The City of Merriam, Kansas

Manual of Infrastructure Standards

Public Works Department
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Manual of Infrastructure Standards

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Definitions

For purposes of this Manual, the following words or phrases shall have the meaning given herein:

1. ***AB-3*** is a material designation for a graded combination of limestone aggregate.
2. ***Abandoned Facilities*** means those facilities owned by the ROW-user that are not in use and will not be utilized by the owner in the future.
3. ***AE*** shall mean air-entrained as it pertains to concrete and percentage of air-entrained admixture.
4. ***Affiliate*** means any person controlling, controlled by or under the common control of a ***service provider***.
5. ***AIMS*** shall mean Johnson County Automated Information Mapping System.
6. ***Applicant*** means any person requesting permission to occupy, lease or operate facilities using the right-of-way, or to excavate the right-of-way.
7. ***APWA Specifications*** means The American Public Works Association Specifications and Criteria, current edition.
8. ***Area of Influence*** means that area around a street excavation where the pavement and sub-grade is impacted by the excavation and is subject to more rapid deterioration.
9. ***ASTM*** shall mean American Society for Testing and Materials, also known as ASTM International.
10. ***ATSSA*** shall mean American Traffic Safety Services Association.
11. ***BMP's*** shall mean Best Management Practices.
12. ***City*** means the City of Merriam, Kansas, a municipal corporation and any duly authorized representative of that City.
13. ***Collector Street*** shall be designated as
    47th Street (County Line Road), from Switzer Avenue to Antioch Road.
    49th Street, from Switzer Avenue to Antioch.
    53rd Street, from Switzer Avenue to Merriam Drive.
    54th Terrace, from Antioch to Hadley Road.
    55th Street, from Switzer Avenue to Merriam Drive.
    60th Terrace, from Antioch Road to Grandview Road.
    61st Street, from Antioch Road to east City limits.
    61st Street, from Mastin Avenue to Turkey Creek.
    62nd. Terrace, from Grandview Road to Antioch Road.
    64th Terrace, from Eby Avenue to Antioch Road.
    67th Street, from Craig Avenue to east City limits.
    69th Street, from East Frontage Road to Antioch Road.
    69th Street, from Switzer Avenue to Farley Avenue.
    Craig Road, from 61st Street to 67th Street.
    Eby Street, From Johnson Drive to 64th Terrace.
    Farley Avenue, from 67th Street to 69th Street.
    Goodman Road, 61st Street to the north City limits.
    Grandview Road, from 62nd Terrace to Johnson Drive.
    Grandview Road, from 69th Street to Antioch Road.

Hadley Road, from Johnson Drive to 54th Terrace.
Knox Avenue, from 61st Street to County Line Road.
Mastin Street, from Johnson Drive to Shawnee Mission Parkway.
Perry Lane, from Johnson Drive to 55th Street.
Slater Road, from Johnson Drive to Shawnee Mission Parkway.
Switzer Avenue, from 47th Street to 55th Street.
Switzer Avenue, from 69th Street to 75th Street.

14. ***Construct*** means and includes construct, install, erect, build, affix or otherwise place any fixed structure or object, in, on, under, through or above the right-of-way.
15. ***Day*** means calendar day unless otherwise specified.
16. ***Emergency*** means a condition that (a) poses a clear and immediate danger to life or health or of a loss of property; or (b) requires immediate repair or replacement in order to restore service to a user.
17. ***EPA*** shall mean the Environmental Protection Agency.
18. ***Excavate*** means and includes any cutting, digging, excavating, tunneling, boring, grading or other alteration of the surface or subsurface material or earth in the right-of-way.
19. ***Excavation Fee*** means the fee charged by the City for each street or pavement cut which is intended to recover the costs associated with construction and repair activity of the ROW-user and its contractors and/or subcontractors.
20. ***FCC*** means Federal Communications Commission.
21. ***Facility*** means lines, pipes, irrigation systems, wires, cables, conduit facilities, ducts, poles, towers, vaults, pedestals, boxes, appliances, antennas, transmitters, gates, meters, appurtenances, or other equipment.
22. ***Governing Body*** means the Mayor and the City Council of the City of Merriam, Kansas.
23. ***Governmental Entity*** means any county, township, city, town, village, school district, library district, road district, drainage or levee district, sewer district, water district, fire district or other municipal corporation, quasi-municipal corporation or political subdivision of the State of Kansas or of any other state of the United States and any agency or instrumentality of the State of Kansas or of any other state of the United States or of the United States.
24. ***HDD*** shall mean Horizontal Directional Drilling.
25. ***IMSA*** shall mean International Municipal Signal Association.
26. ***Kansas One-Call*** is the statewide notification system established pursuant to the Kansas Underground Utility Damage Prevention Act, K.S.A. 66-1801, *et seq*.
27. ***KCMMB Specifications*** means The Kansas City Metro Materials Board Specifications, current edition.
28. ***KCC*** means the Kansas Corporation Commission.
29. ***KDHE*** means the Kansas Department of Health and Environment.
30. ***KDOT*** shall mean Kansas Department of Transportation.
31. ***MCIB Specifications*** means The Midwest Concrete Industries Board Specifications, current edition.
32. ***MSDS*** shall mean Material Safety Data Sheet(s).
33. ***MUTCD*** means the latest edition of the Federal Highway Administration's Manual on Uniform Traffic Control Devices.
34. ***NPDES*** shall mean the National Pollution Discharge Elimination System.
35. ***OSHA*** shall mean Occupational Safety and Health Administration.

36. ***Pavement*** means and includes Portland cement concrete pavement, asphalt concrete pavement, asphalt treated road surfaces and any aggregate base material, including, but not limited to, any material used or approved by the City of Merriam in street resurfacing.
37. ***Permit and Inspection Fee*** means the fee charged by the City to recover its cost incurred for right-of-way management including, but not limited to, costs associated with registering applicants; issuing, processing, and verifying right-of-way permit applications; inspecting job sites and restoration of improvements; determining the adequacy of right-of-way restoration; revoking right-of-way permits and, other costs the City may incur in managing the provisions of this Ordinance.
38. ***Permittee*** means any person to whom a right-of-way permit is issued to excavate a right-of-way.
39. ***Person*** means any natural or corporate person, business association or business entity including, but not limited to, a partnership, a sole proprietorship, a political subdivision, a public or private agency of any kind, a utility, a successor or assign of any of the foregoing, or any other legal entity.
40. ***Public Improvement*** means any project undertaken by the City for the construction, reconstruction, maintenance, or repair of any public infrastructure, and including without limitation, streets, alleys, bridges, bikeways, parkways, sidewalks, sewers, drainage facilities, traffic control devices, streetlights, public facilities, parks, public easements, recreational facilities, irrigation system, public improvements, public buildings or public lands.
41. ***Public Lands*** means any real property of the City or any interest therein that is not right-of-way.
42. ***Public Works Director*** means the Public Works Director of Merriam, Kansas, or his or her authorized representative.
43. ***Registration*** means the application process of a service provider, the approval of the application by the City, and the authorization of the service provider to use any portion of the right-of-way within the City to provide service both within and beyond the City limits.
44. ***Repair*** means the temporary construction work necessary to make the right-of-way or any public improvement therein useable.
45. ***Repair and Restoration Costs*** means those costs associated with repairing and restoring the public right-of-way because of damage caused by the ROW-user and its contractors and/or subcontractors in the right-of-way.
46. ***Primary urban Arterials*** shall be designated I-35 (federal interstate)
    Shawnee Mission Parkway (U.S. Highway 56) from I-35 to the east City limits
47. ***Restoration*** means the process by which an excavated right-of-way and surrounding area, including pavement and foundation, is returned to the same condition, or better, that existed before the commencement of the work.
48. ***Right-of-Way or Rights-of-Way (herein also "ROW")*** means the area on, below or above public streets, alleys, bridges and parkways and the areas immediately adjacent thereto dedicated to public used, i.e., dedicated roadway area.
49. ***Right-of-Way Permit*** means the authorization to excavate for the construction, installation, repair or maintenance of any type of facility within the right-of-way.
50. ***Routine Service Operation means a work activity that makes no material change to the facilities and does not disrupt traffic.***
51. ***ROW*** shall mean right-of-way.

