

From: Committee on Rules 36GL <cor@guamlegislature.org>
Sent: Monday, October 24, 2022 10:42 AM
To: Clerks; Rennae Meno
Cc: Speaker Therese M. Terlaje; Vice Speaker Tina Rose Muña Barnes; Legislative Secretary Amanda Shelton
Subject: TO REPLACE: Messages and Communications for Doc. No. 36GL-22-2713*

Håfa Adai Clerks,

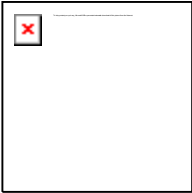
Please see below M&C Doc. No. 36GL-22-2713 **TO BE REPLACED** and processed:

36GL-22-2713	Bill for Introduction - AN ACT TO APPROVE THE HAGÁTÑA RESTORATION AND REDEVELOPMENT PLAN AND ITS SUPPORTING DOCUMENTS*	Office of the Governor of Guam
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The file is too big to attach in the email. Please see pdf below:

 [TO REPLACE - 36GL-22-2713.pdf](#)

Si Yu'os Ma'åse',



COMMITTEE ON RULES

Vice Speaker Tina Rose Muña Barnes, Chairperson
36th Guam Legislature
I Mina'trentai Sais Na Liheslaturan Guåhan
Guam Congress Building | 163 Chalan Santo Papa Hågatña Guam 96910
Email: cor@guamlegislature.org

§
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From: **Speaker Therese M. Terlaje** <speaker@guamlegislature.org>
Date: Mon, Oct 24, 2022 at 9:36 AM
Subject: (RESEND) Messages and Communications for 36GL-22-2713
To: Legislative Secretary Amanda Shelton <officeofsenatorshelton@guamlegislature.org>, Committee on Rules 36GL <cor@guamlegislature.org>

Håfa Adai,

Please see attached M&C Doc. No. 36GL-22-2713*

 [2. The HMP - Design Guidelines, August 2022 - H...](#)

 [3. The HMP - Map Atlas, August 2022 - HRRRA MA F...](#)



Si Yu'os Ma'åse',

Marie Cruz
Community Relations Liaison

Office of Speaker Therese M. Terlaje
Committee on Health, Land, Justice and Culture
I Mina'trentai Sais na Liheslaturan Guåhan
36th Guam Legislature
Guam Congress Building, 163 Chalan Santo Papa, Hagåtña, Guam 96910
T: (671) 472-3586 F: (671) 989-3590 Email: senatorterlajequam@gmail.com
website: www.senatorterlaje.com

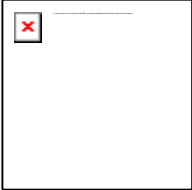
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Date: Fri, Oct 21, 2022 at 4:28 PM
Subject: Messages and Communications for Doc. No. 36GL-22-2713*
To: Clerks <clerks@guamlegislature.org>, Rennae Meno <rennae@guamlegislature.org>
Cc: Speaker Therese M. Terlaje <speaker@guamlegislature.org>, Vice Speaker Tina Rose Muña Barnes <senatormunabarnes@guamlegislature.org>

Håfa Adai Clerks,

Please see below M&C Doc. No. 36GL-22-2713 for processing:

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Si Yu'os Ma'åse',



COMMITTEE ON RULES
Vice Speaker Tina Rose Muña Barnes, Chairperson
36th Guam Legislature
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Date: Fri, Oct 21, 2022 at 3:22 PM
Subject: Messages and Communications for 36GL-22-2713
To: Legislative Secretary Amanda Shelton <officeofsenatorshelton@guamlegislature.org>, Committee on Rules 36GL <cor@guamlegislature.org>

Håfa Adai,

Please see attached M&C Doc. No. 36GL-22-2713*

36GL-22-2713	Bill for Introduction - AN ACT TO APPROVE THE HAGÂTÑA RESTORATION AND REDEVELOPMENT PLAN AND ITS SUPPORTING DOCUMENTS*
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Si Yu'os Ma'åse',

Marie Cruz
Community Relations Liaison

Office of Speaker Therese M. Terlaje
Committee on Health, Land, Justice and Culture
I Mina'trentai Sais na Liheslaturan Guåhan
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website: www.senatorterlaje.com

----- Forwarded message -----
From: **Brianne LG Dunstan** <brianne.dunstan@guam.gov>
Date: Fri, Oct 21, 2022 at 2:53 PM
Subject: Draft Bill for Introduction - Hagåtña Master Plan
To: Speaker Therese M. Terlaje <speaker@guamlegislature.org>
Cc: GOVERNOR Lourdes A. Leon Guerrero <governor@guam.gov>, LT. GOVERNOR Joshua F. Tenorio <lt.governor@guam.gov>, CHIEF OF STAFF Jon Junior Calvo <jon.calvo@guam.gov>, DEPUTY COS Alice Taijeron <alice.taijeron@guam.gov>, Eliza G. Dames <eliza.dames@guam.gov>, Shamra L.A. Chargualaf (Chamber) <shamra.chargualaf@guam.gov>, Josephine C. Cepeda <josephine.cepeda@guam.gov>, Stephanie G. Flores <stephanie.flores@guam.gov>, Kathleen C. Cepeda (COS) <kathleen.cepeda@guam.gov>, Rhea Chang <rhea.chang@guam.gov>, Leslie Travis <leslie.travis@guam.gov>, Jeffrey Moots <jeffrey.moots@guam.gov>, Cheerful Catunao <cheerful.catunao@guam.gov>, Rikki Orsini <rikki.orsini@guam.gov>, Krystal J. Paco <krystal.paco@guam.gov>, Calen M. Meno <calen.meno@guam.gov>, Jessica Cruz <jessica.cruz@guam.gov>

Hafa Adai Madame Speaker,

Please find attached letter from Governor Leon Guerrero regarding the above matter.

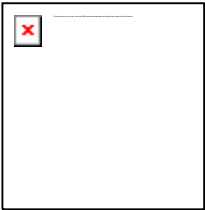
Supporting documents for the Hagåtña Master Plan can be accessed by the Google link below.

The HMP.zip

Our office will deliver a hard copy of the letter and draft bill to your office today.

Thank you.

Respectfully,
--



Brianne LG Dunstan
Unisifan I Maga’hågan Guåhan
Office of the Governor of Guam
Office of Legal Counsel
513 West Marine Corps Drive
Ricardo J. Bordallo Governor's Complex
Hagåtña, Guam 96910
Office: 671.473.1118
brianne.dunstan@guam.gov



Speaker Therese M. Terlaje <speaker@guamlegislature.org>

Draft Bill for Introduction - Hagåtña Master Plan

Brianne LG Dunstan <brianne.dunstan@guam.gov>

Fri, Oct 21, 2022 at 2:53 PM

To: "Speaker Therese M. Terlaje" <speaker@guamlegislature.org>

Cc: "GOVERNOR Lourdes A. Leon Guerrero" <governor@guam.gov>, "LT. GOVERNOR Joshua F. Tenorio" <lt.governor@guam.gov>, CHIEF OF STAFF Jon Junior Calvo <jon.calvo@guam.gov>, DEPUTY COS Alice Taijeron <alice.taijeron@guam.gov>, "Eliza G. Dames" <eliza.dames@guam.gov>, "Shamra L.A. Chargualaf (Chamber)" <shamra.chargualaf@guam.gov>, "Josephine C. Cepeda" <josephine.cepeda@guam.gov>, "Stephanie G. Flores" <stephanie.flores@guam.gov>, "Kathleen C. Cepeda (COS)" <kathleen.cepeda@guam.gov>, Rhea Chang <rhea.chang@guam.gov>, Leslie Travis <leslie.travis@guam.gov>, Jeffrey Moots <jeffrey.moots@guam.gov>, Cheerful Catunao <cheerful.catunao@guam.gov>, Rikki Orsini <rikki.orsini@guam.gov>, "Krystal J. Paco" <krystal.paco@guam.gov>, "Calen M. Meno" <calen.meno@guam.gov>, Jessica Cruz <jessica.cruz@guam.gov>

Hafa Adai Madame Speaker,

Please find attached letter from Governor Leon Guerrero regarding the above matter.

Supporting documents for the Hagåtña Master Plan can be accessed by the Google link below.

 [The HMP.zip](#)

Our office will deliver a hard copy of the letter and draft bill to your office today.

Thank you.

Respectfully,

--



Brianne LG Dunstan

Unisifan I Maga'hågan Guåhan
Office of the Governor of Guam

Office of Legal Counsel

513 West Marine Corps Drive

Ricardo J. Bordallo Governor's Complex
Hagåtña, Guam 96910

Office: 671.473.1118

brianne.dunstan@guam.gov

DOC NO. 36GL-22-2713
OFFICE OF THE SPEAKER

Therese M. Terlaje

Date: 10/21/2022

Time: 2:53 p.m.

Received: 

COMMITTEE ON RULES
RECEIVED:

October 21, 2022

3:22 P.M.



2 attachments



Transmitted Bill for Introduction_Hagatna Master Plan [update].pdf

209K



Bill for Hagatna Master Plan Approval.docx

28K

LOURDES A. LEON GUERRERO
GOVERNOR



JOSHUA F. TENORIO
LT. GOVERNOR

UFISINAN I MAGA'HÅGAN GUÅHAN
OFFICE OF THE GOVERNOR OF GUAM

Transmitted via email to speaker@guamlegislature.org

October 20, 2022

The Honorable Therese M. Terlaje
Speaker, 36th Guam Legislature
Guam Congress Building
163 W. Chalan Santo Papa
Hagatna, Guam 96910

RE: Bill for Introduction

Håfa Adai Madame Speaker:

The Hagåtña Master Plan will significantly benefit the people of Guam on our road to economic recovery by bringing \$550 million in redevelopment projects to Guam. These projects are aimed at promoting the history, heritage, and the economic vitality of Guam's capital city.

The development envisioned in the Master Plan will highlight the rich history of Hagåtña. At the same time, the development will consolidate many of the government of Guam's agencies into a centralized location. This consolidation will provide our community with enhanced accessibility to the agencies while reducing the need for many of the current government of Guam office leases.

Through town halls, open houses, market studies, surveys, and planning charrettes, the community of Hagåtña was brought together to create this vision for their village. I ask the members of the 36th Guam Legislature to honor the vision developed through this collaborative process by promptly enacting the attached bill approving the Hagåtña Master Plan.

Senseramente,

A handwritten signature in black ink, appearing to read "Lou Leon Guerrero".

LOURDES A. LEON GUERRERO
Maga'hågan Guåhan
Governor of Guam

Enclosure: Bill for Introduction

I MINA'TRENTAI SAIS NA LIHESLATURAN GUÅHAN
2022 (SECOND) Regular Session

Bill No. -36 (COR)

Introduced by:

Committee on Rules
by request of *I Maga'hågan*
Guåhan, the Governor of
Guam, in accordance with the
Organic Act of Guam and 21
GCA Ch. 79.

**AN ACT TO APPROVE THE HAGÅTÑA RESTORATION
AND REDEVELOPMENT PLAN AND ITS SUPPORTING
DOCUMENTS.**

BE IT ENACTED BY THE PEOPLE OF GUAM:

Section 1. Pursuant to 21 GCA § 79304, the Hagåtña Restoration and Redevelopment Plan developed in accordance with the provisions of 21 GCA § 79302 and approved by the Hagåtña Restoration and Redevelopment Authority on August 18, 2022 is approved. The following documents constituting the final plan are approved:

- (a) The Hagåtña Master Plan;
- (b) The Hagåtña Master Plan Design Guidelines; and
- (c) The Hagåtña Master Plan Map Atlas.

Section 2. Severability. If any provision of this Act or its application to any person or circumstance is found to be invalid or contrary to law, such invalidity shall not affect other provisions or application of this Act which can be given effect

- 1 without the invalid provisions or application, and to this end the provisions of this
- 2 Act are severable.

Appendix A

HAGÅTÑA MASTER PLAN

Land Use Plan



HAGÅTÑA
MASTER PLAN

Preserving Our Past. Shaping Our Future.

HAGÅTÑA, GUAM

 **Matrix**



HAGÅTÑA MASTER PLAN

Preserving Our Past. Shaping Our Future.



Land Use Plan

Prepared for
Hagåtña Restoration and Redevelopment Authority (HARRA)
Hagåtña, Guam

Prepared by
 **Matrix**

August 2022

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Table of Contents

Chapter 1. Introduction

1.1	Introduction	1-1
1.2	Background	1-2
1.2	Agencies and Stakeholders Influencing Planning in Hagåtña	1-2
1.3	Re-establishing Hagåtña as a City	1-3
1.5	Previous Master Planning in Hagåtña.....	1-3
1.6	Community Involvement and Public Participation	1-6
1.7	Hagåtña Master Plan Vision.....	1-9
1.8	Guiding Principles.....	1-9

Chapter 2. Historic and Cultural

2.1	Issues and Opportunities	2-1
2.2	Goals and Policies.....	2-3
2.3	Planning Framework	2-5

Chapter 3. Land Use

3.1	Issues and Opportunities	3-1
3.2	Goals and Policies.....	3-2
3.3	Planning Framework	3-11

Chapter 4. Public Buildings and Facilities

4.1	Issues and Opportunities.....	4-1
4.2	Goals and Policies	4-3
4.3	Planning Framework.....	4-4

Chapter 5. Circulation

5.1	Issues and Opportunities.....	5-1
5.2	Goals and Policies	5-3
5.3	Planning Framework.....	5-6

Chapter 6. Infrastructure

6.1	Issues and Opportunities.....	6-1
6.2	Goals and Policies	6-2
6.3	Planning Framework.....	6-6

Chapter 7. Sustainability

7.1	Issues and Opportunities.....	7-1
7.2	Goals and Policies	7-2
7.3	Planning Framework.....	7-5

Chapter 8. Governance

8.1	Issues and Opportunities	8-2
8.2	Goals and Policies.....	8-2

Appendices

Appendix A Hagatna Master Plan	
Public Workshop Overview	A-1
Appendix B Facility Scoping Memorandum	
	B-1

Figures

Figure 1-1	2005 Master Plan Land Use Map	1-5
Figure 2-1	Heritage Trail.....	2-6
Figure 2-2	Hagåtña Barrios.....	2-11
Figure 3-1	Land Use Plan.....	3-3
Figure 3-2	Hagåtña Districts.....	3-11
Figure 3-3	Hagåtña Public Lands.....	3-15
Figure 4-1	Future Hagåtña Government Center Complex at Plaza de España	4-7
Figure 4-2	Hagåtña Parks	4-8
Figure 5-1	Hagåtña Roadway Network	5-2
Figure 5-2	Hagåtña Trails Network	5-22
Figure 5-3	Hagåtña Public Transit and Parking Structures.....	5-27

Tables

Table 1-1	List of Stakeholders Interviewed	1-7
Table 2-1	Additional Historical and Cultural Sites on the Rerouted Heritage Trail	2-7
Table 2-2	Barrio Sites and Landmarks	2-9
Table 4-1	Estimated Square Footage Needed By Department.....	4-5



1. Introduction

Inside Chapter 1...

1.1	Introduction	1-1
1.2	Background	1-2
1.3	Agencies Influencing Planning in Hagåtña	1-2
1.4	Re-establishing Hagåtña as a City.....	1-22
1.5	Previous Master Planning in Hagåtña.....	1-2
1.6	Community Involvement and Public Participation.....	1-6
1.7	Hagåtña Master Plan Vision.....	1-9
1.8	Guiding Principles	1-9

1.1 Introduction

The Hagåtña Restoration and Redevelopment Authority (HRRA) is updating the 2005 master plan for Hagåtña. HRRA is the owner of the Hagåtña Master Plan (Land Use Plan) and has the authority by law to make updates to the plan as appropriate.

A master plan can be described as an expression of a community's vision through goals, policies, mapping and graphics. A master plan helps in directing decisions relating to land use, roads, housing, utilities and other related concerns in order to achieve its vision.

The Hagåtña Master Plan has three defining features:

- **All-inclusive.** The master plan covers a wide range of social, economic, infrastructure, and natural resource topics.

These include land use, housing, transportation, utilities, public services, recreation, cultural resources, and environmental hazards.

- **Design-oriented.** In addition to new goals, policies and actions for Hagåtña, the master plan also includes design guidelines supported by land use and development strategies.
- **Long-range.** Master plan goals typically have a ten-year horizon. This master plan update will look at a planning horizon of 15 years to the year 2030. To accomplish this future, the update will include policies and actions that address both immediate and long-term objectives.

The intent of this update is to be all-inclusive and addresses several issues. The Hagåtña Master Plan update addresses these 7 issues:

- Provides a description of current conditions and trends shaping Hagåtña;
- Identifies planning issues, opportunities, and challenges that should be addressed in the Master Plan;
- Provides the public with opportunities for meaningful participation in the planning and decision-making process;

- Ensures that the master plan is current, internally consistent, and easy to use;
- Provides guidance in the planning and evaluation of future land and resource decisions;
- Explores land use and policy alternatives; and
- Provides a vision and framework for the future of Hagåtña.

Finally, for ease of reference and implementation, the master plan update is broken into the following components:

- **Map Atlas.** The Map Atlas provides a detailed description of existing conditions and trends within Hagåtña, as of 2015.
- **Master Plan (Land Use Plan).** The Land Use Plan contains the goals and policies which will guide future land use and development decisions within Hagåtña. It also identifies actions that will be used to accomplish these goals and policies.
- **Design Guidelines and Regulations.** This document contains design guidelines and regulations intended to encourage pedestrian comfort and aesthetically pleasing and resilient design, while maintaining functionality.

I.2 Background

Hagåtña, the capital of Guam, is located in the central part of the island along the western coast and is nestled between Agaña Bay and Agaña Heights. Hagåtña is bordered by the villages of Tamuning, Mongmong-Toto-Maite, Sinajana, and Asan.

Hagåtña's elevation ranges from sea level along the coastline to approximately 350 feet above mean sea level in the Kuestan / San Ramon Hill vicinity. Composing a significant portion of Hagåtña's southeastern section is one of Guam's largest wetlands, Sesonyan (Hagåtña Swamp or wetlands). Drastic changes in elevation exist along the Agaña cliffs and near Fort Santa Agueda. Agaña Bay, along the northern boundary of Hagåtña, is a natural bay protected by a reef barrier approximately 1,500 feet from the shoreline, with a channel opening that leads to the Gregorio D. Perez Marina in Hagåtña.

Covering roughly 1 square mile, Hagåtña is formerly a densely populated area, but is now one of the least populated municipalities on the island and the second smallest in terms of population size. The city is home to just over 1,000 people (2010). Although small in size and population, Hagåtña is one of the island's major centers of commerce and government.

I.3 Agencies and Stakeholders Influencing Planning in Hagåtña

Hagåtña Restoration and Redevelopment Authority

The Hagåtña Restoration and Redevelopment Authority (HRRRA) was established by Public Law 24-110 and codified under GCA Division 2, Chapter 79. HRRRA was created to protect and promote

the heritage, economic vitality, restoration, and redevelopment of Hagåtña. HRRRA also strives to protect and promote the general welfare of the people of Guam. HRRRA's mission is to revitalize, promote, preserve & protect the heritage & economic vitality of the City of Hagåtña by expanding the supply of low- & moderate-income housing, employment opportunities for jobless, underemployed, and low-income persons, and to provide an environment for the social, economic, & psychological growth and well-being of all our citizens.

HRRRA strives to restore and revitalize historical sites and parks, to revitalize the city through public-private initiatives, and is responsible for developing and maintaining an overall land use plan for redevelopment in Hagåtña. Moving forward, HRRRA plans to revitalize Hagåtña by implementing goals and policies and following through on action items established within the update of the Hagåtña Master Plan. Other means of revitalization of Hagåtña include redevelopment projects such as the Guam and CHamoru Educational Facility, commonly known as the new Guam Museum.

HRRRA's vision for Hagåtña is:

A vibrant Hagåtña as the center of cultural, civic, political, sports & economic vitality for Guam & the Western Pacific.

Other Government of Guam Agencies Influencing Hagåtña

- Bureau of Statistics and Plans
- CHamoru Land Trust Commission
- Department of Agriculture
- Department of CHamoru Affairs

- Department of Homeland Security
- Department of Labor / AHRD
- Department of Public Works
- Department of Revenue and Taxation
- Governor of Guam / Governor's Office
- Guam Ancestral Lands Commission
- Guam Coastal Management Program
- Guam Environmental Protection Agency
- Guam Fire Department
- Guam Housing and Urban Renewal Authority
- Guam Land Use Commission
- Guam Police Department
- Guam Power Authority
- Guam Preservation Trust
- Guam Public Library System
- Guam Regional Transit Authority
- Guam Seashore Protection Commission
- Guam Waterworks Authority
- Hagåtña Mayors Office
- I Kumisión i Fino' CHamoru yan i Fina'någuen i Historia yan i Lina'la' i Ta
- Judiciary of Guam
- Liheslaturan Guahan (Guam Legislature)
- Port Authority of Guam
- University of Guam, Micronesia Area Research Center

I.4 Re-establishing Hagåtña as a City

Traditionally, Guam has been organized into different villages. Today, there are 19 villages that make up Guam. While each village has its own mayor and established boundaries, there are no true incorporated cities on Guam.

1.5 Previous Master Planning in Hagåtña

1967 Guam Master Plan

The 1967 Guam Master Plan was developed as the initial master plan to guide land use and development for all areas of Guam, including Hagåtña. The plan describes the municipalities of Guam within part three, which states that the City of Hagåtña is the central city of Guam, which represents the nucleus about which the urban activity and growth of the area is organized. It further states that the activities of Hagåtña are inter-related with the activities of the other communities, and the rural areas surrounding the city.

The 1967 Master Plan identifies that Hagåtña was roughly 1.1 square miles at that time, made up of various land uses, and having a complex problem of fractional lots. In part three of the master plan, land uses are predominately detailed by municipality, although for the purposes of the study, Hagåtña was grouped with Agaña Heights and Sinajana due to small sizes and proximity of the communities. According to the master plan, the municipalities of Hagåtña, Agaña Heights and Sinajana collectively equal about 2,223.15 acres which is broken down into the following land use categories:

- Public (142.80 acres, or 6.4%)
- Semi-Public (74.19 acres, or 3.3%)
- Residential (167.68 acres, or 7.54%)
- Commercial (22.49 acres, or 1.0%)
- Industrial (6.51 acres, or 0.29%)
- Roads (176.66 acres, or 7.94%)
- Military (229.53 acres, or 10.32%)
- Non-Urban (1,403.27 acres, or 63.12%)

Other land uses identified in the master plan include conservation and agriculture, neither of which comprise any acreage in Hagåtña according to the master plan existing land use map.

Future land uses for Guam are identified in part four of the master plan, in the Land Use Element. The following “future” land uses, and their acreages are identified for the whole of Guam, looking ahead to year 1985.

- Public and Semi-Public (2,192 acres, or 1.61%)
- Residential – Single Family / Multi Family (3,927.34 acres, or 2.89%)
- Commercial (538.42 acres, or 0.39%)
- Hotel Areas (no acreage identified)
- Industrial (442.58 acres, or 0.32%)
- Roads (2,227.42 acres, or 1.64%)
- Agriculture (no acreage identified)
- Conservation (6,057.01 acres, or 4.46%)
- Military (45,716.15 acres, or 33.69%)
- Non-Urban (74,578.64 acres, or 54.96%)

2005 Draft Hagåtña Master Plan

The Hagåtña Land Use Plan was an integral part of the broader planning process involved in the 2005 Hagåtña Master Plan effort. The Master Plan defines future development in the terms of all determinants of growth and change (economic, political, social, and physical). The Land Use part of the overall plan is the physical interpretation of those elements of the plan on the geographic areas of Hagåtña and focuses on the arrangement and types of land use types, their impact upon the environment, and relation to community development. The 2005 Land Use Plan objectives are to organize, coordinate, and encourage and guide the process of development so as to protect the essential character of Hagåtña, including the environment, culture, and aesthetics, while meeting the essential needs of an increasing population.

The 2005 Land Use Plan identified that various public and cultural activities are concentrated in the central core of the city, the heart of Hagåtña. To the north are the retail and recreational areas of the Chamoru village, the Marina, and Paseo de Susana Park. Commercial activities flank the east and west side of central core and while a smattering of single and multi-family residences can be found throughout Hagåtña. The highest concentration of residential land use can be found to the far west side of Hagåtña (Anigua). For the purpose of the 2005 Hagåtña Land Use Plan, these land uses and their geographies were envisioned to remain intact.

The various uses of land for Guam and Hagåtña as identified in the master plans has evolved over time. Broad uses such as the commercial land use were broken down into various, more specific land use classifications such as shopping center, commercial and commercial high-rise. Additional uses were proposed in the 2005 Master Plan, such as cemeteries, mixed-use areas, the Planned Use Development (PUD) district, and various Planned Development Districts (PDD). As far as geographic locale, uses identified in the 2005 Master Plan are somewhat similar to those identified in the 1967 Master Plan. What had primarily changed between the two plans was the acreage of allocated land for those land uses. For example, the 2005 Master Plan identified higher percentages of parks / open space, commercial uses, and conservation areas as opposed to the 1967 Master Plan, while the 1967 Master Plan identified higher percentages of public (or civic), residential, and military uses.

The 2005 Master Plan was a draft plan that was never finalized or adopted, and therefore has no implications on land use policy. The proposed land use designations within the 2005 Hagåtña Master Plan are shown on Figure 1-1, and listed in the following paragraphs (with acreage and percentage of Hagåtña area).

Hagåtña Master Plan 2005 Land Uses

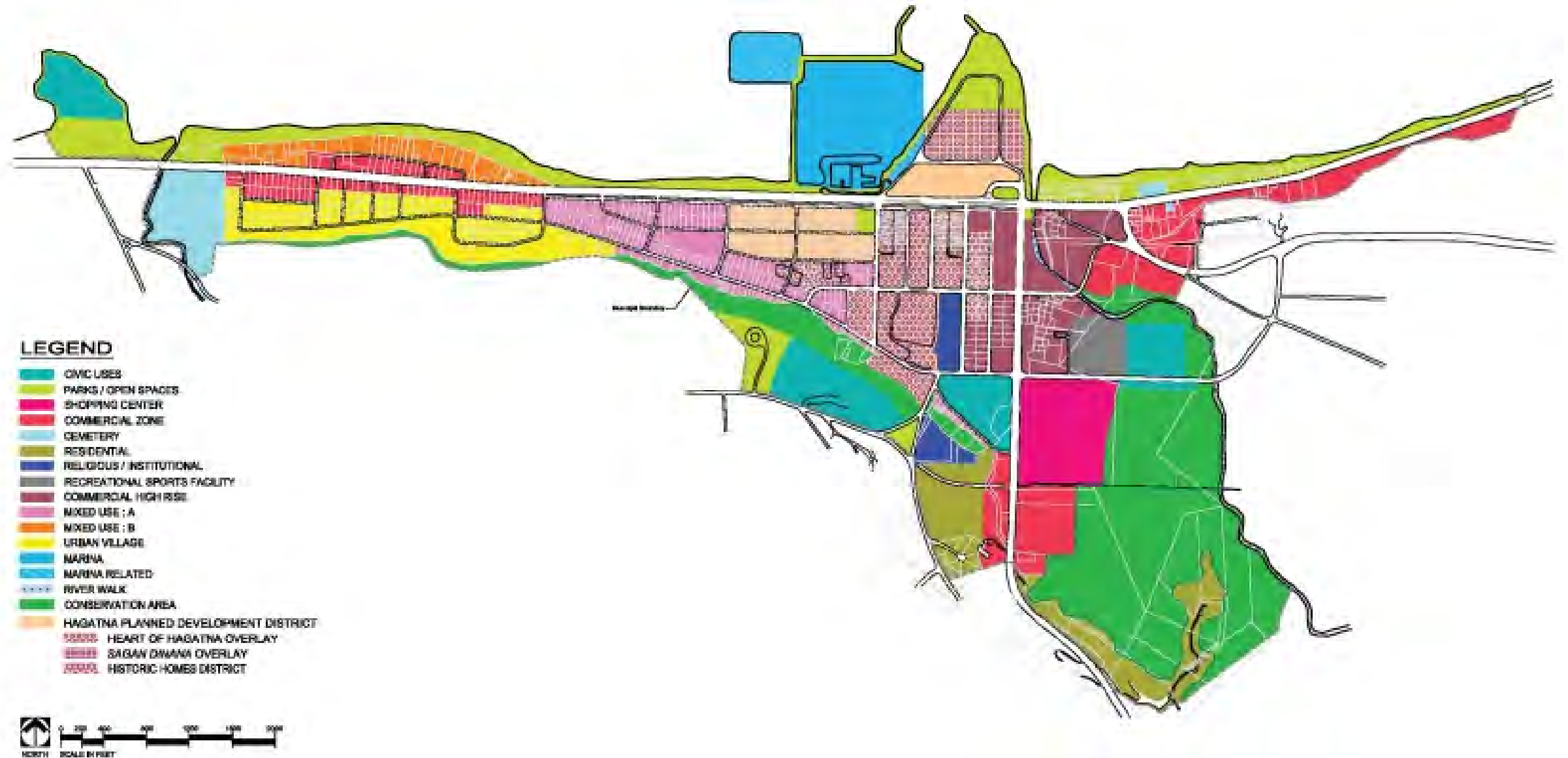
- Civic Uses (34.44 acres, or 6.5%)
- Parks and Open Space (58.57 acres, or 10.5%)
- Shopping Center (19.78 acres, or 3.8%)
- Commercial (67.84 acres, or 12.7%)
- Cemetery (15.92 acres, or 3.0%)
- Residential (22.79 acres, or 4.3%)
- Religious and Institutional (7.33 acres, or 1.4%)
- Recreation and Sports Facility (6.03 acres, or 1.1%)
- Commercial High Rise (31.03 acres, or 5.8%)
- Mixed Use A: Pedestrian Friendly (29.12 acres, or 5.5%)
- Mixed Use B: Auto Oriented (17.07 acres, or 3.2%)
- Urban Village (28.16 acres, or 5.3%)
- Marina* (1.39 acres, or 0.3%)
- Marina Related (7.70 acres, or 1.4%)
- Conservation Area (124.3 acres, or 23.3%)
- Planned Use Development District (20.74 acres, or 3.9%)
- Hagåtña PDD: Heart of Hagåtña Overlay (28.33 acres, or 5.3%)
- Hagåtña PDD: Sagan Dinaña Overlay (8.76 acres, or 1.6%)
- Historic Homes District (3.17 acres, or 0.6%)

Sources: 2005 Hagåtña Master Plan, Matrix Design Group, 2014

*NOTE: * = The majority of the Marina Land Use from the 2005 Master Plan map is not shown on Figure 1-1 due to the bulk of the use being shown over water. The Marina acreage above is for land use coverage only.*

*** = Total land use acreage does not account for roadway right-of-ways*

Figure 1-1. 2005 Master Plan Land Use Map



I.6 Community Involvement and Public Participation

Hagåtña Master Plan: Stakeholder Interviews

During the Master Plan initiation phase, interviews were conducted with 35 key stakeholders in an effort to gather their initial input on development and projects, real estate market data and tourism in regard to the Hagåtña area and the development of the Hagåtña Master Plan. While only 16 stakeholder interviews were proposed as part of the project’s Scope of Work, it was determined that additional interviews would provide further benefit for the report. At an initial kick-off meeting with HRRRA Board members in 2014, the Board provided a list of approved stakeholder contacts to include for potential stakeholder interviews. The stakeholders interviewed included Government of Guam (GovGuam) elected officials, major property owners, business and industry representatives, and community organizations.

These stakeholders were all selected to best represent the broadest spectrum of community interests. Project team staff was on-site and in attendance during this phase of data collection and at all meetings. These meetings and their findings are crucial for identifying major issues, constraints and opportunities.

Aside from stakeholders, GovGuam agency meetings were necessary for coordination with parties associated with project concerns and plan implementation. The table below is a listing of the stakeholders (including GovGuam agencies) in Hagåtña that were interviewed during the initial months of the planning process.

Summary and Key Findings

Each of the 35 stakeholder interviews generated several key findings and concerns in regard to the Hagåtña Master Plan. Before the whitepaper began, the key stakeholders were selected and classified into different categories based on their affiliations. Those categories are

- Business and land owners
- Institutions
- Development and projects
- Real estate market data
- Economic development and tourism
- Public Works projects
- Historic and cultural
- Seafaring Culture of Guam

As with the stakeholders themselves, these eight categories were predetermined for best representing both the interests of the community and the focus of the master plan. Although each stakeholder expressed concerns specific to their affiliation, locations and category, there were several consistent key findings and concerns identified by multiple participants during the interview process, which are summarized below.

Tourism: Significantly, stakeholder’s greatest concern was the lack of tourism in Hagåtña. Tourism is one of Guam’s greatest economic drivers, but primarily for Tumon. The issue identified by the majority of participants was that Hagåtña did not provide enough tourism opportunities. Attempts are being made to address this deficiency, such as the Guam Museum.

Flooding: More than half of the participants stated that the existing flood control systems in Hagåtña were insufficient. Flooding caused by storm surges, flash floods, and flooding of the Hagåtña River often impacts necessary daily operations and critical infrastructure within the downtown area. Furthermore, flooding has impacted development projects and construction within Hagåtña to the extent that millions of dollars of additional funding may be required to correct and/or mitigate these impacts.

Parking: A large number of stakeholder’s felt that Hagåtña lacked the necessary parking for all leisure / recreation / cultural opportunities. The consensus was that there were not enough individual parking spaces, a lack of on-street parking, lots were too small and deteriorating, parking structures were almost non-existent, and standards were not in place to properly accommodate both Hagåtña residents and tourists. Stakeholders mentioned ideas such as additional parking structures located near Plaza de España, more on-street parking along Marine Corps Drive and other collector and local roads (which would also help with traffic calming), and creating additional parking lots. One of the main concerns with public parking is that stakeholders and residents want it to remain free.

Mixed-use / Compatibility: Conceptually, the idea of incorporating more mixed-use buildings and compatible land use development was widely supported by stakeholders. This idea was based off their perception that the existing mixed-use development in Hagåtña was inappropriately incorporated into the urban fabric and is lacking residential appeal. Stakeholders identified the need for buildings with popular commercial and retail institutions on the first floor, with potential offices and residences above. Stakeholders also identified the need for land use compatibility, stating that many uses within Hagåtña are incompatible with the zoning or with adjacent residential uses.

Table 1-1. List of Stakeholders Interviewed

Stakeholder	Affiliation	Category
Jim Moylan, Bobby A. Shringi & Anthony R. Tenorio	Moylan's Insurance Underwriters, Inc.	Business / Land Owner
Eddie Cruz	Eddie J. Cruz, LLC	Business / Land Owner
Ralph Limtiaco	Limtiaco Auto Lube	Business / Land Owner
Marciano & John Pangilinan	MVP Enterprises, Inc.	Business Owner
Bob Jones, Ramona Jones, Jeff Jones, Juan Carlos Benitez & Dan Murrell	Triple J Enterprises	Business Owner
Geoffrey Perez & Chris Bejado	Proa Restaurants	Business Owner
Shana Guzman	International Distributors, Inc.	Business Owner
Luis Ajamil	Barmello Ajamil & Partners	Business Owner
Anthony Sgro	Paradise Fitness	Business Owner
Jeff San Nicolas & Juanita Quintanilla	Department of CHamoru Affairs, CHamoru Village	Developments & Projects
Marvin Aguilar & Celene Cruz	Department of Land Management	Developments & Projects
Edwin Reyes & Monica Guerrero	Bureau of Statistics And Plans	Developments & Projects
Leonard Calvo	Calvo Enterprises, Inc.	Developments & Projects
Harry Chang	China Pacific Investment Group	Developments & Projects

Stakeholder	Affiliation	Category
John Calvo, Shelly Calvo, Joe Santos, Joseph Artero-Cameron & Zenon Belanger	HRRA Board of Commissioners	Developments & Projects
Enrique Agustin & Rally M. Pilipina	Guam Regional Transit Authority	Developments & Projects
Felix Pangelinan, Donna Lizama-Acosta, Maria Taitano, Dora Perez & Dot Harris	Port Authority of Guam	Developments & Projects
John Camacho & Lorraine Guerrero	Department of Revenue And Taxation	Developments & Projects
Jack Jones, FAIA	JB Jones Architect	Developments & Projects
Charles T. McJohn II	Agaña Shopping Center	Econ Dev. & Tourism
Karl Pangelinan & Mark Baldyga	Guam Visitors Bureau	Econ. Dev. & Tourism
Raymond F.Y. Blas & Joe Quinata	Department of Parks And Recreation	Historic / Cultural
Dr. Omaira Brunal-Perry	University of Guam, MARC	Historic / Cultural
Rita Franquez	Franquez Apartments	Historic / Land Owner
Lou A. Leon Guerrero	Bank of Guam	Institutions
Rev. Father Adrian L.F. Cristobal & Monsignor David Quitugua	Archdiocese of Agaña	Institutions
Joshua Tenorio	Judiciary of Guam	Institutions

Stakeholder	Affiliation	Category
Mary A.T. Meeks	Academy of Our Lady of Guam	Institutions
Daniel Bruschki	BHI Realty	Real Estate Market Data
Sonny Ada	Ada's Trust & Investment, Inc.	Real Estate Market Data
Christopher Felix & Judy Booth	Century 21	Real Estate Market Data
Gary Hiles	Department of Labor	Real Estate Market Data
Larry Toves, Diego Mendiola & Sheena Black	Guam Economic Development Authority	Real Estate Market Data / Eco. Dev. & Projects
Glenn Leon Guerrero	Department of Public Works	Public Works Projects
Rob Limtiaco	HRRA Board of Commissioners	Seafaring Culture Of Guam

Paseo de Susana / Gregorio D. Perez Marina: The major recreational hub of Hagåtña lies on Paseo de Susana and includes the Fisherman’s Co-op area, CHamoru Village, and the Gregorio D. Perez Marina. There are many planned improvements underway or upcoming for facilities within the Paseo and the Marina, and some are well received while others are not. A new 4,000 square-foot facility, new roofing, and roughly 1,600 new seats are planned for Paseo Stadium, which will be operated by DPR and used for spring training by Japanese and Korean baseball teams. Additionally, there are planned improvements and expansions for CHamoru Village, which will help bring new life to the Paseo for the future. Unfortunately, there are still concerns revolving around available parking at the Paseo, as well as the homeless “communities” that frequent the area.

Cruise Terminal Potential: One major concern of many stakeholders in this area is the concept of adding Port terminals to the shoreline area of Hagåtña. In the 1980s, Governor Ricardo Bordallo had plans to build a cruise port terminal in Hagåtña. At the time, it was determined to be unfeasible because Guam was too far away from cruise markets. Several cruise entities want to bring more cruises into Guam (currently less than 10 come in per year); however, there are not enough support facilities. Other concerns regarding possible cruise terminals in Hagåtña include winds and waves impacting ship stability, Customs and Border Protection (ships from a non-US port can slow down the process of passengers disembarking), and insufficient areas for traffic / transportation for disembarking passengers, due to the limited operational capacity and berthing space at the outer Apra Harbor.

Stakeholder Interview Meeting Notes

Each stakeholder and GovGuam agency was interviewed separately. After these interviews were conducted, a set of key findings and concerns were documented from each stakeholder. Meeting notes, which include a breakdown of these stakeholder responses and key findings, are provided in the following pages. The meeting notes are arranged chronologically by date and time of the meeting, most of which happened over a two-week period from October 21 to October 29, 2014 and over another weeklong period from February 16 to February 20, 2015.

Alternatives Design Charrettes

In addition to the individual interviews, design charrettes were conducted on February 24 and 25, 2015, to gather more data from the community in a group setting. At these charrettes, redevelopment and mitigation ideas were explored and graphically depicted as part of collaborative, hands-on exercises. A charrette is a collaborative planning process that includes all interested parties and helps to support a Master Plan that represents transformative community change. Charrettes are open ended events that are used in the creation or further development of feasible alternatives. Charrette attendees worked together to identify the issues and opportunities described in this report, and to develop conceptual alternative plans for the Capital District and for the entirety of Hagåtña.

Summary of Charrette Alternatives

Overall, the charrette participants identified many issues and opportunities to keep in mind during the conceptual design and development of the master plan alternatives. Concepts which were common to all blocks of the two-day charrette cover three topical areas, Connectivity, Development and Quality of Life. A summary of these issues includes:

- **Connectivity**
 - Maintain greenspace and connections from Latte Stone Park to CHamoru Village
 - Emphasis on access to Hagåtña shoreline
 - Improve pedestrian environment, alternative transit modes, and transit hubs with multiple uses to connect Central Park to Capital district
- **Development**
 - Waterfront development - CHamoru Village Expansion, seafaring emphasis, and fishing pier
 - Riverwalk development
 - Relocate water treatment plant and expand Marina
 - Adelup redevelopment – Civic Center, park, and / or high-tech innovation hub
 - Incorporation of Government Center in Capital district, surrounding Plaza de España
 - Improve district between Adelup and Paseo de Susana – new “Entertainment District”
- **Quality of Life**
 - Significant Increase in Parking and live/work spaces (mixed use development)
 - Improve housing options, availability in Capital district, and affordability
 - Outdoor recreation hubs at Paseo de Susana and Central Park
 - Move treatment plant

Public Workshops

Projects like the Master Plan update require public workshops at key points in the process to inform, educate, and solicit public feedback. There were two sets of public workshops held during the course of the Master Plan development. Each workshop used a mix of passive and interactive techniques to engage those attending. These exercises were true hands-on tools to collect public input.

