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I. **Purpose**

This document establishes the minimum construction and excavation standards for all work in the public right-of-way. All proposed work submitted for approval under Title 21 of the City of Aspen municipal code shall conform to the criteria set forth herein. Additional standards may be applicable for work involving water or electric utility service or main lines.
II. Location of Facilities

A. General

1. The location of all facilities within the public right of way shall comply with the details and specifications shown on the construction plans approved by the city engineer or designee.

2. It is city policy to discourage the placement of utility lines and other facilities within landscaped areas unless no other reasonable location for the placement of such lines or facilities exists.

3. The horizontal alignment shall not vary from the approved design greater than eighteen inches (18") plus ½ the diameter of the proposed conduit. The vertical alignment shall not vary from the approved design greater than thirty-six inches (36") plus ½ of the diameter of the proposed conduit. The minimum allowable bury depth of the utility shall also be maintained. (See applicable utility provider standards for minimum bury depth specs). Any variance from these standards requires prior approval from the city engineer or their designee.

4. The entire conduit shall be contained within the acceptable alignment tolerances, as defined above. If a variance in the alignment is required to clear a conflict, prior to proceeding, the permittee shall:
   a. Notify the city engineer or designee within twenty four (24) hours of identifying the conflict.
   b. Receive an approval for a variance from a City Engineering, Water and/or Electric inspector. Once a variance is approved by the City, it shall become the approved alignment. A city inspector shall be on site during the work associated with the variance.

5. If the designed alignment conflicts with other facilities not shown on the approved plans, the permittee shall submit an alignment modification request and the change shall be approved by the city engineer or designee prior to proceeding.

6. All underground cables and wires shall be placed in a conduit and shall have a warning ribbon placed in the trench eighteen (18) inches above the utility.
Construction and Excavation Standards for Work in the Public-Rights-of-Way

7. All underground installations shall have a minimum thirty inches (30") of cover between the surface of the roadway to the top of the facility. (See applicable utility provider standards for minimum bury depth specs.)

8. The permittee’s proposed facilities shall be located outside the restricted areas as defined by Exhibit A.

B. Above-ground Structures

1. A detailed plan shall be required for all above-ground structures. The plan shall show dimensions of the cabinet, base and the proposed location.

2. All above-ground structures shall be located outside of the public right-of-way and within a private easement on the property being served.

3. The location of above-ground structures shall not interfere with sight distance requirements for intersecting streets and access drives.

4. Above-ground structures shall be located to minimize the aesthetic impacts to the landscape.

C. Underground Access Structures (Vaults and Hand-Holes)

1. Underground access structures shall be placed in line with the utility alignment (see utility provider specs for any exceptions). Horizontal adjustments to accommodate underground access structures are discouraged and shall only be permitted when conditions warrant and at the city engineer’s discretion. The placement of each access structure shall require field approval prior to placement.

2. The minimum separation between access structures shall be five hundred feet (100’). An exemption to this provision shall be granted by the city engineer if the following criteria are met:
   a. The access structure is required to provide service to a building or a customer within a building;
   b. The width of the property frontage does not allow the permittee to meet the minimum separation requirement while still providing service at a reasonable cost;
   c. No access structure currently exists within one hundred feet (100’) of the boundaries of the property to be served (see utility provider specs for any exceptions);
d. Other conduit owned or leased by the permittee is not available for the permittee's use; and

e. Options to provide service to the building from other directions are not reasonably available to the permittee. In no case shall an exemption, granted pursuant to this section, authorize access structures to be separated by less than two hundred fifty feet (250') (see utility provider specs for any exceptions).

3. Access structures shall be placed a minimum of fifty feet (50') from all intersections, unless otherwise approved by the city engineer or designee.

4. The maximum size of an access structure and access lid shall be the minimum necessary for the facilities being installed, as determined by the city engineer or designee. In making its determination, the city engineer or designee shall consider any information submitted by the permittee to justify the size of the access structure or access lid (see utility provider specs for any exceptions).

5. Access lids located in landscaped areas shall be buried in mulch, rock beds, or sod, unless otherwise approved by the city engineer or designee.

6. Access lids placed in sidewalks shall be flush with the existing surface and capable of being filled with like material.

7. All access lids within travel lanes shall be placed outside of the wheel track as defined in Exhibit C.

8. Access lids shall be placed at an elevation of +0 inch to –3/8 inch relative to the surrounding pavement surface.
III. Construction Standards

A. General

1. Testing, in compliance with the city’s testing schedule, which is attached hereto as Exhibit B, shall be performed by an independent testing agency acceptable to the city engineer or designee, and results shall be provided to the city engineer or designee within two (2) working days of completion of testing and prior to the next phase of construction. For example, a subgrade test is required prior to asphalt placement.