52. ***ROW-User*** means a person, its successors and assigns, that uses the right-of-way for purposes of work, excavation, provision of services, or to install, construct, maintain, repair facilities thereon, including, but not limited to, landowners (residents) and service providers. A ROW-user shall not include ordinary vehicular or pedestrian traffic or any governmental entity that has entered into an agreement pursuant to K.S.A. 12-2901, *et seq.*, with the City regarding the use and occupancy of the City's right-of-way.
53. ***Service*** means a commodity provided to a person by means of a system such as a delivery system that is comprised of facilities located or to be located in the right-of-way, including, but not limited to, gas, telephone, cable television, Internet services, Open Video Systems, alarm systems, steam, electric, water, telegraph, data transmission, petroleum pipelines, or sanitary sewers.
54. ***Service Provider*** means any person owning, possessing or having an interest in facilities in the right-of-way that are used for the provisions of a service for or without a fee; provided, that this definition shall also include persons owning, possessing, or having an interest in facilities in the right-of-way that are used by, may be used by or are intended for use by another person, in whole or in part, to provide a service for or without a fee, regardless of whether the actual facility owner provides any service as defined herein.
55. ***Standard Specifications*** (unless noted) means the provisions of the Standard Specifications for State Road and Bridge Construction, Kansas Department of Transportation, current edition and special provisions.
56. ***Street*** means the pavement and sub-grade of a City residential, collector or thoroughfare roadway, excluding curbs, gutters, and portions adjacent to the pavement and sub-grade of a road way that lie in a right-of-way.
57. ***Thoroughfares*** shall be designated as 67th Street, from west City limits to Antioch.
    75th Street, from west City limits to east City limits.
    Antioch Road, from south City limits to north City limits.
    Carter Avenue, from 67th Street to Shawnee Mission Parkway.
    East Frontage Road, from Eby to 75th Street.
    Johnson Drive, from west City limits to east City limits.
    Merriam Drive, from Shawnee Mission Parkway to Antioch.
    Shawnee Mission Parkway, west City limits to I-35.
    West Frontage Road, from 75th Street to 67th Street
58. ***Tolerance Zone*** shall mean the minimum acceptable horizontal and vertical separation between the existing utility and the proposed utility or structure.
59. ***USDA*** shall mean the United States Department of Agriculture.
60. ***WB-1*** means the traffic control device designation "Bump" as designated in the MUTCD.

1. General:

As stated in the ordinance of the City of Merriam, Kansas, 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 ROW –user at its sole expense and the reasonable satisfaction of the City. All repairs or restorative efforts shall begin within 72 hours upon completion of the repair or replacement of the utility. All restorative efforts not completed within 10 calendar days may be repaired or replaced by the City or a sub-contractor acting on behalf of the City and any costs incurred with the repairs or replacement shall be borne by the ROW –user. Upon determination by the Director of Public Works, that such repair or replacement is necessary to protect public safety, all such repairs or replacement shall be commenced within twenty-four hours of written notice to

make such repairs or replacement. If, after 24 hours, all such repairs and replacement have not begun, the City may make or cause to be made such repair or replacement and the cost shall be borne by the ROW –user.

All construction materials shall conform to the references contained in this document, unless otherwise directed by the Director of Public Works.

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 excavation, backfilling, restoration and replacement work shall be in accordance with the current Standard Details or Referenced Standard Details APWA, on file in the office of the City Clerk. The Standard Details shall be adopted and amended by the Director of Public Works with the consent of the Governing Body.

The Director of Public Works may delegate any or all of his or her duties contained in this manual.

As allowed by the right-of-way management ordinance, penalties for violation of this regulation include stop work orders, revocation of permit, doubling fees for work without a permit, denial of future permits, and fines levied by the Municipal Court.

1.1. Applicability:
Uses of the right-of-way covered in this manual include the following:

1.1.1. Excavation, construction, repair, and maintenance of facilities (utilities) and streets, including drilling, jacking, tunneling, boring, pipe lining, and other trenchless technologies.

1.1.2. Construction or reconstruction of driveways and driveway approaches or other entries from the right-of-way to private property.

1.1.3. Disruption or obstruction of the right-of-way associated with design, inspection, management, maintenance, adjustments or protection of facilities, regardless of the location of the facilities.

1.1.4. Placement of dumpsters in the right-of-way.

1.1.5. Oversize/overweight loads.

1.1.6. Other activities in or affecting the right-of-way.

1.2. Inspections:

For excavation permit activity in the right-of-way, permittee will notify the Director of Public Works to schedule a minimum of two inspections. One shall be in advance of the start of backfilling operations in any area within the right-of-way; and a second inspection shall occur upon completion of all right-of-way restoration activities, including concrete, asphalt, sod, or sod. If weather conditions are such that concrete, asphalt, sod, or seed work cannot be performed, permittee shall notify the Public Works Director after work is substantially complete except for weather dependent work. In such a case 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 Director of Public Works, the two-year maintenance period will begin.

Except in the event of an emergency, permittee shall notify the Director of Public Works a minimum of two working days in advance of any street closure. No such closure shall take place without notice and prior authorization from the City. See also 1.3. Notification of Emergency Services and Traffic Control.

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

1.3. Notification of Emergency Services:

The Merriam Police Department, Merriam Fire Department and Johnson County Med-Act shall be notified in advance of any street closure. The Public Works Director will allow closing of streets only with prior approval at the time the permit is issued or in the event of an emergency. Appropriate contacts are as follows:

1.3.1. Merriam Police Department (Johnson County Sheriffs Dispatch, Non-Emergency) 913-322-5560.

1.3.2. Merriam Fire Department and Johnson County Med-Act EMS (Non -Emergency) 913-322-5530.

1.3.3. Emergency for the entire above dial 911.

1.4. Utility Locates and Notification:

As a condition of the ROW permit, all existing utilities shall be located before any excavation begins. This can be done with the following phone numbers, which are listed on the application as well as the permit:

1.4.1. Kansas One-Call…….1-800-344-7233

1.4.2. WaterOne……..……..913-895-1806

If utility locates have not been done, work will be shut down until locates have been completed.

2. Permits

2.1. Permit Required:

No regulated use will proceed without a current and valid permit issued by the City of Merriam, Kansas.

2.1.1. Application for permit shall be made three working days in advance of the start of work.

2.1.2. Any work performed within the road ROW on Shawnee Mission Parkway (US 56 Hwy.) or East and West Frontage Road is required to obtain a ROW permit from KDOT. When a ROW permit from KDOT has been issued, the Director of Public Works will consider an application for a ROW permit for issuance from the City.

2.1.3. In an emergency, construction may proceed without a permit. Provided, however, that no backfilling or no other final covering or concealment of any work shall take place until the Public Works Director has granted permission to do so. Further, in an emergency, a permit must be obtained within seventy two hours.

2.2. Types of Right-of-Way Use Permits:

2.2.1. Driveway Approach Permit - for the installation of a new or replacement approach to a driveway or parking lot where an excavation within the public right-of-way is required, subject to the City's driveway and other regulations.

2.2.2. Individual Site Excavation Permit – for construction, maintenance or service at a single site whose overall length of work is 100 lineal feet or less.

2.2.3. Multiple Site Excavation Permit – for construction, maintenance or service that has multiple discrete locations or an overall length greater than 100 lineal feet. Multiple site permits will not be open ended. All sites must be identified at the time the permit is issued. All sites must be under the control of a single contractor.

2.2.4. Routine Maintenance Disruption/Obstruction Annual Permit – for routine maintenance or service activities that do not include cutting of pavement or excavation of the right-of-way. The replacement of damaged or obsolete poles in the same location and all work on the overhead lines themselves shall fall under the routine maintenance disruption/obstruction permit.

2.2.5. Dumpster Placement Permit – for placing or parking in the right-of-way a dumpster or other lawful types of containers for debris or waste holding 8 cubic yards or more.

2.2.6. Oversize/Overweight Loads Permit– for the transportation of oversize or overweight loads on the City of Merriam streets. Size limits are those set out in the City of Merriam's traffic code.

2.2.6.1. Single Event - is for one-time movement of an oversized load.

2.2.6.2. Fixed Route - is for multiple vehicles between a single fixed destination and the designated connection to a State or Federal Highway.

2.2.7. Hauling Permit – for the hauling or moving of any earth, excavated rock, rubbish or used building materials, regardless of where it originated. A separate permit shall be required for each point of origination.

2.3. Fees and Time Limits:

More than one fee may be imposed. Time limits are calendar days for which the permit will be valid. Work, including temporary or final restoration, shall be complete within these times.

3. Pre-construction Requirements

3.1. Sketch Submittal:

3.1.1. Driveway Approach and Individual Site Excavation Permit Applications shall be accompanied by a location sketch. Information shown shall include at a minimum:

3.1.1.1. Scaleable drawing showing extents of pavement, curb and sidewalk, building foundation, and a graphic scale and north arrow (such as shown on the plot plan for the property);

3.1.1.2. The property address, permittee's name and phone number, labels for the adjacent street and an indication of the direction to and name of the nearest cross street;

3.1.1.3. Location, size and material of proposed improvements;

3.1.1.4. For an individual site excavation permit, the location of the existing utility mains and the location and presumed size of the excavation;

3.1.1.5. Sketch shall be legible and line weights and styles, symbols and abbreviations shall be distinct and widely recognized by practitioners in the Kansas City Metropolitan Area.

3.1.2. Multiple Site Excavation Permits or Excavations Exceeding 100 Lineal Feet shall be accompanied by a location drawing prepared by a Kansas Licensed Professional Engineer. Information shown shall include at a minimum:

3.1.2.1. Scaleable drawing showing extents of pavement, curb and sidewalk, building foundation, and graphic scale and north arrow (such as shown on the plot plan for the property);

3.1.2.2. The property address, permittee's name and telephone number, labels for the adjacent street and an indication of the direction to and name of the nearest cross street;

3.1.2.3. Location, size and material of proposed improvements;

3.1.2.4. The location of the existing utility mains and other subsurface structures, location and presumed size of the excavation;

3.1.2.5. Drawing shall be legible and line weights and styles, symbols and abbreviations shall be distinct and widely recognized by practitioners in the Kansas City Metropolitan Area.

