Council/Agency Meeting Held: _____ Deferred/Continued to: _____ ☐ Approved ☐ Conditionally Approved ☐ Denied	City Clerk's Signature
Council Meeting Date: July 5, 2005	Department ID Number: BD 2005-1

CITY OF HUNTINGTON BEACH
REQUEST FOR COUNCIL ACTION

RECEIVED CITY CLERK CITY OF HUNTINGTON BEACH 2005 JUN 22 A 11:

SUBMITTED TO: HONORABLE MAYOR AND CITY COUNCIL MEMBERS

SUBMITTED BY: PENELOPE CULBRETH-GRAFT, CITY ADMINISTRATOR

PREPARED BY: ROSS D. CRANMER, BUILDING & SAFETY DIRECTOR Bill Line for Ross Cranmer

SUBJECT: APPROVE INTRODUCTION OF THE 2004 CALIFORNIA ELECTRIC CODE Ordinance Number 3719

Statement of Issue, Funding Source, Recommended Action, Alternative Action(s), Analysis, Environmental Status, Attachment(s)

Statement of Issue:

The 2004 edition of the California Electrical Code has been approved and published by the State Building Standards Commission. State law mandates that these Codes be enforced by all California jurisdictions starting August 1, 2005. In order to amend the codes to meet our local conditions and regulations we need to officially adopt the codes.

Funding Source: Not applicable

Recommended Action: Motion to:

1. "Approve the introduction of Ordinance No., 3719, for the adoption of the 2004 amended edition of the California Electrical Code."

2. "Set a Public Hearing on Ordinance No., 3719 for the July 18, 2005 City Council Meeting per Government Code Section 50022."

G-22

Alternative Action(s):

Do not adopt the 2004 California Electrical Code.

Analysis:

The National Electric Code is published every three (3) years to keep up with current design technology and construction materials. The California Building Standards Commission is charged with approving and publishing the State Codes under Title 24 after they have been reviewed and amended by the state code advisory committees. The 2004 edition of the California Electrical Code was published on February 2, 2005. In accordance with Section 18941.5 of the State Health and Safety Code, the City is mandated to enforce the Codes 180 days after the publication dates. This requires the jurisdictions to enforce the California Codes starting on August 1, 2005.

Official adoption of the Code by reference allows the city of Huntington Beach to amend the Code for special conditions and hazards that do not exist in all jurisdictions. If the code is not adopted, it will become law by default without amendments.

The changes to the amendments are primarily due to section number changes and location of the code items. State Law requires the attached findings of fact so we can file the ordinance with the State after it is approved.

In order to amend the codes adopted by the State of California, the city is required by Government Code Section 50022 to have a first reading of the code titles and a second meeting to conduct a public hearing.

Attachment(s):

City Clerk's Page Number	No.	Description
3	1.	Proposed ordinance to adopt code by reference
6	2.	Legislative Draft
9	3.	Findings of Fact identified in Proposed Ordinance

G-2a.2

G-2a.3

ATTACHMENT #1

ORDINANCE NO. 3719

AN ORDINANCE OF THE CITY OF HUNTINGTON BEACH AMENDING CHAPTER 17.48 OF THE HUNTINGTON BEACH MUNICIPAL CODE RELATING TO THE ELECTRICAL CODE

The City Council of the City of Huntington Beach does hereby ordain as follows:

SECTION 1. Section 17.48.010 of the Huntington Beach Municipal Code is hereby amended to read as follows:

17.48.010 Adoption. There is hereby adopted by the City Council by reference that certain code known as the 2004 California Electrical Code and the whole thereof, Article 80 and except as hereafter provided. Such code is hereby adopted and incorporated pursuant to Government Code § 50022.2 et seq. and Health and Safety Code §18941.5 for the purpose of prescribing regulations governing the installation, alteration, repair and maintenance of all electrical installations in the City of Huntington Beach, and repealing all ordinances and parts of ordinances in conflict therewith. From the date on which this chapter takes effect, the provisions of said code, together with amendments thereto, shall be controlling within the corporate limits of the city of Huntington Beach. (1935-10/74, 2431-7/80, 2567-9/82, 2787-9/85, 2976-12/88, 3022-12/89, 3115-6/91, 3311-12/95, 3428-7/99, 3577-10/02)