2. Any damage not documented during the pre-construction inspection shall be repaired by the permittee at the sole expense of the permittee.

3. Utility markings shall be limited to the boundaries of the construction area and shall be removed by a method approved by the city engineer within forty-five (45) days of the completion of work.

4. A permittee shall advise the city engineer or designee at least forty-eight (48) hours in advance of the date the work will start and shall notify the city engineer or designee at least forty-eight (48) hours in advance if this date is changed or cancelled. Inspections required on the permit shall be scheduled by permittee at least forty-eight (48) hours in advance.

5. Each permittee shall utilize erosion and sediment control measures to prevent erosion and degradation of water quality.

6. The city shall restrict any work within the public right-of-way from November 1 to April 1.

7. Each permittee shall maintain its work site so that:
   a. Trash and construction materials are contained and not blown off the work site.
   b. Trash is removed from a work site often enough so that it does not become a health, fire, or safety hazard.

8. Each permittee shall utilize its best efforts to eliminate the tracking of mud or debris upon any street or sidewalk. Streets and sidewalks shall be cleaned of mud and debris at the end of each day. All equipment and trucks tracking mud and debris into a public right-of-way shall be cleaned of mud and debris at the end of each day or as otherwise directed by the city engineer or designee.
9. Backhoe equipment outriggers shall be fitted with rubber pads or other like protective material whenever outriggers are placed on any paved surface. Tracked vehicles that may damage pavement surfaces shall not be permitted on paved surfaces unless specific precautions are taken to protect the surface. The permittee shall be responsible for any damage caused to the pavement by the operation of such equipment. Should the permittee fail to make such repairs, within three (3) days, to the satisfaction of the city engineer, the city may repair any damage and charge the permittee pursuant to Section 21.12.270 of the Aspen Municipal Code.

10. As the work progresses, all public rights-of-way and other property shall be cleaned of all rubbish, excess dirt, rock and other debris, at the sole expense of the permittee.

11. No permittee shall disturb any surface monuments, property markers or survey hubs or points found on the line of work unless prior approval is obtained from the city engineer. Any monument, hub or point which is disturbed by a permittee shall be replaced by a Colorado Registered Land Surveyor at the sole expense of the permittee.

12. Each permittee shall provide employee and construction vehicle parking so that there is limited parking in the neighborhood adjacent to the work site. Permittee shall obtain parking permits from the Parking Department for construction parking. There shall be no parking on sidewalks or unpaved portions of city right-of-way.

13. Each permittee shall provide necessary sanitary facilities for workers, the location of which shall be approved by the city engineer or designee and set forth in the permit.

14. For major installations, a permittee shall locate all parallel dry facilities within forty two inches (42") plus ½ of the diameter of the proposed conduit and all parallel wet facilities within seventy eight inches (78") plus ½ of the diameter of the proposed conduit. The location of parallel facilities shall be field verified by locate potholes, unless the potholing causes pavement disturbance in an adjacent travel lane that otherwise would be undisturbed. The location of existing facilities, including lateral crossings, which may affect the proposed facility alignment shall also be
Construction and Excavation Standards for Work in the Public-Rights-of-Way

field verified by locate potholes. Wet facilities include water, sewer and gas; and all other facilities shall be considered dry facilities.

15. As-built drawings shall be required for all work involving changes to finish grade of streets, curbs, gutters and sidewalks. All as-built information shall be provided by the permittee to the City in a format acceptable to the city engineer or designee, and approved by the City engineer or designee prior to use of the facility.

B. Pavement Removal
1. All asphalt pavement cuts shall be rectangular in shape with sides parallel and perpendicular to the flow of traffic. All cuts shall be in straight lines. Irregular shaped cuts with more than four (4) sides or cuts within existing patches shall not be allowed.

2. In order to provide straight edges, all asphalt pavement cuts shall be saw cut, rotomilled or another approved method which assures a straight edge for the required depth of the cut.

4. Asphalt pavement cuts shall be such that no longitudinal joint lies within the wheel track.

5. Concrete pavement shall be removed and replaced from existing panel joints only.

C. Boring
1. To minimize the impact to traffic and the right-of-way infrastructure, the city engineer encourages boring rather than open trenching.

2. Upon completion of the boring, the permittee shall certify that all utility lines to adjacent properties have not been damaged by the boring in a signed affidavit in a form acceptable to the city engineer.