3.2. Design Review:

Construction affecting more than 100 lineal feet of right-of-way shall be subject to a design review.

3.2.1. Coordination: Applicant shall demonstrate that all registered service providers have had 14 days to review and comment on the plans and that such comments have been reasonably addressed.

3.2.2. Horizontal Separation: The horizontal separation between the facility and deeper utilities such as water, sanitary sewer or storm sewer shall be four foot or ½ of the deeper utilities' depth, whichever is greater.

3.2.3. Projects involving Horizontal Directional Drilling shall follow the design guidelines in Section 8.

3.2.4. Plan Content: the drawings shall include the following minimum content:

3.2.4.1. Base map shall be scalable map showing extents of pavement, curb, sidewalk, above ground utility appurtenances and other above ground improvements.

3.2.4.2. Show marked location of existing underground facilities. Underground facilities shall be marked from record drawings, visible above ground appurtenances, or by tracing electric signal in metallic line or tracer wire.

3.2.4.3. Show accurate horizontal location of improvements including bulk dimensions of conduit, mains or other buried lines.

3.2.4.4. Show vertical information where necessary to identify and avoid potential conflicts.

3.2.4.5. Show property lines, right-of-way lines and construction limits.

3.2.4.6. Show traffic control plan and erosion control plan.

3.2.5. Plan Presentation: Plans shall be neat, orderly, and legible and shall comply with the following format and content requirements:

3.2.5.1. Employ distinct line types, symbols and notes to indicate different types of facilities. Include a drawing legend.

3.2.5.2. Sheet size shall be a minimum 11" by 17" to a maximum 24" by 36".

3.2.5.3. Name of facility owner and legend of symbols and abbreviations shall be on each sheet.

3.3. Preconstruction Documentation:

Document the existing conditions of the improvements along the route that are scheduled to remain. Provide copies of preconstruction photos or video tape to the City of Merriam on request.

3.4. Notification:

Permittee shall provide notification to impacted property owners or tenants:

3.4.1. Who: Applicants for individual site excavation permits and multiple site excavation permits must comply with these notification requirements. Driveway approach and routine maintenance permit applicants are exempted from notification requirements.

3.4.2. What: Notice shall include:

3.4.2.1. The nature of the work and length of time delays and disruptions that may be expected.

3.4.2.2. Whether streets will be closed or remain open to traffic.

3.4.2.3. Whether any utilities will be out of service during construction.

3.4.2.4. The name and telephone number of the superintendent or project manager or person who has authority over the job site, schedule, workers and subcontractors on the worksite.

3.4.2.5. Subject to City of Merriam discretion for project more than 100 linear feet of right-of-way, provide invitation and opportunity for residents and businesses to review project plans.

3.4.3. How: Notice may be a door hanger, post card or other written medium. The City of Merriam shall be given a copy of the notice and distribution list 48 hours notification.

3.4.4. Where: Notify all residents and business adjacent to the work on both sides of the street. If the street will be completely closed for any portion of the work, contact all residents and businesses in the entire block 48 hours notification.

3.4.5. When: For projects affecting more than 100 linear feet of right-of-way notice shall be given a minimum of seven days prior to start of construction. If construction does not begin when stated on the notice, the notification process shall be repeated. For emergency work, notice shall be given as soon as practicable after start of work. For all other work, notice shall be given a minimum of 48 hours before start of work.

4. Safety:

4.1. Potholing:

4.1.1. Prior to excavating in the public rights-of-way, permittee must pothole to verify existing utilities when the following circumstances are present:

4.1.1.1. Whenever an excavation or bore, including one using trenchless technology except Cured-in-Place-Pipe or slip lining, will be within the tolerance zone of an existing underground facility.

4.1.1.2. Whenever an excavation using trenchless technology except Cured-in-Place-Pipe or slip lining will parallel an underground facility within three feet of that facility, potholing is required every 100 feet.

4.1.1.3. Whenever an excavation will be in the vicinity of an area of congested underground facilities.

4.1.1.4. Whenever an excavation is within three feet of a hazardous or vital underground facility.

4.1.2. The preferred method of excavating a pothole is air vacuum excavation. When air vacuum excavation is not feasible, the preferred method of potholing is the use of water vacuum excavation or hand digging. When potholing, exposed underground facilities should be protected and supported. Potholes shall be backfilled in accordance with Sections 6 & 7.

4.1.3. If potholing reveals incorrectly located lines, permittee must report discrepancy to the facility owner and Kansas One Call along with proper location information.

4.2. Locates:

Prior to excavation permittee shall call for locates pursuant to Kansas One-Call.

4.3. Clothing:

Workers in the right-of-way shall wear a shirt, vest or jacket that is orange, yellow green or fluorescent versions of these colors. For nighttime work, outer garments shall be retro-reflective.

4.4. Safety Officer:

Permittee shall identify a safety officer, and 24-hour contact numbers, with job site responsibilities to oversee compliance with all safety regulations. The Safety Officer shall be on 24-hour call.

4.5. Trench Safety:

U.S. Department of Labor, OSHA has standards for excavations and trenches that may affect the work.

4.6. Hazardous Material Spills:

Permittee shall comply with all KDHE, EPA, and other requirements for reporting spills of hazardous materials, including fuels and other equipment maintenance fluids.

4.7. Open Excavation Protection:
If an excavation cannot be backfilled immediately and will be left unattended, the excavation shall be enclosed with orange safety fencing material, which is properly secured around the excavation. In addition, all trenches and other excavations shall be provided with suitable barriers, signs, lights, or other traffic control devices to the extent that adequate protection is provided to the public against accident because of such open construction. No excavation shall be left unattended in excess of seventy-two hours, without permission of the Director of Public Works.

4.8. Traffic Control:
Permittee must provide adequate traffic control for any permitted activity that obstructs any part of the roadway pavement. Traffic Control Devices and Flaggers shall be provided to maintain traffic in a safe, orderly manner. All traffic control devices and flagging operations shall conform to the latest editions of the MUTCD, the "State of Kansas Traffic Control Handbook for Flaggers", and all traffic control devices must adhere to the ATTSA Publication, "Quality Standards for Work Zone Traffic Control Devices", and APWA Section 2305 "Maintenance of Traffic".

All barricades, signs, lights, and other protective devices shall be installed and maintained in conformity with applicable statutory requirements and other legal requirements and, where within KDOT State Highway right-of-way, as required by the authority having jurisdiction there over. Obstructions requiring traffic control include but are not limited to workers adjacent to or in the roadway, excavations, equipment maneuvering areas, stored materials, spoil stockpiles, any stationary equipment that is a source of construction activity such as delivery trucks, tool trucks, lifts, excavators, and unoccupied parked maintenance equipment, except where parked entirely within permitted parking zones, and any other area or activity that present a potential conflict with the traffic operations of the roadway.

4.8.1. Installer Qualifications: Individuals designing, placing and maintaining traffic control devices shall have adequate training and have a basic understanding of the principles established by the MUTCD.
4.8.2. Traffic Safety Resources: The Permittee shall either:
4.8.2.1. Have on staff a work zone traffic safety officer who has either an ATTSA traffic control technician certification or IMSA Certification in work zone traffic safety and who has oversight responsibility of traffic control and work zone safety, or;
4.8.2.2. Contract all traffic control setup, maintenance and removal to a firm specializing in traffic control that has a technician on each crew that has either an ATTSA traffic control technician certification or IMSA certification in work zone traffic safety.
4.8.3. All traffic devices shall conform to the MUTCD and shall be placed in conformance with the principles described in the MUTCD. A detailed traffic control plan shall be required prior to issuance of a permit, for any lane closure on a thoroughfare or collector street. It shall be unlawful for any person without proper authority to move or remove traffic control devices, warning devices or other protective devices.
4.8.4. All traffic control devices shall be removed immediately upon elimination of the roadway obstacle.

4.8.5. The permittee, the responsible person on site, and each individual worker creating an obstruction shall be severally liable for fines and other penalties for failure to provide adequate traffic control.

5. Construction Requirements:

5.1. Times of Operation:

The permittee shall perform all work on the right-of-way at such times that will allow the least interference with the normal flow of traffic and the peace and quiet of the neighborhood. Except with the permission of the Director of Public Works, non-emergency work shall be restricted as follows:

5.1.1. On thoroughfares and collector streets work may not be performed during the hours of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.

5.1.2. Work may not be performed on any street during the hours of 7:00 a.m. and 10:00 p.m. Monday through Saturday. 8:00 a.m. to 10:00 p.m. Sunday.

5.2. Service Disruptions:

The Permittee shall not disrupt the utility service to any structure unless:

5.2.1. Separate notification has been given to the tenant / owner of the structure on both the day before and the day of the disruption 48 hours notification.

