to the Boulder County Engineer or designee for approval a minimum of seven working days in advance of the first day of the closure. The memorandum will give an explanation as to why the road needs to be closed, the duration of the closure, and a vicinity map showing the affected roads.
5. The memorandum and the pre-signed approval are copied to the State Patrol, the Boulder County Sheriff's Office (who notifies all effected emergency response agencies prior to the first day of the closure), the County Road Maintenance Division Supervisor (hereinafter referred to as "Road Supervisor"), the Traffic Control Section of the Transportation Department, and the Transportation Public Information Officer.

Road closures will be permitted only:

1. If explicitly specified on the approved permit;
2. During the approved closure time and dates; and,
3. As approved by the County Engineer or designee.

Where closures are approved, a suitable detour must be provided and be adequately marked and signed to accommodate day and night traffic. Contact information for the project Traffic Control Supervisor and Project Supervisor must be provided and **they must be available at all times for the entire duration of the closure and be capable of responding to the site within one hour of notification.**

The Applicant is responsible for all costs associated in the deployment of transportation resources or contract agents at the discretion of the County Engineer, County Road Supervisor, County Sheriff, or local emergency service providers when necessary and applicable.

## 1.6 Phasing of Installation and Permits

Phasing may be required in order to produce the least disruption possible for the traveling public. A permit for any subsequent stages will not be issued until the prior stage has satisfactorily progressed or been completed and approved.

### **1.7 Safety and Public Convenience**

The Applicant shall, at all times, conduct its work to ensure the least possible obstruction and hazard to the traveling public. No work will be allowed during inclement weather (including, snow, ice, rain or fog) until roads have been cleared of all hazards. The safety and convenience of the general public and residents along the road and the protection of persons and property shall be provided at all times.

The Applicant's equipment working in the right of way will be identified with a minimum 2' x 2' logo and phone number of the permitted company.

State of Colorado certified flag personnel shall be required for one-lane and/or potentially hazardous operations. Adequate warning signs, barricades, lighting, flags, flaggers, and other devices as specified in the latest Manual on Uniform Traffic Control Devices and the Colorado Department of Transportation "S" Standards, per approved traffic control plan or required by Boulder County, shall be provided, maintained, and paid for by the Applicant. All signs necessary to work within Boulder County right of way will be removed at the end of each workday, unless signs are necessary for the safety of the traveling public.

The Applicant's operations are to conform to the applicable requirements established by the Industrial Commission of Colorado and the Occupational Safety and Health Act (OSHA).

### **1.8 Maintenance and Repair Responsibility, Warranty Period**

After completion of authorized work, maintenance and repair of the installation shall be the utility owner's responsibility. In the event that damage to the road results from the failure of the utility's facility, the owner of the facility shall be liable for road repairs. Maintenance of the work area during construction shall be the responsibility of the utility owner.

## 1.9 Utility Relocations

If at any time in the future, Boulder County requires that the Applicant's facilities in the right of way be moved in order to accommodate the County's needs to use the right of way, the Applicant shall move the facilities, as requested by the County, within 90 days of the request. The Applicant, by accepting this permit, also agrees that it will move other facilities it owns that are located in the County's road rights of way in other locations within 90 days after requested.

For relocation projects, the County and the affected utilities will adhere to the following procedure.

1. The County will submit roadway project concept plans (plans approximately 30 percent complete) indicating proposed horizontal and vertical alignment to the affected utility companies. The utility companies will have 30 days from the date of receipt of the plans to forward comments to the County concerning utility relocation coordination issues.
2. When plans have been developed to the preliminary stage (plans approximately 60 percent complete) indicating roadway grading, pavement section, drainage improvements, and actual physical locations of utilities in the right of way, the County will submit plans to the affected utility companies. Utility companies will have 30 days from the date of receipt of the plans to forward comments to the County concerning utility relocation coordination issues. Note that the 60 percent plan set is not always provided and the plans may go from 30 to 90 percent complete phase.
3. When plans have been developed to the final stage (plans approximately 90 percent complete), except for final quality control review and minor corrections, the County will submit plans to the affected utility companies. The utility companies will have 30 days from the date of receipt of the plans to complete and forward their final utility relocation plans and schedule for relocation to the County for inclusion as reference drawings in the project "bid set."