3. If any boring operation disturbs other utilities or facilities in the public right-of-way, the permittee shall immediately inform the owner of the damaged utility or facility so that the owner can make any necessary repairs. The permittee shall provide the city engineer written notice that the owner of the damaged utility or facility has been notified.
4. Waste material from boring shall be contained within the work site and shall not be allowed to discharge onto private property, curb, gutter, roadway or any other city right-of-way.

D. Excavation and Backfill
1. Excavation
   a. All trench excavation shall be made by open cut to the depth required to construct the facility and provide adequate bracing of trench walls. All excavation, trenching, shoring, and stockpiling of excavated materials shall be in strict compliance with the applicable Occupational Safety and Health Administration (OSHA) rules and regulations.
   b. The permittee shall furnish, place, and maintain all supports and shoring required for the sides of the excavation, as to prevent damage to the work or adjoining property.
   c. The length of an open trench shall be limited to the amount of pipe or conduit that can be placed and backfilled in a single day. However, in no case shall the length of the open trench exceed one hundred feet (100') unless otherwise approved by the city engineer or designee. No open trench shall be left unprotected overnight.
   d. A maximum of two (2) excavations shall be open at any time for access structure installation and conduit splicing, unless otherwise approved by the city engineer or designee.
   e. Only material that will be hauled or backfilled within one (1) day shall be stockpiled in the public right-of-way and must be approved by the city engineer or designee. The city engineer or designee, in conjunction with all affected city agencies, shall approve all proposed construction staging areas.
   f. All open excavations shall be properly barricaded, according to current MUTCD guidelines, to protect vehicles and pedestrians.
   g. Current field moisture and density test results (taken within forty-eight (48) hours of the scheduled construction date) for top one foot (1') of subgrade shall be provided to the city engineer or designee prior to placing forms. If any lift of the top one foot (1') of subgrade does not meet moisture or density requirements, then the material shall be scarified, wetted and re-compacted accordingly. If subgrade requires stabilization, the method shall be approved by the city engineer or designee prior to proceeding.
2. Backfilling
   a. Controlled Low Strength Material (CLSM)
      i. Excavations that are less than 100 cubic yards in volume and are located within the roadway pavement may be backfilled with controlled low strength material (flow fill).
      ii. Controlled low strength material shall consist of a controlled, low strength, self-leveling material composed of various combinations of cement, fly ash, aggregate, water and chemical admixtures. It shall have a design compressive strength between 50 to 150 psi at twenty-eight (28) days when tested in accordance with ASTM 4832. The mix shall result in a product having a slump in the range of seven to ten inches (7-10") at the time of placement. The permittee shall submit the mix design for approval by the city engineer or designee prior to placement.
      iii. The maximum layer thickness for CLSM shall be three feet (3’). Additional layers shall not be placed until the backfill has lost sufficient moisture to be walked on without indenting more than two inches (2").
      iv. If excavation under an emergency situation occurs between November 1 - April 1, the top twelve (12) inches of the excavation will be filled with high strength (>150 psi) flow fill. The permittee shall replace the flow fill patch with a permanent asphalt patch per these standards, after April 1st.
   b. Select Backfill
      i. In cases where CLSM is not used, CDOT standard Class 6 backfill shall be placed in maximum eight-inch (8") loose lifts and compacted. All construction involving excavation and backfill shall meet CDOT Standard Specifications for Road and Bridge Construction, current edition, ("CDOT Standard Specifications") Section 203.
      ii. The permittee shall provide compaction testing for all backfill work per the Minimum Testing Requirements table in Exhibit B.
iii. Each lift not tested in accordance with the testing frequency and lifts required may be rejected by the city engineer or designee.

iv. Excavation and backfill shall be accomplished on the same day in order to minimize impact to the public right-of-way. In instances where the city engineer or designee determines that this cannot be accomplished, the permittee shall submit a plan for approval by the city engineer or designee showing how traffic will be handled around the work zone.

c. Bridging Plates

i. Substantial bridging, properly anchored and capable of carrying the legal limit loading, in addition to adequate trench bracing, shall be used to bridge across trenches at street crossings where trench backfill and temporary patches have not been completed during regular working hours. Safe and convenient passage for pedestrians and access to all properties shall be maintained.

ii. The bridging plate shall be secured to the pavement with anchored pins so that it does not slip. The bridging plate shall extend over supporting pavement by a minimum of one foot (1') on all sides. Cold mixed asphalt shall be ramped a minimum of two feet (2') in the travel direction.

iii. The use of bridging plates shall not be allowed from October 1 to April 1. Use of bridging plates shall only be allowed with the prior approval of the city engineer or designee.