5.2.2. Disruption is limited to the hours between 9:00 a.m. and 4:00 p.m. or other times as negotiated with the structure's tenant / owner.

5.3. Impact on Adjoining Properties:

Permittee shall make all reasonable efforts to promptly respond to adjacent businesses and re sidents' needs and requests, particularly:

5.3.1. Times of operation;

5.3.2. Unscheduled services or access disruption;

5.3.3. Mud on street and general job site clean up;

5.3.4. Handicap access equipment;

5.3.5. Incomplete restoration.

5.4. Vehicle Marking:

Any vehicle or mobile equipment used by the permittee in connection with excavation of, disruption of, or any work in the right-of-way shall be clearly identified with the name of the permittee or the person doing the work painted or otherwise durably marked on both sides of the vehicles or equipment, in plain letters, not less than two inches high and not less than one -fourth inch stroke.

5.5. Sediment and Erosion Control:

The permittee shall utilize temporary erosion control methods on the project site to prevent mud and debris from entering the roadway or the storm/sanitary system and to prevent damage to other properties. The forms of temporary erosion control shall include but not be limited to construction of temporary cutoff ditches, installation of staked straw bales, temporary hydro seeding, erosion control fabric fences, fiber logs, temporary erosion control blankets, and check dams.

5.6. Dumpster Locations:

Dumpsters shall not be permitted on thoroughfares or collectors. Dumpsters shall not be permitted in the street unless there is sufficient room for emergency vehicles and other vehicular traffic to pass safely. The minimum clearance for vehicular movement is 10 feet. Dumpsters shall not be placed on sidewalks.

5.7. Horizontal Directional Drilling:
HDD under any street shall be at a minimum depth of four feet. Additional guidelines are set forth in Section 8.

5.8. Tracer Wire:
New non-metallic underground facilities placed in the right-of-way shall be accompanied by tracer wire as provided in section 5.8.1. and 5.8.2. This requirement applies to new facilities installed in excess of 100 feet.

- **5.8.1.** If conduit or innerduct is used the tracer wire can be pre-installed or blown in after the conduit or innerduct installation.
- **5.8.2.** If conduit or innerduct is not used then the tracer wire shall be installed as integral part of the facility installation.
- **5.8.3.** Tracer wire shall be accessible at least every three hundred feet. Access points may include valve boxes, hand-holes, manholes, vaults or other covered access devices. Access point covers should be clearly marked with the type of facility.

5.9. Damage to Utilities:
Any ROW-user that damages an underground facility, power pole or tracer wire shall immediately notify the damaged facility owner and the Director of Public Works for the City of Merriam. The owner of the damaged facility may conduct, direct, oversee or specify how the repair is to take place. Permittee shall coordinate and cooperate with the owner of the damaged facility.

6. Excavation in Unpaved Portion of Right of Way

6.1. Trenching:

The Contractor or Permittee shall not open more trench in advance than is necessary to expedite the work. One block or four hundred feet (whichever is the shorter) shall be the maximum length of open trench permitted on any line under construction. The excavation shall be done with the least possible damage and shall excavate earth in such manner as to cause the least inconvenience to the public, and to permit uninterrupted passage of water along the gutters. The excavation shall be filled at the end of each working day, except when approved by the Director of Public Works or City Engineer. All excavated material shall be removed at the end of each working day and all material shall be removed completely from the site of the work upon completion of such work. The excavation or trench shall have straight vertical sides, where practical, and shoring, siding, and bracing shall be employed as required to prevent cave-ins.

6.2. Bracing and Shoring:

The Contractor or Permittee shall provide adequate bracing, sheeting, and shoring, as necessary, to provide protection for the workers and the work. All bracing, sheeting, or shoring shall conform in full accordance with Occupational Safety and Health Standards –Excavations; Final Rule 29 CFR Part 1926.

6.3. Backfill:

Pipe or conduit embedment material shall be as specified by the Utility and approved by the City Engineer or Director of Public Works. If not otherwise specified, embedment material around pipe or conduit shall be crushed stone or pea gravel or sand with not less than 95 percent passing the one-half inch sieve, and not less than ninety-five percent to be retained on a No. 8 sieve. Embedment material shall be placed in maximum lifts of six inches. Embedment material around pipe or conduit shall extend up to a minimum of 12 inches above the top of the pipe. Removable flowable fill may be used in lieu of embedment material. All soil backfill material above the embedment area shall be clean soil, free from aggregate, woody material, trash, pavement material, or any other debris. The top six inches from the surface of the trench or excavation shall be composed of topsoil free from clods suitable for supporting vegetation. All soil backfill shall be compacted, in eight-inch lifts, using vibratory equipment for each lift, to a minimum of 95 percent of standard density using ASTM D 698.

A quick-setting removable low strength flowable low strength fill material may be allowed in lieu of soil backfill. Removable flowable fill shall be placed up to eighteen inches of the existing surface. The remaining eighteen inches shall be compacted topsoil, free from clods suitable for supporting vegetation, placed in 12 inch lifts using vibratory equipment, compacted to approximate density of adjacent soil but not less than 95 percent of maximum standard density using ASTM D 698. Prior to any placement of flowable fill, a mix design shall be submitted for approval and on file in the City Clerks office. Removable flowable fill shall conform to KDOT specification section 843 flowable fill for low strength mixture.

If an excavation cannot be backfilled and will be left unattended, the contractor shall adequately cover the excavation. No excavation shall be left unattended in excess of 72 hours, without permission of the City Engineer or Director of Public Works. The Permittee assumes the sole responsibility for maintaining proper barricades, plates, safety fencing

and/or warning lights as required from the time of opening of the excavation until the excavation is closed.

7. Excavation in Paved Portion of Right of Way

7.1. Trenching:

The Contractor or Permittee shall not open more trench in advance than is necessary to expedite the work. One block or four hundred feet (whichever is the shorter) shall be the maximum length of open trench permitted on any line under construction. The excavation shall be done with the least possible damage and shall excavate earth in such manner as to cause the least inconvenience to the public, and to permit uninterrupted passage of water along the gutters. The excavation shall be filled at the end of each working day, except when approved by the Director of Public Works or City Engineer. All excavated material shall be removed at the end of each working day and all material shall be removed completely from the site of the work upon completion of such work. The excavation or trench shall have straight vertical sides (where practical) and shoring, siding, and bracing shall be employed as required to prevent cave-ins. Trench width shall provide a minimum of six inches clear on each side of the pipe.

7.2. Sawing Pavement:

Prior to excavating the street, the pavement shall be sawed to the full deep. After the trench is excavated, utility work and backfill is complete; a final vertical saw cut shall be made completely through the pavement. This final saw cut shallbe made 12 inches wider on each side of the trench than the trench width at the widest point. A similar saw cut shall be made at the beginning and end of the trench. This requirement is to provide a 12 inch undisturbed subgrade to support the repair pavement. All broken pavement shall be removed from the site and not placed in the backfill.

7.3. Bracing and Shoring:

The Contractor or Permittee shall provide adequate bracing, sheeting, and shoring, as necessary, to provide protection for the workers and the work. All bracing, sheeting, or shoring shall conform to Occupational Safety and Health Standards-Excavations; Final Rule 29 CFR Part 1926.

7.4. Backfill:

Pipe or conduit embedment material shall be as specified by the Utility and approved by the Director of Public Works. If not otherwise specified, embedment material around pipe or conduit shall be crushed stone, pea gravel or sand with not less than ninety-five percent passing the one-half inch sieve, and not less than ninety-five percent to be retained on a No. 8 sieve. Embedment material shall be placed in maximum lifts of six inches. Embedment material around pipe or conduit may extend up to a maximum of twelve inches above the top of the pipe. Removable flowable fill may be used in lieu of embedment material. No soil backfill shall be used in paved areas.

A quick-setting removable low strength flowable low strength fill material may be allowed in lieu of soil backfill. Removable flowable fill shall be placed up to eighteen inches of the existing surface. The remaining eighteen inches shall be compacted topsoil, free from clods suitable for supporting vegetation, placed in 12 inch lifts using vibratory equipment, compacted to approximate density of adjacent soil but not less than 95 percent of maximum standard density using ASTM D 698. Prior to any placement of flowable fill, a mix design shall be submitted for approval and on file in the City Clerks office. Removable flowable fill shall conform to KDOT specification section 843 flowable fill for low strength mixture.

If an excavation cannot be backfilled and will be left unattended, the contractor shall adequately cover the excavation. No excavation shall be left unattended in excess of 72 hours, without permission of the City Engineer or Director of Public Works. The Permittee assumes the sole responsibility for maintaining proper barricades, plates, safety fencing and/or warning lights as required from the time of opening of the excavation until the excavation is closed.

If authorized by the Director of Public Works aggregate base material, Type AB-3, as specified in subsection 1105 of the Standard Specifications, may be used in lieu of removable flowable fill. AB-3 shall be placed in maximum lifts of six inches to the bottom of the surrounding pavement. AB-3 shall be compacted using vibratory equipment for each lift, with the moisture content being uniform throughout and the material shall be compacted to a minimum of 95 percent of standard density as specified in ASTM D698. **Use of the bucket of a backhoe is not vibratory compaction**. At the time of compaction, AB-3 shall be within zero to minus two percent of optimum moisture. If AB-3 is used, Permittee maybe required to employ a testing laboratory approved by the Director of Public Works, which shall certify the proper backfilling on any street cut. See Compaction Testing.