The first set of public workshops was held from 1:00-6:30 pm, Friday, October 16, 2015 and 1:00-6:30pm, Saturday, October 17, 2015 at the CAHA Art Gallery in the Terlaje Professional Building, 194 Hernan Cortez Avenue, Hagåtña. Participants were encouraged via direct invitation, open media, and various public service announcements to attend the Open House any time during the specified-on hours on either day. In addition, the posters were also made available online on the project website for the public to view and provide comments.

The second public workshop was held from 6:00 to 9:00 pm, Wednesday, November 29, 2017 at the Guam Museum, 193 Chalan Santo Papa Juan Pablo Dos, Hagåtña. This workshop allowed the public to view the elements of the Master Plan and provide their input on the draft pieces of the Plan.

A summary of the workshops and results are included in Appendix A.

1.7 Hagåtña Master Plan Vision

The previous vision for Hagåtña was:

Imagine the village of Hagåtña as a vibrant gathering place for government offices, businesses, tourists, and residents alike. Pedestrians, bicycles, automobiles, and buses travel throughout the village without conflict. It is an urban center where new businesses want to locate. It is a destination where people want to recreate and shop. It is an island centerpiece where tourists can experience the culture and heritage of Guam and where the children of Guam can learn about their history. It is a village that residents are proud to call home, a place where they want to live, work, and play. Through a commitment of leadership and management the Hagåtña Restoration and Redevelopment Authority (HRRRA) has the opportunity to make this vision a reality and shape the future of development of Hagåtña.

During discussions at the charrette and afterward, the vision for Hagåtña had been updated to:

“Re-establish Hagåtña as the Capital City of Guam, and the governmental, cultural, and commercial heart of the island supported by vibrant residential mixed use areas.”

This vision correlates to a new master plan goal identified to “recreate Hagåtña as the Capital City of Guam,” and a new master plan planning principle to “develop a sustainable community.”

1.8 Guiding Principles

The Guiding Principles in this document provide the framework for the Master Plan Update. These were developed based on stakeholder interviews and public inputs. Some ideas were also derived from the North and Central Guam Land Use Plan prepared by the Bureau of Statistics and Plans in 2009 (identified with a diamond symbol “◆” in the text).

Re-establish Hagåtña as the Capital City

Hagåtña is the political, commerce, and social center on the island of Guam. Hagåtña is an iconic model which other cities and villages strive to replicate.

Actions:

1. Design iconic government buildings and public open space.
2. Require planning and design best practices for all new developments.
3. Relocate all government facilities and headquarters to downtown.

Develop Mixed-Use Nodes throughout Hagåtña

Mixed-use developments support transit, plus encourage a walkable, healthy, and active urban environment. Areas surrounding transportation nodes and activity centers will benefit the most from mixed-use developments, offering diverse housing options with supporting retail opportunities.

Actions:

1. Encourage mixed-use development along the waterfront.
2. Establish land use categories that provide for a mix of residential, commercial, civic, and industrial development.◆
3. Identify areas for infill and redevelopment for mixed-use.

4. Develop Hagåtña Riverwalk to include mixed-use, mixed residential, and business development that incorporates recreational amenities and trails.
5. HRRA will incentivize private investment through investing in public amenities and infrastructure in Hagåtña.

Preserve, Enhance, and Educate about Cultural and Historic Resources

Hagåtña has a rich cultural and historical heritage, ranging from several different eras, including the Pre-Latte Period, the Spanish Era, Post-War Era, and present day. Many important events in Guam’s history have occurred in Hagåtña. There are 14 sites in Hagåtña that are on the National Historic Register, and one historic district. Several other sites have been suggested to be considered for historic registration as well. The historic and cultural places within Hagåtña provide valuable opportunities for establishing Hagåtña as a cultural center and destination. Many of the historic sites are not fully maintained and preserved as they should be, which could lead to degradation and damage in the future. It is important to preserve them for current and future generations.

Specific sites are not the only areas of historical and cultural significance. CHamoru culture is tied to the ocean and traditions, such as dancing, art, fishing, and canoeing. Promoting CHamoru arts and traditions and finding appropriate locations to do so are important items to address to educate locals and visitors alike about Guam’s culture.

Actions:

1. Advocate historic preservation, restoration, rehabilitation, and repair of historic properties.
2. Ensure that Guam’s cultural heritage is preserved as part of planning for new growth and development. ♦
3. Maintain areas along the shoreline at the Paseo de Susana as a way to preserve and perpetuate the traditional canoe culture needed to be recognized as an important part of any development or redevelopment plan.
4. Provide a connection between Latte Stone Park, the Palacio, the Plaza de España, and Paseo de Susana. This could include enhancements to the Heritage Trail.
5. Improve the quality of landscape and streetscape in historic areas such as Plaza de España to enhance their potential as tourist destinations and major public places.
6. Encourage architectural and urban designs that correlate to surrounding historic designs, where appropriate, for new development or redevelopment.
7. Showcase historic culture to residents and tourists.
8. Establish Paseo as a cultural center.
9. Provide more carabao carts, proa rides, huts, plus cultural performances and demonstrations.
10. Place informational nodes along trails providing users with historical and cultural context.
11. Expand latte stone usage as columns and pillars.

Develop Appropriate Urban Design Standards

Enriching an urban environment that accommodates a safe, enjoyable pedestrian experience is essential for a thriving city. Developing and enforcing best-practice design standards and regulations will significantly enhance Hagåtña’s image, identity, and quality of place. Certain identified issues the design standards should include are building and infrastructure maintenance, wayfinding and branding, plus street amenities and aesthetics.

Actions:

1. Establish wayfinding signage standards and branding.
2. Design consistent architectural styles for each district.
 - a. Encourage building construction and design guidelines that uphold the architectural designs that had significant influence during the pre-war era and apply them to current modern times. ♦
3. Retain views of geographical and cultural assets.
4. Encourage pedestrian scale design, specifically for commercial uses.
5. Provide shaded walkways where possible with street trees and shade structures.

Create a Multimodal Circulation System and Enhance Connectivity throughout Downtown

The current circulation system in Hagåtña is not up to the standards of other downtowns. Public transportation exists, but it is often not adequate or reliable. At certain times of the day or at events, such as the Wednesday night CHamoru Village Market, parking is difficult to find. As Hagåtña grows and brings more people in, the problem will only exacerbate if it is not managed. The Master Plan will look at ways to improve multimodal transportation and circulation, including vehicles, transit, pedestrians, and bicycles in Hagåtña.

A great pedestrian experience is safe, accessible, pleasant, interesting, and walkable. Hagåtña has a current deficit of fully integrated pedestrian connections. There are areas that are pedestrian-friendly and provide adequate access, but many areas are not. Some sidewalks are too narrow or are impeded by light poles, trees, and other features, or are in poor condition and cause hazards when being used. Creating or enhancing pedestrian corridors and providing linkages between points of interest will greatly improve Hagåtña's ability to attract people and become a vibrant Downtown.

Actions:

1. Develop high quality pedestrian network that includes wide, shaded, and attractive sidewalks, plus pedestrian connections along roadways, safety enhancements, and a trail system that connects to parks and open space.
 - a. Future road repairs should enhance sidewalks and improve pedestrian accessibility and safety.
 - b. Ensure appropriately sized sidewalks are included along major roads and pedestrian corridors that have buffers separating vehicular traffic from pedestrians.

- c. Ensure adequate lighting is installed and maintained to provide safety at night.
2. Enhance and promote bicycle facilities and bike lanes.
3. Consider constructing an elevated crosswalk or pedestrian bridge across Marine Corps Drive between CHamoru Village and Skinner Plaza.
4. Consider establishing a Hagåtña trolley system that serves Downtown and has stops at key places of interest, employment, and shopping.
5. Identify ideal location(s) for parking garage structures that may also include park-and-ride and links to bus / trolley routes.

Use the Shoreline's Valuable Resources to Its Full Potential

Hagåtña's shoreline is one of the defining features of the city and is a major asset to the Guam's culture. The shoreline should be utilized to the best use to support recreation, culture, and economic growth. Existing uses along the shoreline should be evaluated for redevelopment to establish a healthy and attractive community that takes advantage of the valuable resource.

Actions:

1. Allow adequate waterfront access to all users.
2. Develop land to the best and most appropriate use.
3. Use land use categories to protect the natural environment and guide future development. ◆
4. Ensure that new development protects the shoreline character and coastal environment consistent with the Guam Coastal Zone Management program. ◆

Establish a Vibrant Downtown

Downtowns are the foundation for every great city and epicenter for activity. Hagåtña's downtown has significant potential to become a vibrant, dynamic, and exciting destination for residents and tourists to experience. Currently, certain existing conflicting land uses detract from the downtown's vibrancy, negatively impacting property values and deterring some new developments. However, creative solutions should be implemented to resolve these land use issues and expand upon the Hagåtña's significant natural, cultural, and historical amenities, revitalizing the downtown and achieving its full potential.

Actions:

1. Create a sustainable Downtown with an enhanced quality of life for residents and tourists by promoting buildings and uses which are unique to each newly defined neighborhood district.
2. Consider innovative measures, such as transfer of development rights, to preserve significant environmental and built features. ◆

Encourage Residential Growth, Bringing More Residents into Hagåtña

Hagåtña was once a population hub on Guam, with a population of over 11,000 before World War II. During and following World War II, many of the homes in Hagåtña were damaged or destroyed. This resulted in many families choosing not to rebuild their homes and move out of Hagåtña. Today, Hagåtña is the second least populated village on Guam, with a 2014 estimated population of 1,062, and much of the residential that does exist is unaffordable to potential new residents. The majority of the existing residential development in Hagåtña is in the form of single-family homes and is in Anigua, on the western side of the village. Some of the homes and apartment buildings have fallen into disrepair, and incompatible land uses have developed such as junk yards and automotive shops within the neighborhoods. These uses make it an undesirable location to live.

Residential is a key component of developing a successful and vibrant downtown. It will be important to bring residential closer to the Downtown area and provide a mix of uses ranging from single-family to multifamily apartments. It will also be important to do so in a manner that provides housing that the average family can afford. Developing new residential close to areas of employment will promote opportunities for people to live, work, and play in close proximity and encourage further growth in Hagåtña.

Actions:

1. Encourage development of new mixed-use residential developments in all appropriately identified areas, establishing constant activity and providing the baseline of social and economic functions.
2. Designate sufficient land area and appropriate locations to allow for choice of housing types and prices to meet a diversity

of household needs and incomes based on most recent Guam Housing Study. ♦

3. Offer affordable housing.
4. Allow converting upper floors of existing buildings to mixed-use residential structures.
5. Improve existing residential neighborhoods by removing conflicting land uses.
6. Develop the historical, cultural, and recreational resources of the city as the attraction and amenity to develop the desirability downtown housing market.
7. Provide new opportunities for low and moderate first-time homeowners, such as sweat equity loans, low/no interest loans to first time homeowners, and education and counseling for first time homebuyers. ♦
8. Enhance residential environment and livability.
 - a. Provide greater access to parks and recreation.
 - b. Create more park and open space with recreational opportunities including multipurpose sports fields and trail connections.
 - c. Improve river quality.
 - d. Extend recycling options.
 - e. Encourage the development of parks and community centers.

Promote Economic Growth

Hagåtña has significant potential for economic growth. Along with the important natural, historical, and cultural attractions unique to Hagåtña, many other opportunities were identified during interviews and charrettes. Such opportunities include taking advantage of the new museum for a local farmer's market; ideas to promote the fishing industry; expand the Marina and develop a Marina Authority; and expand on the services offered by the Fisherman's Co-op. However, there is an inadequate residential component hindering night life and other amenities crucial for expanding economic development opportunities. Hagåtña must take full advantage of the day-time population and tourists from cruise ships visiting Guam as well as achieving an adequate residential population.

Actions:

1. Use redevelopment and infill to create an employment base.
2. Promote economic sustainability through incentives for local business opportunities in mixed use urban areas, increased infill along existing transportation corridors and design standards to allow flexible building use. ♦
3. Provide for a diverse economic base, through expansion of wealth generating businesses and educational opportunities. ♦



2. Historic and Cultural

Inside Chapter 2 ...

2.1	Issues and Opportunities	2-1
2.2	Goals and Policies	2-3
2.3	Planning Framework	2-5

Hagåtña has been shaped by many influences over its history, cultivating a rich sense of diversity in its culture. The native CHamorus, the Spanish, and the United States have all molded Hagåtña into what it is today and will continue to influence the culture in the future. In years to come, Hagåtña will still have a strong tie to its history, which will continue to influence the culture in the city. Hagåtña will be a cultural center in Guam where citizens and visitors alike will explore Guam’s heritage. These historic and cultural sites will be well integrated into the city and daily lives of citizens.

The Historical and Cultural Element supports the following guiding principles:

- Preserve, enhance, and educate about cultural and historic resources
- Use the shoreline’s valuable resources to its full potential
- Establish a vibrant downtown

2.1 Issues and Opportunities

Issues

City-Wide

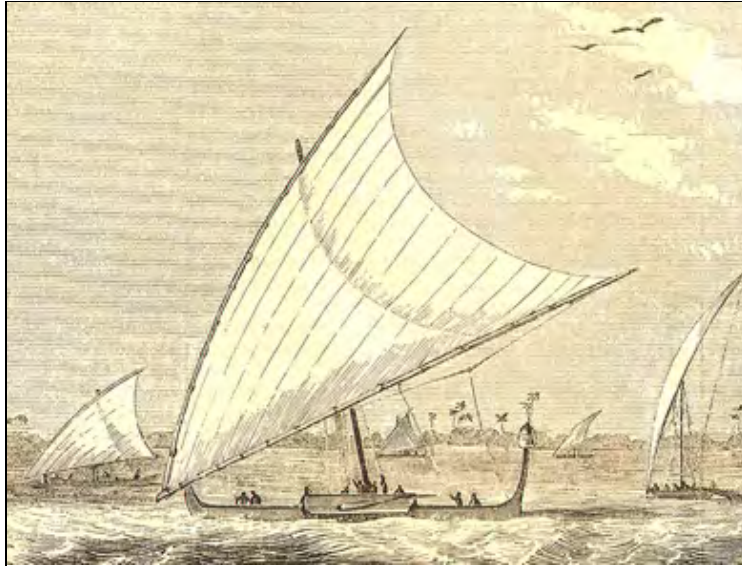
Heritage Trail. The Heritage Trail is currently a 2.5 mile trail through Hagåtña, highlighting some of Guam’s prominent historical and cultural landmarks. Currently, the Heritage Trail does not have adequate signage. Signage on the trail is minimal and does not always adequately point travelers in the right direction. Presently, the trail has red bricks and concrete that lead visitors through the trail, but wayfinding signage could help visitors better orientate themselves on the trail. In addition, there is limited lighting along the trail, which presents safety issues for visitors who walk along the trail during dark hours. In addition to lack of signage, the current trail misses key historic and cultural sites throughout the city. Adding these to the trail would allow for a more complete look at Hagåtña’s history and culture.

Lack of Historical Architecture. Hagåtña’s past architecture was adapted from the CHamoru culture and Spanish influence. CHamoru architecture incorporated many outside stairwells, patios, and general design for pedestrians. Spanish architecture designs included tile roofing and the use of mamposteria, which is stone and mortar construction. Other Spanish influences include wrap around balconies, multi-level structures, and some ornate

detail. There is a concern that Hagåtña is losing its Spanish and CHamoru historical characteristics in its new development. Many pre-war and post-war historic structures and places have since been removed or converted into more modern buildings, leaving little resemblance of the style that was once prevalent. Many structures were lost during and after WWII, destroying historical structures and forcing much of Hagåtña to be rebuilt.

Waterfront District

Lack of Cultural Seafaring Amenities. The Waterfront District does not have large seafaring presence despite Hagåtña’s seafaring culture. The preservation of the shoreline must be supported in order to protect and foster the traditions of the CHamoru seafaring culture. Specifically, the preservation of the shoreline at the Paseo de Susana should be recognized for canoeing opportunities, or proas. Proas are designed to have a narrow keel with a wider top area, giving the boat speed and agility. The use of the proa has declined over time, but the proa is still acknowledged today in CHamoru culture and as a symbol for Guam.



The Proa is a swift, voyaging canoe used historically by CHamorus in trade and fishing, and is today a common symbol of the island

Opportunities

City-Wide

Heritage Trail. There is opportunity to incorporate educational signage throughout the Heritage Trail. As the trail becomes improved, there is an opportunity for marketing the trail as a place for leisure, public education, tourism, and pedestrian traffic to and from cultural and historical destinations. In addition, lighting can be placed along the trail, drawing visitors to the trail throughout all hours of the day.

Historical Architecture. As Hagåtña continues to grow, there is opportunity to incorporate historic architectural details into designs. Such architectural characteristics would vividly reflect the history of Hagåtña. This type of architecture must be balanced with newer and more modern characteristics of buildings so that the modern look does not overpower the historic feel of Hagåtña.

City Center District

Capital and Cultural Sub-Area

Building upon Existing Historic and Cultural Sites. The Palacio was first built in 1744 during Spanish occupation. The building was demolished in 1887 and rebuilt on the same site according to the design of a Spanish Army engineer and architect, Don Enrique Soto. The building was used as the governor's home as well as administrative office space during Spanish occupation and was later used by the first U.S. Naval Government. During World War II, the Palacio served as the Japanese forces' headquarters. The building was destroyed in 1944 during Allied bombing, leaving the Azotea as the only surviving structure of the Palacio. There are plans to reconstruct the Palacio, which is further discussed in the Planning Framework section.

The Capital and Cultural Sub-Area has several historical structures. Because of this, there is some limitation of what kind of redevelopment can be done here. Any memorials in the Plaza de España should remain intact within the Plaza.

Directly north of the Plaza de España, the new Guam and CHamoru Education Facility was recently constructed in Skinner Plaza. The Guam and CHamoru Educational Facility features the history of Guam's existence and culture. It will act as a community center in Hagåtña with activities including an exhibition space, theater, garden, arcade, atrium, pavilion, promenade, café, and retail space. It was planned and designed to be a major attraction and destination for residents and tourists, boosting Hagåtña's tourism economy and reestablishing central Hagåtña as Guam's government and cultural center. The original Guam Museum was founded in the 1930s, but was destroyed during WWII. Skinner Plaza is home to the Guam Heroes Memorial and the future Skinner Monument. Hagåtña has an opportunity to leverage Skinner Plaza as a destination place within the city with the addition of the new museum.

Also, within this district is the Dulce Nombre de Maria Cathedral-Basilica, which was the first Catholic church to be constructed in Guam. The church, built in 1669, is a culturally significant landmark in Hagåtña. Therefore, development nearby the Basilica may have constraints such as limiting size and grandeur to not detract from the Basilica's significance.

The cliffline on O'Brien Drive is home to Japanese WWII caves. These man-made caves were used for storage of supplies and shelter during wartime. Nearby these caves is Latte Stone Park, which commemorates and celebrates CHamoru history.

Mixed-Use Commercial Sub-Area

Building upon Existing Historic and Cultural Sites. The Mixed-Use Commercial District comprises a multitude of historic houses, pre-dating WWII, such as the Lujan House. Because there are many historic housings in this sub-area, there may be some development constraints in this area. Any development, especially private owners, must be considerate of the historic feel of the sub-area. Some constraints may include compliance with building heights, setbacks, and design standards. In addition, there are some historic homes that are located within the Mixed-Use Riverwalk land use designation. This provides an opportunity for these houses to be incorporated into the Riverwalk development; however, development along the Riverwalk should be attentive of these historical sites to ensure that design and uses are compatible.

The Spanish Bridge is also located in the Mixed-Use Commercial Sub Area in Sirena Park. The bridge is listed on the National Register of Historic Places, and has cultural significance as a reminder of the Spanish heritage that has been passed through generations.

Waterfront District

Building upon Existing Historic and Cultural Sites. The Waterfront District has many historic and cultural landmarks and sites. There are two historic fortifications on the shoreline by the Marina, which should be preserved as any changes are made to the shoreline. On the eastern side of the district is the U.S. Naval Cemetery, opened by the U.S. Navy in 1902. The cemetery contains about 250 burial plots, which date back to the Spanish-American War, War World I, World War II, and the Korean War. The cemetery is the burial ground for U.S. service members, some German sailors and civilians, CHamoru service members, and military dependents. The German burials are commemorated by the Comoran Memorial, which commemorates the seven German servicemen who died in the first altercation between the U.S. and Germany in WWI. The cemetery has not had any new burials since the 1950's. Future development or redevelopment adjacent to this site should be constrained in a manner so as to ensure the site is afforded appropriate respect and dignity. The Waterfront District also has two fortifications on the shoreline of the Paseo de Susana that were used during WWII. These historical structures should be preserved and designed into any future plans at Paseo.

Hagåtña now has a great opportunity to redevelop the Marina and Paseo de Susana area to be more culturally prominent. Recreational proas can be incorporated into the marina along with canoeing lessons for residents or tourists who wish to experience the activity.

The CHamoru Village is a marketplace with locally made products and produce. The Village comes alive with food, vendors, and dancing and entertainment on its Wednesday Night Market. The Wednesday Night Market is a big tradition in Hagåtña. The CHamoru Village has the opportunity to be expanded and enhanced, especially as the Village hosted the 12th Annual Festival of the Pacific Arts in the late spring of 2016.

A few scattered historic homes are located in the Mixed-Use shoreline land use designation on the western side of the Waterfront District. These homes may come with development constraints, when developing along the western part of the shoreline. Further west is Adelup Park and the Latte of Freedom. This cultural landmark signifies the strength of Guam and is a welcoming beacon to visitors. The Latte of Freedom is next to the Hall of Governors, which commemorates the 12 Guam governors who have held office from 1950 to the present day. The hall contains various exhibits and can be used for social gatherings and cultural events. In addition to the Hall of Governors at Adelup Point is the RAIDR 21 Memorial, which commemorates the lives of the six crew members of the US Air Force who died in 2008 after their B-52H Stratofortress crashed into the Pacific Ocean right before it was scheduled to fly over the Liberation Day parade in Hagåtña. The site of Adelup Point is also a burial ground for CHamorus who died of a smallpox outbreak in the late 1800s. The disease was brought over by a merchant ship and broke out in Hagåtña first before affecting the whole island. Because this is a sensitive area, development of Adelup should be respectful. Adelup Point has great cultural significance and has the opportunity to be promoted throughout the city in an effort to bring more visitors to the western side of Hagåtña.

West Hagåtña District

Building upon Existing Historic and Cultural Sites. The West Hagåtña District contains some scattered historical houses, which are not a part of the Heritage Trail. The Ungacta House, Gumataotao House, and the Rosier House are all located in this district. There is no specific area of high density historic sites in this district. Much of this district is currently residential, providing compatibility with the existing historical houses. If the district sees an increase in mixed-use urban and commercial uses, development should be considerate of these historical houses and should not be developed in such a way that would diminish their significance. The

Pigo Catholic Cemetery, a culturally significant site, is also located in the West Hagåtña District. The cemetery is still used today and is expected to remain in use in the future. Future land uses by the Pigo Catholic Cemetery should be appropriate and respectful of the cemetery.

2.2 Goals and Policies

Historic and cultural resources can be found throughout Hagåtña, although many of them are concentrated in the Capital and Cultural District. These sites are a part of Guam's heritage, which this element intends to preserve. The following goals and policies present opportunities for significant sites to remain prominent in Hagåtña.

Goal HC-1

To preserve and leverage historical and cultural landmarks as key elements of the Hagåtña's economic development and other Master Plan strategies.

- | | |
|----------------------|--|
| Policy HC-1.1 | The City shall formally integrate the protection, renovation and appropriate use of buildings, sites and features with special and recognized historic, architectural, cultural, or aesthetic value into applicable plans, codes and procedures. |
| Policy HC-1.2 | Agencies that have jurisdiction over historically significant lands shall support efforts to conserve and, when appropriate, develop and utilize such resources for the public benefit and enjoyment. |
| Policy HC-1.3 | The City shall integrate historic and cultural resources as part of the marketing of Hagåtña. |
| Policy HC-1.4 | The City shall establish appropriate financial, design, procedural and/or other incentives to encourage the preservation and use of historic and cultural assets. |

- Policy HC-1.5** The City shall establish and administer a program to publicly recognize private businesses, property owners and others who have contributed to historic and cultural resource preservation.
- Policy HC-1.6** The City should provide interpretative plaques and historic districts and significant contributing historic properties.

Goal HC-2

To develop and actively maintain a comprehensive and up to date electronic database of all historic structures, sites and assets.

- Policy HC-2.1** The City should budget for, hire, train and retain sufficient staff and equipment necessary to actively maintain a comprehensive electronic database of historic and cultural resources, using GIS.
- Policy HC-2.2** The City shall provide public access to this database and use it in evaluating success in accomplishing strategic objectives, monitoring compliance activities, plan and regulatory updates, public education, annual reporting and to otherwise support resource program initiatives. Actively make improvements to cultural facilities and resources.

Goal HC-3

To have residents, businesses, and visitors appreciate and support the City’s historic and cultural preservation efforts and how these relate to other community objectives.

- Policy HC-3.1** The City shall actively seek to engage residents, land owners and all other interested parties in the development, implementation and update of historic and cultural resource plans, design standards, programs and other public initiatives.
- Policy HC-3.2** The City shall encourage public and private participation in support of cultural events and arts.
- Policy HC-3.3** The City shall support local education programs on cultural and archaeological resources.
- Policy HC-3.4** The City shall recognize seafaring culture by protecting the shoreline and perpetuating the proa.
- Policy HC-3.5** The City shall provide and promote recreational services and programs that reflect the cultural diversity of the community.
- Policy HC-3.6** The City shall utilize barrios as a means for creating an identity for each neighborhood.
- Policy HC-3.7** The City shall partner with non-profit organizations engaged in historic and cultural resources, to share resources, information and to otherwise accomplish mutual goals whenever possible.

Goal HC-4

To incorporate appropriate consideration of historic and cultural resources and promote their protection in City plans, policies, design standards, development codes, programs and operations.

- Policy HC-4.1** The City shall evaluate all applicable plans, codes, standards and procedures to identify conflicts with historic and cultural resource strategies and implement changes necessary to eliminate such conflicts.
- Policy HC-4.2** The City shall provide code enforcement that protects the cultural and historic value of existing places and buildings. Code enforcement guidelines should address demolition, demolition by neglect, inappropriate renovations, lack of maintenance, overgrown landscaping, and inappropriate storage
- Policy HC-4.3** The City shall strive to assure that development of land and buildings adjacent or proximate to historic and cultural resources is sensitive to the setting and character of the resource and does not diminish its value or contributions to the District. The City shall develop sufficient guidance for property owners and developers with respect to how compliance is accomplished and will provide sufficient technical staff to provide such guidance.
- Policy HC-4.4** The City shall develop and administer standards to assure that construction and site development on lands adjacent or proximate to historic or cultural resources does not have a negative impact on such resources.

Goal HC-5

To support the development of community and public art throughout the city.

- Policy HC-5.1** The City shall promote a stimulating and engaging environment through an increase in the incorporation of artwork in public places, as part of new commercial centers, and associated with new activity centers.
- Policy HC-5.2** The City shall encourage community art projects that create a greater understanding and appreciation of art and artists through community involvement.
- Policy HC-5.3** The City shall strengthen partnerships between the City and local artists, art agencies and organizations, schools, and businesses.
- Policy HC-5.4** The City shall encourage public and private participation in and support of arts and cultural events.

Goal HC-6

To enhance monuments of historical and cultural value by regulating the location, density, and design of monuments in public spaces.

- Policy HC-6.1** The City shall establish a Monuments Committee to oversee all new monuments, and the preservation of existing monuments. The Monuments Committee shall produce an inventory of all existing public and private monuments and memorials in Hagåtña, including their current condition, relevance, and recommendation for preservation.
- Policy HC-6.2** The City shall regulate the placement of all new monuments in Hagåtña’s public spaces through a review process by the Monuments Committee and the City Council.
- Policy HC-6.3** The City shall encourage utilizing Hagåtña’s monuments for the edification of the citizens and visitors.

Heritage Trail

The Heritage Trail leads to about half of Hagåtña’s different cultural and historical sites and although it acknowledges several landmarks throughout the village, many sites are left out. A revised route would extend the trail to include more sites of cultural and historical significance. With such scenic views of Hagåtña, the proposed re-routed trail would still begin at Fort Santa Agueda, but would head north down the cliff towards O’Brien Drive. The trail on O’Brien Drive will head up O’Brien Drive and connect to Padre Palomo, then to Hesler Place. It will head south down Aspinall Avenue before heading east to pass the Guam Museum. The other route that the trail will take from O’Brien, heads east on O’Brien Drive, then cuts through the Plaza de España. It will continue north until it reaches the new Guam Museum. This is where the two routes connect and continue through Skinner Plaza to Soledad Avenue. The trail will continue west on Soledad Avenue and will take a quick detour on Aspinall Avenue to Sirena Park and the Spanish Bridge. After connecting to those landmarks, the trail will head into the Paseo de Susana, passing CHamoru Village, the Statue of Liberty, and the Guam Park along the way. The trail heads east from the Paseo de Susana onto Marine Corps Drive where it ends at the U.S. Naval Cemetery.

Along with the extension, the trail will also be enhanced with better wayfinding and signage for direction and to identify the landmarks along the way. The signs are meant to be educational tools to help visitors explore and learn about the historical and cultural sites on the Heritage Trail. These signs will be multi-lingual to accommodate both locals and tourists. In addition to the signs, the trail will also receive improved lighting and landscaping throughout for safety and aesthetic purposes.

The extended trail is shown on Figure 2-1. Additional historical and cultural sites that the trail would pass through are listed in Table 2-1. The significance of the sites is discussed by district.

2.3 Planning Framework

Historical Resources

Historic landmarks will be preserved, restored, and highlighted throughout the village to respect the heritage of Hagåtña’s diverse history. One way in which this will be done is by the extension of the Heritage Trail. Historical sites that are not a part of the current Heritage Trail will be better promoted to draw in visitors. New developments and buildings will be planned to maintain the integrity of historic landmarks that may be nearby and will not diminish the overall cultural feel of Hagåtña.

Figure 2-1

Table 2-1. Additional Historical and Cultural Sites on the Rerouted Heritage Trail

Name	Significance	Designation
Capital and Cultural Sub-Area		
Guam and CHamoru Educational Facility	The Guam and CHamoru Educational Facility is a museum meant to exhibit Guam's culture, arts, and history.	Cultural Significance
Hagåtña Cliffline Fortification	The fortifications were used by Japanese Imperial Forces during the Japanese Occupation Period during WWII. The fortifications were used as air-raid shelters and ammunition storages.	Registered Historic
Mixed-Use Commercial Sub-Area		
Calvo House	The Calvo house is one of the oldest homes in Guam, dating back to the 1800's. It is one of the few remaining pre-WWII houses in Hagåtña.	Cultural Significance

Name	Significance	Designation
Guam Institute (Lujan House)	The Lujan House was built in 1911. It was used as a residence and general store until the property was rented out to the Guam Institute in 1922. It is one of the few remaining pre-WWII houses in Hagåtña.	Registered Historic
Guerrero House	The Guerrero House began constructing in 1939. During the WWII, the Guerrero House was used as barracks for Japanese personnel. It is one of the few remaining pre-WWII houses in Hagåtña.	Registered Historic
Hagåtña Cliffline Fortification	The fortifications were used by Japanese Imperial Forces during the Japanese Occupation Period during WWII. The fortifications were used as air-raid shelters and ammunition storages.	Registered Historic

Name	Significance	Designation
Japanese Caves	The Japanese Caves, located at the base of the cliff, were created during WWII for Japanese personnel. They were used as storage spaces and for shelter. The caves are man-made and were created by forced labor.	Registered Historic
Martinez-Notley House	The Martinez House is one of few remaining houses that withstood the intensive bombing during wartime in 1944. The Martinez house is one of the oldest homes on Guam, dating back to the 1800's.	Registered Historic
Rosario House	The Rosario House is a Pacific Spanish colonial homes and one of four nearby houses that withstood the intensive bombing during wartime in 1944. Its nearness to the Guerrero House, Martinez House, and the Lujan House depict what pre-wartime Hagåtña neighborhoods looked like.	

Name	Significance	Designation
Waterfront District		
Fishermen’s Co-Op	Although the Fisherman Co-op is already along the Heritage Trail, the co-op will be renovated and expanded to include additional marina resources and commercial uses.	Cultural Significance
Fishing Pier	A fishing platform and facility on the north western tip of Paseo de Susana.	Cultural Significance
Great Seal of Guam Park	The Great Seal of Guam Park depicts the Seal of Guam in a three-dimensional display with landscaping and sculptures.	Cultural Significance
Proa Storage and Educational Facility	The west side of the Paseo de Susana, adjacent to the marina, will expand its proa storage space to include an educational facility, which will have a focus on proas.	Cultural Significance

Site locations provided in Table 2.1 can be referenced on Figure 9, Page 19 of the Map Atlas – Hagåtña Master Plan Update-2015. As an important note, completed improvements to the Guam and CHamoru Educational Facility, now occupying the south portion of

Skinner Plaza and the 3-Dimensional Great Seal of Guam Park, which is a small enclave strategically placed near the east entrance into Paseo De Susana to view the inspired ocean-cliff line-coconut tree icon represented in the Guam flag and Great Seal. Also, the elevated fishing pier occurring along the northwestern portion of the peninsula is fully operational and enjoyed by many visitors both for sunset sightseeing as well as subsistent and recreational fishing activities.

City Wide Monuments

Monuments are any marker, statue, or permanent memorial used to mark cultural and heritage values and recognize the community’s connection with its public spaces. They can also be utilized as education tools. There are two areas of focus regarding monuments in Hagåtña: preservation and proper placement, density, and design of new monuments.

To date, Hagåtña has refurbished dilapidated monuments in order to preserve its history. Monuments that were not a part of the refurbishing process remain in good condition.

The Monuments Plan below will help implement the goals and policies regarding proposed monuments and memorials in Hagåtña.

Location Process. All proposed new monuments and memorials, and additions to existing monuments, shall go through a selection process to determine its appropriate location. A public hearing shall be held to allow for input from the public and any stakeholders. Any proposed location must be accompanied by a site plan detailing the following information:

- Location and size of the public space
- Shape and size of the monument

- Location of all pedestrian paths and gathering places
- Location and description of existing landmarks, including monuments and memorials, within 500 feet of the proposed location

Monuments shall only be located within public spaces, such as parks. Monuments shall not be placed within the public right-of-way, with the exception of memorials for City employees who died in the line of duty at that location.

Density. Each proposed new monument shall be reviewed on a case by case basis. Each location shall be analyzed for potential saturation of existing monuments.

Design. The Monuments Committee shall review the design of each new monument. Monuments shall be culturally or historically significant to Hagåtña, Guam, or the United States. A plaque must describe the monument with an educational narrative. Monuments shall be designed in harmony with the surrounding public space with respects to scale, materials, color, and form. A color rendering of the monument shall be included with the site plan.

The Monuments Committee shall take into consideration the visual impacts, cultural landscape, and maintenance requirements of the monument. The monument shall be made of durable materials, requiring minimal maintenance, and be resistant to vandalism to the greatest reasonable extent possible.

Upon establishing its membership and overseeing authority, the Monuments Committee shall make a recommendation based on the goals and policies regarding proposed monuments and memorials in Hagåtña. to the City Council within 90 days.

City Center District

Within the Plaza de España, the Governor’s Palacio, is in the planning stages of being reconstructed. Today, the restoration of the Palacio is desired to help return the seat of the government back to the heart of Hagåtña. The intent is for Government of Guam buildings to be relocated to the district to create a government square. The new Palacio will provide community meeting space and historical displays. The reconstruction of the Palacio will uphold the historical context of the area through architectural styles and through the use of the Plaza de España. This project is further described in Chapter 4, Public Buildings and Facilities.

Cultural Resources

Guam’s culture has evolved from its diverse heritage and is entwined in seafaring with a strong sense of community. Cultural facility opportunities will continually be sought out to celebrate modern culture and values while also respecting the past. These facilities will be maintained and enhanced to ensure that cultural awareness is sustained throughout generations. Barrios, which once represented the neighborhoods in Hagåtña, will reemerge to create a strong sense of identity for residents living and interacting within these neighborhoods. Access to nature, such as the shoreline and view sheds will be preserved as these valued for traditional uses.

Hagåtña Barrios

Barrios can be an identifying feature, which can be used to define a community. In the Pre-War Era, Hagåtña was made up of 13 barrios, most of which were entirely included in the current boundaries of Hagåtña, although two are only partially within the city (Apugan and Mongmong).

The boundaries of the historic barrios were determined primarily by geographic features, such as the Hagåtña River, and other

factors such as land ownership or roads. After WWII, many of these boundaries were lost due to destruction of the city, followed by reconstruction. While some areas of Hagåtña are still referred to by their barrio name, the defining boundaries and continuity of others has been diminished.

Since many of the historic barrio boundaries bisect current parcels, the boundaries have been redrawn to align with the current street layout and development patterns. Barrios in relation to districts are described in the each of the district sections as follows.

The redrawn barrios are listed in Table 2-2, with a listing of historical and cultural sites that are within their boundaries, and illustrated on Figure 2-2. The sites are one factor that can help create an identity for each barrio.

Table 2-2. Barrio Sites and Landmarks

Barrio	Site / Landmark
Adelup	Adelup Point
	Latte of Freedom
Anigua	Garrido House
	Gumataotao House
	Pigo Catholic Cemetery
	Rosier House
Bilibik	Toves House
	Boat Basin
	Dungca House
	Hagåtña Spanish Bridge
Didigue	Rural land
Julale / Santa Cruz	Flores House
	Shimizu House
Minondo	Agaña Swamp

Barrio	Site / Landmark
	Spanish Dikes
Padre Jose Palomo	Cormoran Monument
	Jose Bernardo Torres Palomo Statue
	US Navy Fortification
San Antonio	Agaña Fortification
	Calvo House
	CHamoru Village
	Chief Quipuha Statue
	Fisherman’s Co-Op
	Fishing Platform
	Paseo de Susana Stadium
	Proa Facility
San Ignacio	Statue of Liberty
	Lujan House (Guam Institute)
	Guerrero House
	Martinez House
San Nicolas	Rosario House
	Cruz House
San Nicolas	Guam and CHamoru Educational Facility
	Guam Congress Building
	Dr. Mesa House
	Duenas House
	Flores House
	Plaza de España
	Pope John Paul II Monument
	Skinner Plaza
San Ramon	Cliffline Fortification
Togae	Cliffline Fortification

Barrio	Site / Landmark
	Fort Santa Agueda
	Government House
	Japanese Caves
	Latte Stone Park

Figure 2-2

Hagåtña Waterfront District

Many new cultural facilities and improvements are anticipated to be enhanced and added in the Waterfront District, mainly around the Paseo de Susana. The Fishermen's Co-Op will be extended to include additional marine related resources and some commercial uses. Just north of the Fishermen's Co-Op, a proa storage and educational facility will be constructed. The educational facility will have an emphasis on proas and provide interactive experiences. This development will showcase the traditional proa culture through recreation, education, and training. North of there, a newly built fishing pier will contribute to the marine culture in Guam as a designated place for fishing. These additions reflect Guam's marine culture.

On the eastern corner of Paseo de Susana, the historic Great Seal of Guam Park will be renovated to bring the Guam seal to life. The renovation will include a statue of a proa boat, benches, and enhanced lighting and landscaping. The park will resemble the culture of Guam and is meant to be a defining landmark for residents and tourists to visit.



3. Land Use

Inside Chapter 3...

3.1	Issues and Opportunities	3-1
3.2	Goals and Policies	3-2
3.3	Planning Framework	3-11

Future land uses in Hagåtña support its vision of becoming a true, urban, capital city as the economic, financial, and political center of Guam. These land uses support a dense urban core with an abundance of activity and culture across the village, creating a live-work-play environment. Centralized government buildings and offices create a sustained employment anchor in Hagåtña’s core, generating new financial and business opportunities and investments downtown. This new revitalized downtown activity radiates growth and enhancements to the waterfront, neighborhood development, and Riverwalk, which become dense, mixed-use clusters of their own. Each of these new mixed-use clusters features its own look and feel, establishing a unique sense of place and revitalizing each district.

The Land Use Element supports these guiding principles:

- Reestablish Hagåtña as the capital city
- Develop mixed-use nodes throughout Hagåtña
- Develop appropriate urban design standards
- Use the Shoreline’s valuable resources to its full potential
- Establish a vibrant downtown
- Encourage residential growth, bringing more residents into Hagåtña
- Promote Economic Growth

3.1 Issues and Opportunities

Issues

Incompatible Land Uses and Zoning. Hagåtña experiences incompatible land uses in certain areas due to insufficient enforcement of land use and zoning regulations. The Guam Zoning Law, found in GCA Title 21: Real Property, Chapter 61, is an island-wide ordinance which sets forth the zoning regulations for the Island of Guam. As an island-wide construct, the Zoning Law is not refined to address specific needs and opportunities in Hagåtña. Some existing land uses in Hagåtña do not comply with Guam’s Zoning Law. This places incompatible land uses proximate to each other, which can impact the quality of life and daily operations of

one or both uses. For example, there are junkyards and other industrial-type uses in the Santa Cruz Lane loop area of Hagåtña, which is zoned as R-2 Multi-family dwelling. Also, the parcels Cliffsides of West O’Brien Drive, west of Latte Stone Park, are zoned as R-2, yet there are various commercial offices located here.