iv. The permittee’s design engineer shall certify in writing the suitability of the plates for the specific use by the permittee.
E. Repairing Streets
   1. Asphalt Pavements
      a. The minimum patch dimensions shall be two feet (2') beyond each side of the trench or excavation but shall not extend into an adjacent undisturbed lane or cross the street center line.
      b. The longitudinal edges of the patch shall not fall within the existing wheel tracks as defined in Exhibit C. If the extent of the patch falls within the wheel path, the patch shall extend to the full width of the lane.
      c. Prior to placing the permanent patch, the existing pavement shall be sawcut to a neat, straight-line, square to the travel lane.
      d. A tack coat shall be applied to all edges of the existing pavement prior to placing the patch. After placing the new asphalt, all seams (joints) between the new and existing pavements shall be sealed with an asphalt tack coat or rubberized crack seal material.
      e. Asphalt mix shall be CDOT, S mix (3/4 inch). Patch back areas greater than one hundred twenty square feet (120 SF) shall require the submittal and approval of a mix design to the city engineer prior to placement.
      f. Compaction shall be between 92% and 96% of AASHTO T 209. Average compaction of less than 92% of AASHTO T 209 shall be cause for rejection.
      g. Compaction equipment shall be capable of compacting corners and edges of patch.
      h. Hot bituminous patches shall be placed in two compacted lifts. The first lift will extend two inches (2") below the bottom of the existing pavement. The top lift shall match the thickness of the existing pavement mat and installed as shown in Exhibit F.
      i. Patches shall also have a cross slope section consistent with the design of the existing roadway.
      j. A cold mix asphaltic material may only be used as a temporary patch and the cold mix material shall be approved by the city engineer.
      k. Temporary or permanent asphalt patches shall be placed within twenty four (24) hours of trench backfilling. Whenever permanent patches are not constructed within twenty four (24) hours following trench backfilling operations, temporary pavement patches consisting of a minimum of three inches (3")
of hot or cold plant mix or steel plates must be placed to provide the required number of paved travel lanes. Temporary pavement patches may be left in place for a maximum of five (5) working days following completion of backfilling operations unless otherwise approved by the city engineer or designee.

l. The permittee shall monitor temporary patches on a daily basis. Any temporary patches exhibiting ruts, humps, or depressions shall be repaired or replaced immediately.
m. A permanent hot patch shall be made within five (5) days after the area is open to traffic, weather permitting.
n. If final patching is not completed within the specified time, no non-emergency permits shall be granted to the permittee until all outstanding work is completed.
o. Upon completion of the permanent patch, the surface shall be thoroughly compacted, smooth, and free from ruts, humps, depressions, or irregularities. When a straightedge ten feet (10’) long is laid across the permanent patch parallel to the centerline of the street and in a direction transverse to the centerline, the surface shall not vary more than 1/4 inch from the lower edge of the straight edge. Patches exhibiting deviations greater than 1/4 inch shall be replaced prior to acceptance of the patch. If the existing street exceeds the above tolerances, then the patch shall be equal or better than the condition of the surrounding pavement. In most cases, and particularly in the cases of extensive excavation and repairs, it is desirable to survey the existing pavement condition with a representative of the city prior to the work. After completion of the work, survey the pavement condition again to verify that the pavement condition has been maintained or improved. In the case of minor repairs, these pavement surveys can be made by visual observation.
2. Restoration of Locate Potholes
   a. Locate potholes shall not be located within the wheel track of a travel lane as defined in Exhibit C.
   b. All locate potholes in the pavement section shall be cored with a circular coring saw with a maximum diameter of ten inches (10”). The plug shall be carefully removed without causing damage.
   c. Excavations for potholes shall be backfilled with controlled low strength material (flowable fill) only. Native material removed shall not be used to backfill the hole.
   d. The removed pavement shall be replaced by one of the following methods as directed by the city engineer:
      i. The full depth section or the top three inches (3”) of pavement of the removed original core shall be replaced and grouted with a high strength, quick set epoxy or mortar, as approved by the city engineer, such that the surface is flush with the surrounding pavement; or
      ii. The pavement shall be patched with hot mix asphalt of similar aggregate size to the surrounding pavement and compacted in maximum three inch (3”) lifts with a “pogo stick” compactor capable of fitting into the core hole such that the surface is flush with the surrounding pavement.
   e. A city inspector shall be on site during the repair of all locate potholes. The city engineer may waive this provision if the contractor demonstrates competent performance of the repair.
   f. Where possible, locate potholes shall be located under existing pavement marking and such marking replaced in kind at the completion of the repair to camouflage the pavement disturbance. If the permittee requests, city crews may install the new pavement markings at the sole expense of the permittee.
   g. Initial locate potholes may be temporarily repaired, meeting all applicable safety requirements, for no more than thirty (30) days unless additional time is authorized by the city engineer or designee in writing. Initial locate potholes may be reused during construction.
3. Concrete Flatwork
   a. Concrete material and placement shall be CDOT Class D, with 4500 psi compressive strength.
   b. Weather protection shall be provided in compliance with CDOT Standard Specifications Section 601.
   c. Permittee shall schedule a form inspection and obtain approval prior to pouring.
   d. Damaged concrete pavement shall be removed and replaced as a full panel section with dowels set into adjacent panels in compliance with CDOT M&S Standards.
   e. Damaged flatwork and curb and gutter shall be replaced in full sections from existing contraction joints. Partial section replacement shall not be permitted.
   f. Concrete removed adjacent to asphalt pavements shall be sawcut along the abutting edge prior to removal in order to remove without damage to the pavement. The sawcut edge shall not be used as a form for the new concrete. Temporary formwork shall be placed along the sawcut edge in the desired alignment. The top edge of the replaced concrete section shall be straight and true without warping or irregularity. After the formwork is removed, the gap shall be filled with asphalt. Damage caused to the edge of the asphalt pavement shall result in the assessment of a restoration for asphalt resurfacing per Section II.
   g. Subgrade elevation shall be brought up to +/- 0.1 foot of final grade per plans, with approved materials prior to placing forms.
   h. No water shall be placed on concrete surface to assist finishing.
   i. Variations of concrete surface shall not exceed 1/8 inch in ten feet (10').
   j. Liquid membrane curing compound shall be placed in compliance with CDOT Standard Specifications Section 412 at a rate to completely coat all exposed concrete surfaces.
F. Sidewalk, Curb, and Gutter

