



Date: October 30, 2009

To: Mark Cotter, Director of Public Works
Mike Cooper, Director of Planning and Building Services
Jeff Schmitt, Assistant Director of Planning and Building Services
Steve Van Buskirk, Van Buskirk Companies, Incorporated
Michael Runge, Runge Enterprises
Steve Brockmueller, Heartland Engineering
Myron Adam, JSA Engineering
Eric Berg, MidAmerican Energy
Erin Hayes, Midcontinent Communications
Mark Vellinga, Graham Organization
Preston Mettler, Mettler Construction
Pat Beckman, Beckman Realty & Development
Orrin Oliver, Oliver Excavating

From: Chad J. Huwe, City Engineer

Subject: INFRASTRUCTURE REVIEW ADVISORY BOARD (IRAB) MEETING

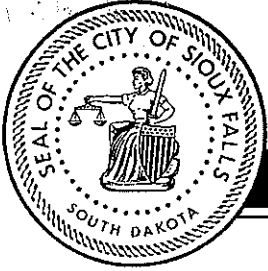
IRAB will meet on **Wednesday, November 4, 2009 at 8:30 a.m., at the Oak View Library, 3700 East 3rd Street.**

AGENDA

1. Approval of Minutes from October 21, 2009
2. Business
 - a. Engineering Design Standards Revisions for Water Distribution, Chapter 10 and Street Lighting, Chapter 15 (*Jeff Dunn*)
 - b. Winter Sidewalk Maintenance (*Jeff Des Lauriers*)

cc: Mayor Munson
Clerk of Records
Cindy Sheehan, Home Builders Association

NOTE: If you or your alternate are unable to attend this meeting, please call Julie Wilson at 367-8606 or e-mail at wilson@siouxfalls.org as soon as possible.



CITY OF SIOUX FALLS MEMORANDUM

Date: October 29, 2009
To: Infrastructure Review and Advisory Board
From: Jeff Dunn, Principal Engineer
Subject: Changes to Engineering Design Standards, Chapter 10

Engineering Design Standards Changes for Water Distribution, Chapter 10:

10.1: General

10.1.12:

Added text to describe National Fire Protection Agency (NFPA) Publication 24.

Added text which prohibits running fire service mains under buildings.

Added text which clarifies that property owners can elect to have their privately maintained fire hydrants flushed by individuals other than City water maintenance crews.

10.3.1: Post Indicator Valves

Revised text to comply with rules and requirements of NFPA 24.

10.7.10: Service Lines

Added text for guidance for specifying sizes for single family residential water services. This text was approved by IRAB on 10-21-09.

shall be 6 inches in diameter. Dead-end mains longer than 500 feet shall be 8 inches in diameter.

10.1.7 Minimum depth of cover, as measured from the top of the pipe to the finished surface elevation, shall be 6 feet. Where an adjustment is required in order to pass under another utility, the length of the deeper main shall be kept to a minimum, and bends shall be used to achieve the desired offset. The existing main may be lowered in place, if this method is practical and acceptable to the City of Sioux Falls Engineering Division.

10.1.8 Disinfection, bacteriological, and hydrostatic tests shall be required in accordance with requirements of the City of Sioux Falls Supplemental Standard Specifications for Water Main Construction—Section 300.

10.1.9 Water mains shall be located so as to best conform to the layout of the existing facilities. In streets where no pattern has been established, mains shall generally be located 10 feet to the north or west of the center line. A minimum horizontal separation of 10 feet shall be provided between water mains and sanitary and storm sewers except as allowed in the Ten States Standards and as noted in Chapter 4 of the City of Sioux Falls Engineering Design Standards for Public Improvements – Utility Locations and City Utility Easements.

Water mains shall be at least 20 feet away from buildings and under paved areas whenever possible. Water mains will not be allowed under buildings and must be encased under enclosed walkways and tunnels.

10.1.10 Finish grades for all hydrants shall be shown on the plans.

10.1.11 No pipe smaller than 6 inches in diameter shall be installed as a private fire service main. A domestic service water line may be connected to the private fire service main 6 inches, or greater, in diameter. For mains that do not supply hydrants, sizes smaller than 6 inches shall be permitted to be used subject to the following restrictions:

1. The main supplies only automatic sprinkler systems, open sprinkler systems, water spray fixed systems, foam systems, or Class II standpipe systems.
2. Hydraulic calculations show that the main will supply the total demand at the appropriate pressure.

