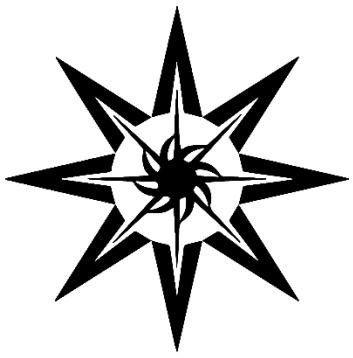
Manual of Infrastructure Standards



PRAIRIE VILLAGE, KANSAS

Public Works Dept.
3535 Somerset Dr.
PVKS 66208

March 2021

Revised 2023

MANUAL OF INFRASTRUCTURE STANDARDS INDEX

PUBLIC SAFETY

GENERAL REQUIREMENTS

The right-of-way construction site shall be kept clean, neat and orderly. Stockpiling of debris and unsuitable materials beyond normal working hours shall not be permitted. Immediately after construction operations have been completed for the day, all equipment, debris, and unsuitable materials shall be completely removed from the site in order to minimize the damage to finished work and inconvenience to the public and adjoining property owners.

PUBLIC ACCESS

In conformance with Chapter 13, whenever a right-of-way user shall excavate the full width of any street, sidewalk, alley, driveway approach or other right-of–way, it shall be its duty to maintain an adequate passage for vehicles and pedestrians across or around the excavation until it is refilled as specified.

If a section of sidewalk is removed as a result of an excavation, temporary aggregate surfacing covered by cold mix asphalt shall be placed level with the surface of adjacent sidewalk, or sidewalk shall be closed by installing advance warning signs and barricades until the sidewalk can be reconstructed, backfilled, and reopened. Sidewalk shall be reconstructed in as timely a manner as possible. Special emphasis shall be placed on the timely replacement of sidewalks adjacent to schools, public facilities, or commercial areas with high volume pedestrian traffic.

TRAFFIC CONTROL

When working on City streets, the permittee shall provide adequate and suitable barriers, signs, warning lights, flaggers, and all other equipment necessary to direct and reroute traffic and protect the public from moving or stationary vehicles, equipment, and materials, and other obstructions. Also, adequate protective warning lights and signs shall be provided to warn of any obstruction or excavation in the street, sidewalk, or parkway. All barricades, signs, and lights shall conform to the latest edition of the "Manual on Uniform Traffic Control Devices". Flaggers shall be equipped with sign paddles.

Non-emergency work on thoroughfare or collector streets may not be accomplished during the hours of 7:00 to 8:30 A.M. and 4:00 to 6:00 P.M.

Permittee shall be required to post a WB-1 “Bump” advance warning sign with flashing light a minimum of 250 feet ahead of a steel plate. See also Plating the Excavation.

A detailed traffic control plan shall be required prior to issuance of permit, for any lane closure on a thoroughfare or collector street. All personnel involved in the preparation of construction traffic control plans and the installation of all traffic control devices shall be certified by The American Traffic Safety Services

Association (ATSSA) as a "Traffic Control Supervisor" or by the International Municipal Signal Association (IMSA) as a "Work Zone Safety Specialist" or other equivalent certification for the design and installation of construction traffic control devices. The certification must be current and readily available for verification at any time as requested by the Public Works Director. Minimum requirements for the certification shall include attending training sessions and successful completion of a written examination proctored by a nationally recognized and qualified agency.

Permittee shall be required to notify emergency services in the event of any street closure. See also Notification of Emergency Services.

FACILITY SEPARATION REQUIREMENTS

The following are minimum vertical and horizontal separation requirements for facilities in the right-of-way. The Public Works Director reserves the right to modify or require higher standards if deemed necessary to protect the public's health, safety or welfare. The City may also enforce additional standards promulgated by the Kansas Department of Health and Environment, the Kansas Corporation Commission, and within the National Electrical Standards Code.

WATER/WASTEWATER

The minimum separation between any water service or wastewater line and other facility shall be three feet (3'), and a minimum of ten feet (10') of separation from any parallel water or wastewater line, unless otherwise approved by the applicable water/wastewater authority.

GAS

Natural gas lines are subject to DOT 192.325, Federal Pipeline Safety Standards. The minimum separation distance from any existing gas main will be thirty-six inches (36") horizontally, and twelve inches (12") vertically. Lines must cross at a ninety (90) degree angle.

TELEPHONE, CABLE, FIBER, AND POWER

All telephone, cable, and fiber lines shall be installed at a minimum depth of twenty-four inches (24") under unpaved surfaces, and forty-eight inches (48") under paved surfaces. Required separation distances shall be twenty-four inches (24") from natural gas lines, power lines, or other nearest utility.

DEPTH OF FACILITIES

A minimum depth of forty-eight inches (48") shall be maintained from the street surface to the top of any boring. No facilities shall be installed less than forty-eight inches (48") below the street surface of any right-of-way. The minimum depth for any facilities installed underground outside the street surface is twenty-four inches (24"); provided that underground telecommunications or cable drop lines are exempt from this requirement but shall be buried at a reasonably safe depth. Any facilities installed less than forty-eight inches (48") under the street surface or thirty-six inches (36") outside of the street surface is done so at the risk of the facility user, and the City shall not be responsible for any damage to the same.

GENERAL REQUIREMENTS

GENERAL NOTES

As stated in Chapter 13-510 of the Prairie Village Municipal Code, all earth, materials, sidewalk, pavement, crossing, storm sewer, utilities, public improvements or improvements of any kind damaged or removed by the service provider shall be fully repaired and replaced promptly by the right–of-way user at its sole expense and the reasonable satisfaction of the City. Upon determination by the Public Works Director that such repair or replacement is a public safety matter, all such repair or replacement shall be commenced within twenty-four hours (24) of notice from the City, or the Public Works Director may direct the City to make such repair or replacement and bill the right of way user for the City cost.

All construction work and materials shall conform to the current Prairie Village Technical Specifications, (hereinafter Specifications), unless otherwise directed by the Public Works Director.

After any excavation, the permittee shall restore all portions of the right of way to the same condition or better condition that it was prior to the excavation.
All installation, construction, excavation, backfilling, restoration and replacement work shall be in accordance with the current Standard Details, on file in the office of the Public Works Director. The Standard Details shall be adopted and amended by the Public Works Director.