7.5. Compaction Testing:
When the Permittee is required by the Director of Public Works or City Engineer to employ an approved testing laboratory said testing laboratory shall certify the proper backfilling on any street cut that has been created by the Contractor or Utility covered under the issued permit. The Permittee shall pay all costs associated with such testing. The compaction testing provision may be waived by the Public Works Director when removable flowable fill is used as backfill. The Permittee shall provide a copy of the compaction test results 951compaction for AB-3 to the Director of Public Works prior to the final restoration inspection. Start of the two-year maintenance period shall not commence until the compaction test results have been received and approved by the City Engineer or Director of Public Works. If test results do not meet specified compaction requirements, permittee shall be required to re-excavate, remove and re-compact backfill, employ a testing laboratory, provide a copy of the compaction test results, and repair pavement to the reasonable satisfaction of the Director of Public Works.

7.6. Plating the Excavation:
Any excavation left overnight on any thoroughfare, Collector Street or Primary urban arterials shall be adequately covered with a steel plate. 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 drivable 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. See also Traffic Control. Any excavation left overnight on any residential street shall either be plated as stated above or backfilled up to the surface of the street. Under extenuating circumstances and with the approval of the Director of Public Works if an excavation cannot be backfilled, and must be left unattended overnight, the excavation shall be adequately covered. If temporary surfacing material is 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 Director of Public Works. The Permittee assumes the sole

responsibility for maintaining proper barricades, plates, safety fencing and/or warning lights as required from the time of opening of the excavation until the excavation is surfaced and opened for travel. Depth of 4’ and over will fill with AB-3 over night.

8. Horizontal Directional Drilling Guidelines

8.1. Introduction:

This section is to be used as a basic guide for Horizontal Directional Drilling (HDD) applications performed within the limits of the City of Merriam. The overall purpose is to provide guidelines that will help ensure public safety and protection of existing underground facilities. This protection effort is made up of many different aspects and each one has been addressed with in this section.

This section is not intended to be a step-by-step procedure manual but rather a collection of fundamental elements of the HDD process.

By following these guidelines, all involved can better assure that all reasonable steps have been taken to ensure public safety and to protect existing underground facilities.

8.2. Design Guidelines:

Prior to submitting an application for a Right-of-Way Permit that will involve HDD, the Permittee, or its designer shall undergo a thorough design process. At a minimum, the Permittee shall complete the following tasks prior to submitting a Right-of-Way application.

8.2.1. Prepare or obtain scaled mapping for the planned installation, including all exiting surface facilities and improvements, and including any indication of underground facilities or improvements.

8.2.2. Collect existing underground utility information, including the horizontal location of all known substructures.

8.2.3. Obtain right-of-way information through Johnson County AIMS, survey records or other sources.

8.2.4. Obtain general and/or specific geotechnical information, including USDA Soil Conservation Service Data for the project area and possibly including site-specific geotechnical sampling and analysis.

8.2.5. Prepare construction plans using the information noted above including location of all planned improvements, existing underground utility information, right-of-way limits and property ownership information.

In addition to the design requirements listed previously, the Permittee (or designer) shall employ the following practices:

8.2.5.1. The minimum horizontal and vertical clearance requirements when determining the HDD alignment to include road setbacks, existing surface features, exiting underground utilities and underground facilities.

8.2.5.2. Product pipe and reamer diameter requirements:

Product Diameter…….Reamer Diameter
<8”…… ……Product + 4”
8” to 24”……Product * 1.5
>24”……+ 12”

8.2.5.3. The bore geometry for the given ground profile including bore length(s) and depth requirements, bending radii for the final product pipe: typically 100 foot radius per 1 inch product diameter with 600 feet to 1000 feet radius minimums depending on subsurface materials and equipment requirements.

8.2.5.4. The drilling equipment for the given geotechnical conditions, geometry and final product diameter including thrust and pullback ratings, mud motors vs. jetting heads, wireline vs. walkover tracking systems.

8.2.5.5. The equipment and material handling requirements including drilling fluid and drilling containment, drill operation and final product staging.

8.2.5.6. The material strengths, capacities and coupling methods.

8.3. Construction Safety Guidelines:

Prior to performing work involving HDD under a right-of-way permit, the Permittee or Contractor shall consider the following safety guidelines:

8.3.1. Perform all operations in compliance with OSHA guidelines and insure that all personnel are properly trained and equipped to work in the public right-of-way.

8.3.2. Insure that the approved traffic control plan is implemented and followed at all times.

8.3.3. Insure that all storm water pollution prevention measures (required with permit application) are implemented and followed at all times.

8.3.4. Insure setbacks, offsets and clearances are maintained.

8.3.5. Insure that utility One-Call and other utility coordination have been met.

8.3.6. Positively identify (by potholing) all crossed utilities including storm sewers pipe and boxes that are expected to be above and within 5 feet of the proposed vertical alignment, below and within 3 feet of the proposed vertical alignment, and as required by the City Engineer.

8.3.7. Positively identify (by potholing) all parallel utilities at the beginning and ending of all bores, every 200 feet if it is within 5 feet of the proposed alignment, every 50 feet if it is within 3 feet of the proposed alignment and as otherwise required by the City Engineer

8.3.8. The HDD Contractor shall have a planned response in the event of a utility strike including utility notification and avoiding electrocution in the event of an electric strike, avoiding combustion in the event of a gas line strike and avoiding contamination in the case of a sewer strike.

8.4. Drilling Fluid Containment and Disposal Requirements:

The HDD Contractor shall contain, handle and dispose of drilling fluids in accordance with the following:

8.4.1. All drilling fluid and fluid additives shall be disclosed and MSDS shall be provided to the Director of Public Works on request.

8.4.2. Excess drilling fluid shall be confined in a containment pit at the entry and exit locations until recycled or removed from the site.

8.4.3. Precautions shall be taken to insure that drilling fluid does not enter roadways, streams, municipal storm or sanitary sewer lines, and/or any other drainage system or body of water.

8.4.4. Drilling fluids that are not recycled and reused shall be removed from the site and disposed at an approved disposal site.

8.4.5. Drilling fluids shall be completely removed from the construction site prior to back filling or restoring the site.

8.4.6. Collection, transportation and disposal of the drilling fluids shall be environmentally safe and comply with local ordinances and Federal Government Regulations.

8.5. Construction Requirements:

All construction work shall be performed in accordance with the "Municipal Code of the City of Merriam" and "Manual of Infrastructure Standards for Right-of-Way Restoration". For all work involving HDD under a right-of-way permit, the Permittee or Contractor shall perform the following:

8.5.1. Prior to the construction the HDD Contractor shall familiarize himself with the work area and the technical requirements of the plans.

8.5.2. The Permittee or Contractor shall establish construction marking/staking prior to construction to indicate HDD entry and exit locations and proposed HDD alignment at 50-foot (max.) intervals.

8.5.3. Provide the Director of Public Works with a list of all crew foreman and/or superintendents.

8.5.4. During construction the HDD Contractor shall calibrate its' tracking and locating equipment at the beginning of each workday.

8.5.5. The HDD Contractor shall monitor and record the alignment and depth readings provided by the tracking system every 25 to 30 feet for normal conditions and every 5 to 10 feet where precise alignment control is necessary.

8.5.6. The HDD Contractor shall complete the HDD installation as designed and permitted both horizontally and vertically unless otherwise authorized by the Director of Public Works.

8.5.7. The HDD Contractor shall attempt to maintain drilling fluid circulation throughout the HDD Process during the initial pilot hole installation and during the reaming and back pull process (do not pull the fluid circulation rate).

8.5.8. The HDD Contractor shall not expand the bore hole by more than six inches (6 inch) using only a compaction reamer.

8.5.9. The HDD Contractor shall plan its reamer and back pulling operations carefully to insure that, once all reaming and back pulling operations can be completed without stopping and within the permitted work hours.

8.5.10. The HDD Contractor shall at all times for the entire length of the HDD alignment be able to demonstrate the horizontal and vertical position of the alignment, the fluid volume used and the return rates and pressures.

8.5.11. The HDD Contractor shall inspect the work and surrounding area to insure that no construction-related damage has occurred including heaving or humping of paved surfaces and drilling fluid fractures or releases.

8.5.12. At the request of the City Engineer, the Contractor shall provide access for inspection for the HDD operations.

8.5.13. Following construction the Permittee shall notify the Director of Public Works on completion of the authorized work.

8.5.14. Prior to the start of the backfilling of excavations under paved surfaces, the permittee shall notify the City Engineer to schedule an inspection. On completion of all right-of-way restoration activities, the Permittee will schedule a closeout inspection.

8.5.15. The Permittee or Contractor shall insure that all cleanup and restoration complies with the Restoration Section of this Manual.

