

BEFORE THE LAND USE COMMISSION

FILED JUN 19 2020
STATE OF HAWAII

OF THE STATE OF HAWAII 2020 JUN 19 A 10:18

In the Matter of the Petition of)	DOCKET NO. A17-804
)	
HAWAIIAN MEMORIAL LIFE PLAN, LTD.)	HAWAIIAN MEMORIAL LIFE
)	PLAN, LTD.
To Amend The Conservation Land Use)	
District Boundary Into The Urban Land Use)	
District For Approximately 53.449 Acres Of)	
Land At Kāne'ohe, Island of Oahu, State of)	
Hawai'i, Tax Map Key: (1) 4-5-033: por. 001)	
_____)	

PETITIONER HAWAIIAN MEMORIAL LIFE PLAN, LTD.'S:

- (1) FIRST AMENDED LIST OF WITNESSES;**
- (2) THIRD SUPPLEMENTAL LIST OF EXHIBITS;**
- (3) EXHIBITS 60 - 69**

AND

CERTIFICATE OF SERVICE

BENJAMIN M. MATSUBARA, #993-0
 CURTIS T. TABATA, #5607-0
 Matsubara, Kotake & Tabata
 888 Mililani Street, Suite 308
 Honolulu, Hawai'i 96813

Attorneys for Petitioner
 HAWAIIAN MEMORIAL LIFE
 PLAN, LTD.

LAND USE COMMISSION

DOCKET NO./PETITIONER: A17-804/ HAWAIIAN MEMORIAL LIFE PLAN, LTD.

PARTY: Petitioner HAWAIIAN MEMORIAL LIFE PLAN, LTD.

FIRST AMENDED LIST OF WITNESSES

NAME/ORGANIZATION/POSITION (List In Order of Appearance)	TO BE QUALIFIED AS AN EXPERT IN:	SUBJECT MATTER	WRITTEN TESTIMONY	EXHIBIT NUMBER(S)	LENGTH OF DIRECT
Scott Ezer/HHF Planners/ Principal	Planning and Land Use	Master Plan and Environmental Impact Statement	Yes	6, 9, 24, 29	20 minutes
Jay Morford/Hawaiian Memorial Life Plan, Ltd./President	N/A	Project overview and status	Yes	30	20 minutes
Tom Holliday/ CRE, FRICS – CBRE, Inc./ Director of the Hallstrom Team	Real estate market assessment and economic impacts	Market assessment and economic impacts	Yes	6, 31	15 minutes
Jami Hirota, PE, LSIT, LEED BD+C/ Coffman Engineers/Manager of the Civil Engineering Department	Engineering	Engineering and drainage	Yes	6, 32	15 minutes
Tom Nance/Tom Nance Water Resource Engineering, Inc./ President	Hydraulics	Ground and surface water	Yes	6, 33	15 minutes
Robin M. Lim, P.E./Geolabs, Inc./ President	Geology	Geological survey	Yes	6, 34	15 minutes
Steven L. Montgomery, PH.D./Sole Proprietor	Terrestrial invertebrates	Invertebrates	Yes	6, 35	15 minutes
Steve Spengler, PH.D./Element Environmental, LLC/ Vice President	Environmental hydrogeology	Water quality	Yes	6, 36	15 minutes

DOCKET NO./PETITIONER: A17-804/ HAWAIIAN MEMORIAL LIFE PLAN, LTD.

PARTY: Petitioner HAWAIIAN MEMORIAL LIFE PLAN, LTD.

FIRST AMENDED LIST OF WITNESSES

NAME/ORGANIZATION/POSITION (List In Order of Appearance)	TO BE QUALIFIED AS AN EXPERT IN:	SUBJECT MATTER	WRITTEN TESTIMONY	EXHIBIT NUMBER(S)	LENGTH OF DIRECT
Susan Burr/AECOS, Inc./Vice President	Environmental science	Wetlands and waters of U.S. jurisdictional limits	Yes	6, 37	15 minutes
Reginald David/Rana Biological Consulting/ President	Biology	Avian and mammalian surveys	Yes	6, 38	15 minutes
Maya LeGrande/LeGrande Biological Surveys Inc./ President	Botany	Botanical survey	Yes	6, 39	15 minutes
Todd Beiler, PE./Censeo Av+Acoustics/ President	Noise assessment	Noise impacts	Yes	6, 40	15 minutes
Matt Nakamoto, P.E./Austin, Tsutsumi & Associates, Inc./Vice President and Chief Transportation Engineer	Traffic engineering	Traffic impact	Yes	6, 41	15 minutes
Rosanna Thurman/Honua Consulting/ M.A. Principal Investigator	Archaeology	Archaeological survey	Yes	6, 42	15 minutes
Trisha Kehaulani Watson, J.D., PH.D/ Honua Consulting/Owner	Archaeology and Cultural Assessment	Archaeological survey and Cultural assessment	Yes	6, 43	15 minutes
Scott Ahrendt/, SCI Shared Resources LLC/Assistant Vice President, Ethics & Business Conduct	N/A	Ethics & Business conduct	No		15 minutes

LAND USE COMMISSION

DOCKET NO./PETITIONER: A17-804/ HAWAIIAN MEMORIAL LIFE PLAN, LTD.

PARTY: Petitioner HAWAIIAN MEMORIAL LIFE PLAN, LTD.

FIRST AMENDED LIST OF WITNESSES

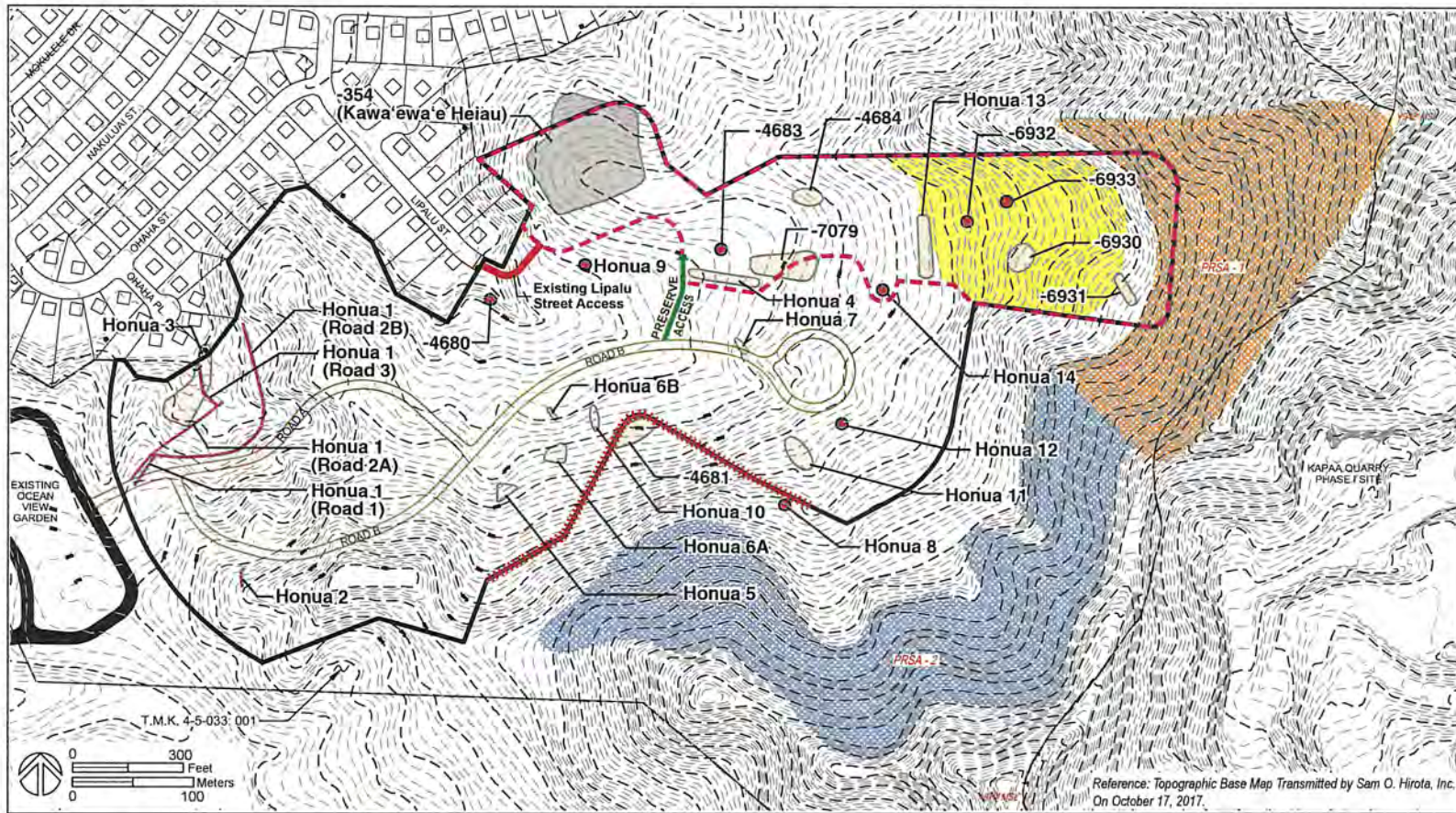
NAME/ORGANIZATION/POSITION (List In Order of Appearance)	TO BE QUALIFIED AS AN EXPERT IN:	SUBJECT MATTER	WRITTEN TESTIMONY	EXHIBIT NUMBER(S)	LENGTH OF DIRECT
Lance K. Wilhelm	Construction Management	Construction Management	Yes	63, 64	15 minutes

DOCKET NO./PETITIONER: A17-804/HAWAIIAN MEMORIAL LIFE PLAN, LTD.

PARTY: Petitioner HAWAIIAN MEMORIAL LIFE PLAN, LTD.

THIRD SUPPLEMENTAL LIST OF EXHIBITS

EXHIBIT NUMBER	DESCRIPTION	PARTY: OBJECTIONS	ADMIT
60	Rockfall Historic Map		
61	Conservation Easement Map		
62	Article XI Section 1		
63	Lance Wilhelm Resume		
64	Lance Wilhelm Written Testimony		
65	Storm Drainage Standards 2017		
66	Article 12 Section 14 ROH		
67	Title 11 HAR Department of Health Chapt.46 Community Noise Control		
68	Noise Permit Application		
69	Guide For Filing Community Noise Permit Applications (Construction Activities)		



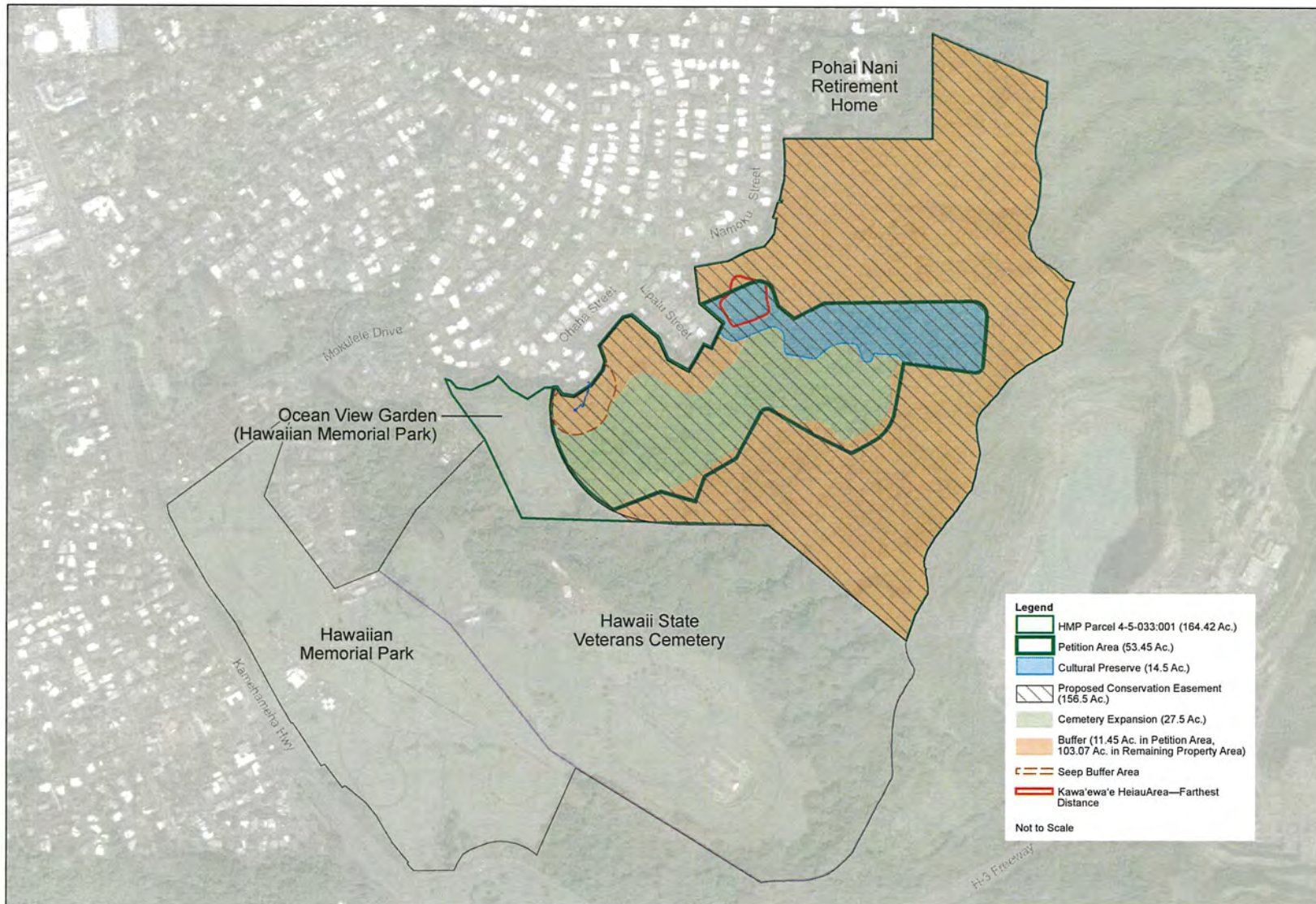
Legend

- Petition Area
- Cultural Preserve Area (14.5 Acres)
- Proposed Access Road
- Proposed Cultural Preserve Access Path
- Boulder Deposition Area (Basin Area Slopes Containing Scattered Large Boulder Blocks and Some Cobble/Boulder Talus)
- Approximate Location of Proposed Rock Catchment Ditch
- Approximate Potential Rockfall Source Area with Greater Hazard Potential
- Approximate Potential Rockfall Source Area with Lesser Hazard Potential
- Historic Site Boundary Locations
- Historic Site Locations
- Historic Roads

Exhibit 34 Robin Lim Written Testimony: Exhibit 1
 Exhibit 42 Rosanna Thurman Written Testimony: Exhibit RT-A
 Geolabs, Inc.; Honua Consulting

Exhibit 60

Compilation Map Showing Rockfall and Historic Sites



Hawaiian Memorial Park Cemetery Expansion Project

Exhibit 61. Proposed Conservation Easement Boundary

Article XI

Conservation, Control And Development Of Resources

CONSERVATION AND DEVELOPMENT OF RESOURCES

Section 1. For the benefit of present and future generations, the State and its political subdivisions shall conserve and protect Hawaii's natural beauty and all natural resources, including land, water, air, minerals and energy sources, and shall promote the development and utilization of these resources in a manner consistent with their conservation and in furtherance of the self-sufficiency of the State.

All public natural resources are held in trust by the State for the benefit of the people. [Add Const Con 1978 and election Nov 7, 1978]

Lance K. Wilhelm

President (Feb 2017 – current)

The Wilhelm Group is an independent consulting firm focused on the real estate, development and construction industries. We service clients in the public sector and in both the non-profit and for-profit sectors providing oversight, management and expert advice on every phase and aspect of development and construction.



AREAS OF FOCUS/SCOPE OF SERVICES:

PRE-DEVELOPMENT

- Community / Relationship Building
- Development team assembly
- Conceptual construction estimating
- Program Management

PRE-CONSTRUCTION

- Project Management
- Pre-Construction Management
- Entitlement support
- Construction estimate review

CONSTRUCTION

- Project Management
- Construction Management
- Partnering Facilitation
- Disputes Review Board

EXPERIENCE

Irongate | Managing Principal (2014 – Feb 2017)

Lance joined Irongate in December 2014 as Managing Principal to oversee the company's current and future development operations in Hawai'i, including the brand new Ritz-Carlton Residences Waikiki Beach, the 280 Beach Walk retail center, Trump International Hotel & Tower at Waikiki Beach, and various other holdings. In addition to building Irongate's brand in the local market and managing the company's on-going interests in their resort properties, Lance was responsible for overseeing legislative

EDUCATION

B.A. Communications,
University of Hawai'i

Kamehameha Schools

EXPERIENCE

27 Years of Experience in
the Building and Real
Estate Industries

REFERENCES

Jack Wong
CEO

Kamehameha Schools
liwong@ksbe.edu
808-523-6343

Michael Broderick
President & CEO
YMCA of Honolulu
mbroderick@ymca-honolulu.org
808-541-5471

Susan Eichor
President & COO
AIO

susane@aiohawaii.com
808 -534-7557



initiatives, coordinating planning and permitting processes, providing construction oversight, dealing with community issues and identifying new business opportunities throughout Hawaii.

In addition to managing Irongate's development business and overseeing its construction operations, Lance played a significant role in opening the Ritz Carlton Residences Waikiki Beach. In particular, Lance was actively involved in helping to build the property's sales and marketing infrastructure and team. Lance regularly interfaced with the hotel's management team over a wide variety of issues during the pre-opening and opening phases, including safety and security, property and FF&E turnover and maintenance, public relations and brand management and vendor relations.

Because Irongate maintains an ownership interest in the properties they develop, Lance remains engaged in the on-going operations of their properties including maintaining oversight of the leasing and operations of commercial spaces, monitoring the performance of the food and beverage operations, and ultimately the financial performance of the hotel itself. Because of the unique structure of the hotel-condo model, Lance also serves as President of the Ritz Carlton Residences Condominium Association where his responsibilities include overseeing and interfacing with property and hotel management.

Kiewit Companies | Various (1989 – 2014)

Joining Kiewit in 1989, Lance held virtually every line responsibility within the company at one time or another throughout his tenure with the firm. Lance entered the firm as an entry-level clerk and left as the highest-ranking executive residing in Hawaii.

Highlights of his 25-year career are noted below:

Kiewit Infrastructure West Co. | Sr. Vice President, Hawai'i Regional Manager

In 2013, Lance was promoted to the newly created position of Senior Vice President for Hawaii Operations where he assumed responsibility for all of Kiewit's work in Hawaii. Central to his responsibilities was the oversight of the firm's three separate contracts under the Honolulu rail transit program totaling approximately \$1 billion. Involved from the company's initial pursuit of these projects, through their award and execution, Lance played a pivotal role in moving the project from concept to concrete. In addition to maintaining day-to-day oversight of these important projects, Lance held oversight responsibility for the firm's other construction and business development operations while building critical relationships within the construction and development industries, among Hawaii's political and governmental leaders, and within the broader community.

Kiewit Building Group Inc. | Senior Vice President and Hawai'i Area Manager



As Kiewit Building Group Inc.'s Senior Vice President and area manager, Lance had overall responsibility for the financial and operational performance of this Kiewit Company subsidiary. Specifically, Lance's efforts included oversight of; strategic and corporate business planning, marketing and business development, contract negotiations, labor relations, personnel development, legal and contract administration, and the local and corporate philanthropic program. Under his leadership, the area acquired approximately \$700 million of contract volume including the \$211 million Trump International Hotel & Tower at Waikiki Beach, the \$56 million Waimalu Viaduct Widening project and the \$195 million Maintenance & Storage Facility for the rail project.

Kiewit Pacific Co. | Project Sponsor

Lance filled a variety of management roles including estimating, on-site project management, and off-site project sponsorship. As a Project Sponsor, Lance managed such notable multi-million dollar projects as the Multiple-Award Task Order Contracts (MATOC) Numbers 3 and 10 for the Office of Naval Research, H-3 Finish Unit VII – Kaonohi Street to the Waiiau Interchange, and Waimea Bay. His involvement in business development included assuming marketing functions, client relations, and proposal qualification and preparation.

Kiewit Pacific Co. | Area Business Manager

Lance was the first Hawai'i Area Business Manager for the Kiewit Companies. He coordinated the business administrative functions for four independent divisions working in the State of Hawai'i. Because each division pursues and builds work within specific market sector, Lance obtained experience in a wide variety of construction disciplines. Among and between these divisions, Kiewit managed an average cumulative volume of \$200 million annually. Within his role as Area Business Manager, Lance's responsibilities included safety and quality program administration, project and area office auditing, corporate policy compliance, financial reporting and forecasting, coordinating job startup and closeout transitions, administering trainings with area/corporate/district personnel, and effectively executing transactional processes and procedures.



CURRENT MEMBERSHIPS & ASSOCIATIONS

Industry, Trade & Business Organizations:

Association of General Contractors of America – National AGC Board of Governors (2006-present)
General Contractors Association of Hawaii – President (2003); Director (1996-present)
General Contractors Labor Association – Board Chairman (2003); Vice President (2009-present); Director (1996-present)
Hawaii Business Roundtable – Member (2019-present)
Move Oahu Forward – Board Member (2013-present)
NAIOP Hawaii – Member (2015-present)
Native Hawaiian Chamber of Commerce – Member (2012-present)
Oahu Economic Development Board – Board Member (2011-present)
PASHA – Board Advisor (2018-present)
Waikiki Improvement Association – Board Member (2015-present)

Non-Profit Organizations:

KUPU – Board Member (2019-present)
YMCA of Honolulu – Board Chair (2013-2017); Board Member (2006-present)

Educational Institutions:

Hawaii Pacific University – Board Member (2015-present)
Island Pacific Academy – Board Member (2009-present); Board Chair 2018 to present)
Kamehameha Schools – Chair (2014/2015); Trustee (2012-present)
University of Hawaii Regents Candidate Advisory Council – Member (2017-current)

Union Trusteeships:

- Hawaii Carpenters Trust Funds – Management Trustee**
- Market Recovery (2012-current)
 - Apprenticeship/Design Committee (2019-present)
- Operating Engineers Trust Funds – Management Trustee**
- Hawaii Annuity Trust Fund (2005-present)
 - Industry Stabilization (2014-present)



PREVIOUS MEMBERSHIPS & ASSOCIATIONS

Industry, Trade & Business Organizations:

Hawaii Developers Council –President (2010/2011); Member (2006-2013)
Honolulu Executive’s Association - President (1999 & 2008); Member (1996-2013)
LURF—Member (2016-2017)
Retail Merchants of Hawaii – Member (2015-2017)
State of Hawaii Workforce Development Council – Board Member (2007-2011)
ULI – Member (2015-2018)
West Oahu Economic Development Association – President (2012-2013); Member (2010-2014)

Non-Profit Organizations:

Aloha Council, Boy Scouts of America – Board Member (2007-2015)
American Heart Association – Board Member (2014-2016)
Honolulu Theatre for Youth – Board Member (2007-2011)
March of Dimes – 2011 March for Babies Chairperson

Educational Institutions:

University of Hawaii Ahahui Koa Anuenue – Board Member (2013-2015)
University of Hawai’i Foundation – Board Member (2007- 2016)

Union Trusteeships:

Hawaii Carpenters Trust Funds – Management Trustee

- Financial Security Trust Fund (1999-2012)
- 410 (k) Trust Fund (2005-2012)

Operating Engineers Trust Funds – Management Trustee

- Pension Trust Fund (2006-2011)
- Pensioners’ Health & Welfare Trust Fund (2006-2011)
- Pre-Apprentice, Apprentice & Journeymen Affirmative Action Training Fund for Hawaii (2005-2013)



Testimony of

LANCE WILHELM

The Wilhelm Group

SLUC Docket No. A17-804, Hawaiian Memorial Life Plan, Ltd.

In the Matter of the Petition of Hawaiian Memorial Life Plan, Ltd. To Amend the State Land Use District
Boundary of Lands Situated at Kaneohe, Oahu, Hawaii

TMK: (1) 4-5-033: Portion 1

My name is Lance Wilhelm, president of the Wilhelm Group, a construction management and development consultancy firm in Honolulu.

For 25 years prior, I was employed at Kiewit, one of Hawaii's largest construction companies and one of the few contractors in the state specializing in heavy civil construction. During my time there I served in varying capacities including as Senior Vice President, leading the company's Hawaii operations.

Subsequently, I served as an executive with real estate development firm Irongate before establishing the Wilhelm Group. I am also past president of the General Contractors Association of Hawaii and the Hawaii Developers Council.

It is my understanding that during the course of this hearing, prior testimony of a project witness indicated that all of the excess excavation material (overburden) not used on the project site would be transported to PVT landfill. Yet, another expert witness testified that contractors would utilize the overburden for other projects on the island.

1003 Bishop Street, Suite 765 Honolulu, Hawaii 96813
Phone: (808) 791-2382/Fax: (808) 495-4194

EXHIBIT "64"

As a developer's representative and construction management consultant with over 30 years of civil construction experience, I bring a practical perspective to some of these issues that I believe will help the Land Use Commission (LUC) to more clearly understand how the previous testimony is not as contradictory as it may appear on the surface..

Disposition of Excess Fill/Overburden

The project EIS by HHF Planners discloses that overburden and dirt material from excavation would be disposed at the PVT landfill. This is an understandable disclosure of impacts for the purposes of the environmental review process especially since PVT is Oahu's only C&D (Construction and Demolition) landfill.

However, as a practical matter, there are significant incentives to avoid "disposing" of fill and soil material.

1. Soil is a valuable resource that is highly sought after. As such, contractors bidding on the project would likely seek to find other projects that can utilize the material.
2. Tipping fees for disposal in landfills are very expensive and contractors and project owners are incentivized to avoid this cost.
3. Soil is used as a landfill management resource to cover layers of debris and solid waste to foster decomposition and prevent trash from blowing out of landfills. In fact, landfills will sometimes pay for soil.

All this means that the HMP cemetery expansion project would seek to avoid simply disposing of this material and instead would seek to reuse and recycle it as much as possible.

This approach is affirmed through the testimony of Ms. Jami Hirota, civil engineer for the project. Other material such as plant and organic material from the grubbing process may be mulched or composted at facilities such as Hawaii Earth Products. Again, this practice is incentivized through cost avoidance of tipping fees.

Process

It's important to understand that the project is currently seeking reclassification approval so it can initiate its project. As such, much of the detailed information related to these issues is premature since the reclassification has not yet been granted.



Since the entitlement and approvals process requires the project to incorporate the LUC's input into its final design and plans, the process can only prudently occur subsequent to the LUC's approval. Until the reclassification has occurred, the project team cannot prepare detailed designs for grubbing and grading permits for the City to review and consider. As a result, more specific detailed information regarding design, grading and plans for treatment of overburden and material from excavation would be premature at this stage.

However, we can be clear that those detailed plans will be required as part of the permitting process with the City & County of Honolulu. This process includes a number of requirements that must be followed to further ensure best practices are incorporated as part of the project.

Upon receiving permit approvals, the project owners and its construction management firm would then seek to have those detailed plans and best practices implemented when seeking bids from potential contractors.

Conclusion

I hope my testimony makes clear that:

1. HMP can only reasonably be expected to conduct detailed design and grading plans after receiving LUC approval and as such, some of the information requested by the LUC may not yet be available.
2. That if the LUC approves the project, it will then undergo another review process for design and grading through the City to ensure health and safety standards are met and best practices adopted.
3. That the project would seek to reuse and recycle material as much as possible and as practicable as it is in the project's best interest from a cost, quality and schedule perspective to do so.
4. That soil, overburden and other material generated by the project should be seen as a resource for other construction projects as well as for landfill management.

Lance Wilhelm

President

The Wilhelm Group

STORM DRAINAGE STANDARDS



AUGUST 2017

Department of Planning and Permitting
City and County of Honolulu
Honolulu, Hawaii

Department of Planning and Permitting
City and County of Honolulu

STORM DRAINAGE STANDARDS

AUGUST 2017

APPROVED:



ACTING CHIEF, SITE DEVELOPMENT DIVISION



ACTING DIRECTOR, DEPARTMENT OF PLANNING & PERMITTING

TABLE OF CONTENTS

PART I	HYDROLOGIC CRITERIA	PAGE NO.
A.	RECURRENCE INTERVAL	1
B.	RUNOFF QUANTITY	1
C.	RATIONAL METHOD	2
	1. Runoff Coefficient	
	2. Time of Concentration	
	3. Rainfall Intensity	
D.	HYDROLOGIC STUDIES	3
PART II	DESIGN STANDARDS	
A.	GENERAL CONDITIONS	4
B.	DESIGN COMPUTATIONS	5
	1. Hydraulic Design Data	
	2. Structural Design Data	
C.	CLOSED CONDUITS	6
	1. Sizes and Gradients	
	2. Materials and “n” Values	
	3. Loading	
	4. Manholes and Inlets	
	5. Pipe System Analysis	
	6. Hydraulic Gradient Computations	
	7. Special Details	
D.	OPEN CHANNELS	11
	1. Channel Size	
	2. Channel Characteristics	
	3. Permissible Velocities and “n” Values	
	4. Channel Lining	
	5. Freeboard	
	6. Junctions	
	7. Bends and Superelevations	
	8. Transitions	
	9. Debris Barriers	
	10. Energy Dissipators	

DESIGN CHARTS

TABLE 1	Runoff Coefficient for Agricultural and Open Areas	17
TABLE 2	Minimum Runoff Coefficients for Built-up Areas	18
TABLE 3	Approximate Average Velocities of Runoff for Calculating Time of Concentration	18
PLATE 1	Intensity of 1-hr Rainfall – Tm 10 yr	19
PLATE 2	Intensity of 1-hr Rainfall – Tm 50 yr	20
PLATE 3	Overland Flow Chart	21
PLATE 4	Correction Factor for Converting 1-hr Rainfall to Rainfall Intensity of Various Durations	21
PLATE 5	Time of Concentration	22
PLATE 6	Design Curves for Peak Discharge vs. Drainage Area	23
PLATE 7	Freeboard Allowances	24
PLATE 8	Pipe Flow Chart - 18-inch Diameter	26
PLATE 9	Pipe Flow Chart - 24-inch Diameter	27
PLATE 10	Pipe Flow Chart - 30-inch Diameter	28
PLATE 11	Pipe Flow Chart - 36-inch Diameter	29
PLATE 12	Pipe Flow Chart - 42-inch Diameter	30
PLATE 13	Pipe Flow Chart - 48-inch Diameter	31
PLATE 14	Pipe Flow Chart - 54-inch Diameter	32
PLATE 15	Pipe Flow Chart - 60-inch Diameter	33
PLATE 16	Pipe Flow Chart - 66-inch Diameter	34
PLATE 17	Head Losses in Manholes – “A”, “B” and “C” Losses	35
PLATE 18	Head Losses in Manholes – “D” Losses	35
PLATE 19	Nomograph for Pipe Culverts with Entrance Control	36
PLATE 20	Nomograph for Box Culverts with Entrance Control	37

APPENDIX

Pipe System Analysis – Example Computation

Suggested Form for Computation

Drainage Plans Showing Design Data Required

Drainage Report Format

INTRODUCTION

These standards have been prepared pursuant to Article 12, Chapter 14, Revised Ordinances of Honolulu, 1990 as amended, to guide City and County engineers and personnel, engineers for subdivision developers, consultants employed by the City and other interested parties in the general features required for the design of storm drainage facilities in the City and County of Honolulu.