10.1.12 Private fire service mains and appurtenances shall be installed in accordance with current edition of NFPA 24 – Standard for the installation of Private Fire Service Mains and Their Appurtenances. Fire flow requirements for buildings or portions of buildings and facilities shall be determined by methods approved by the Fire Prevention Division.

Fire service main pipe shall not be run under buildings. When fire service main must run under the building it shall meet the requirements of NFPA 24.

Private fire hydrant systems shall be maintained in an operative condition at all times and shall be repaired where defective. Additions, repairs, alterations, and servicing shall comply with approved standards.

Private fire service mains and hydrants shall be periodically inspected, tested, and maintained in accordance with the current edition of NFPA 25 at the following intervals:

~~1.~~ Private fire hydrants (all types): Inspection annually and after each operation; flow test and maintenance annually. The owner shall have the opportunity to have hydrants inspected and flushed either by City personnel or a private utility contractor licensed by the State of South Dakota

~~2.1.~~

~~3.2.~~ Fire service main piping: Inspection of exposed, annually; flow test every five years.

10.2 Fire Hydrants

10.2.1 For arterial streets, fire hydrants shall be staggered on both sides of the street such that they are spaced not more than 500 feet along the centerline of the street. Fire hydrants on each street side shall be spaced at not more than 1000 feet measured along the centerline of the street.

For collector and local streets, fire hydrants shall be spaced at not more than 500 feet on along the centerline of the street.

Private fire hydrants shall be provided to meet the fire code when distance to the nearest hydrant is greater than those prescribed by the fire code.

10.2.2 Spacing of hydrants around multiple family, commercial, or manufacturing establishments shall be considered as individual cases and shall be determined by consultation with the Fire Prevention Division and Engineering Division.

10.2.2.1 Private fire hydrant systems—Where a portion of the facility or building hereafter constructed or moved into or within the jurisdiction is more than 400 feet from a hydrant on a fire apparatus access road, as measured by an approved route around the exterior of the facility or building, on-site fire hydrants and mains shall be provided where required by the Fire Prevention Division.

For Group R-3 and Group U occupancies and those buildings equipped throughout with an approved automatic sprinkler system installed in accordance with the required fire code, the distance requirement shall be 600 feet.

10.3.4 Valves shall be placed on all dead-end mains for future extension, unless no services are planned and rechlorination can be completed without interruption of water service.

10.3.5 Perpendicular connections to existing mains shall be by means of a smith tap. A tapping valve is supplied with the smith tap.

10.3.6 Valves and curb stops for domestic services shall be installed at least 20 feet away from the building. If the domestic service comes off of the fire line, it must have a shut off valve after they separate.

10.3.7 Valves, 12 inches in diameter and greater, shall be installed with two restrainer devices per valve.

10.3.8 Valves that are installed in the R.O.W. shall be placed at curbing tangent point locations.

10.3.9 Air Release Valves shall be installed at the high points on water mains 12 inches or larger

10.3.10 Post Indicator Valves—Every connection from the private fire service main to a building shall be provided with a listed post indicator valve located to control all sources of water supply. The Fire Prevention Division shall be permitted to waive the requirement for the post indicator valves required where the following provisions are met.

1. Listed valves in underground pits/vaults with a reliable position indication connected to a remote supervisory station.

~~Post indicator valves shall be located not less than 40 feet from buildings. Where post indicator valves cannot be located within 40 feet, they shall be permitted to be located closer where approved by the Fire Prevention Division. Location and installation of the required post indicator valves shall be in accordance with the most recent edition of NFPA 24 – Standard for the installation of Private Fire Service Mains and Their Appurtenances. When domestic water service line is connected to a private fire service main, a post indicator valve shall be installed beyond and downstream from the connection point.~~

Wall indicator valves may be used where approved by the Fire Prevention Division, provided they are set in locations near blank walls where the possibility of injury by falling walls is unlikely and from which people are not likely to be driven by smoke or heat.

