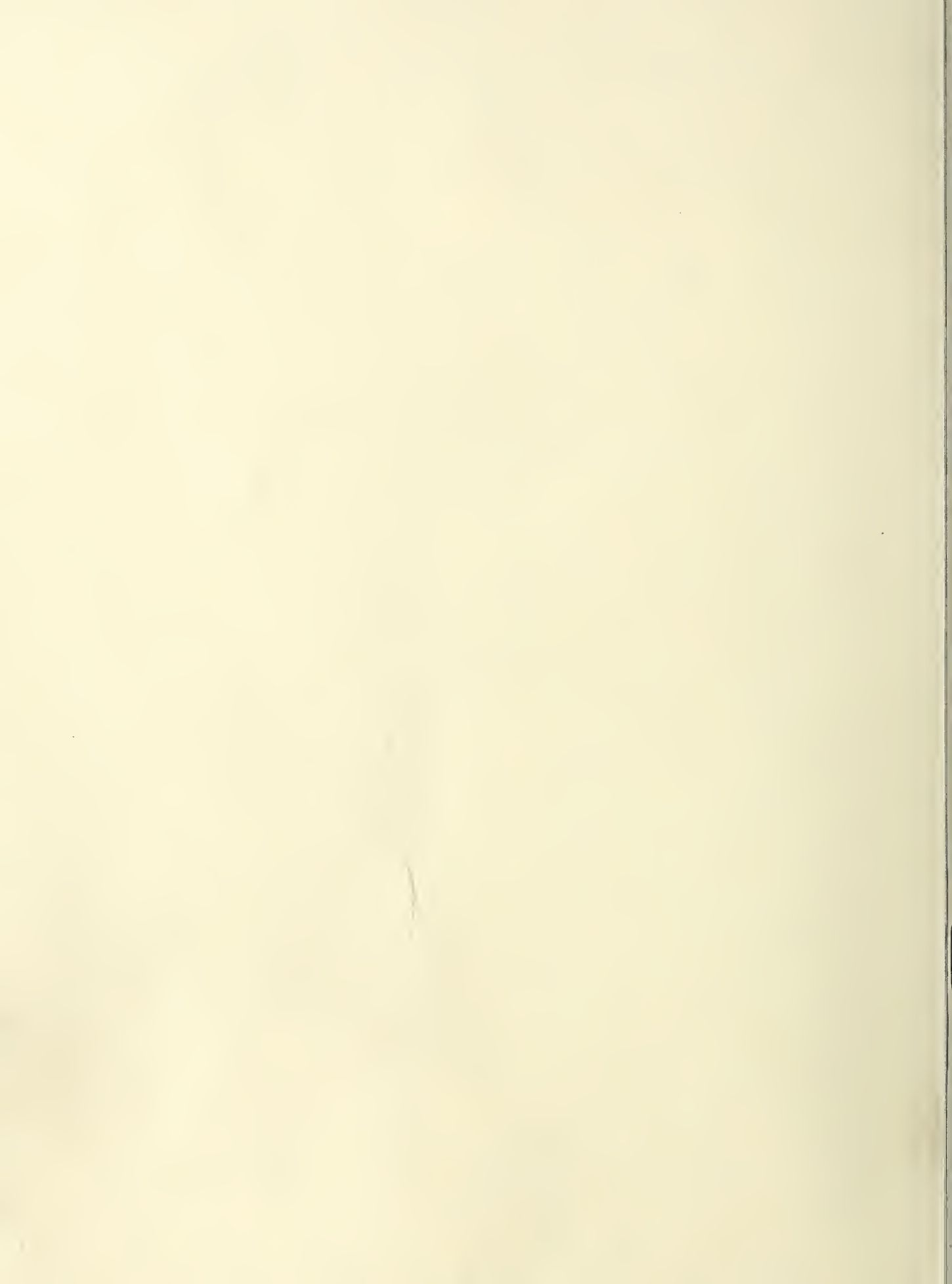


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NATIONAL BUREAU OF STANDARDS REPORT

10 210

Operation Breakthrough

Preliminary Report

EXISTING BUILDING AND DEVELOPMENTAL REGULATIONS IN CLEAR LAKE CITY (HOUSTON), TEXAS

Sponsored by
Department of Housing
and Urban Development



U.S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS

NATIONAL BUREAU OF STANDARDS

The National Bureau of Standards¹ was established by an act of Congress March 3, 1901. Today, in addition to serving as the Nation's central measurement laboratory, the Bureau is a principal focal point in the Federal Government for assuring maximum application of the physical and engineering sciences to the advancement of technology in industry and commerce. To this end the Bureau conducts research and provides central national services in four broad program areas. These are: (1) basic measurements and standards, (2) materials measurements and standards, (3) technological measurements and standards, and (4) transfer of technology.