These standards are not intended to limit the initiative and resourcefulness of the engineer in developing drainage plans, or be viewed as maximum limits in design criteria. More stringent criteria should be used where warranted.

This edition supersedes the Rules Relating to Storm Drainage Standards, January 2000 (Repealed August 16, 2017).

PART I - HYDROLOGIC CRITERIA

Standards and regulations for flood control are adopted to protect life and property during intense storms. Small storms that occur frequently usually do not cause significant property damages or loss of life, therefore, peak runoff from large storms is regulated for flood control.

The data from 85 U.S. Geological Survey (USGS) stream flow gauges on the Island of Oahu form the basis for Plate 6, "Design Curves for Peak Discharge vs. Drainage Area". The rainfall data on Plates 1 and 2 are from the National Oceanic and Atmospheric Administration (NOAA), National Weather Service, Silver Spring, Maryland, 2009. Rainfall data on Plates 1, 2 and 6 will be updated periodically and such updates will automatically be incorporated into these standards when the updates are adopted by the Department.

A. RECURRENCE INTERVAL

1. For drainage areas of 100 acres or less, T_m (recurrence interval) = 10 years, unless otherwise specified.
2. For drainage areas of 100 acres or less with sump, or tailwater effect and for the design of roadway culverts and bridges, T_m (recurrence interval) = 50 years.
3. For drainage areas greater than 100 acres and all streams, design curves based upon the U.S. Geological Survey data on flood magnitude and frequency, T_m (recurrence interval) = 100 years.
4. Interim measures for areas where downstream facilities are inadequate shall be reviewed on a case-by-case basis.

B. RUNOFF QUANTITY

1. For drainage areas of 100 acres or less, the rational method shall be used.
2. For drainage areas greater than 100 acres:
 - a. Plate 6 titled, "Design Curves for Peak Discharge vs. Drainage Area" should be used to determine the 100-year peak discharge.
 - b. Modifications from the Plate 6 peak discharge values may be used if the Design Engineer can justify more acceptable values and it is approved by the Director.
3. For drainage areas where downstream capacities are inadequate to accommodate runoff quantity identified above, runoff shall be limited to pre-development conditions or as specified in the General Conditions.

C. RATIONAL METHOD

The formula $Q = CIA$ shall be used to determine quantities of flow rate, in which

- Q = flow rate in cubic feet per second;
- C = runoff coefficient;
- I = rainfall intensity in inches per hour for a duration equal to the time of concentration; and
- A = drainage area in acres.

1. RUNOFF COEFFICIENT

The runoff coefficient shall be determined from Table 1 for agricultural and open areas and from Table 2 for built-up areas. It shall be based on the ultimate use of the project drainage area. For distinctive composite drainage areas, a weighted value of runoff coefficient shall be used.

For interim drainage measures, existing upstream land use conditions may be used to size interim measures as long as ultimate drainage requirements can be met when downstream restrictions are removed.

2. TIME OF CONCENTRATION

- a. Determine overland flow time from Plate 3 generally for paved, bare soil and grassed areas.
- b. Determine flow time over small agricultural areas with well-defined divides and drainage channels from Plate 5.

- 1) Use upper curve for well-forested areas, representing

$$T_c = 0.0136 K^{0.77}$$

- 2) Use lower curve for areas with little or no cover, representing

$$T_c = 0.0078 K^{0.77}$$

- c. In case of uncertainty, check the time of concentration by dividing the estimated longest route of runoff by the appropriate runoff velocity from Table 3.

3. RAINFALL INTENSITY

The design rainfall intensity of a drainage area shall be determined by the following procedure:

- a. Select the appropriate 1-hour rainfall value from Plate 1 or Plate 2 for the design recurrence interval.

- b. Enter Plate 4 with the rainfall intensity duration equal to the required time of concentration, select the corresponding correction factor, and multiply the 1-hour rainfall value by the factor to obtain the design rainfall intensity.

D. HYDROLOGIC STUDIES

Since 1959, the City and County of Honolulu and the U.S. Geological Survey have participated in a cooperative program for the collection of special stream flow data. This program included the installation of additional stream gaging stations and crest-stage gages. With the additional hydrologic data supplementing the data from the existing gaging stations, it was anticipated that more would be known of the effects of exposure, altitude, basin slope, basin shape and degree of urbanization on stream runoff on Oahu.

The U.S. Geological Survey developed flood-frequency curves for 74 gaging stations on Oahu by using the log Pearson Type III distribution (U.S. Water Resources Council, 1977, Bulletin 17A). The length of record for the individual stations ranged from 10 to 60 years. In order to furnish data at ungaged sites, they attempted to regionalize the available data by the use of multiple-regression techniques. In the study, a regional analysis was made by using these techniques to relate floodflows to basin and climatic characteristics. The results are contained in the U.S. Geological Survey Water-Resources Investigations 80-45 Report, An Analysis of the Magnitude and Frequency of Floods on Oahu, Hawaii, dated June 1980. The results were subsequently updated.

The U.S. Geological Survey and City have further extended the data to facilitate the determination of peak discharge values for the design of drainage facilities by developing Plate 6, Design Curves for Peak Discharge vs. Drainage Area. The curves are based upon the 100-year recurrence interval data. For clarification, the boundaries between the groups shown on Plate 6 are as follows:

Group Boundary	Location
A and B	Between Oio Stream and Malaekahana Stream and along Koolau Range Ridge.
B and C	Between Honouliuli Stream and Waikele Stream, along Waianae Range Ridge, and between Makaleha Stream and Kaukonahua Stream.

The rainfall data shown on Plates 1 and 2 have been updated from the Rainfall Frequency Study for Oahu, Department of Land and Natural Resources, Division of Water and Land Development, State of Hawaii, dated 1984.

PART II - DESIGN STANDARDS

A. GENERAL CONDITIONS

The design and capacity of a drainage system shall be predicated on the following conditions:

1. On the basis of the runoff resulting from the selected design storm, the system shall dispose of surface runoff and subsurface water without damage to street facilities, structures or ground and cause no serious interruption of normal vehicular traffic.
2. Runoff exceeding the design storm must be disposed of with the least amount of interruption to normal traffic and minimum amount of damage to surrounding property.
3. System must have maximum reliability of operation with minimum maintenance and upkeep requirements.
4. System must be adaptable to future expansion, if necessary, with minimum additional cost.
5. Where sump conditions exist, a safety measure such as an overflow swale shall be provided to prevent flooding of adjacent lots in the event the design capacity of the closed conduit is exceeded. Floor levels of homes adjoining sumps shall be a minimum of 3 feet above the low point on roadway.
6. Lots abutting streams and open channels may be graded to drain towards the waterway.
7. In general, natural gullies, waterways, streams and tributaries shall not be replaced with a closed system except at roadway crossings.
8. Roadway culverts and bridges shall be designed to pass the design flow under open channel hydraulic analysis with a minimum freeboard as specified in the attached freeboard chart. Multiple span road crossings shall have minimum clear spans of 30 feet, unless otherwise permitted by the Director. Where possible, the roadway shall be designed to form a sag vertical curve with a low point at the waterway crossing with minimum grades to confine and control overflow at the crossing. Whenever the difference in elevations of the roadway and water surface is such that there could be a deep fill, the roadway culvert or bridge shall be designed to include available headroom up to five feet from the water surface to the soffit of the culvert or bridge. After this headroom requirement is fulfilled, fill material may be used to meet roadway elevations.
9. Outlets for enclosed drains emptying into open channels shall be designed to point downstream at an angle of 45°.

10. Where ground water is encountered, or may be present during wet weather, subsurface drains shall be installed wherever recommended by the Design Engineer, or the Director.
11. New developments shall provide adequate drainage capacity to accommodate the offsite design storm entering the development site.
12. When downstream drainage systems cannot accommodate peak runoff rates from design storms, runoff rates discharged downstream from new developments will be limited to pre-development values unless improvements to the downstream system are made.
13. New development and redevelopment projects shall also comply with the requirements in the Rules Relating to Water Quality to implement low impact development best management practices to reduce discharge of pollutants into the final receiving waters.

B. DESIGN COMPUTATIONS

The following data shall be submitted to the Director by the Design Engineer.

I. HYDRAULIC DESIGN DATA

- a. Computations for runoff, conduit and channel sizes, slopes, losses, hydraulic gradient and other hydraulic characteristics and information pertinent to the system. Computations shall be properly arranged and presented in such a manner that they may be readily checked.
- b. The following data shall be shown on the construction plans.
 - 1) Design flow (Q), watershed area (A), roughness coefficient (n), and velocity (v), for all conduits and channels.
 - 2) Hydraulic grade lines, including, water surface elevation at each manhole and catch basin.
 - 3) Building setback lines, where required.
 - 4) Floodway/flood fringe boundary, as applicable.
- c. When interim drainage measures are required due to restrictions in the downstream drainage systems, the following additional data shall also be provided:
 - 1) Runoff rate using the design storm for existing upstream land use conditions.

- 2) Runoff volume using the design storm for existing upstream land use conditions.
- 3) Detention volume and discharge rate.
- 4) If necessary, capacity of downstream drainage systems.

2. STRUCTURAL DESIGN DATA

- a. Structural design computations for all drainage structures other than pipes used within the limits of current loading tables and structures shown in the "*Standard Details for Public Works Construction*" for the City and County of Honolulu.
- b. Information pertinent to the design, such as boring data, soils report, etc.
- c. Upon the completion of construction of major structures, submit pertinent data such as pile driving logs, pile tip elevations, etc.

C. CLOSED CONDUITS

1. SIZES AND GRADIENTS

- a. The size and gradient will be determined by the Manning Formula:

$$Q = A \frac{1.486 R^{2/3} S^{1/2}}{n}$$

Q = flow, in cfs

A = area, in sq. ft.

R = hydraulic radius in ft.

S = slope, in ft./ft.

n = roughness coefficient (Manning)

Charts enabling direct solution of Manning formula are found on Plates 8 to 16.

- b. The following limitations apply -
 - 1) Minimum size pipe: 18 inches inside diameter
 - 2) Minimum velocity: 2-1/2 feet per second
 - 3) Pipe sizes should not decrease in the direction of the flow.

2. MATERIALS AND "n" VALUES

The following pipes are acceptable for storm drain construction together with the roughness coefficient to be used in the solution of the Manning Formula.

<u>Materials</u>	<u>n</u>
Concrete	0.013
Cast Iron	0.013
Corrugated metal pipe (CMP) *	
Unpaved	0.024
25% paved invert....	0.021
Lower 50% paved..	0.018
100% paved	0.013
High Density Polyethylene (HDPE) *	0.012

*Use of CMP or HDPE shall be permitted only when specifically approved for an installation by the Director in writing.

3. LOADING

a. Reinforced Concrete Pipes: Reinforced concrete pipes shall be constructed to American Society for Testing and Materials (ASTM) Specifications.

- 1) Minimum pipe cover within City owned and privately owned, City maintained, road right-of-ways shall be a) 2'-6" under traffic loading pavement areas and driveways and b) 18" under sidewalk and curb and gutter areas.

Should there be a need for a pipe cover of less than specified above or should the design or construction method deviate from the Standards of the Department of Planning and Permitting, City and County of Honolulu, the Design Engineer shall submit justification and, if required, a structural design for review and approval. The decision to deviate from the standards will be made by the Director.

- 2) Minimum pipe cover in easement areas without vehicular traffic shall be 2'- 0".
- 3) Maximum permissible pipe cover will be determined from current loading tables in pipe handbooks for the respective pipes, using 120 lbs. per cu. ft. as the weight of earth.
- 4) All pipes shall be installed using a first class bedding trench condition. Proper foundations shall be provided for pipes. Pipes on unstable ground or fresh fill shall be supported by a method acceptable to the Director.

- 5) Drain pipes installed along the longitudinal axis of the roadway shall be located in the pavement area between curbs.
- b. Other Closed Conduits. There shall be no minimum cover or maximum permissible depth requirements for closed conduits other than pipes except that such structures, shall be designed to support all loads that it shall be subjected to.

4. MANHOLES AND INLETS

a. Manholes:

- 1) Location. Manholes shall be located at all changes in pipe size and changes in alignment or grade and at all junction points.
- 2) Spacing. Maximum manhole spacing shall be 250 feet for pipes 36 inches or less in diameter, or box drains with the smallest dimension less than 36 inches. Maximum manhole spacing for larger pipes and box drains shall be 500 feet.

b. Inlets (Catch Basins):

- 1) Location. Inlets shall be located at the upstream side of intersections, in sumps and where required by quantity of flow.
- 2) Spacing. Maximum spacing shall be 500 feet.
- 3) Types. For gutter grades up to 4%, standard 10-foot curb inlets with a depressed gutter shall be used. For grades 4% and greater, 10-foot long deflector inlets shall be used.
- 4) Capacity. Inlet capacities as follows, are acceptable:

	<u>Type</u>	<u>Gutter Grade</u>	<u>cfs</u>
a.	Std. depressed gutter inlet	0.4%	6
		4.0%	4
b.	Deflector inlet	sump	10
		4.0%	4.5
		12.0%	5.5
		Greater than 12.0%	6 max

- 5) Gutter Flow. The gutter flow shall not exceed a width of 8 feet.

5. PIPE SYSTEM ANALYSIS

Generally speaking, the pipe system shall be analyzed by sections, that is, outlet to manhole, manhole to manhole or manhole to inlet. The analysis shall start at the lowest point of flow and continued upstream. The design flow shall be used in determining whether the pipe will flow full or partially full. Full consideration of the tailwater, entrance and critical flow conditions shall be made.

- a. Pipe Flowing Full. If the conditions show that the pipe section will flow full, the principles of flow of water in closed conduits shall be used. The water surface elevation of the upstream manhole is determined by adding the pipe friction and manhole losses to the water surface elevation of the downstream manhole or the beginning elevation as previously stated.
- b. Pipe Flowing Partially Full. If the conditions show that the pipe section will flow partially full, the principles of flow water in open channels shall be used. The pipe partially full condition may be determined from the *Pipe Flow Charts* on Plates 8 to 16. The tailwater condition must also be considered in this determination.
- c. Manhole Losses.
 1. For junction conditions such as drop manholes, or where the outflow line deflects more than 10° with any inflow line, the hydraulic grade shall be determined by applying the *Entrance Control loss* and *C & D losses* (where applicable), or *A, B, C & D losses*, whichever is greater.
 2. For junction conditions where the outflow line deflects 10° or less with the inflow line, the hydraulic grade shall be determined by applying the *A, B, C & D losses*.

6. HYDRAULIC GRADIENT COMPUTATIONS

The hydraulic gradient is (1) a line connecting points to which water will rise in manholes and inlets throughout the system during the design flow or (2) the level of flowing water at any point along an open channel.

It shall be determined starting at the downstream end of the proposed drainage system and proceeding upstream by adding the friction losses and manhole losses of the system.

The hydraulic gradient for the design flow shall be at least 1 foot below the top of the manhole cover, or 1 foot below the invert of catch basin inlet opening.

- a. Beginning Elevation. The elevation of the hydraulic gradient at the downstream end shall be selected according to the following conditions:

- 1) Connection to existing drainage system - determined from the hydraulic gradient computations of the existing drain;
- 2) Discharge into a stream - determined from the flow conditions of the stream;
- 3) Submerged tailwater condition - begin at the tailwater elevation; and
- 4) Freefall condition (conduit) - begin at the crown of the proposed drain.

b. Friction Loss.

$h_f = S_f(L)$, where:

h_f = head loss due to friction

S_f = friction slope from Manning Formula

$$= \frac{(nv)^2}{2.208 R^{4/3}}$$

L = length of pipe or channel

The friction loss shall be calculated for the condition of the design flow, that is, pipe flowing full or partially full.

c. Manhole Losses.

Manhole losses shall be as shown on the charts, *Head Losses in Manholes*, (Plates 17 and 18). The losses shall be evaluated with pipes flowing full in the vicinity of the manholes; and therefore the velocity shall be for the pipe flowing full. The curves on the charts show the various losses:

- 1) A curve - loss due to entrance and exit
- 2) B curve - velocity head
 - a. Where the downstream velocity exceeds the upstream velocity, the head loss shall be difference in velocity heads.
 - b. Where the downstream velocity is less than the upstream velocity, the velocity head loss shall be zero.
- 3) C curve - loss due to change in direction, taking the worst case for branches at a manhole.

4) D curve - loss due to incoming volume.

7. SPECIAL DETAILS

The following structures shall be installed where required:

- a. Headwalls, aprons and cut-off walls at drain inlets and outlets.
- b. Energy dissipators at outlets.
- c. Debris and boulder control structures.
- d. Guard rails or fences on channel walls, headwalls and inlets, where they present a hazard to vehicular traffic or pedestrians.

D. OPEN CHANNELS

1. CHANNEL SIZE

Use the Manning Formula to determine the required waterway areas where uniform flow can be assumed.

$$Q = AV \text{ and } V = \frac{1.486 R^{2/3} S^{1/2}}{n}$$

A= area of flow, in square feet

V= velocity, in feet per second

n= roughness coefficient (Manning)

R= hydraulic radius, in feet

S= slope of the energy gradient, in feet per feet

The channel depth shall include design water depth and minimum freeboard allowances. Design water depth shall include rise in water surface caused by curves and junctions.

2. CHANNEL RIGHT-OF-WAY

The channel width shall be sufficient to provide the required waterway area for the design storm as determined by these standards. The total right-of-way shall include a 15-foot wide maintenance road along both banks where the top width of channel exceeds 50 feet, and along one bank where the top width is 50 feet or less. The maintenance road along the channel shall be topped with 6 inches of Asphalt Treated Basecourse (ATB) or Asphalt Concrete (AC). In lieu of a maintenance road, for normally dry channels, access ramps or other suitable alternative measures to facilitate maintenance may be provided.

3. PERMISSIBLE VELOCITIES AND "n" VALUES

Following is a list of "n" values for open channels and maximum permissible velocities. Maximum velocities shall be based upon design flow quantities.

<u>Unlined Channel</u>	<u>Manning "n"</u>	<u>Maximum Velocity (fps)</u>
Rock	0.030	10
Ledge coral or limestone	0.025	10
Earth with vegetation (grassed)	0.035	5
<u>Lined Channels</u>		
Conc. (trowel finish)	0.013	No limitation
Conc. (smooth wood forms)	0.015	No limitation
Gunite 0.020	20	
Grouted Rip-rap & CRM (Cement Rubble Masonry)	0.025	20
Asphaltic Concrete	0.015	20
Corrugated Metal Flumes (Part-circle Sections)	0.021	25

Note: Use of CMP shall be permitted only when specifically approved for an installation by the Director in writing.

- a. Maximum design velocity for channels cut in earth shall not exceed 5 feet per second. The velocity shall be determined by using the natural existing slope of the waterway without utilizing grade transition structures to control the maximum slope for a given unlined channel cross-section and design flow.
- b. Velocities between 5 feet per second and 10 feet per second will be permitted in materials such as cemented gravel, hard pan, or mud rock depending upon its hardness and resistance to scouring. Borings and samples shall be submitted for evaluation before velocities exceeding 5 feet per second will be permitted.

4. CHANNEL LINING

- a. Earth channel shall be fully lined when velocities exceed 5 feet per second, unless otherwise permitted as previously noted above in Section D.3.b of §1-4.2 Part II - Design Standards.
- b. All fill sections shall be lined. This lining shall be a complete lining including side slopes and invert with appropriate cut-off walls. If the invert of the channel is in a cut section the invert slab may be omitted and appropriate cut-off walls provided at the toe of the side slope lining.
- c. Where linings are required or used, the linings shall be continuous. Lining of fill sections without continuing the lining out through cut sections in a channel will not be allowed unless adequate provisions are made to reduce the velocity from the lined section to meet the allowable velocity for the unlined section.
- d. Total depth of channel lining will include design water depth and freeboard.
- e. Attention shall be given to construction details of linings such as thickness, reinforcement, expansion and construction joints, cut-off walls, watertight joints, placement of reinforcement, etc. Where the channel discharges into streams or other channels outside of the limits of a development, velocity reducing and transition structures shall be constructed to minimize erosion and overtopping of banks and subsequent flooding of downstream areas.
- f. Where velocities are supercritical, rectangular channels shall be used, unless otherwise permitted by the Director.
- g. Earth channels shall be planted with vegetation, such as grass of a species not susceptible to rank growth.

5. FREEBOARD

In designing open channels, freeboard must be provided to allow for surface roughness, wave action, air bulking, and splash and spray. These phenomena depend on the energy content of flow. For water flowing at velocity v and depth d , the energy per foot of width per second is equal to $(wvd) (v^2/2g) = wdv^3/2g$, where w is the unit weight of water.

Thus, this kinetic energy can be converted to potential energy to lift the water surface when flow is stopped or changing direction as a function of depth and velocity of flow. The U.S. Bureau of Reclamation has developed an empirical expression to express a reasonable indication of desirable freeboard in terms of depth and velocity as follows:

$$\text{Freeboard in feet} = 2.0 + 0.025 v (d)^{1/3}$$

where v is the velocity in feet per second and d is the depth of flow in feet. The velocity of flow can be computed by dividing the design discharge by the cross-sectional area of flow. For convenience of application, the above expression is shown graphically in Plate 7.

6. JUNCTIONS

Junctions shall be designed to channel both flows as nearly parallel as possible to reduce velocity and momentum components, deposition of debris and erosion of banks.

7. BENDS AND SUPERELEVATIONS

Changes in the direction of flow shall be made with smoothly curved channel walls allowing for superelevation in water surface. Curves will nearly always require additional depth. Trapezoidal channels for supercritical velocities are not permitted. Curve radii should be sufficiently great to limit superelevation of the water surface to one foot above computed depth of flow or 10% of water surface width, whichever is the least. The amount of superelevation for simple curves may be determined as follows:

a. Trapezoidal Channels:

Subcritical velocity:

$$e = \frac{V^2(b + 2zd)}{(gR - 2zV^2)}$$

b. Rectangular Channel:

Subcritical velocity:

$$e = \frac{V^2b}{gR}$$

Supercritical velocity:

$$e = \frac{2V^2b}{gR}$$

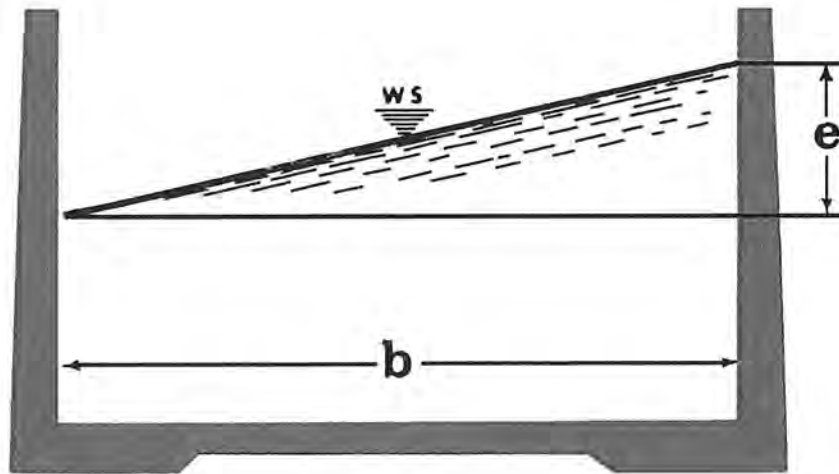
Supercritical velocity - compound curve:

$$e = \frac{V^2b}{gR}$$

The compound curve is a simple curve of radius R preceded and followed by a section of simple curve with radius of 2R and length of

$$\frac{b}{\tan \beta}, \text{ where } \sin \beta = \frac{(gd_m)^{1/2}}{V}$$

- Where,
- b = channel bottom width (ft)
 - d = normal depth (ft)
 - d_m = mean depth (ft)
 - e = maximum difference in elevation of water surface between channel sides (ft)
 - g = acceleration due to gravity (fps²)
 - R = radius of curve to centerline (ft)
 - V = normal velocity (fps)
 - z = co-tangent of bank slopes



Water Surface Superelevation Showing, "e"

8. TRANSITIONS

- a. The maximum angle between channel centerline and transition walls should be 12.5°.
- b. Sharp angles in alignment of transition structures should be avoided.

9. DEBRIS BARRIERS

Debris barriers should be provided upstream of the intake to prevent clogging.

10. DEBRIS BASINS

Where required by the Director, debris basins shall be provided upstream of the debris barrier. Debris basins shall also be provided at the intake of a drainage system when the upstream drainage area is undeveloped.

The volume of debris to be impounded shall be estimated based on the existing upstream land uses.

The basin design shall include an access ramp to the bottom of the basin for maintenance purposes.

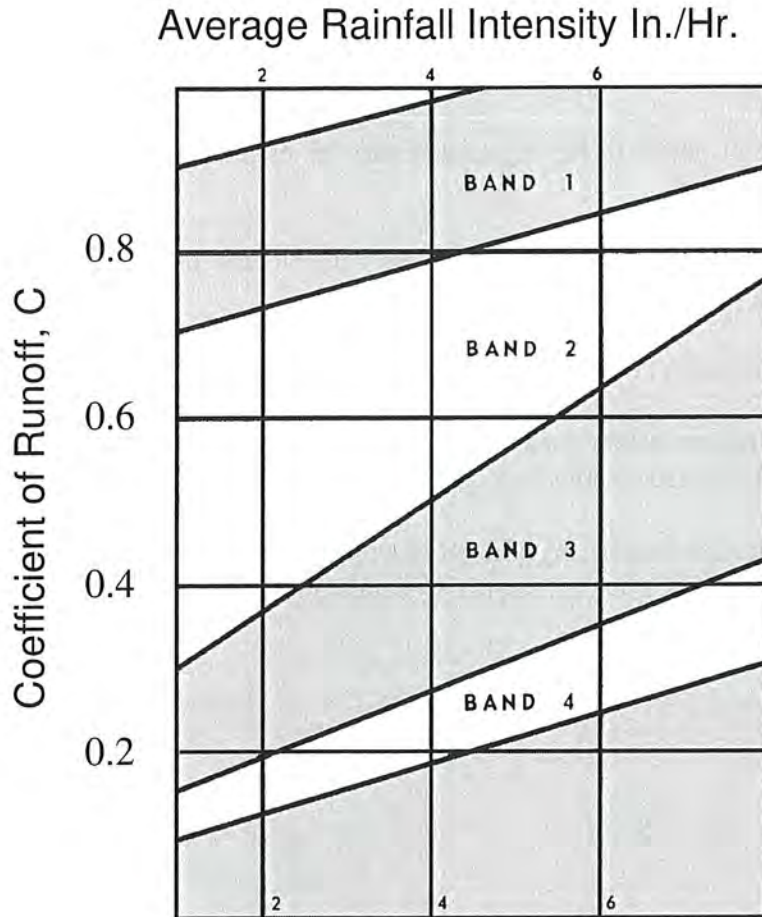
11. ENERGY DISSIPATORS

Energy dissipators shall be used to dissipate energy where necessary, and to transition the flow from a lined channel to a normal flow in an unlined channel.

Energy dissipators may be any of the following types such as the SAF basin, baffled chute, dentated sills, buckets, impact, hydraulic jump, or other approved designs.

§1-4.3 DESIGN CHARTS

Table 1
RUNOFF COEFFICIENT FOR AGRICULTURAL AND OPEN AREAS



- | | |
|--------|--|
| Band 1 | Steep, barren, impervious surfaces |
| Band 2 | Rolling barren in upper band values, flat barren in lower part of band, steep forested and steep grass meadows |
| Band 3 | Timber lands of moderate to steep slopes, mountainous, farming |
| Band 4 | Flat pervious surface, flat farmlands, wooded areas and meadows |

Table 2

MINIMUM RUNOFF COEFFICIENTS FOR BUILT-UP AREAS

RESIDENTIAL AREAS:	C = 0.55 to 0.70
HOTEL-APARTMENT AREAS:	C = 0.70 to 0.90
BUSINESS AREAS:	C = 0.80 to 0.90
INDUSTRIAL AREAS:	C = 0.80 to 0.90

The type of soil, the type of open space, and ground cover and the slope of the ground shall be considered in arriving at reasonable and acceptable runoff coefficients.