10.4 Meters

10.4.1 Water meters will be furnished by the Sioux Falls Water Department and shall be installed by the user under the supervision of the Sioux Falls Water Department. The user will be required to pay a service charge on the meter equal

10.7.6 All service lines shall be marked by a steel fence post or an approved marker. The steel fence post should be painted blue on the top one-foot portion of the marker. The marker should be placed near the curb stop or at the termination point of the service stub-in. The service line marker shall remain in place and maintained by the property owner until the service line is extended into the property to serve a house, building, or other structure. The property owner will be responsible for replacing damaged markers.

10.7.7 If newly developing separate platted properties are replatted to a single unit, any additional water services that were previously installed shall be removed to the corporation stop on the City main at the expense of the owner provided the final lift of asphalt or final surfacing has not been installed.

10.7.8 Polyethylene (PE) pressure pipe and tubing will be acceptable for use as water service piping between the curb stop or valve and meter for new construction. PE tubing will not be permitted within the City ROW or dedicated water main utility easement.

10.7.9 water service connections 2-inches and smaller will not be permitted on water mains 16-inches and larger unless otherwise approved by the City Engineer.

10.7.10 After (date of City Council Adoption), the criteria for sizing and constructing Type K Soft Copper Water Services for single family residential homes from the City main to the curb stop or shut off valve shall be:

- Those dwellings that have a plumbing fixture load which requires a demand of 40 Fixture Units (FU) or less are allowed to be sized with a minimum 1 inch service.
- Those dwellings that have a plumbing fixture load which requires a demand of greater than 40 FU shall be sized with a minimum 1 ¼ inch service.

Reference Appendix A of the most current addition of the Uniform Plumbing Code for FU allocations to various fixture demands

Water Services installed from the curb stop to the City water main prior to (date of Council Adoption) will not be subject to the above detailed sizing criteria. Developers and/or owners who install water services sized in accordance with Engineering Design Standard 10.7.10 will not be responsible for removing and replacing water services from the City main to the curb stop.

Service sizes shall be detailed within the Construction Drawings for review and approval.



CITY OF SIOUX FALLS MEMORANDUM

Date: October 28, 2009
To: Infrastructure Review and Advisory Board
From: Jeff Dunn, Principal Engineer
Subject: Changes to Engineering Design Standards, Chapter 15, and Engineering Design Standard Plates, Street Lighting, by City Engineering

Engineering Design Standards changes for Street Lighting, Chapter 15:

15.4 Conduits

15.4.6 Delete the reference to the standard plate

Engineering Design Standard Plate Changes for Street Lighting:

Standard Plate 635.60:

Added Electrical Grounding and Bonding information to the standard plate. This was added to comply with the NESC (National Electrical Safety Code). This change would add approximately \$10.00 per light to the cost.