Unusable Lots and Lot Encroachment. The layout of Hagåtña was much different before World War II. Rivers and streets were not in the same location and lots were configured differently. When Guam was recaptured from Japan by the U.S., Hagåtña had been almost completely destroyed, setting the stage for the reconfiguration of roads, property lines and natural features as part of the reconstruction effort. During the post-war era, the new layout was based on blocks of land divided into rectangular lots, oriented to the new street pattern. These new lots were overlaid on top of the old pre-war lots, creating undivided interest and many conflicts with property lines and boundaries. The affected lots became known as the Hagåtña “fractional lots.” This term was used to describe these lots because when the new lot lines were laid out, many of the pre-war lots were split into various pieces – for example, a single pre-war lot may have been given new boundaries where a portion would be located on one of the new lots, a portion on an adjacent new lot and possibly another portion located in the new road. In some cases, some smaller lots, which may have bordered former streets, were nowhere near the new streets that were developed and hence became land locked.

Corresponding efforts to resolve fractional lot issues in Hagåtña were initiated and carried out. As a result, fractional lots no longer exist in Hagåtña, although some lots are too small to build upon, or otherwise un-developable as currently configured. In some cases, consolidation of these lots for the purpose of singular lease arrangements has resulted in successful developments and construction of facilities/utilities within the new rectangular lots, which conform to the new lot and block system. However, while these developments may have resolved the undivided interest issue, the percentage of undivided interest in these respective lots many not always be known. In other cases, vacant land may also remain undeveloped because of government disapproval of development plans without legal easements for utilities and access, or because the lots do not provide sufficient area and/or geometry to accommodate the proposed development.

Many previous property lines and boundaries have been affected due to the fractional lot issue in Hagåtña. Some of the existing private land uses in Hagåtña are also encroaching onto publicly owned lands, particularly along the waterfront areas and in public rights-of-way. These areas where development is partially encroaching on Government land creates temporary and potentially permanent issues with land use compatibility, zoning compliance, and property tax assessments.

Lack of Certain Types of Development. Currently, Hagåtña does not have a good balance of different types of development to promote residential growth or activity in the city. There is no true mixed-use development in Hagåtña to support live-work-play activities. The Agaña Shopping Center is a hub for retail and restaurants in the area, but it is the only location where there is a grocery store in Hagåtña, and is not close enough to the residential development for people living in Hagåtña to walk there. There are no major uses to draw people to Hagåtña for nightlife activities, such as dining and entertainment. In order to thrive, Hagåtña will

need a mix of appropriate uses and development to produce a lively and attractive downtown area.

Housing. Lack of affordable housing in the village, and lack of desire to live in Hagåtña leads to low resident population and little to no activity after work hours.

Opportunities

Economic Development. There are approximately one dozen (12) HOTBOND projects being funded within Hagåtña, including the new Guam Museum. Furthermore, the Agaña Shopping Center and the Julale Center both provide for retail opportunities. The potential for a farmer’s market, Adelup redevelopment, and the expansion of the Fishermen’s Co-op are positive.

Urban Design. Enhancing street amenities and establishing design guidelines will help revive character and historical context. Clean up of dilapidated buildings could improve the urban environment, which could potentially bring people back to the village to live.

Housing. Potential for higher density residential options would help bring in younger population, as well as additional residents and nightlife to the area.

Center of Commerce. Government facilities such as Adelup Point, the Government House, the Post Office / Legislative Offices, the US Court, and the Judicial Center help to keep Hagåtña the center of commerce and government. Centralization of offices would help improve upon this.

Miscellaneous. Other opportunities for Hagåtña include the creation of a local citizen patrol task force like Tumon’s, redistribution of governmental offices, and organizing businesses along Marine Corps Drive and in the “industrial waterfront” to clean up the area and make ADA accessible.

3.2 Goals and Policies

Land use forms the underlying basis for all community functions. It concerns the productivity of land, as well as the overall benefits drawn from it. Therefore, ensuring that uses are compatible with nearby existing and future land uses is important. Land use goals and policies envision opportunities to revive Hagåtña as the capital city and Guam’s core destination. They establish the importance of developing dense, urban structures which support a variety of uses, creating live work-play environments. The Hagåtña Master Plan shall comply with current Guam zoning laws prior to HRRRA’S development and adoption of zoning policies and regulations.

The Land Use Plan for Hagåtña is shown on Figure 3-1.

Goal LU-1

To have mix land uses that are designed, located, and scaled to support the Master Plan objectives.

Policy LU-1.1	The City shall carry out and support actions which will lead to the transition, improvement, creation and where necessary removal of land uses where such actions will further the objectives of the community’s adopted master plan.
Policy LU-1.2	The City shall discourage and if necessary, prohibit land uses which will undermine or otherwise conflict with the community’s land use objectives for Hagåtña village.
Policy LU-1.3	The City shall officially endorse, maintain and use the Land-Use Diagram to designate the location and extent of each land-use designation.

Figure 3-1

Policy LU-1.4 Where a compatible mix of viable land uses have occurred that do not comply with the current zoning code, the City shall work with the land owners to bring the property in compliance by allowing a reasonable mix of uses while moderating negative impacts.

Goal LU-2

To have an orderly process to manage land uses in ways which preserve and enhance desirable attributes and which modify or eliminate uses which undermine the ability to accomplish Master Plan objectives.

- Policy LU-2.1** The City shall work with all stakeholders to create a rational and feasible program for plan implementation which identifies near term, mid-term and longer term phased actions necessary to accomplish the community’s land use aspirations for Hagåtña.
- Policy LU-2.2** The City shall work closely with major land owners, the US military, governmental agencies and other major interests to build consensus and support for the community’s land use plan and to help avoid, reduce or mitigate actions which would conflict with community objectives.
- Policy LU-2.3** The City shall design public plans, programs, codes, operations, budgets, staffing and other factors impacting land uses to promote consistent and supportive outcomes and to minimize or avoid negative land use actions whenever possible.

- Policy LU-2.4** The City shall proactively enforce zoning laws when land use conflicts present a clear health and safety conflict.
- Policy LU-2.5** Where a compatible mix of viable land uses have occurred that do not comply with the current zoning code, the City shall work with the land owners to bring the property in compliance by allowing a reasonable mix of uses while moderating negative impacts.

Goal LU-3

To have a phased implementation of capital facility improvements that can be leveraged to build economic value consistent with land use objectives.

- Policy LU-3.1** The City shall assess the suitability of current infrastructure in the village and determine what improvements need to be accomplished to accommodate master plan land use concepts giving highest priority to improvements where near-term return on investment can be leveraged to create economic value that can be used to support subsequent investments.
- Policy LU-3.2** The City shall give preference to those which will limit long term costs, while maximizing social, ecological and cultural benefits in designing and implementing capital facility plans to support master plan land use strategies.

- Policy LU-3.3** The City shall identify partners to mitigate Hagåtña River flood hazards, sea level rise impacts and untreated run-off in order to leverage federal and local funding opportunities for appropriate management actions to incentivize economic development and for the health of the marine ecosystem.
- Policy LU-3.4** All utilities should be undergrounded to create a city that is typhoon resilient, environmentally safe and ultimately provides an aesthetically pleasing community that incentivizes economic development.

Goal LU-4

To have land uses that are intelligently integrated with community services, transportation, recreation, and employment.

- Policy LU-4.1** The City shall ensure that land use, transportation, open space, recreation, and environmental decisions promote synergistic and mutually beneficial relationships between uses and avoid actions which isolate and diminish the functional, economic and social benefits of particular community assets.
- Policy LU-4.2** The city shall strive to create lively mixed-use nodes and corridors where residents of all socioeconomic backgrounds can live and work wherever possible and appropriate.
- Policy LU-4.3** Higher density mixed use nodes and corridors shall be served by and support carefully designed multi-modal systems including transit, para-transit, bikes and pedestrian walks.

- Policy LU-4.4** The City shall use the design, siting and timing of public improvements and facilities to promote and if possible, subsidize the timely implementation of master plan land use strategies and outcomes.
- Policy LU-4.5** The City shall use its ability to implement consistent design standards and “themes” for public improvements as a way to define and promote a coherent brand that is unique and authentic and which serves to reinforce distinctions between major land use areas, while also linking them together visually.
- Policy LU-4.6** The City shall promote development that creates and enhances the positive spatial attributes of major public streets, open spaces, cityscape and ocean sight lines and important “gateways” into the city.

Goal LU-5

To have suitably located and designed housing options that meet the socioeconomic needs of the City’s current and future residents.

- Policy LU-5.1** The City shall strive to create housing inventory which meets the needs of a broad range of ages, family types and income levels without undue physical segregation or “stratification” between product types.
- Policy LU-5.2** The City shall prevent the intrusion of new incompatible activities and land uses (i.e., traffic, noise) and environmental hazards (i.e., flood, soil instability) into existing residential areas.

- Policy LU-5.3** The City shall promote projects which include mixed income housing, either for rent or purchase and including provisions to secure this mix over 15-20 years.
- Policy LU-5.4** The City should ensure that Family housing is designed and located to limit the negative impacts of noise, high traffic volumes and tourist related activities, while still providing convenient and safe non-vehicular linkages to higher activity areas.
- Policy LU-5.5** The City shall not permit undue privatization of the waterfront for tourist based “resort” housing and will seek to maximize public access to and use of these areas where appropriate.
- Policy LU-5.6** The City shall encourage architectural variation in single-family housing developments and promote planned-unit developments that provide flexibility in unit types, sizes, design and arrangement.
- Policy LU-5.7** The city shall seek to integrate housing with educational, public service and recreational uses wherever feasible and appropriate.
- Policy LU-5.8** The City shall promote building code enforcement with a focus on abandoned, poorly maintained and condemned buildings.
- Policy LU-5.9** The City shall encourage active involvement by individuals and organized citizens in maintaining and upgrading existing residential neighborhoods.

Goal LU-6

To have land uses that are designed to minimize impacts on the community’s natural environment and which reflect the best current environmental practices.

- Policy LU-6.1** The City shall protect Coastal area ecology and marine land uses to the highest possible degree.
- Policy LU-6.2** The City shall ensure that public open spaces/natural areas be used as corridors / linkages for wildlife and as amenities for residents and tourists, as an integral part of the districts overall land use framework.
- Policy LU-6.3** The City shall support strategic targeted nodal Infill shall be over greenfield development, especially with regard to downtown development and the ability to leverage existing public infrastructure.
- Policy LU-6.4** The City shall address flooding impacts in the design of any and all land uses.
- Policy LU-6.5** The City shall ensure that landscaping emphasizes native species and shall be used extensively as both an ecological tool and an aesthetic feature.
- Policy LU-6.6** To reduce the harmful effects of light pollution, the City shall employ dark sky lighting practices particularly where outdoor lighting impacts residential uses, wherever possible. Such practices should include eliminating unnecessary high emissions of outdoor lighting as much as possible and the use of recommended outdoor lighting fixtures that

	could deflect light trespass onto residential areas ¹ .
Policy LU-6.7	The City shall give energy conservation a high priority and land uses shall be designed where possible to incorporate use of renewable energy systems, suitable low energy fixtures, building envelopes which minimize energy use for interior cooling and other
Policy LU-6.8	The City will use potable water conservation, rain harvesting, use of pervious pavement or pervious surfaces, and other practices intended to limit water use into all land uses.
Policy LU-6.9	The City shall ensure that building designs apply the best possible practices, materials and features in terms of minimizing ecological impacts.
Policy LU-6.10	The City shall not only address the physical or “aesthetic” issues of blight, but also ecological and health impacts associated with poorly maintained land uses, sites and related vectors.

Goal LU-7

To have land uses and related design standards that are carefully designed to maximize the unique benefits associated with particular areas of Hagåtña.

Policy LU-7.1	The City shall develop the Hagåtña Riverwalk to include mixed-use, mixed residential, and business development that incorporates recreational amenities and trails as an amenity for the attraction and development of restaurant and hotel uses.
Policy LU-7.2	The City shall create a sustainable Downtown with an enhanced quality of life for residents and tourists by promoting buildings and uses which are unique to each newly defined neighborhood district.
Policy LU-7.3	The City shall promote and renew the existing central business district in order to provide diversified business opportunities and avoid "strip commercial" land uses along major street corridors.
Policy LU-7.4	The City shall support the relocation of incompatible uses from the downtown in order to assist in the development of a vibrant downtown for retail, office, and entertainment activities
Policy LU-7.5	The City shall improve the quality of landscape and streetscape in historic areas such as Plaza de España to enhance their potential as tourist destinations and major public places.

Policy LU-7.6	The City shall maintain areas along the shoreline at the Paseo de Susana as a way to preserve and perpetuate the traditional canoe culture needed to be recognized as an important part of any development or redevelopment plan.
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Goal LU-8

To activate public spaces and create economic vitality.

Policy LU-8.1	The City shall ensure that the site and building design be oriented to and respectful of public spaces by incorporating amenities and providing suitable transition from public to private space.
Policy LU-8.2	The City shall ensure that the scale and siting of structures adjacent to public spaces shall be appropriate for the context and in general, shall be suitable for pedestrian activity, especially in mixed use nodes and corridors.
Policy LU-8.3	The City should encourage business owners to “animate” the public realm through the use of push carts, outdoor uses, outdoor displays, plantings, decorative lighting, entertainment, public art or by other approved means which are compatible with the public’s use and the land use goals of the master plan where appropriate.
Policy LU-8.4	The City should ensure that service uses are not adjacent to public areas, such as refuse or materials storage, delivery areas or other such incompatible uses.

¹ See <https://www.darksky.org/our-work/lighting/lighting-for-citizens/lighting-basics/>

Goal LU-9

To have design codes and standards and related procedures that are specifically designed to accomplish the community's land use objectives.

Policy LU-9.1	The City shall develop, adopt, administer and enforce zoning and design standards intended to promote the creation and retention of land uses endorsed by the master plan including provisions for scale, siting, site design, relationship to adjacent and proximal uses and other attributes.
Policy LU-9.2	The City shall establish programs for the prevention of blight, using all public and private resources available, including: enforcement of all codes, neighborhood rehabilitation programs, and redevelopment agency actions.
Policy LU-9.3	The City shall ensure that adequate parking and access are included in approved commercial development plans
Policy LU-9.4	The City shall avoid "strip commercial" land uses in new development areas by encouraging grouping of commercial land uses in core areas.

Goal LU-10

To encourage site design that is sensitive to residents' and businesses' needs for privacy, security, and buffering from other uses and activities.

Policy LU-10.1	The City shall design open space areas, bicycle and pedestrian systems, and housing projects allow visual sight lines to help deter crime.
Policy LU-10.2	The City shall ensure that lighting and landscaping plans respond to public safety concerns.
Policy LU-10.3	The City shall require that all outdoor light fixtures, including street lighting, externally illuminated signs, advertising displays, and billboards, use low-energy, shielded light fixtures that direct light downward (i.e., lighting shall not emit higher than a horizontal level). Additionally, the City shall continue to improve and maintain proper lighting in park facilities and fields without undue nuisance light and glare spillage on adjoining residential areas. Where public safety would not be compromised, the City shall encourage the use of low intensity lighting for all outdoor light fixtures.

Goal LU-11

To provide transition and buffer areas between unrelated land uses.

Policy LU-11.1	The City should use spatial transitions, design buffers or similar techniques between incompatible land uses.
Policy LU-11.2	The City shall assure adequate buffers between residential and non-residential uses.

Goal LU-12

To ensure land use ties into existing and future transportation systems.

Policy LU-12.1	The City shall develop Transit-Oriented Development policies and strategies to promote private sector investment in mixed housing and dense core developments.
Policy LU-12.2	The City shall encourage Transit-Oriented Development around transit stations and establish standards for new developments to promote ridership.
Policy LU-12.3	The City should utilize Transit-Oriented Development strategies to promote an environment that supports a live-work-play philosophy in support of both residential and employment opportunities.

Goal LU-13

To provide visual identities and transitions between districts and neighborhoods.

Policy LU-13.1	The City shall encourage economic diversity and identify different economic emphasis in each District.
Policy LU-13.2	The City should design pedestrian amenities (street furniture, street lighting, entry signage, etc.) to define individual districts.
Policy LU-13.3	The City should establish streetscape themes, open space, and / or density transitions between different districts and / or neighborhoods.
Policy LU-13.4	The City shall designate major entryways as gateways into the City, as well as neighborhoods and districts.
Policy LU-13.5	The City shall coordinate specifics of building design, site arrangements and intended uses.

Goal LU-14

To provide enhanced streetscapes to enrich the experience of traveling through Hagåtña.

Policy LU-14.1	The City shall use landscaping, decorative lighting, signage and / or other streetscape design techniques to enhance the City’s identity, sense of place, and provide visual emphasis to the streetscapes to the City.
Policy LU-14.2	The City should design and implement an urban street tree program. The City should improve the visual quality of Hagåtña’s existing commercial corridors and major thoroughfares by providing landscaping, right-of-way treatment, and visual screening of obtrusive uses.
Policy LU-14.3	The City shall encourage private participation in beautification.
Policy LU-14.4	The City shall support the installation and maintenance of public art throughout the community.

Goal LU-15

To ensure Hagåtña’s design standards are related to the zoning ordinance.

Policy LU-15.1	The City shall develop zoning ordinance standards to ensure compatibility with a Main Street type of environment that encourages pedestrian activity. Standards to consider include, but are not limited to, building setbacks, lot size and density requirements, allowed uses, parking requirements, outdoor dining, live entertainment, building heights and floor area ratios.
Policy LU-15.2	The City shall develop zoning ordinance standards to ensure compatibility with a large-scale type of mixed-use environment that encourages pedestrian activity. Standards to consider include, but are not limited to, lot size and density requirements, allowed uses, parking requirements, outdoor dining, live entertainment, building heights, and floor area ratios.

Goal LU-16

To revitalize neighborhoods and remove unattractive, unmaintained structures.

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| Policy LU-16.1 | The City should conduct major urban renewal in blighted sectors when prevailing structural conditions are not susceptible to renovation, and where planned residential or mixed-use clusters will rejuvenate the greater area. |
| Policy LU-16.2 | The City should retain small businesses with support programs including site design / architectural assistance to improve visibility, appearance and commercial function. |
| Policy LU-16.3 | The City shall develop strategic and proactive intervention efforts for property redevelopment, rehabilitation, and maintenance on properties beginning to show signs of decline, so as to prevent further progression of blight, distress, underutilization or deterioration. |
| Policy LU-16.4 | The City should evaluate small vacant lots with low development options for their potential use as community gardens or parks. |
| Policy LU-16.5 | The City should remove vacant structures where rehabilitation and reuse is impractical, and coordinate with property owners to plan for rapid reintegration into the existing neighborhood development pattern. |

Goal LU-17

To promote infill development as a top priority.

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| Policy LU-17.1 | The City shall encourage and support infill development to take advantage of existing infrastructure, community and educational facilities, and enhance existing neighborhoods. |
| Policy LU-17.2 | The City shall prepare and implement infill construction incentives, including zoning ordinance revisions, to remove impediments to qualified infill projects. |
| Policy LU-17.3 | The City should add incentives for the facilitation of infill housing and the quality redevelopment of housing stock in areas of substandard or obsolete housing. |
| Policy LU-17.4 | The City shall involve major developers in its capital improvements plan process for joint improvement phasing and financial participation to expedite desired types and intensities of use on key growth areas and infill sites. |

Goal LU-18

To ensure regulations and standards for livability guide existing and future neighborhoods.

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| Policy LU-18.1 | The City shall establish residential property maintenance standards and related provisions and enforce these by emphasizing voluntary compliance with regulatory provisions. |
| Policy LU-18.2 | The City shall ensure building inspectors enforce code compliance and prepare an annual report to the HRRRA Board. |

Goal LU-19

To show Hagåtña actively supports a sustainable food system that increases the availability of fresh food and eliminates food deserts

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| Policy LU-19.1 | The City should support the temporary utilization of vacant or underutilized lots for community gardens or farmers markets. |
| Policy LU-19.2 | The City shall develop regulations to support and guide community gardens. |

3.3 Planning Framework

Districts

Like many capital communities, Hagåtña will be organized into districts. A district is a defined area within the city characterized by unique traits or uses. Districts are created so smaller areas within the village can craft their own identity and theme, providing a uniform look, feel, and character to the area. Districts are typically determined by geographical boundaries, types of land uses, and activities that occur there. In collaboration with HRRRA, four districts were identified in Hagåtña: City Center District, Waterfront District, West Hagåtña District, and Riverwalk District.

The districts that make up Hagåtña are shown on Figure 3-2.

City Center District

The City Center District is at the heart of Hagåtña. It is broken down into two sub-areas: the Capital and Cultural Sub-area and the Mixed-Use Commercial Sub-area.

Mixed-Use Commercial Sub-area

The Mixed-Use Commercial Sub-area is composed of largely commercial uses, containing most of Hagåtña's existing commercial businesses, offices for professional and financial services, and shopping locations, such as Agaña Shopping Center. The Hagåtña Historic House District is also located within this Sub-area's borders, along with other historical and residential properties scattered throughout. The Mixed-Use Commercial Sub-area builds upon these existing assets to strengthen the commercial core of Hagåtña, supporting the new employment base generated in the Capital and Cultural Sub-area.

The Mixed-Use Commercial Sub-area attracts commercial developments and financial centers downtown surrounding the Capital and Cultural Sub-area, sustained by the new activity

generated by the new Government Civic Center Complex. This creates a strong foundation for a Business Improvement District (BID)—a strategy many United States municipalities use to create financially and fiscally feasible downtowns.

Capital and Cultural Sub-area

Hagåtña was originally a true capital wherein local government agencies, departments, and functions were centralized. However, most agencies have since relocated outside of Hagåtña during and just after World War II. Currently, only the Judicial Branch remains entirely in central Hagåtña, with the Legislative Branch somewhat removed (some Senators are located in Hagåtña, but not all of them) and the Executive Branch located at Adelup.

The Capital and Cultural Sub-area is primarily made up of public / governmental uses and park / open space, containing many of Hagåtña's important and iconic cultural and historical features. These include the new Guam Museum, Plaza de España, Latte Stone Park, the Dulce Nombre de Maria Cathedral Basilica, and Fort Santa Agueda.

With a majority of historical structures located here, this district functions as the primary tourist location of Hagåtña. Currently, only a few government agencies still exist in this area. Still, the island's primary seat of the Catholic Church along with the historical location of the previous Spanish and Military Government are located on or around the Plaza de España.

The Capital and Cultural Sub-area will relocate governmental agencies, entities, and elements into a single central location, creating a hub of political activity and reviving Hagåtña as Guam's capital city once again. It would include new administrative office space, a rebuilt Governor's Palacio, revitalized and expanded Legislative Session Hall and offices, and a parking garage.

Figure 3-2

Waterfront District

The Waterfront District covers Hagåtña’s entire waterfront from east to west, drawing locals and the tourism industry to the shoreline. In past decades, only sporadic development was pursued on a piecemeal basis with the idea that a holistic development approach was neither warranted nor feasible. Thus, for various reasons, only certain improvements were completed. Much of the current land in the Waterfront District east of Paseo is light commercial and recreational, including beach and water sports, while west of Paseo is more commercial and industrial. The developments west of Paseo have not been using the waterfront to its full potential, specifically the under maintained industrial buildings.

Along with the beaches, this district also contains many of the major cultural tourist attractions in Hagåtña, including CHamoru Village, Paseo Stadium, the Great Seal of Guam Park, the Statue of Liberty, Fisherman’s Co-op, the Marina, and Adelup Point. Parking is a major issue facing this district, and an increase in parking availability will be necessary to support this district’s growth and prosperity.

The Waterfront District has significant scenic and beach-front assets, providing substantial economic potential and driving forces for development. The Waterfront Trail, which follows the shoreline’s edge, generates pedestrian activity that could support commercial frontage along the trail. The waterfront also provides economic potential for new, high-quality housing with scenic, uninterrupted views into the Philippine Sea, generating greater property values in Hagåtña.

Currently, this district features sparse beachfront development that includes East Hagåtña and other picnic shelters along with various small and independent businesses such as cafes, restaurants and

bars. The beach itself is often utilized for small water recreational vehicles and other water sports.

With the waterfront as one of Hagåtña’s most prominent features, this district becomes an important area for redevelopment. Water-based sports and boating are attractive activities in the Agaña Bay and Seashore Park. Expanding the marina capacity and beach access offer more opportunities for tourists and local community members alike to enjoy these activities.

Three focus areas in the Waterfront District were identified for redevelopment: Paseo, the West Shoreline, and Adelup.

The focus area at Paseo expands the key features at Paseo de Susana Park: CHamoru Village, Paseo Stadium, and Fisherman’s Co-Op. A pedestrian bridge over Marine Corps Drive connects CHamoru Village to Skinner Plaza, enhancing pedestrian access and safety. Adjacent to CHamoru Village, Paseo Stadium is redeveloped into a new, multipurpose sports / events complex.

The West Shoreline focus area revitalizes the waterfront with mixed-use developments, increasing the density and activity along Hagåtña’s shoreline and making the best use of the waterfront. In return, this expands beach access and attracts new activity along the Waterfront Trail. New activity includes restaurants and shopping, with residential units on above floors. The last focus area is Adelup.

West Hagåtña District

The West Hagåtña District is located between City Center District and Adelup, south of Marine Crops Drive. It mainly comprises residential uses, including single family homes and aged apartment buildings, with some industrial and commercial properties.

This district’s location and developable land provide a solid foundation to grow and integrate new residential and mixed-use development. Since this district is located away from Hagåtña’s busy downtown employment base and the waterfront’s tourist-heavy attractions, these new mixed-use and residential developments create a quiet and calm, human-scale district, supporting a comfortable neighborhood environment.

As this district becomes the primary residential focus for Hagåtña residents, establishing the essential neighborhood amenities and a full range of housing options are crucial. In combination with affordable housing opportunities, establishing complete streets and trails that extend to the West Hagåtña District create opportunities for residents to walk and bike throughout Hagåtña. These easily accessible modes of transportation make it possible to live in this district without relying on a vehicle to get around the city, providing more affordable living conditions.

Riverwalk District

The Riverwalk District is located along the proposed Riverwalk Trail, adjacent to Hagåtña’s downtown and feeding into the Waterfront District. During the Pre- and Post-War Eras, only residential uses were found along the Hagåtña River. As residents subsequently began relocating elsewhere, the river lost utility and was viewed as an obstacle to development. Today, commercial strip centers fill the properties east of the river. West of the Hagåtña River is Hagåtña Central Park, but the rest of the land is mostly conservation area with some single-family residential properties. However, improving and developing the river’s body would create opportunities along the bank, including: enhanced safety, channeling, tourism, and recreational and commercial activity.

Currently, this district is home to one of the island’s two public pools and public tennis courts, as well as the Village’s Mayor’s Office.

The Riverwalk District features planned future mixed-use developments surrounding Hagåtña River enhancements, creating retail and commercial office opportunities along the Riverwalk Trail. This district's location will transform into one of the most attractive destinations in Hagåtña.

Land Use Categories

Land uses are organized in Hagåtña to achieve the community's values, visions, goals, and aspirations of their future. Each land use category carries a significant character and identity as it is developed. The 12 land use categories in this Master Plan are:

- Low Density Residential
- Rural
- Commercial
- Central Business District
- Mixed-Use Urban
- Mixed-Use Riverwalk
- Mixed-Use Shoreline
- Marina
- Government Center
- Public / Institutional
- Parks and Open Space
- Cemetery

Low Density Residential

Low Density Residential is made up of single-family residential lots, with a density of less than 6 dwelling units per acre. This category is located mostly near the Rural land use category to act as a

transition to high-density development. It helps create housing diversity within Hagåtña by providing single-family detached housing. Building heights in this land use category should not exceed 30 feet, and Floor Area Ratios (FARs) should be between 0.1 and 0.5.

Rural

Rural land uses seek to conserve natural areas in Hagåtña that must be protected from heavy development to preserve the land for future generations. This land use category is largely located at the southern end of Hagåtña which is mostly undeveloped forest land, including the Agaña Swamp, and along the cliff line. These areas are used for water retention and low-impact recreation. If development is approved, densities in this land use category will not exceed 0.5 units per acre, building heights will not exceed 30 feet, and FARs will not exceed .05.

Commercial

The commercial land use category provides office and retail opportunities to highly trafficked locations, supporting restaurants, shopping centers, local businesses, and grocery stores among others. Multi-unit dwelling buildings are also permitted in this land use category if approved. This land use category is located primarily along Marine Corps Drive, where properties are easily accessible by foot, bike, and motor vehicle. Commercial developments should not exceed heights of 50 feet, and FARs should not exceed 2.5.

Central Business District

The Central Business District land use category provides for a variety of residential and employment uses and maximum development flexibility. All uses identified in the Commercial land use category are permitted in this land use, as well as mixed-use developments with variations of commercial, office, and

residential. Single-use possibilities also include multi-unit residential buildings and regional corporate offices.

This land use is located in Hagåtña's downtown, creating an active and high-density center in Guam's capital. This land use category permits the tallest buildings, with heights up to 125 feet, and FARs at minimum 3.0.

Mixed-Use

Mixed-Use is a type of development that allows multiple uses, such as residential and retail, within the same parcel or structure. Mixed use designations are established and applied to areas to facilitate desired intensities and functions within defined areas, or to simply allow flexibility for future development. Mixed-use is generally categorized as horizontal mixed-use or vertical mixed-use.

Horizontal mixed-use is a combination of varying single-use buildings on separate, but adjacent parcels. Each building is on its own separate parcel and is therefore, able to be sold and financed individually. Horizontal mixed-use buildings can share utilities and amenities. This type of mixed use offers diverse land uses and walkable blocks.

Vertical mixed-use is a combination of different uses in the same building; uses can vary from floor to floor. Generally, the lower floors have public uses and the higher floors have more private uses. For example, the ground floor could have retail and the second floor could have apartments. Vertical mixed-use offers housing choices nearby goods and services while encouraging pedestrian activity.

Mixed-Use Urban

Mixed-Use Urban is a general mixed-use category that promotes development of small-scale commercial, retail, services, restaurants, office, and residential at the neighborhood level. It

encourages a mix of residential and other uses in the same or adjacent buildings. This land use category also permits single-family residential properties with densities greater than 8 units per acre.

This land use category is located in West Hagåtña to create a dense, active, live-work neighborhood. Although, since this is located against the cliff line, building heights should not exceed the height of the cliff, and FARs will be between 1.5 and 4.0.

Mixed-Use Riverwalk

Mixed-Use Riverwalk land use category offers uses similar to those in the Mixed-Use Urban, but does not permit single-family residential uses. This land use category provides for vertical mixed-use developments which are supported by the Hagåtña River and proposed Riverwalk Trail. New developments in this land use are oriented towards the Hagåtña River, with restaurants and retail stores lining the ground floor and residential units above, establishing a live-work-play environment along the river.

This land use category supports building heights up to 70 feet, and FARs 2.0 to 4.5.

Mixed-Use Shoreline

Mixed-Use Shoreline encourages a mix of pedestrian-friendly uses along Hagåtña's waterfront. This land use category focuses on small-scale boutique-style retail / shopping and restaurants oriented towards the shoreline, with residential units on above floors featuring picturesque views into Agaña Bay and Pacific Ocean.

The Mixed-Use shoreline category supports building heights up to 70 feet for properties south of Marine Crops Drive. However, building heights north of Marine Corps Drive will not exceed 40 feet to protect views to the shoreline in the West Hagåtña

District. FARs in properties with this land use designation will be between 1.0 and 4.0

Marina

The Marina land use category expands use of the Hagåtña Marina and boat basin, along with the related uses, including marina facilities, use of the access road to the sewage treatment plant, and growth of the Fisherman's Co-op. This increased marina use creates a new water-based destination in Hagåtña, attracting more people and tourists to its shores. Potential developments in the Marina land use category should not exceed 25 feet, and FARs should be between 0.8 and 1.3.

Government Center

The Government Center houses several GovGuam functions to work towards turning Hagåtña into a true capital city, consolidating governmental buildings. This land use is located in the heart of Hagåtña, and includes the reconstructed Governor's Palacio, new buildings to house various GovGuam agencies and departments, improved parking and access, and also historical and cultural amenities such as the new Guam Museum.

Public / Institutional

Institutional land uses establish and preserve Hagåtña's culture, and include uses such as churches / religious centers, and educational facilities. This land use category is scattered throughout Hagåtña, creating specific nodes for neighborhood centers and gatherings. Building developed on land designated as Public / Institutional should not exceed 50 feet in height, and will have FARs between 0.5 and 2.0.

Park and Open Space

The Park and Open Space land use focuses on enhancing recreational opportunities and providing links between Hagåtña's parks and open spaces. This land use category is spread across

Hagåtña, providing park and open space to neighborhoods, surrounding historical and cultural sites, and along the shoreline. This land use improves the shoreline's access and use, enhances existing facilities at Paseo de Susana, and expands the recreational amenities near Hagåtña Pool. Only structures supporting the park / open space are permitted in this land use designation.

Cemetery

These areas are the locations of existing cemeteries in Hagåtña and are not expected to change in the future. No development is permitted in these land use designations.

Public Land

Approximately 222 acres of Hagåtña's 630 acres is publicly owned land. This means that the land is available for development at the Government of Guam's discretion. Figure 3-3 delineates the land that is publicly owned and the land that is privately owned.

There is public land located in each of Hagåtña's four districts. The majority of the public land in the City Center District is located within the Capital & Cultural Sub-area of the district. The publicly owned land in the waterfront district is mainly parkland and includes Hagåtña's beaches and Adelup. There is minimal public land located in the West Hagåtña District as the majority of the district is privately owned. The public land in this district traces the Village's southern border, just north of the US Naval Hospital. And the public land in the Riverwalk District is limited largely to swamp land.

Private land within the Village comprises the remaining 408 acres. While this land typically can't be developed by the government, partnerships between private land owners and the Government can occur.

Figure 3-3

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4. Public Buildings and Facilities

Inside Chapter 4...

4.1	Issues and Opportunities	4-1
4.2	Goals and Policies	4-3
4.3	Planning Framework	4-4

Hagåtña has served as the center of government for Guam throughout many parts of its history, including the Spanish colonial era, the American Naval Government era, and during World War II. While several components of the Government of Guam (GovGuam) are located in Hagåtña today, they are not centralized. The Judiciary and Legislative branches of GovGuam are located close to the center of Hagåtña, but the Office of the Governor and several administrative functions are located at Adelup, still in Hagåtña, but not centrally located. Additionally, many GovGuam departments currently lease office space in privately-owned buildings in and outside of Hagåtña. The Hagåtña City Center District shall be established in the heart of Hagåtña, which will be anchored by the reconstruction of the historic Governor’s Palacio and the Congress Hall. These functions will be supplemented by new GovGuam buildings to create a government core that supports a true capital. The reestablishment of Guam’s government core will encourage new growth and economic opportunity and provide better accessibility for Guam’s citizens to access related government functions.

The Public Buildings and Facilities Element supports these guiding principles:

- Re-establish Hagåtña as the capital city
- Establish a vibrant downtown
- Promote economic growth

4.1 Issues and Opportunities

Issues

City-Wide Lack of Historic Architectural Features. There is an overall lack of historic architectural detail in Hagåtña, which diminishes the identity and sense of place within the community. Many pre-war and post-war historic places or structures have been converted and / or removed leaving no mark of the history unique to each notable feature.

Leased Space for Government Agencies. There are several privately-owned buildings in Hagåtña that house Government of Guam agencies. With a surplus of available commercial space and a lack of space in government-owned buildings in Hagåtña, many public agencies have been prompted to lease space in privately-owned buildings. More than 10 agencies (or divisions or

satellite facilities) are located in private buildings across Hagåtña. The DNA building currently hosts the Guam Fire Department (GFD) Headquarters (administration) and the Department of Integrated Services for Individuals with Disabilities. Several other agencies also used to be located there. The GCIC building along Marine Corps Drive hosts the Department of Labor, the Bureau of Women’s Affairs, and the Guam Election Commission as well as a myriad of private businesses and agencies. Furthermore, the Ada Commercial Center near the Hagåtña River is host to the PEACE office of the Guam Behavioral Health and Wellness Center, and the Mayor’s Council of Guam.

The need to relocate some of the GovGuam agency offices is critical to the modernization of Hagåtña, and consolidation of agencies into GovGuam-owned buildings throughout the downtown area will be beneficial. The need for additional public buildings to host public services, such as a fire station and healthcare services is also evident within Hagåtña. Additionally, the use of underutilized buildings, such as the Guam Preservation Trust using the Lujan House, is another potential opportunity for Government of Guam agency relocation.

Public Buildings in Poor Condition. All public buildings in Hagåtña are owned by GovGuam, with roughly 25 buildings and facilities throughout Hagåtña. Many of these facilities have been in existence since the 1970s and 1980s and are in need of improvements.

While most buildings and facilities have seen some sort of renovation or rehabilitation over the years, the lack of funding and distribution of (limited) available funds has required ad hoc attempts to fix deteriorating conditions. The facilities at the Paseo de Susana Park and Stadium are in poor condition, are improperly maintained, and are underutilized. The CHamoru Village, which is one of Hagåtña’s top destinations, is in below average condition and is constantly crowded and over capacity, leading to safety issues along Marine Corps Drive. The facilities at the Hagåtña Central Park are also in below average condition and are underutilized, possibly attributed to the location or proximity to the Hagåtña River which often floods.

Underutilized Parks. Between Adelup and central Hagåtña, there is a lack of attractive parkland. The shoreline from Adelup to Paseo is mostly designated as parkland, but it is difficult to access in many areas, and it is not a very inviting asset, so it remains underutilized. The majority of existing residential development in Hagåtña is located in the western portion but does not have adequate access to functional park space. As the city grows and new residential is developed in this area, park space will need to be considered to add to a higher quality of life for residents.

Lack of Attractions. With the exception of cultural resources, there is a lack of tourist attractions within Hagåtña such as shopping, nightlife, hospitality, and entertainment. The marina and CHamoru Village facilities are also underutilized on a regular basis and could be enhanced upon to provide more activities and opportunities for locals and tourists. CHamoru Village is a big attraction for the

Wednesday night market, but other than that, it is not very well trafficked. Similarly, on the average day, Hagåtña as a whole does not have any major attractions or draw to bring people there in the evenings.

No Fire Station. There is currently no Guam Fire Department (GFD) fire station in Hagåtña. There is a station in Sinajana, less than a mile away, which services the majority of Hagåtña. Another GFD station is located roughly 1.5 miles away in Tamuning, which also responds to emergency service needs in eastern and central Hagåtña.

City Center District

Capital and Cultural Sub-area

Hagåtña Detention Facility Location. The Hagåtña Detention Facility under the Department of Corrections services the whole municipality of Hagåtña, as well as many adjacent municipalities. For safety reasons, the facility is surrounded by barbed wire and tall fencing that goes all the way to the sidewalk. This is not aesthetically pleasing and does not provide an inviting pedestrian experience, especially with future plans to redevelop the area around the facility as the governmental center of Guam. There are discussions about relocating the detention facility, although it is unclear whether or not the Hagåtña Police Precinct will relocate with it.

Opportunities

City-Wide

Historic Landmarks and Districts. The village contains over 40 historic landmarks, almost half of which are locally or nationally registered. Renovations and other improvements have been proposed for many of Hagåtña’s historic landmarks within the Capital / Cultural District.

Culture and Character. Paseo de Susana and the amenities scattered throughout the Capital and Cultural District in Hagåtña give the village a sense of cultural pride and character. An overall high concentration of historic and cultural places within the village provide opportunity for the village as a destination, although connections need to be made with seafaring culture.

Park and Recreational. For roughly one square mile and 1,050 residents, Hagåtña has a good amount of parkland and open space, much higher than national averages. Territorial or community recreation facilities are opportunities for recreational activity for all ages, and for special uses such as aquatics or other sports. These existing and future anticipated recreation facilities are located in several areas throughout Hagåtña and include:

- **Paseo Stadium** which includes several baseball / softball fields.
- **Hagåtña Rec Center** includes tennis courts and the Agaña Pool.
- **Marina and Fisherman’s Co-Op** includes water related activities; anticipated facilities include a fisherman’s platform and market.
- **Adelup Park** which includes several sports fields.
- **Hagåtña Riverwalk** which is an anticipated recreation linkage.
- **CHamoru Village** which hosts an outdoor mall / marketplace with vendors selling food, souvenirs, and cultural goods.

Hagåtña offers a wide variety of youth and adult recreational programs that are designed to meet the needs of all residents. The promotion and supervision of these recreation programs is the responsibility of Department of Parks and Recreation and

Mayor’s Council of Guam staff. Programs at some of Hagåtña facilities include soccer leagues and summer camps.

City Center District

Capital and Cultural Sub-area

Reestablish Hagåtña as the Government Center. Many plans have been moving along to reestablish Hagåtña as the capital, cultural, and government center of Guam. The construction of the Guam and CHamoru Educational Facility Museum, renovation of the historic Legislature Hall, and plans to rebuild the former Government House next to Plaza de España, among existing cultural and historic assets in the area, will help revitalize central Hagåtña to its former prominence, as well as bring new life to the downtown core.

4.2 Goals and Policies

Public buildings are generally located in the Hagåtña City Center District of Hagåtña. Facilities, such as parks and areas of recreational can be found throughout the village but will become notable in Hagåtña City Center District. Improving public safety is crucial in establishing a sense of security and a sense of place within the city. These goals and policies intend to reestablish Hagåtña’s reputation as the capital city.

Goal PB-1

To re-establish Hagåtña as the governmental center of the island.

- Policy PB-1.1** The Government of Guam should locate the principal governmental administrative offices in Hagåtña.
- Policy PB-1.2** The City shall site major public buildings in locations that will support proximate private commercial uses where possible.

- Policy PB-1.3** The City shall avoid undue concentration of government and private offices in single use nodes.

Goal PB-2

To locate and design public facilities within Hagåtña to enhance community surroundings.