1. Permittee shall be responsible for repairing sidewalk, curb or gutter damaged from work activities of permittee.

2. Permittee shall be responsible for installation of new sidewalk, curb and gutter per city code 21.16.030 and for repair of sidewalk, curb and gutter per city code 21.16.080.

3. Sidewalks must be constructed with 4 inch thick concrete and must have 4500 psi compressive strength within 28-day maximum curing period. 80 percent of this strength must be achieved in 7 days following placement of concrete. Sidewalk width varies based on the land uses. The following minimum widths must be complied with:
   a) Residential area: 5’-0”
   b) High density and multi-family Area: 6’-0”
   c) Commercial Area: 8’-0”

Sidewalks must be placed next to the property lines in order to provide an adequate landscaping and snow storage buffer behind the curb, gutters and travel paths.

4. Extenuating circumstances may require the permittee to take steps to mitigate the impacts of sidewalk construction to trees, other vegetation, and/or drainage.

5. Specifications for the design of sidewalk, curb and gutter are contained in the City of Aspen Engineering Dept Design Standards.

G. Driveways

1. Location and number of driveway(s) per lot are determined by city code 21.16.060. Driveways servicing property without a garage shall be no greater than ten (10) feet wide. Driveways servicing a single-stall garage shall be no greater than ten (10) feet wide. Driveways servicing a two-stall or greater garage shall be no greater than eighteen (18) feet wide.

2. Where curbs exist or are required, driveways shall be paved for their full width from curb to property line.

3. Where a driveway crosses a sidewalk, the sidewalk shall be increased to a minimum of six (6) inches of concrete.
4. There shall be a minimum of twenty five (25) feet between any two (2) curb cuts whether on one (1) or more properties, except common driveways may be used on adjoining properties. Distance between curb cuts will be such as to maximize the amount of on-street parking.

H. Landscape Areas

1. Excessive, unnecessary disturbance to landscaping and other existing improvements may result in a stop work order until repairs are made to the satisfaction of the city engineer or designee.

2. Landscape restoration shall be completed within two (2) weeks of completion of work at each site, weather permitting.

3. Irrigation shall be maintained throughout construction to ensure that no landscaping is affected during the construction phase.

4. A permittee shall work with adjacent property owners to coordinate any construction activity that disrupts adjacent property owners landscaping.

5. Existing trees and landscape:
   a. All trees growing in the public right-of-way must be shown on the plans. If requested, it will be determined if the trees may be removed as part of the redevelopment project. A tree removal permit with required mitigation plan must be submitted to the City for approval and the permit issued prior to removal of any trees.
   b. A vegetation protection fence shall be erected at the drip line of each individual tree or groupings of trees remaining on-site during the improvements. No excavation, storage of materials, storage of construction backfill, storage of equipment, foot or vehicle traffic allowed within the drip line of any tree. This fence must be inspected by the city forester or his/her designee before any construction activities are to commence.