8.5.16. The Permittee's two year maintenance period will not begin until any corrective actions required have been completed and inspected to the satisfaction of the Director of Public Works.

8.6. Storm Water Pollution Prevention/Best Management Practices:
All construction activities shall be performed in accordance with the NPDES as regulated by the EPA, the KDHE & and the City of Merriam.

The Permittee or its Contractor shall implement BMP's to insure that storm water runoff is not contaminated by sediment caused by land disturbances associated with construction activities. For a full list and discussion of recommended BMP's, please see the following publication:

Publication: Construction Site Storm Water Runoff Control Source:
http://www.epa.gov/npdes/menuofbmps/con_site.htm

The following seven goals shall be applied for all Storm Water Pollution Prevention planning:

8.6.1. Insure that sediment controls are in place.
8.6.2. Maintain sediment controls throughout the construction and restoration process.
8.6.3. Minimize the overall disturbance whenever possible.
8.6.4. Protect disturbed areas throughout the construction process.
8.6.5. Prevent storm water runoff from entering disturbed areas.
8.6.6. Never intentionally discharge construction contaminants directly into creeks, rivers, ditches or storm sewer systems.
8.6.7. Complete permanent restoration as soon as possible. In addition to those overall goals stated previously, the contractor shall, at a minimum, implement the following Best Management Practices:
8.6.7.1. Provide temporary erosion protection whenever possible. Mulch, seed, or gravel may be applied even if a disturbed area may and/or will be disturbed again or other permanent measures of stabilization are to follow.
8.6.7.2. Cover spoil piles with a tarp or contain with a sediment barrier.
8.6.7.3. Contain disturbed sediment on site by using sediment barriers such as silt fence, sand bags, straw bails, rock checks and/or sediment traps to contain sediment on the construction site.
8.6.7.4. Existing vegetation may be used as a sediment filter where minimal grades and sheet flow runoff will occur.
8.6.7.5. Insure that all sediment barriers are installed and functioning properly.
8.6.7.6. Avoid causing flooding in roadways and adjacent right-of-way.
8.6.7.7. Do not block existing culverts and storm inlets except as a last resort.
8.6.7.8. Insure that sediment is removed from sediment traps and filters after all storm events.

8.7. Construction Records and As-Built Plan Requirements:
The HDD Contractor shall keep detailed and accurate records of all activities associated with the HDD process. Upon completion of HDD installations, the Permittee shall provide the City of Merriam with "As Built Plans" and any supporting documents within 60 days of project completion. As-Built Plans are preferred in both AutoCAD and paper format. HDD construction records and As-Built Plans shall include the following:

8.7.1. HDD tracking data and operator logs shall be maintained daily and shall be made available on request from the Director of Public Works. These records and operator notes shall specify:

8.7.1.1. The type of tracking equipment used

8.7.1.2. The length and depth of the HDD installation

8.7.1.3. Additional information that may include steering adjustments and other equipment performance parameters.

8.7.2. As-Built Plans shall be derived from the tracking data and operator logs. At a minimum, the drawings shall indicate:

8.7.2.1. Horizontal and vertical HDD alignment

8.7.2.2. Existing utility horizontal locations and depths at all exposed or potholed locations

8.7.2.3. Existing utility horizontal locations where indicated with field locates.

8.7.3. As-Built Plans shall conform to the same requirements for right-of-way permits included previously.

9. Street Repair

9.1. General:

In accordance with Chapter 13, in addition to its own street cuts, permittee must also restore any area within five 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 Director of Public Works may require the entire lane to be repaved.

The majority of streets in the City of Merriam are constructed of bituminous materials, consisting of: full depth asphaltic concrete, asphaltic concrete over aggregate base, or seal coat over asphaltic concrete; Therefore, asphaltic concrete street repair shall be performed by either Type I or Type II method as described below, unless otherwise approved by the Director of Public Works.

9.2. Asphaltic Concrete Street Repair:

Asphaltic concrete street repair and restoration shall be performed by one of the following methods:

Type I	Asphaltic Concrete Street Repair, High Early Strength Concrete Bench with Asphaltic Concrete Surface
Type II	Asphaltic Concrete Street Repair, Full Depth Asphaltic Concrete

9.2.1. Type I: The minimum 12 inch bench shall be excavated to a point not less than eight 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 twelve-inch bench shall be poured a minimum of six 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 utilize Type III Portland Cement and contain polypropylene fibers as described in section 10.1. Polar Set, or an approved equal, is the only accelerator that will be used. After 24 hours, or when specified strength is achieved, high early strength concrete shall be tack coated and two inches of hot asphaltic concrete surface course shall be placed and compacted to 95 percent of standard density. All asphaltic concrete mixes and tack coat shall conform to APWA Specifications. The concrete bench surface and the existing pavement edges shall receive tack coat not more than six hours prior to placing asphaltic concrete. Approved mix designs for concrete and asphaltic concrete shall be on file in the Director of Public Works 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.

9.2.2. Type II: If removable flowable fill is used, and the excavation width exceeds six feet, a minimum of six inches of hot asphaltic concrete intermediate course may be placed in lieu of the high early strength concrete (AE). The asphaltic concrete intermediate course shall conform to Super pave specifications. Tack coat shall be applied between all lifts of asphaltic concrete. Surfaces shall receive tack coat not more than six hours prior to placing asphaltic concrete. Two inches of hot asphaltic concrete surface course shall be placed and compacted to ninety-five percent of standard density. Asphaltic concrete surface course and tack coat shall both conform to APWA Specifications. Approved asphaltic concrete mix designs

and talk coat shall be on file in the office of the Director of Public Works 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. The Director of Public Works at his discretion, may allow street repair with full depth asphaltic concrete, if the size of the excavation prohibits plating.

9.3. Portland Cement Concrete Street Repair:
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 six-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 twelve-inch bench shall be poured a minimum of six-inches or, to the depth of the existing pavement thickness, of High Early Strength Concrete (AE), having a minimum compressive strength of four thousand pounds per square inch in twenty-four hours. High early strength concrete shall utilize Type III Portland Cement and contain polypropylene fibers as described in section 10.1. Polar Set, or an approved equal, is the only accelerator that will be used. An approved mix design shall be on file in the office of the Director of Public Works prior to placement. This new concrete pavement surface shall be flush with existing street surface.

9.4. Pavement Markers:
All excavations by the permittee shall have a metal or plastic marker inserted into the surface of the restored pavement, which shall identify the ROW-user. This marker shall be flush with existing street surface. The Director of Public Works shall provide permittee with appropriate marker designating permit type.

9.5. Permanent Pavement Markings:
Permittee shall be responsible for the replacement of any permanent pavement markings on all roadways, which have been removed or disturbed because 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 APWA Specifications, and in accordance with the latest edition of the MUTCD, within fourteen days after the pavement surface has been placed, unless otherwise authorized by the Director of Public Works.

10. Concrete Construction / Replacement:

10.1. General:

All concrete used in construction of curbs, sidewalks, sidewalk ramps and driveway entrances shall have a minimum 28 day compressive strength of 4000 pounds per square inch and use the following mix:

- KCMMB 4k or KDOT grade 4.0 AE MA

10.2. Concrete Curb and Gutter:

Concrete Curbs shall be constructed or removed and replaced in accordance with the requirements of APWA Section 2209 "Curbing". The only exceptions are:

10.2.1. Concrete used shall be as specified above in "General".

10.2.2. Control Joints shall be placed at eight-foot intervals if there is four-foot wide sidewalk present or at ten-foot intervals if five-foot wide sidewalk is present. If no sidewalk is present, contraction joints shall be place at twelve-foot intervals.

10.2.3. If removed curbs exceed 100 feet in length, then a slip-form curb machine shall be utilized. This requirement may be waived at the discretion of the Director of Public Works or City Engineer.

10.3. Concrete Sidewalks and Sidewalk Ramps:

Concrete Sidewalks and Sidewalk Ramps shall be constructed or removed and replaced in accordance with the requirements as stated in APWA Section 2301 "Standard Sidewalks, Sidewalk Ramps, Driveways, and Bicycle/Pedestrian Paths" and shall comply with the latest requirements of the ADA. The only exceptions are:

10.3.1. Concrete used shall be as specified above in "General".

10.3.2. Sidewalk Ramps shall be constructed as shown on the "Standard Detail for Sidewalk Ramps".

10.3.3. Sidewalk contraction joints shall align with the curb contraction joints when the curb is adjacent to the sidewalk.

10.3.4. Sidewalks at driveway entrances shall be six inches thick as indicated on the "Standard Detail for Driveway Entrances".

10.4. Concrete Sidewalk ADA Compliant Ramps At Street Corners:

Concrete sidewalks that are ADA complaint shall be constructed or removed and replaced in accordance with the latest edition of the ADA. All ramps shall be constructed in accordance with the requirements of APWA Section 2301. The only exceptions are:

10.4.1. Concrete used shall be as specified above in "General".

10.4.2. Sidewalk control joints shall align with the curb control joints when the ramp is adjacent to the sidewalk.

10.4.3. Sidewalk ramps shall be constructed as shown on the "Standard Detail for Sidewalk Ramps @ Street Intersections".

10.4.4. The detectable warning surface shall be constructed using 2 feet by 2 feet manufactured panels. The panels shall be brick red in color. Access tile cast in place, replacealbe or approved equal shall be accepted and installed per manufacturer's specifications.