- Policy PB-2.1** The City should ensure that public buildings and facilities reflect high quality design in terms of site planning, architecture, landscape, materials, and other project elements.
- Policy PB-2.2** The City should ensure that new public buildings honor Guam’s historic and cultural character and be complementary to existing nearby historical and/or cultural uses.
- Policy PB-2.3** The City should locate major government buildings so that they function as key focal points within the district as a way to provide both structure and visual landmarks where possible.
- Policy PB-2.4** The City should encourage public and private landscape to have native species, reflect culture and history, and where possible, enhance natural ecological conditions in public and private landscapes.
- Policy PB-2.5** The City shall ensure that building scale, massing, lighting, materials, articulation, and other attributes are appropriate for the site as well as for its surroundings.
- Policy PB-2.6** The City shall link public buildings and facilities to transit systems to promote connectivity and to support the transit system where feasible.

- Policy PB-2.7** The City shall maintain public facilities and other public properties on a consistent basis, including programming sufficient annual funds for staffing and equipment.

Goal PB-3

To establish parks and recreational areas as a principal element of the district’s structure and enhance the use and value of district buildings and uses.

- Policy PB-3.1** The City shall design and locate parks and trail connections throughout the district as a means of providing recreation, ecological value, aesthetic benefits and mobility through biking and walking.
- Policy PB-3.2** The City shall plan and implement park facilities to enhance and support tourists’ experiences.
- Policy PB-3.3** The City shall program events at major park facilities to draw patrons to support district businesses.
- Policy PB-3.4** The City shall design parks to enhance the value and use of adjacent and proximal buildings and facilities.
- Policy PB-3.5** The City shall encourage private and non-profit support for districts parks, such as by adopting a park program.
- Policy PB-3.6** The City shall use parks as a way to recognize and honor local history, historical figures, and culture and unique ecological resources.

Policy PB-3.7 The City shall provide a full range of park types in appropriate locations, including pocket parks, public art installations, scenic overlooks, trails in addition to major public parks and active recreational areas.

Goal PB-4

To have safe and secure public facilities.

- Policy PB-4.1** The City shall ensure that all public areas have sufficient lighting and are otherwise designed to enhance security in ways that are sensitive to other master plan objectives.
- Policy PB-4.2** The City shall develop additional emergency response facilities in appropriate areas
- Policy PB-4.3** The City shall provide regular patrols by law enforcement.
- Policy PB-4.4** The City shall create a district crime watch program.
- Policy PB-4.5** The City shall encourage creation of a BID to supplement district security funding.

4.3 Planning Framework

Public Buildings

The cornerstone of reestablishing a central government core in the heart of Hagåtña is the reconstruction of the historic Governor’s Palacio and building complementary GovGuam offices around it. Hagåtña is the historic capital city of Guam, although many GovGuam departments are not located within its boundaries. The relocation of government buildings back into the Hagåtña City Center District will recreate the government hub that Hagåtña once was. Hagåtña has much governmental history within its boundaries and has the historic sites to attest to it. These sites will be restored

to the aesthetic and functionality that they once were to show that Hagåtña remains a strong government center.

Hagåtña City Center District

The Hagåtña City Center District will not only centralize the three main branches of GovGuam, supplemented by related GovGuam departments, but it will also be an epicenter for Guam’s culture and history for residents and tourists with the newly completed Guam Museum.

The reconstructed Governor’s Palacio will be a historical re-creation of the former building, but it is not planned to be used to house the Office of the Governor. The Palacio will be used as a welcome center for residents and visitors to familiarize them with the Government Civic Center Complex. It will include a small Hall of Governor’s museum and information on Guam and Hagåtña’s history and redevelopment of the Government Civic Center Complex. Some space on the second floor may be used as administrative office space, but the Governor and Lieutenant Governor’s offices will be located in a different building. The two-story Palacio will have 6,000 square feet of space on each floor, for a combined 12,000 square feet.

The land surrounding the Palacio will contain other newly-constructed GovGuam buildings to house various GovGuam departments and functions. Since the Palacio will be built to mimic the historical style and look of the former building, the nearby GovGuam buildings should be constructed in a scale and style that are complementary and harmonious with the Palacio and the Plaza de España. Design features for the Palacio and surrounding buildings will include sloped roofs with clay tiles, railing with covered walkways paved with stone pavers, and punched windows with balconies.

As part of the revitalization of Hagåtña as the government center of Guam, it is proposed to relocate several GovGuam departments and functions to a centralized Government Civic Center Complex located around Plaza de España, with the Palacio as the epicenter. The relocation of GovGuam departments to the Government Civic Center Complex would not only improve GovGuam operations by having related departments in close proximity to each other, but it would also save GovGuam millions of dollars annually by removing costs paid to lease various offices from private operators. The GovGuam departments and functions that are proposed to be relocated to central Hagåtña are as follows.

- Bureau of Budget and Management Research (BBMR)
- Bureau of Statistics and Plans (BSP)
- Department of Land Management (DLM) / CHamoru Land Trust Commission (CLTC)
- Department of Administration (DOA)
- Department of Labor (DOL)
- Department of Revenue and Taxation (DRT) – Director’s Office only
- Office of the Governor
- Office of the Attorney General of Guam (OAG)

While these are the departments and functions that are currently proposed to relocate to Hagåtña, this list may change once the buildings are constructed and other factors are considered.

Average space per occupant standards developed by the International Facility Management Association (IFMA) were used to determine the total square footage needed for each department to move to the Government Civic Center Complex. Data on current

staffing levels and positions from each GovGuam department was analyzed and calculated with the IFMA numbers for space requirements by staff position to develop an amount of square footage needed for each department proposed to relocate to the Government Civic Center Complex. Table 4-1 identifies the average (based on maximum and minimum needs) amount of square feet estimated to be needed for each department based on current staffing levels, current square footage used, and information from IFMA sources. A detailed explanation of how the square footage needs were calculated is included in Appendix B: Facility Scoping Memorandum. The square footage used was derived in the Military Buildup Scenario section of Appendix B.

Table 4.1. Estimated Square Footage Needed by Department

Agency	Square Feet Needed (Avg.)
BBMR	4,778
BSP	6,628
DLM / CLTC	19,155
DOA	42,159
DOL	42,899
DRT Director's Office	2,431
Office of the Governor	26,563
OAG	39,919
TOTAL	184,532

Source: DLM; DOA; DRT; Palacio Reconstruction and Site Feasibility Study, GPT, 2015; FY2015 Budget Act and 2014 4th Quarter Guam Agency Staffing Patterns; Matrix Design Group, 2015

Land Resources Building

Some of these departments would be housed in a new Land Resources Building that is in the planning and development stages by DLM (as of 2016). The new building would be constructed in central Hagåtña, on Block 24, on the northwest side of West O'Brien Drive and Padre Palomo Street. The building will be five stories tall, totaling 24,531 net square feet of usable space. DLM staff has indicated that they may only need three floors to accommodate their staff, allowing the remaining two floors to potentially be used by another GovGuam agency. Plans for this building include a three-level parking garage with 121 parking spaces and surface parking, accounting for a total of 172 parking spaces.

Government Civic Center Complex

There are proposed to be four complementary buildings for other GovGuam departments. Each of these buildings would be two stories tall, except for one building, which will have a third level on part of it. Two of the buildings would face Plaza de España and also front Aspinall Avenue. These would each provide 20,750 square feet of gross floor area. The third building would be across Aspinall Avenue and include a three-level parking structure behind it. This is the building that will have a third level for additional office space and would have 47,260 square feet of gross floor area. The fourth building will be located on what is currently the parking lot for the former Manual F.L. Guerrero Department of Administration building, just west of Academy of Our Lady of Guam's cafeteria building. This building would have 22,600 square feet of gross floor area. It is likely that this is the building where the Office of the Governor will be located. It may need to be expanded to include an additional 4,000 square feet of gross floor area to accommodate the size of the Office of the Governor. The combined floor space of these four buildings is estimated at 111,360 square feet. Construction of these buildings will require the demolition of the existing DOA Data Processing Division building and the

Department of Corrections- detention facility on Aspinall Avenue, which will need to be relocated. Relocation of such uses will enhance the pedestrian experience of the area, as the detention facility does not provide a welcoming look or feel to visitors. The three-level parking structure behind Building 1 is planned to include 329 parking spaces. There are two surface parking lots planned as well, one with 42 spaces and one with 90 spaces, for a total of 461 parking spaces. Development of additional buildings may require additional parking spaces.

The combined estimated space of the Land Resources Building and the four buildings around the Palacio (but not including the Palacio) would be 135,891 square feet, which is 48,641 square feet less than the amount shown in Table 4-1 to support the departments proposed to move to Hagåtña. To address this shortfall, engineering designs may consider additional floors since City of Hagåtña is allowed to design structures up to 75 feet, as opposed to the 30 feet or 2-storey height restriction.

Guam Legislature Building

Another important part of centralizing government in Hagåtña is to bring all of Guam's Senators to the area. In 2016, the historic Guam Legislature Building (former Guam Congress Session Hall) was renovated to be used once again as the Session Hall. It hosts house offices for several Senators, but not all of them. The building maintains a gross building footprint of 13,884 square feet, with a total net floor area (first and second floor) of roughly 19,615 square feet of space. Design provisions were made to accommodate office space for the Speaker of the Legislature, several other senators, the executive director, legal counsel, clerks and other various support staff. The remaining Senators occupy office space in proximity to the Legislature Building.

While there are no set standards for legislative offices, square footage needs identified for the Governor and the Lieutenant Governor's office spaces were estimated at 1,000 square feet each, while support / conference spaces identified for the Governor and Lieutenant Governor were estimated at 1,200 square feet each. An office space estimate of 900 square feet and a support / conference space estimate of 700 square feet per Senator is used. An estimate of 700 square feet support / conference space per Senator should be large enough to host legislative / senatorial staff members as needed. Not accounting for the Council Chambers or Session Hall, the Senators require an estimated 31,622 square feet of space for all 15. The plans also account for around 50 off-street parking spaces and 32 on-street parking spaces.

Figure 4-1 identifies the locations of the new government buildings within the City Center District and illustrates what they will look like.

Other Public Facilities

Other public facility improvements in the Hagåtña City Center District are renovation and expansion of the Nieves M. Flores Memorial Library, which may be enhanced up to a six-story building and include a children's library, and improvements and expansion of the Superior Court of Guam campus. Enhancements to the Superior Court campus include renovations, new building construction, improved parking, and an upgraded Guam Territorial Law Library.

Waterfront District

The majority of the public facility projects and enhancements in the Waterfront District will occur on or near Paseo de Susana. Paseo itself will see many enhancements to its park and recreational facilities (as described in more detail later in this element) and its walking / biking trails (as described in more detail in Circulation Element).

I Sengsong CHamoru (CHamoru Village) will be expanded to provide more formal space for exhibitors. Enhancements will be made to make the village safer and more navigable for visitors walking through. Many renovations are planned for CHamoru Village, including an improved main plaza entrance, light house reconstruction, amphitheater, 11,000 square foot art gallery and workshop, and administrative offices and meeting rooms. CHamoru Village could be used on weekends as a farmer's market to promote its use and allow residents and visitors a place in Hagåtña to buy fresh, local goods.

The Gregorio D. Perez Marina is an asset to Hagåtña's economy, culture, and recreation activity. The marina will continue to be an asset to Hagåtña and will become a center of activity. In the long-term, the Hagåtña water reclamation facility near the marina will be relocated out of Hagåtña. This land would best be redeveloped as a complementary use to the marina, which may include a boardwalk, restaurants, fishing / boating supply shop, and leisure space. To improve upon this concept, land around the marina may be reclaimed to provide a better base for development. Expansion of the marina would create more boat slips and increase the use of the marina for both economic and recreational purposes.

West Hagåtña District

There is some existing public land and a few existing public buildings in the West Hagåtña District, but no new facilities are planned.

Riverwalk District

The Riverwalk District has great potential for redevelopment into a thriving mixed-use destination; however, since majority of the land is privately-owned, there is little development that will occur as public facilities. The Hagåtña Mayor's Office and Community Center

are located in the southern part of this district and may be expanded to include a senior living center.

Public Safety

As Hagåtña grows and prospers from future GovGuam activity, economic growth, and increased tourism, it will be important to maintain a safe and welcoming community. Public safety is at the forefront of this, both for residents and visitors. There are many current public safety concerns in Hagåtña, ranging from poor nighttime lighting in many areas, unsafe or unwelcoming pedestrian sidewalks and access, and a lack of police presence.

Appropriate lighting will be a key function for recreational uses and trails throughout Hagåtña. Existing pedestrian pathways, sidewalks, trails, recreational facilities, and bus stops will be retrofitted with nighttime lighting and future development of these amenities will include lighting as well.

There is a lack of city-wide police and fire fighting presence in Hagåtña that creates an unsafe feeling in parts of the city. There is now a structure at the Hagåtña Marina for the Guam Fire Department and Guam Police Department, which is used for water rescue and shore safety. A Hagåtña Citizen's Patrol Task Force, similar to the one in Tumon, should be established to patrol heavily trafficked areas and provide assistance and a safer feeling for residents and visitors.

Figure 4-1. Future Hagåtña Government Center Complex at Plaza de España



Figure 4-2

Parks and Recreation

Parks and open spaces in Hagåtña provide necessary escapes from the built environment and opportunities for active recreational activities, both of which are vital to Hagåtña’s quality of life and living healthy lifestyles. As Hagåtña grows, it will become increasingly important to retain its spacious feel and provide adequate access to quality parks and open spaces for residents. Parks and Recreational areas include several different types and scales of open space—regional, village, neighborhood, and pocket. Figure 4-2 illustrates the existing and proposed parks.

Hagåtña City Center District

The Hagåtña City Center District contains several parks, all of which have historical or cultural significance—Fort Santa Agueda Park, Plaza de España, Santos Latte Park, Skinner Plaza, and Sirena Park. Since this district is mostly built out with sufficient park space, there are no new proposed parks. However, it is important that these existing parks are highly accessible and properly maintained to preserve their historic character and iconic image in Hagåtña.

The main potential for new parks in the Hagåtña City Center District is small pocket parks between dense urban developments. Hagåtña should work with new developers in this district to encourage small pocket parks tucked between structures, which can contain tables and chairs, shade, public art, newsstands, and water features. These small open spaces provide a comfortable and relaxing space for urban employees to meet clients and / or escape the office environment during breaks.

Hagåtña Waterfront District

The Waterfront District will have the longest consecutive park in Hagåtña that extends the majority of the district along the beach and waterfront. The waterfront park will be enhanced to include improved lighting, safer pavement and pedestrian access, improved

pedestrian amenities and picnic areas, and linkages to recreational areas such as Paseo de Susana and Adelup Park.

The Great Seal of Guam Park will be completed at the mouth of the Agaña River. This will be an interactive park that will allow visitors to step into a living version of the Seal of Guam. It will feature a proa model that can be sat upon.

Paseo de Susana will feature improved baseball and softball facilities to provide a better experience for players and fans alike. Other enhancements at Paseo include a boathouse for showcasing the traditional canoeing culture through education, recreation, and training on the west shoreline; and improvements to the park grounds in general, including enhanced and appropriate lighting fixtures and improved exercise stations.

Hagåtña Riverwalk District

In terms of recreation, the Riverwalk District is anchored by the Hagåtña Central Park, which will be a premier destination for sports activities in Guam. Currently, Central Park features a large community swimming pool, tennis courts, and a community center. It is proposed to become a major city-wide park with a hub of recreational activity. This park expansion will enhance the existing public pool, plus feature new multipurpose athletic fields and a renovated and expanded community center. These new multipurpose athletic fields and community center will host activities for all ages, young and old, from across Hagåtña and even Guam. Some sports and activities this park will host include:

- softball / baseball fields,
- basketball,
- soccer,
- rugby,

- football,
- volleyball / sand volleyball,
- tennis,
- swimming, and
- exercise classes.

The Riverwalk itself will feature recreational opportunities via a pedestrian trail along the riverbank. Another park and recreational opportunity in this district is a pavilion located along the Riverwalk Trail. This pavilion can host small concerts and other community-wide events.

West Hagåtña District

The West Hagåtña District does not currently have significant park space or recreational opportunities within the area. With the proposed increase in mixed-use residential development, new neighborhood-scale park and open space is a necessity to enhance the district’s quality of life and attract new residents. There is a minimal amount of public land in this district compared to the other districts, so the only place for a public park would be along the base of the cliff line. New residential developments of 5 acres or more in the West Hagåtña District should include community and / or park space.

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5. Circulation

Inside Chapter 5...

5.1	Issues and Opportunities.....	5-1
5.2	Goals and Policies	5-3
5.3	Planning Framework	5-6

Despite its small footprint, Hagåtña has the potential to become a dense, multimodal, urban environment that supports mass transit opportunities. An enhanced transportation network will strategically link mass transit with bicycle and pedestrian corridors, as well as parking garages, ensuring all modes of transportation are available to residents, visitors, and commuters. New transit stations will bring commuters and tourists to Hagåtña’s center, creating a mobility hub. New city-wide trails connect to these transit stations and weave through Hagåtña, guiding pedestrians safely to their destinations. Parking garages will be developed in strategic locations, which connect to these transit stations and trails, offering commuters and visitors multimodal opportunities.

The Circulation Element supports these guiding principles:

- Create a multimodal circulation system and enhance connectivity throughout Downtown
- Develop appropriate urban design standards

- Develop mixed-use nodes throughout Hagåtña
- Establish a vibrant downtown

5.1 Issues and Opportunities

Hagåtña is served by three primary highway routes which are considered Hagåtña’s major traffic (and freight) corridors: east and west via Marine Corps Drive (Route 1) and Purple Heart Highway (Route 8), and north and south via Route 4. Marine Corps Drive is the primary highway in Guam and within Hagåtña, spanning a total of 22 miles of four to six lanes, with speed limits of 35-45 miles per hour (mph). Its pavement condition varies. Figure 5-1 depicts the roadway network in Hagåtña.

Issues

Roadway Conditions. Several of the roadways within Hagåtña are old and deteriorating and are in need of rehabilitation. Route 4 spans a total of 24.4 miles and has several speed limits with lane widths ranging from 2 to 6. Its northern terminus is in Hagåtña. Its pavement condition is generally unacceptable.

Purple Heart Highway (Route 8) consists of 4 lanes spanning a total of 4.3 miles (only a small portion of this is in Hagåtña) with speed limits of 35 and 45. Its western terminus is in Hagåtña, and the pavement condition is categorized as poor.

Lack of Pedestrian and Bicycle Amenities. Hagåtña lacks comfortable sidewalks and pedestrian amenities such as benches, public art, trash receptacles, lighting fixtures, and crosswalks in key areas. Hagåtña roadways have limited accommodations for pedestrian and bicycle travel and the quality of facilities generally parallel that of the road conditions. Additionally, there are no designated bicycle routes in Hagåtña. Sidewalks and roadway shoulders generally make up the existing bicycle and pedestrian system. This not only creates an uninviting experience, but it also poses safety concerns for pedestrians and bicyclists along busy roads with inadequate sidewalks.

Bicycle and pedestrian travel currently constitutes a very small portion of the total transportation system in Hagåtña. Providing sidewalks and paths becomes more relevant as the population increases. Hagåtña provides pedestrian facilities within and between residential neighborhoods along with commercial and industrial areas. Pedestrian facilities are especially important in those parts of Hagåtña where sidewalks are currently only provided along Marine Corps Drive (Route 1), Route 4, and Route 7a. Marked crosswalks and pedestrian safety devices are located at some signalized intersections throughout Guam, although few are located within Hagåtña.

Figure 5-1

Insufficient Parking Availability. There is a lack of available public parking areas in Hagåtña during the day and during events, and available on-street parking in the area is quickly filled. Except for highways (Routes 1, 4, 8, and parts of 7 and 7a) most streets in Hagåtña accommodate on-street parking, although not all of this on-street parking is recognizable with road markings or actually “designated” for parking use. On roads where no sidewalks are present, the shoulder generally functions as pedestrian or cyclist space, which can create safety concerns due to conflicting on-street parking use.

Many parking areas in Hagåtña result from improvised use of underutilized public and private land and are not designated or designed for parking. For example, several grass lots proximate to the Spanish Bridge have been used for parking by employees in the area, and many vacant lots have been used as overflow parking during Wednesday night events at CHamoru Village. Several peripheral areas of the Plaza de España have been turned into underutilized and poorly maintained parking lots, the largest of which serves as the only pedestrian link between Senator Angel L.G. Santos Memorial Park (also known as Latte Park), and Plaza de España – a connection that is traversed by many visitors to Hagåtña.

Transportation Alternatives. There is an inadequate amount of facilities for buses, both local and tour buses. Tour buses often drop off riders at undesignated bus stops and wait for them while the riders are visiting locations such as Plaza de España, Latte Stone Park, Dulce Nombre de Maria Cathedral Basilica, and CHamoru Village. This can interrupt traffic flow. Additionally, Guam mass transit bus service is not always reliable and buses may not arrive at the time they are supposed to for various reasons.

Opportunities

Heritage Trail. Marketing and enhancement of the Heritage Trail could provide new opportunities for leisure, public education, tourism, and pedestrian traffic to and from cultural destinations.

Traffic Flow. Hagåtña comprises over 20 percent of Guam’s total signalized intersections, allowing for safer and more sufficient traffic flow. Additionally, planned parking structures and potential additional transportation options would help reduce traffic congestion. New parking structures on underutilized surface parking lots would provide more off-street parking for all.

Transit Routes and Destination Points. Hagåtña has the largest concentration of mass transit routes and destinations in Guam, including the terminus at CHamoru Village. Better coordination of mass transit in Hagåtña could improve ridership not only in the city, but in other areas as well.

Funding for Bicycle and Pedestrian Routes. One million dollars of the proposed 2011 CEDS 3rd year update has been appropriated for establishing a proper transportation road and traffic circulation system for pedestrians and bicycles. This CEDS allocation may be to implement the planned bicycle route, identified in the TPURP that will span from Micronesia Mall in Tamuning, down Route 1 through Hagåtña’s Capital and Cultural District. This planned bicycle route would not only reduce vehicle miles traveled, but also encourage safe and convenient bicycling. Other proposed projects identified in the TPURP include potential rideshare and bike share systems, development of a motorcycle and bicycle safety strategic plan, encouraging telecommuting, and educational campaigns for alternative transportation. Additionally, the Guam Energy Action Plan includes a transportation options strategy aimed at reducing fossil fuel consumption, such as examining the feasibility of bringing electric vehicles to Guam.

5.2 Goals and Policies

The Circulation Element’s goals and policies provide guidance to establish multimodal opportunities, improving access throughout Hagåtña. They focus on enhancing and linking transportation systems to facilitate mobility for residents, visitors, and commuters.

Goal C-1

To establish and integrate multimodal opportunities throughout Hagåtña.

- Policy C-1.1** The City shall implement the Circulation Diagram to designate the classification of all major roadways, transit facilities, and bicycle facilities.
- Policy C-1.2** The City shall connect new and existing trails to transit stations.
- Policy C-1.3** The City shall support the development of Complete Streets along appropriate roadways, to support walking, biking, public transit, driving, and parking.
- Policy C-1.4** The City shall locate and develop parking garages near transit facilities for park-and-ride opportunities and to supplement surface and on-street parking.
- Policy C-1.5** The City shall coordinate with other jurisdictions in Guam to establish an island-wide transportation system.
- Policy C-1.6** The City shall actively pursue measures that will help reduce vehicle trips by maintaining a ridesharing program.

Goal C-2

To support Complete Streets and develop pedestrian and bicycle infrastructure that encourages safe, accessible, village-wide walking, and bicycling.

- Policy C-2.1** The City shall ensure that sidewalks of an appropriate width run along all streets, with no obstructions blocking travel and are ADA compliant.
- Major highways should have sidewalk widths of at least 12 feet—18 feet to 22 feet is preferred.
 - Minor highways should have sidewalk widths of at least 8 feet—12 feet to 18 feet is preferred.
 - Collector roads should have sidewalk widths of at least 5 feet—8 feet to 12 feet is preferred.
 - Local roads should have sidewalk widths of at least 3 feet—5 feet to 8 feet is preferred.
- Policy C-2.2** The City shall place bicycle and pedestrian facilities in appropriate locations along trails.
- Policy C-2.3** The City shall ensure that crosswalks are located at all intersections and road crossings.
- Policy C-2.4** The City shall provide pedestrian amenities—such as garbage cans, benches, shade structures, and lighting—in appropriate locations throughout Hagåtña.

- Policy C-2.5** The City shall promote and support a regional bikeway system throughout Guam.
- Policy C-2.6** The City shall design bicycle and pedestrian routes that will minimize conflicts with vehicular traffic.
- Policy C-2.7** The City shall review site plans for pedestrian accessibility. New developments should emphasize pedestrian connectivity and provide walkable sidewalks and trails linking residents with shopping centers, offices, parks, schools, and other public facilities.
- Policy C-2.8** The City shall plan for separate rights-of-way for multiuse recreational trails where feasible. All trails should be between 10 and 25 feet wide, and have sufficient room for water retention areas along at least one side of the trail to supplement a stormwater management plan where feasible.
- Policy C-2.9** The City shall design local streets to not only accommodate traffic, but also to serve as comfortable pedestrian environments. Improvements should include, but not be limited to:
- Street tree planting between the street and sidewalk to provide a buffer between the pedestrian and the automobile.
 - Minimum curb cuts along streets.
 - Sidewalks on both sides of streets, with the sidewalk separate from the curbface with a landscape strip, where feasible.
 - Traffic calming devices such as roundabouts, bulb-outs at intersections, traffic tables, etc.

- Encourage the establishment of a tree canopy over residential streets and neighborhoods. A street tree program shall be included with all specific plans.
- Policy C-2.10** The City shall require bike lanes in the design and construction of major new street and highway improvements, and to establish bike lanes on those city streets wide enough to accommodate bicycles safely. Bike lanes along minor highways and collector streets shall be at least four feet wide—five to six feet is preferred—and be stripped separately to drive lanes.
- Policy C-2.11** The City shall provide pedestrian / bicycle crossings at appropriate intervals along new roadways that will adequately serve new large-scale commercial, office, and residential development as well as parks and schools.
- Policy C-2.12** The City shall promote pedestrian convenience and safety through development conditions requiring sidewalks, walking paths, or hiking trails that connect residential areas with commercial, shopping, and employment centers. Where feasible, trails will be looped and interconnected.

Goal C-3

To establish a Village-wide wayfinding system in Hagåtña that provides guidance for residents and visitors.

- Policy C-3.1** The City shall place wayfinding signage along major roadways and trails.
- Policy C-3.2** The City shall develop gateway features at major entry points into Hagåtña and at major intersections.
- Policy C-3.3** The City shall provide pedestrian kiosks periodically along trails and in the downtown area.

Goal C-4

To ease Hagåtña's parking congestion through a new on-street parking plan.

- Policy C-4.1** The City shall provide on-street parking along streets identified in the On-Street Parking Map, and place parking meters along streets identified as pay-by-space.
- Policy C-4.2** The City shall monitor municipal on-street parking monthly to observe trends and deficiencies.
- Policy C-4.3** The City shall enforce on-street parking regulations identified in the On-Street Parking Map.

- Policy C-4.4** The City shall establish a clear parking control identification signage system for users to easily understand regulations.

- Policy C-4.5** The City shall encourage government and other Hagåtña employees to park in parking garages, preserving on-street parking for consumers and visitors.

Goal C-5

To have adequate parking available in conjunction with new development.

- Policy C-5.1** The City shall ensure that parking for commercial portions of Village Centers are shared amongst uses and have connected driveways, curb cuts, and pedestrian connections.

- Policy C-5.2** The City shall require the provision of adequate off-street parking in conjunction with new development. Parking shall be located convenient to new development and shall be easily accessible from the street system.

- Policy C-5.3** The City shall work cooperatively with developers and the business community to develop funding mechanisms for the construction of future parking facilities.

Goal C-6

To have efficient street systems that are well funded, maintained and safe, as well as meet demands of existing and planned developments.

- Policy C-6.1** The City shall maintain existing streets in a safe condition and require new streets be built to Hagåtña's standards. Driving lane widths should not exceed 11 feet—nine to 10 feet is preferred. Certain accommodations for transit lanes and truck lanes may be made accordingly.

- Policy C-6.2** The City shall require detailed traffic studies and necessary improvements as part of all major development proposals to ensure streets and highways are available to serve new developments.

- Policy C-6.3** The City shall prioritize street and highway improvements that increase safety, minimize maintenance costs, improve air quality, and increase the efficiency of the street system.

- Policy C-6.4** The City shall strive to maintain a LOS C at all signalized intersections in the city during the p.m. peak hours. Exceptions to this standard may be considered for intersections where the City determines that the required road improvements are not acceptable (e.g., due to factors such as the cost of improvements exceeding benefits achieved, results are contrary to achieving a pedestrian design, or other factors) or that based upon overriding considerations regarding project benefits, an alternative LOS may be accepted.

Policy C-6.5	The City shall pursue financing on an ongoing basis for all improvements necessary to maintain level of service standards.
Policy C-6.6	The City shall allocate the costs for funding interchanges to areas of benefit and proportionately borne by individual projects.
Policy C-6.7	The City shall require developers to construct at least the first two lanes of any road (including curbs, gutters and sidewalks) within their projects.
Policy C-6.8	The City shall require dedication by affected property owners of rights-of-way for all streets and interchanges as part of the project approval process.
Policy C-6.9	The City shall restrict new developments from being located or designed that will inhibit or impair future improvements of the transportation system, based on the Circulation Diagram.
Policy C-6.10	The City shall limit curb cuts along collector and arterial roads to intersections, plus one alleyway for business and resident access / parking.
Policy C-6.11	The City shall require construction of landscaped corridors along State Highways and on all major arterials. The City will require developers to provide installation and establish a means of providing for maintenance of landscaping by either private mechanisms or a lighting and landscaping district.

Goal C-7
To have enhanced public transportation that circulates throughout Hagåtña, connecting residents and visitors to their destinations.

Policy C-7.1	The City shall promote and support the trolley system to meet needs of residents and visitors.
Policy C-7.2	The City shall ensure all public transportation is ADA compliant to serve the handicapped / disabled population.
Policy C-7.3	The City shall develop convenient transit stations which meet the needs for all users, including information, restrooms, lighting, and a sheltered waiting area.
Policy C-7.4	The City shall cluster land uses surrounding public transportation and planned transit to maximize use.
Policy C-7.5	The City shall support public transit services that meet the needs of the disabled and are in compliance with the Americans with Disabilities Act.
Policy C-7.6	The City shall expand fixed route transit service to serve new development areas, including direct connections to employment and commercial areas.

5.3 Planning Framework

Road Network

In order to facilitate the implementation of the goals and policies stated in Chapter 5.2, street cross sections of each type of street in Hagåtña, found on Figure 5-1, have been developed with flexible options for the best roadway design. In some cases, the curb to curb road width may stay the same, while restructuring the road to efficiently serve the appropriate users.

The various components of the street cross section can include the following:

- Drive Lane—standard driving lane
- Transit / Truck Lane—outer lane dedicated to buses and larger vehicles
- Sharrow Lane—shared between bikes and cars
- Bike Lane—dedicated to bicycles and pedestrians
- Unmarked Roadway—local, residential road
- Parallel Parking Lane—parking lane parallel to the drive lane, reducing width for required for parking
- Angled Parking Lane—parking lane on the side of the right-of-way that is angled for easy entrance
- Roadway Median—central buffer lane, landscaped or paved

- Landscape Buffer—between lanes for vehicular driving or parking and pedestrian sidewalks or bike lanes
- Extended Curb—an extra wide curb to provide a landing for passengers stepping out of parallel parking space

By reconfiguring the roadway to include bike lanes, lanes dedicated to buses, on-street parking, and landscaped buffers, a complete street begins to form and serves multi-modal transportation.

In many circumstances, the drive lanes are wider than they need to be. By narrowing the drive lanes, additional space is available for bike lanes, on-street parking, and landscaped medians. This concept helps to slow vehicular speeds by supplying a sense of obstacles for the driver, who in turn, pay closer attention to the road and all its users. Central landscaped medians will open up to create a protected central turning lane for either direction of travel, allowing the drive lanes to continue moving. Despite slowing traveling speeds, traffic ultimately flows more smoothly and efficiently.

Lane stripping and signage are critical elements to creating intelligible streets. Roadway users must be able to clearly distinguish the different components of the roadway to travel safely and efficiently.

Major Highways

Major highways in Hagåtña include Route 4, running north-south through central Hagåtña and Route 8. These highways are several lanes wide, but never exceed 45 mph speed limits. Since the speed limits are not as great as many major highways (upwards of 70 mph), pedestrians and bicycles can utilize these major highways if properly designed.

The Major Highways cross section and dimension table below detail possible reconfigurations of the Major Highways. Since these two highways road widths change throughout their courses in Hagåtña, a range of possible widths of each roadway component are detailed in the dimension table.

Along with two standard drive lanes in each direction, outer transit / truck lanes will allow for regular vehicular traffic to flow efficiently, while allowing transit and other larger transport vehicles to travel freely. A landscaped central median breaks the highway up and provides a protected left turn lane.

Landscaped buffers separate the transit / truck lanes from the sidewalk on one side and bike lane on the opposite side. This separation is vital on faster moving roadways.

Minor Highways



Landscaped buffer between drive lane and bike lane

Source: http://www.cleveland.com/architecture/index.ssf/2015/03/community_group_say_they_want.html

The mostly east-west running West O’Brien Drive, Route 33, and Route 7 make up the minor highways in Hagåtña. These roads vary in width and intensity from two lane neighborhood streets in the western portion of West O’Brien Drive to four lane roads with higher traffic volumes.

Due to the wide differences between various portions of these minor highways, several street designs will likely exist.

Adequate sidewalks and a bike lane will increase and enhance pedestrian activity. Landscaped buffers are important, especially on the busier roads, to shield pedestrians and cyclists from traffic. The addition of designated on-street parking will alleviate parking issues around these areas.

Marine Corps Drive and Soledad

Marine Corps Drive follows the shoreline while it encircles the entire island. West Soledad Avenue runs parallel to and south of Marine Corps Drive for approximately one and a quarter miles from 9th Street to Route 4. Marine Corps Drive bring high volumes of people into Hagåtña from all around Guam, making it a pivotal connection.

Central medians and landscape buffers are used to break up the 150 foot right-of-way, making the width less daunting to pedestrians and cyclist who will utilize a two-way bike lane and wide sidewalks. Angled parking on Soledad Avenue will ease parking congestion and further buffer the sidewalk.

Main Streets

Many downtowns and capitals have a well-known “Main Street”—a corridor emphasizing a destination for activities, government, and retail / restaurants. “Main Street” is a generic term used to denote a primary retail street that acts as a focal point for shops and retailers, and may also include government functions. Main Streets provide a sense of identity for downtowns and are often identified

through thematic branding and signage to let people know that they are on “Main Street” and include a mix of uses and activities to attract locals and visitors alike. They may be closed off to vehicular traffic at times to accommodate events or exhibitions.

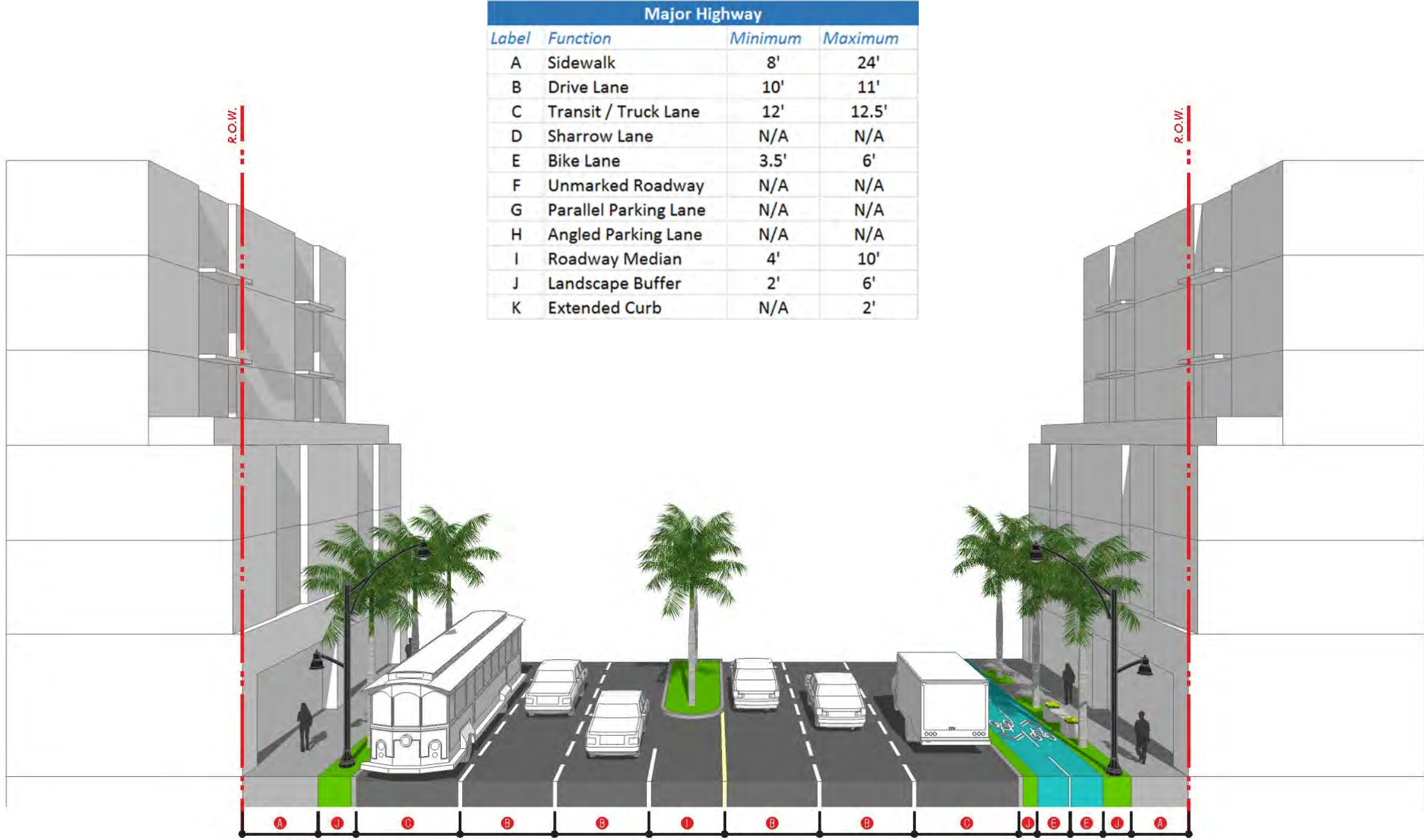
Aspinall Avenue and Chalan Santo Papa were identified as appropriate to be Hagåtña’s two Main Streets, supporting the downtown area. Both streets run through Hagåtña’s heart, showcasing many historical and cultural locations and structures, including: the new Guam Museum, Dulce Nombre de Maria Cathedral-Basilica, Guam Congress Building, and Plaza de España, plus numerous professional and private commercial businesses. Similar to many Main Streets, Aspinall Avenue and Chalan Santo Papa connect multiple districts. In following the Main Street concept, new commercial and restaurant uses would be developed to supplement the existing uses and amenities. It will also be a focal point for the proposed new trolley system.

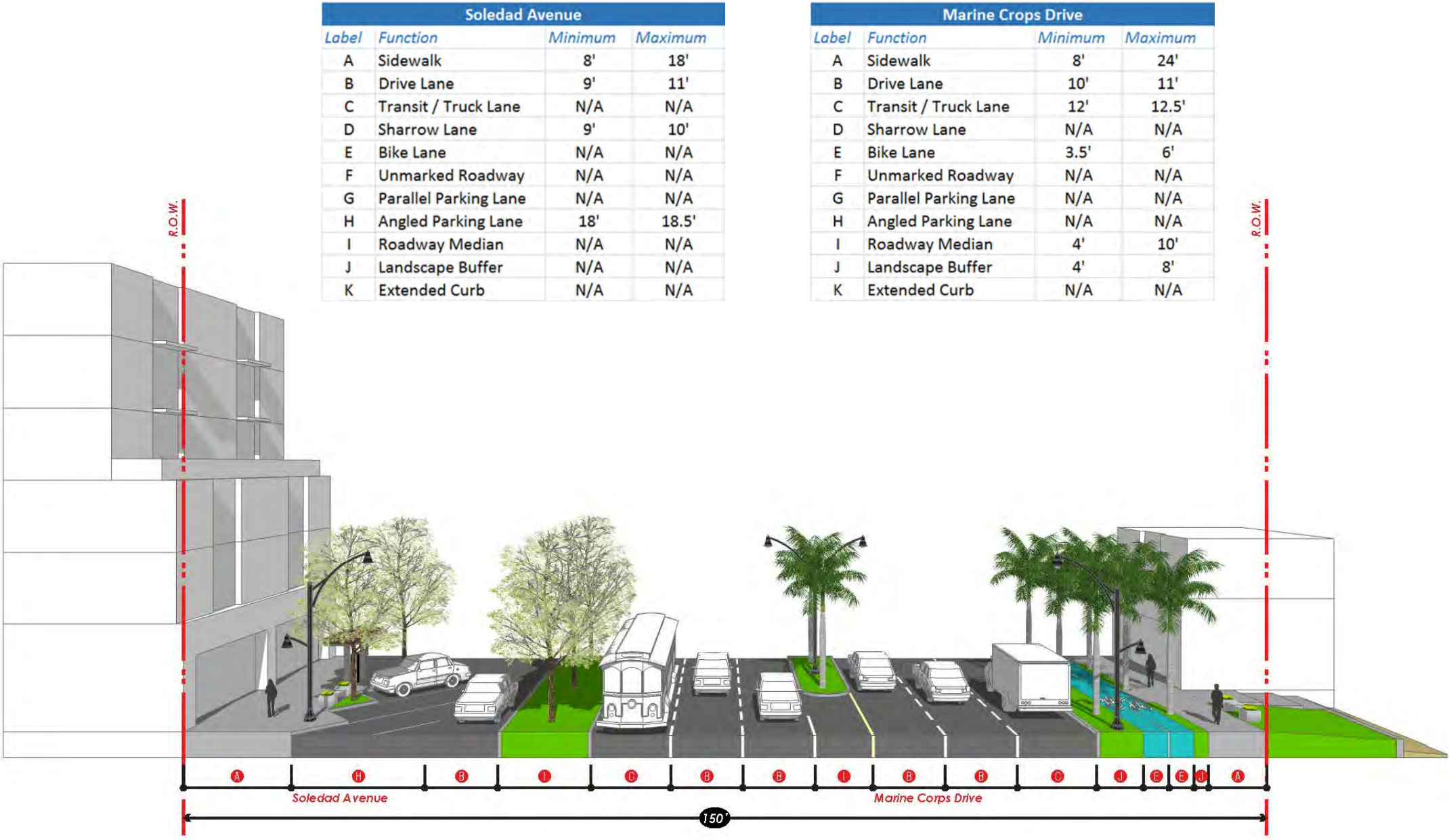
The existing right-of-way of these streets is approximately 70 feet, however, the curb to curb width is approximately 38 feet in most places. The first cross section given below maintains the existing curb to curb width. Options A through D show four possible variations within the 70-foot right-of-way with an extended curb to curb width to accommodate for roadway medians, on-street parking, and bike lanes.