The Bureau comprises the Institute for Basic Standards, the Institute for Materials Research, the Institute for Applied Technology, the Center for Radiation Research, the Center for Computer Sciences and Technology, and the Office for Information Programs.

THE INSTITUTE FOR BASIC STANDARDS provides the central basis within the United States of a complete and consistent system of physical measurement; coordinates that system with measurement systems of other nations; and furnishes essential services leading to accurate and uniform physical measurements throughout the Nation's scientific community, industry, and commerce. The Institute consists of an Office of Measurement Services and the following technical divisions:

Applied Mathematics—Electricity—Metrology—Mechanics—Heat—Atomic and Molecular Physics—Radio Physics²—Radio Engineering²—Time and Frequency²—Astrophysics²—Cryogenics.²

THE INSTITUTE FOR MATERIALS RESEARCH conducts materials research leading to improved methods of measurement standards, and data on the properties of well-characterized materials needed by industry, commerce, educational institutions, and Government; develops, produces, and distributes standard reference materials; relates the physical and chemical properties of materials to their behavior and their interaction with their environments; and provides advisory and research services to other Government agencies. The Institute consists of an Office of Standard Reference Materials and the following divisions:

Analytical Chemistry—Polymers—Metallurgy—Inorganic Materials—Physical Chemistry.

THE INSTITUTE FOR APPLIED TECHNOLOGY provides technical services to promote the use of available technology and to facilitate technological innovation in industry and Government; cooperates with public and private organizations in the development of technological standards, and test methodologies; and provides advisory and research services for Federal, state, and local government agencies. The Institute consists of the following technical divisions and offices:

Engineering Standards—Weights and Measures—Invention and Innovation—Vehicle Systems Research—Product Evaluation—Building Research—Instrument Shops—Measurement Engineering—Electronic Technology—Technical Analysis.

THE CENTER FOR RADIATION RESEARCH engages in research, measurement, and application of radiation to the solution of Bureau mission problems and the problems of other agencies and institutions. The Center consists of the following divisions:

Reactor Radiation—Linac Radiation—Nuclear Radiation—Applied Radiation.

THE CENTER FOR COMPUTER SCIENCES AND TECHNOLOGY conducts research and provides technical services designed to aid Government agencies in the selection, acquisition, and effective use of automatic data processing equipment; and serves as the principal focus for the development of Federal standards for automatic data processing equipment, techniques, and computer languages. The Center consists of the following offices and divisions:

Information Processing Standards—Computer Information—Computer Services—Systems Development—Information Processing Technology.

THE OFFICE FOR INFORMATION PROGRAMS promotes optimum dissemination and accessibility of scientific information generated within NBS and other agencies of the Federal government; promotes the development of the National Standard Reference Data System and a system of information analysis centers dealing with the broader aspects of the National Measurement System, and provides appropriate services to ensure that the NBS staff has optimum accessibility to the scientific information of the world. The Office consists of the following organizational units:

Office of Standard Reference Data—Clearinghouse for Federal Scientific and Technical Information⁴—Office of Technical Information and Publications—Library—Office of Public Information—Office of International Relations.

¹ Headquarters and Laboratories at Gaithersburg, Maryland, unless otherwise noted; mailing address Washington, D.C. 20234.

² Located at Boulder, Colorado 80302.

³ Located at 5285 Port Royal Road, Springfield, Virginia 22151.

NATIONAL BUREAU OF STANDARDS REPORT

NBS PROJECT

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NBS REPORT

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Operation Breakthrough

Preliminary Report

EXISTING BUILDING AND DEVELOPMENTAL REGULATIONS IN CLEAR LAKE CITY (HOUSTON), TEXAS

by

The Building Research Division Team
E. O. Pfrang, Manager

Sponsored by
Department of Housing
and Urban Development

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U.S. DEPARTMENT OF COMMERCE
NATIONAL BUREAU OF STANDARDS

INTRODUCTION

This report lists the regulatory documents that apply to the Department of Housing and Urban Development Operation Breakthrough site in Clear Lake City, Texas; the documents themselves, insofar as they are obtainable, are also furnished. The report's overall content is indicated by its Table of Contents:

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REGULATORY DOCUMENTS

The documents, codes and standards listed herein are applicable to the construction of housing in Clear Lake City, Texas.