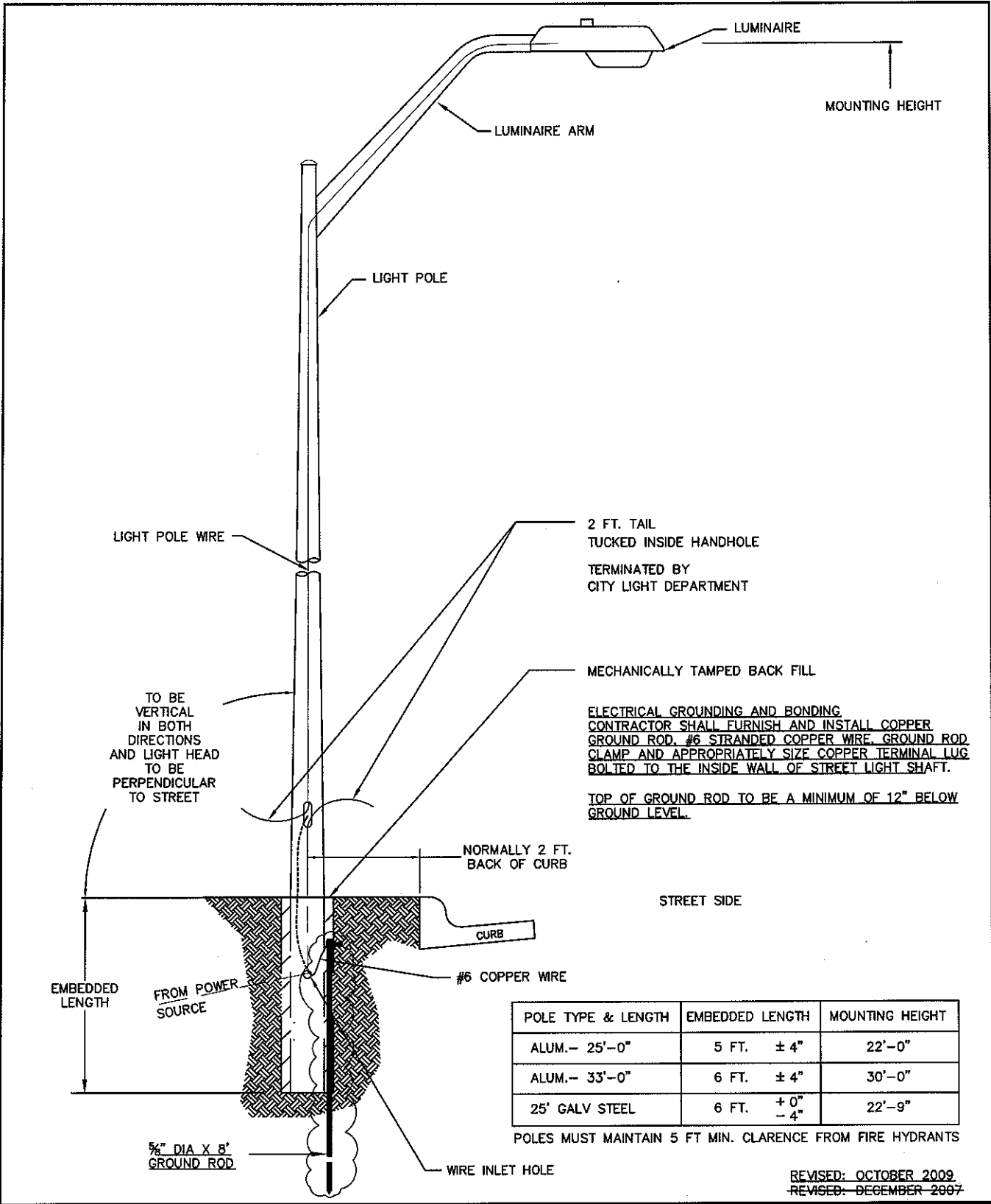
Standard Plate 635.70:

Added Electrical Grounding and Bonding information to the standard plate. This was added to comply with the NESC (National Electrical Safety Code). This change would add approximately \$45.00 per junction box to the cost. The light department has issues with the junction boxes needing to be raised after the contractor says the project is completed.

- 15.4.3** All conduit installation shall be in compliance with City of Sioux Falls Electrical Inspector regulations and the National Electrical Code.
- 15.4.4** Generally, conduit will be located within the public right-of-way 2 feet from the back of curb unless otherwise noted.
- 15.4.5** When bends are required on any conduit run, no more than four 90° bends will be allowed in one given conduit run.
- 15.4.6** For conduit stubs less than 10 feet in length, ends shall be capped. No street light wire, tracer wire, or locator ball is required. For conduit stubs greater than 10 feet, a tracer wire and locator ball is required. ~~see Standard Plate 635.43.~~
- 15.4.7** Conduits or direct buried wire must have 18 inches of horizontal clearance from fire hydrants, inlets, cable boxes etc.
- 15.4.8** Street light conduit and traffic conduit may be buried in the same trench.

15.5 Concrete Street Light Footings

- 15.5.1** Generally, street light footings will be located within the public right-of-way 2 feet behind the back of curb unless otherwise noted and on a lot line whenever possible. Streets that have sidewalks installed behind the curb and gutter will require street light footings to be installed behind the sidewalk, but still within the public right-of-way. If streetlight footings cannot be installed within the public right-of-way, a utility easement will be required.
- 15.5.2** The maximum number of conduits within a streetlight footing shall not exceed four. Included in the total number of conduits will be one spare conduit that will generally be installed facing away from the curb for future lighting needs.
- 15.5.3** Types of footings will be based on the desired location and the physical constraints which are encountered during design of the footing. Typically, the standard street light footing will be sufficient; however, specialty footings shall be used when necessary. Specialty footings consist of spread footings, historical footings, special footings for 25-foot brown fiberglass poles, and post top footings. The specialty footings are detailed in the City of Sioux Falls Standard Detail Plates.
- 15.5.4** When street lighting is installed near a location of pedestrian traffic, ADA clearance requirements will need to be met.