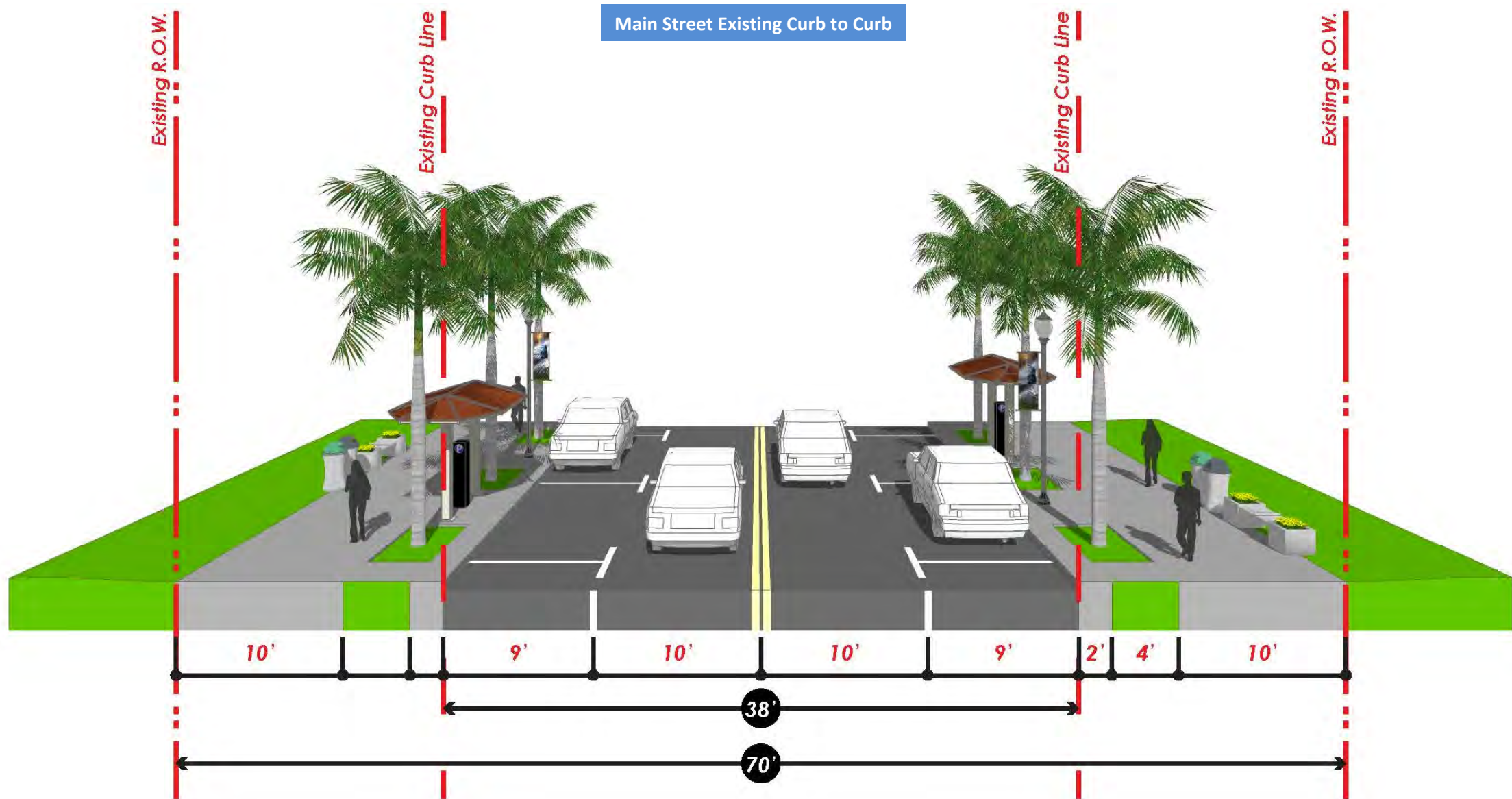


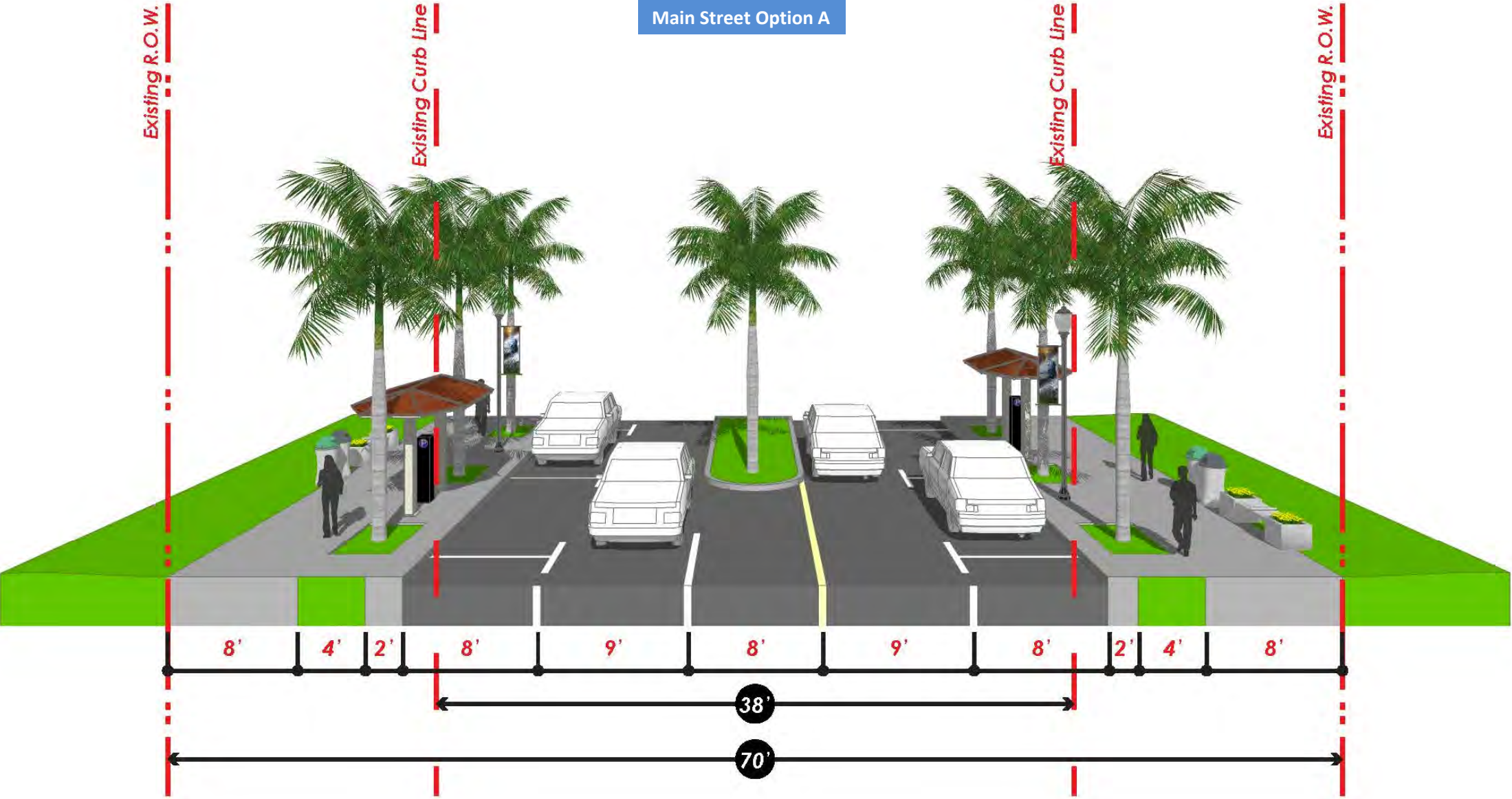
Example of a “Main Street” with shops, restaurants, and civic spaces

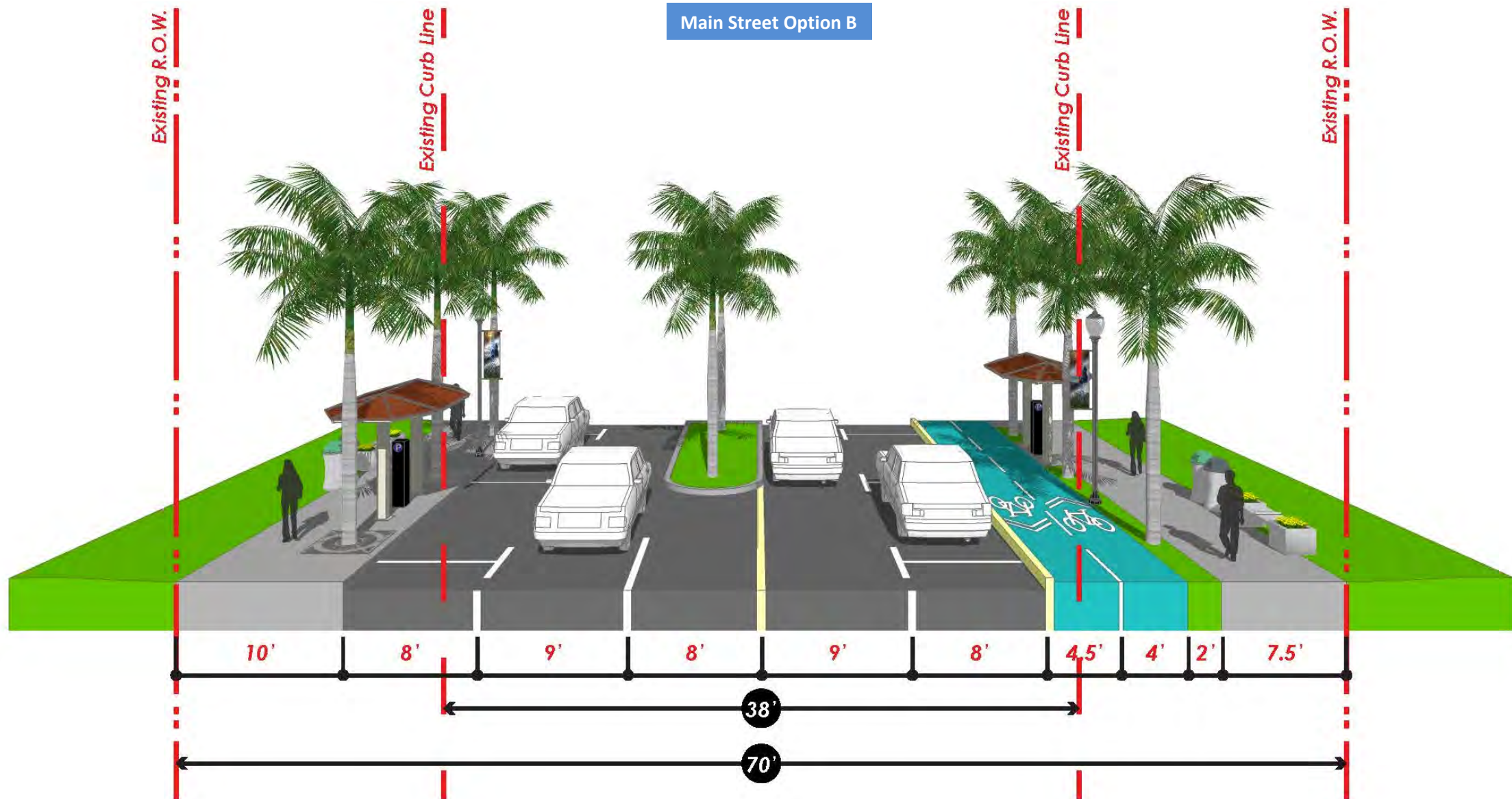
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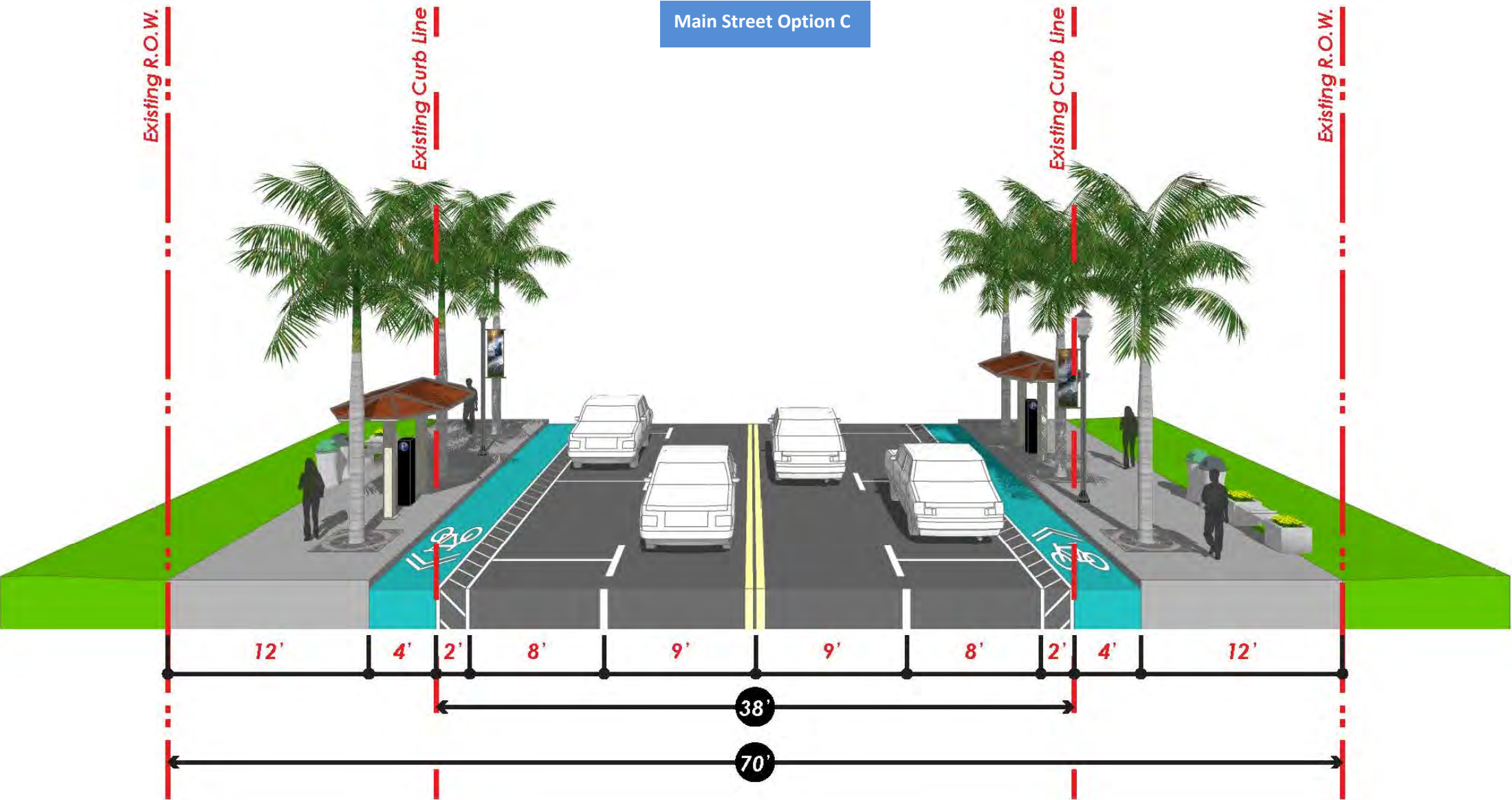


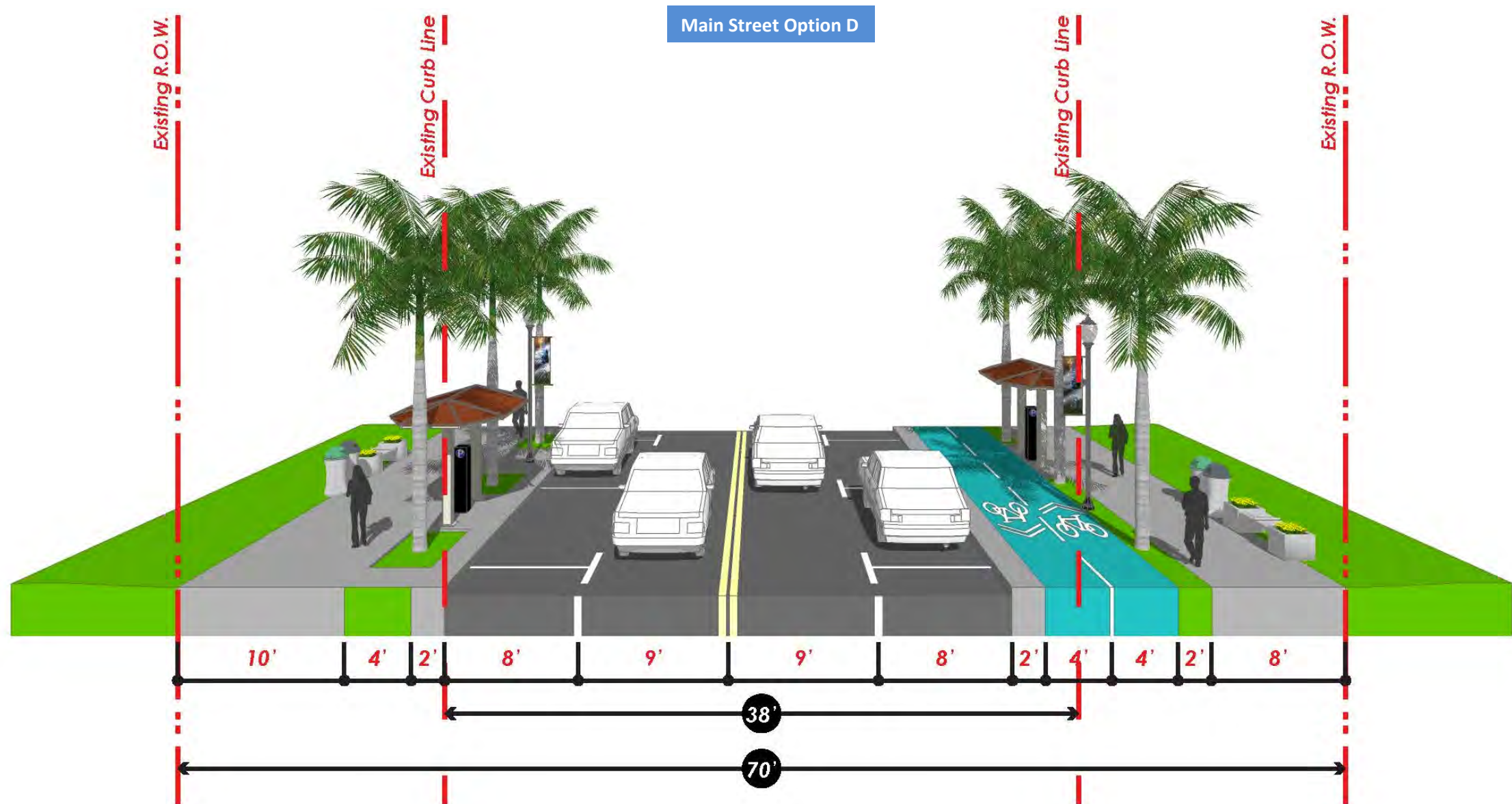












Commercial Streets

Commercial streets within the downtown vary significantly. These streets are located between Marine Corps Drive and West O'Brien Drive and Route 4. These streets surround many of the Hagåtña City Center District's cultural, governmental, and commercial properties, as well as several parks. They also act as connector streets to the major and minor highways and Marine Corps Drive.

Several main objectives must be met in the heart of the city. Safety, efficiency, and parking must be coordinated to allow traffic to flow smoothly and allow pedestrians to navigate the downtown safely.

On-street parking will be provided for all one-way streets. The narrower one-way streets will have diagonal parking, while the wider one-way streets will hold two one-way lanes, parallel parking, and a bike lane. The two-way commercial streets, located west of Aspinall Avenue, will require less on-street parking.

Local Streets

Local Streets include the small, mostly residential streets and cul-de-sacs throughout the city, as well as some streets in the downtown. These streets are narrower and generally do not have a painted center line. These streets will primarily consist of sharrows, on-street parking, and sidewalks with landscaped buffers.

Intersections

There are several important focal intersections that need enhancements in terms of traffic flow, usage, and safety to direct drivers where they are going. The primary intersection in Hagåtña is Marine Corps Drive and Route 4 at Paseo de Susana. This intersection is one of the busiest in Guam and is sometimes confusing for unfamiliar drivers, such as tourists. It does not have traditional turn lanes and people sometimes drive in the wrong lane or turn when they are not in a turn lane. This intersection would benefit from improved directional signage (possibly

overhead) to direct drivers to the correct location to make turns. Other intersections identified for enhancement include Marine Corps Drive in front of Adelup, Marine Corps Drive and Aspinall Avenue (access to CHamoru Village and the Fisherman's Co-op), Route 4 and O'Brien Drive, and Marine Corps Drive and Route 8. Additionally, one new signalized intersection is proposed along Marine Corps Drive, near 7th Street. This would support the residential area south of Marine Corps Drive and would enhance safety and access to revitalized commercial activity on the north side.

Wayfinding

Wayfinding is an important tool cities and villages use to sufficiently connect people to places. Wayfinding signage is a guide for residents and visitors to depend on to direct them where to find their destination. Hagåtña's wayfinding signage has three scales: gateway monuments, district kiosks, and interpretive panels. Each of these three wayfinding scales feature similar appearances and materials, but also support each district's theme and character.

Gateway Monuments

There are three types of gateways that should be included on streets throughout Hagåtña to indicate to residents and visitors their location. These are major gateways, minor gateways, and special gateways.

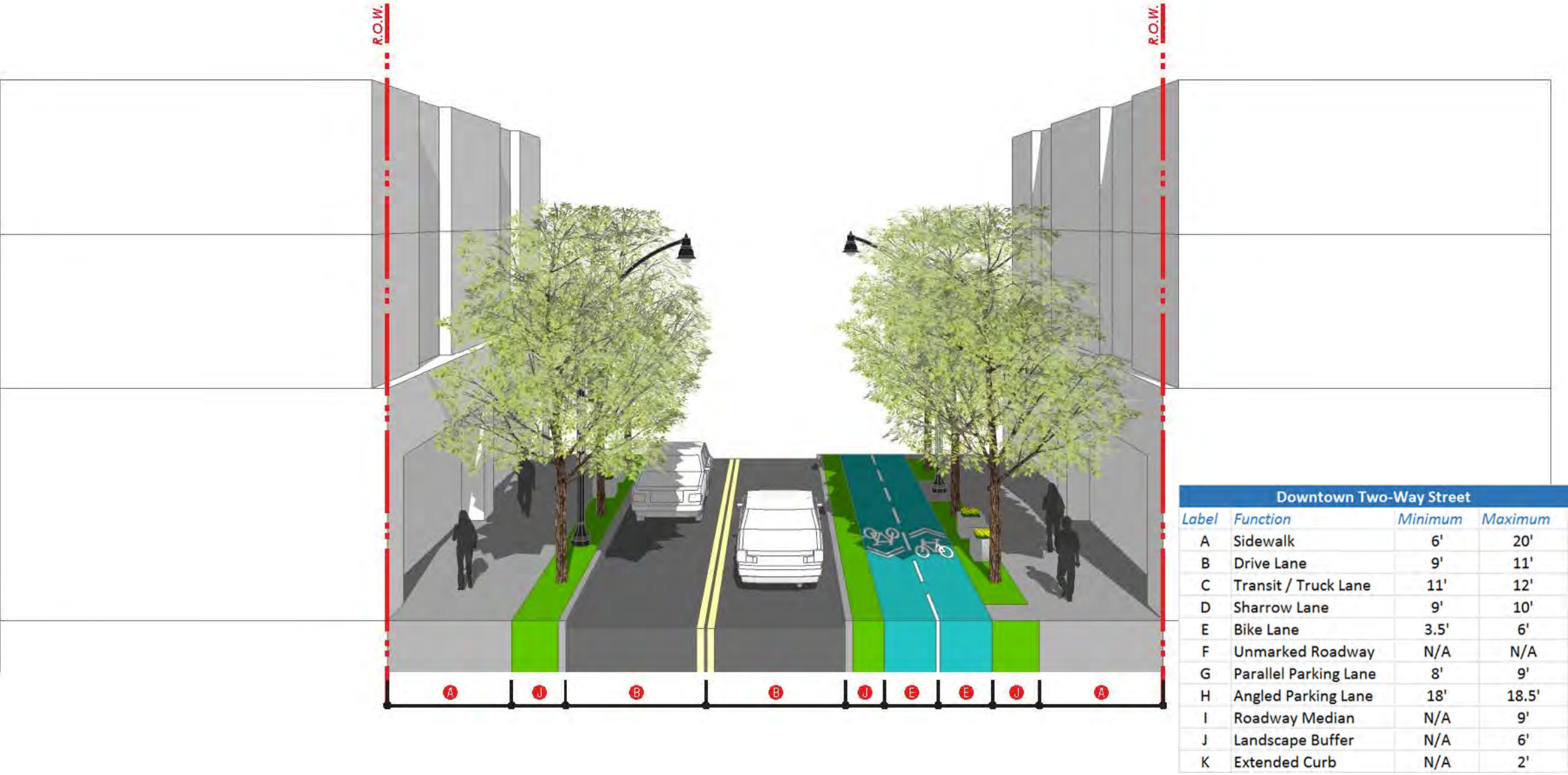
Major gateways are large, iconic, artistic entryways into Hagåtña along the major roads. These inform visitors they are arriving into the city, and are instrumental in creating a sense of identity. Hagåtña will have three major gateways. Two will be located at Hagåtña's eastern and western borders along the most highly trafficked roadway—Marine Corps Drive. The third major gateway will be located at Hagåtña's southern border along Route 4.

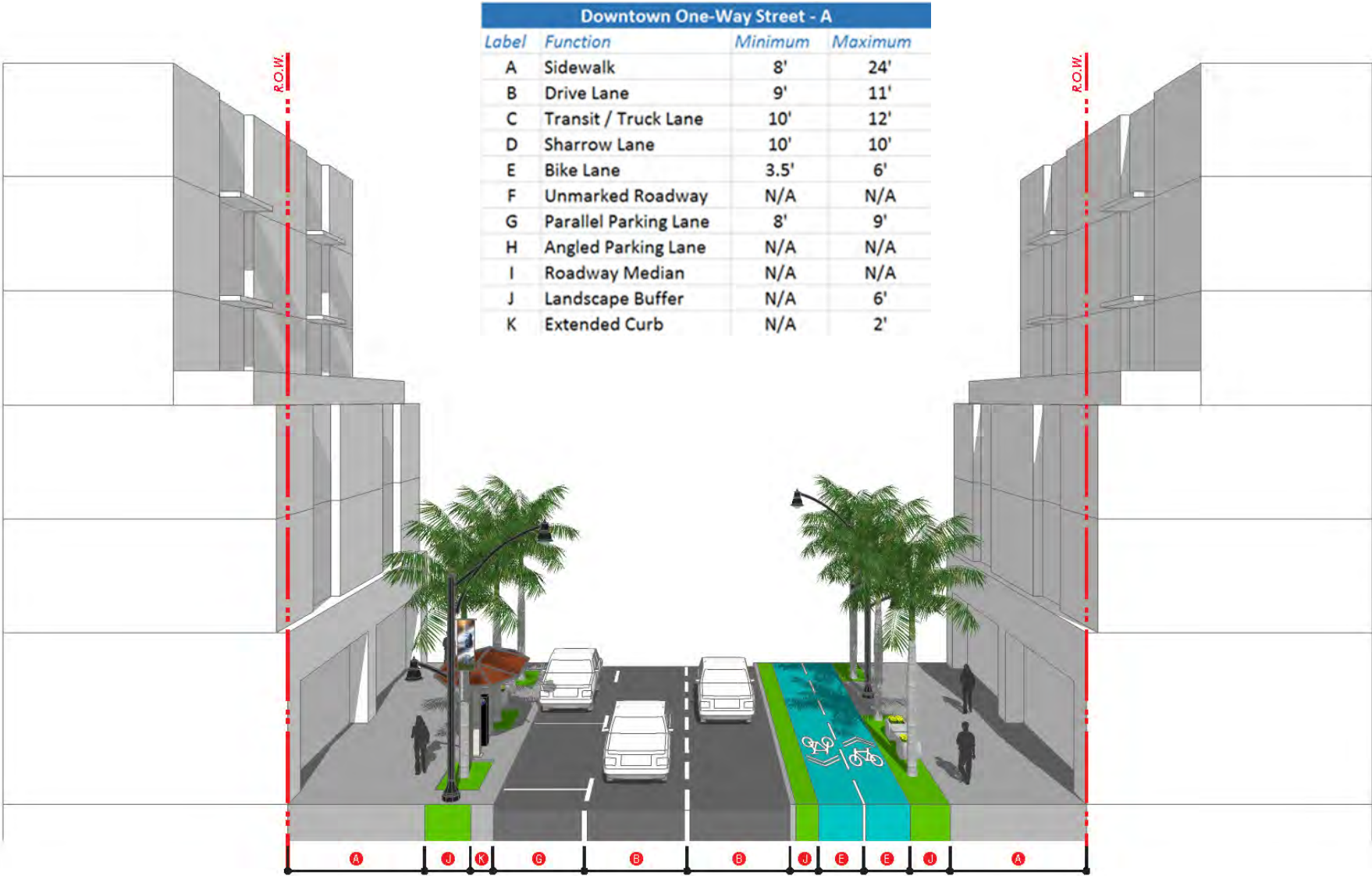
Minor gateways are similar to major gateways, but would be smaller scale. They would also identify that one is entering Hagåtña and would be located along the smaller entry roads. Since they are on less trafficked, and slower speed roads, they do not need to be as large and monumental as the major gateways. There are three locations identified for minor gateways: located at Hagåtña's eastern borders along Route 8 and O'Brien Drive, plus one on the southern border along Route 7 near Tatuhan Park.

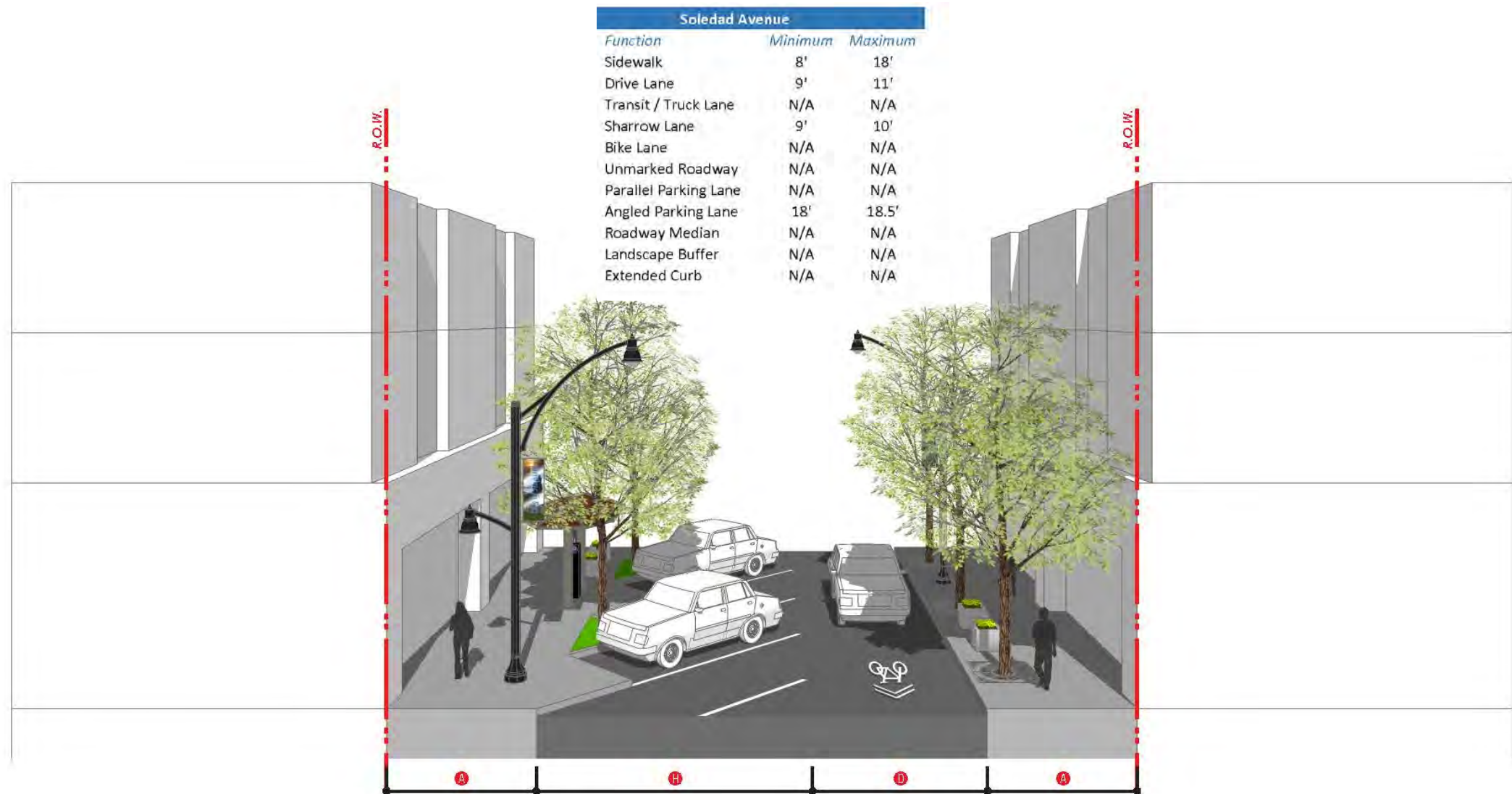
Special gateways are located in central Hagåtña and denote areas of special interest. They inform people that they are in the heart of Hagåtña at areas of significance. Two special gateways are identified along Marine Corps Drive — one at the intersection of Marine Corps Drive and Route 4, and the other on Marine Corps Drive directly across from CHamoru Village. The Route 4 / Marine Corps Drive gateway would provide a graphical representation of Hagåtña's central intersection and include public art and directional signage to assist drivers in getting where they want to go. The CHamoru Village gateway would include a pedestrian crossing over Marine Corps Drive and have a "Welcome to Hagåtña" sign. It would include cultural art and be thematically linked to CHamoru Village.

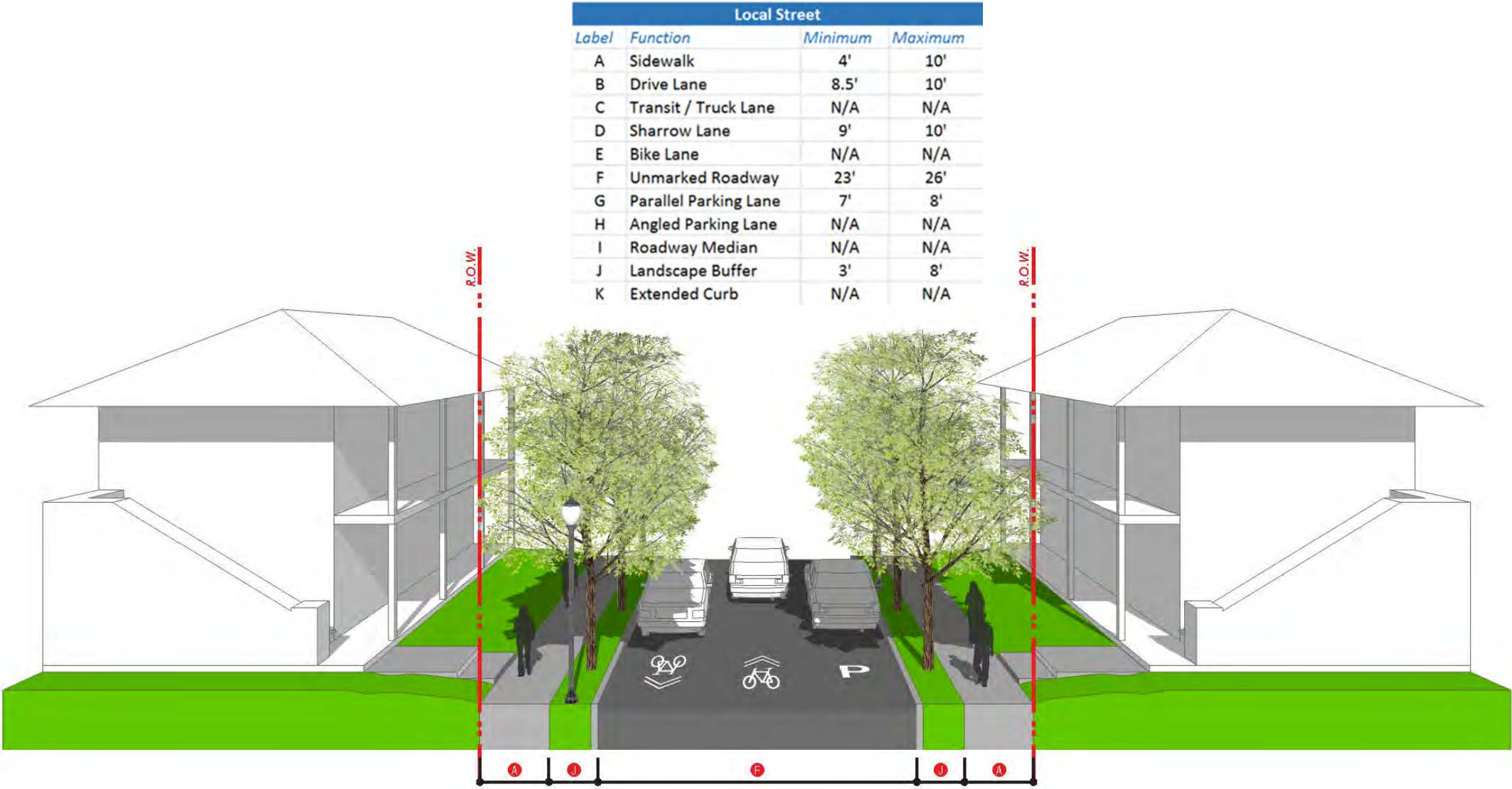
District Kiosks

District kiosks are located at intersections with high pedestrian traffic but are large enough to be seen by bicyclists and drivers. They reflect the residing district's theme and character, and inform the user about the district, where they are, and what attractions / destinations are found within that district.









Interpretive Panel

Interpretive panels are located at cultural and historical sites in Hagåtña, typically along trails and in parks. They inform pedestrian users about the site's cultural, historical, and natural importance to Hagåtña. They are multilingual to accommodate locals and tourists.

Pedestrian and Bicycle Systems

A safe and well-integrated pedestrian and bicycle system throughout Hagåtña would promote active lifestyles that improve overall quality of life. Effective pedestrian and bike systems help improve health and minimize vehicular trips, which will create a less congested city. Pedestrian and bicycle networks will weave throughout the city, connecting to transit stations.

Trails

Trails support pedestrian and bicycle activity. The trails will be connected to proposed transit stations and other sidewalks. Each trail will be marked by trail identification signs. The future trails network is shown on Figure 5-2.

Waterfront Trail

The Waterfront Trail, located in the Waterfront District, is a pedestrian trail that runs along Hagåtña's shoreline east to west. This existing trail leads pedestrians to culturally significant sites from the Latte of Freedom to the Great Seal of Guam Park and provides scenic views. The eastern side of the trail serves a more tourist purpose, with the beaches and recreational areas on that side of the shoreline. Although the whole trail will be improved, most of the improvements will be concentrated west of the Paseo de Susana. This part of the trail is in poor condition and generally unsafe for pedestrians and bicyclists who are looking to stroll along the shoreline. Furthermore, this part of the trail is difficult to access. Infrastructure enhancements will be made including lighting, wayfinding, re-pavement, and sidewalk connections.