Table 3

**APPROXIMATE AVERAGE VELOCITIES OF RUNOFF
FOR CALCULATING TIME OF CONCENTRATION**

TYPE OF FLOW	VELOCITY IN fps FOR SLOPES (in percent) INDICATED			
	0-3%	4-7%	8-11%	12-15%
OVERLAND FLOW:				
Woodlands	1.0	2.0	3.0	3.5
Pastures	1.5	3.0	4.0	4.5
Cultivated	2.0	4.0	5.0	6.0
Pavements	5.0	12.0	15.0	18.0
OPEN CHANNEL FLOW:				
Improved Channels	Determine Velocity by Manning Formula			
Natural Channel* (not well defined)	1.0	3.0	5.0	8.0

* *These values vary with the channel size and other conditions so that the ones given are averages of a wide range. Wherever possible, more accurate determinations should be made for particular conditions by Manning Formula or from Plate 5.*



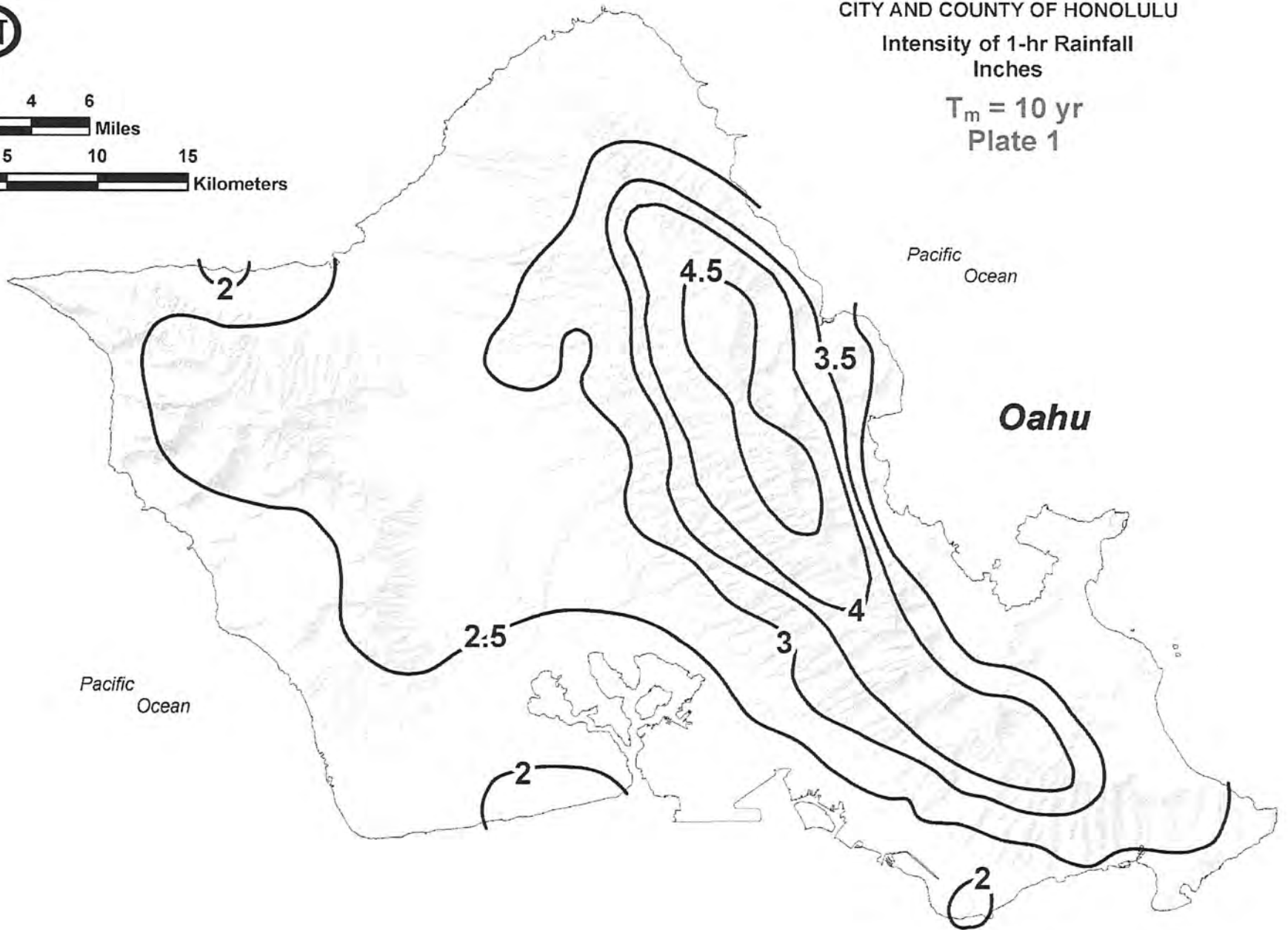
0 2 4 6
Miles

0 5 10 15
Kilometers

CITY AND COUNTY OF HONOLULU

Intensity of 1-hr Rainfall
Inches

$T_m = 10$ yr
Plate 1





0 2 4 6
Miles

0 5 10 15
Kilometers

CITY AND COUNTY OF HONOLULU

Intensity of 1-hr Rainfall
Inches

$T_m = 50$ yr
Plate 2

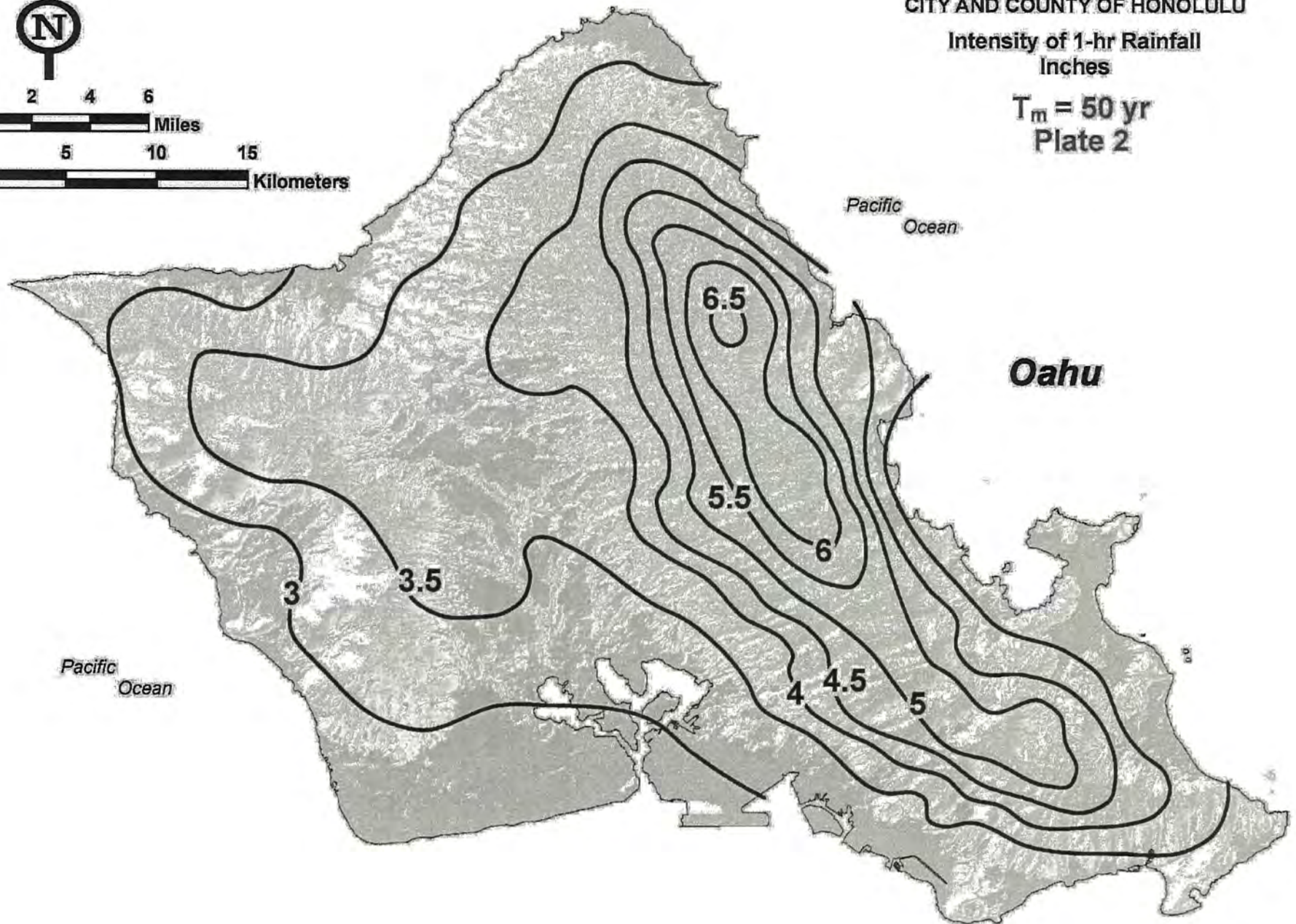
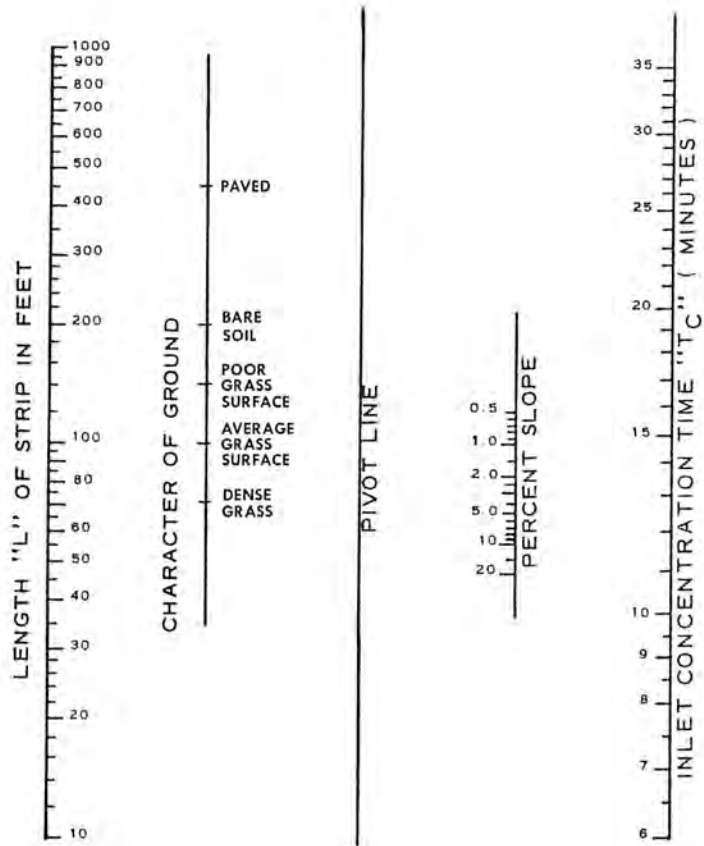
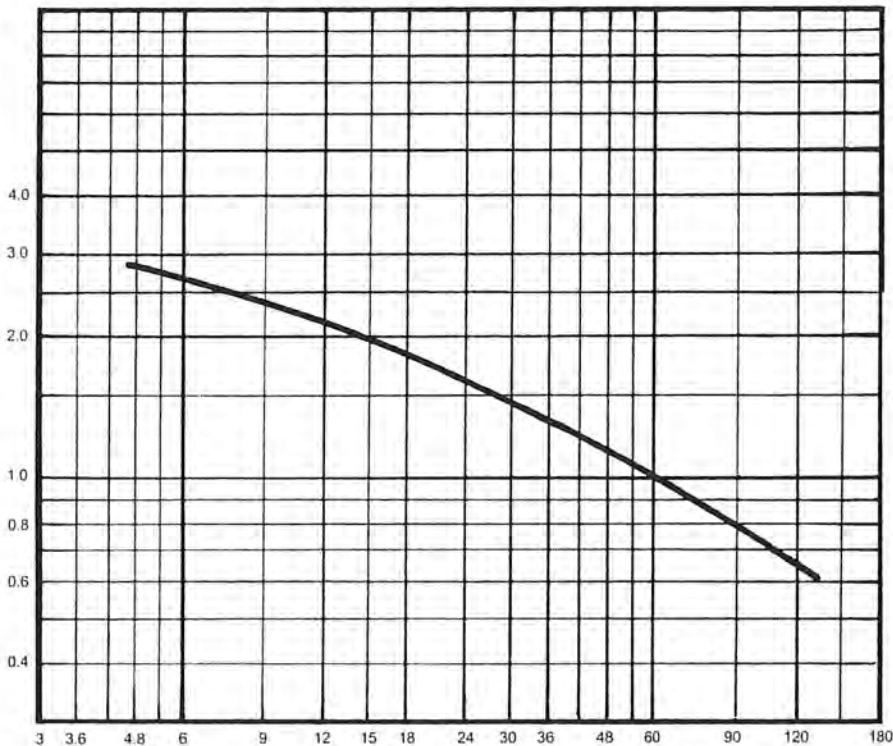


Plate 3

Overland Flow Chart



CORRECTION FACTOR APPLIED TO ONE HOUR RAINFALL IN INCHES TO OBTAIN RAINFALL INTENSITY OF GIVEN DURATION

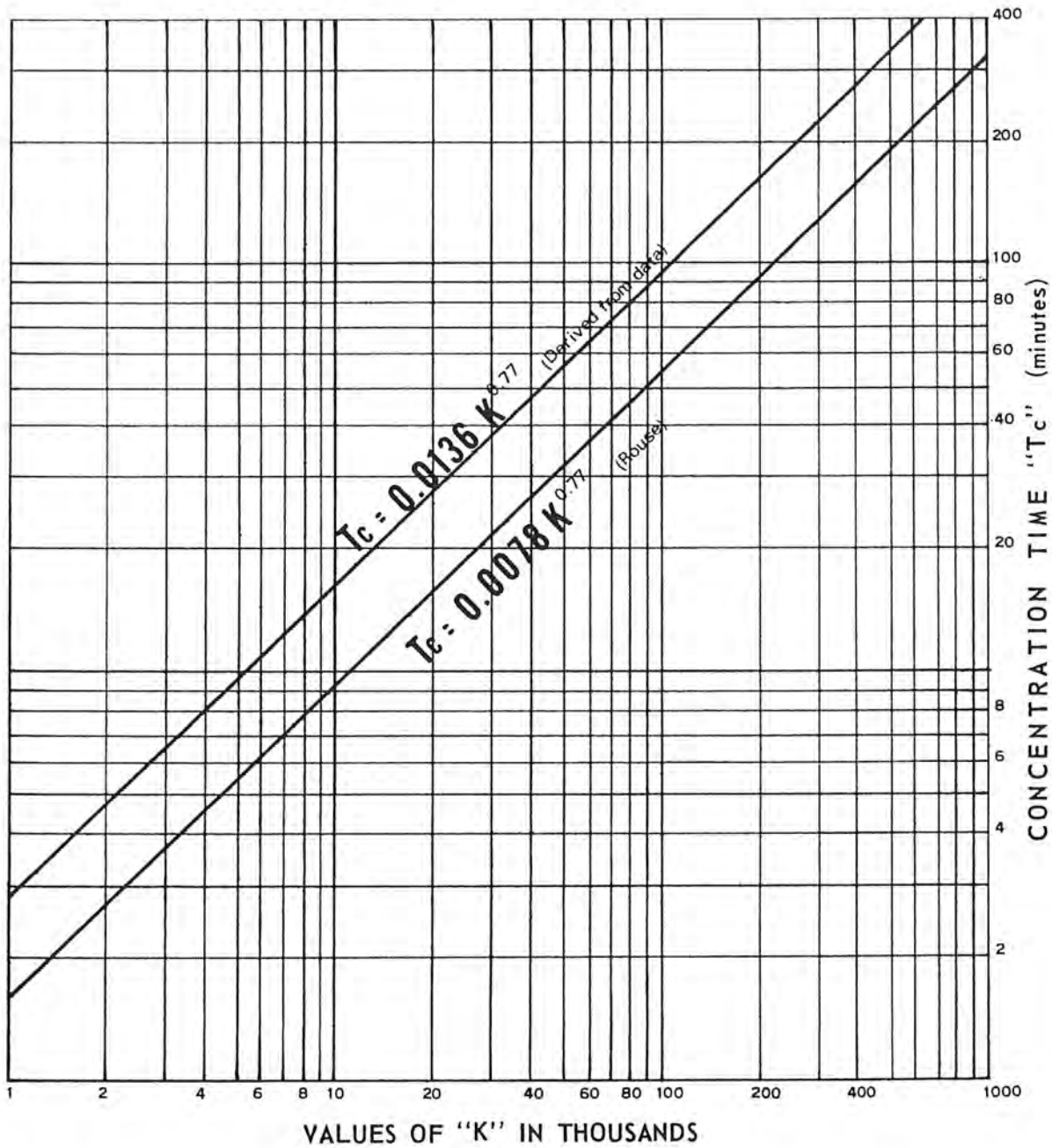


DURATION OF RAINFALL INTENSITY IN MINUTES
(ENTER "T_c" FROM PLATE 3 OR 5)

Plate 4

CORRECTION FACTOR
FOR CONVERTING 1 HR. RAINFALL
TO RAINFALL INTENSITY
OF VARIOUS DURATIONS

TO BE USED FOR AREA
LESS THAN 100 ACRES
(See Plate 6 on page 20 for
area more than 100 acres)



L = Maximum length of travel in feet
H = Difference in elevation between most remote point and outlet in feet.
S = Slope H/L

$$K = \frac{L}{\sqrt{S}} = \sqrt{\frac{L^3}{H}}$$

Use upper curve for well forested areas
Use lower curve for areas with little or no cover.

NOTE: Use 5 minutes if Tc is 5 minutes or less.

Plate 5

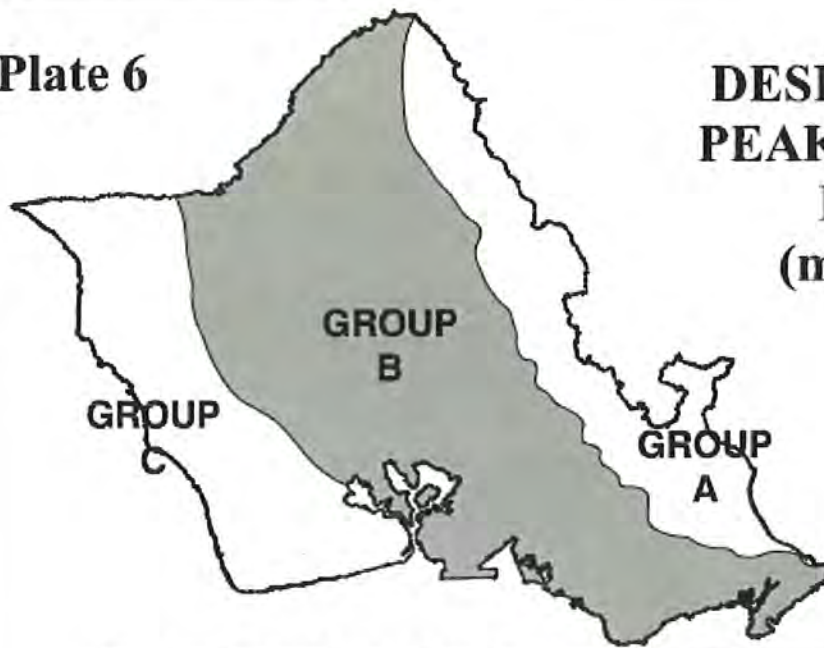
Time of Concentration

(OF SMALL AGRICULTURAL DRAINAGE BASIN)

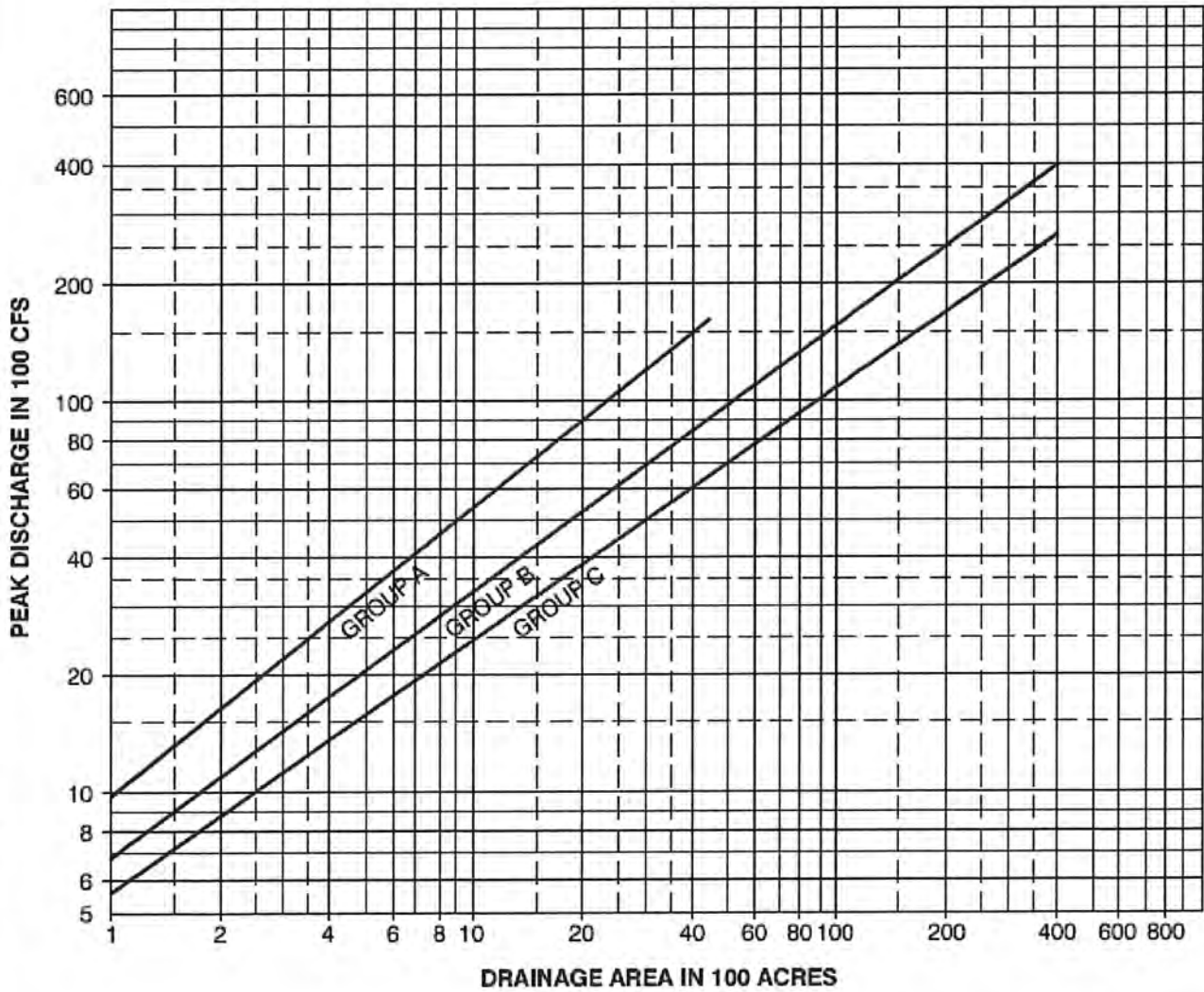
SOURCE: CITY PLANNING COMMISSION
graph from Hunter Rouse "Engineering Hydraulics."

Plate 6

DESIGN CURVES FOR PEAK DISCHARGE VS. DRAINAGE AREA (more than 100 acres)



● CURVES ARE FOR
STREAM CHANNELS
AND DRAINAGE STRUCTURES.



SOURCE: DATA FROM U.S. GEOLOGICAL SURVEY
REV. FEB 2003.

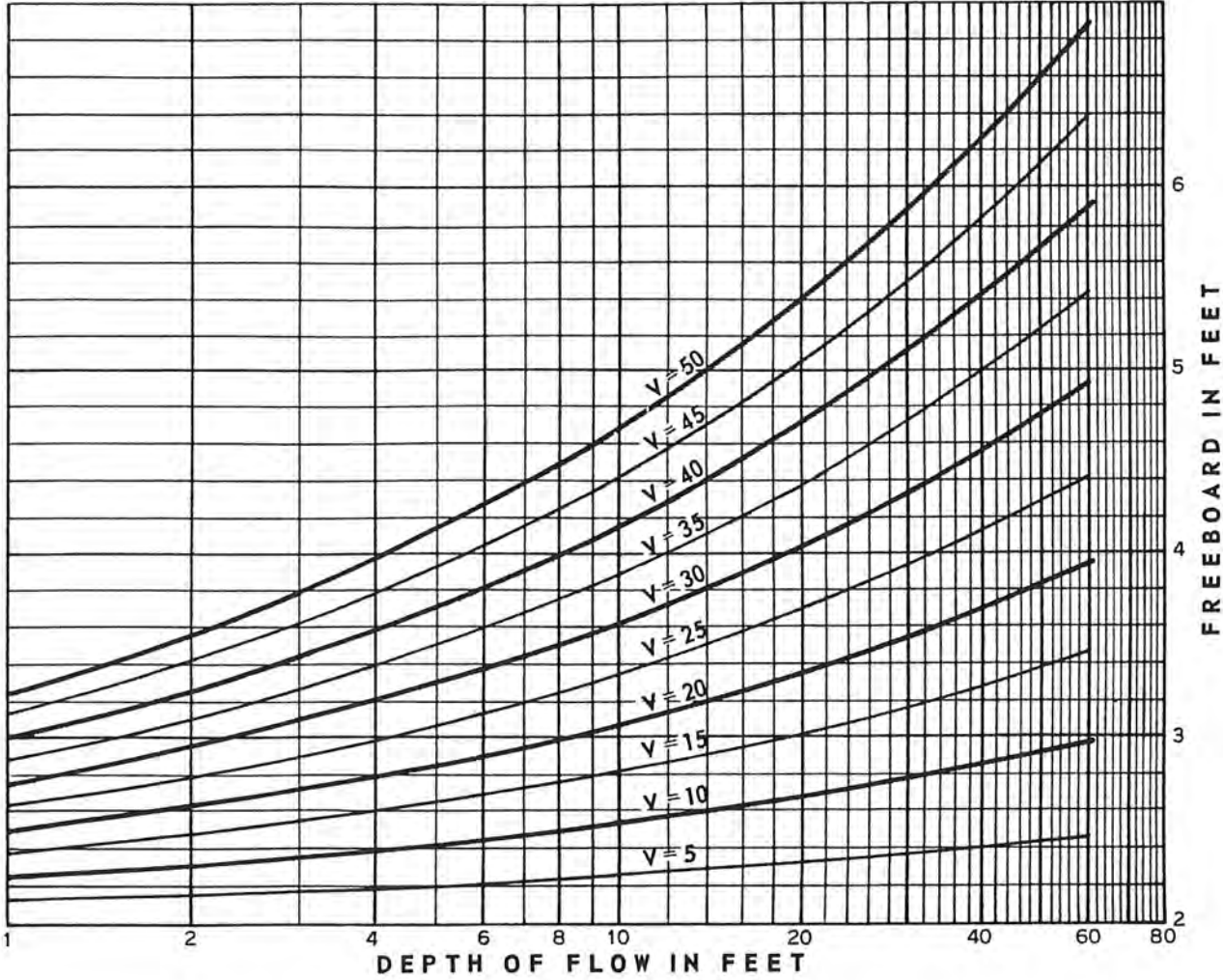
Job - D:\PROJECTS\26537218_00081\DC-DA.DWG - Mon, 21 Jun 2010

FREEBOARD ALLOWANCES Plate 7

FREEBOARD IN FEET:

$$2.0 + 0.025 V \sqrt[3]{d}$$

Where **V** = Velocity, in feet per second
d = Depth of flow, in feet



Pipe Flow Charts

The following pipe flow charts have been derived by the *U.S. Public Roads Administration, Division Two, Washington, D.C.* These charts are designed to enable direct solution of the Manning formula for circular pipes flowing full and for uniform part-full flow in circular pipes. The “n” scales of 0.013 and 0.024 have been inserted to facilitate the use of these charts for storm drainage systems in Honolulu. The following examples help explain the use of the pipe flow charts.

EXAMPLES

A. Determine the depth and velocity of flow in a long 30-inch pipe, $n = 0.013$, on a 0.5 percent slope ($S_o = 0.005$) discharging 25 cfs. Enter the 30-inch diameter chart at $Q = 25$ on $n = 0.013$ scale, follow up to intersection with the line for slope $S_o = 0.005$, and read normal depth $d_n = 1.8$ feet and normal velocity $V = 6.7$ fps.

To find critical depth, enter chart $Q = 25$ and $n = 0.015$ scale, and read critical depth $d_c = 1.7$ feet at intersection with dotted critical curve. Also critical velocity $V_c = 7.0$ fps. (Note: Critical depth and velocity would be the same, regardless of pipe roughness).