REVISED: OCTOBER 2009
 REVISED: DECEMBER 2007

SPECIFICATION
 REFERENCE
 NO.
 635B



CITY OF SIOUX FALLS
 ENGINEERING DIVISION
 STREET LIGHT
 EMBEDDED DIRECT BURIED

PLATE
 NUMBER
 635.60

CAST IRON COVER

18" DIA JB - NEENAH FOUNDRY COMPANY
R-5900-C SERIES OR ENGINEER APPROVED.

24" DIA JB - NEENAH FOUNDRY COMPANY
R-5900-E SERIES OR ENGINEER APPROVED.

NOTES:

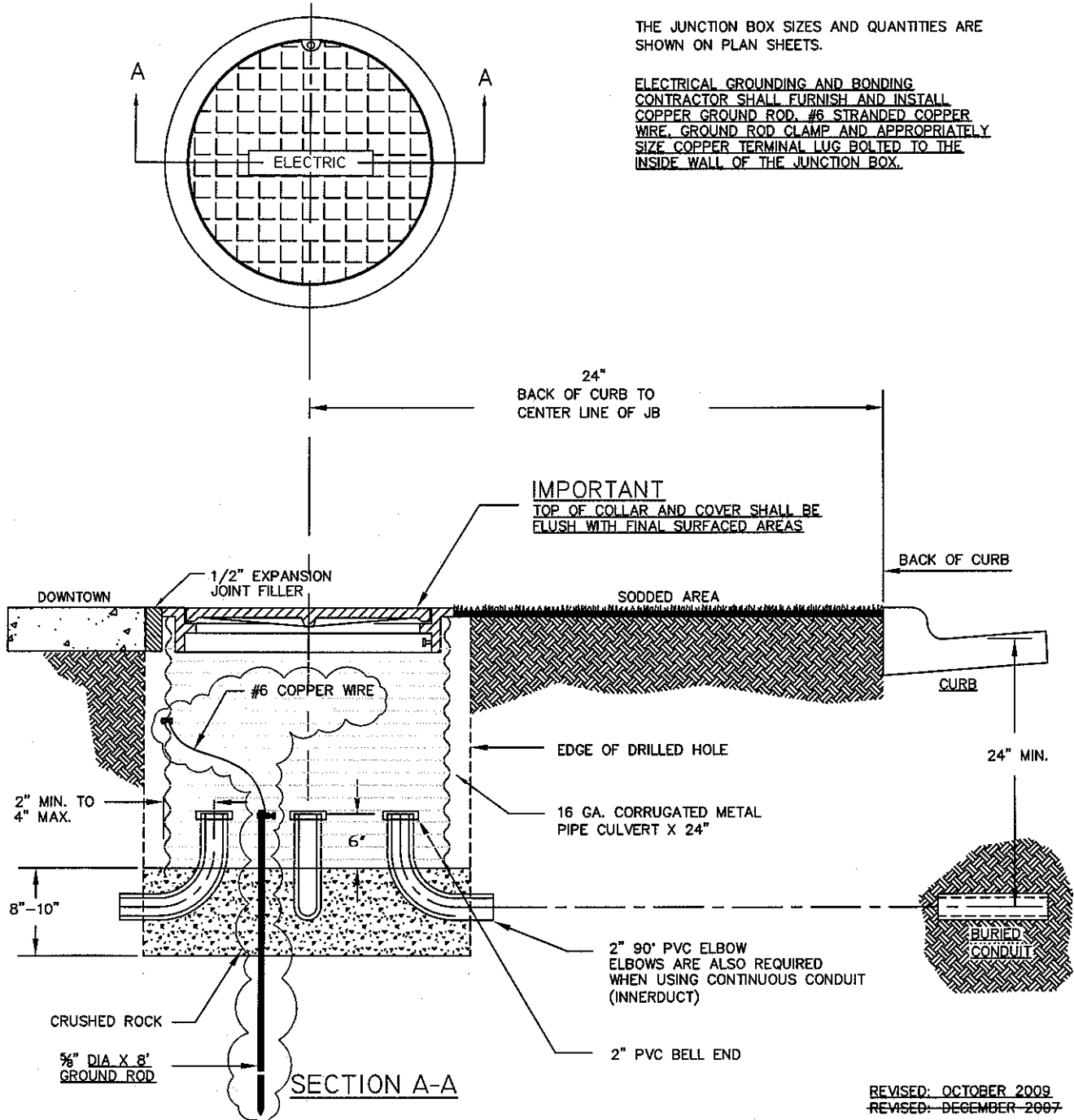
ALLOW SUFFICIENT SLACK SO THAT CABLE ENDS CAN BE PULLED TO 18" ABOVE JUNCTION BOX.