SECTION 2. Section 17.48.040 of the Huntington Beach Municipal Code is hereby amended to read as follows:

17.48.040 Made and Other Electrodes. Section 250.52

§ 250.52 (A) (5) Rod and pipe electrodes is amended to read as follows:

250.52 (A) (5) Rod and Pipe Electrodes. Rod electrodes shall not be less than 2.5m (8 ft.) in length, and shall consist of the following materials:

a) Permanent rod electrodes shall be stainless steel.
b) Temporary rod electrodes for temporary construction power poles may be copper or copper clad.
(c) Stainless steel rods less than 15.87 mm (5/8 in.) in diameter and nonferrous rods shall be listed and shall not be less than 13 mm (1/2 in.) in diameter.

SECTION 3. Section 17.48.050 of the Huntington Beach Municipal Code is hereby amended to read as follows:

17.48.050 Articles 342 and 344--Intermediate Metal Conduit and Rigid Metal Conduit. Intermediate metal conduit and rigid metal conduit shall not be used in the earth or ground except when the conduit(s) and its or their associated fitting(s) are protected by a spirally wrapped, half overlap, double wrap of 10 mil listed tape to provide a minimum 40 mil thickness.

SECTION 4. Section 17.48.060 of the Huntington Beach Municipal Code is hereby amended to read as follows:

17.48.060 Electrical metallic tubing. – Article 358

358.10 (B) Corrosive Protection is hereby amended to read as follows:

§ 358.10 (B) Corrosion Protection. Ferrous or non ferrous electrical metallic tubing, elbows, couplings, and fittings shall be permitted to be installed in concrete.

Electrical metallic tubing used in areas subject to corrosive influences and/or where exposed to the elements shall be protected by corrosion inhibiting paint. (1520-9/69, 2173-4/77, 2431-7/80, 2567-9/82, 2787-9/85, 2976-12/88, 3115-6/91, 3428-7/99, 3577-11/02)

§ 358.12 Uses Not Permitted is hereby amended to read as follows:

358.12 Uses Not Permitted. Electrical metallic tubing shall not be used under the following conditions:

(1) Where, during installation or afterward, it will be subject to severe physical damage.
(2) Where protected from corrosion sole by enamel.
(3) In cinder concrete or cinder fill where subject to permanent moisture unless protected on all sides by a layer of noncinder concrete at least 2 in. (50.8mm) thick or unless the tubing is at lease 18 in. (457 mm) under the fill.
(4) In any hazardous (classified) location except as permitted by Sections 502-4, 503-3, and 504-20.
(5) For the support of luminaires or other equipment except conduit bodies no larger than the largest trade size of the tubing.
(6) Where practicable, dissimilar metals in contact anywhere in the system shall be avoided to eliminate the possibility of galvanic action.
Exception: Aluminum fittings and enclosures shall be permitted to be used with steel electrical metallic tubing where not subject to severe corrosive influences.
(7) In direct contact with the earth. (1520-9/69, 2173-4/77, 2431-7/80, 2567-9/82, 2787-9/85, 2976-12/88, 3115-6/91, 3428-7/99, 3577-11/02)

SECTION 5. This ordinance shall become effective 30 days after its adoption.

PASSED AND ADOPTED by the City Council of the City of Huntington Beach at a regular meeting thereof held on the _____ day of _____, 200___.

_____
Mayor

ATTEST:

_____
City Clerk

APPROVED AS TO FORM:

City Attorney

REVIEWED AND APPROVED:

City Administrator

INITIATED AND APPROVED:

Bill Gore for Ross Crammer
Director of Building & Safety

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ATTACHMENT #2

ORDINANCE NO. 3719

LEGISLATIVE DRAFT

Chapter 17.48

ELECTRICAL CODE

(1520-9/69, 1671-10/71, 1674-10/71, 1742-4/72, 1750-6/72, 1935-10/74,2173-4/77, 2276-12/88, 2431-7/80, 2567-9/82, 2787-9/85, 2976-12/88,3022-12/89, 3115-6/91, 3311-12/95, 3428-7/99, 3577-11/02)