10.5. Concrete Driveway Entrances:

Concrete Driveway Entrances shall be constructed or removed and replaced in accordance with the requirements as stated in APWA Section 2301 "Standard Sidewalks, Sidewalk Ramps, Driveways, and Bicycle/Pedestrian Paths" and Article 4, Section 4.3.10 of the "City

of Merriam Zoning Ordinance" and the "ADA". The only exceptions are:

10.5.1. Concrete used shall be as specified above in "General".

10.5.2. Driveway Entrances shall be constructed as shown on the "Standard Detail for Driveway Entrances".

10.5.3. When sidewalks cross a driveway entrance, the driveway entrance shall be constructed as indicated in the "Standard Detail for Driveway Entrances".

11. Miscellaneous/Additional Driveway Construction/Replacement:

11.1. General:

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

11.2. Asphaltic Concrete Driveway Entrances and Decorative Driveway Entrances:

All driveway entrances shall be constructed or removed and replaced in accordance with the requirements as stated in APWA Section 2301 "Standard Sidewalks, Sidewalk Ramps, Driveways, and Bicycle/Pedestrian Paths" and APWA Section 2302 "Asphalt Sidewalks, Driveways, and Bicycle/Pedestrian Paths". The only exceptions are:

11.2.1. All aphaltic concrete driveways shall be a minimum of four inches of approved super pave asphalt mix super pave surface course shall then be placed. The six-inch section previously described shall be the minimum acceptable section, if the existing section exceeds six inches, then the existing section thickness shall be used comprised of the base as described above being increased in thickness to make up the difference in sections.

11.2.2. When a decorative driveway exists, the driveway shall be restored to the original condition using the same or like materials. Some examples may be exposed aggregate concrete, pavers, stamped, colored or imprinted concrete and stylized finishing techniques.

11.2.3. No new construction of gravel driveway entrances or driveways 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 six inches of AB-3, which shall be placed, in three-inch lifts, with a moisture content being uniform throughout, and the material shall be compacted to 95 percent standard density as specified in ASTM D698.

12. Restoration of Unpaved Right-of-Way:

12.1. Soil Backfill:

All soil backfill material above the embedment area shall be clean soil free from aggregate, woody material, trash, pavement material, or any other excavation shall be composed of topsoil free from 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, fine grading, removing clods, surface stones of one half inch diameter or larger, and weeds/old vegetation.

12.2. Fertilizer:

Fertilizer for sod shall be of an approved commercial brand composed of "slow release nitrogen", 4-1-2 formula or similar, such as 18-5- 9, for Kentucky Bluegrass or Turf- Type Tall Fescue sod.

Fertilizer for Fescue and temporary Rye seed shall be of an approved commercial brand composed of "slow release nitrogen", 1-2-1 range such as 13-25-12.

Fertilizer shall conform to the State Fertilizer Laws, and shall conform to Section 2106 of the (KDOT) Standard Specifications. Furnishing and placing fertilizer shall be in accordance with Section 907 of the (KDOT) 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 at not less than one pound of pure nitrogen per thousand square feet of sodding or seeding area.

12.3. Sodding:

Disturbed turf in developed areas shall be sodded. Seeding will be allowed only with the consent of the Director of Public Works or City Engineer. Sod shall be replaced with like species. Kentucky Bluegrass, or Turf-Type Tall Fescue be used. All sod materials shall conform to Section 2107 of the (KDOT) Standard Specifications.

Sod shall be machine cut at a uniform soil thickness of five-eighths of an inch, plus or minus one-quarter 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. Sod shall be sufficiently rooted and growing prior to the restoration inspection and the commencement of the two-year maintenance period.

Bluegrass or Fescue sod may be planted during the periods of March 1st to May 15th and September 1st to November 15th. Bluegrass or Fescue sod may be planted during the period, November 15th to March 1st, when the soil and sod are workable. If Bluegrass or Fescue Sod is planted between November 15th and March 1st, the permittee shall maintain it until it is sufficiently rooted and growing.

12.4. Seeding: Seeding shall not be permitted.
Sodding is the required restoration method. Seeding may be considered by the Director of Public Works in lieu of sod at the request of the permittee where special circumstances may exist.

All seeding materials, bed preparation, and planting shall conform to the applicable requirements of Sections 903, 907, and 908 of the (KDOT) Standard Specifications. All disturbed areas shall be seeded as soon as practicable after construction. All areas to be seeded shall be disked, harrowed, or hand racked to minimum of two inches to six 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 one-half inch in a uniform manner. Broadcasting and hand raking to a depth of one-half 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 one-quarter to one-half inch with a shallow-set spike tooth harrow or other approved methods. After covering, the areas shall be firmed by rolling.

Mulch shall be spread uniformly in a continuous blanket. The mulch shall be anchored in the soil to a depth of two to three 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 one hundred percent Turf-Type Tall Fescue. The mix shall be composed of a minimum of three approved species. The rate of application shall be a minimum of one pound of pure live seed per one thousand square feet of planting area.

The seeding season shall be from February 15th to April 20th and from August 15th to September 30th.

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.

12.5. Protection of Trees, Shrubs and Landscape Plants:
All trees, shrubs 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 using approved arboreal practices to prevent damage from construction equipment. Trees shall not be endangered by stockpiling excavated material or storing equipment within the drip line area 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 clean 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 Director of Public Works may grant permission by permit to any right-of-way user to trim trees upon or overhanging the right-of-way 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 Director of Public Works may require the right-of-way user to remove and replace with like species at the right-of-way user's cost.

13. Sediment and Erosion Control:

13.1. Temporary Erosion Control:

The permittee shall utilize temporary erosion control methods on the project site to prevent soil, aggregate and construction debris from entering the right-of-way or the storm sewer system, and to prevent damage to existing residential yards. Temporary Erosion Control shall conform to APWA Section 5108 "Sediment Control," as amended. A temporary erosion control plan shall be provided, prior to construction, for approval by the Director of Public Works or City Engineer.

Appendix A

Permit # _____

APPLICATION AND PERMIT FOR EXCAVATION, STREET CUT, CURB CUT UNDER CODE OF ORDINANCES CHAPTER 24, ARTICLE IX CITY OF MERRIAM, KANSAS

TO: City Clerk of City of Merriam, Kansas

Provisions outlined below may only be waived in an emergency by public utilities which hold a franchise with the City, Code of Ordinances, Chapter 24, Article IX. The City requests all applications be submitted at least 8 working days prior to the anticipated excavation, curb cut, street cut. Violations can result in fines up to $500 per occurrence. <u>Please complete all information</u>.

_____, of _____ , hereafter

termed the Applicant, requests permission and authority to do certain work under Code of Ordinances, Chapter 24, Article IX, of the City of Merriam, Kansas described as follows.

1. Provide EXACT description of the street, house number if known and EXACT location of proposed work in relation to feet or other distance from known locations or objects, etc. for inspection purposes. The address/location is _____.

2. Applicant attaches hereto four (4) 8 1/2" x 11" drawings of a comprehensive plan or sketch of the proposed work, which shall be located and constructed to the satisfaction of the Public Works Director. The material and construction methods used shall conform to the standard application of the State Highway Commission of Kansas, or as approved by the City Engineer. Plan is submitted with this application.

3. The purpose for which the same is intended: _____
   Description of work to be done

   Is the work being performed for the City of Merriam? Yes ____ No ____
   Is surety bond on file? Yes ____ No ____

4. Application has to be obtained and approved at least 3 working days prior to making such excavation or street cut or other work.
   Date of expected work to begin: _____
   Date that work will be completed: _____

5. Will there be disruption to existing infrastructure? Yes ____ No ____
   Length and nature of disruption _____.

6. Responsible person to contact if there are questions: Name:_____
Office Phone_____ Office Fax_____Cell Phone_____
Pager#_____Home Phone_____Emergency Phone_____
Complete Address: _____
City_____State_____Zip_____

7. Affect of street cut on traffic and appropriate accommodations that are planned (traffic control plan)
_____

8. Applicant agrees to the following:

(a) Contact the Public Works Director for an inspection of the temporary and final patching in a timely manner (913) 322-5570.

(b) The applicant agrees to furnish all material, do all work, pay all costs, and shall in a reasonable length of time restore said public way or place to a condition equal to that existing before approval of the described work including but not limited to grass, shrubs, trees, etc. as determined by the Public Works Director. Applicant shall be responsible for the quality and condition of restoration for one year after such cut is made.

(c) Temporary patching of the street shall be a cold patch that shall be replaced with a final patch within 3 working days. The Public Works Director may extend the 3 days. Otherwise, the Permit becomes null and void. Request for an extension needs to be in writing to the Public Works Director, stating the reasons for such requested extension.

(d) Street reconstruction surface shall be six inches of concrete for the base and two inches of asphalt for the top coat.