In order to ensure public safety and to protect existing underground facilities, all horizontal directional drilling construction work shall conform to the current edition of the Horizontal Directional Drilling Policy (CP207).
All asphaltic concrete shall be constructed as specified per the Specifications and Standard Details.

All concrete used in right of way construction shall be in compliance with the Kansas City Metro Materials Board (hereinafter KCMMB) requirements. Approved concrete mix designs, including high early concrete mixes can be found on-line at www.kcmmb.org.

The provisions of the Standard Specifications for State Road and Bridge Construction, Kansas Department of Transportation, current edition and special provisions (hereinafter Standard Specifications), are incorporated, except as hereinafter specified.

Failure of permittee to notify the Public Works Director to schedule an inspection at the start of backfilling operations shall result in re-excavation, removal and recompaction of the backfill, and / or repair pavement, at the permittee's expense, to the reasonable satisfaction of the Public Works Director.

DEFINITIONS

PAVED PORTION OF THE RIGHT OF WAY

Paved portion of the right of way shall include the area within any existing or future public street pavement, under any existing or future curb and gutter, median, asphalt path, concrete sidewalk, or existing concrete, asphalt, or gravel driveway approach. It shall also include the area under any future driveway approach when the location is known.

UNPAVED PORTION OF THE RIGHT OF WAY

The unpaved portion of the right of way shall include any area outside of the paved portion.

NOTIFICATION OF EMERGENCY SERVICES

In a non-emergency situations, The Prairie Village Public Works and Police Departments shall be notified 3 working days in advance of any street closure. The Director of Public Works will allow closing of streets in extenuating circumstances and only with prior approval at the time permit is issued.

PRAIRIE VILLAGE POLICE DEPARTMENT
913-385-4721

PUBLIC WORKS DEPARTMENT
943-385-4647

Per 13-503, Emergency means a condition that (1) poses a clear and immediate danger to life or health, or of a significant loss of property; or (2) requires immediate repair or replacement in order to restore service to a user.

EXCAVATIONS IN THE UNPAVED PORTION OF THE RIGHT OF WAY

INSPECTION REQUIREMENTS FOR GENERAL PERMITS UNPAVED PORTION OF THE RIGHT OF WAY

For general permit activity, not associated with a new one / two-family residential home building permit, in unpaved portion of the right-of way; permittee shall notify the Public Works Director to schedule a minimum of one inspection: upon completion of all right-of-way restoration activities, including concrete, sod or seed work. If weather conditions are such that concrete, sod or seed work cannot be performed, permittee shall notify Public Works Director after work is substantially complete, except for weather dependent work. Permittee shall notify the Public Works Director to schedule a second inspection after all restoration work has been completed, including concrete, sod or seed. When all restoration work is completed to the reasonable satisfaction of the Public Works Director, the two year maintenance period will begin.

In addition to the required scheduled inspections, the Public Works Director may choose to inspect the on-going permitted work at any time and may require compaction testing at the permittee's expense to ensure that all requirements of the approved permit are being met.

INSPECTION REQUIREMENTS FOR PERMITS ASSOCIATED WITH A RESIDENTIAL HOME BUILDING PERMIT UNPAVED PORTION OF THE RIGHT OF WAY

For permit activity associated with new one / two-family residential home building permits, in the unpaved portion of the right-of-way; permittee will notify the Public Works Director to schedule one inspection, a minimum of 24 hours in advance of the start of backfilling operations for approved items referenced in the drainage permit. When all backfill work is completed to the reasonable satisfaction of the Public Works Director, the right of way permit will be closed and the two year maintenance period will begin.

In addition to the required scheduled inspections, the Public Works Director may choose to inspect the on-going permitted work at any time and may require compaction testing at the permittee's expense to ensure that all requirements of the approved permit are being met.

If the excavation occurs on the opposite side of the street from the permit location, in front of an existing residence; the permittee will be required to restore the right of way to its original condition. This work shall include clean up, grading, and sodding. Permittee shall notify the Public Works Director to schedule a final inspection after all restoration work has been completed. When all restoration work is completed to the reasonable satisfaction of the Public Works Director, the right of way permit will

be closed and the two year maintenance period will begin.

UTILITY LOCATES

Prior to commencement of any excavation, the permittee shall identify and locate any buried facilities in accordance with Chapter 13-520. Permittees shall contact Kansas One-Call at 1-800-DIG-SAFE prior to commencement of any excavation and allow sufficient time for field locates. The permittee will be required to provide a Kansas One-Call verification number on the permit before a right of way permit is issued by the City.

UTILITY LOCATES FOR CITY OF CITY OWNED FACILITIES

The City of Prairie Village owns, operates, and maintains the following utility systems within the City: Storm Sewer, Fiber Optic Interconnect lines and Street Lights. The City of Prairie Village is a member of Kansas One-Call. Storm Sewer locates are on AIMS mapping and if a conflict is found, please contact Public Works directly at 913-385-4647.

The City of Overland Park owns, operates, and maintains the following utility systems at the border of the City: Traffic Signals and Street Lights. The City of Overland Park is a member of Kansas One-Call.

UTILITY POTHOLES

Potholes used for the purpose of locating/accessing/repairing buried utilities under pavement shall be accomplished using the Keyhole Pavement Coring and Reinstatement method. This method involves cutting a circular core and removing from pavement, using vacuum excavation to remove subsoil material until utility in question is found, backfilling excavation with removable flowable fill and reinstating core that had previously been removed.

TRENCHING

The contractor shall not open more trench in advance than is necessary to expedite the work. One block or 400 feet (whichever is the shorter) shall be the maximum length of open trench permitted on any line under construction.

BRACING AND SHORING

Contractor shall provide adequate bracing, sheeting, and shoring, as necessary, to provide protection for the workmen and the work. The contractor shall brace and shore all trenches in full accordance with Occupational Safety and Health Standards - Excavations; Final Rule 29 CFR Part 1926.

BACKFILL

Embedment material under and around pipe or conduit shall be as specified by utility. If not otherwise specified, embedment material around pipe or conduit shall be crushed stone or siliceous gravel meeting the requirements of Section 1107, of the Standard Specifications, Aggregate Designation PB-2.