6. Tree Permit and landscaping in the right-of-way permit:
   a. Permits must be issued prior to any tree planting, pruning or removal.
   b. Failure to obtain a permit prior to installation of landscaping improvements will result in a fine and the possibility of removal of to date work.
I. Street Closures

1. Street closures are not permitted (city code 21.12.120). However, the Engineering Department may permit lane closures. When lane closures are permitted, the applicant must:
   a. Obtain approval for the closure on the dates specified by the permit with the Engineering Department, School District and the Roaring Fork Transit Authority (RFTA) at least one week in advance.
   b. Notify Aspen Communication Center at 920-5310 one day prior to closure and the time of re-opening.
   c. Set and maintain, at applicant’s expense, necessary barricades, flashers, construction signs, and flaggers; and take all necessary precautions in accordance with the Manual on Uniform Traffic Control Devices (MUTCD).
   d. Complete the work between 7:00a.m. - 7:00p.m., Monday through Saturday, unless otherwise approved by the Engineering Department for work activity outside the specified time frame.

J. Traffic Control

1. When it is necessary to close travel lanes or sidewalks and/or bike paths, the permittee shall submit traffic control plans, in compliance with the MUTCD, showing all work and including the following information:
   a. Each lane closure scenario, including work zones for locate pothole work.
   b. Lane configurations and access locations specific to the actual work zone.
   c. Any upstream intersections within five hundred feet (500') of the work zone, showing all impacted inbound lanes to the intersection.
   d. Pedestrian route detours showing the nearest crossing intersections at each end of the work zone.
   e. Proposed hours of operation of each traffic control setup.

7. All traffic control plans shall be prepared under the supervision of a certified Work Site Traffic Control Supervisor. Documentation of certification shall be submitted with the traffic control plan(s).

8. Lane closures shall be permitted in the commercial core and Main Street corridor only between 9:00 a.m. and 3:00 p.m. Monday thru Friday.

9. When planning construction phasing and developing traffic control plans, the permittee shall make every effort to minimize the impact to the
Construction and Excavation Standards for Work in the Public-Rights-of-Way

motoring public and maintain the capacity of the roadway system. The city engineer may require that a traffic control plan be modified to comply with this requirement.

10. When the traffic control plan requires the modification of any traffic signal timing plans, the permittee shall notify the Colorado Department of Transportation (CDOT) to coordinate the re-timing of the signal. All costs associated with such work shall be borne by the permittee.

11. All signs and devices shall conform to the Manual on Uniform Traffic Control Devices. The devices and signs shall be clean, legible, properly mounted and meet a quality standard rating of “acceptable” per the requirements of American Traffic Safety Services Association (ATSSA) Quality Standard for Work Zone Traffic Control Devices. All signs and devices used for night operations shall meet the retro-reflective requirements of CDOT Standard Specifications Section 713.04.

12. No permittee shall block access to any private property, fire hydrant, fire station, utility structure, or any other emergency response equipment unless the permittee provides the city engineer with written approval from the affected agency and/or property owner.

13. When necessary for public safety and when required by the city engineer, the permittee shall employ flag persons, whom are certified, to control traffic around or through the work site.

14. The permittee shall be responsible for maintaining all work area signage and barricading required throughout the duration of work. During non-work hours, all signs that are not appropriate shall be removed, covered or turned around so that they do not face traffic.

15. Any deficiencies noted by the city engineer or designee shall be corrected immediately by the permittee. If the permittee is not available or cannot be found, the city engineer or designee may make the required corrections and charge the cost thereof to the permittee pursuant to Section 21.12.120 of the City of Aspen Municipal Code.

16. The proposed phasing of construction and length of the active work zone shall be submitted by the permittee to the city engineer for review and approval. Permittees shall make every effort to minimize the impact to
the use of the public right-of-way and adjacent properties. The city engineer may require that the permittee modify the proposed construction phasing in order to minimize the impact during construction.

K. Pedestrian Access

1. Pedestrian ramps must be installed at intersections where new construction is occurring or whenever sidewalk, curb and gutter is being reconstructed.

2. Pedestrian ramps for streets with curb and gutter must be constructed at all intersections with sidewalks in accordance with the City of Aspen Engineering Dept Design Standards.

3. Pedestrian corridors at street intersections having functional classification as Residential, Local, Collector, Arterial or any other heavily traveled corridor must have directional crossing ramps. Avoid design and placement of diagonal ramps.