There are but a few legally applicable regulations in effect at this site, in the ordinary context of building codes as regulations promulgated and enforced by a governmental unit. Only some of the documents listed below are promulgated and enforced by a public agency but all of them should be considered as controls on building operations in the Breakthrough site area.

- 1 Chapter 54 "Plumbing and Gas Piping," of the City of Houston Building Code (with Clear Lake City amendments).

The Clear Lake City Water Authority
900 Bay Area Boulevard
Clear Lake City, Texas 77058
(713) 488-1164

- 2 Rules For Land Subdivision (January 6, 1970 revision).

Houston City Planning Commission
710 City Hall
900 Brozos Street
Houston, Texas 77002
(713) 222-3261

- 3 Harris County Road Law

Harris County Commissioners Court
1115 Congress Street
Houston, Texas 77002
(713) 228-8311

- 4 Rules, Regulations and Requirements Relating to the Approval and Acceptance of Improvements in Subdivisions or Re-Subdivisions

Harris County Commissioners Court
1115 Congress Street
Houston, Texas 77002
(713) 228-8311

- 5 Minimum Construction Standards for Clear Lake City and Clear Lake Forest

First Mortgage Company of Texas, Inc.
1919 Allan Parkway
Houston, Texas 77001
(713) JA 9-3931

6 Building Code, City of Houston

Mr. Harold Wood
Permit Department
Department of Public Works
Building Inspection Division
1020 Bagby Street, Room 210
Houston, Texas 77002
(713) 222-3247

(Price: \$14)

COMMENTARY ON REGULATIONS

Note: The regulatory codes applicable to this site, and included herewith, together with such other generally recognized codes and standards as may be referenced in them will furnish the housing system producer and/or the site developer with all of the requirements for usual housing construction on the site, and which may be subject to waiver procedures to the extent the proposed housing system is at variance with the existing requirements.

Administration

Friendswood Development Company, an Arizona corporation with a permit to do business in Texas, is the owner and developer of the land surrounding and including the Breakthrough site area. They exercise a considerable degree of control over all construction in the subdivision known as Clear Lake City (it is not a city in the governmental sense of the word). This is exercised through deed restrictions made part of the sale of the lots to those who would build in this area.

Planning and Zoning

The city building growth patterns, usually controlled through zoning ordinances, are handled in the Clear Lake City subdivision by the deed restrictions designed by the Friendswood Development Company. This is not an unusual practice in the Houston-Galveston area. The city of Houston is the largest city in the country operating without a zoning code.

Harris County requires that all single family lots be at least 5,000 square feet in area. The Friendswood Development Company deed restrictions for the neighboring Oakbrook section of the Clear Lake City subdivision specifies 6,500 square feet as a minimum lot area.

The city of Houston exercises a considerable influence over the unincorporated areas within five miles of the city boundaries. Clear Lake City and the Breakthrough site are located in this five mile zone. The Planning Commission of the city of Houston exercises such controls through the use of a pamphlet entitled, "Rules for Land Subdivision." These are minimum subdivision plot requirements and they affect the design of all residential subdivisions within the five mile control area beyond the Houston city limits.

Building Limitation

A full-time building code inspector is employed by one of the firms associated with the Friendswood Development Company in the building program in Clear Lake City. The guidelines used by the inspector are contained in a pamphlet entitled, "Minimum Construction Standards for Clear Lake City." In addition to the construction standards described in this pamphlet, those not specified are to be in accordance with the Houston Building Code, the National Electrical Code, the Southern Gas Code and the plumbing regulations promulgated by the Clear Lake City Water Authority. For properties to be insured by the Federal Housing Administration, the FHA Minimum Property Standards are to govern.

It should be understood that the above standards are not subject to enforcement by a governmental agency. They may be made part of an agreement connected with the sale of the land owned by the Friendswood Development Company.