B. Determine friction slope for a 30-inch corrugated metal pipe, $n = 0.024$, on a slope $S_o = 0.008$ ft/ft with a discharge $Q = 25$ cfs. Enter the 30-inch diameter chart at $Q = 25$ on $n = 0.024$ scale. Note that this ordinate falls to the right of the 0.008 slope line, therefore, the pipe will flow full. Read friction slope $S_f = 0.012$ at the line for depth equal to pipe diameter.

$$\text{Note } Q = 25 \times \frac{0.024}{0.015} = 40 \text{ cfs on the Q-scale for } n = 0.015$$

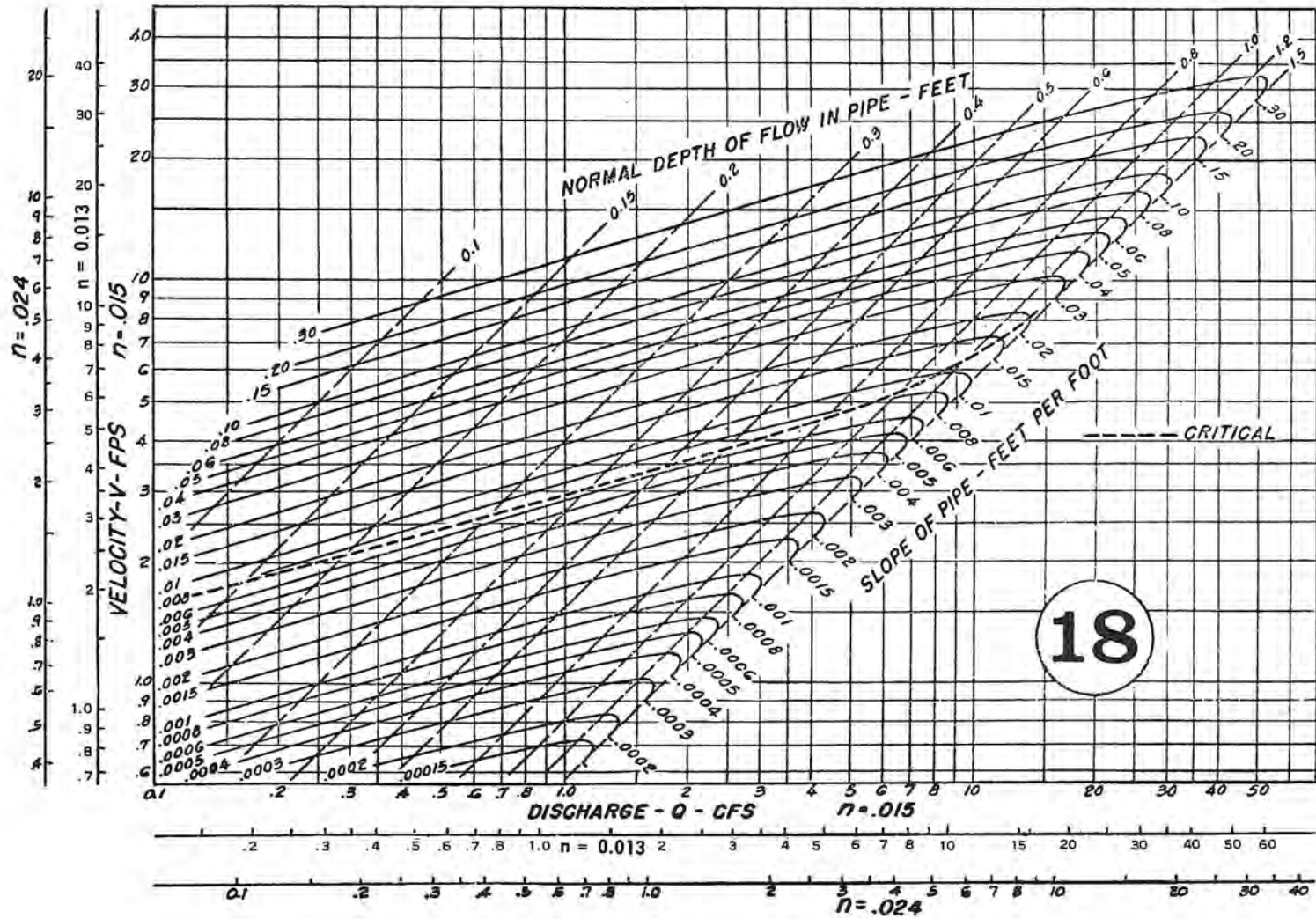
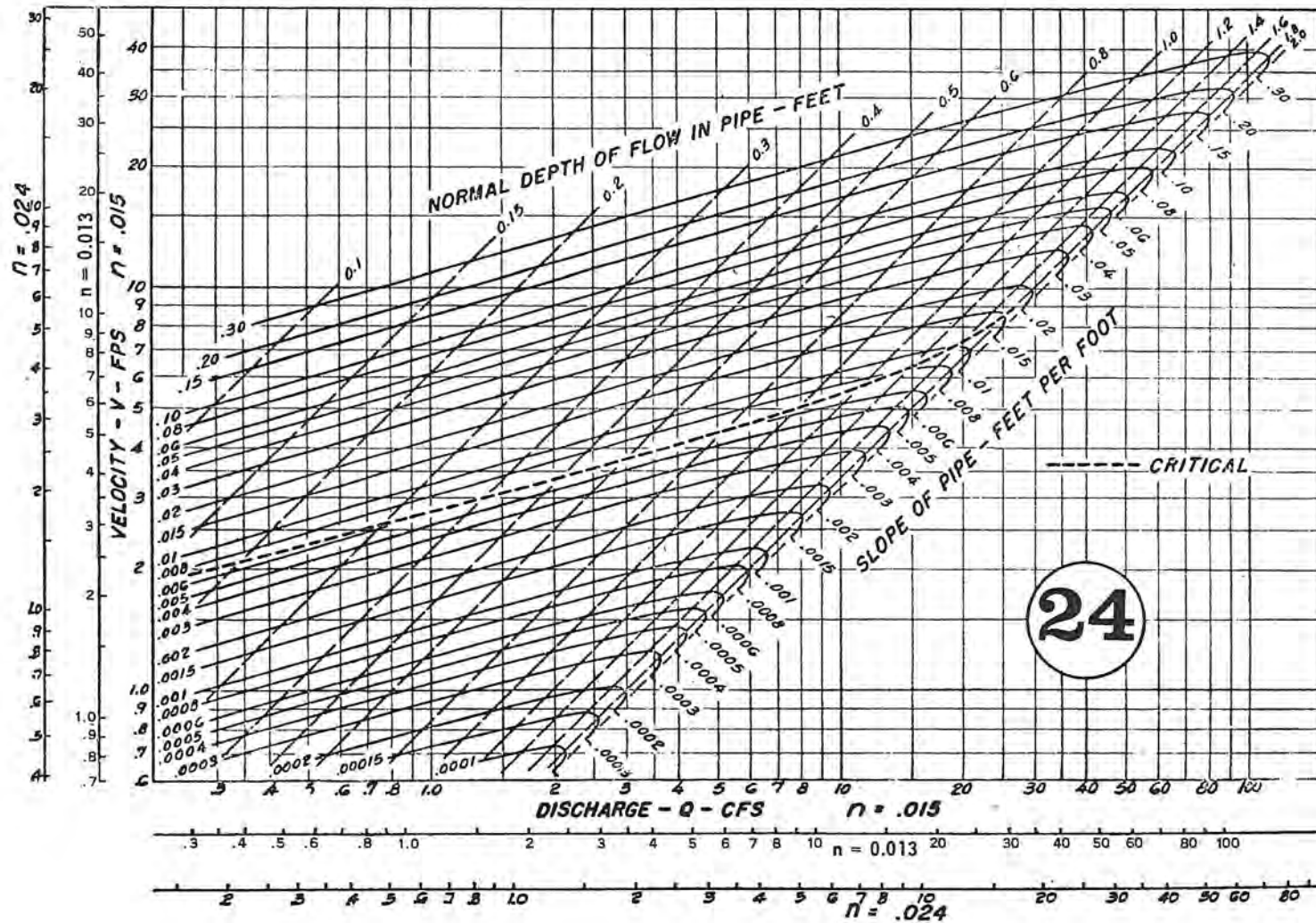


PLATE 8

Pipe Flow Chart **18** inch Diameter



Pipe Flow Chart **24** inch Diameter

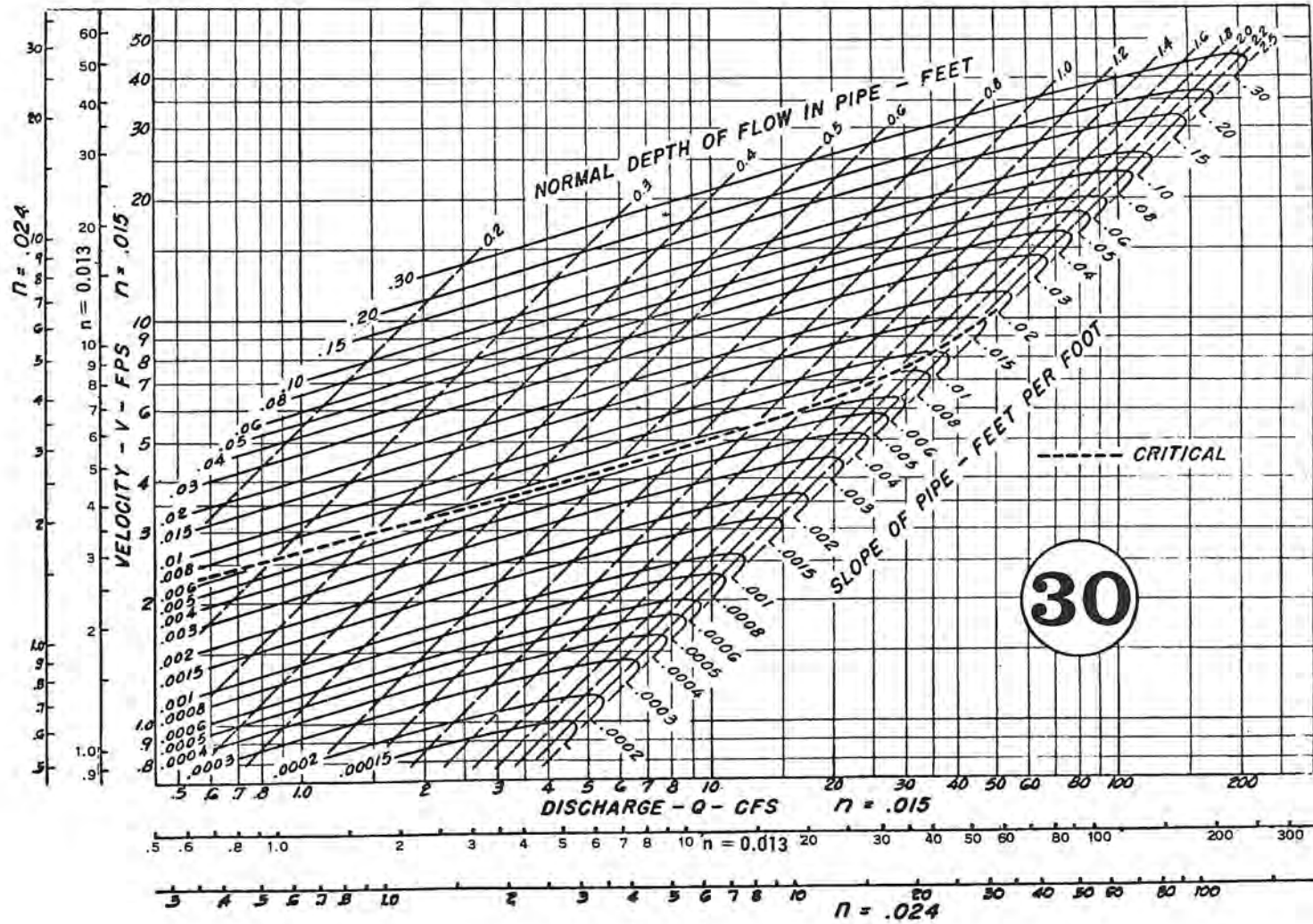
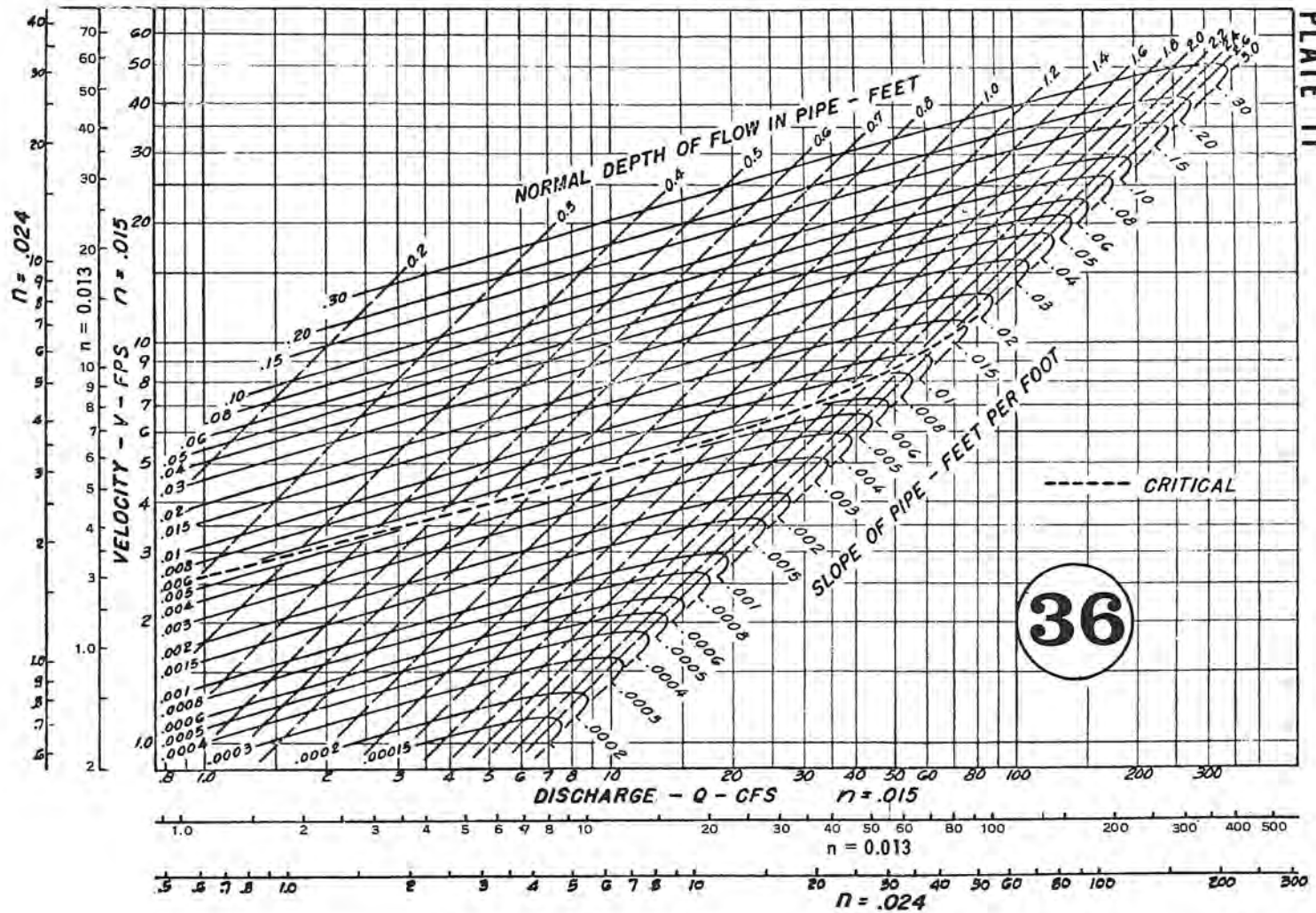


PLATE 10

Pipe Flow Chart **30** inch Diameter



Pipe Flow Chart **36** inch Diameter

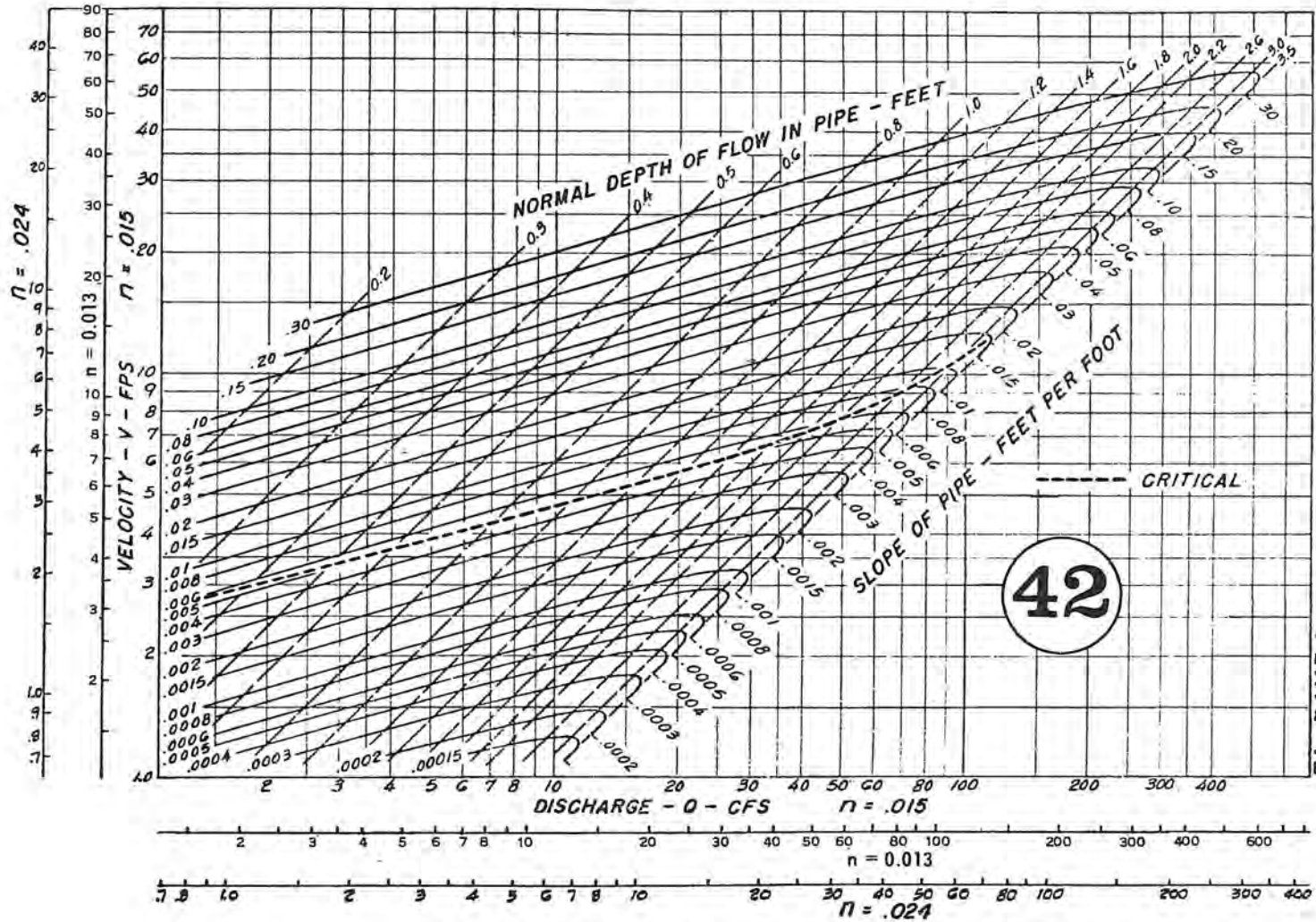
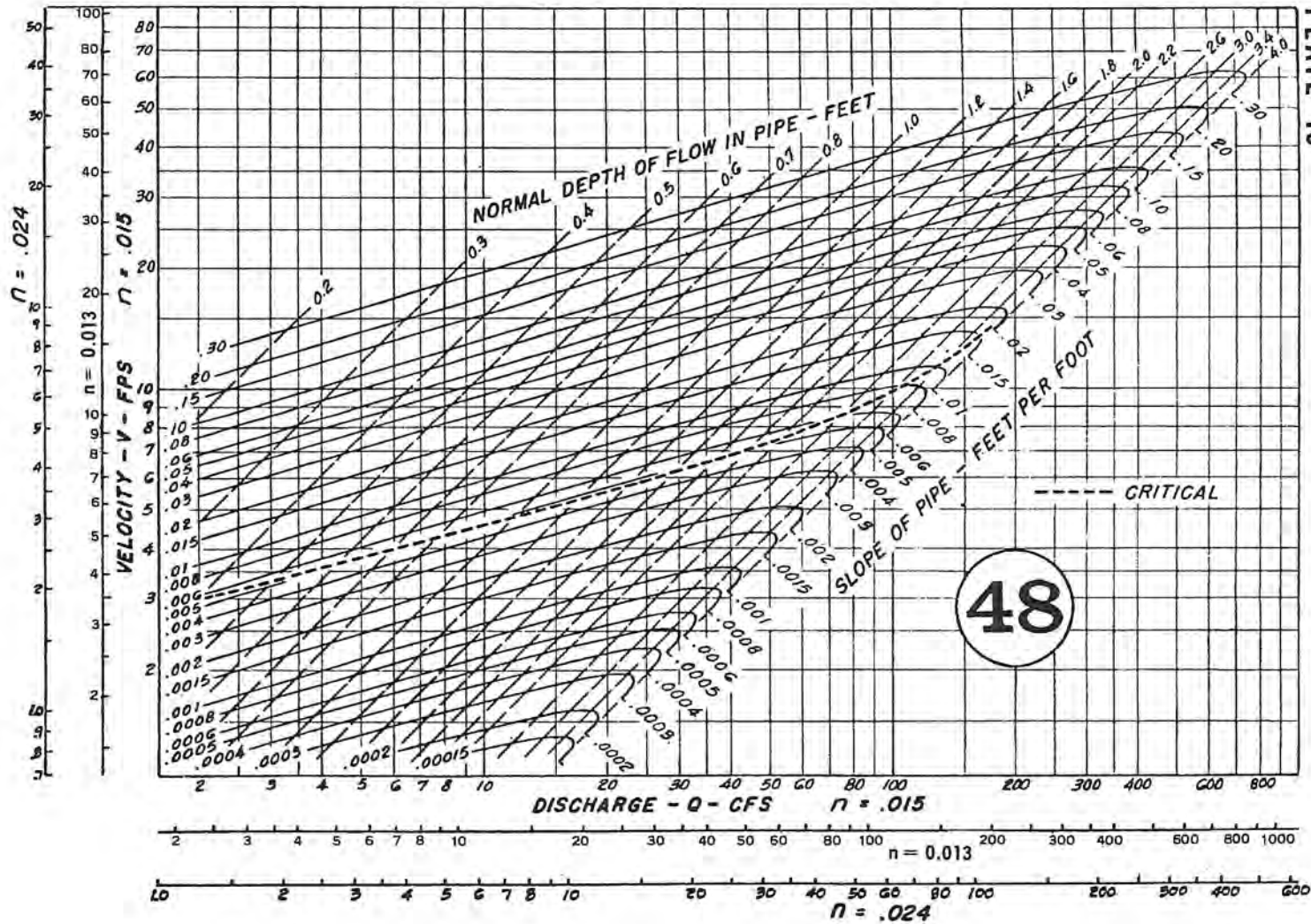