4. Actual utility construction/relocation work will be completed within 90 calendar days from clearance of right of way and written notification from the County. Alterations from this relocation timeframe requirement may be granted if appropriate scheduling provisions have been established within the design phases described above.

### **1.10 Inspections, Final Release Requirements**

Adequate inspections ensure compliance with County requirements and are the basis for release of construction zone maintenance responsibility and/or for release of any bond. It is the responsibility of the contractor to contact the County Construction Inspector (hereinafter referred to as Construction Inspector), 24-hours in advance of required inspections. In-progress inspections of all elements of work will eliminate the need for extensive post-construction testing. Any work or material that does not conform to County standards will be brought to the attention of the Applicant, and if immediate corrections are not made, construction will be suspended. Failure to notify the Applicant of noncompliance with requirements shall not relieve the Applicant of their responsibility to comply. All requirements for construction inspection and conform to the latest edition of Design Standards of the Boulder County Multimodal Transportation Standards.

Before a bonding commitment is released, written approval of satisfactory completion of work from the Construction Inspector must be on file with the County Engineer. Certification shall be by the Construction Inspector's signature on the space provided for that purpose on the original copy of the permit.

## **II. SPECIFICATIONS**

### **2.1 Quality Control**

All work shall conform to the latest edition of Article 5 – Design Standards of the Boulder County Multimodal Transportation Standards.

Any work in which untested and unaccepted materials are used without written approval by the Construction Inspector shall be ordered removed and replaced at the Applicant's expense.

Tests ordered by the Construction Inspector to enforce compliance with specifications shall conform to the most recent standard methods of AASHTO or American Society for Testing and Materials (ASTM) and shall be made by an independent testing firm at the expense of the Applicant. Specific test locations and testing frequency may be specified by the inspector. Where the Applicant or owner maintains their own testing equipment and qualified personnel, the requirement for an independent testing firm may be waived by the County. Copies of test data shall be furnished to the Construction Inspector within one working day after the Applicant has received such data. Failure to submit test results upon request by the Construction Inspector may result in suspension of work. The Applicant shall be fully responsible for the maintenance and correction of any faulty construction, including unsuitable road cuts and potholes developed during the construction period. The roadway and roadside areas where utility work has been performed shall be thoroughly cleared of all debris and extraneous material and shall be restored to a condition at least in-kind or greater as the original condition. Items checked include, but are not limited to: clean-up of pavement and all roadway appurtenances; pavement failures; broken concrete; damaged signs and fencing; debris on adjacent private property; and, replacement of road shoulders. All deficiencies must be resolved to the satisfaction of the Construction Inspector.

## **2.2 Trenching, Backfill and Pavement Restoration**

Jetting backfill will not be permitted within County rights-of-way. Suitable material excavated from a trench may be used for backfill subject to approval of the Construction Inspector. At no time will contaminated, wet, soggy, frozen, or other unsuitable material be allowed as backfill. If proper backfill material is not at the excavation site, suitable material (minimum R40) shall be imported and unsuitable material removed from the site. Backfill shall extend to the sub grade of the road or to natural ground. Backfill within the roadbed shall consist of pervious material free of six-inch or larger rock, shall be placed in maximum twelve-inch lifts, and each lift shall be compacted to 95 percent maximum density with moisture control before the next lift is installed. Backfill within 12 inches of finished grade shall consist of three-quarter inch road base (e.g. Aggregate Base Course (Class 6)) compacted to 95 percent with moisture control below the final surface. In most cases, full depth road base or flowable backfill (e.g. Structure Backfill (Flow-fill)) may be specified by the Construction Inspector.