Sections:

17.48.010 Adoption
17.48.020 Title
17.48.030 (Repealed-Ord. 3428-7/99)
17.48.040 Made and other Electrodes
17.48.050 Articles ~~345~~ **342** and ~~346~~-**344**-Intermediate Metal Conduit and Rigid Metal Conduit
17.48.060 Electrical metallic tubing
17.48.080 (Repealed 2976-12/88)
17.48.090 (Repealed 2976-12/88)
17.48.100 (Repealed 2976-12/88)

17.48.**0**10 Adoption. There is hereby adopted by the City Council by reference that certain code known as the ~~2001~~ **2004** California Electrical Code and the whole thereof, **Article 80 and** except as hereafter provided. Such code is hereby adopted and incorporated pursuant to Government Code § 50022.2 et seq. and Health and Safety Code §18941.5 for the purpose of prescribing regulations governing the installation, alteration, repair and maintenance of all electrical installations in the City of Huntington Beach, and repealing all ordinances and parts of ordinances in conflict therewith. From the date on which this chapter takes effect, the provisions of said code, together with amendments thereto, shall be controlling within the corporate limits of the city of Huntington Beach. (1935-10/74, 2431-7/80, 2567-9/82, 2787-9/85, 2976-12/88, 3022-12/89, 3115-6/91, 3311-12/95, 3428-7/99, 3577-10/02)

17.48.020 Title. This chapter shall be known as the "Huntington Beach Electrical Code," may be cited as such, and will be referred to herein as "this code." (1935-10/74, 2173-4/77, 2431-7/80, 2567-9/82, 2787-9/85)

17.48.040 Made and Other Electrodes. Section ~~250-52~~ **250.52**

§~~250-52(c)~~ **250.52 (A) (5)** Rod and pipe electrodes is amended to read as follows:

~~250-52(c)~~ **250.52 (A) (5)** Rod and Pipe Electrodes. Rod electrodes shall not be less than **2.5m** (8 ft.) ~~(2.44m)~~ in length, **and** shall consist of the following materials**:**~~, and shall be installed in the following manner. Pipe electrodes are prohibited.~~

~~(1) Permanent rod electrodes shall be stainless steel. Rod electrodes for temporary construction power poles may be copper or copper clad.~~
~~(2) Electrodes of rods of steel shall be at least 5/8 in. (15.87mm) in diameter. Stainless steel rods less than 5/8 in. (15.87 mm) in diameter, non ferrous rods, or their equivalent shall be listed and shall not be less than ½ in. (12.7 mm) in diameter.~~
~~(3) The electrode shall be installed such that at least 8 ft. (2.44m) of length is in contact with the soil. It shall be driven to a depth of not less than 8 ft (2.44 m) except that, where rock bottom in encountered, the electrode shall be driven at an oblique angle not to exceed 45 degrees from the vertical or shall be buried in a trench that is at least 2 ½ ft (762 mm) deep. The upper end of the electrode shall be flush with or below ground level unless the aboveground end and the grounding electrode conductor attachment are protected against physical damage as specified in Section 250-.10. (2787-9/85, 2976-12/88, 3577-11/02)~~

a) Permanent rod electrodes shall be stainless steel.
b) Temporary rod electrodes for temporary construction power poles may be copper or copper clad.
(c) Stainless steel rods less than 15.87 mm (5/8 in.) in diameter and nonferrous rods shall be listed and shall not be less than 13 mm (1/2 in.) in diameter.

17.48.050 Articles ~~345~~ **342** and ~~346~~**344**--Intermediate Metal Conduit and Rigid Metal Conduit. Intermediate metal conduit and rigid metal conduit shall not be used in the earth or ground except when the conduit(s) and its or their associated fitting(s) are ~~triple half-lapped with 10 mil weatherproof tape or its equivalent. (2787-9/85, 2976-12/88, 3115-6/91, 3428-7/99)~~ **protected by a spirally wrapped, half overlap, double wrap of 10 mil listed tape to provide a minimum 40 mil thickness.**

17.48.060 Electrical metallic tubing. – Article ~~348~~ **358**

~~348-4(b)~~ **358.10 (B)** Corrosive Protection is hereby amended to read as follows:

§ ~~348-4(b)~~ **358.10 (B)** Corrosion Protection. Ferrous or non ferrous electrical metallic tubing, elbows, couplings, and fittings shall be permitted to be installed in concrete.