PLATE 12

Pipe Flow Chart **42** inch Diameter



Pipe Flow Chart 48 inch Diameter

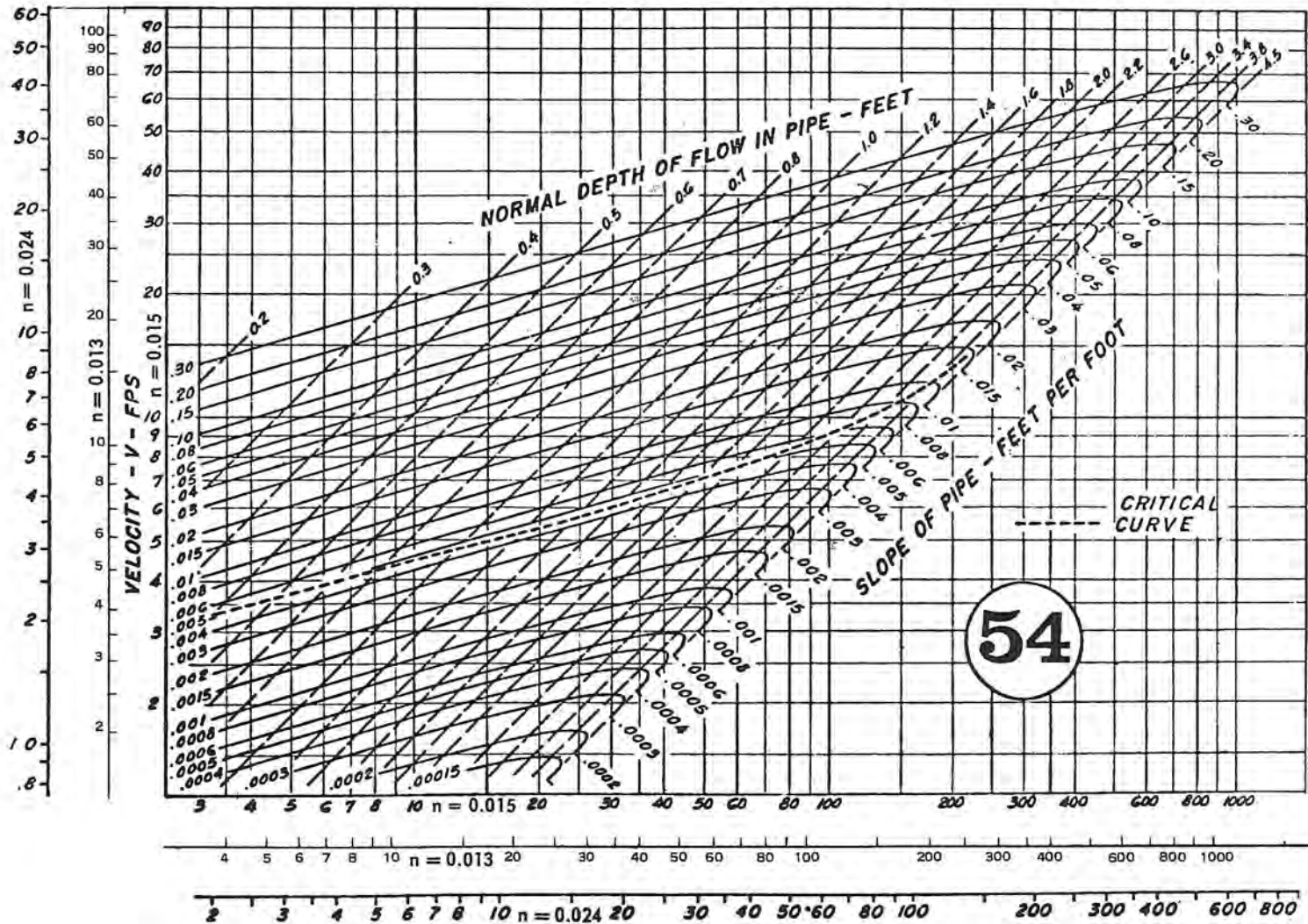


PLATE 14

Pipe Flow Chart 54 inch Diameter

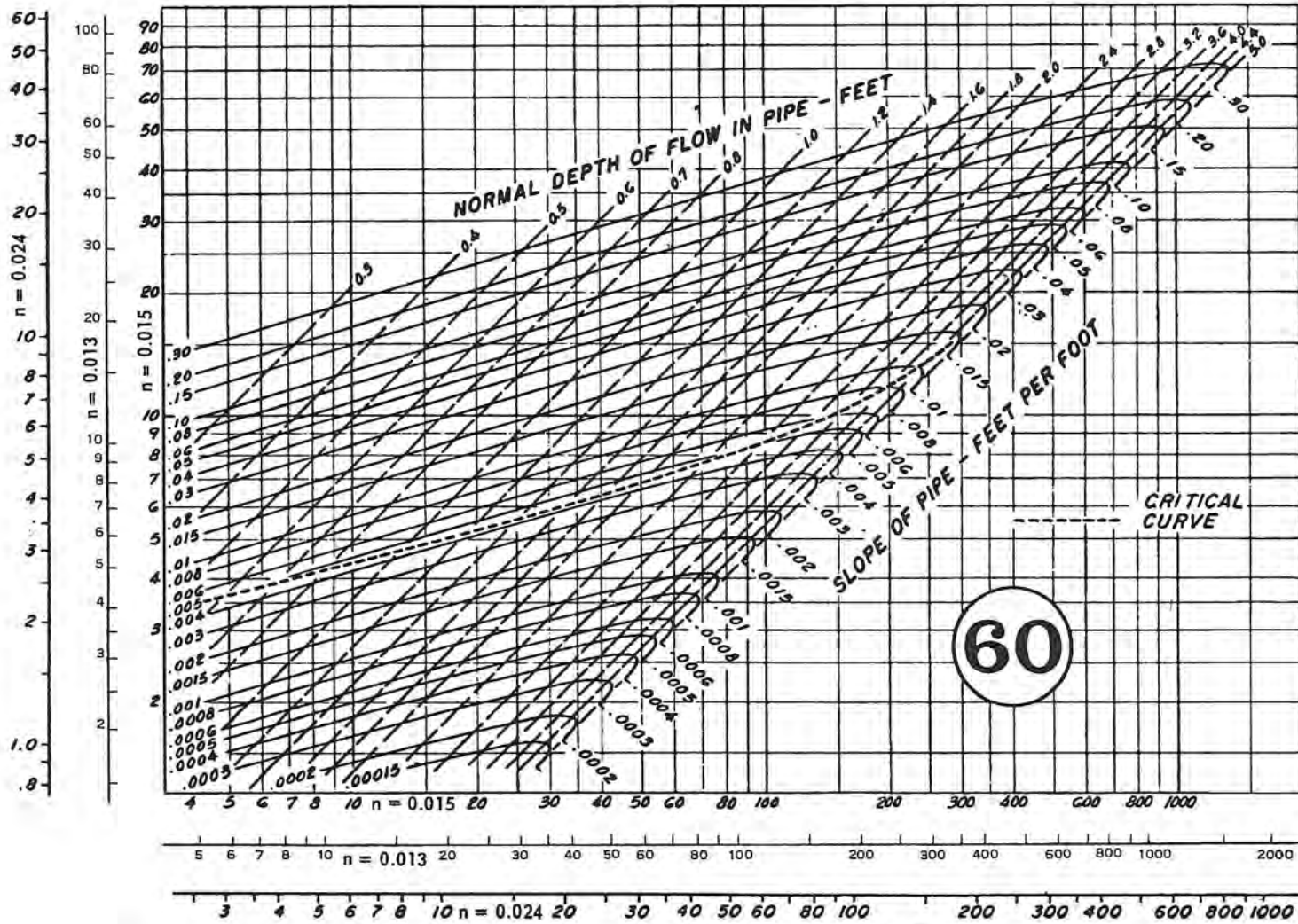


PLATE 15

Pipe Flow Chart 60 inch Diameter

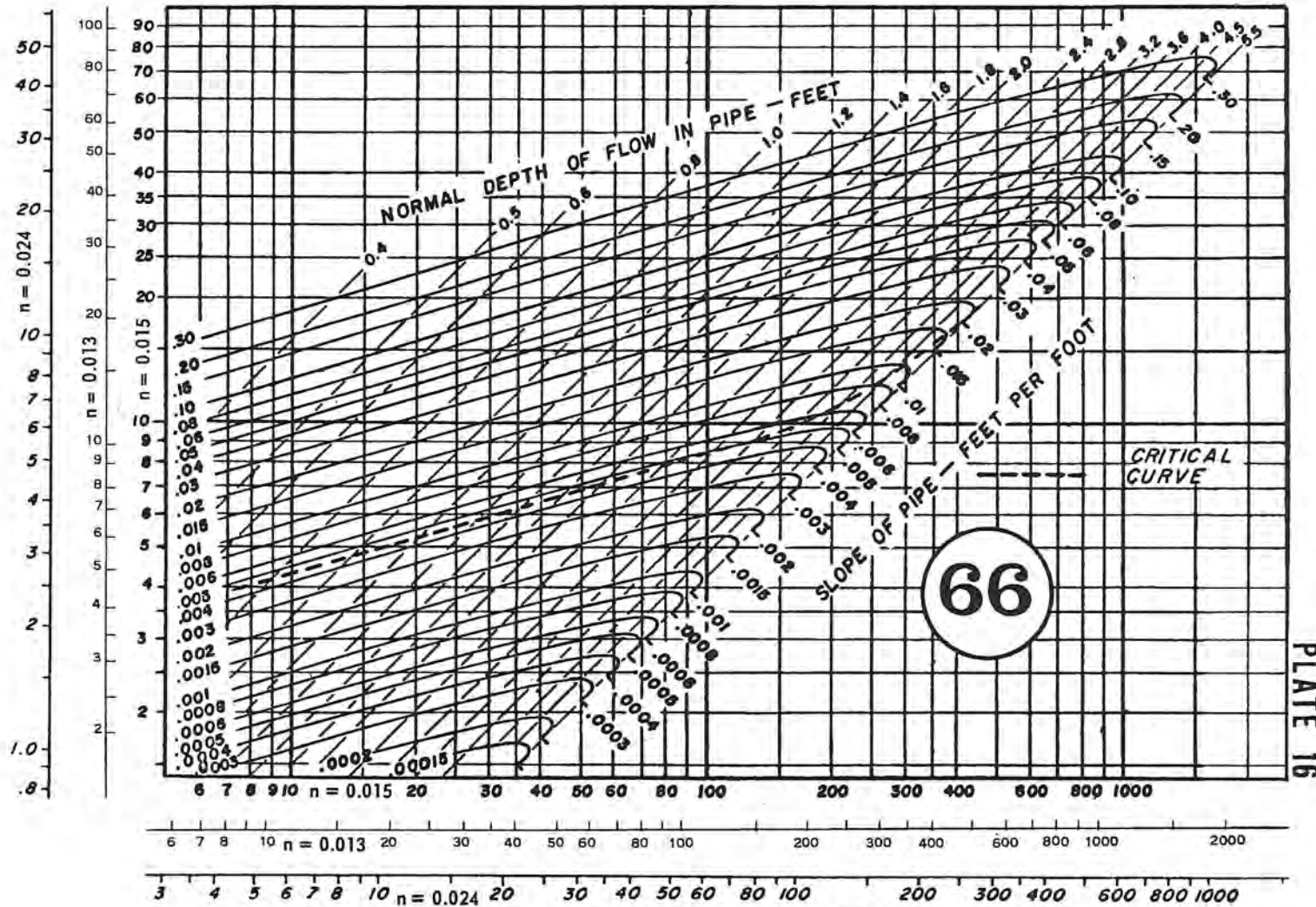
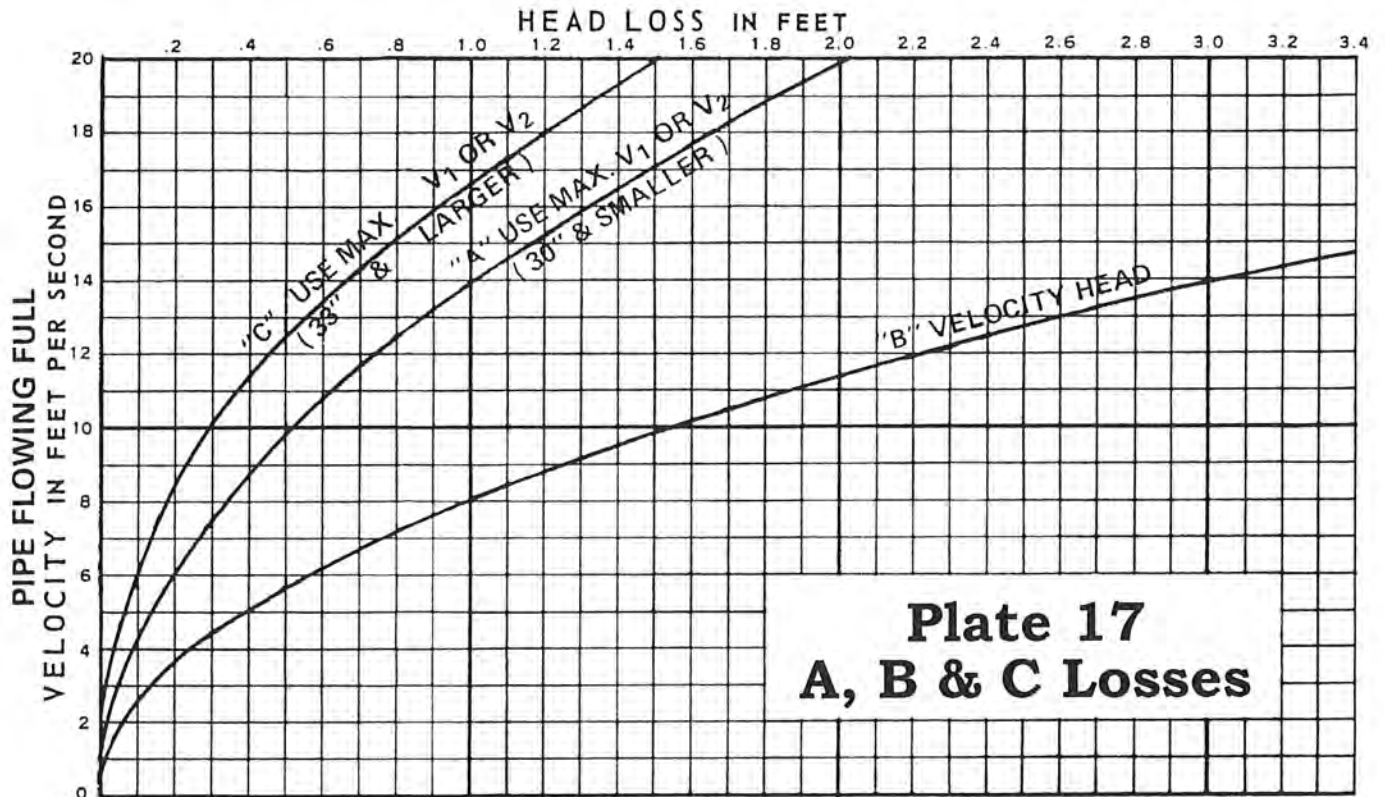
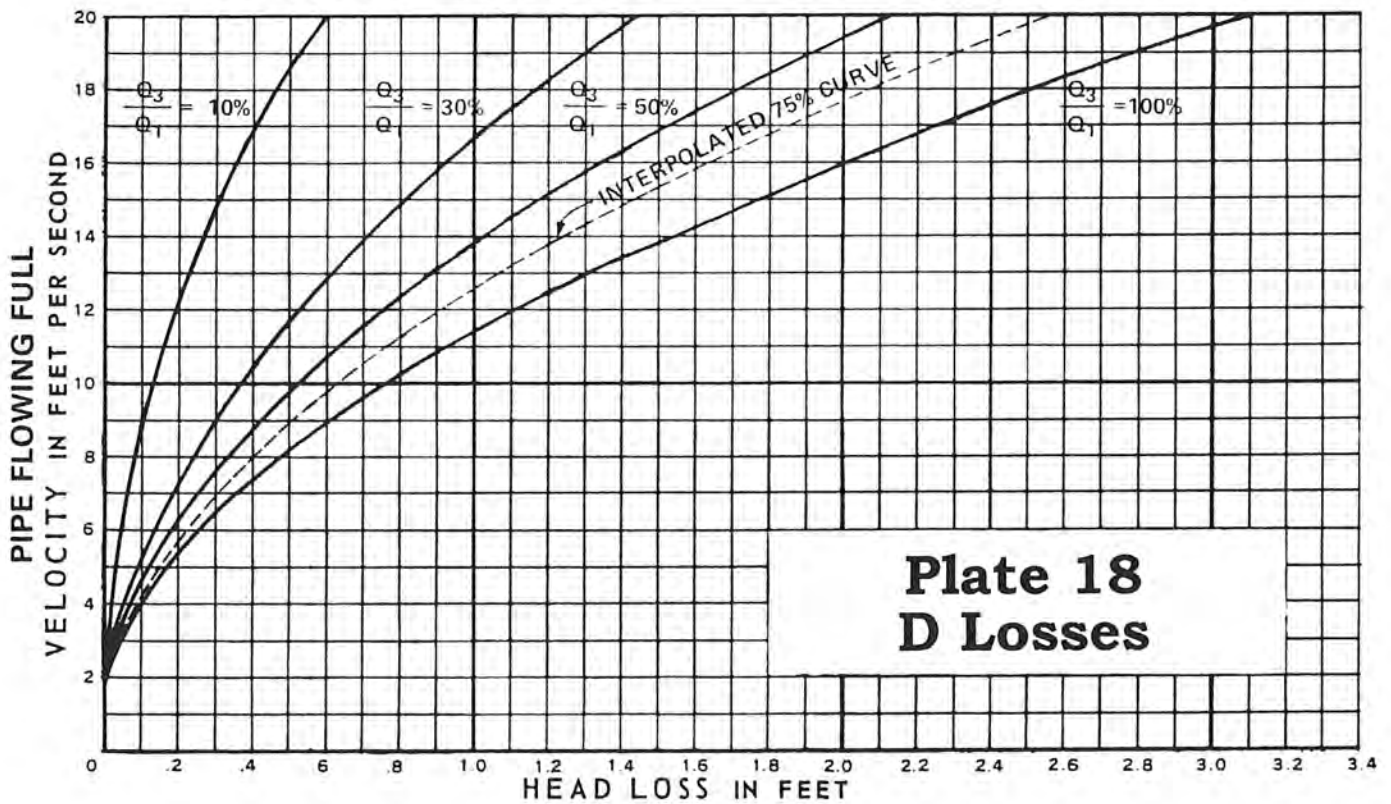


PLATE 16

Pipe Flow Chart **66** inch Diameter

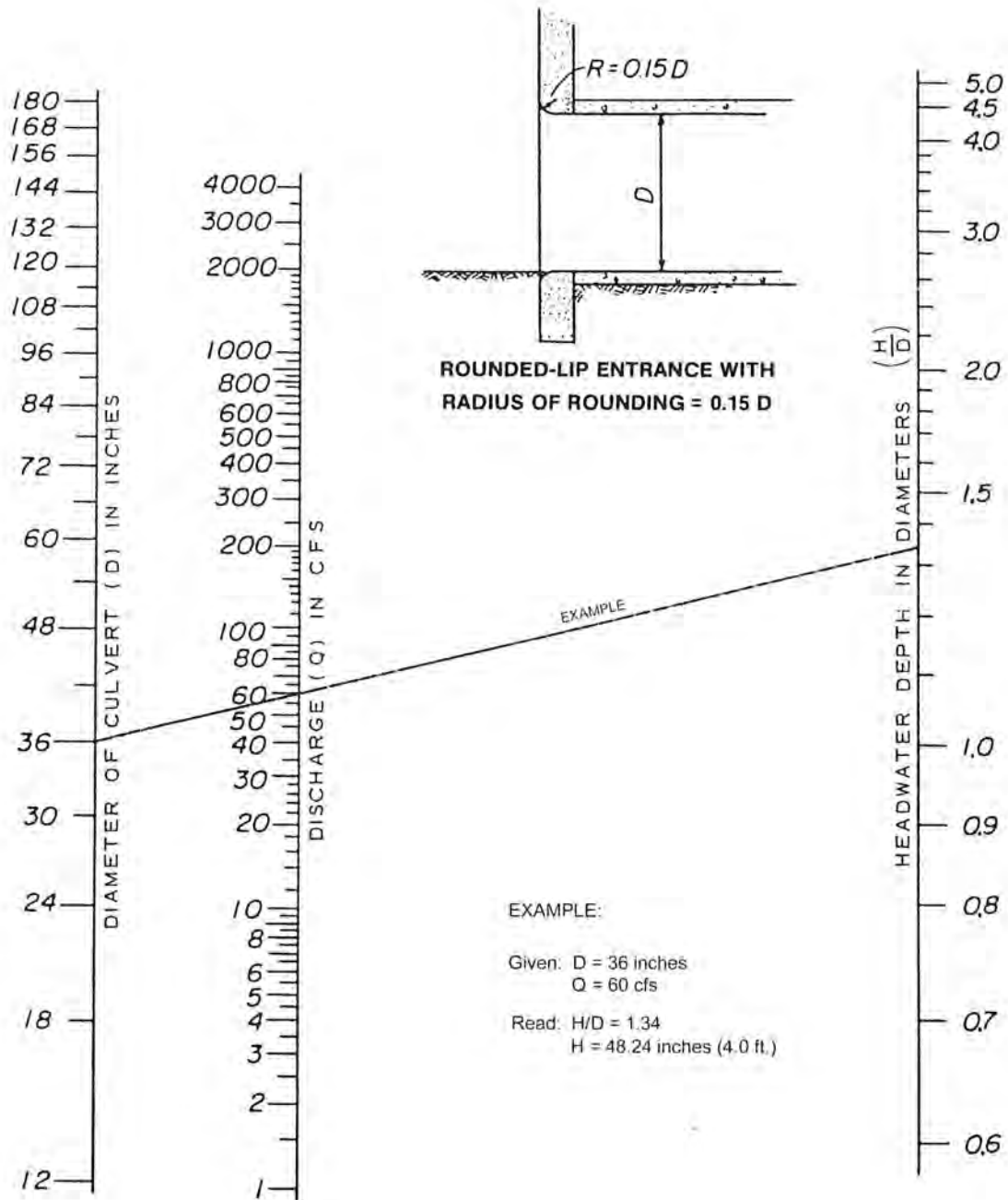


Head Losses in Manholes



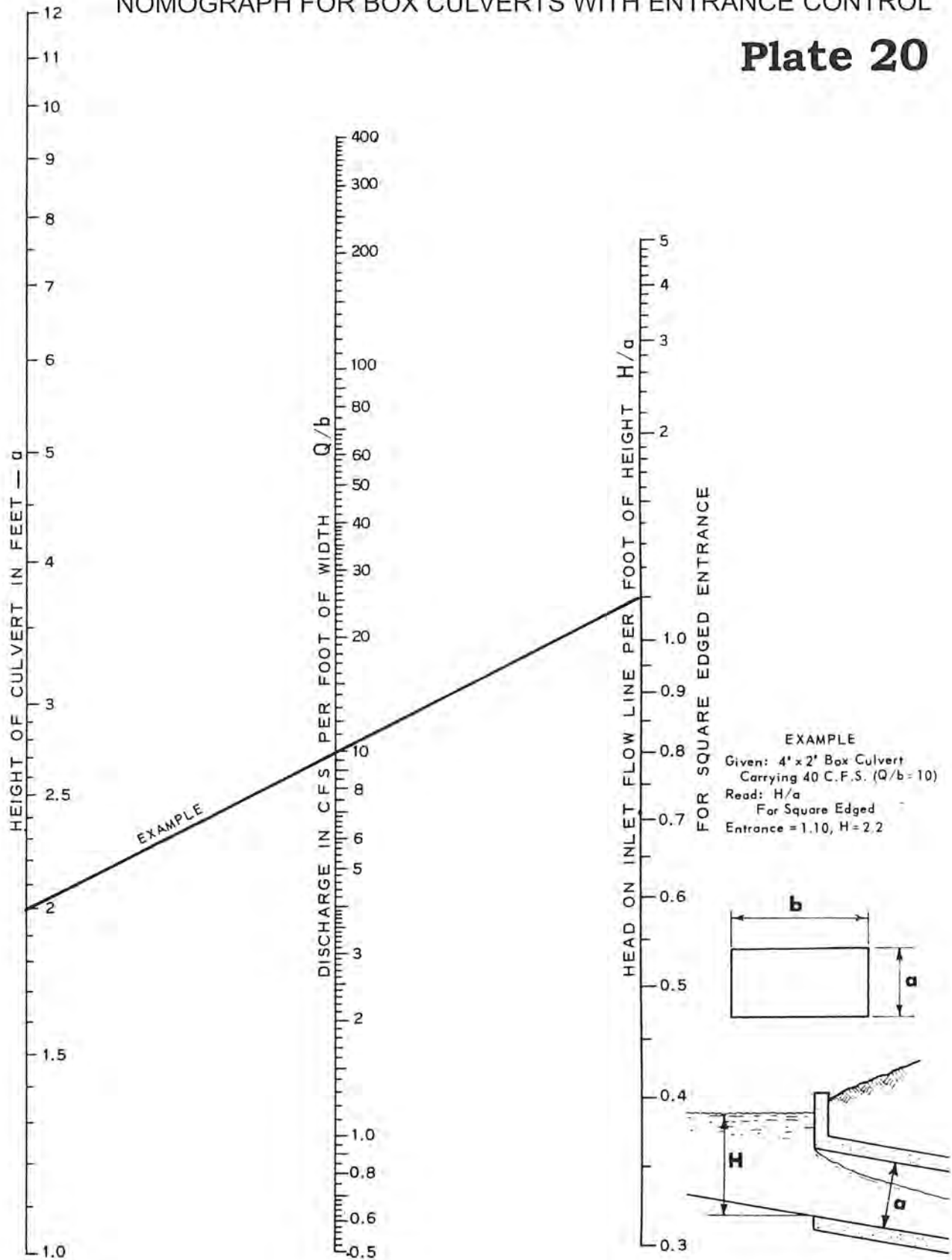
NOMOGRAPH FOR PIPE CULVERTS WITH ENTRANCE CONTROL

Plate 19



NOMOGRAPH FOR BOX CULVERTS WITH ENTRANCE CONTROL

Plate 20



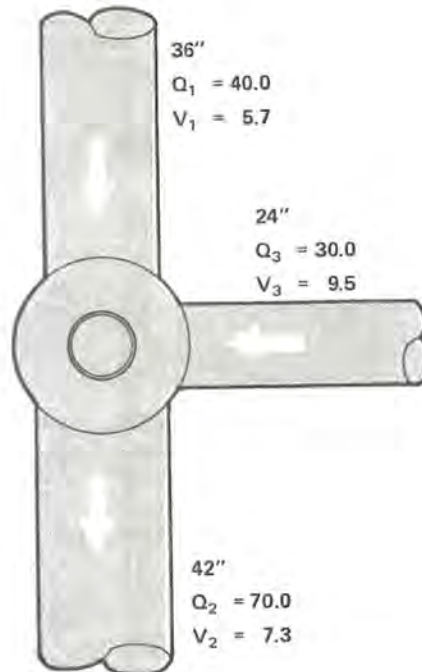
APPENDIX

	Page
Example #1: Analysis & Solution for Manhole Losses	1
Example #2: Pipe System Analysis	4
Suggested Drainage Design Data Format	8
Drainage Plan Showing Design Data to be Submitted on Drawing	9
Drainage Report Format	10

Example #1: Analysis & Solution for Manhole Losses

NOTE: in lieu of the following analysis, an analysis based upon the Bernoulli's Energy Theorem, such as the pressure-momentum method, will be acceptable.

GIVEN: Pipe size, Q, pipe flowing full, velocity and direction of flow.



LEGEND

- Q_1 = Upstream Volume, cfs
- Q_2 = Downstream Volume, cfs
- Q_3 = Incoming Volume, cfs
- V_1 = Upstream Velocity, fps
- V_2 = Downstream Velocity, fps
- V_3 = Upstream Branch Velocity, fps
- h = Head Loss, in ft.

SOLUTION

"A" LOSS (ENTRANCE & EXIT LOSS)

1. Determine higher velocity between V_1 and V_2
2. Use Curve "A" or "C" depending on pipe size and determine h_A (Ex. Prob. $h_A = 0.15$)

"B" LOSS (VELOCITY HEAD LOSS)

1. Use Curve "B" and determine h_v for V_1 and V_2
 - a. If V_2 is lower than V_1 , then h_B shall be 0
 - b. If V_2 is higher than V_1 , then h_B shall be $h_{B_2} - h_{B_1}$

(Ex. Prob. $h_{B_2} = 0.83$ and $h_{B_1} = 0.50$
 $h_B = 0.83 - 0.50 = 0.33$)

"C" LOSS (DIRECTIONAL CHANGE LOSS)

1. Use worst case and determine degree of bend.
2. With higher V_1 or V_2 , use Curve "C" and determine head loss (h).
 - a. For 0° to $22\frac{1}{2}^\circ$ bends, h_C shall be 0.67 times h .
 - b. For $22\frac{1}{2}^\circ$ to 45° bends, h_C shall be 1.00 times h .
 - c. For 45° to 90° bends, h_C shall be 2.00 times h .

(Ex. Prob. $h = 0.15$
 $h_C = 2 \times 0.15 = 0.30$)

"D" LOSS (LOSS DUE TO INCOMING VOLUME)

1. Add total branch volume and determine ratio of branch volume to upstream volume.
2. Use appropriate curve and determine h_D with higher V_1 or V_3 .

(Ex. Prob. $Q_3/Q_1 = 30/40 = 75\%$,
 $h_D = 0.56$)

TOTAL LOSS:

1. Add h_A , h_B , h_C , and h_D

(Ex. Prob. $h_T = 0.15 + 0.33 + 0.30 + 0.56$
 $h_T = 1.34$)

Losses

A	= 0.15
B	$0.83 - 0.50 = 0.33$
C	$2(0.15) = 0.30$
D	<u>$= 0.56$</u>

Total Loss = 1.34 ft.

Entrance control loss for $Q = 20$ cfs, $D = 18''$ is:

$$H/D = 3.0 \text{ From Plate 19}$$

$$H = 4.50$$

$$119.19 + 1.46 = 120.65 > 113.80 + 4.50 + 0.80 = 119.10$$

The upstream hydraulic gradient at DMH 4 is 120.65.

8. Since the pipe is flowing full, the downstream hydraulic gradient at the inlet is determined by friction loss in the length of pipe.

$$h_f = S_f L$$

$$h_f = (0.038)(115) = 4.37 \text{ feet}$$

$$120.65 + 4.37 = 125.02$$

Entrance control loss at the inlet for $Q = 20$ cfs, $D = 18''$ is:

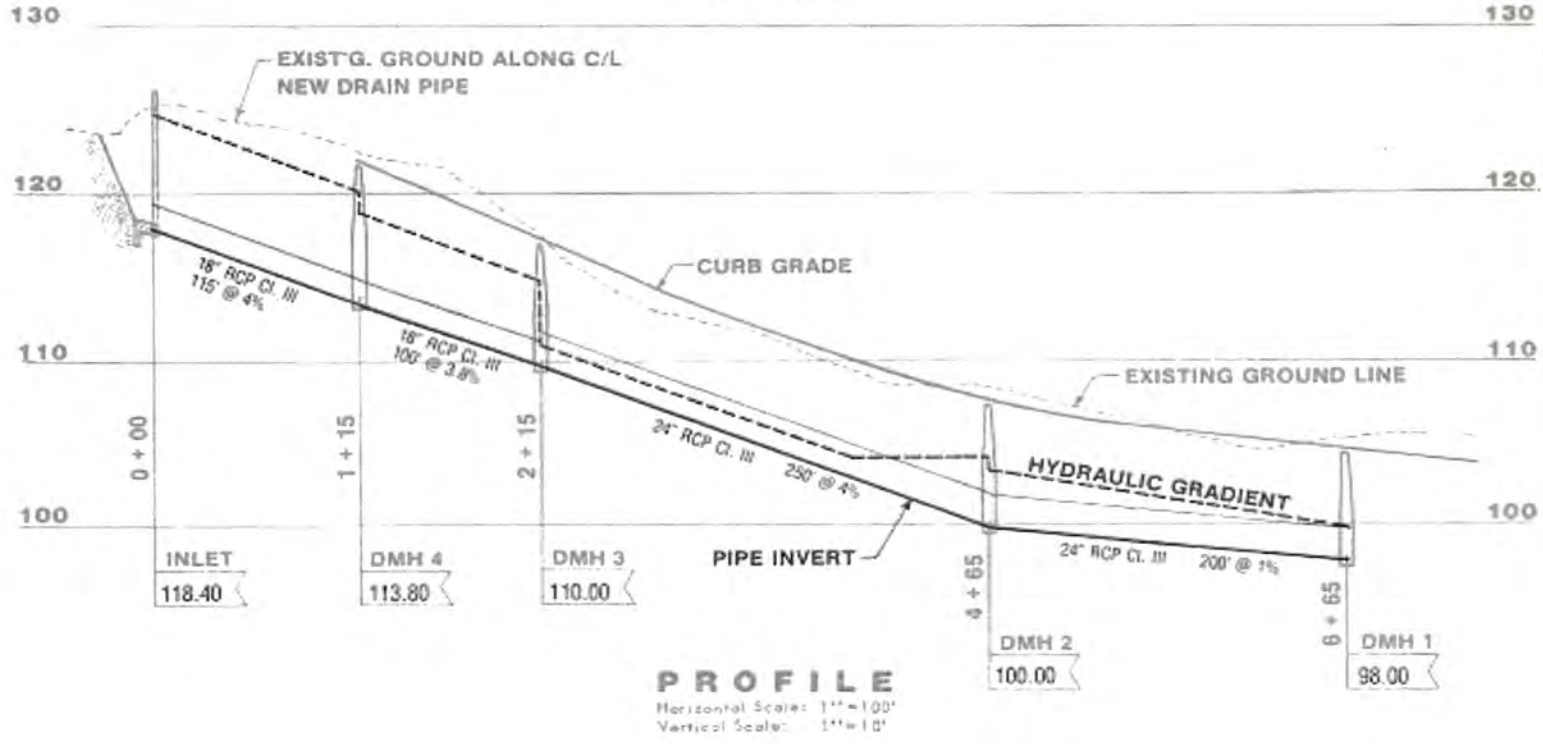
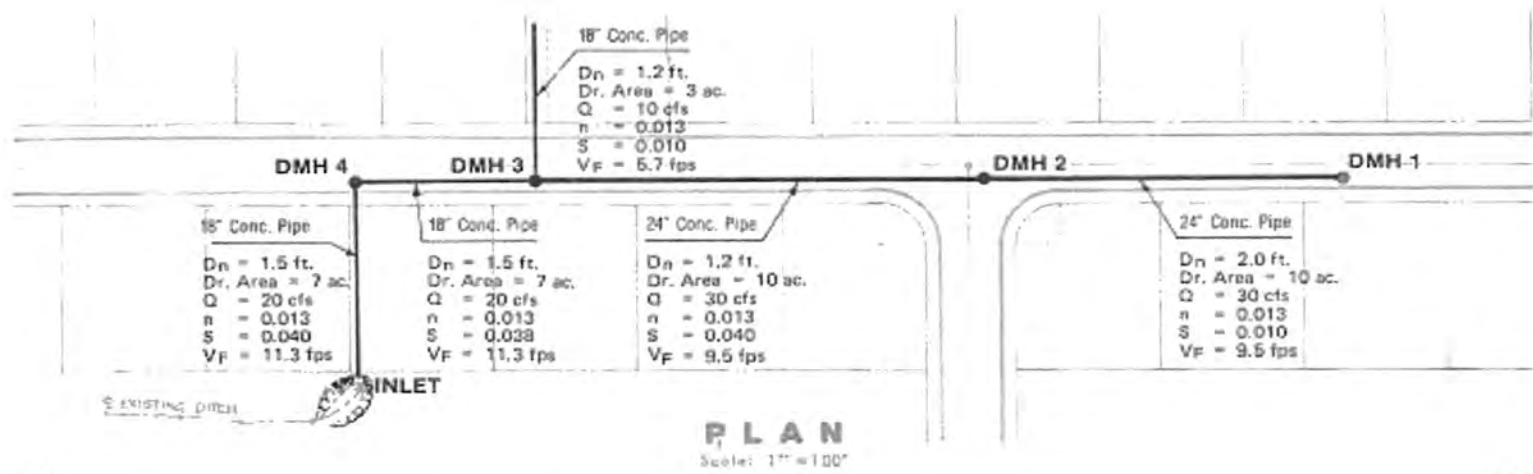
$$H/D = 3.0 \text{ From Plate 19}$$

$$H = 4.50$$

$$118.40 + 4.50 = 122.90$$

Since the hydraulic gradient is higher, the top of headwall must be at least $125.02 + 1$ foot = 126.02.

Adjust pipe sizes if warranted by the hydraulic gradient as computed above.



Drainage Plan Showing Design Data to be Submitted on Drawing

Drainage Report Format

A drainage report shall be prepared for all designs impacting the drainage runoff patterns and flow quantities. An electronic pdf. copy of the drainage report and one hard copy shall be submitted for review and acceptance. The following shall be included in the report:

Project Description and Drainage Concept

Introduction

Project Purpose

Scope of work

Location, vicinity map, and TMK

General Site Conditions

Land use

Climatology

Soil Type and Ground Cover

FEMA flood zone delineation

Hydrologic and Hydraulic Methodologies

Existing Drainage Conditions (Onsite and Offsite, as appropriate)

Narrative description and plan to illustrate pertinent drainage information

Hydrologic and Hydraulic calculations

Topographic Map

Runoff map (e.g., runoff rate, drainage area, discharge point, etc.)

Supporting documents and plans (e.g. drainage and grading plans, photographs, etc.)

Proposed Drainage Conditions (Onsite and Offsite, as appropriate)

Narrative description and plan to illustrate pertinent drainage information

Hydrologic and Hydraulic calculations

Runoff map (e.g., runoff rate, drainage area, discharge point, etc.)

Project drainage construction plans (as appropriate)

Planned Drainage Conditions

Supporting documents and information from drainage master plan

Comparative Analysis

Comparison of existing, proposed, and master planned drainage conditions

Conclusion

Summary of analysis and results

Statement of no adverse drainage impact to roadways, abutting properties, existing drainage system and existing drainage pattern.

Statement of compliance (e.g. to the drainage standard, drainage master plans)

Stream Analysis (if applicable)

References

Sec. 14-10.7 Waiver of wastewater system facility charges for accessory dwelling unit projects.*

The wastewater system facility charges, as set forth in Appendix 14-D of this chapter, for the creation of an "accessory dwelling unit," as defined in Section 21-10.1, will be waived. The wastewater system facility charges that were collected for the creation of "accessory dwelling units" from the effective date of Ordinance 15-41 (September 14, 2015), will be reimbursed if requested by the permittee.
(Added by Ord. 16-19)

*Editor's Note: Section 14-10.7 will be repealed on June 30, 2020, in accordance with Ord. 17-30.

(Article 11. Penalty for Sewers. Repealed by Ord. 94-73.)

Article 11. Use of Indigenous and Polynesian Introduced Plants in Public Landscaping

Sections:

- 14-11.1 Definitions.**
- 14-11.2 Implementation.**

Sec. 14-11.1 Definitions.

As used in this article unless the context otherwise requires:

"City" means the City and County of Honolulu.

"Facility" means any physical improvement owned by the city or used for city purposes such as municipal buildings, police stations, fire stations, satellite city halls and recreation centers.

"Indigenous" means any land plant species growing or living naturally in Hawaii without having been brought to Hawaii by humans.

"Polynesian introduced" means any plant species brought to Hawaii by Polynesians before European contact, such as kukui, noni, and coconut.

(Added by Ord. 14-6)

Sec. 14-11.2 Implementation.

Wherever and whenever feasible, all plans, designs, and specifications for new or renovated landscaping of any building, complex of buildings, facility, complex of facilities, park, or housing developed by the City with public moneys shall incorporate indigenous and Polynesian introduced plant species, provided that:

- (1) Suitable cultivated plants can be made available for this purpose without jeopardizing wild plants in their natural habitat; and
- (2) Wherever and whenever possible, plants indigenous to Oahu shall be used.

(Added by Ord. 14-6)

Article 12. Drainage, Flood and Pollution Control

Sections:

- 14-12.1 Legislative findings—Intent.**
- 14-12.2 Definitions.**
- 14-12.3 Adequacy of drainage.**
- 14-12.4 Considerations.**
- 14-12.5 Approval of drainage plans.**
- 14-12.6 Exceptions.**
- 14-12.7 Determination of boundary lines.**
- 14-12.8 Buildings adjacent to drainage facilities.**
- 14-12.9 Subdivision drainage facilities.**
- 14-12.10 Open drainways.**
- 14-12.11 Fences along improved channels.**
- 14-12.12 Connection to city-owned separate storm sewer system—Violation.**
- 14-12.13 Allocation of costs.**
- 14-12.14 Improvements under the improvement district assessment ordinance.**
- 14-12.15 Election by property owners to pay additional amounts.**

- 14-12.16 Land requirements and maintenance of drainage facilities.
- 14-12.17 Exception.
- 14-12.18 Inequities.
- 14-12.19 Provisions subject to state statutes.
- 14-12.20 Federal aid projects.
- 14-12.21 Approval denied.
- 14-12.22 Discharge of effluent other than storm water runoff—Violation.
- 14-12.23 Environmental quality control—Violation.
- 14-12.24 Administrative enforcement.
- 14-12.25 Judicial enforcement of order.
- 14-12.26 Enforcement.
- 14-12.27 Appeals.
- 14-12.28 Violation provisions.
- 14-12.29 Injunctive relief.
- 14-12.30 Nonliability of department personnel.
- 14-12.31 Rule-making powers.
- 14-12.32 Decisions of the chief engineer.

Sec. 14-12.1 Legislative findings—Intent.

- (a) The council of the City and County of Honolulu finds that:
- (1) (A) Heavy rain storms have periodically created destructive floods in certain areas of the city threatening the lives of its inhabitants and causing heavy damage to property;
 - (B) The continued development of these areas without providing adequate drainage and appropriate flood control measures would only aggravate the conditions conducive to flooding; and
 - (C) Every effort should be made to minimize flood damage potential and to protect the lives and property of the inhabitants of the City and County of Honolulu.
 - (2) There is a growing need to protect our city's natural watercourses and other vital water resources from contamination and pollution.
 - (3) Natural methods of drainage and soil infiltration, which absorb and slowly release runoff, are preferred methods of storm water management.
- (b) Therefore, the council deems it necessary to enact the ordinance codified in this article for the sound, economic development of the City and County of Honolulu and in the interests of the health, safety and general welfare of the inhabitants of the City and County of Honolulu.
- (Sec. 16-6.1, R.O. 1978 (1987 Supp. to 1983 Ed.); Am. Ord. 96-34)

Sec. 14-12.2 Definitions.