Hagåtña Master Plan

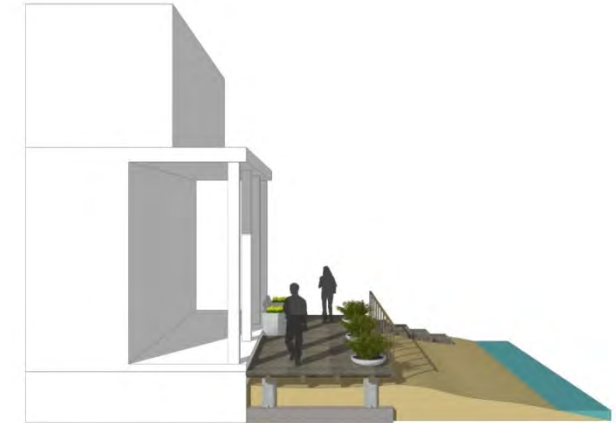


Figure 5-2

Hagåtña Riverwalk Trail

The proposed Hagåtña Riverwalk Trail will run from Marine Corps Drive to O'Brien Drive, starting in the Waterfront District at the Great Seal of Guam Park, but mainly located in the Riverwalk District. The Hagåtña Riverwalk Trail would allow pedestrians to enjoy the views of the waterfront while also providing options for retail and other mixed-use opportunities. This new trail will require construction for flood control improvements, as well as a new pedestrian bridge across the river to Hagåtña Central Park. The redevelopment will encourage tourism, shopping, dining, and recreation in this district.



Pedestrian Trail

The proposed pedestrian trail would be an extension of pathways from the City Center District. It runs east and west along O'Brien Drive, with an offshoot onto Aspinall Avenue, connecting to the Main Street (as well as Chalan Santo Papa Juan Pablo Dos and the trail up to Fort Santa Agueda). This trail would be a large factor in promoting walkability throughout Hagåtña and would provide residents and visitors a safe method to navigate the city on foot. The trail passes through every district, except the Waterfront District, which has its own Waterfront Trail. The addition of this trail would improve sidewalk conditions that are either nonexistent or impaired.

Heritage Trail

The Heritage Trail runs through the Waterfront District and the City Center District, emphasizing both historical and cultural landmarks throughout Hagåtña. The trail is proposed to be rerouted to include historical and cultural sites that are not currently included. The Heritage Trail will provide a tour of notable monuments, parks, and features throughout the city. This vital path will increase connectivity and add to the network of trails and pedestrian links. The Historical and Cultural Element includes additional information about the Heritage Trail.



Pedestrian / Bicycle Safety

There are currently only three roadways in Hagåtña that provide sidewalks for pedestrians. Lack of sidewalks creates safety issues for pedestrians who are often forced to use the shoulder of a road. This is a concern as the shoulder provides no barrier between pedestrians and cars. In addition, cars often use the shoulder of the road for on-street parking, which creates a hindrance for bicyclists and pedestrians. Sidewalks should be constructed by roadways that are currently lacking in pedestrian amenities. Furthermore, improvements will be made to sidewalks that are obstructed. An increase in lighting along the sidewalks will also help to improve pedestrian safety. Marked crosswalks and pedestrian safety devices should be included along the sidewalks.

Another infrastructure development designed to enhance pedestrian and bicyclist safety is a pedestrian bridge over Marine Corps Drive from Skinner Plaza to CHamoru Village. Rather than attempting to cross 6 to 7 lanes of traffic, pedestrians and bicyclists on the Heritage Trail can travel over the busy highway, without waiting at stop light, getting caught in the middle of the crosswalk, or fear getting hit by motorists.

Transit Service

With coastal destinations, major government facilities, historical landmarks, and retail, Hagåtña is in need of a reliable transit system for both internal (movement throughout Hagåtña) and external (movement into and out of Hagåtña) movement. Growth and revitalization in Hagåtña calls for improvements to the current transit system, such as the implementation of transit stations and an improved trolley system. A well-serviced public transit network would alleviate traffic from private automobiles in Guam.

Guam Island-Wide Transit

Guam has very limited transit services between villages and lacks the necessary infrastructure for mass transportation. Continued growth in entertainment and tourism related development, downtown revitalization, and enhancement of recreational facilities will require improvements to Hagåtña’s transit services. However, Guam as a whole contains limited public transportation options and lacks important infrastructure for mass transportation development. Whereas many metropolitan areas in and across the nation have multiple bus, cab, train, and trolley services with respective stations and hubs; Guam’s current infrastructure cannot support these. Developing public transportation transfer centers, or hubs in Hagåtña, where passengers can conveniently transfer between multiple modes of transportation—local bus routes, trolleys, personal motor vehicles, bicycles—will help jumpstart the necessary infrastructure investments in Guam.

Transit Stations

There are three proposed transit stations throughout Hagåtña that would serve as hubs for island-wide public transit. Each station would include transportation between villages, tourist drop-off, and park-and-ride facilities. They would also be connected to the proposed trolley route. The transit stations will have a saw-tooth layout to accommodate multiple buses at the same time, without interrupting the flow of traffic. The stations will service both public transit buses and the Hagåtña Trolley. In addition, commuter amenities would be provided such as shade structures, rain shelters, covered seating, lighting, ticket kiosks, and park-and-ride facilities.

CHamoru Village Transit Station

This proposed station is located where many transit services in Hagåtña already meet but would now provide a permanent sheltered hub. Tourists and shoppers would be the main commuters at this station. The CHamoru Village Transit Station would be located near the CHamoru Village Parking Garage.

Hagåtña Pool Transit Station

While the CHamoru Transit Station is geared more towards tourists, this station would support workers who are coming into Hagåtña from other villages. The Hagåtña Pool Transit Station would also provide park-and-ride options for workers who could then use the trolley system to commute to their job location. It would be located near the proposed Hagåtña Pool Parking Garage.

Government Center Transit Station

The Government Center Transit Station will support workers who are coming into Hagåtña from other villages. Like the Hagåtña Pool Transit Station, this one would also provide park-and-ride options for workers who could then use the trolley system to commute to their job location. It would be located near the Government Center Parking Garage.

Trolley System

Public transit in Hagåtña is minimal and a city-wide transportation system is nonexistent. The current bus system does not always have reliable service and does not serve some parts of Hagåtña. The Tumon area maintains an active and popular trolley system composed of dedicated buses servicing primarily tourists for shopping purposes. While some tourism travels to Hagåtña via tour company buses, there are no dedicated trollies for the public. Implementing a similar trolley system in Hagåtña would support enhanced transportation options for tourists, employees, and residents. The proposed trolley system would circulate through Hagåtña’s downtown core, providing convenient access to many destinations, including:

- Agaña Shopping Center
- Hagåtña Riverwalk
- Plaza de España
- The Guam Museum
- Skinner Plaza
- Hagåtña Historic District
- Sirena Park and Spanish Bridge
- CHamoru Village
- Paseo de Susana
- Fisherman’s Co-op
- Gregorio D. Perez Marina
- Santos Latte Park
- Cliff line fortifications
- Hagåtña Central Park

This system would run on a continuous cycle with 12 stops encompassing various locations in Hagåtña, including the proposed transit stations at CHamoru Village and the Hagåtña Pool or GovGuam Government Center Complex. There would be multiple trolley cars to allow for service at each stop approximately every 15 minutes during the day.

The trollies would be free for riders and funding may include sources such as HOT funds, tour operators, and local businesses. This trolley system would alleviate many traffic and parking issues Hagåtña faces today. The trolley route and stations are shown on Figure 5-3.

Parking

Parking in Hagåtña should be adequate enough to support vibrant communities and decrease parking congestion along streets. Two new proposed parking garages would supplement most of the new and existing parking demands, specifically during Hagåtña’s busiest hours and during special events. The addition of parking garages would prevent sprawled surface parking and make prime land available for development or park space.

Proposed parking garages are located in highly trafficked areas that do not currently have sufficient parking, and are compatible with other methods of transportation, such as transit centers. Parking design should not be obtrusive or detract from its surrounding landmarks, sites, or general environment. For enhanced public safety measures, parking garages must be well lit at night.

The two new parking garages are located at the Hagåtña Central Park, and the Government Center Complex.

Existing parking areas at the CHamoru Village will continue to support those visiting CHamoru Village, Paseo Stadium, the Marina, or other activities and special events occurring at Paseo Park along

with other parking support provided through ancillary public parking located in areas such as the Agana Pool/Tennis Courts. During peak public visits to the CHamoru Village, Paseo Statdium, the marina, or other activities and special events occurring at the Paseo Park, trolley services can be routed to support transportation of visitors from ancillary parking areas to venue destinations. Designated parking areas as the Paseo Stadium should be refurbished to meet current parking codes to gain more parking space (i.e. designating areas for compact car parking) and improve ground area use for parking without disrupting ocean views.

The Hagåtña Central Park parking garage supports those visiting Hagåtña Central Park, and as a park-and-ride location for the transit station.

The Government Center Complex parking garage will contain 329 spaces, supporting employees of the consolidated government center located in the heart of Hagåtña, as well as tourists visiting Hagåtña’s cultural and historical sites in the City Center District.

Financing

Potential financing and funding mechanisms for Circulation improvements are discussed in Chapter 8, Governance, of this Master Plan.

Figure 5-3

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6. Infrastructure

Inside Chapter 6...

6.1	Issues and Opportunities.....	6-1
6.2	Goals and Policies	6-2
6.3	Planning Framework	6-6

Infrastructure is essential for Hagåtña to grow and develop. This element establishes an infrastructure plan based on Hagåtña’s needs and growth projections. Important topics in this element include water, wastewater, storm drainage, and electrical distribution. Infrastructure in Hagåtña is operated by the Government of Guam. In the future, Hagåtña will have a healthy infrastructure system that is capable of efficiently supporting existing and future growth. The Infrastructure Element must be coordinated with Government of Guam departments that provide utilities (Guam Waterworks Authority, Guam Power Authority, and Department of Public Works) to ensure planning goals and policies are achieved.

The Infrastructure Element supports these guiding principles:

- Establish a vibrant downtown
- Promote economic growth

6.1 Issues and Opportunities

Issues

Water System. Piping material for the lines in Hagåtña include cast iron (13,517 feet), ductile iron (2,536 feet) and polyvinyl chloride (50,550 feet) and range anywhere from 11 to 40+ years old and main trunk lines run anywhere from 2 inches to 20 inches in diameter. Much of GWA’s water system infrastructure is adversely affected by natural disasters, poor maintenance, and vandalism. Also, due to the age of some of the infrastructure, equipment within the system has periodically been disrupted by inconsistent delivery of power. Furthermore, the system network does not have a separate water transmission system to convey water from supply to storage and then from storage to customers through the distribution system. The transmission and distribution of water are combined into a single network, which may lead to significant challenges now, and as water demands increase in the future.

Wastewater Treatment Plant. The Hagåtña Wastewater Treatment Plant (WWTP), also called the Agaña Sewage Treatment Plant, is located on a 498-foot by 698-foot man-made island in the Agaña Bay, connected to shore by a single access road directly west of the Gregorio D. Perez Marina and Paseo de Susana. The Hagåtña facility discharges its treated wastewater through a 42-foot ocean outfall (outlet) which extends nearly 2,500 feet into the Pacific Ocean.

Wastewater Treatment Connections. While there are considerable amounts of sewer mains located throughout Hagåtña, there are still areas in Hagåtña that are not connected to sewer lines. Any additional development and increase in residences in Hagåtña would require either new or enlarged sewer mains or new sewer connections.

Storm Drainage and Flooding. Storm drainage infrastructure was primarily developed with roadway infrastructure and most recently, through construction and road widening projects along Routes 1, 4 and 8, with most runoff draining into the Hagåtña River or the ocean. The below-ground drainage system is said to perform adequately but gets overburdened during heavy rain events. Additionally, because of the age of some roadways, and new standards for storm drainage and hazard mitigation, a systematic enhancement may be needed.

Currently, the Guam Zoning Law regulations do not address stormwater management practices; however, the subdivision law does regulate to some extent. The subdivision law states that subdivisions must include storm drainage facilities that shall “be designed to dispose of normal stormwater falling on the subdivision without hazard of flooding, inconvenience of ponding, or the erosion of public and private lands.”

Flooding caused by storm surges, flash floods, and flooding of the Hagåtña River often impacts necessary daily operations and critical infrastructure within the downtown area. Furthermore, flooding has impacted development projects and construction within Hagåtña to the extent that millions of dollars of additional funding may be required to correct and/or mitigate these impacts.

Storm water will continue to be handled primarily with shallow ponding basins within the open landscaped areas of the city. Any storm runoff that is beyond capacity will be contained in below-grade open, but grated trenches in the surface parking lots. Hagåtña has a municipal storm drainage system in place, which should be used in combination with onsite storm water control and disposal features.

The west side of southern Guam (which includes Hagåtña) is traversed by rivers that are short with steep gradients and small drainage areas. Marine Corps Drive is located very close to the mouths of several of these rivers, like the Hagåtña River. Several rivers are designated as primary floodways by the Federal Emergency Management Agency (FEMA), while others are designated as flood hazard zones with minimal flooding potential. The Fonte River and Hagåtña River areas are both classified as floodways, areas with more than minimal flood potential.

Utility Pole and Power Line Impediments. The extensive use of overhead transmission cables is very visible in the urbanized setting of Hagåtña due to the number and close adjacency of transmission facilities. Furthermore, there is private residential encroachment within infrastructure easements. As a result, most utilities are not located in their 10-foot designated utility easements.

The GPA infrastructure in Hagåtña consist mostly of secondary overhead conductors (power lines), with several transmission lines and primary overhead conductors passing through the entirety of

Hagåtña (along Routes 7 and 7a, and along Marine Corps Drive near Adelup Point). Transmission lines are held up by power poles, and transfer energy from power plants to electrical substations. Overhead conductors connect to these transmission lines and transfer power to the different users connected to the distribution system. Primary and secondary conductors differ in their sizing and varying current-carrying capacity. There is roughly 21,000 feet of transmission lines, and 115,200 feet of overhead (primary and secondary) conductors in Hagåtña. There are very few underground conductors in Hagåtña. In total, there are roughly 14,864 feet of underground (primary and secondary) conductors. With the majority of transmission facilities above ground, views within Hagåtña are impacted by these facilities, which can give a cluttered and distracting look. Hagåtña contains approximately 736 power poles, with a lack of available poles in certain areas (primarily to the east of Route 4), which may lead to current and / or future capacity needs in Hagåtña.

In terms of pedestrian access, power poles placed in or next to the sidewalk sometimes take up space in the sidewalk, which causes an unsafe and unpleasant pedestrian experience. Relocating power underground would also allow more space around the sidewalk for street trees, shade structures, urban art, and other pedestrian amenities. Due to costs of an estimated \$18 million, it may not be feasible to relocate the entire 23 miles of overhead power lines in Hagåtña underground, but some existing lines could be moved in key areas, such as along Aspinall Ave, which will function as a Main Street for pedestrian activity.

Opportunities

Utility upgrades. There are large utility facilities located in Hagåtña, including the Hagåtña electrical substation, which serves the region. Several major improvements are planned for this facility, which would help increase capacity and efficiency. Additionally,

underground electrical systems in some areas or for new development are hopeful.

Water Drainage Contributions. The Hagåtña River and the Fonte River are major contributors to storm drainage in the village and have been recently renovated. The surrounding wetlands also contribute to storm drainage and retention, land conservation and habitat rejuvenation.

6.2 Goals and Policies

Infrastructure serves as the backbone of a city. In Hagåtña, that backbone comprises water and wastewater facilities, storm drainage infrastructure, and electrical power distribution. These services help contribute to the quality of life of the citizens of Hagåtña.

Goal I-1

To have potable water readily available in Hagåtña and of high quality.

Policy I-1.1	The City shall work with the Guam WaterWorks Authority to implement cost-effective water conservation programs to reduce capital investment in distribution systems and treatment plants through reduction in water demands.
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Goal I-2

To ensure the provision and sizing of adequate storm drainage facilities to accommodate existing and planned development.

- Policy I-2.1** The City shall conduct a flood study to identify areas affected by flooding.
- Policy I-2.2** The City shall encourage the use of setbacks and flood protection areas as part of an open space pedestrian-way and bikeway network throughout Hagåtña.
- Policy I-2.3** The City shall support the implementation of flood control projects and sediment retention basins.
- Policy I-2.4** The City shall construct necessary drainage improvements in flood prone areas. Where replacement drainage is required for flood protection, these systems shall be designed, constructed, and maintained using structural controls and best management practices.
- Policy I-2.5** The City shall design drainage systems that protect coastal water quality by incorporating best management practices to remove pollutants from runoff.
- Policy I-2.6** The City shall minimize the increase in discharge of stormwater runoff to coastal waters by preserving flood storage capacity and encouraging infiltration of runoff.
- Policy I-2.7** The City shall provide storm drainage facilities with sufficient capacity to protect the public and private property from storm water damage. The facilities will also be implemented in a manner that reduces all public safety and / or environmental impacts associated with the

construction, operation, or maintenance of any required drainage improvements (e.g., drainage basins, etc.).

Policy I-2.8

The City shall require adequate provision of erosion control measures as part of new development to minimize sedimentation of streams and drainage channels.

Goal I-3

To have adequate and appropriate infrastructure that encourages new growth and development in Hagåtña.

- Policy I-3.1** The City shall require any new development over one acre to bury power lines underground.
- Policy I-3.2** The City shall identify priority areas where power transmission lines should be placed underground.
- Policy I-3.3** The City shall assess private developer costs commensurate with the amount needed to address the burdens of new service demands resulting from a specific project or development.
- Policy I-3.4** The City shall maintain a comprehensive set of development impact fees to distribute infrastructure and service costs in an equitable manner and adhere to a regular fee schedule review and revision program.
- Policy I-3.5** The City shall create a “development proposal assessment” to determine new infrastructure demands prior to rezoning or development approval.
- Policy I-3.6** The City shall adhere to a pay-as-you-go philosophy for infrastructure extension and expansion.

Policy I-3.7

Increase the use of renewable resources in all Government of Guam buildings, facilities, and vehicles. Utilize renewable energy for water pumping or other energy services which can take advantage of intermittent energy resources.

Policy I-3.8

The City shall promote environmentally and culturally sensitive use of renewable energy resources like solar and hydroelectric energy.

- i) Develop incentives and requirements for energy-efficient building design and site development practices through various approaches.
- ii) Develop, compile, and disseminate information on new energy technologies, policies, and programs that may prove helpful to the community’s economy and environment.

Policy I-3.9

The City shall create a Capital Improvement Plan for Hagåtña.

Policy I-3.10

The City shall require that new development complies with the City’s adopted Capital Improvement Plan and provide fair share contributions towards existing and future improvements necessary to serve the development. If developments vary in intensity and distribution from that assumed in the existing Capital Improvement Plan, the City master plans will be updated and approved with that development.

Policy I-3.11 Develop and promote appropriate telecommunications infrastructure to support anticipated growth in housing, business, transportation, and recreation in the City.

Goal I-4

To ensure the provision of a water system with adequate supply transmission, distribution, and storage facilities to meet the needs of existing and future development.

- Policy I-4.1** The City shall work closely with the Guam WaterWorks Authority to provide acceptable water distribution system.
- Policy I-4.2** By working with the Guam WaterWorks Authority, the City shall develop a long-term reliable supply of water that will permit the city to meet the existing and future demands of development.
- Policy I-4.3** By working with the Guam WaterWorks Authority, the City shall require the availability of an adequate water supply to be demonstrated before approving new development.
- Policy I-4.4** By working with the Guam WaterWorks Authority, the City shall strive to maintain a five-year lead time in the planning of needed water system improvements and include identified improvements within the City's Capital Improvement Program (CIP).
- Policy I-4.5** The City shall require new development to be responsible for construction of water transmission and distribution lines less than 18 inches in diameter. Provision will be made allowing reimbursement from Third Parties should such

lines result in an “over-sizing” for a particular development.

Goal I-5

To establish adequate sanitary sewers, wastewater treatment capacity and effective reuse of effluent to accommodate existing and future development in order to protect public health and safety.

- Policy I-5.1** The City shall work with the Guam WaterWorks Authority to ensure provisions for appropriate sanitary sewer services are in place and to coordinate operational needs for public facilities.
- Policy I-5.2** The City shall work with the Guam WaterWorks Authority in researching viable options for the reuse of treated wastewater with priority to recreational, agricultural users; landscaping along roadways; and wetland mitigation areas.
- Policy I-5.3** The City shall coordinate efforts with the Guam WaterWorks Authority to establish and maintain a five-year lead time in the planning of needed wastewater system improvements and include identified improvements within the City's Capital Improvement Program (CIP).
- Policy I-5.4** The City shall require new development to be responsible for construction of all sanitary sewer lines serving such development. Provision will be made allowing reimbursement from Third Parties, or credits against City wastewater fees (as approved by the Director of Public Works) should such lines result in an “over-sizing” for a particular development.

Goal I-6

To ensure the provision of an efficient program for the management and reduction of solid waste materials, including collection and disposal, in order to protect public health and the natural environment, to conserve energy and natural resources, and to extend landfill capacity.

- Policy I-6.1** The City shall require solid waste collection services for existing and new developments to ensure the maintenance of health standards.
- Policy I-6.2** The City shall promote maximum use of solid waste reduction, recycling, and composting of wastes for a reduction in residential, commercial, and industrial waste disposal.
- Policy I-6.3** The City shall encourage the recycling of construction debris.
- Policy I-6.4** The City shall ensure that all new buildings and facilities have proper facilities for solid waste storage, handling, and collection pickup prior to issuance of building permits.
- Policy I-6.5** The City shall aggressively pursue measures for recycling of materials and pursue a financing mechanism for solid waste reduction programs.
- Policy I-6.6** The City shall implement the goals and policies of the zero waste and solid waste management plans.

Goal I-7

To provide adequate and efficient public utilities that meet the needs of residents of the city.

- Policy I-7.1** The City shall coordinate with gas and electricity providers for the planning of extension of gas and electrical facilities.
- Policy I-7.2** The City shall require undergrounding of utility lines in new development, except where it is not feasible due to the electrical transmission load or other operational issues as confirmed by the utility provider.

Goal I-8

To expand communication system services to improve personal convenience for residents of the city.

- Policy I-8.1** The City shall work with telecommunication providers to ensure that all residents and businesses will have access to telecommunications services, including wide band service. To maximize access to inexpensive telecommunications services, the City shall encourage marketplace competition from multiple service providers.
- Policy I-8.2** The City shall expand opportunities for citizen participation for all residents through use of communication technologies such as the City website, cable channel bulletin boards, and public service / educational programming.

Policy I-8.3

The City shall encourage the siting of telecommunications infrastructure using the following guidance to minimize the visual impact of wireless communications facilities:

- Locate in areas that minimize visibility from public rights of way and residential areas;
- Whenever possible, locate on existing buildings, poles, or other support structures; and,
- Facilities should be painted, camouflaged, textured, or otherwise designed to better integrate into existing conditions adjacent to the installation site and to minimize visual impacts.

Goal I-9

To provide adequate fire and police protection facilities and services to ensure the safety of residents and the protection of property in the city.

Policy I-9.1

The City shall promote public awareness of fire and emergency procedures by developing new and expanding existing public fire safety and emergency life support education programs.

Policy I-9.2

The City shall strive to maintain a firefighting capability sufficient to maintain a fire response time of five (5) minutes or less as a general guideline for service provision and locating new fire stations.

Policy I-9.3

The City shall provide fire station facilities, equipment (engines and other apparatus), and staffing necessary to maintain the City's service standards (ISO rating and response time).

Policy I-9.4

The City shall require all new developments to provide adequate emergency access features, including secondary access points.

Policy I-9.5

The City shall expand police protection service consistent with community needs and provide an adequate level of service.

Policy I-9.6

The City shall continue to promote the use of site planning and building design as a means to decrease crime.

Policy I-9.7

The City shall promote the use of volunteer and educational programs to assist police personnel.

Policy I-9.8

The City shall promote the establishment of citizen participation in safety programs, such as Neighborhood Watch and Citizens on Patrol programs.

Policy I-9.9

The City shall implement a variety of public safety measures to address crime-related issues along City-owned trail areas. Public safety measures shall include, but not be limited to, active policing using pedestrian or bicycling patrols. Emergency call boxes or solar-powered telephones shall also be placed in appropriate places along trail corridors to provide prompt access to emergency services.

Policy I-9.10

The City shall strive to maintain an average police response time of five minutes or less for priority one calls.

6.3 Planning Framework

Water

GWA has many capital improvement plans on the horizon to enhance water distribution around Guam and in Hagåtña; however, as future development projects are planned in Hagåtña, they will need to be coordinated with GWA to ensure that there is adequate water service to support the development. GWA has identified many future infrastructure improvements to be undertaken throughout Guam, several of which apply directly to Hagåtña. All of these projects are part of their Capital Improvement Project (CIP) program listing for years 2014-2019 as identified in the GWA CIP from 2014. It is important to note that none of these projects are specific to Hagåtña, they are all island-wide improvement projects, portions of which will take place in Hagåtña and support better water infrastructure in Hagåtña.

These future anticipated projects will help to reduce deficiencies in the existing water utility system in Hagåtña, as well as for the overall Public Water System in Guam. Water distribution system pipe replacements being addressed in Hagåtña are helpful, although funding is insufficient to implement all planned improvements at this time. Additionally, although budgeted funds are limited, the replacement of water mechanical metering and fire hydrants will also provide for safer infrastructure, more adequate monitoring measures, and a more reliable distribution of water.

Wastewater

Many future wastewater infrastructure improvements have been identified by GWA to be undertaken throughout the island of Guam, and several of these apply to Hagåtña. All of these projects were identified as part of the GWA CIP listing for years 2014-2019, as identified in the GWA CIP from 2014. It is important to note that some of these projects are specific to Hagåtña, while others are

island-wide improvement projects, portions of which will take place in Hagåtña.

Future anticipated wastewater projects for Guam and Hagåtña will help to increase existing wastewater utility system. Priority 1 upgrades and interim measures for the Hagåtña WWTP are tangible efforts that not only address current capacity needs, but also future capacity needs for an anticipated population growth in the City. Additionally, the assessment of the needs for backup power and a Sanitary Sewer Evaluation Study (SSES) will allow GWA to outline projects to reduce inflow and infiltration in the sewer system.

Storm Drainage

Land development changes the physical, chemical, and biological conditions of waterways and water resources. The addition of buildings, roadways, parking lots, and other impervious surfaces can reduce natural infiltration, increase runoff, and provide additional sources of pollution.

Additional necessary drainage improvements were determined within the 2010 Storm Water Drainage Master Plan by evaluating and identifying the following: deficiencies in drainage conveyance and storm drain systems; issues regarding hillside, channel and shoreline erosion; potential undermining at bridges; areas prone to sewer sediment and/or debris deposition; and maintenance issues. From these improvements, roughly 20 projects totaling over \$12 million were proposed in Hagåtña. The majority of the improvements were to address erosion control and storm drain or conveyance improvements, although it is unknown if funding for these projects has been identified.

Electrical Distribution

GPA has identified many future infrastructure improvements to be undertaken throughout Guam, several of which apply directly to Hagåtña. Many of these projects are part of their Engineering CIP listing for years 2011- 2015.

These engineering projects portray a great effort to improve upon the existing electrical distribution system in Hagåtña and for the overall system in Guam. Upgrades and limitations being addressed for the Hagåtña substation, as well as the installation of underground fiber optic lines will provide for new infrastructure and more reliable, efficient transmission of power.

Sources: GPA Integrated Resource Plan, 2013; Generation Resource Handbook, 2008; GPA System Stability, Reliability, and Relay Protection Coordination Study, 2005; GE Digital Energy, "Line Protection with Overcurrent Relays", 2014

In general, the City, through the Hagåtña Restoration and Redevelopment Authority (HARRA), should assert its authority over infrastructure without having to cause redundancy of mandates, programs, and/or processes involved in planning for infrastructure. Establishing relationships with agencies such as the Department of Land Management, Department of Public Works, Guam Environmental Protection Agency, Guam Power Authority, and Guam WaterWorks Authority is vital to the success of the City's autonomy. In turn, such agencies should recognize the HARRA's authority and the intent of the HARRA's master plan by involving the HARRA to participate in efforts of planning, approval, and execution of infrastructure development endeavors focused within the confines of the City. Such participation should include any recommendations provided by the HARRA as a primary scoping tool.

Other than public infrastructure, the HRRRA shall work collaboratively with appropriate agencies on planning matters concerning stormwater disposal and excessive surface water runoff, green space planning, development in flood zone areas, transportation and traffic circulation planning, solid waste management, ambient lighting, and planning efforts to address sea level rising and effects thereof along Hagåtña's coastline.

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7. Sustainability

Inside Chapter 7...

7.1	Issues and Opportunities	7-1
7.2	Goals and Policies	7-2
7.3	Planning Framework	7-5

Guam is one of the most environmentally, culturally and ecologically diverse islands in the South Pacific Ocean. While the intent of this Master Plan is to support economic development through tourism and other means, it is important that it is done in a way that maintains and respects the environmental and cultural heritage of the island.

The Sustainability Element identifies issues that are important for sustaining Hagåtña into the future by maintaining a culture of stewardship to enhance the natural environment, economic interests, and quality of life for present and future generations. This element lays out a plan for sustainability so that Hagåtña can be a resilient city and respond to issues and events that may be unforeseen.

Topics covered by this element include: sea level rise, water conservation and quality, and energy conservation and alternatives. This plan will help to create a city that is prepared for potential effects of climate change, as well as a city that has quality water, and multiple energy options that can lift reliance from greenhouse gas emitting energy sources. All of these factors will work together to support the level of growth recommended by this master plan.

7.1 Issues and Opportunities

Issues

Sea Level Rise. Hagåtña’s location along the Agaña Bay makes it susceptible to coastal flooding that can occur from sea level rise. The global mean sea level has raised an average of 1.7 millimeters annually for the last century. The National Oceanic and Atmospheric Administration (NOAA) has been calculating sea level variation in Apra Harbor, south of Hagåtña. Their measurements indicate that the sea level rose on average 7.23 millimeters in 2014. These measurements, which go back to 2006, indicate that sea level is not increasing exponentially, but is remaining at about eight millimeters, significantly above the global average.

Sea level rise becomes a greater issue during storms, when coastal areas are susceptible to storm surge and wind-driven waves. Storm surges and wind-driven waves occur during tropical cyclones and tropical storms. Guam’s tropical marine climate creates a dry

season from January through June, and a wet season from July through December. Generally, cyclones and tropical storms are prevalent during the wet season. Cyclones create storm surge when the low pressure under and near the eye of the cyclone creates a rise in sea level. During storm surges, the sea level can rise by as much as five feet and with strong winds, that water can be pushed onto the land. Because Hagåtña has rivers, coastal flooding can be exacerbated since high sea levels may not allow rivers to properly drain back into the ocean. This can result in additional flooding near the outlet of the river. The Hagåtña River is specifically susceptible to over flooding.

Stormwater flooding is prone to occur, especially if storm drainage is insufficient. According to the Sea Level Rise and Coastal Flooding Impact Map provided by the NOAA a one-foot rise in sea level would create flooding issues along the coast of the Waterfront District; at five feet, flooding would impact the Agaña River and other low-lying areas in Hagåtña.

Guam is a part of the National Flood Insurance Program (NFIP), which covers flooding damage for home and possessions providing that the applied government entity adopts and enforces a floodplain management ordinance. The Government of Guam created the Guam Floodplain Management Retrofit Plan in 1999. The requirements in this plan should be continually implemented in order to maintain compliance with the NFIP. The Government of

Guam also has a Hazard Mitigation Plan that discusses natural disasters and mitigation actions, which Hagåtña can look to when planning for their own natural disaster recovery and mitigation processes.

Threats to Coral Reef and Seashore Reserve. The coral reef and seashore reserve located along the bay have been experiencing threats due to shoreline erosion and sewage outfall. Lack of preservation of the shoreline diminishes the ability to protect and foster the traditions of the CHamoru seafaring culture.

Opportunities

Rain Water Harvesting. Rainwater harvesting is the collection of rainwater from impervious surfaces and storing it for later use. Prior to the industrialization of water through a centralized distribution system, rain water harvesting was a widely used technique. Today, it is regaining prominence due to several issues.

Rainwater harvesting has a number benefits.

- Provides inexpensive supply of water;
- Augments drinking water supplies;
- Reduces stormwater runoff and pollution;
- Reduces erosion in urban environments;
- Provides water that needs little treatment for irrigation or non-potable indoor uses;
- Helps reduce peak summer demands; and
- Helps introduce demand management for drinking water systems.

Rainwater harvesting has significant potential to provide Hagåtña specifically and Guam generally, environmental and economic benefits.

7.2 Goals and Policies

The goals and policies of this element are designed to promote healthy and sustainable growth in Hagåtña so that the City can thrive for generations to come.

Goal S-1

To provide a high level of protection and preparation against flood damage.

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|---------------------|--|
| Policy S-1.1 | The Government of Guam shall continue to require new development to mitigate flooding problems identified by the National Flood Insurance Program (NFIP) and /or other expert information. |
| Policy S-1.2 | The City shall encourage new development to avoid areas with high flood potential whenever possible. |
| Policy S-1.3 | The City shall review development proposals to ensure that the capacity or ability of natural drainage is not impacted. |
| Policy S-1.4 | The City shall evaluate and develop measures to increase structural setbacks, as appropriate, to protect structures facing the Agaña Bay. |
| Policy S-1.5 | The City should consider the relocation of threatened and /or damaged structures and infrastructure to the landward side of the coastal high hazard area. |
| Policy S-1.6 | The City should advocate for green infrastructure to manage storm water. |
| Policy S-2.1 | The Government of Guam shall continue to participate in the National Flood Insurance Program (NFIP). |

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|---------------------|--|
| Policy S-2.2 | The City shall provide information to the Federal Emergency Management Agency (FEMA) to ensure that Flood Insurance Rate Maps (FIRM) are updated periodically. |
| Policy S-2.3 | The City shall actively coordinate with FEMA and property owners to implement credit for improvements that reduce flooding and other natural hazard risks. |
| Policy S-2.4 | The City shall work with stakeholders to create, adopt, implement, and refine a plan to address sea level rise and its effects. |
| Policy S-2.5 | The City shall implement relevant recommendations of the Guam Hazard Mitigation Plan. |
| Policy S-2.6 | The City shall create a post disaster redevelopment plan to ensure efficient recovery following a major disaster. |
| Policy S-2.7 | The City should research and consider implementing coastal barrier technologies and tidal stream diversion techniques. |
| Policy S-2.8 | The City should take local actions to both adapt to and mitigate climate change and its impacts. |
| Policy S-2.9 | The City shall educate the public on climate change related hazards and locating high ground shelter facilities. |

Goal S-2

To have a government that is organized and managed in ways that leverage climate change and sea level rise.

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|---------------------|--|
| Policy S-2.1 | The City shall institutionalize climate change education as part of a regular governmental effort throughout City departments and functions. |
| Policy S-2.2 | The City shall ensure that all planning, public works, and related decisions take rising sea levels into consideration and take steps to minimize risk of damage or loss of life and property. |
| Policy S-2.3 | The City should ensure that city departments and functions be informed and influenced by climate change and related initiatives. |
| Policy S-2.4 | The City should give climate change initiatives sufficient priority in balancing the allocation of resources. |
| Policy S-2.5 | The City shall acquire, evaluate, use, share, and update relevant scientific data. |

Goal S-3

To have an adequate supply of clean water through the mitigation of water contamination in the City of Hagåtña.

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|---------------------|---|
| Policy S-3.1 | The City shall comply with the requirements of the Clean Water Act and other regulations with the intent of minimizing the discharge of pollutants to surface waters. |
| Policy S-3.2 | The City shall work with the GWA monitor water quality regularly to ensure that safe drinking water standards are met and maintained in accordance |

with EPA regulations and take necessary measures to prevent contamination.

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|---------------------|--|
| Policy S-3.3 | The City shall work with the GWA to pursue appropriate remedies to protect against illegal dumping, hazardous spills, and contaminated sites when appropriate. |
| Policy S-3.4 | The City shall work with GEPA and DPW to monitor construction sites and vacant lots to mitigate illegal dumping activities. |

Goal S-4

To assure adequate water for a growing population within the City of Hagåtña .

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|---------------------|---|----------------------|---|
| Policy S-4.1 | The City shall work with the Government of Guam to seek long term renewable surface water options to serve growing water demands. | Policy S-4.6 | The City, in collaboration with GWA, should allocate resources to create, adopt, and implement a range of programs and plan to promote the conservation of water. |
| Policy S-4.2 | The City shall work with GWA in implementing an active water conservation program to reduce future water demand. This plan should include the promotion of water conservation through outreach programs to community members. | Policy S-4.7 | The City shall ensure that water conservation programs are in line with existing and future GWA conservation efforts. |
| Policy S-4.3 | The City should collaborate with GWA on identifying options of renewable and sustainable water supplies to the greatest extend possible. | Policy S-4.8 | The City should collaborate with GWA to continuously consider alternative means and incentives to conserve water. |
| Policy S-4.4 | The City should advocate for the use of innovative design and operational standards, such as low flow fixtures, pervious surfaces, rain and roof gardens, xeriscaping, and other such measure. | Policy S-4.9 | With the assistance and guidance of GWA, the City should study, develop, and administer a water harvesting program for government properties and buildings. |
| Policy S-4.5 | The City, in collaboration with GWA, shall establish and maintain a program to educate local citizens about the benefits of water conservation | Policy S-4.10 | With the assistance and guidance of GWA, the City should study and develop a water harvesting ordinance to encourage the practice in private development. |

Goal S-5

To utilize efficient energy sources and design in developments throughout Hagåtña.

Policy S-5.1	The City shall implement energy conservation practices and the use of renewable energy sources in residential, commercial / retail, and office developments.
Policy S-5.2	The City shall encourage the development of energy-efficient buildings and communities.
Policy S-5.3	The City shall promote voluntary participation in incentive programs to increase the use of alternative energy systems in new and existing residential, commercial, institutional and public buildings.
Policy S-5.4	The City should require that master planned commercial and industrial development incorporate solar, wind, and other renewable energy generation and transmission equipment unless demonstrated to the satisfaction of a qualified renewable energy consultant to be infeasible.
Policy S-5.5	The City should develop programs to reduce energy consumption within City government facilities.
Policy S-5.6	The City should encourage the incorporation of passive and active energy and resource conservation design and devices in new residential development, and extensive remodels and / or expansions.

Policy S-5.7	The City should support research and development of alternative energy sources and encourage their use.
Policy S-5.8	The City shall work with the Guam Energy Task Force to identify alternative energy opportunities.
Policy S-5.9	The City should work with the GPA to evaluate the feasibility of incorporating wind, solar, and tidal power into the existing power supply.

Goal S-6

To ensure energy remains affordable within the city.

Policy S-6.1	The City shall create and compile existing energy utilization information and make this information available to the public.
Policy S-6.2	The City shall foster business and employment opportunities within the renewable energy sector.
Policy S-6.3	The City shall participate in local and Government of Guam programs that encourage energy conservation and reduction methods.
Policy S-6.4	The Guam Energy Office should create energy conservation programs for all sectors.

Goal S-7

To use energy efficient building designs to conserve energy and resources.

Policy S-7.1	The City should adopt and maintain development and building regulations that require or encourage green building development.
Policy S-7.2	The City should establish green building development standards for new and restored City-owned and operated public buildings and facilities.
Policy S-7.3	The City shall encourage master planning efforts, building and site design, and construction take into account the use of passive energy conservation such as the solar orientation of buildings, landscape shading, materials, and other techniques, where feasible.

7.3 Planning Framework

Water Conservation and Quality

Water conservation efforts and water quality maintenance are largely done through the Guam WaterWorks Authority (GWA) which administers all utility services including water, and Guam Environmental Protection Agency (GEPA), which provides overarching environmental maintenance, such as water quality, to Guam.

Water Conservation

Chapter 4 of the Guam Code is the Water Resources and Conservation Act. This act outlines the rights of usage of water, requirements for drilling, wasteful discharge from wells, groundwater management, and a water research and development fund. Through this act, it is described that water on Guam be put to beneficial use, that unreasonable extraction of water be prevented, and that the conservation of water be reasonably exercised. Both surface water and groundwater on Guam are limited, thus actions must be taken to prevent over pumping of groundwater and the intrusion of contaminants into bodies of water. This act should be a guiding document for any water conservation programs that are created in Hagåtña.

The Water Resources Management Program (WRMP), through the GEPA, plays a role in the protection of Guam’s aquifer from pollution and overpumping. This program provides laws, regulations, and education regarding water resources in Guam. The WRMP encourages the GWA to improve the efficiency of current water resources through conservation. The GWA last created a Water Resources Master Plan in 2007, in which it dedicates a chapter to water conservation; however, GWA does not have an effective water conservation program.

A study of water use on Guam, conducted by the GWA in 2007, shows that 59% of GWA water is consumed at the residential level. This figure suggests that GWA water conservation efforts should be largely targeted to home owners, especially since inefficient water fixtures seem to be a problem throughout many residences. This is further discussed in the Energy Alternatives section below. The hotel sector is the second highest user at 14.1%, and the commercial sector is the third, at 11.5%. Conservation programs and practices could be put in place to support conservation in these sectors.

Another aspect of water conservation on Guam are the Northern and Southern Soil and Water Conservation Districts, which were created through Chapter 71, Title 5 of the Guam Code. These districts work with all GovGuam entities that oversee local and federal conservation programs, and also partner with the University of Guam. Together, they assist in efforts to mitigate soil erosion and flooding, and to improve agriculture water management. The districts largely target farmers, which according to the GWA Water Management Plan, uses 2% of GWA water. Hagåtña falls within both the North and South district as the districts are split by Route 4.