PB-2 Sieve	Gradation % Retained
3/4”	**0-20**
3/8”	**40-70**
No. 4	**75-100**
No. 8	**95-100**

Embedment material under and around pipe or conduit shall be filled to a maximum of twelve inches above the top of the pipe, except for RCP storm sewer installation. For RCP storm sewer installation, pipe embedment material shall be filled no higher than the pipe spring line elevation. Removable flowable fill may be used in lieu of embedment material.

Tamped soil backfill may be used in the unpaved portion of the right of way. All unsuitable materials shall be removed and disposed of off site. Tamped soil backfill shall be finely divided job excavated material, free of debris, organic material, and stones, placed in a maximum of eight inch loose lifts, compacted, using vibratory equipment for each lift, to a minimum of 95% standard proctor density. Under no circumstances shall any paving material from excavations in the street be used for backfill material.

Removable flowable fill material, in conformance with Section 26 of the Construction Specifications, may be used in lieu of soil backfill**.** Removable flowable fill, when used in excavations in proposed roadways, shall be placed up to the existing surface. Removable flowable fill, when used outside the roadway, shall be placed up to within 18 inches of the existing surface. Soil, placed in the top 18 inches, shall be free of clods, rocks, trash, and other debris and shall be suitable for supporting vegetation.

If an excavation cannot be backfilled and will be left unattended, the contractor shall adequately cover and /or fence the excavation. No excavation shall be left unattended in excess of 72 hours, without permission of the Public Works Director.

EXCAVATIONS IN THE PAVED PORTION OF THE RIGHT OF WAY

INSPECTION REQUIREMENTS FOR GENERAL PERMITS PAVED PORTION OF THE RIGHT OF WAY

For general permit activity in the paved portion of the right-of-way, permittee will notify the Public Works Director to schedule a minimum of two inspections. One a minimum of 24 hours in advance of the start of backfilling operations in any cut in an existing street or excavation under future public street; or under any existing or future curb and gutter, median, asphalt path, concrete sidewalk, or driveway approach and a second inspection upon completion of all right-of-way restoration activities, including concrete, asphalt, sod, or seed. If weather conditions are such that concrete, asphalt, sod, or seed work cannot be performed, permittee shall notify Public Works Director after work is substantially complete, except for weather dependent work. Permittee shall notify the Public Works Director to schedule a third inspection after all restoration work has been completed, including concrete, asphalt, sod, or seed. When all restoration work is completed to the reasonable satisfaction of the Public Works Director, the right of way permit will be closed and the two year maintenance period will begin.

If permitted activity includes concrete work, such as replacement of curbs, new construction or replacement of sidewalks and/or driveway approaches; an additional inspection shall be required. This inspection shall include form locations and grades, and subgrade prior to the placement of any concrete. Contractor shall notify the Public Works Director to schedule an inspection a minimum of 24 hours in advance of concrete placement. Permittee shall notify the Public Works Director to schedule a final inspection after all restoration work has been completed, including backfill, right of way grading, clean up and sod.

Except in the event of an emergency, permittee shall notify the Public Works Director a minimum of 3 days in advance of any street closure. No such closure shall take place without notice and prior authorization from the City. See also Notification Emergency Services and Traffic Control.

INSPECTION REQUIREMENTS FOR PERMITS ASSOCIATED WITH A RESIDENTIAL BUILDING PERMIT PAVED PORTION OF THE RIGHT OF WAY

For permit activity associated with a new one / two family residential building permit, in the paved portion of the right-of-way; permittee will notify the Public Works Director to schedule one inspection, a minimum of twenty-four hours in advance of the start of backfilling operations. When all backfill work is completed to the reasonable satisfaction of the Public Works Director, the right of way permit will be closed and the two year maintenance period will begin.

The builder, under the building permit, shall be responsible for constructing the future sidewalk and driveway entrance and complete restoration work, including clean up, grading, and sodding.

If permitted activity includes concrete work, such as replacement of curbs, new construction or replacement of sidewalks and/or driveway approaches; an additional inspection shall be required. This inspection shall include form locations and grades, and subgrade prior to the placement of any concrete. Contractor shall notify the Public Works Director to schedule an inspection a minimum of 24 hours in advance of concrete placement. Permittee shall notify the Public Works Director to schedule a final inspection after all restoration work has been completed, including backfill, right of way grading, clean up and sod.

If the excavation occurs on the opposite side of the street from the permit location, in front of an existing residence; the permittee will be required to restore the right of way to its original condition. This work shall include any clean up, grading, and sodding. Permittee shall notify the Public Works Director to schedule a final inspection after all restoration work has been completed. When all restoration work is completed to the reasonable satisfaction of the Public Works Director, the right of way permit will be closed and the two year maintenance period will begin.

UTILITY LOCATES

Prior to commencement of any excavation, the permittee shall identify and locate any buried facilities in accordance with Chapter 13-520. Permittees shall contact Kansas One-Call at 1-800-DIG-SAFE prior to commencement of any excavation and allow sufficient time for field locates. The permittee will be required to provide a Kansas One-Call verification number on the permit before a right of way permit is issued by the City.

UTILITY LOCATES FOR CITY OWNED FACILITIES

The City of Prairie Village owns, operates, and maintains the following utility systems within the City: Storm Sewer, Fiber Optic Interconnect lines and Street Lights. The City of Prairie Village is a member of Kansas One-Call. Storm Sewer locates are on AIMS mapping and if a conflict is found, please contact Public Works directly at 913-385-4647.

The City of Overland Park owns, operates, and maintains the following utility systems at the border of the City: Traffic Signals and Street Lights. The City of Overland Park is a member of Kansas One-Call.

UTILITY POTHOLES

Potholes used for the purpose of locating/accessing/repairing buried utilities under pavement shall be accomplished using the Keyhole Pavement Coring and Reinstatement method. This method involves cutting a circular core and removing from pavement, using vacuum excavation to remove subsoil material until utility in question is found, backfilling excavation with removable flowable fill and reinstating core that had previously been removed.

POTHOLES - CORING

Excavation requires coring a circular hole through the entire depth of the pavement using appropriate drilling/coring equipment and removal of the intact pavement core. The vertical alignment of the coring operation shall be perpendicular to the horizon. Coring operator shall place a temporary mark (paint or chalk) on the pavement core and adjacent pavement to insure that the pavement core when replaced will have the same orientation as found in the original pavement.

Pavement cores shall either be removed from the work site or stored in a safe and secure on-site location. These pavement cores shall be made readily available for reinstatement into the pavement.