All cuts made in hot bituminous pavement (hereinafter referred to as "asphalt") or

concrete surfacing shall be made by mechanical cutting to a neat, true horizontal and vertical line, and shall be cut two-feet wider on each side of the top of the trench excavation. The final pavement cut shall not be made until immediately prior to patching. Repair of concrete surfacing shall consist of placing dowels into the existing concrete surface adjacent to the limits of the excavation and providing proper class of concrete and reinforcement within the concrete patch area.

All excavations that are made in paved streets or other transportation facilities within the right-of-way shall be completely restored after acceptance of the backfill by the Construction Inspector. Temporary asphalt shall be placed immediately in all patch areas on all arterial and collector streets, and within seven calendar days on all other facilities. In the event weather conditions preclude restoration by permanent asphalt, temporary repairs shall be made by tamping and rolling asphalt into place. Such temporary patches shall be removed and replaced with permanent asphalt within two working days, or as weather permits.

Permanent asphalt patches shall be no less than six inches thick or not less than the thickness of the pavement adjacent to the excavations, whichever is greater, and shall be installed in accordance with Boulder County Multimodal Transportation Standards. Damaged pavement and other facilities within the construction zone shall be repaired by appropriate methods as approved by the County. Cracks are to be filled with the proper asphalt product and the surface properly seal-coated. Sub-grade failures caused by the Applicant's operation of heavy equipment shall be rectified by reconstructing the sub grade layers and replacing the sub-base, base, and asphalt pavement.

If a utility line is placed longitudinally under the existing asphalt, concrete, or gravel roadway, the roadway shall be patched with asphalt if applicable, and a surface treatment commensurate with the existing road surface treatment (e.g. asphalt, concrete, chip seal, gravel) shall be placed for the length of the project. The width of the surface treatment will be a minimum of the width of one lane (roadway edge to centerline) of the roadway and may be required to be the width of the entire roadway, based on the determination of the County Engineer or designee. The thickness and composition of the surface treatment shall be determined by the County and shall be commensurate (at a minimum of two inches) with the existing condition of the roadway surface. A mix design submittal and method for all surface restoration products must be approved by the County prior to placement.

Utility cuts allowed in County roads where the surrounding pavement is less than three (3) years old will be required to meet all patching requirements of this section (2.2) and will also be subject to one of the following depending on size and type of cut:

1. Small cuts, less than 100 square feet, will patch and infrared, or patch and fog seal/chip seal the asphalt surface.
2. Large excavations, greater than 100 square feet and any longitudinal trenches, require a full-lane (edge to center of road) overlay with a two-inch County-approved asphalt and application method.

All pre-existing pavement markings shall be restored upon completion of the surface treatment.

In the event bituminous base, soil cement, geotextiles, or other base course materials are encountered during excavation, restoration shall be made in-kind or as otherwise specified by the County.

Backfilled trenches or cuts that show signs of depressions or evidence of failure and which have not been repaired by the Applicant after seven days' notice will be considered a violation of the permit and the area may be repaired by the County at the Applicant's expense.

### **2.3 Bridge, Culvert and Structure Crossings**

In general, utilities are discouraged from being attached to bridges.

Where utilities are permitted to be attached to bridges, due to overriding conditions encountered in the field as judged by the County, such utilities shall be placed so as to not obstruct the waterway of the bridge or interfere with the existing guardrail. Utility locations on the bridge shall be determined by the County Engineer. The Applicant shall be responsible for the cost of any structural or hydraulic analyses and modifications necessary to attach said utility to any bridge or structure.

Utilities shall be placed at least four-feet below the bottom of the channel at the

flow line as close to the right of way limits as conditions permit. The utility shall be continued a minimum of four-feet below the flow line elevation for a minimum distance of at least 30-feet on either side of the channel bank. A lesser distance may be considered based on a scour analysis and design prepared by a professional engineer at the cost of the Applicant.

Utilities which cross any irrigation ditch within the road right of way will be subject to any applicable fees required by the owner of the irrigation ditch. Evidence of approval by affected irrigation companies shall be submitted to the County prior to issuance of a Utility Construction Permit.