NUMBER OF CONDUIT ENTRANCES VARIES WITH LOCATION OF JUNCTION BOX.

COVER SHALL BE STAMPED ELECTRIC.

THE JUNCTION BOX SIZES AND QUANTITIES ARE SHOWN ON PLAN SHEETS.

ELECTRICAL GROUNDING AND BONDING
CONTRACTOR SHALL FURNISH AND INSTALL
COPPER GROUND ROD, #6 STRANDED COPPER
WIRE, GROUND ROD CLAMP AND APPROPRIATELY
SIZE COPPER TERMINAL LUG BOLTED TO THE
INSIDE WALL OF THE JUNCTION BOX.



REVISED: OCTOBER 2009
REVISED: DECEMBER 2007

SPECIFICATION
REFERENCE
635B



CITY OF SIOUX FALLS
ENGINEERING DIVISION
JUNCTION BOX - LIGHTING

PLATE
NUMBER
635.70

Procedures for Changing City Ordinance

Section 2-23 of the City Ordinance details the process to modify, amend or repeal a city ordinance; followed by the policy in place for Building Services for an ordinance development process.

Sec. 2-23. Ordinances, resolutions, motions, and other documents requiring council approval.

(a) All ordinances shall be prepared by the city attorney and presented to the council only in printed or type-written form. No ordinance shall be prepared for presentation to the council unless requested by two members of the council or the mayor, or prepared by the city attorney on the attorney's own initiative.

(b) All proposed ordinances, resolutions, and other documents requiring council approval, shall, before presentation to the council, have been approved as to form and legality by the city attorney's office, and been reviewed by the mayor or an authorized representative, where there are substantive matters of administration involved. All proposed ordinances and resolutions shall also be reviewed by the head of the department under whose jurisdiction the administration of the subject matter of the ordinance, resolution, or other document would devolve. Any comments regarding the document shall be submitted to the mayor and the council.

(c) Ordinances, resolutions, and other matters or subjects requiring action by the council must be introduced and sponsored by a member of the council, except that the mayor may present ordinances, resolutions, and other matters or subjects to the council, and any council member may move that such ordinances, resolutions, matters or subjects be adopted; otherwise they shall not be considered.

(d) No ordinance shall relate to more than one subject. The subject shall be clearly expressed in the title.

(e) The city clerk shall distribute copies of all proposed ordinances to all members of the council on the day prior to the council briefing meeting at which the ordinance is to be introduced. If the ordinance carries an emergency clause, copies of the ordinance must be distributed at least 12 hours prior to the meeting of the council at which the ordinance is to be considered.

(f) When an ordinance is referred to a committee of the council, the committee shall report the ordinance to the council at a subsequent meeting. The ordinance shall stand for final action in accordance with the report of the committee, notwithstanding that such committee reports an amended or substituted ordinance, provided that such amendment or substitution is germane to the ordinance originally referred to such committee.

(g) The yes and no votes shall be taken upon the passage of all ordinances and resolutions and entered upon the official record of the council.