As used in this article, the following definitions shall apply unless the context indicates otherwise:

"Best management practices" or "BMPs" means pollution control measures, applied to nonpoint sources, on-site or off-site, to control erosion and the transport of sediments and other pollutants which have an adverse impact on waters of the state. BMPs may include a schedule of activities, the prohibition of practices, maintenance procedures, treatment requirements, operating procedures, and practices to control site runoff, spillage or leaks, or drainage from raw material storage.

"Chief engineer" means the director and chief engineer of the department of public works, or the director and chief engineer's authorized representative.

"City" means the City and County of Honolulu.

"City standards" means the storm drainage standards approved by the chief engineer, a copy of which shall be on file in the division of engineering, department of public works. These standards are intended to be minimum standards only and are not to be construed as a guarantee to property owners adjacent to a drainage facility against flood or drainage damage.

"Department" means the department of public works, City and County of Honolulu.

"Developer" means one who causes land to be developed.

"Development" means land which is being developed or developed lands.

"Discharge" means the deposit, disposal, injection, dumping, spilling, leaking or placing of any substance into a drainage facility or natural watercourse.

"Domestic wastewater" means the water-carried wastes produced from noncommercial or nonindustrial activities and which result from normal human living processes.

"Drainage facility" means any city drainage structure or separate storm sewer system, including stream structures, constructed principally for the conveyance of storm and surface waters, street wash, or drainage.

"Drainage problem" means the discharge of effluent or a pollutant onto a public right-of-way and/or into a drainage facility which causes the hydraulic capacity of that drainage facility to be exceeded and results in flooding. This definition includes the discharge of a pollutant which reduces the hydraulic capacity of a drainage facility by the deposit of solids therein.

"Effluent" means any substance other than storm water runoff that is discharged onto a public right-of-way and/or into a drainage facility including nonstorm water discharges which are not sources of pollutants, and any NPDES-permitted discharges.

"Engineering control facility" means any drainage device such as a basin, well, pond, ditch, dam, or excavation used for the temporary or permanent storage of storm water by means of detention, retention, divergence, or infiltration for the purpose of reducing storm water volume and/or peak storm discharge flows, and which may provide gravity settling of particulate pollutants. It includes but is not limited to detention ponds, retention ponds, infiltration wells or ditches, holding tanks, diversion ditches or swales, drainpipes, check dams, and debris basins.

"Flood" or "flooding" means the inundation to a depth of three inches or more of any property not ordinarily covered by water. The terms shall not apply to inundation caused by tsunami wave action.

"Hazardous substance" means the same as that term is defined in HRS Section 342D-38.

"Industrial wastewater" means all water-carried wastes and wastewater, excluding domestic wastewater.

"Maximum extent practicable" or "MEP" means economically achievable measures for the control of the addition of pollutants from existing and new categories and classes of nonpoint sources of pollution, which reflect the greatest degree of pollutant reduction achievable through the application of the best available nonpoint source pollution control practices, technologies, processes, siting criteria, operating methods or other alternatives.

"National Pollutant Discharge Elimination System permit" or "NPDES permit" means the permit issued to the city pursuant to Title 40, Code of Federal Regulations, Part 122, Subpart B, Section 122.26(a)(1)(iii), for storm water discharge from the city's separate storm sewer systems; or the permit issued to a person or property owner for a storm water discharge associated with industrial activity pursuant to Title 40, Code of Federal Regulations, Part 122, Subpart B, Section 122.26(a)(1)(ii), or other applicable sections of Part 122; or the permit issued to a person or property owner for the discharge of any pollutant from a point source into state waters through the city's separate storm sewer system pursuant to Hawaii Administrative Rules, Chapter 11-55, "Water Pollution Control."

"Person" means and includes corporations, estates, associations, partnerships and trusts, as well as one or more individuals.

"Pollutant" means any waste, cooking or fuel oil, waste milk, waste juice, pesticide, paint, solvent, radioactive waste, hazardous substance, sewage, dredged spoils, chemical waste, rock, sand, biocide, toxic substance, construction waste and material, and soil sediment. The term also includes commercial FOG waste as defined under Section 14-5A.1.

"Pollution problem" means the discharge of any pollutant into state waters directly or by conveyance through a drainage facility which creates a nuisance or adversely affects the public health, safety or welfare, or causes a drainage facility to violate any provisions of the city National Pollutant Discharge Elimination System permit or violates any water quality standards of the State of Hawaii.

"Private storm drain connection" means any conveyance of storm water, including but not limited to any drainage pipe, ditch, or swale connected to any drainage facility or separate storm sewer system, including any curb or gutter.

"Property owner" means the fee simple owner of record, lessee of record, administrator, administratrix, executor, executrix, personal representative, receiver, trustee, property management agent, or any other individual, corporation, or unincorporated association who has the use, control or occupation of land with claim of ownership, whether the owner's interest be in absolute fee or a lesser estate.

"Redevelopment" means developed land, which is subsequently subdivided or redeveloped or renovated.

"Relief drain" means an additional drainage facility or an enlarged facility constructed in place of any existing drainage system.

"Remedial work" means the construction or installation of catch basins or other devices to resolve localized drainage problems.

"Separate storm sewer" means a conveyance or system of conveyance including city roads and streets with drainage systems, catch basins, curbs, gutters, ditches, man-made channels, or storm drains owned by the city, and designated or used for collecting or conveying storm water.

"State waters" means the same as that term is defined in HRS Section 342D-1.

"Storm water" means storm water runoff, surface runoff, street wash, or drainage and may include discharges from fire fighting activities.

"Storm water runoff associated with industrial activity" means storm water discharge associated with industrial activity as defined in Title 40, Code of Federal Regulations, Part 122, Subpart B, Section 122.26(b)(14).

"Water quality standards" means the water quality standards adopted by the State of Hawaii pursuant to HRS Section 342D-5.

(Sec. 16-6.2, R.O. 1978 (1987 Supp. to 1983 Ed.); Am. Ord. 92-122, 96-34, 02-14)

Sec. 14-12.3 Adequacy of drainage.

No building permit shall be issued without the prior written approval of the chief engineer as to the adequacy of drainage within the areas designated by the shaded portions on the maps attached to the adopting ordinance and incorporated by reference as: Exhibit A - Waimanalo; Exhibit B-1 - Kailua-Kaneohe; Exhibit C - Kaneohe-Heeia; Exhibit D-1 - Heeia-Kahaluu; Exhibit E-1 - Kaalaea-Kahaluu; Exhibit F - Waiahole-Kualoa; Exhibit G - Kaaawa-Kahana; Exhibit I - Pupukea-Paumalu; Exhibit J - Waianae Kai-Makaha; Exhibit K - Lualualei-Nanakuli; Exhibit L - Pearl City-Waimalu; and Exhibit M - Niu Valley. (Sec. 16-6.3, R.O. 1978 (1983 Ed.))

Sec. 14-12.4 Considerations.

In making a determination as to the adequacy of drainage the chief engineer shall consider topographic conditions, rainfall, runoff, land use, depth and width of drainage channels, size of other drainage facilities, and past history of flooding, including the extent of flooding. (Sec. 16-6.4, R.O. 1978 (1983 Ed.))

Sec. 14-12.5 Approval of drainage plans.

Any applicant for a building permit for the construction of a structure within the areas indicated in Exhibits A through M, mentioned in Section 14-12.3, shall submit plans for the improvement or construction of drainage facilities to the chief engineer for approval. Upon approval of such plans the applicant shall be entitled to the issuance of the building permit, if all other requirements of law have been complied with. (Sec. 16-6.5, R.O. 1978 (1983 Ed.))

Sec. 14-12.6 Exceptions.

If the application for a building permit otherwise qualifies under Chapter 16 and under all other applicable laws, rules and regulations, the provisions of Section 14-12.3 shall not apply to the issuance of a building permit for the following work:

- (a) To perform work permitted under Section 301 of the Uniform Building Code on a building or structure dislocated or damaged by floods or rains. This exception shall not extend to the moving or relocation of a building or structure into another area within which the issuance of building permits is prohibited, as designated in Section 14-12.3.
- (b) To perform work permitted under Section 301 of the Uniform Building Code necessary or required to make an existing building or structure comply with applicable laws, rules and regulations.
- (c) To perform alterations or repairs to an existing structure or building which will not increase the number of inhabitants in said structure or building.
- (d) To erect temporary structures, not for residential purposes, as permitted by Chapter 16.

The "Uniform Building Code" means the Building Code, as amended and adopted under Chapter 16, Article 1.

(Sec. 16-6.6, R.O. 1978 (1983 Ed.); Am. Ord. 96-58)

Sec. 14-12.7 Determination of boundary lines.

In the event of a dispute as to whether the property or proposed work of an applicant for a building permit falls within any area indicated by Exhibits A through M mentioned in Section 14-12.3, the chief engineer shall determine from the plot plan submitted by the applicant the location of the property and the proposed work in relation to the reference points on the applicable exhibit. The decision of the chief engineer shall be final. (Sec. 16-6.7, R.O. 1978 (1983 Ed.))

Sec. 14-12.8 Buildings adjacent to drainage facilities.

All applications for a building permit for buildings or structures which will be located on property adjacent to any drainage facility shall be submitted to the chief engineer for review. (Sec. 16-6.8, R.O. 1978 (1983 Ed.))

Sec. 14-12.9 Subdivision drainage facilities.

- (a) In the case of subdivisions, the owner shall dedicate and the city accept the land or any interest in land necessary for the drainage facilities which are constructed to city standards and which are to be maintained and repaired (and operated as the case may be) by the city pursuant to HRS Section 265A-1, by way of easements or in fee simple as determined by the chief engineer. The land document for stream improvements shall include the following covenant:

That the grantor shall include in all conveyances of its land in the vicinity of the stream improvement area a statement that the drainage structure was designed and constructed by the grantor or the grantor's authorized agent or developer to at least meet the minimum criteria set forth in the storm drainage standards of the city, dated _____, but that

the city does not guarantee that the drainage structure is adequate to confine all flood waters to the stream improvement area.

- (b) In the case of subdivisions, drainage facilities which only serve private properties shall have easements in favor of the affected property owners. This includes interceptor ditches.
- (c) Before the subdivision of any land is approved by the chief engineer, the chief engineer shall check the subdivision plans against the areas of possible inundation in the watershed area as shown shaded on the maps incorporated by reference in Section 14-12.3. Such possible inundated areas are to be designated "possible flood areas." No subdivision shall be approved by the chief engineer unless all lots in a subdivision which are wholly or partially within the "possible flood area" designation have been subjected to the following encumbrance and noted as a legend on the subdivision map to the effect that:

This lot (Lots) is(are) in a "possible flood area." All existing drainage structures have been designed and have been or are being constructed to at least meet the minimum criteria set forth in the storm drainage standards of the city; however, the city does not guarantee that the drainage structures will confine all flood waters to the drainage facilities at all times.

- (d) The developer shall pay the entire cost of the drainage facilities to satisfy the anticipated drainage requirements of all surface water which may flow through or over the proposed subdivision.
- (e) Where city standards require drainage facilities of greater capacity than necessary to serve the land being subdivided or developed, in order to dispose of water diverted or concentrated by the city into such drainage system, the city may pay the difference in costs of materials and excavation, if any. The cost of materials to the city shall be based on the costs of the materials delivered at the site. Upon a determination by the chief engineer that such larger facilities are required, and if the provisions of HRS Chapter 103, or any amendatory act thereto, are applicable, the property owner shall deposit with the city an amount equal to the cost of construction of the drainage facilities allocable to the property owner's land, based upon current city cost data for comparable installations, but the amount paid by the property owner shall be adjusted, if necessary, on the basis of final costs.
- (f) The chief engineer may require the construction of permanent detention or retention drainage structures or other engineering control facilities to contain or divert storm water runoff to satisfy the anticipated drainage requirement of all surface waters which may flow through or over the proposed subdivision, or to meet any conditions of the city's NPDES permit. When required, such facilities will be constructed to provide gravity settling of sediments, suspended solids, and other particulate pollutants.
- (g) The chief engineer shall, pursuant to federal requirements, establish controls on the timing and rate of discharge of storm water runoff from any new development or redevelopment as may be appropriate to reduce storm water runoff pollution to the maximum extent practicable through the implementation of best management practices (BMPs) and engineering control facilities, designed to reduce the generation of pollutants. This may, where feasible and pursuant to city standards, include limiting peak storm water runoff rates for storms of higher frequencies to predevelopment levels.

(Sec. 16-6.9, R.O. 1978 (1983 Ed.); Am. Ord. 92-122, 96-34)

Sec. 14-12.10 Open drainways.

- (a) Open drainways, such as streams, ravines, channels and ditches, shall not be covered or modified except when the chief engineer determines that such covering or modification of the open drainways will not be dangerous to the public health, safety and welfare.
- (b) If a property owner desires, at the property owner's own cost, that an open drainway be covered or modified, the property owner shall submit all the pertinent data to substantiate the desirability of covering or modifying such a facility, including data showing that the function of the facility will not be hampered. The construction plans for such covering or modification shall be approved by the chief engineer.

(Sec. 16-6.10, R.O. 1978 (1983 Ed.))

Sec. 14-12.11 Fences along improved channels.

- (a) The chief engineer may require that fences be constructed as part of any channel improvement based upon a consideration of the height of the wall or bank, or shape of the channel, or the land use of the adjoining properties, or the depth of normal flow in the channel, or the location of the channel improvement and/or the possibility of people injuring themselves because of the channel improvement.
- (b) Fences when required shall generally be erected on or immediately adjacent to the channel walls and they shall be maintained and repaired by the city.
- (c) The minimum height of such fences shall be 42 inches.

(Sec. 16-6.11, R.O. 1978 (1983 Ed.))

Sec. 14-12.12 Connection to city-owned separate storm sewer system—Violation.

(a) Private Storm Drain Connection Licenses.

- (1) All connections from nonmunicipal and private drainage systems to the city-owned separate storm sewer system shall require a storm drain connection license issued by the chief engineer.
- (2) The license may require if applicable a description of the property owner activity and/or standard industrial classification code which best reflects the principal products or services, and a description and/or analysis of the effluent to be discharged from the private drainage system into the city-owned system. No license is transferrable without the prior written consent of the chief engineer.
- (3) Nonstorm water discharge into the city-owned separate storm sewer system may be allowed if the discharge has been issued an NPDES permit from the department of health, State of Hawaii, or the United States Environmental Protection Agency, subject to requirements herein.
- (4) The chief engineer, or the chief engineer's authorized representative, shall be authorized to enter any property, building or premises in the discharge of the chief engineer's official duties to inspect or investigate, measure or test any effluent that is discharged in a private drainage system connected, directly or indirectly, to the city-owned system.
- (5) Effluent, including NPDES-permitted discharges and nonstorm water discharges, which are not sources of pollutants, may be allowed into a private drainage system, connected directly or indirectly to the city-owned system.
- (6) All required analysis submitted by property owners on the characteristics of the constituents in the discharge shall be performed by qualified personnel in a laboratory acceptable to the chief engineer.
- (7) The chief engineer may condition the granting of the license with requirements to prevent drainage and/or pollution problems or mitigative measures which will meet any conditions of the city NPDES permit.
- (8) Where a private drainage system is common to one or more parcels and is owned by more than one property owner, each property owner is required to have a private drain connection license and be responsible for the maintenance of the common private drainage system.
- (9) Failure of the property owner(s) to obtain a license shall be a violation of the provisions of Article 12.

(b) Private Storm Drain Connection License Agreement. A property owner may be allowed to connect the property owner's private drainage system to the city-owned separate storm sewer system if the chief engineer determines that the existing system is adequate to accommodate the potential peak-designed flows of both systems, and if the property owner agrees to the following conditions:

- (1) That the property owner shall bear the entire cost of engineering, construction and maintenance of the private drainage system.
- (2) That the property owner shall indemnify and hold the city free and harmless from all suits and actions caused by the property owner's acts or failure to act in connection to the city-owned system.
- (3) That the construction of the drain connection shall be made in accordance with plans and specifications approved by the chief engineer, and subject to compliance by the property owner with applicable provisions of this section including conditions if any and all applicable statutes, ordinances, and rules and regulations of federal, state or city agencies having the effect of law.
- (4) That no additions or alterations to the private drainage system will be made without the prior written consent of the city.
- (5) That the private drainage system shall remain the property owner's property.
- (6) That in the event the private drainage system within the public right-of-way shall at any time interfere with any public use, the property owner shall relocate the private drainage system at the property owner's expense.
- (7) That in the event any portion of the city-owned separate storm sewer system is damaged or destroyed during the construction of the private storm drain connection, the property owner shall bear the entire cost of engineering and construction, or replacement of the damaged facility.
- (8) That in the event the discharge into the city-owned system includes storm water discharge associated with industrial activity, the property owner shall have an NPDES permit and provide data on the characteristics of the constituents, quantity of the effluent and discharge at the property owner's expense within one year after the date of connection, and annually thereafter or as the need may arise as determined by the chief engineer.
- (9) That any time the property owner or anyone using the property owner's property, discharges pollutants or other objectionable material which exceeds applicable water quality standards into the city-owned system or otherwise misuses the system, or causes a violation of any provisions of the city NPDES permit, the discharge shall be deemed a violation of this section and the city by written notice may terminate this license.

- (c) Termination of License Agreement.
 - (1) The chief engineer may order a license to be terminated upon finding that the property owner has violated a provision of the agreement or any provisions of this section.
 - (2) A property owner whose license has been terminated shall immediately stop the discharge of any pollutant if applicable covered by the license into the city-owned separate storm sewer system. The chief engineer may disconnect or permanently block from the city-owned separate storm sewer system, the private storm drain connection from any property owner whose license has been terminated if such action is necessary to insure compliance with the order of termination.
 - (3) A property owner whose license has been terminated may apply for a new license and pay all delinquent charges, penalties, and such other sums as may be due to the city. Any cost that might be incurred by the city in terminating the prior license and disconnecting the private storm drain connection shall be paid by the property owner before issuance of a new license.
 - (d) Private Storm Drain Connections.
 - (1) All licenses for private storm drain connections to the city-owned separate storm sewer system issued to the property owner of record shall remain in force. The city may reissue new license agreements for those connections which are discharging nonstorm waters or any effluent which requires an NPDES permit into the city-owned separate storm sewer system.
 - (2) Any private storm drain system that is connected to the city-owned separate storm sewer system without a license issued to the property owner of record shall be considered an illegal storm drain connection.
 - (3) Whenever a property owner is cited for an illegal private storm drain connection to the city-owned separate storm sewer system, the property owner shall be given 90 days after the date of the citation to obtain a connection license. The city will issue a connection license to the property owner without penalty within the 90-day period provided, however, no nonstorm water is being discharged into the city-owned separate storm sewer system. After the 90-day period, the property owner shall be in violation of the provisions of Article 12 of this chapter.
 - (4) Whenever a property owner caused or is causing a discharge of storm water runoff associated with industrial activity or polluted industrial process water or other objectionable material into the city-owned separate storm sewer system, the property owner within 10 days after being notified by the city of such violation shall cease such discharges. If an NPDES permit is obtained by the property owner for such discharge, said discharge may be resumed.
 - (e) Any other storm drain connections to the city-owned separate storm sewer system requires approval by the chief engineer in writing.
 - (f) Private Storm Drain Connection Fee.
 - (1) A license fee of \$200.00 shall be collected prior to the issuance of a private storm drain connection license. All license fees collected shall not be refundable.
 - (2) When the license is issued on behalf of the city, state or federal government, the chief engineer shall waive the collection of the license fee.
 - (3) All license fees shall be deposited into the highway fund.
- (Sec. 16-6.12, R.O. 1978 (1983 Ed.); Am. Ord. 92-122, 96-34, 03-12, 14-4)

Sec. 14-12.13 Allocation of costs.

- (a) Except as otherwise provided, the city may pay the entire cost for the following types of drainage facilities:
 - (1) Public stream improvements;
 - (2) Bridge to replace an existing bridge;
 - (3) Relief drains which will take care of the drainage requirements of the existing land use; provided, that if a property owner desires the construction of a larger facility to meet the drainage requirements attributable to a proposed higher land use of such person's property, the city may construct such larger facility provided that the property owner bears the additional cost of such enlarged facility; and
 - (4) Remedial work for the disposal of water collected or accumulated on public streets and/or remedial work necessitated by the disposal of such water over land not heretofore subject to such disposal.
- (b) Except as otherwise provided, the city may participate in remedial work to existing private drainage facilities, situated in or abutting on private properties, for the resolution of localized drainage problems to the extent of the cost of engineering and 50 percent of the cost of construction. Examples of such drainage facilities are:
 - (1) Stream walls to minimize erosion or to prevent flooding where such walls will show some public benefit; and
 - (2) Drainage facilities to resolve seepage problem in the sidewalk area.

(Sec. 16-6.13, R.O. 1978 (1983 Ed.))

Sec. 14-12.14 Improvements under the improvement district assessment ordinance.

Nothing contained in this article shall be deemed to affect the initiation and construction of drainage improvements under the improvement district assessment ordinance.
(Sec. 16-6.14, R.O. 1978 (1983 Ed.))

Sec. 14-12.15 Election by property owners to pay additional amounts.

Notwithstanding any provision above mentioned as to apportionment of costs, owners of properties may pay more than the amounts required by such provisions relating to apportionment of costs.
(Sec. 16-6.15, R.O. 1978 (1983 Ed.))

Sec. 14-12.16 Land requirements and maintenance of drainage facilities.

- (a) Except as otherwise provided, the city shall acquire the land or any interest in land necessary for the construction, maintenance and repair (and operation as the case may be) of drainage facilities which are to be constructed by the city by way of easements or in fee simple. Nothing herein shall prevent the city from acquiring easements for other improvements or for utilities or other uses through the same land.
- (b) The city shall maintain and repair (and operate as the case may be) only structures in improved drainage facilities which have been constructed to city standards and have been accepted or constructed by the city.
- (c) The cleaning of debris from public or private drainways may be performed as part of any general cleanup or beautification program of the city but shall not be performed as a part of maintenance and repair of drainage facilities; however, the chief engineer may cause to be removed any potential obstruction to the operation of any culvert, gate, bridge or drain opening, or similar drainage structure which has been accepted or constructed by the city.

(Sec. 16-6.16, R.O. 1978 (1983 Ed.))

Sec. 14-12.17 Exception.

This article shall not apply to the construction of any drainage facility for subdivisions, the final subdivision map of which has been approved by the city planning department within 30 days of the approval date of this article, nor to any drainage improvement where participation by the city has been approved by the chief engineer prior to the approval date.

(Sec. 16-6.17, R.O. 1978 (1983 Ed.))

Sec. 14-12.18 Inequities.

Whenever the chief engineer finds that the apportionment of costs, as proposed in this article, would result in inequities, the chief engineer is authorized and directed to submit his or her recommendations to the council as to how such inequities may be corrected.

(Sec. 16-6.18, R.O. 1978 (1983 Ed.))

Sec. 14-12.19 Provisions subject to state statutes.

- (a) Any drainage facility, open drainway or other similar facility which extends to the shoreline may be subject to the provisions of HRS Chapter 205A, Part III.
- (b) In such case, approval of the appropriate agency is required before approval of any construction plans may be granted by the chief engineer.

(Sec. 16-6.19, R.O. 1978 (1983 Ed.); Am. Ord. 96-58)

Sec. 14-12.20 Federal aid projects.

- (a) The contents of this article may be adjusted, modified or deleted to meet federal requirements under a federal aid project.
- (b) In the case of federal projects, the city may obtain the necessary channel right-of-way in such form as required by federal regulations.

(Sec. 16-6.20, R.O. 1978 (1983 Ed.))

Sec. 14-12.21 Approval denied.

The chief engineer shall disapprove any drainage facilities, open drainways and other similar facilities which do not conform with the provisions of this article.

(Sec. 16-6.21, R.O. 1978 (1983 Ed.))

Sec. 14-12.22 Discharge of effluent other than storm water runoff—Violation.

- (a) No person shall discharge any effluent other than storm water runoff onto any public right-of-way and/or into any drainage facility without first obtaining a permit from the chief engineer. The chief engineer will only

issue a permit upon application when the chief engineer determines that such discharge will not create a drainage or pollution problem or cause a violation of any provisions of the city NPDES permit. The chief engineer may condition the granting of the permit with requirements to prevent drainage and/or pollution problems or mitigative measures which will meet any conditions of the city NPDES permit. Except for those nonstorm water discharges authorized by the city NPDES permit, no discharge shall commence unless an NPDES permit is first obtained from the department of health, State of Hawaii, for the discharge of any pollutant into state waters through the municipal separate storm sewer system.

- (b) Any person desiring the permit required under this section shall apply to the chief engineer on form(s) prescribed by the chief engineer.
- (c) Any permit issued under this section shall be for the duration of the effluent discharge but shall not extend beyond the term of the city's NPDES permit. The permit shall meet any conditions of the city's NPDES permit.
- (d) A fee of \$200.00 shall be required for each permit application. All application fees collected shall not be refundable. When the discharge is performed by or on behalf of the city, state or federal government, the collection of the permit fee shall be waived. All permit fees shall be deposited into the highway fund.
- (e) Any discharge which violates any condition of the permit or the state water quality standards in Chapter 11-54, Hawaii Administrative Rules (HAR), shall also be a violation of Article 12 of this chapter and may result in a cease and desist order. In addition, the city by written notice may terminate the permit for any discharge which violates any condition of the permit or the state water quality standards in Chapter 11-54, HAR.
- (f) Failure to obtain a permit required under this section shall be a violation of Article 12.
(Sec. 16-6.22, R.O. 1978 (1987 Supp. to 1983 Ed.); Am. Ord. 92-122, 96-34, 03-12, 14-4)

Sec. 14-12.23 Environmental quality control—Violation.

- (a) It shall be unlawful for any person to discharge or cause to be discharged any pollutant into any drainage facility which causes a pollution problem in state waters, or causes a violation of any provision of the city NPDES permit or the water quality standards of the State of Hawaii.
- (b) It shall be unlawful for any person to discharge or cause to be discharged any storm water runoff associated with industrial activity into any drainage facility which causes a violation of any provision of the city NPDES permit.
- (c) It shall be unlawful to discharge domestic wastewater and industrial wastewater into any drainage facility or any separate storm sewer system.
It also shall be unlawful to discharge commercial cooking oil waste and commercial FOG waste, as defined under Section 14-5A.1, into any drainage facility or any separate storm sewer system.
- (d) It shall be unlawful to discharge any storm water on any public right-of-way which creates a drainage problem or causes a nuisance.
- (e) The provisions of this section are not applicable to employees of the city who, during the performance of their duties or in cases of emergency or a hazardous substance spill, may discharge sewage, other pollutants or wash water from cleanup operation of a hazardous substance spill into any drainage facility.
- (f) Upon presentation of proper credentials, the chief engineer or the chief engineer's duly authorized representatives may enter at reasonable times any building or premises in the City and County of Honolulu in the discharge of the chief engineer's official duties, to inspect or investigate the discharge of any pollutant or effluent into or onto a drainage facility; provided, that such entry shall be made in such manner as to cause the least possible inconvenience to the persons in possession; and provided further, that an order of a court authorizing such entry shall be obtained in the event such entry is denied or resisted.
(Sec. 16-6.23, R.O. 1978 (1987 Supp. to 1983 Ed.); Am. Ord. 92-122, 96-34, 02-14)

Sec. 14-12.24 Administrative enforcement.

If the chief engineer determines that any person is violating any provision of Article 12 of this chapter, any rule adopted thereunder, or any permit or license issued pursuant thereto, the chief engineer may have the person served, by mail or delivery, with a notice of violation and order. Whenever a corporation violates any of the provisions of Article 12 of this chapter, the violation shall be deemed to be also that of the individual directors, officers or agents of such corporation who, in their capacity as directors, officers or agents of such corporation, have authorized, ordered or done any of the acts constituting in whole or in part such violation.

- (a) Contents of the Notice of Violation. The notice shall include at least the following information:
 - (1) Date of the notice;
 - (2) The name and address of the person served with the notice and the location of the violation;
 - (3) The section number of the ordinance or rule, or other law which has been violated;
 - (4) The nature of the violation(s); and
 - (5) The deadline for compliance with the notice.
- (b) Contents of the Order. The order may require the person to do any or all of the following:

- (1) Cease and desist from the violation;
- (2) Correct the violation at the person's own expense before a date specified in the order;
- (3) Payment of an administrative fine; or
- (4) Appear before the chief engineer or a person designated by the chief engineer at a time and place specified in the order and answer the charges specified in the notice of violation.

(Added by Ord. 92-122)

Sec. 14-12.25 Judicial enforcement of order.

The chief engineer may institute a civil action in any court of competent jurisdiction for the enforcement of any order issued. Where the civil action has been instituted to enforce the civil fine imposed by said order, the chief engineer need only show that the notice of violation and order was served, a hearing was held or the time granted for requesting a hearing had expired without such a request, the civil fine imposed, and that the fine imposed had not been paid. (Added by Ord. 92-122)

Sec. 14-12.26 Enforcement.

- (a) Show Cause Order. Whenever the chief engineer finds that a discharge of storm water or effluent or any pollutant is taking place or threatening to take place in violation of any requirement imposed by ordinance, regulation or other law, the chief engineer may issue a notice of violation and show cause order requesting the property owner or permit holder or discharger to meet with someone designated by the chief engineer to show why there should be no formal enforcement action. This meeting is not a prerequisite to taking formal enforcement action against the property owner or permit holder or discharger, and neither does this preclude in any way informal meetings of discussions with the property owner or permit holder or discharger.
- (b) Cease and Desist Order. Whenever the chief engineer finds that a discharge of storm water or effluent or any pollutant is taking place or threatening to take place in violation of any ordinance, order, regulation or other law, the chief engineer may issue an order directing the property owner or permit holder or discharger to cease and desist such discharges and directing the property owner or permit holder or discharger to achieve compliance in accordance with a detailed time schedule of specific actions the property owner or permit holder or discharger must take in order to correct or prevent violations of this ordinance, regulation, order or any other law. The chief engineer may order the revocation or suspension of any permit or license. Any order issued by the chief engineer may require the property owner or permit holder or discharger to provide information as the chief engineer deems necessary to explain the nature of the discharge. The chief engineer may require in any cease and desist order that the property owner or permit holder or discharger pay to the city the costs of any extraordinary inspection or monitoring which in the discretion of the chief engineer was necessary as a result of the violation together with civil penalties.
- (c) Cleanup and Abatement Orders.
 - (1) Any person who is in violation of this ordinance, regulation, order or any other law, shall upon the chief engineer's order and at the total expense of the property owner or permit holder or discharger clean up the discharge and do whatever is necessary or required by the chief engineer to abate the effects of the violation.
 - (2) The chief engineer may initiate any cleanup, abatement or remedial work required that the chief engineer deems necessary as a result of the magnitude of the violation or when necessary to prevent harm to public health or the environment. The chief engineer may take this action, notwithstanding that injunctive relief and this action may be in addition to any action taken by the property owner or permit holder or discharger or other persons.
 - (3) Any property owner or permit holder or discharger violating the ordinance, regulations, order or any other law shall be liable to the city for costs incurred in the cleanup, abatement or remedial actions undertaken by the chief engineer, including but not limited to administrative costs, inspection costs, attorney's fees and penalties or other liability imposed upon the city by other agencies, persons or organizations whether by way of court action, administrative action or settlement.
- (d) Termination of Discharge. In addition to other remedies available and as provided in Article 12 of this chapter or by law, when in the discretion of the chief engineer the property owner or permit holder or discharger has not or cannot demonstrate satisfactory progress toward compliance with the requirements of this ordinance, regulation, order or other laws, the chief engineer, after providing written notice to the property owner or permit holder or discharger by certified mail 30 days in advance of any action, may sever or plug the connection from the property owner's or permit holder's or discharger's system to the city-owned separate storm sewer system or otherwise prevent the discharge of storm water or effluent or any pollutant from the property owner's or permit holder's or discharger's system to the city-owned separate storm sewer system.