It should also be noted that restrictions written into the deeds by the Friendswood Development Company for the built up area around the Breakthrough site specifically forbid the use of prefabricated buildings of any nature whatsoever for either permanent or temporary use (see item 16 in deed restrictions for Oakbrook Cove A--Clear Lake City subdivision).

Structural

There are no governmental regulations affecting the design of the building envelope in the Clear Lake City subdivision. Controls exercised by the Friendswood Development Company are contained in the pamphlet entitled, "Minimum Construction Standards for Clear Lake City." This document specifies some construction details and involves the building code of the city of Houston for others.

Electrical

There are no governmental regulations affecting the design and installation of electric wiring in the Clear Lake City subdivision. Controls exercised by the Friendswood Development Company are contained in the pamphlet entitled, "Minimum Construction Standards for Clear Lake City." This document says that each installation shall conform to the standards of Underwriters' Laboratories, Inc., the National Electrical Code, and the standards of FHA and VA.

The building code of the city of Houston references the 1968 edition of the National Electrical Code and specifies the changes made to this model code. The city code requires that all electrical work be done under the direct supervision of a master electrician, licensed in the city of Houston.

Plumbing

The Clear Lake City Water Authority was created as a special district by the Texas State Legislature in 1963. It supplies potable water and sanitary sewer service for the Clear Lake City subdivision. It is a legally constituted governmental unit and as such it does promulgate and enforce plumbing code regulations. This authority uses the plumbing code developed (based on the Southern Standard Plumbing Code) and enforced by the city of Houston, but has not accepted all the amendments adopted by Houston. For instance, the Clear Lake City Water Authority does not permit the use of ABS or PVC DWV plastic pipe nor does it permit the use of concrete pipe, both of which are permitted (under specified conditions) by the city of Houston.

The Houston building code and the plumbing portion used by the Clear Lake City Water Authority require that the installation of plumbing must be done by a master or journeyman plumber licensed by the State of Texas

Elevators

There are no regulations affecting the design and installation of elevators that are promulgated or enforced by a governmental unit in the Clear Lake City area. The Building Code, City of Houston covers this subject area, references the 1960 Edition of the A17 - American Standard Safety Code for Elevators--and specifies the changes made to the A17 document.

Mechanical

There are no regulations affecting the design and installation of heating, ventilating and air conditioning equipment that are promulgated or enforced by a governmental unit in the Clear Lake City area. The Building Code, City of Houston covers this subject area and has a special section on boilers and incinerators.

ADMINISTRATION--CLEAR LAKE CITY, TEXAS

Houston Metropolitan Area Population (1964): 1,640,000

Government: Developed residential area in Harris County

Administration of Codes:

Due to the absence of any legally adopted building, electrical, elevator or mechanical codes in the Clear Lake City site area, and due to the influence of the regulations as enforced by the nearby city of Houston, it is suggested that structures planned for this site be considered in relation to the Houston building code for these code subject areas. This code is administered by:

The Department of Public Works
City of Houston
Building Inspection Division
1020 Bagby Street
Houston, Texas

Mr. Marvis Parmley, Deputy Director
Mr. Horace Cude, Asst. Deputy Director
(713) 222-3994

Plumbing regulations are administered by:

The Clear Lake City Water Authority
900 Bay Area Boulevard
Clear Lake City, Texas 77058

Mr. Harold L. Neely, Manager
(713) 488-1164

Construction standards used by the inspector employed by the Friendswood Development Company consortium, the owners and developers of the land involved, are administered by:

The First Mortgage Company of Texas, Inc.
1919 Allen Parkway
Houston, Texas 77001

Mr. D. Larry Thomas, Project Manager
(713) JA 9-3931

Zoning and Planning:

The Friendswood Development Company
1000 Bay Area Boulevard
Clear Lake City, Texas 77058

Mr. George Meriwether
(713) 488-0560

Houston City Planning Commission
710 City Hall
900 Brozos Street
Houston, Texas 77002

Mr. Roscoe Jones, Director
(713) 222-3261

The Houston-Galveston Area Council
Federal Land Bank Building
430 Lamorr Street
Houston, Texas 77002

Mr. Jerry Coleman, Executive Director
(713) 228-8271

Harris County Commissioners Court
1115 Congress Street
Houston, Texas 77002

Mr. Kyle Chapman, Commissioner
(713) 228-8311