POTHOLES-EXCAVATION

Soil shall be removed by air/vacuum extraction methods to expose utilities. The zone of soil removal shall remain essentially within a vertical plane extending below the edges of the core hole. The contractor shall dispose of all extracted and excess materials.

POTHOLES-TEMPORARY COVER OF CORE HOLE

In the event that a keyhole cored pavement cannot be immediately reinstated and will be left unattended, the opening shall be covered with an appropriately sized steel plate fitted with a pilot shaft that is no smaller in diameter than the core hole diameter minus 1” and that extends vertically down into core hole no less than 12”. The plate construction shall prevent the temporary plate from tipping, tilting, bouncing or spinning out of the hole under traffic conditions and shall be capable of supporting normal traffic loads.

POTHOLES-BACKFILLING

Removable flowable fill, in conformance of the Standard Specifications, shall be used for backfill of the core hole. Removable flowable fill shall be placed up to the bottom of the existing pavement.

POTHOLES-REINSTATEMENT OF THE PAVEMENT CORE

The pavement surface shall be restored to its original condition by

setting the reinstated pavement core flush with surrounding pavement surface and in its original orientation using an approved bonding material. The bonding material to be used is required to securely bond the pavement core to the surrounding parent pavement and to fill all voids between and below the core to include pilot hole in the core center.

POTHOLES-BONDING MATERIAL
Bonding material shall be a single component cementitious, rapid hardening, high strength waterproof bonding agent formulated specifically for pavement core reinstatement. It shall be non-shrinkable and shall be impervious to water penetration at the joint after curing. Excess bonding material shall be removed from the reinstated surface.

The bonding material shall, within 30 minutes at minimum ambient temperatures of 70 degrees F, allow an 18” diameter core to support a traffic load equivalent to at least three (3) times the AASHTO H-25 standard wheel load.

TRENCHING

The contractor shall not open more trench in advance than is necessary to expedite the work. One block or 400 feet (whichever is the shorter) shall be the maximum length of open trench permitted on any line under construction.

SAWING CONCRETE CURB

Concrete curb shall be sawed to its full depth and removed and replaced to the nearest contraction or expansion joint. If an adjacent section of curb and gutter is cracked, chipped, or otherwise damaged in the process of removal, it shall also be removed and replaced to the nearest joint. See also Concrete Construction / Replacement.

BRACING AND SHORING

Contractor shall provide adequate bracing, sheeting, and shoring, as necessary, to provide protection for the workmen and the work. The contractor shall brace and shore all trenches in full accordance with Occupational Safety and Health Standards- Excavations; Final Rule 29 CFR Part 1926.

BACKFILL

Embedment material around pipe or conduit shall be as specified by utility. If not otherwise specified, embedment material around pipe or conduit shall be crushed stone or siliceous gravel meeting the requirements of Section 1107 of the Standard Specifications, Aggregate Designation PB-2.

PB-2 Sieve	**Gradation % Retained**
3/4”	0-20
3/8”	40-70

No. 4	75-100
No. 8	95-100

Embedment material under and around pipe or conduit shall be filled to a maximum of 12 inches above the top of the pipe, except for RCP storm sewer installation. For RCP storm sewer installation, pipe embedment material shall be filled no higher than the pipe spring line elevation. Removable flowable fill, in conformance with the Standard Specifications, may be used in lieu of embedment material.

No soil backfill shall be used in the paved portion of the right of way.

Above embedment material, removable flowable fill shall be placed up to the bottom of the surrounding existing pavement.

If authorized by the Public Works Director, aggregate base material, Type AB-3, Overland Park Modified may be used in lieu of removable flowable fill. AB-3, Overland Park Modified backfill shall be placed in a maximum of eight inch loose lifts, using vibratory equipment for each lift, to a minimum of 95% of standard proctor density. At the time of compaction, AB-3, Overland Park Modified, shall be within zero to minus 2% of optimum moisture. If AB-3, Overland Park Modified is used, permittee shall employ a testing laboratory approved by the Public Works Director, which shall certify the proper backfilling of any existing street cut, or excavation under existing curb and gutter. See also Compaction Testing.

Authorization to substitute AB-3, Overland Park Modified for removable flowable fill will be given only due to special circumstances related to weather conditions, availability of materials, or duration of street closure.

COMPACTION TESTING

Permittee shall employ a testing laboratory approved by the Public Works Director, which shall certify the proper backfilling of any excavation in the paved portion of the right of way. The permittee shall pay all costs associated with such testing. A list of approved testing laboratories shall be on file in the office of the Public Works Director. The compaction testing provision shall be waived when removable flowable fill is used as backfill, or with the permission of the Public Works Director. The permittee shall provide a copy of the compaction test results to the Public Works Director’s office prior to the final inspection. Start of the two year maintenance period shall not commence until the compaction test results have been received and approved by the Public Works Director. If test results do not meet specified compaction requirements, the permittee, at his own expense, shall be required to re-excavate, remove and recompact backfill, and repair pavement to the reasonable satisfaction of the Public Works Director.

PLATING A STREET CUT

Any excavation not repaired to the full street repair detail and left overnight on any street shall be adequately covered with a steel plate per the steel plate detail.

The plate shall be securely anchored, and all edges of the plate shall be ramped with hot mix asphaltic concrete. If cold weather prohibits the availability of hot mix asphaltic concrete, cold mix may be used, so long as it is maintained in a smooth and driveable condition. Permittee shall be required to post a WB-1 “Bump” advance warning sign with flashing light a minimum of 250 feet ahead of a steel plate.

Under extenuating circumstances, the Director of Public Works may allow for temporary surfacing material to be used, it shall be maintained in a smooth and driveable condition. No excavation shall be left unattended in excess of 72 hours, without permission of the Public Works Director.

The permittee assumes the sole responsibility for maintaining proper barricades, plates, safety fencing and/or lights as required from the time of opening of the excavation until the excavation is surfaced and opened for travel.

REPAIRING A STREET CUT

In accordance with Chapter 13-521, in addition to its own street cuts, permittee must also restore any area within 5 feet of the new street cut that has been previously excavated, including the paving and its aggregate foundations. In the event of lengthy longitudinal street cuts, the Public Works Director may require the entire lane to be repaved.