Electrical metallic tubing used in areas subject to corrosive influences and/or where exposed to the elements shall be protected by corrosion inhibiting paint. (1520-9/69, 2173-4/77, 2431-7/80, 2567-9/82, 2787-9/85, 2976-12/88, 3115-6/91, 3428-7/99, 3577-11/02)

§~~348-5~~ **358.12** Uses Not Permitted is hereby amended to read as follows:

~~348.5~~ **358.12** Uses Not Permitted. Electrical metallic tubing shall not be used **under the following conditions:**

(1) Where, during installation or afterward, it will be subject to severe physical damage.
(2) Where protected from corrosion sole by enamel.
(3) In cinder concrete or cinder fill where subject to permanent moisture unless protected on all sides by a layer of noncinder concrete at least 2 in. (50.8mm) thick or unless the tubing is at lease 18 in. (457 mm) under the fill.
(4) In any hazardous (classified) location except as permitted by Sections 502-4, 503-3, and 504-20.
(5) For the support of ~~fixtures~~ **luminaires** or other equipment except conduit bodies no larger than the largest trade size of the tubing. ~~Where practicable, dissimilar metals in contact anywhere in the system shall be avoided to eliminate the possibility of galvanic action. Exception: Aluminum fittings and enclosures shall be permitted to be used with steel electrical metallic tubing~~.
(6) Where practicable, dissimilar metals in contact anywhere in the system shall be avoided to eliminate the possibility of galvanic action. Exception: Aluminum fittings and enclosures shall be permitted to be used with steel electrical metallic tubing where not subject to severe corrosive influences.
~~(6)~~ **(7)** In direct contact with the earth.

(1520-9/69, 2173-4/77, 2431-7/80, 2567-9/82, 2787-9/85, 2976-12/88, 3115-6/91, 3428-7/99, 3577-11/02)

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ATTACHMENT #3

THE COUNCIL DOES HEREBY EXPRESSLY FIND AND DETERMINE THAT THE AMENDMENTS SET FORTH IN ORDINANCE NO. 3019, AMENDING THE FOLLOWING SECTIONS ARE REASONABLY NECESSARY BECAUSE OF LOCAL CLIMATIC, GEOLOGICAL OR TOPOGRAPHIC CONDITIONS.

ORDINANCE NO. _____ - 2004 CALIFORNIA ELECTRIC CODE

- **Section 250.52** - Amended to limit ground rods to those suitable for corrosive soils.

  Finding - The amendment is reasonably necessary to address the following geological conditions. Significant areas of Huntington Beach contain corrosive soils. Ground rods must be electrically conductive so they cannot be wrapped or otherwise protected from corrosion. Stainless steel ground rods will insure that an acceptable grounding path will exist for the life of the building.

- **Articles 342 and 344** - amended to clarify how intermediate and rigid metal conduit installed in the ground is protected.

  Finding - The amendment is reasonably necessary to address the following geological conditions:

  1. Many areas of the city contain soils that are highly corrosive.

  Properly protected conduits insure that a proper grounding path exists and conductors are protected from damage.

- **Section 358.10 (B) and 358.12** - Amended to clarify how electrical metallic tubing is protected from corrosion in exposed locations and to prohibit installation in direct contact with earth.

  Finding - The amendment is reasonably necessary to address the following climatic and geologic conditions:

  1. The city is subject to periods of extensive coastal fog and salt laden air.

  2. Many areas of the city contain soils that are highly corrosive.

  Adequately protecting exposed electrical metallic tubing eliminates failure of the conduit due to corrosion and damage to the conductors contained therein. Prohibiting electrical metallic tubing in direct contact with earth will eliminate premature failure of the conduit and resulting damage to conductors.