(e) Person making the refill of such excavation or cut shall be required to clean up and haul away all surplus earth, rock or rubbish within twenty-four (24) hours after said refill has been completed.

(f) Such application shall not be assignable or transferable, and no person shall allow his name to be used to obtain a permit for any other person.

(g) Avoid any interference with traffic, unless specifically provided in this application and permit.

(h) No portion of the right-of-way or other public place shall be used for parking.

(i) To be responsible for all the requirements and provisions applicable to such applicant of Ordinance 1472 of the City of Merriam, Kansas.

(j) The applicant must obtain a surety bond in the amount of $2,000 that said party will comply with all the terms and conditions of Chapter 24, Article IX and all regulations made in pursuance thereof and hold the city harmless against all loss, cost, expenses, damages and injuries to person or property which may be sustained by reason of the carelessness, negligence or intentional conduct of said applicant or licensee in operating under any of the provisions of this article. The bond may not run for a period of more than 5 years without being renewed and shall remain in force and effect as to each excavation or piece of work done for 2 years after the same has been made or done. The bond will be filed with the City Clerk.

(k) Applicant agrees to contact the following agencies:

	Merriam Police Department	913-322-5560
	Merriam Fire Department	913-322-5530
	AT&T	1-800-464-7928
	KCP&L	816-471-5275
	Kansas Gas Service Company	1-800-794-4780
*	Johnson County Wastewater	913-715-8600
*	WaterOne of Johnson County	913-895-1800

* Notify directly for utility locates required for excavation. These are not included in the Kansas One-Call system 1-800-DIG-SAFE (1-800-344-7233).

Applicant files herewith a processing fee to cover the temporary and final inspections. Fees for permit and additional inspections are published annually on the City's Schedule of Fees.

Date_____, 20___
Applicant_____

City Public Works Director_____

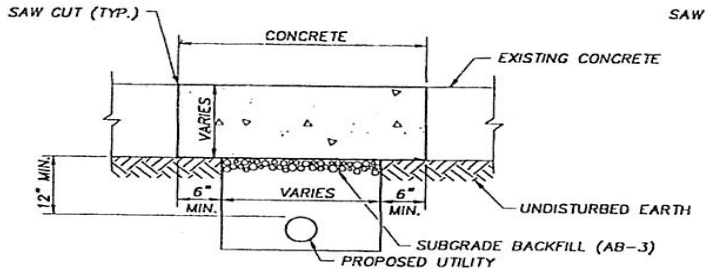
PERMIT FOR EXCAVATION, STREET CUT, CURB CUT

Permission is hereby granted to _____upon conditions of the aforesaid Application, the provisions of Code of Ordinances Chapter 24, Article IX, of the City of Merriam, Kansas and Applicant's Surety Bond, to perform the work described in such application, at the location designated and the purpose assigned. The Permit shall not be assignable and shall expire within 6 months from the date thereof. This Permit may be voided should the Applicant fail, refuse or neglect to comply with the provision of Code of ordinances Chapter 24, Article IX, of the City of Merriam, KS, or reasonable orders or directions of the City Public Works Director, or other authorized agent of the City.

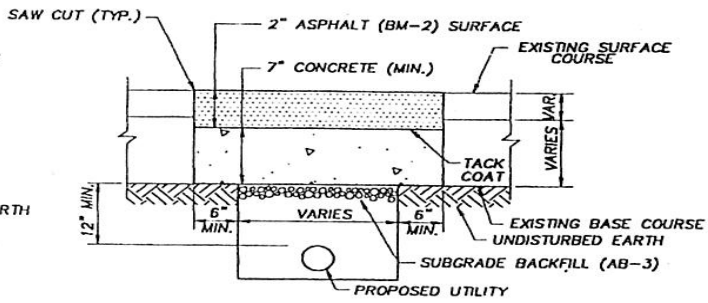
Permit granted this _____day of _____, 20____.

City Clerk _____ Bond Number _____
Rev 5-14-13

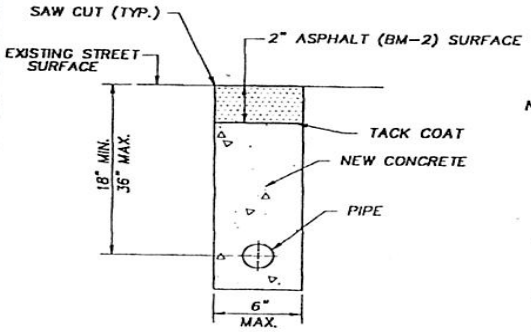
Appendix B
Appendix C.



CLASS A STREET REPAIR
CONCRETE PAVEMENT



CLASS B STREET REPAIR
ASPHALTIC CONCRETE



NARROW TRENCH

NOTES:

1. ANY PERSON WHO MAKES ANY EXCAVATION IN, ON, UNDER, OR THROUGH ANY PUBLIC RIGHT-OF-WAY WITH OR WITHOUT A PERMIT IS OBLIGATED TO CLOSE SUCH EXCAVATION WITHIN 10 WORKING DAYS OF COMMENCEMENT THEREOF, SO AS TO RESTORE THE SURFACE PERMANENTLY TO CONFORM TO THE SPECIFICATIONS IN MERRIAM CODE ARTICLE 2 SECTION 24-16 THROUGH 24-27, AND TO REPAIR ANY SINKING OR DAMAGE TO THE SURFACE OR IMPROVEMENTS THEREON RESULTING FROM SUCH EXCAVATION WITHIN ONE YEAR THEREAFTER.
2. THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND THE STANDARD SPECIFICATIONS FOR STATE ROAD AND BRIDGE CONSTRUCTION, KANSAS DEPARTMENT OF TRANSPORTATION, 1990 EDITION, AND SPECIAL PROVISIONS ARE INCORPORATED EXCEPT AS OTHERWISE NOTED.
3. ANY EXCAVATION LEFT OPEN OVERNIGHT ON ANY THOROUGHFARE OR COLLECTOR TYPE STREET SHALL BE SECURELY PLATED.
4. THE PAVEMENT REMOVED SHALL BE REPLACED WITH HIGH EARLY STRENGTH CLASS A CONCRETE HAVING A MINIMUM COMPRESSIVE STRENGTH OF THREE THOUSAND SEVEN HUNDRED FIFTY POUNDS PER SQUARE INCH AT TWENTY-EIGHT DAYS.
5. ALL CRUSHED STONE USED AS AGGREGATE FOR CONCRETE CONSTRUCTION SHALL BE OBTAINED FROM QUARRIES AND BEDS DESIGNATED BY THE KANSAS DEPARTMENT OF TRANSPORTATION AS MEETING DURABILITY REQUIREMENTS OF CLASS 1 OR CLASS 6, AS SHOWN ON FILE IN THE OFFICE OF THE CITY ENGINEER.
6. NARROW TRENCH TO BE USED ONLY WITH THE APPROVAL OF THE CITY ENGINEER.

STREET TRENCHING

CITY OF MERRIAM
DEPARTMENT OF PUBLIC WORKS

STREET CUT

24-177. LIABILITY INSURANCE, PERFORMANCE AND MAINTENANCE BOND REQUIREMENT.

a. The permittee shall file with the City evidence of commercial general and automobile liability insurance with an insurance company licensed to do business in Kansas. The general liability limit will be not less than one million dollars ($1,000,000) per occurrence and two million dollars ($2,000,000) in aggregate. The automobile liability limit will not be less than one million dollars ($1,000,000) combined single limit. The insurance will protect the City from and against all claims by any person whatsoever for loss or damage from personal injury, bodily injury, death, or property damage to the extent caused or alleged to have been caused by the negligent acts or omissions of the permittee. If the permittee is self-insured, it shall provide the City proof of compliance regarding its ability to self-insure and proof of its ability to provide coverage in the above amounts.

b. The permittee shall at all times during the term of the permit, and for two (2) years thereafter, maintain a performance and maintenance bond in a form approved by the City Attorney. The amount of the bond will be $2,000 or the value of the restoration, whichever is greater, for a term consistent with the term of the permit plus two (2) additional years, conditioned upon the permittee's faithful performance of the provisions, terms and conditions conferred by this Ordinance. Alternatively, if the permittee anticipates requirements for multiple right-of-way permits, the permittee may choose to meet the bond requirements for the above prescribed term as follows:

1. 10 permits or less/year: $15,000 annual bond
2. 25 permits or less/year: $30,000 annual bond
3. Unlimited permits/year: $50,000 annual bond

In the event the City shall exercise its right to revoke the permit as granted herein, then the City shall be entitled to recover under the terms of said bond the full amount of any loss occasioned.

a. A copy of the Liability Insurance Certificate and Performance and Maintenance Bond must be on file with the City Clerk.

b. No performance and maintenance bond will be required for permits issued for driveway placement, driveway replacement, residential street approach or landscaping work such as irrigation systems and tree planting. No performance and maintenance bond will be required of any governmental entity. No performance and maintenance bond or liability insurance will be required of any residential property owner working in the right-of-way adjacent to his/her residence, who does not utilize a contractor to perform the excavation.