In cases of main breaks (emergency or utility hit) the Public Works Director will establish the limits of reconstruction based on visible damage to pavement, known leakage through the pavement at the time of disruption and prodding of the subgrade to determine stability.

The majority of streets in the City of Prairie Village are constructed of bituminous materials, consisting of: full depth asphaltic concrete, asphaltic concrete over aggregate base, asphaltic concrete over cement treated base, or asphaltic concrete over aggregate base with surface treatment (Chip seal or UBAS (Ultra-thin Bonded Asphaltic Concrete Surface). Therefore, asphaltic concrete street repair shall be performed by per standard detail.

SAWING AND BENCHING A STREET CUT

Prior to replacement of any type of pavement, the pavement shall be sawed on each side of the required excavation to its full depth. The size of the saw cut shall be 12 inches greater in all directions than the size of the excavation. This is to provide a minimum of a 12 inch bench of undisturbed subgrade surrounding the excavation (per standard detail). All broken pavement shall be removed from the site.

CONCRETE BASE WITH ASPHALTIC CONCRETE SURFACE

The minimum 12 inch bench shall be excavated to a point not less than 8 inches below the existing street surface or to the depth of the existing pavement thickness, whichever is greater.

Across the backfilled excavation and resting on the 12 inch bench shall be poured a minimum of 6 inches of High Early Strength Concrete (AE), having a minimum compressive strength of 3000 pounds per square inch in 24 hours. High early strength concrete (AE) shall conform to KCMMB requirements**.** After 24 hours, or when specified strength is achieved, high early strength concrete shall be tack coated and 2 inches of hot asphaltic concrete surface course shall be placed and compacted to 95% of standard density. For residential streets, asphaltic concrete intermediate course shall be used in lieu of asphaltic concrete surface course. All asphaltic concrete mixes and tack coat shall conform to Section 12 of the Construction Specifications**.** The concrete surface shall receive tack coat not more than 6 hours prior to placing asphaltic concrete. Approved mix designs for asphaltic concrete shall be on file in the Public Works Director's office prior to placement. This new asphaltic concrete surface shall be flush with existing street surface. Traffic shall not be permitted on any new asphaltic concrete surface until it is sufficiently cooled and will not rut.

ASPHALTIC CONCRETE STREET REPAIR
FULL DEPTH ASPHALTIC CONCRETE
The Public Works Director, at his discretion, may allow street repair with full depth asphaltic concrete, if the size of the excavation prohibits plating.

If removable flowable fill is used, and the excavation width exceeds 6 feet, a minimum of 6 inches of hot asphaltic concrete intermediate course may be placed in lieu of the high early strength concrete (AE). Tack coat shall be applied between all lifts of asphaltic concrete. Surfaces shall receive tack coat not more than 6 hours prior to placing asphaltic concrete.

Two inches of hot asphaltic concrete surface course shall be placed and compacted to 95% of standard density. For residential streets, asphaltic concrete intermediate course shall be used in lieu of asphaltic concrete surface course. All asphaltic concrete mixes and tack coat shall conform to Section 12 of the Construction Specifications. Approved asphaltic concrete mix designs shall be on file in the office of the Public Works Director prior to placement. This new asphaltic concrete surface shall be flush with existing street surface. Traffic shall not be permitted on any new asphaltic concrete surface until it is sufficiently cooled and will not rut.

PORTLAND CEMENT CONCRETE STREET REPAIR

FULL DEPTH HIGH EARLY STRENGTH CONCRETE

This option shall only be used for the repair of an existing full depth Portland Cement Concrete street. The minimum 12 inch bench shall be excavated to a point not less than 6 inches below the existing street surface or to the depth of the existing pavement thickness, whichever is greater. Across the backfilled excavation and resting on the 12 inch bench shall be poured a minimum of 6 inches of High Early Strength Concrete (AE), having a minimum compressive strength of 3000 pounds per square inch in 24 hours. High early strength concrete shall conform to KCMMB requirements. This new concrete pavement surface shall be flush with the existing street surface.

PERMANENT PAVEMENT MARKINGS

Permittee shall be responsible for the replacement of permanent pavement markings on thoroughfare or collector type streets, which have been removed or disturbed as a result of any street cut. Permittee will be required to place temporary pavement markings immediately after placing pavement surface, until permanent pavement markings can be installed.

Permanent pavement markings shall be replaced with like materials, in accordance with the latest edition of the "Manual on Uniform Traffic Control Devices", within 14 days after the pavement surface has been placed, unless otherwise authorized by the Public Works Director.

Excavations for Utility Relocation Work for Publicly Funded Street Projects

Excavations for utility relocation work for Public Works street projects shall conform to the requirements for excavations in existing public streets in the paved portion of the right of way with the following modifications:

Limits of flowable fill backfill shall extend under the proposed curb and gutter, as well as, under the proposed street pavement. Authorization to substitute AB-3 for removable flowable fill will be given only due to special circumstances related to weather conditions, availability of materials, duration of street closure, etc. Authorization will generally be given only for excavations in existing public streets, including curb, or under existing concrete sidewalk, asphalt path, or driveway approach.

Excavations under Existing Concrete Sidewalks or Driveway Entrances

Excavation in areas under existing concrete sidewalks or concrete driveway entrances shall conform to the requirements for excavations in existing public streets in the paved portion of the right of way with the following modifications:

SAWING CONCRETE SIDEWALKS OR DRIVEWAY ENTRANCES

Existing concrete sidewalk or concrete driveway entrances shall be sawed to their full depth and removed and replaced to the nearest contraction or expansion joint. If an adjacent section of sidewalk or driveway is cracked, chipped, or otherwise damaged in the process of removal, it shall also be removed and replaced to the nearest joint. See also Concrete Construction / Replacement.

Excavations in Future Public Residential or Collector Streets

This section applies to the full width of proposed and existing public street right of way where residential or collector streets are not in place at the time of utility installation, but will be constructed at a future date. Excavations in areas where future public residential or collector street pavement will be constructed shall conform to the requirements for excavation in existing public streets, in the paved portion of the right of way, with the following modifications:

BACKFILL

FOR SANITARY SEWER CONSTRUCTION ONLY, allowable backfill materials shall include tamped soil backfill. Tamped soil backfill shall be finely divided job excavated material, free of debris, organic material, and stones, placed in a maximum of eight inch loose lifts, compacted, using vibratory equipment for each lift, to a minimum of 95% standard proctor density. All unsuitable materials shall be removed and disposed of off site.