4. Height of the curb in front of the ramp section must be depressed to flow line elevation (no lip). Bike path ramps follow the same design approach; the only change must be the width which will match the width of the bike path.
IV. **Restricted Rights-of-Way**

Those public rights-of-way in and around the streets listed on the hereto attached Exhibit E shall be subject to Section 21.12.090 of the city of Aspen municipal code.
Exhibit A – Utility Boundary Areas

Authorized location of Proposed Facility (typical)

18” acceptable alignment deviation area (typical)

ROW

Restricted Area

Existing facility

3' for dry utility

10' for wet utility

2'

3' for dry utility

10' for wet utility

3' for dry utility

10' for wet utility
EXHIBIT B – Testing Requirements

City of Aspen Engineering Department Minimum Testing Requirements

ALL TESTING TO BE PERFORMED PER CURRENT CDOT STANDARDS

<table>
<thead>
<tr>
<th>ITEM</th>
<th>TYPE OF TEST</th>
<th>MINIMUM FREQUENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>All excavation backfill - gas, elec., water, storm &amp; san. sewer, cable TV, phone, etc.</td>
<td>Moisture/Density (Compaction Test)</td>
<td>1 per 150 lineal ft., and within 2 ft. of all structures; minimum 2 tests per lift</td>
</tr>
<tr>
<td>Inlets/structures</td>
<td>Rebar Inspection Air and Slump Cylinders</td>
<td>Visual/Documentation 1st 3 loads, every 5th load thereafter 1 set of 4 per 100 yds³, or fraction thereof</td>
</tr>
<tr>
<td>Concrete testing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soil testing</td>
<td>Moisture/Density (Compaction)</td>
<td>minimum 2 tests per lift</td>
</tr>
<tr>
<td>Sidewalk, Curb &amp; Gutter</td>
<td>Moisture/Density (Compaction) Air and Slump Cylinders</td>
<td>1 per 150 lineal ft., minimum. 2 tests per lift All subgrade</td>
</tr>
<tr>
<td>Soil testing</td>
<td>Proof-roll</td>
<td></td>
</tr>
<tr>
<td>Concrete testing</td>
<td>Air and Slump Cylinders</td>
<td>First truck. Every 50 yds³ after first truck. 1 set of 4 per 50 yds³, or fraction thereof</td>
</tr>
<tr>
<td>Roadway</td>
<td>Moisture/Density (Compaction) Proof-roll</td>
<td>1 per 300 lane feet, min. 2 tests per lift All subgrade</td>
</tr>
<tr>
<td>Base course testing</td>
<td>Moisture/Density (Compaction) Gradation/Atterberg limits Proof-roll</td>
<td>1 per 300 lane feet, min. 2 test per lift 1 per 500 tons All base course</td>
</tr>
<tr>
<td>Concrete testing</td>
<td>Air and Slump Slump Cylinders</td>
<td>1st 3 loads, if pass, 1 per 50yds³ Every load 1 set of 4 per 50 yds³, or fraction thereof</td>
</tr>
<tr>
<td>Asphalt testing</td>
<td>Density Extraction/Gradation, Marshall Cores for thickness/density</td>
<td>1 per 300 lane feet, min. 2 tests per lift 1 per 500 tons As directed by the City only, if directed then 3 per 1000 lane feet, or fraction thereof</td>
</tr>
</tbody>
</table>
EXHIBIT C - Approach to Street Repairs

Existing pavements should be removed to clean, straight lines parallel and perpendicular to the flow of traffic. Do not construct patches with angled sides and irregular shapes. If the extent of the patch falls within the wheel path, the patch shall extend to the full width of the lane.

Avoid patches within existing patches. If this cannot be avoided, make the boundaries of the patches coincide.

Do not "leave" strips of pavement less than one-half (½) a lane in width from the edge of the new patch to the edge of an existing patch or the lip of the gutter.

In concrete pavements, remove sections to existing joints in the case of concrete in good repair. In damaged concrete, the limits of removal should be determined in the field by a representative of the city engineer.
Asphalt and concrete pavements should be removed by saw cutting or grinding. Avoid breaking away the edges of the existing pavement or damaging the remaining pavement with heavy construction equipment.

In the case of a series of patches or patches for service lines off a main trench, repair the pavement over the patches by grinding and overlay when the spacing between the patches is less than seventy-five (75) feet (in cases where the existing pavement is in poor condition and may require overlay within the next few years, this requirement may be modified or waived by the city engineer).

Transverse patches on arterial and collector streets shall be overlaid across the entire street width for a distance of two (2) feet minimum on all sides of the trench.
EXHIBIT C (continued)

Patches should have a smooth longitudinal grade consistent with the existing roadway. Patches should also have a cross-slope or cross-section consistent with the design of the existing roadway.