(h) An affirmative vote of at least five of the council shall be necessary to pass an ordinance. A resolution, motion, or any other proposition may be adopted by a majority of those present. When any vote is called, each council member shall respond "yes," "no," or "pass." An council member who responds "pass" shall be given an opportunity at the end of the roll call to change his vote to "yes," or "no." Any "pass" response not so changed shall be recorded as an affirmative vote.

(i) Upon passage, a number shall be assigned to each ordinance or resolution by the city clerk.

(j) When passed by the council, unless an ordinance has been vetoed by the mayor, an ordinance shall be signed by the mayor and be attested by the city clerk. If the mayor does not veto an ordinance, but fails to sign the ordinance, the city clerk shall so note the failure to sign on the ordinance, shall attest and file the ordinance.

(k) Any member of the city council may request formal written city attorney opinions, relating to city business, from the mayor.

(l) Any member of the council may, for purposes of inquiry, request verbal or written opinion or advice on city legal matters directly from the city attorney.

The following is the policy established by Building Services concerning the ordinance development process.

I. Purpose

To provide an adequate internal and public review prior to adoption of any code amendments, and to provide instruction on preparation and processing.

II. Policy

- A. All proposed ordinances must be approved by the Mayor and the Director of Planning and Building Services (or designee) prior to release or administrative hearings.
- B. All Ordinances, Notice of Hearings, Notice of Adoption, and Resolutions must be processed by Media Services.
- C. Copy distributed for review or comment may be stamped: "Draft—For Discussion Only—Date _____."
- D. Every effort will be made to give all interested and affected parties ample opportunity to review and comment on ordinances prior to first reading.

A copy of ordinances will be distributed without charge to those organizations and businesses that the ordinance affects, to seek recommendations. Prior to the presentation to Council, the respective Board that is charged with the specific code that is amended must review the proposal to make recommendation to present to the Council.

E. With reference to modifications to the National Electrical Code which is administered by the South Dakota State Electrical Commission and the Uniform Plumbing Code which is administered by the South Dakota State Plumbing Commission

III.Procedure

- A. Drafting the Ordinance
 - 1. Underline added words, ~~strike out~~ deleted words. If it is a new ordinance, this is not necessary, but the synopsis must indicate that it is a new ordinance.
- B. Ordinance Formats
 - 1. Adding a Section—Form No. F980001.DOT
 - 2. Revising a Section—Form No. F980002.DOT
 - 3. Repealing a Section—Form No. F980003.DOT
- C. Authorization to Submit Ordinance for Council Consideration
 - 1. See Executive Order No. 95-63
- D. Submittals
 - 1. Ordinance
 - 2. Agenda Approval Form No. F990028.DOT
 - 3. Ordinance Submittal and Synopsis Form No. F252327.DOT
 - 4. All submittals must be duplexed.
- E. Council Committees, Informational and Hearings
 - 1. All submittals must be submitted to the Clerk's Office by 10 a.m. any given Monday before meeting.
 - 2. See Council Calendar.
 - 3. The preparer of an ordinance must attend the 1st and 2nd reading and be prepared to give a brief overview of the ordinance proposal.
- F. Post Ordinance Adoption Procedures
 - 1. Update all handouts.
 - 2. Update code books provided to contractors.
 - 3. Notify staff of effective dates.
 - 4. Update SPPIs.
 - 5. Distribution of national codes.
 - a. Provide a copy (book) including any amendments to national codes free of charge to the following:

City Attorney	1 copy
Magistrate Court	1 copy
Circuit Court (County Law Library)	1 copy

Notify the Siouxland Libraries—they will purchase their own.

6. Interim electronic posting on the City's website.

Note: This section applies **only** to the adoption of model codes when new editions are adopted

- a. Notify the Webmaster to change the link to Municode on our webpage to the actual ordinance in the document library until such time as a new supplement containing the Revised Ordinances is released by Municode.

With reference to modifications to the National Electrical Code which is administered by the South Dakota State Electrical Commission and the Uniform Plumbing Code which is administered by the South Dakota State Plumbing Commission, SDCL 6-12-5 states the following:

6-12-5. Standards to be at least as stringent as state law. Neither charter nor ordinances adopted thereunder may set standards and requirements which are lower or less stringent than those imposed by state law, but they may set standards and requirements which are higher or more stringent than those imposed by state law, unless a state law provides otherwise.