Tamped soil backfill shall be placed in maximum of 8 inch loose lifts, and shall be compacted, using vibratory equipment for each lift, to a minimum of 95% of standard proctor density. The permittee shall employ a testing laboratory approved by the City, which shall certify the proper backfilling of all trenches under future street pavement. Testing shall be completed for each lift. The permittee shall provide a copy of the compaction test results to the City prior to the final subgrade preparation. If test results do not meet specified compaction requirements, the permittee at his expense, shall be required to re-excavate, remove and re- compact backfill, and repair pavement to the reasonable satisfaction of the City.

CONCRETE CONSTRUCTION / REPLACEMENT

All concrete construction shall meet the requirements of the Specifications.

MATERIALS

CONCRETE MIX

All concrete used in construction of curbs, sidewalks, sidewalk ramps, and driveway entrances shall be classified as KCMMB 4K having a minimum 28 day compressive strength of 4000 pounds per square inch. Approved concrete mix designs can be found on-line at www.kcmmb.org prior to placement.

CURING MATERIALS

All concrete curbs, sidewalks, sidewalk ramps, or driveway entrances shall be cured either by wet covering, waterproof covering, or liquid membrane seal. The curing period shall be a minimum of 5 days. Curing shall be commenced as soon as possible after the finishing operation and when the concrete has set sufficiently so that it will not be damaged in the process. Concrete curing materials shall conform to the Specifications.

REINFORCING STEEL

All reinforcing steel bars shall be in conformance with the Standard Specifications. All reinforcing bars shall be held in place and positioned by pins or bar chairs. Reinforcing bars for curbs or driveway entrances (if required) shall be new billet ASTM A615 Grade 40.

Welded wire fabric, if used, shall be in conformance with the Standard Specifications, meeting ASTM A815, Grade 60. Welded wire fabric shall be in sheet form. Rolled wire mesh shall not be allowed. Reinforcing of sidewalks will not be required.

CONSTRUCTION REQUIREMENTS

SUBGRADE

All subgrade for curbs, sidewalks, sidewalk ramps, and driveway entrances shall be uniformly compacted and evenly graded to the required subgrade elevation. All loose or extraneous material shall be removed from the subgrade and soft spots shall be uniformly recompacted prior to placement of concrete. The permittee shall have available adequate vibratory compaction equipment to accomplish the compaction as set forth above. Per the Specifications, no concrete shall be placed on frozen subgrade.

FORMS

Forms used in concrete construction shall be of steel or wood, free from warp and shall be sufficiently strong and rigid and securely staked and braced to obtain a finished product correct to the dimensions, lines and grades required. All forms must be cleaned and oiled before each use. A slip-form machine, with electronic

controls, may be used in lieu of forms for long sections of curb or sidewalk.

SPECIAL WEATHER CONDITIONS

COLD WEATHER

The Contractor shall comply fully with the provisions of ACI 306.1-90, as modified below:

- Average daily temperatures as defined in ACI 306.1-90 will be determined and recorded by the Public Works Director.
- Concrete temperatures will be determined through the use of high-low thermometers placed and operated by the City below insulated blankets, or where the concrete is uncovered, by checking air temperatures.
- Uncovered concrete, which has been subjected to freezing temperatures of any duration during the first 24 hours will be considered “frozen,” and shall be rejected.
- The months of December, January and February will be considered “Cold Weather” and will require concrete protection, regardless of temperature.
- Concrete shall reach 75% of its design strength prior to backfilling. This strength can be determined through the use of field-cured cylinders, made and tested at contractor’s expense.
- Concrete must have 5 days where the average daily temperature is above 50 degrees F prior to backfilling unless field cured cylinders are taken. These days do not need to be consecutive.

HOT WEATHER

Concrete operations in hot weather shall conform to Section 401, Table 401.9 of the Standard Specifications.

CONCRETE CURB

Concrete curb shall be constructed or removed and replaced in accordance with the requirements the Specifications.

The surface shall be shaped by use of a steel tool to produce the sections shown in the Standard Details. The edges shall be rounded with edgers to form the radii as indicated in the Standard Details. The surface shall be finished with a wooden or steel float and brushed.

One half inch pre-molded bituminous, non-extruding, and resilient expansion joints shall be placed at points of curvature, curb returns, curb inlet transitions, and at intervals not to exceed 250 feet. The material shall extend through the full curb section. After curing, the joints shall be sealed with urethane sealant meeting ASTM C920. The sealant shall be Class 35 (+-35% Joint Movement), Type S and Grade NS and to a depth of 1/2 inch.

Contraction joints shall be 2 inches deep, and placed at 15 feet intervals. If sawed, the sawing shall begin as soon as the concrete hardens sufficiently to prevent excessive raveling along the saw cut, and shall finish before conditions induce

uncontrolled cracks, regardless of the time or weather.

Curbs shall be accurately placed according to the line, grade, and cross section of the existing adjoining curbs. All replacement curbs must have sufficient grade to achieve positive drainage. The Public Works Director may require removal and replacement of additional sections of curb in order to achieve positive drainage.

CONCRETE SIDEWALKS AND SIDEWALK RAMPS

The width of any sidewalk repair shall be the same as that being replaced. The minimum allowable thickness shall be four inches, except within a driveway entrance or sidewalk ramp, where the minimum allowable thickness shall be six inches. The curb section through a sidewalk ramp shall conform to the Standard Details.

All concrete sidewalks shall be constructed or replaced in accordance with the Specifications and the Standard Details.

All sidewalk ramps shall be constructed or replaced in accordance with the Specifications, and the Standard Details. If sidewalk and curb replacement is required at a street crossing, which has no sidewalk ramp, permittee shall be required to construct a sidewalk ramp. If an existing sidewalk ramp is damaged or removed, the permittee shall be required to construct a new sidewalk ramp, in accordance with the current Standard Details. All sidewalk ramps shall be constructed with a detectable warning surface as specified in the Standard Details, except ramps at non-signalized driveway entrances.

The permittee shall provide adequate tools and equipment to produce quality workmanship in placing and finishing concrete. The sidewalk surface finish shall be a coarse texture wood float and broom finish.