When the proposed excavation falls within ten (10) feet of a section of failed pavement, the failed area shall be removed to sound pavement and patched.

Avoid frequent changes in width of patches. For future maintenance, this simplifies removal of adjacent pavement failures.
Construction and Excavation Standards for Work in the Public-Rights-of-Way

EXHIBIT D - Wheel Track Diagram

Notes:
1. The 9-foot wheel track template will be centered on the actual lane layout.
2. Pavement cuts shall be such that no longitudinal joint lies within the wheel track.
3. All access lids and locate potholes within travel lanes shall be placed outside of the wheel track.
Construction and Excavation Standards for Work in the Public-Rights-of-Way

Exhibit E – Traffic Control Plan - Example

TERMINATION AREA
LETS TRAFFIC RESUME
NORMAL DRIVING

100’ DOWNSTREAM TAPER

WORK SPACE IS
SET ASIDE FOR
WORKERS & EQUIPMENT

ACTIVITY AREA
IS WHERE WORK
TAKES PLACE

LONGITUDINAL
BUFFER SPACE
PROVIDES PROTECTION
FOR TRAFFIC AND WORKERS

TRANSITION AREA
MOVES TRAFFIC OUT
OF ITS NORMAL PATH

ADVANCE WARNING AREA
TELLS TRAFFIC WHAT TO
EXPECT AHEAD

TRAFFIC SPACE
ALLOWS TRAFFIC
TO PASS THROUGH
THE ACTIVITY AREA

LATERAL BUFFER SPACE
**Exhibit G - Minimum Street Sections**

<table>
<thead>
<tr>
<th>STREET FUNCTIONAL CLASSIFICATION</th>
<th>FULL DEPTH SECTION (DEEP STRENGTH PAVEMENT)</th>
<th>COMPOSITE SECTION (MINIMUM PAVING SECTION)</th>
</tr>
</thead>
<tbody>
<tr>
<td>- Alleyway</td>
<td>NOT REQUIRED</td>
<td>3 INCH CDOT S MIX (SINGLE LIFT)</td>
</tr>
<tr>
<td>- Common Access</td>
<td></td>
<td>ON WELL COMPACTED, NON-EXPANSIVE BASE</td>
</tr>
<tr>
<td>- Pavement Apron</td>
<td></td>
<td>MATERIAL</td>
</tr>
<tr>
<td>- Residential</td>
<td>5 INCH CDOT S MIX</td>
<td>4 INCH CDOT S MIX</td>
</tr>
<tr>
<td></td>
<td>(3 INCH BASE LIFT + 2 INCH TOP LIFT)</td>
<td>(2 INCH BASE LIFT + 2 INCH TOP LIFT)</td>
</tr>
<tr>
<td></td>
<td>ON 6 INCHES OF SCARIFIED &amp; RECOMPACTED, NON-EXPANSIVE BASE MATERIAL</td>
<td>ON 6 INCH LIFT OF COMPACTED CDOT CLASS 6 ROAD BASE OVER NON-EXPANSIVE SUB-BASE MATERIAL</td>
</tr>
<tr>
<td>- Collector</td>
<td>5 INCH CDOT S MIX</td>
<td>4 INCH CDOT S MIX</td>
</tr>
<tr>
<td>- Local</td>
<td>(3 INCH BASE LIFT + 2 INCH TOP LIFT)</td>
<td>(2 INCH BASE LIFT + 2 INCH TOP LIFT)</td>
</tr>
<tr>
<td></td>
<td>ON 8 INCHES OF SCARIFIED &amp; RECOMPACTED, NON-EXPANSIVE BASE MATERIAL</td>
<td>ON 6 INCH LIFT OF COMPACTED CDOT CLASS 6 ROAD BASE OVER NON-EXPANSIVE SUB-BASE MATERIAL</td>
</tr>
<tr>
<td>- Arterial</td>
<td>6.5 INCH CDOT S MIX</td>
<td>5 INCH CDOT S MIX</td>
</tr>
<tr>
<td></td>
<td>(4 INCH BASE LIFT + 2.5 INCH TOP LIFT)</td>
<td>(3 INCH BASE LIFT + 2 INCH TOP LIFT)</td>
</tr>
<tr>
<td></td>
<td>ON 2 INCH LIFT OF SCARIFIED &amp; RECOMPACTED, NON-EXPANSIVE EXISTING BASE MATERIAL</td>
<td>ON 10 INCH LIFT OF IMPORTED AND COMPACTED CDOT CLASS 6 ROAD BASE OVER NON-EXPANSIVE SUB-BASE MATERIAL</td>
</tr>
</tbody>
</table>