- (e) Administration Fines. In addition to other remedies available and as provided in Article 12 of this chapter or by law, the chief engineer may impose administrative penalties.
(Added by Ord. 92-122)

Sec. 14-12.27 Appeals.

- (a) The property owner, permit holder or discharger may petition to appeal the terms of a permit or license issued herein by the city, its modification, revocation, suspension, or denial, or the chief engineer's order, including but not limited to enforcement within 30 days of the chief engineer's final action on the matter in accordance with the rules and regulations of the department.
- (b) Failure to submit a timely petition for appeal shall be deemed to be a waiver of the administrative appeal.
- (c) In its petition, the appealing party must indicate the permit or license provisions objected to, the reasons for this objection, and alternative condition, if any, it seeks to place in the permit or license, or the specific basis for its objections to the permit or license modification, suspension, revocation or denial and alternatives, if any, it suggests; its specific grounds for its objection to the chief engineer's order.
- (d) The effectiveness of the permit or license issued herein or the chief engineer's final action regarding the permit or license modification, suspension, revocation or denial; or regarding the chief engineer's order, including but not limited to enforcement, shall not be stayed pending the appeal.
- (e) If the petition for appeal is not acted upon within 30 days by the chief engineer, the petition shall be deemed to be denied and the property owner or permit holder or discharger shall comply with the terms of the permit, license or the chief engineer's final action regarding the permit or license modification, suspension or revocation; or the terms of the chief engineer's order.
- (f) The chief engineer shall take final action on a permit or license denial, issuance, modification, or renewal, or the order, including but not limited to enforcement, by sending the permit, license or the chief engineer's order to the applicant by certified mail.

(Added by Ord. 92-122)

Sec. 14-12.28 Violation provisions.

- (a) Administrative and Civil Penalties. Any person violating any provisions of Article 12 of this chapter, any order, permit or license issued hereunder, or any other standard or requirement shall be liable for an administrative or civil penalty of not less than \$1,000.00 nor more than \$25,000.00 per violation per day, except that in cases where such offense shall continue after due notice, each day's continuance of the same shall constitute a separate offense. In determining the amount of the fine, the chief engineer shall consider the seriousness of the violation or violations, any history of such violations, any good-faith efforts to comply with the applicable requirements, the economic impact of the fine on the violator, and such other considerations that have a bearing on the amount of the fine. In addition to the penalties provided herein, the city may recover reasonable attorney's fees, court costs, court reporter's fees and other expenses of litigation by appropriate suit at law against the person found to have violated this ordinance or the orders, rules, regulations, permits and licenses hereunder.
- (b) Criminal Penalties. Any person:
- (1) Who willfully, intentionally, recklessly or negligently violates any provision of Article 12 of this chapter, order, permit or license issued hereunder, or any other requirement, shall upon conviction be punished by a fine not less than \$1,000.00 nor more than \$25,000.00 or by imprisonment not exceeding 90 days, or both, except that in cases where such offense shall continue after due notice, each day's continuance of the same shall constitute a separate offense; or
 - (2) Who knowingly makes any false statement or misrepresentation in any record, report plan, or other document filed with the chief engineer, or tampers with or knowingly renders inaccurate any monitoring device or sampling and analysis method required under Article 12 of this chapter or by other law, shall be punished by a fine of not more than \$25,000.00 or by imprisonment for not more than six months, or both.
- Unless otherwise provided, this section shall be controlled by the provisions of HRS, Hawaii Penal Code.

(Added by Ord. 92-122)

Sec. 14-12.29 Injunctive relief.

Whenever a property owner or permit holder or discharger has violated a requirement or continues to violate the provisions of Article 12 of this chapter, permits, licenses or orders issued hereunder, the city may petition the Circuit Court of the First Circuit, State of Hawaii, or the United States District Court, State of Hawaii, through the city's attorney for the issuance of a temporary or permanent injunction, as appropriate, which restrains or compels the specific performance of the permit, license or order, or other requirement imposed by this article on activities of the property owner or permit holder or discharger. Such other action as appropriate for legal and/or equitable relief may also be sought by the city. A petition for injunctive relief need not be filed as a prerequisite to taking any

other action against a property owner or permit holder or discharger. (Added by Ord. 92-122)

Sec. 14-12.30 Nonliability of department personnel.

Notwithstanding any other law to the contrary, no member, employee, or officer of the department of public works shall be civilly or criminally liable or responsible under this ordinance for any acts done by the member, officer, or employee in their performance of the member's officer's, or employee's duties. (Added by Ord. 92-122)

Sec. 14-12.31 Rule-making powers.

The chief engineer shall be empowered to promulgate rules and regulations pursuant to HRS Chapter 91, for the implementation of the provisions of Article 12 of this chapter. (Added by Ord. 92-122)

Sec. 14-12.32 Decisions of the chief engineer.

Decisions of the chief engineer made in accordance with the provisions of this article, and/or decisions involving variations from the standards referred to herein shall be made a matter of record in the permit or license file. (Added by Ord. 92-122)

Article 13. General Provisions for Grading, Soil Erosion and Sediment Control

Sections:

- 14-13.1 Purposes.**
- 14-13.2 Scope.**
- 14-13.3 Definitions.**
- 14-13.4 Hazardous conditions—Stop work order.**
- 14-13.5 Exclusions.**
- 14-13.6 Erosion and sediment control plans.**

Sec. 14-13.1 Purposes.

The purposes of Articles 13 through 16 of this chapter are to provide standards to protect property and to promote the public health, safety, and welfare by regulating and controlling grading, grubbing, stockpiling, soil erosion, sedimentation, and land disturbing development within the city. The public health, safety, and welfare require that environmental considerations contribute to the determination of these standards insofar as they relate to protecting against erosion and pollution. (Sec. 23-1.1, R.O. 1978 (1983 Ed.); Am. Ord. 17-28)

Sec. 14-13.2 Scope.

Articles 13 through 16 of this chapter set forth the rules and regulations for the control of land disturbing development activities, grading, grubbing, stockpiling, soil erosion and sedimentation; establish the administrative procedure and minimum requirements for issuance of permits; and provide for the enforcement of such rules and regulations. (Sec. 23-1.2, R.O. 1978 (1983 Ed.); Am. Ord. 17-28)

Sec. 14-13.3 Definitions.

Wherever used in Articles 13 through 16 of this chapter, the following words shall have the meaning indicated:
"Best management practices" or "BMPs" means structural devices or nonstructural practices employed at construction sites that are designed to contain storm water on-site and prevent the discharge of pollutants from entering any drainage facility or any state waters or to redirect storm runoff flow. BMPs may include a schedule of activities, the prohibition of practices, maintenance procedures and other management practices to accomplish the same.

"Chief engineer" means the director and chief engineer, department of public works, City and County of Honolulu, or such person's duly authorized representative.

"Conservation program" means a document submitted by a land user containing information for the conservation of soil, water, vegetation and other applicable natural resources for an area of land currently being implemented and maintained.

"Director" means the director of planning and permitting of the city or the director's duly authorized representative.

"Earth material" means any rock, coral, sand, gravel, soil or fill and/or any combination thereof.

"Engineer" means a person duly registered as a professional engineer in the State of Hawaii.

"Engineer's soils report" means a report on soils conditions prepared by an engineer qualified in the practice of soils mechanics and foundations engineering.



TITLE 11

HAWAII ADMINISTRATIVE RULES

DEPARTMENT OF HEALTH

CHAPTER 46

COMMUNITY NOISE CONTROL

HAWAII ADMINISTRATIVE RULES

TITLE 11

DEPARTMENT OF HEALTH

CHAPTER 46

COMMUNITY NOISE CONTROL

§11-46-1	Purpose
§11-46-2	Definitions
§11-46-3	Classification of zoning districts
§11-46-4	Maximum permissible sound levels in dBA
§11-46-5	Exemptions
§11-46-6	Noise prohibited
§11-46-7	Permits
§11-46-8	Variances
§11-46-9	Measurements of sound levels
§11-46-10	Certification
§11-46-11	Powers and duties
§11-46-12	Inspection of premises
§11-46-13	Other ordinances and rules
§11-46-14	Enforcement
§11-46-15	Records
§11-46-16	Penalties
§11-46-17	Citation
§11-46-18	Administrative penalties
§11-46-19	Injunctive and other relief
§11-46-20	Public records
§11-46-21	Litigation
§11-46-22	Severability

Historical Note: Chapter 46 is based substantially on Chapter 43 of Title 11, Hawaii Administrative Rules, Community Noise Control for Oahu, Department of Health, State of Hawaii. [Eff 11/6/81;
R SEP 23 1996]

§11-46-1 Purpose. It is the purpose of this chapter to define the maximum permissible sound levels, and to provide for the prevention, control, and abatement of noise pollution in the State from the

§11-46-1

following excessive noise sources: stationary noise sources; and equipment related to agricultural, construction, and industrial activities. It is also the purpose of this chapter to establish noise quality standards to protect public health and welfare, and to prevent the significant degradation of the environment and quality of life. [Eff SEP 23 1996] (Auth: HRS §§342F-3, 342F-31) (Imp: HRS §§342F-3, 342F-31)

§11-46-2 Definitions. As used in this chapter, unless the context otherwise requires:

"Activity" means an act or combination of acts which create noise, and which is associated with any excessive noise source.

"Agricultural activities" means any or all activities necessary or incidental for the purpose of agricultural functions, such as land cultivation, crop production, and harvesting.

"Ambient or background noise" means the totality of sounds in a given place and time, independent of the sound contribution of the specific source being measured.

"Applicant" means a person or persons responsible for the excessive noise source.

"Authorized emergency vehicles" means police and fire vehicles; private and public ambulances; and state and county vehicles used for emergencies.

"Best available control technology" means any limitation based on the maximum degree of noise reduction which would be emitted from any excessive noise source which the director, on a case-by-case basis, considering environmental and economical impacts and other costs, determines is achievable for that source through application of production processes or available methods, systems, and techniques. If the director determines that technological or economic limitations would make the imposition of the provisions of this chapter infeasible, a design, equipment, work practice, or operational standard, or a combination thereof, may be prescribed instead to satisfy the requirement for the application of the best available control technology.

"Complaint" means any written charge filed with the department that a person is violating any provision of this chapter or order adopted pursuant to this

chapter.

"Construction activities" means any or all activities, including but not limited to those activities necessary or incidental to the erection, demolition, assembling, renovating, installing, or equipping of buildings, public or private highways, roadways, premises, and parks.

"Construction equipment" means any device designed and intended for use in construction, including but not limited to any air compressor, pile driver, bulldozer, pneumatic hammer, steam shovel, derrick, crane, tractor, grader, loader, power saw, pump, pneumatic drill, compactor, on-site vehicle, and power hand tool.

"Construction site" means any or all areas, necessary or incidental for the purpose of conducting construction activities.

"Council" means the legislative body of a county.

"County" means the city and county of Honolulu, county of Hawaii, county of Kauai, or county of Maui, State of Hawaii.

"dBA" means the A-weighted sound level or unit of measurement describing the total sound level of all noises as measured with a sound level meter using the "A" weighting network.

"Decibel" means the unit for measuring the volume of sound, equal to twenty times the logarithm to the base ten of the ratio of the pressure of the sound measured to the reference pressure, which is twenty micropascals (0.0002 dynes per square centimeter).

"Department" means the department of health, State of Hawaii.

"Device" means any mechanism or instrument which is designed to or which actually produces sound when operated or handled.

"Director" means the director of the department of health, State of Hawaii, or the director's duly authorized agent.

"Dwelling" means a room or rooms connected together constituting an independent housekeeping unit for an individual or a family, containing facilities for bathing or cooking, or both.

"Emergency" means any condition which would require immediate attention or corrective action to avoid probable danger to property, or to the health and safety of people.

"Equipment" means any or all devices used in an

operation or activity.

"Excessive noise" means the presence of sound as measured by standard testing devices, and of a volume, or in quantities, and for durations, as established by this chapter.

"Excessive noise source" means any stationary noise source; and any equipment related to agricultural, construction, and industrial activity which emits sound in excess of the maximum permissible sound levels specified in section 11-46-4, as measured at any point at or beyond the property line.

"HRS" means Hawaii Revised Statutes.

"Holiday" means a day observed by federal or by state law for suspension of operations in whole or part.

"Impulsive noise" or "impact noise" means any sound with a rapid rise and decay of sound pressure level, lasting less than one second, caused by sudden contact between two or more surfaces, or caused by a sudden release of pressure, including but not limited to any hammering, pile driving, and explosion.

"Industrial activities" means any or all activities necessary or incidental to manufacturing, refining, or processing of materials and products.

"Maximum permissible sound levels" means the sound levels assigned to zoning districts, as established by the director. The maximum permissible sound levels are specified in section 11-46-4(a).

"Muffler" means a mechanical apparatus designed to allow the flow of gas, air, and steam, and to reduce the noise created by intake from or exhaust to the atmosphere by such flow.

"Noise" means any sound that may produce adverse physiological or psychological effects or interfere with individual or group activities, including but not limited to communication, work, rest, recreation, or sleep.

"Noise pollution" means noise emitted from any excessive noise source in excess of the maximum permissible sound levels.

"Off-hour roadwork" means any roadway construction between the hours of 6:00 p.m. and 7:00 a.m., which would require a variance from the director. For the purpose of this definition, roadway construction shall be limited to any activity, necessary or incidental to reconstruction or resurfacing of public or private

highways or roads.

"On-site vehicles" means fuel-, electric-, and air-powered vehicles, stationary and mobile, which are operated within the boundaries of a construction site or agricultural or industrial premises.

"Open space" means any zoning district or parcel essentially free of structures that serves the purpose of visual relief and buffering from building or structural mass.

"Operate" means perform or conduct any activity associated with an excessive noise source.

"Owner" means the owner of the freehold of the premises or lesser estate therein, or mortgagees thereof, a lessee or agent of any of the aforementioned persons, a lessee of a device or the lessee's agent, a tenant, operator, or any other person who has regular control of the premises, or of an equipment, or of a device.

"Party" means each person or agency named as party or properly entitled to be a party in any court or agency proceeding.

"Permit" means written authorization from the director to operate any excessive noise source.

"Person" means any individual, partnership, firm, association, public or private corporation, trust estate or any other legal entity, or the State or any of its political subdivisions.

"Premises" means any property, including its structure and other surrounding property, which is used as a dwelling, or as a place of business, or as a place to construct, manufacture, or conduct any activity.

"Property line boundary" means a line drawn through the points of contact of adjoining lands, apartments, condominiums, townhouses or duplexes, owned, rented, or leased by different persons; a demarcation or a line of separation of properties; and also, for any two or more buildings sharing common grounds, the line drawn midway between any two said buildings. For the purpose of this chapter, the property line includes all points on a plane formed by projecting the property line in a manner deemed appropriate by the director.

"Public space" means any zoning district or parcel used, owned, or managed by the federal government, the State of Hawaii, or the counties to fulfill a governmental function, activity, or service for public

benefit, including but not limited to libraries, satellite city halls, public schools, and post offices.

"School activity" means a public or private school function for students up through the twelfth grade which is approved by the school principal or an authorized representative.

"Sound" means an oscillation in pressure, particle displacement, particle velocity, or other physical parameter, in a medium with internal forces that causes compression and rarefaction of that medium. The description of sound may include any characteristic of such sound, including duration, intensity, and frequency.

"Sound level" means the sound pressure level obtained by the use of a sound level meter and frequency weighting network, such as A, B, or C, as specified in American National Standards Institute specifications for sound level meters.

"Sound level meter" means an instrument or combination of instruments, which meets or exceeds the requirement for a type I or type II sound level meter as specified in the American National Standard Institute, ANSI S1.4-1983, specifications for sound level meters.

"Sound pressure level" means twenty times the logarithm to the base ten of the ratio of the measured sound pressure to the reference sound pressure of 0.0002 dynes per square centimeter or twenty micropascals.

"Stationary noise source" means any mechanical source of noise fixed in or on a station, course, or mode within any premises, including but not limited to mechanical air conditioning units, exhaust systems, generators, compressors, pumps, or other similar equipment.

"Variance" means a special written authorization from the director to cause or emit excessive noise in a manner or amount in excess of applicable standards, or to do an act that deviates from the requirements of this chapter or any rules adopted under chapter 342F, HRS.

"Zoning districts" means the land use districts established by rules or ordinances adopted by council, legislature, county, or state government agencies.

[Eff SEP 23 1996] (Auth: HRS §§342F-3, 342F-31)
(Imp: HRS §§342F-1, 342F-3, 342F-31)

§11-46-3 Classification of zoning districts.

This section shall describe the zoning districts as specified in Table 1, maximum permissible sound levels in dBA, found in section 11-46-4, and as provided in section 11-46-4:

- (1) Class A zoning districts include all areas equivalent to lands zoned residential, conservation, preservation, public space, open space, or similar type.
- (2) Class B zoning districts include all areas equivalent to lands zoned for multi-family dwellings, apartment, business, commercial, hotel, resort, or similar type.
- (3) Class C zoning districts include all areas equivalent to lands zoned agriculture, country, industrial, or similar type.
[Eff SEP 23 1996] (Auth: HRS §§342F-3, 342F-31) (Imp: HRS §§342F-3, 342F-31)

§11-46-4 Maximum permissible sound levels in dBA.

(a) The maximum permissible sound levels specified in Table 1, as provided in this subsection and in section 11-46-3, shall apply to the following excessive noise sources: stationary noise sources; and equipment related to agricultural, construction, and industrial activities.

Table 1. Maximum permissible sounds levels in dBA.

Zoning Districts	Daytime (7 a.m. to 10 p.m.)	Nighttime (10 p.m. to 7 a.m.)
Class A	55	45
Class B	60	50
Class C	70	70

(b) The maximum permissible sound levels in Table 1, as provided in subsection (a), shall apply to any excessive noise source emanating within the specified zoning district, and at any point at or beyond (past) the property line of the premises in a manner deemed

§11-46-4

appropriate by the director.

(c) Noise levels shall not exceed the maximum permissible sound levels for more than ten per cent of the time within any twenty minute period, except by permit or variance issued under sections 11-46-7 and 11-46-8.

(d) For mixed zoning districts, the primary land use designation shall be used to determine the applicable zoning district class and the maximum permissible sound level.

(e) The maximum permissible sound level for impulsive noise shall be ten dBA above the maximum permissible sound levels specified in Table 1 of subsection (a). "Fast" meter response shall be used to measure these types of noise. [Eff SEP 23 1996 1
(Auth: HRS §§342F-3, 342F-31) (Imp: HRS §§342F-3, 342F-31)]

§11-46-5 Exemptions. This chapter shall not apply to the following:

- (1) Any authorized emergency vehicle or vehicles responding to an emergency call or acting in an emergency;
- (2) The sounding of any emergency signaling device, including but not limited to civil defense warning systems, burglar and fire alarms, sirens, whistles, or similar signaling devices;
- (3) Activities related to the emergency maintenance and repair of state and county highways, parks, and public utilities including but not limited to water, sewer, electric, gas, and telephone systems, provided the noise is confined to only the equipment in use;
- (4) Operation of emergency generators, when installed and used as required and necessary for the protection of public health and safety, provided the best available control technology is implemented;
- (5) Backup alarm devices on any vehicle, where such device is required by federal or state occupational safety and health regulations;
- (6) Construction and remedial activities related to the emergency repair of damages caused by

- natural disasters, including but not limited to tsunamis and hurricanes; and
- (7) Any school activity which is approved by school authorities; provided that this exemption shall limit these activities to the hours of 7:00 a.m. to 10:00 p.m. [Eff ~~SEP 23~~ SEP 23 1996] (Auth: HRS §§342F-3, 342F-31) (Imp: HRS §§342F-3, 342F-30, 342F-31)

§11-46-6 Noise prohibited. (a) General prohibition. Without a permit or variance issued pursuant to section 11-46-7 or 11-46-8, no person within the State shall operate, from any premises or land owned, rented, leased, occupied, or controlled by that person, any excessive noise source.

(b) Specific prohibitions.

(1) Mufflers.

- (A) No person shall operate nor shall its owner permit the operation of an on-site vehicle, construction equipment, or device, with a motor or exhaust system or both, without a muffler. This subparagraph shall not apply to pile hammers and pneumatic hand tools weighing less than fifteen pounds; and
- (B) No person shall operate nor shall its owner permit the operation of an on-site vehicle, construction equipment, tool, or device, on any premises or a construction site, with a motor or exhaust system or both, which has been altered, modified, or repaired; provided this subparagraph shall not apply if the operator or owner can show that the altered, modified, or repaired component is equally or more effective than the original component in reducing noise. [Eff SEP 23 1996] (Auth: HRS §§342F-3, 342F-30, 342F-31) (Imp: HRS §§342F-3, 342F-30, 342F-31)

§11-46-7 Permits. (a) Applicability. In accordance with section 342F-4, HRS, the director may grant, renew, modify, suspend, revoke, or deny permits

to operate any excessive noise source which emits or may emit noise levels in excess of the maximum permissible sound levels specified in Table 1, Maximum permissible sound levels in dBA, of section 11-46-4(a), which is in the public interest, and which may be subject to such reasonable conditions as the director may prescribe.

(b) The following factors in granting an application for permit or an application by a permit holder for the modification or renewal of a permit, may be considered by the director:

- (1) The best available control technology is provided to control noise levels from the excessive noise source;
- (2) The proposed noise emitting activity is in the public interest, as defined by subsection (c);
- (3) The services or activities for which the permit is sought are temporary and cannot be delayed, postponed, or rescheduled to a time period in which such services are permitted;
- (4) The applicant requires additional time to alter or modify the applicant's activity or operation to comply with this chapter;
- (5) The applicant has disclosed any possible impact from noises created by any proposed nighttime activity which may affect the immediate surrounding; and
- (6) The applicant plans to notify the people in the surrounding area of planned nighttime activity.

(c) In determining public interest, the director shall consider the environmental impact of the proposed action, any adverse environmental effects which cannot be avoided should the action be implemented, the alternatives to the proposed action, the relationship between local short-term uses of the environment and the maintenance and enhancement of long-term productivity, any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented, and any other factors which the director may by rule prescribe.

- (1) Any determination of public interest shall promote the optimum balance between economic development and environmental quality.
- (d) Application for permit or renewal.
- (1) Every application for permit or renewal

- shall be submitted on forms furnished by the director.
- (2) The applicant shall submit sufficient information to enable the director to make a decision on all applications. Subject to the request of the director, every application for permit or renewal may include the following information:
 - (A) Applicant identification;
 - (B) Type and purpose of activity;
 - (C) Location and time of activity;
 - (D) A list of vehicles, construction or agricultural equipment, tools, and any devices;
 - (E) A description of the stationary noise source, including information pertaining to the purpose of the noise producing source including supporting facts which demonstrate that termination of the noise source operation would constitute an unreasonable hardship on the applicant, on the community, or on other persons;
 - (F) Information pertaining to other available alternatives to replace the operation of the noise source;
 - (G) Estimated duration and schedule of activity;
 - (H) A detailed schedule of plans, procedures, and specifications for the attenuation of noise level emissions from the excessive noise source;
 - (I) Description of the immediate impact area; and
 - (J) Such other information as the director may request.
 - (3) The director shall not act upon or consider any incomplete application for permit or renewal. An application shall be deemed complete only when all required and requested information, including the application form, plans, schedules, specifications, and other information have been timely submitted.
 - (4) Every application shall be signed by the applicant and shall constitute an acknowledgment and agreement that the

- applicant will comply with all the terms and conditions of the permit, this chapter, and chapter 342F, HRS.
- (5) The failure of the director to act on a completed application within one hundred eighty days of the receipt of such application, shall be deemed a grant of such application; provided that the applicant acts consistently with the application process.
 - (6) The director may require the submission of additional information after the application has been submitted, and may ensure that, if an application is incomplete or otherwise deficient, processing of the application shall not be completed until such time as the applicant has supplied all required information or otherwise corrected the deficiency.
 - (e) Period of permit.
 - (1) The director shall determine the effective period of the permit, which shall be for any term not exceeding five years.
 - (2) On written request, the director may extend the period of the permit upon showing that an extension is justified; provided in no case shall an extension be granted if the combined term of the originally issued permit and any extension or extensions exceed five years. Any extension or extensions shall be subject to annual fees as provided in subsection (i).
 - (3) The director, on application, may renew a permit from time to time, for any term not exceeding five years.
 - (f) Application for modification of permit.
 - (1) Every application for the modification of a permit shall be submitted in writing to the director; and
 - (2) The director shall not act upon or consider any incomplete request for a modification of a permit. A request for modification of a permit shall be deemed complete only when all required and requested information, including plans, schedules, specifications, and other information have been timely submitted.
 - (g) No applicant for renewal of a permit shall be held in violation of this chapter during the pendency

of the applicant's application provided that the applicant acts consistently with the permit previously granted, the application of all plans, specifications, and other information submitted as a part thereof.

- (h) Fees.
 - (1) The director may establish reasonable fees for the issuance of permits and renewals to cover the cost of granting thereof and for the implementation and enforcement of the terms and conditions of permits;
 - (2) Every applicant for permit or renewal shall pay the applicable annual fees as provided in subsection (i);
 - (3) Fees shall not be refunded or applied to any subsequent application; and
 - (4) Fees shall be made payable to the State of Hawaii.
- (i) Fee schedule. The annual fee schedule for a permit or a renewal to a permit shall be as follows:
 - (1) Permit fees for construction activities.
 - (A) \$25 per year for activities involving demolition, construction, extension, additions, or renovation of a single family dwelling.
 - (B) \$50 per year for all other activities, including but not limited to demolition of building structures, construction of buildings, residential subdivisions, shopping centers, bridges, reservoirs, utilities, roadway (including improvements), and site work for subdivisions and golf courses.
 - (2) Permit fees for operation of stationary noise sources or equipment related to agricultural and industrial activities shall be \$50 per year.
- (j) Specific permit restrictions for construction activities.
 - (1) No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels for the hours before 7:00 a.m. and after 6:00 p.m. of the same day, Monday through Friday;
 - (2) No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels for the

- hours before 9:00 a.m. and after 6:00 p.m. on Saturday; and
- (3) No permit shall allow any construction activities which emit noise in excess of the maximum permissible sound levels on Sundays and on holidays.
 - (k) Transfer of permit.
 - (1) Each permit is nontransferable either from one location to another, from one activity to another, or from one person to another without the written approval of the director.
 - (1) Suspension, revocation, or denial. The director may suspend, revoke, or deny any permit if, after affording an opportunity for a hearing in accordance with chapter 91, HRS, it is determined that:
 - (1) There is a violation of any condition of the permit;
 - (2) There is a violation of this chapter;
 - (3) There are deviations from, or there is a failure to comply with, all information or facts contained within the permit;
 - (4) The permit was obtained by misrepresentation or failure to disclose fully all relevant facts;
 - (5) There is a change in any condition that requires either a temporary or permanent reduction or elimination of the excessive noise emission; or
 - (6) Such action is in the public interest.
 - (m) Termination of permits. The director shall be notified, in writing, of the permanent termination of the activity for which the permit has been granted. If such notice is not received by the expiration date specified in the permit, the permit shall automatically terminate and the permittee shall be divested of all rights therein.
 - (n) Records. The director shall keep records of all permits and their disposition. [Eff SEP 23 1996] (Auth: HRS §§342F-3, 342F-4, 342F-14, 342F-31) (Imp: HRS §§342F-3, 342F-4, 342F-14, 342F-31)

§11-46-8 Variations. (a) Applicability. In accordance with section 342F-5, HRS, the director may grant, renew, modify, suspend, revoke, or deny variations to operate any excessive noise source which

emits or may emit noise levels in excess of the maximum permissible sound levels specified in Table 1, Maximum permissible sound levels in dBA, of section 11-46-4(a), and which use or operation does not conform to the requirements of section 11-46-7, or other applicable provisions of this chapter.

(b) No variance, modification, or renewal shall be granted by the director unless the application and the supporting information clearly show that:

- (1) The continuation of the function or operation involved in the emission occurring or proposed to occur by the granting of the variance is in the public interest, as defined in section 11-46-7(c);
- (2) The emission occurring or proposed to occur does not substantially endanger human health or safety; and
- (3) Compliance with the provisions of this chapter from which the variance is sought would produce serious hardship without equal or greater benefits to the public.

(c) Application for variance, modification, or renewal.