The sidewalk surface shall be marked off into nominal squares of dimensions equal to the width of the sidewalk. A standard joint tool having a width of 1/8 inch and depth of 1/4 of the sidewalk thickness, having a lip radius of 1/8 inch to 1/4 inch shall be used in forming the joints. All contraction joints in the sidewalk shall be tooled.

Contraction joints shall be retooled after brooming. Expansion joints shall be constructed at locations where new sidewalk is longer than 250 feet; sidewalk abuts existing concrete curbs or driveway entrances. Expansion joints shall be formed with 1/2 inch wide bituminous, non-extruding, and resilient filler and shall extend the full depth of the slab.

CONCRETE DRIVEWAY ENTRANCES

All concrete driveway entrances shall conform to the Specifications. Where construction requires the removal and replacement of existing concrete driveway entrances, such removal shall be accomplished by first sawing the existing driveway entrance full depth and removing all material to be replaced. Expansion joints shall

be constructed at the back of curb and where the driveway entrance abuts existing sidewalk. Expansion joints shall be formed with 1/2 inch wide bituminous, non-extruding, and resilient filler and shall extend the full depth of the slab. Concrete driveway entrances shall be constructed or replaced to a minimum thickness of 6 inches. It shall include welded wire fabric or reinforcing bars only if the existing driveway is so reinforced. Concrete driveway entrances shall receive a non-slip finish obtained by a wood float and hairbrush or broom applied transverse to the centerline of the driveway. All contraction joints in concrete driveway entrances shall be tooled.

Contraction joints shall be tooled after brooming to provide a "picture frame" appearance to match existing driveway.

CONCRETE PAVER STONE MEDIANS, SIDEWALKS, AND DRIVEWAY ENTRANCES

Where construction requires the removal of concrete paver stones in medians, sidewalks, or driveway entrances, replacement brick shall match in like and kind. Concrete used in this work shall conform to KCMMB requirements. An approved concrete mix design shall be on line at www.kcmmb.org prior to placement.

STREETLIGHTS

Any work done by permittee which damages a streetlight will require a replacement in like and kind.

CONSTRUCTION AND REPLACEMENT OF TOWERS, POLES AND RELATED FACILITIES

PER ORDINANCE AND CODES

SMALL CELL AESTHETIC STANDARDS

PER ORDINANCE AND CODES

MISCELLANEOUS DRIVEWAY CONSTRUCTION / REPLACEMENT

GENERAL REQUIREMENTS

All asphalt, decorative, or gravel driveways that are damaged or removed shall be constructed to the same widths and with the same material that existed prior to right-of-way work. No new construction of gravel driveways will be allowed.

All subgrade for driveway entrances shall be uniformly compacted and evenly graded to the required subgrade elevation. All loose or extraneous material shall be removed from the subgrade and soft spots shall be uniformly re-compacted prior to placement of concrete. The permittee shall have available adequate vibratory compaction equipment to accomplish the compaction as set forth above.

ASPHALT DRIVEWAY ENTRANCES

Where right-of-way activities require the removal and replacement of existing asphalt driveway entrances, such removal shall be accomplished by first sawing the existing driveway full depth and removing all material to be replaced. Asphalt driveway entrances shall be replaced with a minimum of 6 inches of commercial grade asphaltic concrete meeting the requirements of Section 611 of the Standard Specifications, placed in maximum lifts of 4 inches. In no case shall it be less than that section being replaced. Placing and compaction of the asphalt driveway pavement shall be in accordance with the Standard Specifications.

DECORATIVE DRIVEWAY ENTRANCES

Where right-of-way activities require the removal of existing decorative rock driveway entrances, such removal shall be accomplished by first sawing the existing driveway full depth and removing all material to be replaced.

Additionally, the exposed edge of the decorative rock treatment on the portion of the drive not removed must be protected before and after placement of adjacent concrete. In the event that the edge is damaged, the decorative rock treatment shall be resawed, removed and replaced at a point where a straight line can be obtained at no additional expense to the city. Replacement and the finish may be modified to insure subsequent bonding of the decorative rock treatment. Prior to placement of the surface treatment, the concrete base must have cured for a minimum of 7 days. Aggregate used in the surface treatment must match the existing aggregate in size, shape, gradation, and color, and placement must conform to the procedures used when the original treatment was placed. The permittee should contact the homeowner to ascertain the source of the materials used, and should use duplicates of those materials wherever possible. Any noticeable difference between the existing treatment and the replacement will be grounds for the rejection of the work.

GRAVEL DRIVEWAY ENTRANCES

As stated above, no new construction of gravel driveway entrances will be allowed. Existing gravel driveway entrances may be replaced at existing width, but may not be widened. The replacement material shall consist of a minimum of 6 inches of AB-3, Overland Park Modified, as specified above, which shall be laid watered, manipulated and compacted in lifts not to exceed three inches.

RESTORATION

RESTORATION TIMELINES (TEMPORARY AND PERMANENT)

Restoration of the right of way shall begin within the following timelines:

SIDEWALK: Restored temporarily within 3 days. Permanent restoration within 14 days.

LAWN: Restored temporarily every Friday (“Fill your hole Friday”). Permanent restoration within 2 weeks of completed project. Sod watered for 21 days or until established.

STREET: Temporary daily restoration per “EXCAVATION WITHIN THE PAVED PORTION OF THE RIGHT OF WAY”. Permanent restoration within 2 weeks of project completion.

PAVEMENT MARKINGS: Temporary restoration of markings shall be installed immediately upon placement of permanent pavement. Permanent markings shall be placed with 14 days of permanent pavement.

These timelines will no longer be noted on the issued permits.

SUITABLE SOIL

Soil shall be free of clods, rocks, trash, and other debris and shall be suitable for supporting vegetation. The area shall be prepared such that sodding may be placed on bare soil. This will consist of cultivating, smoothing, removing of clods, surface stones of one inch in diameter or larger, and weeds.

FERTILIZER

Fertilizer for sod, in accordance with the Specifications, shall be of an approved commercial brand composed of a minimum of 25% “Slow Release Nitrogen", 4-1-2 ratio or similar, such as 18-5-9, for Kentucky bluegrass or fescue sod, and 25-5-10 for zoysia sod.