Water Quality

Water quality maintenance is an important aspect of water conservation as it protects safe water for citizens. Water quality in Hagåtña is largely affected by stormwater flooding; it is one of the largest pollution contributors to the Agaña Bay. Utilizing green infrastructure could mitigate the amount of water runoff from impervious surfaces. Such infrastructure can include rain gardens man-made marshes, and rooftop gardens. Stormwater infrastructure is described in the Stormwater section of the Infrastructure Element.

The GEPA established a Water Pollution Control Program that is charged with enforcing local water laws, such as the Water Pollution Control Act. In 2015, the GEPA created a revised draft of the Guam Water Quality Standards, which was last updated in 2001. The intention of the Water Quality Standards is to conserve water supply and improve water quality. A part of this standard is to control and prevent bodies of water, including wetlands, from contributing to new and existing water pollution. Water categories in this document include groundwater, surface water, marine water, and other bodies of water such as recreational waters, publicly-owned lakes, etc. Standards for organic and inorganic pollutants in bodies of water are listed in this document. Hagåtña can use these standards to implement water standards.

Energy Alternatives

Being an isolated island community, Guam is reliant upon generating its own power to serve residents, businesses, visitors, and the government. Currently, Guam uses petroleum products to meet most of the energy demands. At times, Guam’s power grid system is strained from overuse or not enough capacity at power generation facilities, or when power generation facilities are damaged or undergoing maintenance. As Hagåtña grows, it will be important for the Guam Power Authority to explore new or alternative options to ensure a reliable power system to support the city. The power that supports Hagåtña is generated from outside the city, so development of new generation facilities within the boundaries of Hagåtña is not likely.

Under Guam Bill 166, which was enacted in 2008, a renewable energy portfolio was created with the goal of achieving 25% renewable energy by the year 2035 on Guam. Each utility, currently only GPA that sells electricity on Guam must establish a renewable portfolio to achieve this goal. In addition, any new electrical generation plant must have 10% of its generation derived from an alternative energy source.

GovGuam has plans underway to incorporate more alternative energies into the grid. Although these are not located in Hagåtña, Hagåtña can look to these projects as inspiration for what it could incorporate into its own city. One of the largest renewable energy projects is located in Talofofo, where both solar and wind energy are being implemented into the energy system. Through the GPA, a solar energy facility will be connected to the Talofofo substation power grid. In addition to solar power, Talofofo is also incorporating wind power into their power system. Talofofo received a wind turbine through the GPA in March of 2016. This wind turbine is 233 feet tall and should generate 275 kilowatts of energy. This amount energy will be able to power 50 homes. Not only will this project provide cleaner energy, but it will also act as a measure to determine if larger wind-energy projects are feasible for other parts of Guam. Combined, the solar and wind energy systems are projected to provide 34.3 megawatts of energy to the island.

Another new solar power project is being conducted through the Guam Department of Education. The Department is pursuing solar energy for four public schools, three in Dededo and one in Mangilao. The four schools were approved for the project in the spring of 2016 and will receive solar panels. The schools will operate off of the energy generated through these panels. This is a pilot program in which the Department will analyze whether it is feasible to put solar panels on other public schools in Guam. The program is still awaiting approval from the Governor, which is the last step before they can proceed with the installation of solar panels.

These alternative energy projects are bringing renewable energies to Guam, which will help reduce the amount of and reliance on fossil fuels being used on the island. Not only will this improve air quality through the reduction of fossil fuel burning, but it will also decrease the amount of petroleum that the island has to purchase and import. According to the U.S. Energy Information Administration, the cost for oil on Guam can be about 2.5 times more expensive than on the U.S. mainland. The money saved here can be used for further improvements on the island, which may have a large impact on Hagåtña as the capital city.

While alternative energies help to reduce the use of fossil fuel need, the Guam Energy Office is also working to reduce the overall use of energy. One such program, the Weatherization Assistance Program, provides income qualified families with free energy efficient services. These energy efficient services not only make their homes more energy efficient, but will also cut energy costs. Examples of these services include the installation of compact fluorescent light bulbs, weather-stripping and sealing of air leaks, installation of low-flow shower heads, and education on every-day energy reduction methods. Currently, the Guam Energy Office focuses energy conservation programs at the residential sector; however, the commercial sector uses one third of the total electricity on Guam, the residential sector uses three tenths, and the military uses one fifth. These numbers indicate that conservation efforts should be expanded to the commercial and military sector. With the future construction of new development, Hagåtña has the opportunity to incorporate green building designs and renewable energy into the plans. Capital Improvement Projects from 2011-2015 already list projects that focus on energy efficient modifications, such as energy efficient street lighting.



Inside Chapter 8...

8.1	Issues and Opportunities	8-2
8.2	Goals and Policies	8-2

Governance over Hagåtña is specific. Chapter 79 (Restoration of Hagåtña) under Title 21 Guam Code Annotated deems the Hagåtña Restoration & Redevelopment Authority (HRRRA) as a public corporation and an autonomous instrumentality of the government of Guam. Its governance over the City of Hagåtña is vested in nine Commissioners, seven of which are appointed by the Governor of Guam (*I Maga 'haga/I Maga'låhi*) under the advice and consent of the Guam Legislature (*I Liheslaturan Guåhan*). The 8th is seated by the Mayor of Hagåtña and 9th Commissioner is appointed by the standing Speaker of *I Liheslaturan Guåhan*, to which said appointee serves at the pleasure of the Speaker. Other commissioners, serving in a non-voting ex-officio members, include the director, or representative thereof, of the Department of Parks and Recreation, the Richard F. Taitano Micronesia Area Research Center, the Guam Visitors' Bureau, the CHamoru Language Commission, the Department of Integrated Services for Individuals with Disabilities, the Department of Land Management, the Department of Public Works, the Guam Environmental Protection Agency, and the Guam Preservation Trust.

The Commission leadership, as a Board, is vested in its Board Chairperson and Board Vice-Chairperson who are in turn, are designated by Governor of Guam (*I Maga 'haga/I Maga'låhi*). Commissioners are not compensated for their services. The Board is authorized to employ an Executive Director, technical experts, legal counsel and legal staff.

Hagåtña was considered the first European city in the Pacific due to early colonization. The village was declared the capital of the Mariana by a Spanish royal decree on March of 1686. As the City of Hagåtña transforms into the capital city and cultural center for Guam, goals and policies are necessary to maximize available city resources. To effectively execute the policies fundamental for the transformation, intergovernmental coordination and collaboration, as well as a degree of civic autonomy will be required to direct planning currently regulated by the Department of Land Management. Though the city population is relatively small, the Master Plan vision is grand yet decisive, intended to revitalize the city, making the provision of essential public services without exhausting available resources vital to transformational success. As GovGuam departments and organizations already provide services throughout the island, formal coordination and cooperative agreements for the continuation of such services should be established and the coordination of resources recognize the authority of the city while creating a mutual benefit for both the city and Guam. Such agreements would benefit the city by

eliminating the need for duplicate and independent city departments for public services such as water, power, fire, and police, while benefiting the island through the success of Hagåtña as a stronger, more vibrant economic contributor, bringing new opportunities for business and tourism. The Governance Element supports the guiding principle of reestablishing Hagåtña as the Capital City by providing coordination mechanisms to facilitate efficient use of resources to achieve transformational goals and providing for level of public services necessary to realize city's transformation vision within a deliberate governance framework.

The following goals and policies are intended to provide guidance for city leaders and administration in ongoing management activities and short and long-term decision-making related to city governance to accomplish the Master Plan. Building on the extensive involvement in the development of the Master Plan, Goal GOV-1 addresses effective communication to citizens on civic matters and citizen involvement in developing city programs and initiatives. Goal GOV-2 focuses on interdepartmental coordination within the city administration to effectively implement the Master Plan. Because of the unique nature of governance in Guam, intergovernmental coordination is central to the success implementing the Master Plan. Goals GOV-3 through GOV-6 relate to the establishment of intergovernmental coordination processes to achieve consistency with GovGuam departments and agencies implementing plans and program affecting the city, coordinating

development within and adjacent to the city, coordinating with governmental departments and agencies to establish equitable level of service standards for public services, and for the city to take a leadership role on Guam planning issues that affect the city. In order to successfully execute the Master Plan, the city will require funding from both city and other sources. Goal GOV-7 addresses the need for the city to assess its fiscal strength and ability to implement Master Plan initiatives. As the city implements the Master Plan, it will be important to assess successes, areas for improvement and additional steps to ensure the city continues to achieve the Master Plan vision. Goals GOV-8 and GOV-9 focus on periodic monitoring and evaluation of both intergovernmental coordination activities and the Master Plan itself.

8.1 Issues and Opportunities

Issues

Lack of Planning Authority. The Department of Land Management has planning authority over all of Guam, which creates a challenge for the City of Hagåtña with regards to planning and managing the future growth of the City.

Lack of Resources. The City of Hagåtña does not have the monetary resources necessary to create and manage its own departments for power, water, police, fire, public works, and other public services that are currently provided to all of Guam by GovGuam.

Opportunities

Existing Infrastructure. Power and water are currently provided to Hagåtña by the Guam Power Authority and the Guam WaterWorks Authority via existing infrastructure. Though some of the more than 65,000 feet of water infrastructure are in need of improvement, the lines are currently being used to provide water to the residents and businesses of Hagåtña. Like the water system, there is also an

electrical infrastructure that is utilized to provide power to the city, and there are improvements planned for the electrical substation in Hagåtña. The existence of the infrastructure and service within the city provides an opportunity for entering into formal agreements for the continuance of these public services, without needing to establish new city department to oversee these essential public services In recognizing standing authorities of public utilities and infrastructure agencies and in the name of avoiding redundancy, such formal agreements on activities concerning the upgrade and installation of water, power, road, and other pertinent infrastructure within the confines of City would entail an inclusion of the City’s authority to participate in associated planning efforts conducted by such agencies as means of compliance with sections 79302(a)(4), 79303 (o) (p), and Chapter 79 (Restoration of Hagåtña), Title 21 Guam Code Annotated. Goals Gov-2 through Gov-6 provides more insight into the parameters of achieving formal agreements.

8.2 Goals and Policies

Goal GOV-1

Provide effective governance to the City of Hagåtña citizenry, property owners, business owners and stakeholders advancing the City Council’s mission and vision.

Policy GOV-1.1	Recognize that citizen involvement is an integral component of any major planning effort in the city and consider citizen input as an important component of the planning and implementation process. Provide ample and effective opportunities for public participation at all levels of City of Hagåtña governance and decision-making including opportunities for public review of plans, regulations, and development proposals at
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Policy GOV-1.2

the appropriate stage of plan preparation and implementation.

Use a wide variety of communication tools, resources, and techniques to reach a broad cross-section of residents, businesses and visitors to the city. Promote public outreach and participation through, but not limited to: workshops; public meetings; public hearings; neighborhood meetings; electronic mailings; regular mailing; newspaper advertisements; property posting; city webpage posting; cable TV; city radio; electronic newsletters; citizen boards and committees. Monitor and review the utility and effectiveness of public involvement methods and take action as needed to improve them.

Provide opportunities for communication between residents, civic and cultural organizations, and city boards / committees and City Council through traditional mediums, electronic media, and other easily accessible methods.

Encourage the formation of neighborhood and civic organizations to facilitate effective participation in the community; build relationships between city staff and organizations to enhance communication between the parties with the intent of providing an additional opportunity to communicate with city staff, applicable boards / committees and the City Council.

Ensure that resident's concerns regarding incompatible or inconsistent development

are addressed in conformance with established provisions of the city code, master plan, and zoning code provisions; and coordinate with established neighborhood organizations in the planning and implementation of neighborhood improvements – such as historic and cultural preservation, infrastructure, landscaping, public safety, sustainability and other quality of life issues.

Policy GOV-1.6

Maintain and strengthen strategic management strategies that promote transparency, efficiency, effectiveness, ethics, accessibility and accountability in all of the city’s functions.

Policy GOV-1.7

Assist decision makers, applicants, and residents with improved tools to understand planning regulations, including but not limited to, use of illustrations, citizen guides, customer oriented process improvements, design guidelines, graphics, and geographic information systems.

Policy GOV-1.8

Provide education for policy and decision makers, staff, and the public on all planning related matters, including but not limited to the Master Plan and other Guam land planning requirements.

Goal GOV-2

Promote interdepartmental coordination within the city administration.

Develop strategies and processes for promoting a “teamwork” environment in which city leaders and administration coordinate advancement of the City Council mission and vision.

Policy GOV-2.1

Promote efficient interdepartmental communication and coordination mechanisms including the use of technology.

Policy GOV-2.2

Maintain access to all city development review related documents.

Goal GOV-3

Establish and maintain intergovernmental coordination processes and procedures as a major means of achieving consistency among all GovGuam departments and agencies implementing plans and programs affecting the City of Hagåtña.

Policy GOV-3.1

Coordinate and cooperate city planning activities with GovGuam departments and agencies to achieve mutually beneficial goals and objectives.

Policy GOV-3.2

Identify opportunities for synergies and economies of scale through partnerships with GovGuam departments and agencies and institute programs for collaboration to maximize mutual benefits.

Policy GOV-3.3

Coordinate planning and impact assessment duties affecting the city with GovGuam departments and agencies providing services but not having regulatory authority over the

use of city land, and with the planning initiatives outside the city including adjacent villages. This goal is critical with respect to avoiding any undue potential adverse impacts to adjacent municipalities due to planning directions taken on behalf of the City.

Goal GOV-4

Proactively engage in intergovernmental coordination and establish a leadership role on Guam planning issues that affect the City of Hagåtña.

Policy GOV-4.1

Maintain an active program of monitoring and communication with GovGuam departments and agencies.

Policy GOV-4.2

Participate in community and government workshops sponsored by GovGuam departments and agencies to provide an open forum for communication and coordination of programs involving the city.

Policy GOV-4.3

Participate in the meetings and activities with the Department of Land Management and other intergovernmental planning groups / technical committees to ensure full participation in deliberations which may involve the city.

Policy GOV-4.4 Participate in intergovernmental coordination activities regarding issues involving: traffic and transportation systems improvement planning and financing; public utility improvement and financing; sustainability planning and financing including protection against flood damage; land use planning; historical and cultural resource planning; and economic development planning and financing for projects within and adjacent to the city.

Policy GOV-4.5 Participate in consistent and coordinated management of local bays, estuaries and harbors that fall under the jurisdiction of more than one GovGuam department and agency.

Goal GOV-5
Coordinate with the GovGuam departments and agencies including the Department of Land Management and Guam Municipal Planning Council on proposed development within and / or adjacent to the borders of the City of Hagåtña.

Policy GOV-5.1 The city shall ensure that the impacts of development within the city on adjacent villages and the region are addressed through coordination mechanisms. Likewise, planning for villages bordering Hagåtña should provide for opportunities for input by the City of Hagåtña.

Policy GOV-5.2 Coordinate with the Department of Land Management and Municipal Planning Councils on the resolution of land use matters involving the city and adjacent villages.

Policy GOV-5.3 Pursue resolution of development and impact assessment issues for impacts transcending the city’s political jurisdiction. Issues of regional significance shall be coordinated with GovGuam departments and agencies. Issues to be pursued include, but are not limited to:

- Impacts of land development activities within the City of Hagåtña on adjacent villages and the region.
- Impacts of land development activities within villages adjacent to the city’s corporate limits on the city.
- Affordable housing programs.
- Area-wide drainage and storm water management master planning, proposed improvements, and implementing programs.
- Water supply planning.
- Solid waste disposal, including development of any new landfill facilities, recycling resources, and other improvements.

- Research, engineering, and strategies for managing level of service impacts of new development and tourism on major transportation linkages and critical intersections impacting the city and adjacent villages.
- Transit / multi-modal transportation activities and plans.
- Level of service standards for infrastructure system impacting the City and adjacent villages.
- Conservation of natural, historic and cultural resources.
- Planning and management for flood protection and climate change.

Policy GOV-5.4 The city shall coordinate transportation improvements proposed by new development with appropriate GovGuam departments and agencies concerned with assessing traffic impacts of proposed development.

Policy GOV-5.5 The city shall take a leadership role in establishing a process providing for the Department of Land Management, adjoining Municipal Planning Councils and the city, opportunities for input to ensure consistency related to planning and zoning matters with the intent of lessening and / or mitigating potential objectionable impacts of development on the area.

Goal GOV-6

Coordinate with GovGuam departments and agencies having operational and maintenance responsibility for public facilities to establish level of service standards.

Policy GOV-6.1	Coordination activities pursuant to the goals and policies in this Element shall include consideration for equitable Level of Service for public facilities.
Policy GOV-6.2	The city shall coordinate with GovGuam departments and agencies having operational and maintenance responsibility for public facilities for which the Level of Service standards are being established to ensure mutually compatible and equitable standards.
Policy GOV-6.3	Coordination activities pursuant to the goals and policies in this Element shall include consideration for equitable Level of Service standards for facility and service delivery systems consistent with the provisions of this Master Plan.

Goal GOV-7

Provide for the city's fiscal strength and ability to implement Master Plan initiatives.

Policy GOV-7.1	Set fiscal strength objectives for expenditures / revenues, debt management, and fund balance.
Policy GOV-7.2	Set clear priorities for city spending on initiatives and projects, based upon objective criteria tied to the goals and policies of the Master Plan.

Policy GOV-7.3

Develop and use a Capital Improvements Program and community facility planning system to phase spending on capital projects and initiatives over time, within the limits set by the city's fiscal strength objectives.

Policy GOV-7.4

Emphasize non-city financing of private development projects. Provide targeted public investment (e.g., infrastructure improvements) as necessary to make priority economic development projects happen and where it makes sense from a cost-benefit standpoint.

Policy GOV-7.5

Pursue funding partnerships with GovGuam to fund priority initiatives and projects.

Policy GOV-7.6

Vigorously pursue alternative revenue sources to fund priority initiatives and projects including P4 (private-public and private-private) initiatives.

Policy GOV-7.7

Monitor expenditures on capital initiatives to determine return on investment in the form of increased city revenues and economic activity.

Goal GOV-8

Provide for monitoring and evaluation schedule of intergovernmental coordination activities.

Policy GOV-8.1

Establish quantitative measures of success to monitor intergovernmental coordination activities. The city shall conduct a review of these activities not less than biennially. The review shall include the following issues:

- Regular monitoring of coordination activities via participation in meetings with GovGuam departments and agencies.
- Informal agreements or an enacted ordinance providing for mutual exchange of notice and information about proposed future land use and/or zoning map changes within an area to be determined as a significant distance from any village or City of Hagåtña municipal boundary.
- Assisting the Department of Land Management in identifying regional issues affecting the city and providing appropriate city participation in their analysis and resolution.
- Executing cooperative inter-local agreements for public services with GovGuam departments and agencies.

Goal GOV-9

The Master Planning process is continuous and dynamic in nature. Maintaining the effectiveness of the plan requires its periodic review. For the purpose of monitoring, evaluating and appraising the implementation of the Master Plan, a five-year program for monitoring, updating and evaluation shall be followed. More detailed procedures shall be adopted by the city to direct the ongoing activity.

Policy GOV-9.1	Evaluate and update Elements of the Master Plan every five years.
Policy GOV-9.2	Review and update the Capital Improvements Program on an annual basis.
Policy GOV-9.3	Encourage the public to participate in the evaluation process by the holding of at least one workshop prior to the preparation of evaluation findings, at which public comments and recommendations regarding the Master Plan shall be received for consideration during the preparation of the evaluation findings. Notice of such workshop shall be by advertisement at least one week prior to the date of such meeting. At least one advertised Public Hearing shall be held prior to the City Council consideration, amendment and adoption of the evaluation findings.
Policy GOV-9.4	Updating appropriate baseline data and measurable objectives to be accomplished for each five (5) year period of the plan, and for long-term periods as necessary, shall be undertaken at intervals appropriate to the subject area of analysis, but no less

frequently than every five (5) years. Administrative procedures shall be adopted to define the local monitoring and data maintenance to be conducted.

Policy GOV-9.5	Accomplishments in the first five (5) year period, describing the degree to which the goals and policies have been successfully reached, shall be identified and reported as part of the evaluation findings.
Policy GOV-9.6	Obstacles or problems which resulted in under-achievement of goals or policies shall be identified and reported as part of the evaluation findings.
Policy GOV-9.7	New or modified goals, or policies needed to correct discovered problems shall be identified and reported as part of the evaluation findings.
Policy GOV-9.8	A means of ensuring continuous monitoring and evaluation of the plan during the five (5) year period shall be identified and reported as part of the evaluation findings.
Policy GOV-9.9	HRRA shall reevaluate the plan every five (5) years or sooner if new and emerging information has been produced that poses significant impacts to the approved Master Plan with the regulatory network. HRRA shall submit a report annually to I Liheslaturan Guåhan on the status of the Master Plan



Appendix A

Hagåtña Master Plan Public Workshop Overview



Introduction

The Hagåtña Restoration and Redevelopment Authority (HRRRA) held two sets of public open house workshops as part of the development of the Hagåtña Master Plan. The public was invited to join HRRRA and provide their ideas, concerns, or input on the future of the Capital City of Hagåtña. The first set of workshops as held from 1:00-6:30 pm, Friday, October 16, 2015 and 1:00-6:30pm, Saturday, October 17, 2015 at the CAHA Art Gallery in the Terlaje Professional Building, 194 Hernan Cortez Avenue, Hagåtña. The second public workshop was held from 6:00 pm to 9:00 pm, Wednesday, November 29, 2017 at the Guam Museum, 193 Chalan Santo Papa Juan Pablo Dos, Hagåtña. At all the workshops, participants were encouraged via direct invitation, open media, and various public service announcements to attend the open house format workshops any time during the specified hours. In addition, posters were also made available online on the project website for the public to view and provide comments.

Public Workshop #1

Publicity and Noticing

Open House Flyers were attached to the front page of the *Pacific Daily News* which were distributed in the village of Hagåtña on October 12, 15 & 17, 2015. Each run date had a distribution of 2,000 copies, thus totaling 6,000 copies.

A half-page black and white advertisement appeared in *The Daily Post* on Sunday, October 12, 2015.

Flyers were distributed to the Hagåtña Mayor's Office for any residents that visited his office as well as posted online on the Governor Eddie Calvo's Facebook page and Senator Rory Respicio's official website.

A media press release was issued to local newspapers and television news reporters the Wednesday prior to the open house.

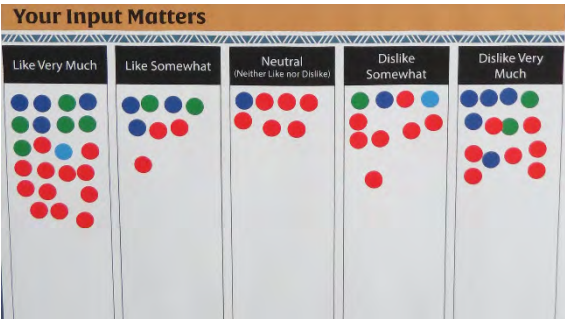
A five-minute interview segment of KUAM News Extra with Jason Salas featuring Joseph Cameron, Executive Director of HRRRA and Zenon Belanger, Vice-Chairman of HRRRA Board of Directors as well as a 20 minute-interview on Newstalk K-57 with Phil Leon Guerrero aired on Friday, October 16, 2015.



Official invitations were delivered to the 33rd Guam Legislature and all Government of Guam Agencies. Email invitations were sent to all stakeholders that were interviewed or who had participated in the Hagåtña Master Plan’s previous outreach activities. In addition, invitations were also sent to the Board of Directors of the Guam Chamber of Commerce, Guam Hotel and Restaurant Association, Guam Contractor’s Association, Guam Association of Realtors, The Mayor’s Council of Guam, Mayor of Hagåtña, Mayor of Mongmong-Toto-Maite, Mayor of Tamuning, Mayor of Sinajana, Mayor of Agaña Heights, Mayor of Asan, and Mayor of Piti.

Open House Format

More than 100 community members attended the open house, which was organized as a series of information stations. Attendees were encouraged to visit these stations where project team members were available to answer questions and discuss the project. Attendees were given a project informational fact-sheet brochure and a comment card to provide input on Wayfinding Signage/Street Furniture, Land Use Focus Areas, Transportation, Barrio Identification, Land Use, and other important elements on the development of the Hagåtña Master Plan. In addition to the comment cards, dot stickers were given to attendees which they were able to utilize to cast their impression of the concepts presented in each station.



Information Stations

At each of the stations, members of the project team were available to discuss the project and answer any questions. The following list describes the information that was included at the various stations.

Welcome Table

This station included sign-in sheets, an informational fact-sheet brochure, and a comment card to provide input. Members of the project team were available to explain the open house layout.

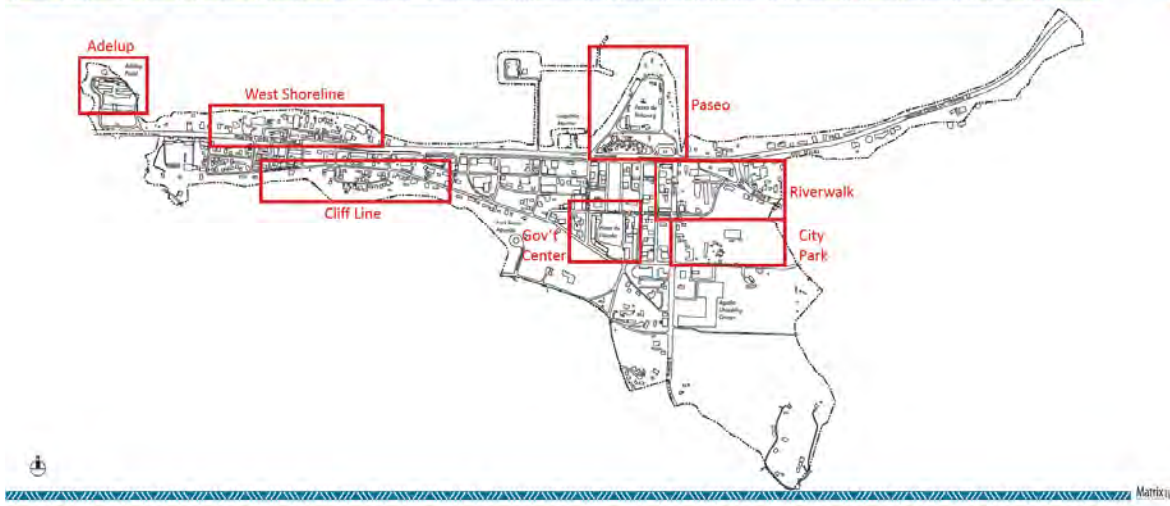
Wayfinding Signage/Street Furniture

This station featured five families (concept sets) of wayfinding signage and street furniture - Family 1: Modern Latte Stone, Family 2: Traditional Latte Stone, Family 3: Simplified Latte Stone, Family 4: Museum, Family 5: Off-The-Shelf. A Gateway Map was also featured at this station.



Land Use Focus Areas

Focus Area Locations



The Land Use Focus Areas concentrated on Adelup, West Shoreline, Cliff Line, Riverwalk, City Park, and a Government Center. This station featured alternative plan options that included expansion options for community or business activity, residential development, commercial opportunities, and possible ideas for a Government Center.

Transportation

The Transportation station featured draft concepts for Parking Garages, a Trolley/Transit System and a map of proposed trails. These draft concepts are proposed to serve areas within Hagåtña to enhance transportation for tourism, students and residents for work, school, shopping, etc.

Barrio Identification

This station featured options for street and barrio identification signs as well as a new map of proposed historic barrio boundaries.

Land Use



In this station, attendees viewed a proposed map of five Districts for Hagåtña, Mixed-Use options, and two Land Use Alternatives: Mixed-Use Focus and Commercial-High Density Residential.

Public Comments




Comments

Your comments are VERY IMPORTANT to the development of the Hagåtña Master Plan.

Please return this comment form to the registration table or to a project representative.

- Over 250 comments received
- Main items commented on:
 - Wayfinding/Street Furnishings
 - Include lighting on signage, use solar power
 - Mix and match components from different families
 - Using natural and indigenous materials for street furnishings
 - Include recycling bins
 - Paseo Alternative
 - Build new stadium with multi-purpose fields, not just baseball
 - Do not like detached parking structure that blocks views of the water
 - Increase other activities, such as cultural heritage/awareness, canoe rides, dancers, performances

- Government Center Alternative
- Riverwalk
 - Need to clean up the river before anything can happen
- Adelup Alternatives
 - Keep Adelup as government building
- Parking and Trolley System
 - Have private operation run system, and make it free

Other items of interest:

- Affordable housing along cliff line
- Have security cameras on signage to deter vandalism
- Change street names to historic CHamoru names
- Develop a Peace Officer force like in Tumon
- Botanical garden with child care and playground
- Sunday farmer's market
- Carabao carts for traditional experience
- Concrete lighting designed as bamboo-like torches with simulated flame for lights
- Install steps behind Latte of Freedom for fishing

The following is a verbatim listing of all the comments received.

Public Workshop #1, Day 1 Comments:

Category	Comment
Adelup Alternative	Want steps behind Latte of Freedom for fishing
Adelup Alternative	Should strictly house government entities
Adelup Alternative 1	Designed by Richard Neutra
Barrio Identification	Ensure Padre Palomo Park is in the barrio
Barrio Identification	Earlier map of Barrios 1913-14
Barrio Identification	I like the Barrio ideas and prefer markers and signage that is more traditional. Good work!
Barrio Identification	Will Barrios be signified by design elements of a building?
Barrio Identification	I like the return of the Barrios
City Park Alternative	Prehistoric site by City Park, northwest corner
City Park Alternative	Federal Highways drainage through City Park ball fields
Cliff line Alternative	Cliffline development – historic properties, graveyard, e.g., \$500,000 for archaeological study very costly. Historic burial area, excavation reburial historic monument
Cliff line Alternative	Incorporate historical burials
Cliff line Alternative	Want to see affordable housing along the Cliffline
Government Center Alternative	Want road closed between government buildings and Aspinall Ave
Government Center Alternative	Alt 1 is good. Puts park facility near an already congested area. Easier to transport west patrons to park facility versus east patron to west facility
Government Center Alternative	Parking structure by plaza – include a partially covered walkway
Miscellaneous	Remove Legislature Hall from historic register and demolish it. It does not serve purpose any longer
Miscellaneous	Coordinate with Federal Highway. Navy owns Marine Corps Drive right-of-way
Miscellaneous	Should not allow drinking at Paseo

Category	Comment
Miscellaneous	Japanese pill box in Paseo near Fisherman's Co-op
Miscellaneous	Need to show map of historic sites
Miscellaneous	San Antonio burial site near Riverwalk. Talk to SHPO – John, Mark, Joseph
Miscellaneous	Sunday farmer's market
Miscellaneous	Culture and tradition – carabao carts (several, not just one) located on Paseo for tourism and people of Guam
Miscellaneous	Love the ideas and look forward to change!
Miscellaneous	Tsunami, inundation, liquefaction maps – need to fix maps for report
Miscellaneous	How will the proposed items be paid for?
Miscellaneous	Should have solar lighting
Miscellaneous	Will need transportation fixes to handle growth in future. Should just yes new pipeline right-of-way and add road
Miscellaneous	All of the objectives are highly recommended. However, framework should all have alternative usage when not in use. This way the structures would not pollute the site with useless future planning
Miscellaneous	I would have liked the station posters to be more identifiable
Miscellaneous	Thank you! Good job! It's exciting to see development and change
Miscellaneous	I truly appreciate being able to have input
Miscellaneous	Bring GovGuam agencies to Adelup – no need to expand to a community center.
Miscellaneous	Consider the historic sites, historic districts, Section of NHPA, the amount of burials that will be excavated, the current guidelines for reburials, visual impacts to historic properties, what about a boardwalk by the Japanese caves, Japanese pill boxes? Go with the 1901 look! NO CREDIT to who did what in the designs – bring public in early – kind of late, especially if any federal money or involvement will take place.
Miscellaneous	You should put in more local landmark names so the person can identify the area
Miscellaneous	Mixed use only includes structures, no flexibility for greenery

Category	Comment
Miscellaneous	Create a map of government lands that could be used for pocket parks
Miscellaneous	Present to SHPO Historic District Advisory Council
Miscellaneous	Traditional/cultural properties definition
Paseo Alternative	Multi-purpose sports fields (soccer and softball) at City Park and Paseo
Paseo Alternative	Paseo should be a cultural center to showcase historic culture. Move parks and rec to Tiyan
Paseo Alternative	Possible conflict with cultural view with CHamoru Village parking garage
Paseo Alternative	Paseo parking garage up against waterfront will distract from the coastal beauty and take up good land use for something like a park. Should consider how Paseo is used now in concepts, such as kite surfing
Paseo Alternative	a lot of interest in showcasing cultural and historical villages and huts
Paseo Alternative	Add new platform to model at Paseo
Paseo Alternative	Would like to see a soccer field at Paseo instead of a baseball field
Paseo Alternative	Federal Highways reburial site in Paseo near potential parking garage from Route 1 fix (coming)
Paseo Alternative	Parking structure should be away from the main focus of the area
Paseo Alternative	Fishing and cultural demonstrations, carabao rides, proa rides, cultural attraction, cultural performances
Paseo Alternative	Arts and crafts - how to make a net
Riverwalk Alternative	Riverwalk area in/near ancient village. Will have areas with remains
Riverwalk Alternative	Riverwalk has too many structures and not enough greenery
Riverwalk Alternative	Should be named San Antonio Minondo Riverwalk
Riverwalk Alternative	Along river, create executive Palauan gardens, executive gardens, crosswalks connecting island gardens
Shoreline Alternative	Boardwalk along shore before, got damaged with typhoon

Category	Comment
Street Signage	On street signs ©, would be nice if there are lights on top
Street Signage	Does our street signage want to portray more Spanish
Street Signage	Place lighting on top
Transportation	Will parking be: free? Street? Metered? Paid?
Transportation	Bus stops for mass transit, school buses, private school buses
Transportation	Send Ric Agustin (GRTA maps of transportation
Transportation	Love love love the transit idea. What a blessing that would be
Wayfinding Signage/Street Furniture	No planters. Use natural rock for natural plantings, fabric of the environment
Wayfinding Signage/Street Furniture	Identify historic district on map
Wayfinding Signage/Street Furniture	Want to see indigenous trees – Kafo, Fadang
Wayfinding Signage/Street Furniture	Bamboo-like metal torch for street lights. Simulated torch flame
Wayfinding Signage/Street Furniture	Like Family 4, but not the lighting. Prefer the lighting from Family 2
Wayfinding Signage/Street Furniture	On Family 4, change lighting to Family 2
Wayfinding Signage/Street Furniture	Like Family 1 most- like lighting for Family 4
Wayfinding Signage/Street Furniture	Like to keep latte stone as a consistent symbol for street signage, Barrios, and gateway
Wayfinding Signage/Street Furniture	I love the designs with latte stones, so monumental in our history
Wayfinding Signage/Street Furniture	Family 1 - change lighting
Wayfinding Signage/Street Furniture	Ifit wood heavy and strong for benches

Public Workshop #1, Day 2 Comments

Category	Comment
Adelup Alternative	Leave Adelup as-is, except remove the Latte of Freedom, it's ugly
Adelup Alternative	Should not remove government offices from Adelup. Hundreds of millions of dollars were spent renovating the buildings for government use. Adelup could be expanded to add more offices
Adelup Alternative	Somehow redesign Latte of Freedom
Adelup Alternative	Prefer recreational alternative because the environment is so corrosive
Adelup Alternative	No resort at Adelup. Outdoor recreation and traditional lifestyle
Adelup Alternative	Provide more range to concepts
Barrio Identification	Keep Barrios as they were originally, do not redo the boundaries. You would lose the historical significance. The districts are good though
Barrio Identification	Barrio Sign B is nice, but not practical with the weather
Barrio Identification	Move San Antonio Barrio out to Route 4
City Park Alternative	Set up pop ups for homeless shelter at 4-5pm and take down at 8am
Cliff line Alternative	Please leave waterfront unobstructed
Districts	Archbishop Flores' childhood home should be classified as a historic site and a historic district should be created. The home was damaged in a fire and is being restored. The Archbishop offices on the hill are also potential historic sites
Government Center Alternative	Should not relocate the federal lockup facility. Millions of dollars were spent to build it and tearing it down and relocating it would be wasteful. Have you spoken to the feds about relocating it?
Government Center Alternative	Build more government buildings on north side of O'Brien Drive and have a covered walkway from parking areas
Government Center Alternative	Leave area free of buildings/structures for recreational use, especially with precinct close for safety
Land Use Alternative	Like the Alternative 1 Mixed-Use
Land Use Alternative	Low income housing?

Category	Comment
Land Use Alternative 2	Make Cliffline HDR to also allow commercial. When selling land, value is based on zoning. Commercial land sells more than residential
Miscellaneous	Do not put in any roundabouts
Miscellaneous	Need recycling bins
Miscellaneous	Museum location is not good
Miscellaneous	Do not support tearing down existing buildings to build new ones. Instead, should renovate and reuse
Miscellaneous	I am concerned about vandalism. Need to have security cameras. Provide such neat stuff without security is no good
Miscellaneous	Need a financial strategy - how to pay for relocation of the wastewater treatment plant
Miscellaneous	Change street names to historic names, CHamoru names
Miscellaneous	Attention to more residential housing is needed to turn Hagåtña into a city
Miscellaneous	Enlarge marina and dredge
Miscellaneous	The breakwater near the marina is too small - dangerous
Miscellaneous	Slips at marina - Old Bays Club big monopoly
Miscellaneous	Hire Guam Peace Officer task force like in Tumon. Maybe G4S?
Miscellaneous	Higher end park with outsources construction and maintenance and provide parking
Miscellaneous	Youth football, soccer, softball
Miscellaneous	Incorporate historic site walk through Agaña
Miscellaneous	Walking / jogging path designed for exercising through Riverwalk
Miscellaneous	Need to enforce laws
Miscellaneous	Remove feeding shelter out of Hagåtña
Miscellaneous	Indigenous botanical garden with a child care work site and playground – put where corrections facility is located, or maybe near City Park and parking garage

Category	Comment
Miscellaneous	There are a few points that I really liked – pedestrian bridges, mixed-use buildings with commercial / residential, well-lit sidewalks and street lighting, park areas.
Miscellaneous	Concerns for security of parking garages and park areas
Miscellaneous	In the past 25 years, hundreds of millions of dollars have been spent in capital improvement projects in Agaña. It would be a terrible loss to all these past projects if they were to be demolished just to build newer nicer replacements. I would advocate using these buildings as long as possible and then replacing as needed, using the redevelopment master plan as a template.
Miscellaneous	Finish Governor Bordallo’s plan for marina buildout – need fixes on mouth of channel.
Miscellaneous	Moylan property would be good for residential / mixed-use
Miscellaneous	West end good for residential
Miscellaneous	How did GovGuam condemn Adelup as unsafe (for school) and then move government there?
Miscellaneous	CHamoru Village – dingy, paint peeling off, mold; if you can’t take care of grass, get rid of it; dark; feeling of sadness
Miscellaneous	Trash bins for businesses from waste disposal are in front of businesses.
Miscellaneous	Fractional ownership is an issue to redevelopment – legislature needs to address it.
Miscellaneous	Good job, excellent work / presentation!
Miscellaneous	Live, work, play – need residential in Hagåtña; ROI difficult
Miscellaneous	2017 upgrading / rehabilitation CIPP pipe; Upgrade facility plan for wastewater treatment plan to improve to secondary treatment – USEPA; \$58 million for Agat – 1.6 million gallons per day; relocate to Piti – Port Authority owns the land, no land acquisition. Need 12 million gallons per day; ocean outfall; upgrade lift station; upgrade to tertiary; \$75-100 million to relocate; really need \$500-600 million
Miscellaneous	Trash bins need covers that don’t allow rain to seep in.
Miscellaneous	Need recycling and trash bins
Miscellaneous	Smyrna LCI Study in Atlanta – Altamira Finn
Miscellaneous	Mayor Wi-Fi
Mixed Use	Don't think mixed-use would work well on Guam because people don't like to go outside when it's hot

Category	Comment
Mixed Use	Locals will not go out to walk/shop when it is hot outside. Might not work. Also, depends on cost of residential and what retail comes in
Mixed Use	Need to regulate types of businesses and phase out/eliminate light industrial (e.g., M1 permits)
Paseo Alternative	I don't know if the parking structure is next to the AOLG (alternative 1) will work good. Parking structure will have problems sometimes
Paseo Alternative	Needs a focus on CHamoru traditions, including a new canoe house
Paseo Alternative	Convert baseball park to cultural center
Paseo Alternative	Best concept - bridge to CHamoru Village. DO IT!
Paseo Alternative	To build a multipurpose 2-story pavilion for fishing derby, canoe races, surfing, and command center for rescue personnel during adverse weather affecting boats in and out of boat basin channel. Structure to use latte stone pillars and upper deck with stairs. Can go hand in hand with the fishing platform for fishermen to fix their hooks
Paseo Alternative	All pavilions should incorporate the latte columns. Flat roof for viewing surfers competition and boat rescue for fire fighters viewing
Paseo Alternative	Please leave waterfront unobstructed
Paseo Alternative 2	Paseo parking garage blocks amazing view of Guam's landscape
Paseo Alternative 2	Paseo parking structure by the water will distract ocean view
Paseo Alternative 2	Overpass crosswalk over Marine Corps Drive
Paseo Alternative 2	Parking building blocks views
Riverwalk Alternative	Hopefully clean up the river
Riverwalk Alternative	The current Hagåtña River is an open flowing sewer. It is in high need of major Corps of Engineers work
Riverwalk Alternative	Fix Hagåtña River - water quality, flood control
Street Signage	Love street sign #1, but prefer the head of street sign #2
Street Signage	Put solar panels on top, have the lettering vertical, top to bottom, stacked lettering, use solar up lighting from the ground
Street Signage	Signage has too much concrete usage. We should be more receptive to use natural materials despite storms and typhoons. Minimize concrete

Category	Comment
Street Signage	Unable to vote for like or dislike, only asked to vote on options. Due to lack of visual presentation inside focus areas?
Transportation	Light rail or bus rapid transit system into area
Transportation	Like how Saipan has done its trails
Transportation	Trolley concept is ok, but depends who is running it. GovGuam should not operate it
Transportation	A trolley system should be run by a private company, not GovGuam
Transportation	Like idea of parking garages
Transportation	Trolley - will the current traffic be alleviated/reduced with the trolley implementation? Will adequate trolley/shelters be provided?
Transportation	Why no voting on the trails?
Transportation	Parking garages - not economically feasible; must be maintained properly to maximize overall benefit; instead of multiple garages, have a singular parking area to promote the trolley plan (e.g., Mayor's office, Paseo)
Waterfront Alternative	Love the idea of waterfront walk. The one in Saipan is terrific. I enjoy riding a bike along their walk and reading info about local issues and plants
Wayfinding Signage/Street Furniture	Family1 gateway monument is good, but it is too big to put one on each side of the street
Wayfinding Signage/Street Furniture	Family 1 lighting is nice, but it doesn't look typhoon-proof
Wayfinding Signage/Street Furniture	Love Family 2 traditional latte signage, but prefer Family 1 bollard, Family 3 trash bin, bike rack, and planters, and Family 4 tree grate
Wayfinding Signage/Street Furniture	Will monument signage be lit at night? Could use solar panels embedded in top. Lighting should be up lighting from the ground
Wayfinding Signage/Street Furniture	Family 1 - bollards will get algae on the bottom of them
Wayfinding Signage/Street Furniture	Like all the bike racks
Wayfinding Signage/Street Furniture	Tree grates - need to use appropriate trees that won't overtake the sidewalk with their trunks
Wayfinding Signage/Street Furniture	Need to provide lots of good description for each alternative on the website for online voting. People need to know which alternatives will tear down existing buildings before they vote
Wayfinding Signage/Street Furniture	Like well lights for up lighting trees, etc.