- (1) Every application shall be submitted on forms furnished by the director.
- (2) Every application shall be accompanied by a complete and detailed description of present conditions, how present conditions do not conform to standards, and such other information as the director may by rule prescribe.
- (3) Every application shall be reviewed in light of the descriptions, statements, plans, histories, and other supporting information submitted with the application; any additional information as may be submitted upon the request of the director; and the effect or probable effect upon the maximum permissible sound levels established pursuant to this chapter.
- (4) The applicant shall submit sufficient information to enable the director to make a decision on the application. Subject to the request of the director, every application for variance may include the following information:

- (A) Applicant identification;
 - (B) Type and purpose of activity, including a brief description of the applicant's activity which results in the proposed emission;
 - (C) Location and time of activity;
 - (D) A list of vehicles, construction or agricultural equipment, tools, and any devices;
 - (E) Estimated duration and schedule of activity;
 - (F) Plans and procedures for the attenuation of noise emission from noise sources to minimize excessive noise levels;
 - (G) Description of the immediate impact area;
 - (H) Any adverse environmental effects which cannot be avoided;
 - (I) Description of alternatives to the proposed activity;
 - (J) Discussion of the relationship between short-term use of the environment and the maintenance and enhancement of long-term productivity;
 - (K) Discussion of any irreversible and irretrievable commitments of resources which would be involved in the proposed activity;
 - (L) Disclosure of any possible impact from noise created by any proposed nighttime activity which may affect the immediate surrounding;
 - (M) Plans for notification of the people in the surrounding area of planned nighttime activities; and
 - (N) Such other information as the director may request.
- (5) The director shall not act upon or consider any incomplete application for variance, modification or renewal. An application shall be deemed complete only when all required and requested information, including the application form, plans, schedules, specifications, and other information have been timely submitted.
- (6) Every application shall be signed by the

- applicant and shall constitute an acknowledgment and agreement that the applicant will comply with all of the terms and conditions of the variance, this chapter, and chapter 342F, HRS.
- (7) The director may require the submission of additional information after the application has been submitted, and may ensure that, if an application is incomplete or otherwise deficient, processing of the application shall not be completed until such time as the applicant has supplied all required information or otherwise corrected the deficiency.
 - (8) Every application for renewal shall be made at least one hundred eighty days prior to the expiration of the variance. The director shall act on a completed application for renewal within one hundred eighty days of the receipt of such application.
 - (9) Every application for renewal shall meet all conditions specified in the immediately preceding variance; and shall provide for emission not greater than that attained pursuant to the terms of the immediately preceding variance at its expiration.
- (d) Public participation requirements.
- (1) Any application for a variance, submitted pursuant to this chapter, shall be subject to the public participation requirements.
 - (2) Public notices of every completed application for a variance, except an application for off-hour road work, shall be circulated in a manner designed to inform interested and potentially interested persons of the proposed emission.
 - (3) Procedures for the circulation of public notices shall include at least the following:
 - (A) Notices shall be circulated within the geographical areas of the proposed emission; such circulation shall include publishing in local newspapers and periodicals, or, if appropriate, in a daily newspaper of general circulation;
 - (B) Notice shall be mailed to any person upon request; and

- (C) The director shall add the name of any person, upon request, to a mailing list to receive copies of notices for all variance applications within the State or within a certain geographical area.
- (4) The director shall provide a period of not less than thirty days following the date of the public notice during which time interested persons may submit their written review with respect to the variance application and the tentative determinations of the department, if any. The period for comment may be extended at the discretion of the director.
- (5) The contents of the public notice of applications for variances shall include at least the following:
 - (A) Name, address, and phone number of agency issuing the public notice;
 - (B) Name and address of each applicant;
 - (C) Brief description of each applicant's activities or operations which result in the emission described in the variance application;
 - (D) A short description of the location of each emission indicating whether such emission is new or existing;
 - (E) A brief description of the procedures for the formulation of final determinations, including the thirty-day comment period required by paragraph (4), and any other means by which interested persons may influence or comment upon those determinations; and
 - (F) Address and phone number of state agency premises at which interested persons may obtain further information and inspect a copy of the variance applications and supporting and related documents.
- (6) The director may hold a public hearing, if, after reviewing the comments submitted under paragraph (4), the director determines that a public hearing is warranted. Any hearing brought pursuant to this subsection shall be held in the geographical area of the proposed emission or other appropriate area, at the

- discretion of the director.
- (e) Fees.
 - (1) The director may establish reasonable fees for the issuance of variance and renewals to cover the cost of issuance thereof and for the implementation and enforcement of the terms and conditions of variances.
 - (2) Every applicant for variance or renewal shall pay the applicable fee as set forth in subsection (f);
 - (3) Fees shall not be refunded nor applied to any subsequent application; and
 - (4) Fees shall be made payable to the State of Hawaii.
 - (f) Fee schedule. The fee for a variance or renewal of a variance shall be \$100 per year and all costs associated with the public participation requirements as provided in subsection (d), including but not limited to costs for publication of public notices, circulation of public notices, and public hearing. Public notices shall be prepared by the department.
 - (g) Granting of variances, modifications, or renewals.
 - (1) If a variance, modification, or renewal is granted on the grounds that there is no practicable means known or available for the adequate prevention, control, or abatement of the excessive noise involved, it shall be only until the necessary means for prevention, control, or abatement become practicable, and subject to the taking of any substitute or alternate measures that the director may prescribe.
 - (2) Every variance, modification, or renewal granted under this section shall include conditions requiring the grantee to perform noise sampling and report the results of such sampling to the director.
 - (h) Period of variance, modification, or renewal.
 - (1) The director may issue a variance or renewal for a period not exceeding five years.
 - (2) The period of modification shall be the period of the variance originally issued, for the term not exceeding five years.

- (3) On written request, the director may extend the period of the variance upon showing that an extension is justified; provided in no case shall an extension be granted if the combined term of the originally issued variance and any extension or extensions exceeds five years. Any extension or extensions shall be subject to annual fees as provided in subsection (f).
 - (i) Variance conditions. Each variance may be subject to such reasonable conditions as the director may prescribe.
 - (j) Suspension, revocation, or denial. The director may suspend, revoke, or deny any variance if, after affording an opportunity for a hearing in accordance with chapter 91, HRS, it is determined that:
 - (1) There is a violation of any condition of the variance;
 - (2) There are deviations from, or failure to comply with, all information or facts contained within the variance;
 - (3) The variance was obtained by misrepresentation or failure to disclose fully all relevant facts;
 - (4) There is a change in any condition that requires either a temporary or permanent reduction or elimination of the excessive noise emission; or
 - (5) Such action is in the public interest.
 - (k) Termination of variances. The director shall be notified, in writing, of the permanent termination of the activity for which the variance has been granted. If such notice is not received by the expiration date specified in the variance, the variance shall automatically terminate and the applicant shall be divested of all rights therein.
 - (1) Records. The director shall keep records of all requests for variance and their disposition.
[Eff SEP 23 1996] (Auth: HRS §§342F-3, 342F-5, 342F-14-, 342F-31) (Imp: HRS §§342F-3, 342F-5, 342F-14, 342F-31)

§11-46-9 Measurement of sound levels. (a) The director may adopt procedures which set forth criteria for the measurement of sound. Such procedures may be

in substantial conformity with standards and recommended practices established by the American National Standards Institute or the Society of Automotive Engineers, and the latest revisions thereof.

(b) The director may revise such measurement procedures from time to time to reflect current engineering judgment and advances in noise measurement techniques.

(c) For the purpose of this chapter, sound level measurements shall be conducted using standard procedures, with sound level meters, using the "A" weighting network and "slow" meter response unless otherwise stated.

(d) Sound level meters and calibrators shall conform to specifications provided in the American National Standard, ANSI S1.4-1983, specification for sound level meters.

(e) Windscreens shall be used whenever appropriate.

(f) The various factors affecting the accuracy of a measurement shall be evaluated to the extent necessary for the implementation of this chapter. For example, if the accuracy with which a measurement can be made with specific instruments at a specific location is plus or minus two dBA, then any measured level greater than the specified maximum permissible sound level, plus two dBA, will indicate that excessive noise has been emitted.

(g) Measurements shall normally not be used for enforcement unless the noise level at a point of measurement is more than three decibels greater than the ambient or background noise level.

(h) The ambient noise level may be estimated from sound levels measured during nonoperation of the noise source or by sound levels measured at one or more points near the point of measurement where the noise source is inaudible. [Eff SEP 23 1996] (Auth: HRS §§342F-3, 342F-31) (Imp: HRS §§342F-3, 342F-31)

§11-46-10 Certification. Persons conducting noise measurements for the enforcement of this chapter shall have been trained in the techniques of sound measurement and the operation of sound level meters and other sound measuring instruments and shall have been certified by the director. [Eff SEP 23 1996] (Auth: HRS §§342F-3, 342F-31) (Imp: HRS §§342F-3, 342F-31)

§11-46-11 Powers and duties. In order to implement and enforce this chapter and for the general purpose of prevention, control, and abatement of noise pollution in the State, the director shall have, in addition to any other vested authority, the power to:

- (1) Conduct research programs for the purpose of determining the causes, effects, and hazards of excessive noise and the means whereby noise may be monitored, controlled, or abated;
- (2) Conduct programs of public education regarding the causes, effects, and general methods of abatement and control of noise; the actions prohibited by this chapter and the procedures for reporting violations;
- (3) Cooperate, to the extent practicable, with all appropriate state, federal, and county agencies;
- (4) Coordinate noise programs with appropriate county agencies in providing technical assistance in areas such as development of regulatory control of activities creating noise disturbances, and in sound measurement;
- (5) Conduct state educational and training programs on noise prevention, control, and abatement, including the preparation and distribution of information relating to excessive noise and its effect on people;
- (6) Request any other department or agency responsible for any proposed or final standard, regulation, or similar action to consult on the advisability of revising the action, if there is reason to believe that the action is not consistent with any provision of this chapter;
- (7) Develop and recommend for promulgation, provisions regulating the use and operation of any product; and
- (8) Develop and promulgate standards, testing methods, and procedures. [Eff SEP 23 1996]
(Auth: HRS §§342F-3, 342F-31, 342F-33)
(Imp: HRS §§342F-3, 342F-31, 342F-33)

§11-46-12 Inspection of premises. (a) The director upon receiving reports of, or identifying any

actual or suspected excessive noise source, is authorized, upon presenting appropriate credentials to the owner, operator, or agent in charge:

- (1) To enter at all reasonable hours, any premises, to conduct an investigation, to ascertain compliance or noncompliance with this chapter, or any permit, variance or modification issued pursuant to this chapter, to make reasonable tests in connection therewith, and to recommend requirements for any noise attenuation measures;
- (2) To inspect at reasonable times and within reasonable limits and in a reasonable manner, any premises and all pertinent equipment or devices; and
- (3) To require that the owner, operator, or agent of any premises cease operation of all pertinent equipment, or devices for the purpose of conducting an investigation and inspection thereof.

(b) No confidential information secured pursuant to this section by any official or employee of the department, within the scope and course of the official's or employee's employment, in the prevention, control, or abatement of excessive noise, shall be disclosed by the official or employee, except as it relates directly to the excessive noise, and only in connection with the official's or employee's official duties and within the scope and course of the official's or employee's employment. [Eff SEP 23 1996] (Auth: HRS §§342F-3, 342F-6, 342F-31) (Imp: HRS §§342F-3, 342F-6, 342F-31)

§11-46-13 Other ordinances and rules. The council of any county may adopt and provide for the enforcement of ordinances regulating any matter relating to excessive noise. No such ordinance shall be held invalid on the ground that it covers any subject or matter embraced within any statute or rule of the State; provided that in any case of conflict between the statute or rule and ordinance, the law which affords the most protection to the public shall apply. [Eff SEP 23 1996] (Auth: HRS §§342F-3, 342F-20, 342F-31, 46-17) (Imp: §§342F-3, 342F-20, 342F-31)

§11-46-14 Enforcement. (a) Initial violation. If the director determines that any person has violated or is violating this chapter, or any condition of a permit, variance, or modification issued pursuant to this chapter, the director:

- (1) Shall cause written notice to be served upon the alleged violator or violators. This notice shall specify the alleged violation and may contain an order specifying a reasonable time during which that person shall be required to take any measures that may be necessary to correct the violation and give periodic progress reports;
- (2) May require that the alleged violator or violators appear before the director for a hearing at a time and place specified in the notice and answer the charges complained of; and
- (3) May impose penalties as provided in section 342F-11, HRS, and section 11-46-18 by sending a notice, in writing, either by certified mail or by personal services, to the alleged violator or violators describing the violation.

(b) Continuing violation. If the director determines that any person is continuing to violate this chapter, or any condition of a permit, variance, or modification issued pursuant to this chapter after having been served a notice of violation, the director:

- (1) Shall cause written notice to be served upon the alleged violator or violators. The notice shall specify the alleged violation and shall contain an order requiring that person to submit a written schedule within thirty days specifying the measures to be taken and the time within which the measures shall be taken to bring that person in compliance with this chapter, or the conditions of a permit, variance, or modification issued pursuant to this chapter;
- (2) Shall accept or modify the submitted schedule within thirty days of receipt of the schedule. Any schedule not acted upon after thirty days of receipt by the director shall be deemed accepted by the director;
- (3) Shall issue to the alleged violator or

violators a cease order against the activities that violate this chapter, or any condition of a permit or variance issued pursuant to this chapter if that person does not submit a written schedule to the director within thirty days. This order shall remain in effect until the director accepts the written schedule; and

- (4) May impose penalties as provided in section 342F-11, HRS, or section 11-46-18 by sending a notice, in writing, either by certified mail or by personal service, to the alleged violator or violators describing the violation.

(c) Violation of abatement schedule or order. If the director determines that any person has violated the provisions of an accepted schedule or has violated an order issued under this section, the director shall impose penalties by sending a notice in writing, either by certified mail or by personal service, to that person, describing such nonadherence or violation.

- (d) Violation order.
 - (1) Any order issued under this chapter shall become final, unless no later than twenty days after the notice of order is served, the person or persons named therein request, in writing, a hearing before the director.
 - (2) Any penalty imposed under this chapter shall become due and payable twenty days after the notice of penalty is served, unless the person or persons named therein request, in writing, a hearing before the director.
 - (3) Whenever a hearing is requested on any penalty imposed under this chapter, the penalty shall become due and payable only upon completion of all review proceedings and the issuance of a final order confirming the penalty in whole or in part.
- (e) Contested hearing.
 - (1) Upon request for a hearing, the director shall require that the alleged violator or violators appear before the director for a hearing at a time and place specified in the notice and answer the charges complained of.
 - (2) Any hearing conducted under this section shall be conducted as a contested case under

- chapter 91, HRS.
- (3) If, after a hearing held pursuant to this section, the director finds that a violation or violations have occurred, the director shall affirm or modify any penalties imposed, or shall modify or affirm the order previously issued, or issue an appropriate order or orders for the prevention, abatement, or control of the violation involved, or for the taking of such other corrective action as may be appropriate.
 - (4) If, after a hearing on an order or penalty contained in a notice, the director finds that no violation has occurred or is occurring, the director shall rescind the order or penalty.
 - (5) An order issued after hearing may prescribe the date or dates by which the violation or violations shall cease and may prescribe timetables for necessary action in preventing, abating, or controlling the violation.
- (f) Civil action.
- (1) If the amount of any penalty is not paid to the department within thirty days after it becomes due and payable, the director may institute a civil action in the name of the State to collect the administrative penalty which shall be a government realization.
 - (2) In any proceeding to collect the administrative penalty imposed, the director need only show that notice was given, a hearing was held or the time granted for requesting a hearing expired without a request for a hearing, the administrative penalty was imposed, and the penalty remains unpaid.
- (g) Subpoena.
- (1) In connection with any hearing held pursuant to this section, the director shall have the power to subpoena the attendance of witnesses and the production of evidence on behalf of all parties.
- (h) The director shall enforce the provisions of this chapter. [Eff SEP 23 1996] (Auth: HRS §§342F-3, 342F-9, 342F-31) (Imp: HRS §§342F-3, 342F-9, 342F-31)

§11-46-15 Records.

- (1) The director may require that the owner, operator, or agent of any premises establish and maintain all pertinent records.
- (2) The director shall have access to all pertinent records.
- (3) The director may require that the owner, operator, or agent of any premises develop and submit reports of all pertinent records;.
- (4) The director may require that the owner, operator, or agent of any premises produce copies of all pertinent records upon request by the director.
- (5) The director may require that the owner, operator, or agent of any premises conduct measurements of sound levels of any source in accordance with established methods and procedures, at such locations and times as the director may reasonably prescribe, and to furnish reports of the results of such measurements. [Eff SEP 23 1996] (Auth: HRS §§342F-3, 342F-7, 342F-31) (Imp: HRS §§342F-3, 342F-7, 342F-31)

§11-46-16 Penalties. (a) Any person who violates any provision of this chapter, or any permit, variance, or modification issued pursuant to this chapter, shall be subject to fines of not more than \$10,000 for each separate offense. Each day of violation shall constitute a separate offense. Any action taken to impose or collect the penalty provided for in this subsection shall be considered a civil or administrative action, as the case may be.

(b) Any person who denies, obstructs, or hampers the entrance or inspection by any duly authorized employee of the department of any premises, or vehicle that the employee is authorized to enter and inspect, shall be fined not more than \$500. Any action taken to impose or collect the penalty provided for in this section shall be considered a civil action. [Eff SEP 23 1996] (Auth: HRS §§342F-3, 342F-9, 342F-31) (Imp: HRS §§342F-3, 342F-9, 342F-31)

§11-46-17 Citation. (a) Any person who commits

a violation of this chapter may be issued a summons or citation for such violation by any person authorized to enforce this chapter, hereinafter referred to as enforcement officer.

(b) The summons or citation shall warn the person to appear and answer to the charge against the person at a certain place and at a time within seven days after the issuance of the summons or citation.

(c) The summons or citation shall be printed on a form adopted or prescribed by the state district courts.

(d) Summons and citations shall be consecutively numbered and the carbon copy or copies of each shall bear the same number.

(e) The summons or citation shall be designed to provide for all necessary information.

(f) The original of a summons or citation shall be given to the purported violator and the other copy or copies distributed in the manner prescribed by the district courts; provided that the district courts may prescribe alternative methods of distribution of the original and any other copies.

(g) In the event any person fails to comply with a summons or citation issued to such person, the enforcement officer shall cause a complaint to be entered against the person and shall secure the issuance of a warrant for the person's arrest. Failure to comply with a summons or citation is a misdemeanor. [Eff SEP 23 1996] (Auth: HRS §§342F-3, 342F-10, 342F-31) (Imp: HRS §§342F-3, 342F-10, 342F-31)

§11-46-18 Administrative penalties. (a) In addition to any other administrative or judicial remedy provided by this chapter, the director is authorized to impose by order the penalties specified in section 342F-9(b) and (c), HRS, and section 11-46-16.

(b) Factors to be considered in imposing an administrative penalty include:

- (1) The nature and history of the violation and of any prior violations;
- (2) The economic benefit, if any, resulting from the violation;
- (3) The opportunity, difficulty, and history of corrective action;
- (4) Good faith efforts to comply; and

(5) Any other matters that justice may require.

(c) It is presumed that the violator's economic and financial conditions allow payment of the penalty, and the burden of proof to the contrary shall be on the violator. [Eff SEP 23 1996] (Auth: HRS §§342F-3, 342F-11, 342F-31) (Imp: HRS §§342F-3, 342F-11, 342F-31)

§11-46-19 Injunctive and other relief. The director may institute a civil action in any court of competent jurisdiction for injunctive and other relief to prevent any violation of this chapter, any rule adopted pursuant to this chapter, or any condition of a permit or variance issued pursuant to this chapter, without the necessity of a prior revocation of the permit or variance, to impose and collect civil penalties, to collect administrative penalties, or obtain other relief. The court shall have the power to grant relief in accordance with the Hawaii rules of civil procedure. [Eff SEP 23 1996] (Auth: HRS §§342F-3, 342F-12, 342F-31) (Imp: HRS §§342F-3, 342F-12, 342F-31)

§11-46-20 Public records. Reports submitted to the department on the emission of excessive noise shall be made available for inspection by the public during established office hours unless such reports contain information of a confidential nature concerning secret processes or methods of manufacture. [Eff SEP 23 1996] (Auth: HRS §§342F-3, 342F-15, 342F-31) (Imp: HRS §§342F-3, 342F-15, 342F-31)

§11-46-21 Litigation. No part of this chapter shall be allowed as a defense against suit brought by any person for damage alleged to occur as a result of noise. [Eff SEP 23 1996] (Auth: HRS §§342F-3, 342F-31) (Imp: §§342F-3, 342F-31)

§11-46-22 Severability. If any provision of this chapter, or the application thereof to any person or circumstance is held invalid, the remainder of this

§11-46-21

chapter, and the application of the chapter to other persons or circumstances, shall not be affected thereby. [Eff SEP 23 1996] (Auth: HRS §§342F-3, 342F-31) (Imp: HRS §§342F-3, 342F-31)

DEPARTMENT OF HEALTH

The repeal of Chapter 11-43 and the adoption Chapter 11-46, Hawaii Administrative Rules, on the Summary Page dated SEP 23 1996 were adopted on SEP 23 1996, following public hearings held on June 24, 1996 on the island of Kauai; June 25, 1996 on the island of Maui; June 26, 1996 in Hilo, Hawaii; June 27, 1996 in Kona, Hawaii; and July 1, 1996 on the island of Oahu, after public notices were given in the Honolulu Advertiser, Honolulu Star-Bulletin, Garden Isle, Maui News, Hawaii Tribune Herald, and West Hawaii Today on May 24, 1996.

The repeal of Chapter 11-43, and the adoption of Chapter 11-46, Hawaii Administrative Rules, shall take effect ten days after filing with the Office of the Lieutenant Governor.

Lawrence Miike

LAWRENCE MIIKE
Director
Department of Health

APPROVED:

Benjamin J. Cayetano

BENJAMIN J. CAYETANO
GOVERNOR
STATE OF HAWAII

Date: 9/11/96

APPROVED AS TO FORM:

Elizabeth D. Walker
Deputy Attorney General

SEP 12 1996

Filed: _____

96 SEP 12 P1 59



State of Hawaii
Department of Health
Application for Community Noise Permit

Permit is required by Title 11, Administrative Rules, Department of Health, Chapter 46, Community Noise Control.

Part I. Applicant Information

Name of Company		Authorized Individual	
Mailing Address		Title	
City	State	Zipcode	Phone

Part II. Community Noise Permit Fee Schedule (Annual) *Check one box

- Activities involving demolition, construction, extension, additions, or renovation of a single family dwelling \$25
- All other construction activities \$50
- Operation of stationary noise sources \$50
- Equipment related to agricultural activities \$50
- Equipment related to industrial activities \$50

Part III. Description of Activity

--

Part IV. Location of Activity *Attach map if necessary

--

Part V. Equipment to be utilized *Attach list if necessary

--

Part VI. Estimated duration of construction activity

*Attach activity schedule for construction activities or attenuation of stationary sources.

From	To
------	----

Certification of Individual Authorized to Act for Applicant

I certify that I have knowledge of the facts herein set forth and that the same are true and correct to the best of my knowledge and belief. Acceptance of this permit constitutes an acknowledgement and agreement that the permittee will comply with all rules, regulations and orders of the department and the conditions precedent to the granting of this permit.

Signature	Date
-----------	------

Please make checks payable to: **STATE DEPARTMENT OF HEALTH**

Return this application with the appropriate attachments to: Indoor and Radiological Health Branch
Noise Section
99-945 Halawa Valley Street
Aiea, Hawaii 96701

All fees are non-refundable.

There will be a service fee of \$25.00 for any check dishonored by the bank.

If you have any questions call our office at (808) 586-4700.

FOR DEPARTMENT OF HEALTH USE ONLY

Date Received	<input type="text"/>	Permit Number	<input type="text"/>
Fee Paid	<input type="text"/>	Receipt No.	<input type="text"/>
Date Approved	<input type="text"/>		
Date Issued	<input type="text"/>	Expiration Date	<input type="text"/>

**State of Hawaii
Department of Health
Indoor and Radiological Health Branch**

**GUIDE FOR FILING COMMUNITY NOISE PERMIT APPLICATIONS
(CONSTRUCTION ACTIVITIES)**

General Information

1. Every application for permit shall be submitted on forms furnished by the Department of Health.
2. Submit information on attachments, if necessary.
3. Every applicant shall pay the applicable *annual* fees as follows:

Specific Information

All sections of the permit application must be filled out completely in order for your application to be processed. An incomplete application shall not be considered or acted upon.

I. **Applicant Information**

This section shall include the company's or individual's name, mailing address and telephone number. In addition, the authorized individual, title and telephone number shall be included. The authorized individual shall be responsible for the Community Noise Permit and shall be the respondent to all permit matters. The authorized individual shall sign the *certification section* of the permit application.

II. **Community Noise Permit Fee Schedule (Annual)**

\$25 per year for activities involving demolition, construction, extension, additions or renovation of a *single family dwelling*.

\$50 per year for all other activities, including but not limited to demolition of building structures, construction of buildings, residential subdivisions, shopping centers, bridges, reservoirs, utilities, roadway (including improvements), site work for subdivisions and golf courses.

Fees shall not be refunded or applied to any subsequent application.

Fees shall be made payable to the *State of Hawaii*.

The assessment of appropriate fees shall be based upon the estimated duration of the construction project, as indicated on the application. For example, the estimated duration for construction of a commercial complex is submitted as April 1, 1997 through May 1, 1998. A total permit application fee of \$100.00 (\$50.00 for the first year; and \$50.00 for the second year) shall be assessed. The estimated duration should, therefore, be

submitted as accurately as possible. For projects lasting slightly more than a year's period, such as a year + a few weeks or within a month, it is recommended that an application be submitted for one year; and renewed thereafter, if necessary. Note that renewals are subject to applicable annual fees.

III. Description of Activity

Provide a brief description of the type of activity or project. This description shall specify the proposed operation, such as demolition of existing structure and construction of new single family dwelling, construction of high-rise residential building, construction of commercial complex, installation of utilities, reconstruction of roadway, etc. Include project name if known.

"Construction activities" is defined by rules as "any or all activities, including but not limited to those activities necessary or incidental to the erection, demolition, assembling, renovating, installing, or equipping buildings, public or private highways, roadways, premises, and parks."

IV. Location of Activity

Give the specific address or location of the construction site. Submit a map of the location if the site is difficult to locate. Location of equipment storage or stockpile areas shall also be included, if utilized.

"Construction site" is defined by rules as "any or all areas, necessary or incidental for the purpose of conducting construction activities."

V. Equipment to be utilized

List all equipment to be utilized on the site. Submit as attachment if necessary.

"Construction equipment" is defined by rules as "any device designed and intended for use in construction, including but not limited to any air compressor, pile driver, bulldozer, pneumatic hammer, steam shovel, derrick, crane tractor, grader, loader, power saw, pump, pneumatic drill, compactor, on-site vehicle, and power hand tool."

It is not necessary to list manual hand tools.

The following equipment may be restricted to 9:00 a.m. to 5:30 p.m., Monday through Friday:

- a. Pile Drivers
- b. Hydraulic Hammers
- c. Jackhammers
- d. High Pressure Sprayers
- e. Chain Saws

If pile drivers or hydraulic hammers are to be used, the following additional information shall be required:

- a. The number of pile drivers and/or hydraulic hammers to be utilized.
- b. For pile driving activities, the number of piles to be driven.
- c. Duration of the pile driving or hydraulic hammer operations.
- d. Name and on-site telephone number of the person responsible for responding to noise complaints.

For activities resulting in adverse noise impacts such as pile driving or hydraulic hammer operation, notification of the surrounding affected areas shall be required. In addition, the department may further require the contractor to conduct a public information meeting in order to provide the surrounding community with information pertaining to the proposed noise emitting activity. This requirement is subject to the duration of such operations and the extent of the impacted area.

Based on the determination that potential adverse noise impact from the construction activities may occur, the department may require submittal of plans, procedures and specifications for the abatement of noise emissions from specific construction equipment, which may include the best available control technology (BACT). In addition, information pertaining to other alternatives to replace the operation of the noise source may be required.

VI. Estimated duration of construction activity

Specific dates shall be included.

Section 11-46-7(e)(1) states, "The director shall determine the effective period of the permit, which shall be for any term not exceeding five years."

Note that every application for permit shall be subject to annual fees as indicated in section II.

A project schedule must be submitted describing the various phases of construction (e.g. demolition, excavation, utility installation, foundation, framing, exterior walls, interior work, finishing work, landscaping, etc.) and estimated duration for each phase. A bar graph type schedule is acceptable. ***The project schedule must conform to the estimated duration requested.***

Information pertaining to this section should be submitted as an attachment.

Certification of Individual Authorized to Act for Applicant

This section shall be completed and signed by the person identified as the "Authorized Individual" in section I. Certification by the applicant shall constitute an acknowledgement and agreement that the applicant shall comply with all the terms and conditions of the permit, rules and statutes.

Important Information Pertaining to Permit Requirements

1. Submission of additional information after the application has been submitted may be required to ensure that the application is complete and non-deficient.
2. The period of the permit initially granted may be extended upon showing that an extension is justified; provided that the extension request may not exceed five years, and that extensions shall be subject to annual fees.
3. Permit may be renewed upon application for any term not exceeding five years; provide that renewal shall be subject to annual fees.
4. An application for modification of a permit shall be submitted in writing.
5. The department shall be notified in writing of the permanent termination of the permit. If such notice is not received by the expiration date specified in the permit, the permit shall automatically terminate and the permittee shall be divested of all rights therein.

BEFORE THE LAND USE COMMISSION

OF THE STATE OF HAWAI'I

In the Matter of the Petition of)	DOCKET NO. A17-804
)	
HAWAIIAN MEMORIAL LIFE PLAN, LTD.)	HAWAIIAN MEMORIAL LIFE
)	PLAN, LTD.
To Amend The Conservation Land Use)	
District Boundary Into The Urban Land Use)	
District For Approximately 53.449 Acres Of)	
Land At Kāne'ōhe, Island of Oahu, State of)	
Hawai'i, Tax Map Key: (1) 4-5-033: por. 001)	
_____)	

CERTIFICATE OF SERVICE

I hereby certify that an unmarked file of the foregoing document was duly served upon the following **AS INDICATED BELOW** on June 19, 2020.

DAWN TAKEUCHI-APUNA, ESQ. Deputy Attorney General Department of the Attorney General 425 Queen Street Honolulu, Hawai'i 96813	HAND DELIVERY
---	---------------

MARY ALICE EVANS, DIRECTOR Office of Planning, State of Hawai'i 235 South Beretania Street Room 600, Leiopapa A Kamehameha Bldg. Honolulu, Hawai'i 96813	HAND DELIVERY
--	---------------

KATHY K. SOKUGAWA, ACTING DIRECTOR City and County of Honolulu Department of Planning and Permitting 650 South King Street, 7th Floor Honolulu, Hawai'i 96813	HAND DELIVERY
---	---------------

PLANNING COMMISSION
City and County of Honolulu
650 South King Street, 7th Floor
Honolulu, Hawai'i 96813

HAND DELIVERY

PAUL S. AOKI, ESQ.
Acting Corporation Counsel
City and County of Honolulu
Department of Corporation Counsel
530 South King Street, Room 110
Honolulu, Hawai'i 96813

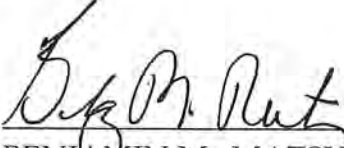
HAND DELIVERY

HUI O PIKOILOA, an unincorporated
Association, LIANNE CHING, BETTYE
HARRIS, RICHARD MCCREEDY, JULIANE
MCCREEDY, JESSE REAVIS, and
GRANT YOSHIMORI
c/o 45-464 Lipalu Street
Kaneohe, Hawai'i 96744

CERTIFIED MAIL
RETURN RECEIPT
REQUESTED
gyoshimo@hotmail.com
gyoshimo@gmail.com

DATED: Honolulu, Hawai'i, June 19, 2020.

Of Counsel:
MATSUBARA, KOTAKE & TABATA
A Law Corporation


BENJAMIN M. MATSUBARA
CURTIS T. TABATA
Attorneys for Petitioner
HAWAIIAN MEMORIAL LIFE
PLAN, LTD.