Fertilizer shall conform to the State fertilizer laws, and shall conform to Section 2108 of the Standard Specifications. Furnishing and placing fertilizer shall be in accordance with Section 902 of the Standard Specifications. Fertilizer shall be uniform in composition, dry and free flowing, and shall be delivered to the site in the original unopened containers, each bearing the manufacturer's guaranteed analysis. Any fertilizer, which becomes caked or otherwise damaged, making it unsuitable for use, will not be accepted. Fertilizer shall be placed prior to seeding at not less than 1 pound of actual phosphorus per 1000 square feet of sodding or seeding area.

SODDING

Per Council Policy 205, Restoration in the City of Prairie Village right of way is sod. Sod shall be placed in accordance with the Specifications. Sod shall be replaced with like species. Kentucky bluegrass, turf-type fescue, or zoysia sod shall be used. In the case of mixtures of bluegrass / fescue and zoysia sod, zoysia shall be used. Sod shall be machine cut at a uniform soil thickness of 5/8 of an inch, plus or minus 1/4 inch, at the time of cutting. Sod shall not be harvested or transplanted when moisture content (excessively dry or wet) will adversely affect its survival. Sod shall be reasonably free of disease, nematodes, and soil-borne insects. Sod shall also be free of objectionable grassy and broad leaf weeds.

A clean edge shall be established at the outer limits of the area to be sodded, so that good contact can be made between with the ends staggered in a running bond pattern. Each successively laid strip shall be pressed firmly up against the one next to it or up against the edge of the existing turf, to ensure good contact with no overlapping. Sod shall be staked in places where the slope exceeds 3:1. After placing sod, the area shall be tamped with a hand tamp or rolled with a lawn roller half filled with water. Rolling shall be done in a direction perpendicular to the direction in which the sod lengths were laid.

The permittee shall be responsible for watering sod daily or as often as necessary until it is firmly rooted and secure in place or a minimum of 21 days. Sod shall be sufficiently rooted and growing prior to the restoration inspection and the commencement of the two year maintenance period.

SODDING SEASON

Typical bluegrass or fescue sod season is during the periods of March 1 to May 15 and September 1 to November 15. Bluegrass or fescue sod may be planted outside of the season when the soil and sod are workable.

If bluegrass or fescue sod is placed outside of the season, the permittee shall maintain it until it is sufficiently rooted and growing. Property owners shall be made aware of their responsibility for continued maintenance prior to placement.

Zoysia sod may be planted during the period April 1 to October 15.

SEEDING

For temporary seeding, the seed mixture shall be annual ryegrass. The rate of application shall be a minimum of 83% of pure live seed at 90 pounds per acre.

Hydro-seeding may be allowed in specific situations, in lieu of sodding, with permission of the Public Works Director. All seeding materials, bed preparation, and planting shall conform to the applicable requirements of the Specifications. All areas to be seeded shall be disked, harrowed, or hand raked to a minimum of 2 inches to 6 inches before application of seed. The seedbed should be uniform and well packed. Seed shall be applied with an acceptable seed drill at a depth of 1/2 inch in a uniform manner. Broadcasting and hand raking to a depth of 1/2 inch will only be used on areas where it is impossible to operate a seed drill. The seed shall be covered to a depth of 1/4 to 1/2 inch with a shallow-set spike tooth harrow or other approved methods. After covering, the areas shall be firmed by rolling. No loose straw is allowed.

Mulch shall be spread uniformly in a continuous blanket. The mulch shall be anchored in the soil to a depth of 2 to 3 inches into the soil surface. Two or more passes may be required to anchor the mulch. No mulch shall be placed unless it can be anchored on the same day.
The seed mixture shall be turf type tall fescue. The rate of application shall be a minimum of 83% pure live seed at 348 pounds of seed per acre.

Seeding shall be maintained by the permittee until satisfactory growth is established, prior to the restoration inspection and the commencement of the two year maintenance period.

SEEDING SEASON
Fescue grass seeding season shall be from February 15 to April 20 and from August 15 to September 30. Buffalo grass seeding season shall be from November 15 to June 1. Temporary ryegrass seeding season shall be anytime.

PROTECTION OF TREES

All trees and plants shall be protected against injury from construction operations. The permittee shall take extra measures to protect trees, such as erecting barricades or fences around the drip line, and trimming low hanging branches to prevent damage from construction equipment. Trees shall not be endangered by stockpiling excavated material or storing equipment within the drip line of the tree. No backfill material exceeding four inches in depth shall be placed within the drip line area of any tree. When excavation is required within the drip line of any tree, the permittee shall take extra measures to protect as many roots as possible. All roots to be cut or removed shall be cut with a chain saw, trencher, or other methods that will leave a smooth cut surface. All roots exposed during excavation shall be protected to prevent the roots from drying out by covering the exposed area with canvas or burlap, peat moss, or mulch, and kept damp until the area has been backfilled.

The Public Works Director may grant permission by permit to any right-of-way user

to trim trees upon or overhanging the right of way so as to prevent the branches of such trees from coming in contact with the facilities of the right-of- way user. In the event that any right-of-way user severely disturbs or damages the health and safety of any tree, the right-of-way user will be required to remove and replace the tree with like species at the right-of-way user's cost.

Trees on private property that are near the right of way require notification of property owner for permitee work that will impact the property and tree.

TEMPORARY EROSION AND SEDIMENT CONTROL

The permittee shall utilize temporary erosion control methods on the project site to prevent mud or debris from entering the roadway or the storm sewer system, and to prevent damage to existing residential yards. Temporary Erosion and Sediment Control shall conform to Section 44 of the Construction Specifications. The forms of temporary erosion control shall include, but not be limited to sediment fence, installation of staked straw bales, temporary seeding, mulching, erosion control fabrics, and protection of storm drain inlets. Where land disturbance activities have temporarily or permanently ceased on a portion of the project site for over 21 days, the disturbed area shall be stabilized with mulch or other similarly effective soil stabilizing BMP's.

The permit holder must perform self inspections of sediment and erosion control devices on a monthly basis and after every rain event of 1/2 inch or greater in a 24 hour period. Records must be kept of all self inspections and be produced upon request by the City inspector. Care shall be taken to avoid damaging erosion and sediment control devices installed by other parties. Where utility work unavoidably damages other installations, the contractor shall promptly make repairs. Failure to promptly repair damaged BMP's installed by other parties shall be cause for suspension or revocation of the Right of Way work permit.