Category	Comment
Wayfinding Signage/Street Furniture	Would like a more square light head on Family 2
Wayfinding Signage/Street Furniture	Like the bollard for Alternative 1 and other aspects, but not the gateway monument
Wayfinding Signage/Street Furniture	Family 2, don't like bench - like bench design from Family 3, which is better for rain. Question - how will you deter homeless from sleeping on benches? Add a cement piece in center of benches?
Wayfinding Signage/Street Furniture	Add a bumpout in middle of benches to prevent people from sleeping on them
Wayfinding Signage/Street Furniture	Family 2 - light up latte stones so gateway/Barrio names light up - use solar panels embedded in top of latte
Wayfinding Signage/Street Furniture	Need a bench with a back
Wayfinding Signage/Street Furniture	Likes: Family 1 - bench, district kiosk, tree grate, planter, trash bin; Family 2 – gateway monument, bench, bollard, trash bin; Family 3 – planter, bench; Family 4 – lighting

Comments Received on Project Website:

Category	Comment
Adelup Alternative 1	Parking for employees will be worse than what it already is. Especially if there is a round table meeting or conference of some sort
Adelup Alternative 1	Another business incubator space like CHamoru Village?!
Adelup Alternative 1	Very low density for the area and does not take advantage of the location and view
Adelup Alternative 2	Cute but overdoing Adelup
Adelup Alternative 2	Is it really a wise idea to keep building along the shoreline?
Adelup Alternative 2	Good use of space - Convention Center a great idea. Existing buildings have exceeded life span and must be demolished. Also, this is an area where the Mayor's office could be located
Adelup Alternative 3	Kinda simple
Adelup Alternative 3	Low cost to build, low cost to maintain. Least risky. Good idea. Pros outweigh the Cons
Adelup Alternative 3	Green space is good

Category	Comment
Adelup Alternative 3	Love the idea for sports facilities ONLY if upkeep and maintenance is also factored into the budget. Can't count how many GovGuam driven facilities have let us down over and over again
Barrio Boundaries	It distinguishes old landmarks
City Park Alternative	Why only baseball fields? Rugby, Soccer and Football have had more participant count than baseball and softball for years.
City Park Alternative	While additional sporting areas are needed, soccer fields tend to be better for multi-purpose activities
City Park Alternative	These need labels. We cannot figure where this is and many others are hard to locate also. I cannot say if this is good or not because I do not know where it is which make my vote here inaccurate
City Park Alternative	About time
City Park Alternative	I can't picture this. Sorry
Cliff line Alternative	Should keep the cliff line simple
Cliff line Alternative	There is no explanation of where this is exactly...
Government Center Alternative 1	This area is great and the parking structure is great, but why not make the building much taller? We have dozens of agencies currently spending millions in rent money to private interests, when we could be using it to fund government buildings and ownership instead. Make it a 6-story building that can accommodate many government agencies
Government Center Alternative 1	I'd prefer using the historically significant building that is there already rather than removing the piece of history to build something to replace it
Government Center Alternative 1	Low density area
Government Center Alternative 2	Ditto to no. 39. The building that housed our first elected CHamoru Governor after 50 years of military and appointed governorship would be important to keep
Land Use Alternative 1	Hard to see
Land Use Alternative 1	Can't read legend
Land Use Alternative 1	They key is not legible, therefore this is not an accurate answer since I cannot read to agree or disagree
Land Use Alternative 2	Hard to see so dislike
Land Use Alternative 2	Same as before

Category	Comment
Land Use Alternative 2	Fitto to no. 55, illegible key
Mixed Use	Mimics the cities in CONUS
Parking Garages	Why do we need so many parking garages???
Parking Garages	They will need to be kept so that patrons are safe
Parking Garages	Is this the only area where parking garages or car parks will be located?
Paseo Alternative 1	Looks clean and modern
Paseo Alternative 1	Will parking be sufficient for the expected surge in traffic?
Paseo Alternative 1	Where you gonna put the softball players?
Paseo Alternative 2	Waste of ocean front for a parking lot
Paseo Alternative 2	I think I like this much more than the previous plan
Paseo Alternative 2	Parking might be very needed. Would need security to be safe
Paseo Alternative 2	Parking structure blocks prime views. Bad. Bad. Bad.
Paseo Alternative 2	Even better!
Paseo Alternative 2	Looks nice too
Riverwalk Alternative 1	Really?
Riverwalk Alternative 1	An important part of Hagåtña 's river's charm and cultural significance is that it is not heavily built up
Riverwalk Alternative 1	Not clear
Riverwalk Alternative 2	Will the amphitheater be a government building? Under the Mayor or GovGuam?
Riverwalk Alternative 2	YES YES YES
Riverwalk Alternative 2	More continued green space is important to keep. Community activities in the area are performed

Category	Comment
Riverwalk Alternative 2	Does government have to purchase amphitheater area?
Street Signage	Lighted and clear
Street Signage	Sign C, just screams "Graffiti me"
Street Signage	Would prefer natural material
Street Signage	Enough with the latte stone. We get it. We're from Guam
Street Signage	More traditional and distinguishes from Latte. Do not overuse Latte symbol. Loses its charm
Transportation	Heck yes
Wayfinding Signage/Street Furniture	Family 1: Too modernistic
Wayfinding Signage/Street Furniture	Family 1: Very modern and up to date
Wayfinding Signage/Street Furniture	Family 1: I would need to see the actual project to make a more accurate judgement
Wayfinding Signage/Street Furniture	Family 1: I like the modern latte but everything else looks too generic, like it was just taken out of a catalog
Wayfinding Signage/Street Furniture	Family 1: I like the idea of latte but not the circle in the middle or the color scheme
Wayfinding Signage/Street Furniture	Family 1: I like the following: bench design, trash bins, tree gate, and bollard
Wayfinding Signage/Street Furniture	Family 1: Too bulky, however, like the interpretive panel and the ball shape bollards
Wayfinding Signage/Street Furniture	Family 1: Latte shouldn't be used for trash bins!
Wayfinding Signage/Street Furniture	Family 1: Industrial looking
Wayfinding Signage/Street Furniture	Family 2: Not indigenous enough
Wayfinding Signage/Street Furniture	Family 2: Not quite as nice as modern
Wayfinding Signage/Street Furniture	Family 2: Traditional latte is ok but everything else looks like it came out of a catalog...no real design so am voting dislike very much
Wayfinding Signage/Street Furniture	Family 2: I like the following: gateway monument, district kiosk, and lighting

Category	Comment
Wayfinding Signage/Street Furniture	Family 2: I think the sideways text will be difficult to read and I don't like purple
Wayfinding Signage/Street Furniture	Family 2: Overall very nice. Although benches should be concrete, should also provide benches with backs that could withstand Guam's weather conditions
Wayfinding Signage/Street Furniture	Family 3: Not recognizable as native
Wayfinding Signage/Street Furniture	Family 3: Too simple
Wayfinding Signage/Street Furniture	Family 3: This looks like it came out of one of those catalogs where you order plaques
Wayfinding Signage/Street Furniture	Family 3: The latte is unique and something to be very proud of, the stylized version is too abstracted. It completely loses its engineering principles.
Wayfinding Signage/Street Furniture	Family 4: Not indigenous enough
Wayfinding Signage/Street Furniture	Family 4: The benches, bins, racks, etc. look nice however the main piece not so much
Wayfinding Signage/Street Furniture	Family 4: Looks like a plaque, nothing really unique
Wayfinding Signage/Street Furniture	Family 5: Too modern and not recognizable as indigenous
Wayfinding Signage/Street Furniture	Family 5: Really off the shelf, should not even be considered ... what happened to more natural materials instead of all concrete and fiberglass
West Shoreline	Not sure what/where this would go
West Shoreline	I want the coast to be open, not developed

Public Workshop #2

The purpose of the workshop was to present elements of the draft Master Plan and associated documents to the public and get their input. This included large format displays of maps and elements of the Master Plan and graphics, and a looping video flythrough of a future vision for Hagåtña with the projects from the Master Plan shown as they could be built. The video flythrough provided a detailed rendered vision of several key projects and locations in Hagåtña such as the Riverwalk, Hagåtña Government Complex, and enhanced Marina.

Publicity and Noticing

The workshop was advertised through a variety of methods. A 30-second radio ad was aired a total of 60 times on 194 FM and / or ISLA 63 AM. Newspaper ads were printed in PDN and The Post newspapers, as well as flyer inserts that were printed with PDN newspapers. A television news segment was aired the Monday before the open house on KUAM News Extra. The Governor’s Office Communications Director posted to GovGuam social media accounts. The workshop was also advertised on the project website www.hagatnamasterplan.com. E-mail invitations were sent to all stakeholders that were interviewed throughout the Master Plan process or members of the public who had participated in the Hagåtña Master Plan’s previous outreach activities and provided their e-mail address at the previous workshops or through the project website. E-mail invitations were also sent out to relevant GovGuam agencies and Directors who have been involved in the process.

Open House Format

Approximately 35 community members attended the open house, which was organized as a series of information stations. Attendees were encouraged to visit these stations where project team members were available to answer questions and discuss the project. Attendees were given a project informational fact-sheet brochure and a comment card to provide input on the various elements of the Hagåtña Master Plan that were presented at the stations.

Welcome Table

This station included sign-in sheets, an informational fact-sheet brochure, and a comment card to provide input. Attendees were also asked to identify the general location where they live on a map. This information was used to gauge where attendees live and if there were any particular areas that were more heavily represented at the workshop. Members of the project team were available to explain the open house layout.

Focus Area Stations

As part of the public workshop, three focus areas were identified to present key areas of growth identified in the Master Plan. The three focus areas were for Downtown, the Marina and Paseo, and the Riverwalk.



The Downtown focus area looks at the future Government Center Civic Complex that will be home to several Government of Guam agencies and departments and centers around Plaza de España and the restoration of the historic Governor’s Palacio. This includes the development of four office complex buildings, a parking garage, a bus and trolley station, a community garden, and a pedestrian bridge that goes over Marine Corps Drive to safely connect Skinner Plaza and CHamoru Village.

The Marina and Paseo focus area looks at the potential for enhancing existing facilities at CHamoru Village and the Paseo de Susana and Marina, including constructing a parking garage, adding additional boat slips at the marina, and relocating the existing wastewater facility to reclaim the land for a boardwalk and potential cruise port.

The Riverwalk focus area proposes to rehabilitate the Agaña River and establish a vibrant activity corridor for shopping and entertainment. Proposed features include a hotel, an open-air market, an amphitheater, connections to Central Park and increased commercial activity.

Pedestrian Amenities

Several of the roads within Hagåtña have been identified as lacking safe and accessible pedestrian amenities. Key locations throughout Hagåtña were identified for future enhancements to support pedestrian accessibility and safety through features such as wider sidewalks, crosswalks, improved lighting, benches, waste receptacles, landscaped areas for visual and buffer purposes, and wayfinding and signage. These pedestrian amenities would not just be for roads, but would also be utilized in areas such as the Riverwalk.

Pedestrian Amenities



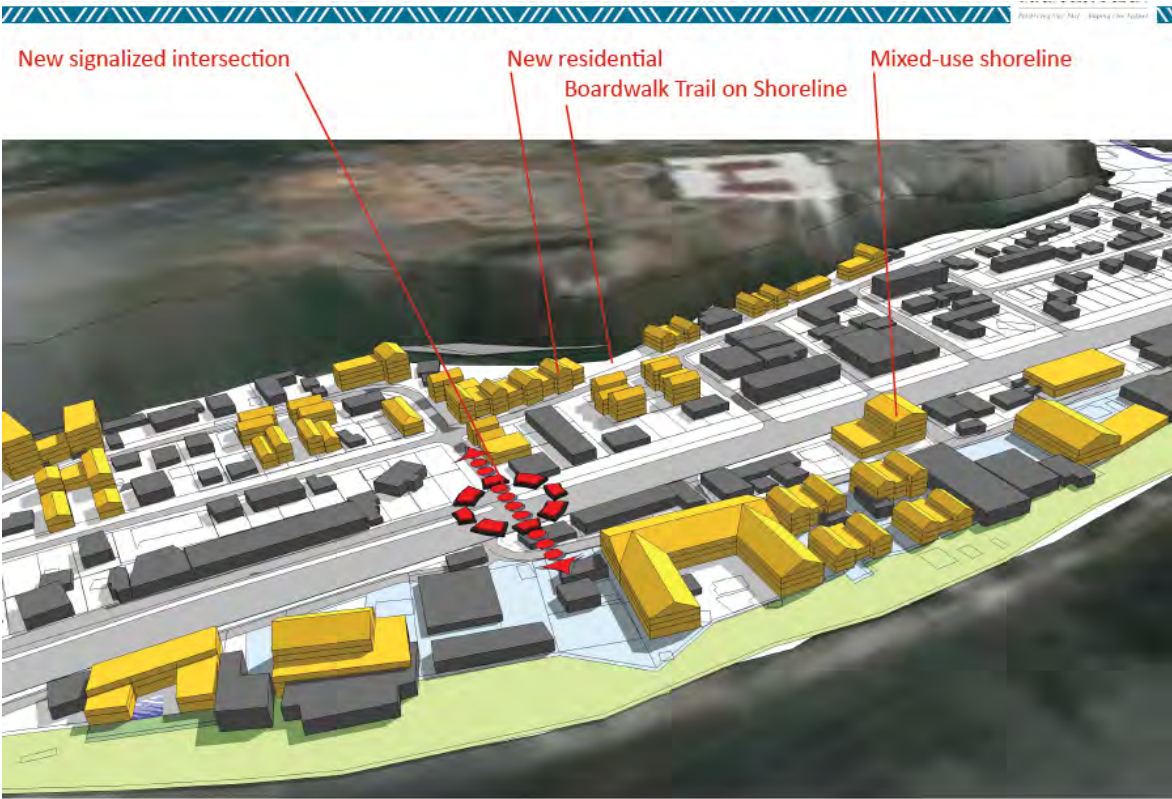
B Public Bench



C Waste Receptacles

Survey Results from Previous Workshop

Comments and input were taken from the first set of public workshops to identify the preferred alternatives for many of the options that were presented. Among these were the proposed Barrio boundaries, proposed trail locations, future land use map layout, proposed transit and trolley route map, location for future parking garages, and a design concept for the western Hagåtña shoreline area



This image represents a concept of what could be developed in this area under the Master Plan Update. Actual development on private property will be up to each property owner, and could include no change to existing uses.

High Density Residential

Existing Structures

Public Comments




Comments

Your comments are VERY IMPORTANT to the development of the Hagåtña Master Plan.

Please return this comment form to the registration table or to a project representative.

There were 13 comments received at the workshop. The following is a verbatim listing of all the comments received.

Public Workshop #2 Comments:

Comment
Because of old plans and zoning (legal zoning based on 1966 laws), Legislature funded I-Tanota Land Use Plans and Zoning in 1990 to update plans. After over 100 public meetings and 7 years of planning, Guam made I-Tanota law in 1998. It covered many of the changes in the new Hagåtña plans. But after 1-2 months of implementation, new senators withdrew support for plan and Guam reverted to 1966 zoning! Can you avoid such political impacts that prevent plans from working?
Overall plans look amazing and well thought out. Good Job!
Concern over sea level rise and more destructive storm waves due to climate change. Need to zone and regulate development and structures to allow for increased risks.
Will GovGuam develop infrastructure especially for water, sewers and storm drainage to be in place to match plans and lead developers to conform to the plan? Existing Hagåtña street drainage violates water quality laws.
West O'Brien Drive: Flooding on road behind U.S. District Court and cliff side. Flood drains at 4-way intersection needs to be assessed and most likely built anew. Will West O'Brien have sidewalks?
Business Area - Garage type parking buildings.
Latte Lighthouse - make symmetrical in size and shape to the Latte of Freedom.
Commemorative marker for old DOA building for its history in civil rights in Guam.
Restore the old river system.
Sorry, but this is bull****. Ripping off what little natural beauty is left of river and shoreline for more hotels and concrete, and come on, a Carnival cruise ship in the bay overlooking one of our beloved local surf spots. Who is this master plan truly set to convenience?
Clean up Agaña. Junk cars that are infested with rats, termites, dilapidated buildings and insects. Buildings (new applications) must observe setback from property lines and easements, not store junk and debris near neighbors' property lines. New building permits to observe setback for easements and property lines. Heavy fine with possibility of losing license if deliberately abandons junk on neighboring lot. Owner of debris should be fined and must remove his junk. Clean up all debris, junk from all unoccupied lots.
The polluter or PWC responsibility? Zoning: Strict observance (new applicants) of zoning law. (A) Commercial, homes, condos and apartments are okay. (B) Lots only for display, not heavy manufacturing, storage of pollutants and flammable substances. Used oil from draining cars just allowed to pour or acids from batteries. Petroleum, noise pollution, air pollution. M-1 light industrial (No manufacturing, gas stations.) (C) M-2 not allowed. Agaña does not need dilapidated and infested buildings or cars, or any discarded and unwanted items. (D) New applications must observe setback requirement for safety of all involved. (E) Containers must observe all safety and setback requirements.
One Way Streets: In heavily congested central roads (near center of Agaña, legislature, museum, post office) need efficient traffic flow. Some streets have both ways allowed for half of the block and the other half is one way. Need consistency for such short streets. Near Bank of Hawaii.



Executive Summary

Since its pre-war establishment, the capitol city of Hagåtña held the seat of government since the days of Spanish rule. Even after the island’s turnover to the United States in the early 1900s, Guam’s administration was conducted by the US Navy kept the central government functions within Hagåtña. Postwar and after the bombings that leveled the city as well as after the local civilian and elected governors took leadership, all three branches of government were still located within Hagåtña. Residential and commercial activity flourished in and around the central capitol. Since that time and over the decades to the present, the local government, residents and businesses slowly began to relocate and establish themselves in other areas farther away leaving Hagåtña and its true function as a capital a fading memory.

In its recent state, one would be hard pressed to imagine the area as the capitol of the island. The restoration and redevelopment of Hagåtña was contemplated by the 24th Guam Legislature and signed into law as P.L. 24-110 in 1997. With the passage of the Public Law, the Legislature saw fit to enable a body whose primary function would be the revitalization of the capitol with the idea that doing so would re-energize a sense of pride in the local populace, attract new investment and expand economic and social opportunity. Despite the best intentions of the 24th Guam Legislature, actual progress in this direction was sporadic and frequently fell idle in such a fashion that the notion of revitalization was all but forgotten.

Aspirations of revitalizing the city of Hagåtña has not only been revived, it has taken true shape in an overall plan that is feasible, collaborative, and most importantly, implementable with a parallel notion of centralizing government functions into new structures and seeking financial efficiencies and savings. Taking the lead in restoration and redevelopment of Hagåtña, to its intended and primary function as a

capitol proper, logically begins with and calls for the centralizing of the local government’s (GovGuam) entities. With Legislative and Judiciary branches still present within Hagåtña, only the various functions of the Executive branch remain in the city. This memo analyzes and aims to address the office and operational spaces needed to relocate, maintain, and improve the Executive branch’s various administrative agency functions within the capitol city of Hagåtña. This memo will also discuss these items in terms of minimum and maximum requirements for a number of GovGuam agencies, as well as discuss these potential needs in terms of the pending US Military Buildup and respective GovGuam requirements. These agencies include: The Office of the Governor (OOG), Bureau of Budget Management and Research (BBMR), Bureau of Statistics and Plans (BSP), Department of Land Management (DLM) and CHamoru Land Trust Commission (CLTC), Department of Administration (DOA), Department of Labor (DOL), Department of Revenue and Taxation (DRT), Guam Economic Development Authority (GEDA), Mayor’s Council of Guam (MCOG), and the Office of the Attorney General (OAG).

Facility Scoping Overview

Project Description

The military buildup and the Hagåtña Master Plan provide catalysts for the potential consolidation of Government of Guam (GovGuam) agencies and services in Hagåtña. Relocation and consolidation could result in significant operational and cost efficiencies, as well as better client service. Hagåtña would also benefit from the additional economic activity. Not only would local businesses have more potential customers, but increased property values would likely lead to additional private investment, property improvements, revenues and employment. In this way, the capital investments necessary to relocate and consolidate GovGuam agencies (buildings, parking, infrastructure, etc.), can be leveraged to create private investment, at least partially subsidizing the public investment.

Initial Methodology

Based on guidance from HRRRA, as well as input received at the Alternative Plans Charrette, several GovGuam departments and offices were identified for evaluation, along with their level of priority for relocation to the Capital District. These candidates included the following:

- Bureau of Budget and Management Research (BBMR) – Priority 1
- Bureau of Statistics and Plans (BSP) – Priority 1
- Department of Land Management (DLM)¹ – Priority 3
- Department of Administration (DOA) – Priority 1
- Department of Labor (DOL)² – Priority 2
- Department of Revenue and Taxation (DRT) – Priority 2
- Guam Economic Development Authority (GEDA) – Priority 3
- Office of the Governor (and supporting staff) – Priority 1
- Mayor’s Council of Guam (MCoG) – Priority 3
- Office of the Attorney General / Department of Law (OAG) – Priority 2

Using this list, Matrix attempted to develop facility space needs assessments, based on total staffing identified in the FY2015 Budget Act and 2014 4th Quarter Guam Agency Staffing Patterns provided by GovGuam for each agency, and the potential staffing (pursuant to the 2014 SEIS and military buildup impacts) and interviews with GovGuam staff. Matrix attempted to obtain existing square footage for candidate agencies and departments, however, of the ten candidate agencies, only four agencies provided the floor plans or existing square footage information (DLM, DOA, DRT, and GEDA). In addition, the DOA data was only for one facility and was deemed incomplete. Due to this, existing agency square footage calculations were not used as a basis for the future space needs assessment, and an alternative methodology was used.

¹ DLM was originally included in this facility scoping exercise, but there is a new public building already planned for Land Services (DLM, CLTC, and ALC), so it is unclear whether or not they will be included in the relocation.

Alternative Methodology for Facility Standards

In light of the lack of floor area and use data for all candidate agencies, average space per occupant standards identified by the International Facility Management Association (IFMA) were used. Estimates based on these ratios are appropriate for developing alternative land use plans at a master plan scale. More detailed analysis will be required for detailed design and/or to create valid cost estimates.

Facility Standards

Typically, square footage needs vary by employee position level, by type of industry and of course, by the type work being performed. According to the 2010 IFMA’s research report #34 entitled “Space and Project Management Benchmarks,” there are four “levels” of interior space. These include the interior gross area, the plannable gross area, the plannable area, and the assignable area. For the purposes of the facility scoping exercise, the plannable area and assignable area “levels” are most applicable.

- **Interior gross area** includes the portion of the floor(s) that is totally enclosed within the dominant portion. Interior gross area excludes exterior walls and interior parking space.
- **Plannable gross area** can be used for space planning. It is the portion of a floor that is totally enclosed within the interior face of perimeter encroachments at the floor plane and where there are no perimeter encroachments enclosed at the inside finished surface of the exterior walls. Examples of perimeter encroachments include convectors and heating units.
- **Plannable area** is derived by subtracting primary circulation, major vertical penetrations, void areas and service areas from plannable gross area. Plannable area can also be used for space planning.
- **Assignable area** is the portion of the plannable area on a floor that can be assigned to occupant groups or specific functions. To reach assignable area, one would subtract secondary circulation (such as interior access hallways), restricted areas, and occupant void areas from a plannable area “level” measurement. This is most commonly associated with a specific person’s “office space”.

² DOL was originally included in this facility scoping exercise, but there is a new public building already planned for DOL, so it is unclear whether or not they will be included in the relocation.

Space per Occupant

Space per occupant is a constantly changing measurement and has not been accurately standardized. Interior gross and plannable gross areas account for all spaces in an office (including areas not utilized by employees); however, plannable and assignable areas align more closely to the “usable amount” of office space. The table below details “Space and Project Management Benchmarks” survey results for square feet (sf) per occupant (by percentile), with mean averages for all.

Space and Project Management Benchmarks

Survey Percentile	Interior Gross Area	Plannable Gross Area	Plannable Area	Assignable Area
99	1,291 sf	1,271 sf	1,172 sf	999 sf
90	660 sf	637 sf	529 sf	498 sf
75	481 sf	458 sf	382 sf	354 sf
50	356 sf	345 sf	290 sf	263 sf
25	267 sf	251 sf	202 sf	183 sf
10	183 sf	166 sf	131 sf	111 sf
5	111 sf	107 sf	92 sf	61 sf
Mean	404 sf	386 sf	323 sf	295 sf

Source: Space and Project Management Report #34, Page 26, International Facility Management Association, 2010

Data from the past 20 years shows a downward trend in space for most position levels. There are several drivers for the change. These include cost, increasing levels of staff per agency or organization using the same amount of area, reduction of real estate and home or remote offices, new technology such as flat screens which require less desk space, and the movement to non-dedicated “group” workspace. The table below displays office sizes (in sf) by type of worker over the past 20 years. These figures only include space relevant to office or “assignable areas” and do not include common areas.

Office Size by Type of Worker

Year	Executive Mgmt.	Senior Mgmt.	Middle Mgmt.	Senior Profess.	Profess. Tech.	Senior Clerical	General Clerical	Call Center
2010	246 sf	169 sf	120 sf	95 sf	75 sf	81 sf	69 sf	52 sf
2007	241 sf	170 sf	121 sf	98 sf	79 sf	78 sf	68 sf	51 sf
2002	239 sf	169 sf	126 sf	97 sf	79 sf	77 sf	66 sf	39 sf
1997	280 sf	193 sf	142 sf	114 sf	92 sf	84 sf	73 sf	-
1994	289 sf	200 sf	151 sf	115 sf	90 sf	81 sf	69 sf	-
Mean	260 sf	180 sf	132 sf	104 sf	83 sf	80 sf	69 sf	47 sf

Source: Space and Project Management Report #34, Page 33, International Facility Management Association, 2010

In 2010, staff in management positions had an average of 180 square feet of office space, professionals had an average of 85 square feet of office space, clerical staff had an average of 75 square feet of office space and call center staff had roughly 52 square feet of office space. Using these averages of the square footages, (with the exception of call center staff numbers) will allow for a conservative “mean standard” for calculating the square footage needed for a total number of full-time employees (FTE’s). A liberal “mean standard” would use the largest average size per occupant, or 180 square feet for each clerical and professional employee, and 260 square feet (the largest size) for each management employee.

Conference / Training and Support Space

According to the IFMA, while individual space continues to shrink, collaborative and support space has increased. The tables below show the amount of space allocated to conference / training and support space (per occupant) by type of facility use.

Conference / Training Space per Occupant

Facility Use	Team Space	Small Conference	Med. / Large Conference	Training Rooms
Headquarter	2.56 sf	4.00 sf	5.55 sf	4.58 sf
Mixed Use	2.56 sf	4.92 sf	6.60 sf	4.06 sf
Regional	2.25 sf	4.37 sf	7.09 sf	4.61 sf
Manufacture	3.12 sf	4.77 sf	4.81 sf	4.38 sf
Research	5.21 sf	3.16 sf	6.97 sf	3.53 sf
Education	3.63 sf	1.21 sf	3.89 sf	4.60 sf
Multi-Use	3.17 sf	3.00 sf	6.18 sf	2.94 sf
Call Center	5.16 sf	1.32 sf	2.12 sf	2.60 sf
Mean	3.46 sf	3.34 sf	5.40 sf	3.91 sf

Source: Space and Project Management Report #34, Page 38, International Facility Management Association, 2010

Support Space per Occupant

Facility Use	Computer Room	Storage	Work Rooms	Data Center	Files
Headquarter	4.61 sf	6.85 sf	4.92 sf	6.29 sf	5.32 sf
Mixed Use	5.82 sf	9.96 sf	3.62 sf	5.93 sf	4.53 sf
Regional	4.92 sf	5.89 sf	5.32 sf	8.13 sf	6.26 sf
Manufacture	5.59 sf	12.88 sf	2.68 sf	3.78 sf	2.79 sf
Research	9.41 sf	15.05 sf	2.53 sf	4.77 sf	5.30 sf
Education	4.53 sf	4.77 sf	2.13 sf	2.44 sf	2.37 sf
Multi-Use	4.85 sf	13.85 sf	6.20 sf	3.21 sf	6.73 sf
Call Center	2.91 sf	1.48 sf	1.29 sf	4.62 sf	1.70 sf
Mean	5.33 sf	8.84 sf	3.59 sf	4.90 sf	4.38 sf

Source: Space and Project Management Report #34, Page 39, International Facility Management Association, 2010

In 2010, on average per occupant, facilities had roughly 3.46 square feet of community team space, about 3.34 square feet of small conference space, 5.40 square feet of medium-large conference space, and about 3.91 square feet of training space. A total sum of 16.0 square feet per occupant for conference and training space is a reasonable assumption.

Additionally, in 2010, on average per occupant, facilities had roughly 5.33 square feet of computer rooms, 8.84 square feet of storage, 3.59 square feet of work rooms, 4.90 square feet of data centers, and 4.38 square feet of file space. It is unrealistic to use a “mean average” for these numbers considering that some of the facility uses require vast amounts of “common” space, such as manufacturing and research uses. A total sum of 27.0 square feet per occupant for support space is a reasonable assumption.

Larger Agencies

For any agencies with more than 35 or 40 staff, it can be anticipated that these conference/training and support space numbers would need to be larger in size, due to higher employee counts and the need for additional computer technology, printers / scanners, large scale conference rooms, and large-scale training facilities. Using a standard of double the amount of conference and training space for these larger agencies would equate to 32 square feet per occupant for conference and training space, and 54 square feet per occupant of support space for any agencies with more than 35 staff members.

Common Space

An estimate of 30% of the overall “plannable area” office space is a good assumption to use in the calculations for common space facility scoping (to include hallways, mechanical / electrical rooms, bathrooms, elevators / stairwells).

Vacant Space

It is not unusual for facilities to have blocks of unoccupied (common) space. Many facility managers would agree that it is a challenge to match up space needs to work population at any given time. Vacancy is unoccupied space available for usage, divided by plannable area. The 2010 IFMA report further defined unoccupied space as space which is not planned, and occurs by oversupply, or is swing space or space held in abeyance by individual departments. In general, the overall average vacancy rate has risen from 8% in 2007 to 13% in 2010.

Oversized Office Space

It is important to note that the calculations derived in this report are reflective of Matrix’s work and not solely reflective of the GovGuam agencies and departments’ calculations. For this reason, some of the square foot estimates may not be aligned with current architectural plans for new governmental buildings due to client preference and office sizing. Sizing preference and oversized management position offices are not accounted for in the following calculations.

Guam Governmental Center Relocation Summary

The table below identifies a summary of respective agency square footage needs, dependent on staffing levels and on facility assessment calculations using previously identified office space averages. Existing square footage is also identified as it was available, including provisions of support and conference space. The following agencies provided floor plans with dimensions or their existing square footage to the Matrix Team:

- DLM (Office space square footage provided by DLM in January 2015)
- DOA (Office space square footage and floor plans provided by DOA & GSA in January 2015)
It is assumed this is incomplete due to missing information for the GSA Warehouse in Piti and the Treasurer of Guam satellite office in Barrigada
- DRT (Office space floor plans and lease provided by DRT in January 2015)
- GEDA (Office space square footage, floor plan and lease provided by GEDA in December 2014)

The following agencies’ existing leased square footage was delineated in the Palacio Reconstruction and Site Feasibility Study completed in June 2015, and was used where existing square footage was not made available:

- MCoG
- OAG

All other existing square footage for agencies identified for potential relocation is incomplete due to data that is missing or outstanding. Agencies that do not have existing square footage identified in this memo include the following:

- BBMR (Part of Adelup)
- BSP (Part of Adelup)
- DOL
- Governor’s Office (Part of Adelup)

Guam Agency	Number of FTE Staff	Existing Square Feet (Total)	Square Feet Needed (min)	Square Feet Needed (max)	Square Feet Needed (Avg.)
BBMR	20	**	3,549	6,006	4,778
BSP	27	**	4,642	8,139	6,391
DLM / CLTC	55	27,449	12,772	19,643	16,208
DOA	124	30,547**	29,723	44,959	37,341
DOL	138	**	30,703	48,760	39,732
DRT	177	41,770	41,843	63,495	52,669
GEDA	35	10,793	6,994	11,187	9,091
Governor's Office	75	**	21,730	31,395	26,563
MCoG	15	9,954	2,568	4,453	3,511
OAG	139	25,000	31,147	48,690	39,919
TOTAL	805	**	185,671	286,727	236,203

* Expected to go into the planned Land Resources Building

** Incomplete due to missing information from GovGuam

Source: DLM; DOA; DRT; GEDA; Source: Palacio Reconstruction and Site Feasibility Study, GPT, 2015; FY2015 Budget Act and 2014 4th Quarter Guam Agency Staffing Patterns; Matrix Design Group, 2015.

Government of Guam Lease Expenditures for the Agencies Identified for Relocation

The table below identifies a summary of respective lease expenditures for Guam agencies identified for potential relocation to the Capital District in Hagåtña³. It is important to note that all staff members identified in the previous table may not be included within the leased square footage identified in the table below. As of 2015, GovGuam spends \$307,149 monthly and \$3,685,793 annually on leases, just for the 129,898 square feet of leased space needed for these 10 agencies. Execution of the governmental center relocation to Hagåtña could minimize GovGuam total lease expenditures by millions of dollars.

³ These leased square footage calculations and expenditure calculations were derived from the 2015 Guam Preservation Trust (GPT) Palacio Reconstruction and Site Feasibility Study, and may not identify the total number of square footage that the agency or department occupies.

Guam Agency	Leased Square Feet*	Estimated Monthly Lease Expenditures (2015)	Estimated Annual Lease Expenditures (2015)
BBMR	-	-	-
BSP	-	\$1,750	\$21,000
DLM / CLTC	18,337*	\$46,425	\$557,106
DOA	5,320*	\$39,577	\$474,924
DOL	8,850*	\$16,759	\$201,105
DRT	41,770	\$83,299	\$999,588
GEDA	10,793	\$29,056	\$348,672
Governor's Office	7,666*	\$3,333	\$40,000
MCoG	9,954	\$9,282	\$111,382
OAG	25,000*	\$77,668	\$932,016
TOTAL	129,898	\$307,149	\$3,685,793

*It is unclear if the leased square footage identified accounts for all existing agency square footage

Source: Palacio Reconstruction and Site Feasibility Study, GPT, 2015

Guam Governmental Center Relocation Detailed Calculations

Bureau of Budget Management and Research

The Bureau of Budget Management and Research (BBMR) currently supports 20 staff positions, two of which are considered at the managerial level. Out of the remaining 18 staff members, 16 are considered to be professional staff, while two are considered to be clerical staff. Below are calculations used to derive the amount of square feet needed for BBMR in Hagåtña.

Minimum Scenario

2 Management Positions x 180 sf (each) =	360 sf
16 Professional Positions x 85 sf (each) =	1,360 sf
2 Clerical Positions x 75 sf (each) =	150 sf
Conference / Training Space (per 20 occupants) x 16 sf =	320 sf
Support Space (per 20 occupants) x 27 sf =	540 sf
Subtotal	2,730 sf
30% Common Space Calculation =	819 sf
Total	3,549 sf

Maximum Scenario

2 Management Positions x 260 sf (each) =	520 sf
16 Professional Positions x 180 sf (each) =	2,880 sf
2 Clerical Positions x 180 sf (each) =	360 sf
Conference / Training space (per 20 occupants) x 16 sf =	320 sf
Support Space (per 20 occupants) x 27 sf =	540 sf
Subtotal	4,620 sf
30% common space calculation =	1,386 sf
Total	6,006 sf
Averaged Total	4,778 sf

Bureau of Statistics and Plans

The Bureau of Statistics and Plans (BSP) currently supports 27 staff positions, three of which are considered managerial. Out of the remaining 24 staff members, 17 are considered to be professional staff, while seven are considered to be clerical staff. Below are calculations used to derive the amount of square feet needed for BSP in the new governmental center in Hagåtña.

Minimum Scenario

3 Management Positions x 180 sf (each) =	440 sf
17 Professional Positions x 85 sf (each) =	1,445 sf
7 Clerical Positions x 75 sf (each) =	525 sf
Conference / Training space (per 27 occupants) x 16 sf =	432 sf
Support Space (per 27 occupants) x 27 sf =	729 sf
Subtotal	3,571 sf
30% common space calculation=	1,071 sf
Total	4,642 sf

Maximum Scenario

3 Management Positions x 260 sf (each) =	780 sf
17 Professional Positions x 180 sf (each) =	3,060 sf
7 Clerical Positions x 180 sf (each) =	1,260 sf
Conference / Training space (per 27 occupants) x 16 sf =	432 sf
Support Space (per 27 occupants) x 27 sf =	729 sf
Subtotal	6,261 sf
30% common space calculation =	1,878 sf
Total	8,139 sf
Averaged Total	6,391 sf

Department of Land Management / CHamoru Land Trust Commission

The Department of Land Management (DLM), which includes the CHamoru Land Trust Commission (CLTC), currently supports 55 staff positions, six of which are considered managerial. Out of the remaining 49 staff members, 34 are considered to be professional staff, while 15 are considered to be clerical staff. Below are calculations used to derive the amount of square feet needed for DLM in the new governmental center in Hagåtña (new Land Services Building).

Minimum Scenario

6 Management Positions x 180 sf (each) =	1,080 sf
34 Professional Positions x 85 sf (each) =	2,890 sf
15 Clerical Positions x 75 sf (each) =	1,125 sf
Conference / Training space (per 55 occupants) x 32 sf =	1,760 sf
Support Space (per 55 occupants) x 54 sf =	2,970 sf
Subtotal	9,825 sf
30% common space calculation =	2,948 sf
Total	12,772 sf

Maximum Scenario

6 Management Positions x 260 sf (each) =	1,560 sf
34 Professional Positions x 180 sf (each) =	6,120 sf
15 Clerical Positions x 180 sf (each) =	2,700 sf
Conference / Training space (per 55 occupants) x 32 sf =	1,760 sf
Support Space (per 55 occupants) x 54 sf =	2,970 sf
Subtotal	15,110 sf
30% common space calculation =	4,533 sf
Total	19,643 sf
Averaged Total	16,208 sf

Department of Administration

The Department of Administration (DOA) currently supports 124 staff positions, 20 of which are managerial. Out of the remaining 104 staff members, 80 are considered to be professional staff, while 24 are considered to be clerical staff. Below are calculations used to derive the amount of square feet needed for DOA in the new governmental center in Hagåtña. It should be noted that it is currently unclear how many of these DOA employees would be moved to Hagåtña.

Minimum Scenario

20 Management Positions x 180 sf (each) =	3,600 sf
80 Professional Positions x 85 sf (each) =	6,800 sf
24 Clerical Positions x 75 sf (each) =	1,800 sf
Conference/Training space (per 124 occupants) x 32 sf =	3,968 sf
Support Space (per 124 occupants) x 54 sf =	6,696 sf
Subtotal	22,864 sf
30% common space calculation =	6,859 sf
Total	29,723 sf

Maximum Scenario

20 Management Positions x 260 sf (each) =	5,200 sf
80 Professional Positions x 180 sf (each) =	14,400 sf
24 Clerical Positions x 180 sf (each) =	4,320 sf
Conference/Training space (per 124 occupants) x 32 sf =	3,968 sf
Support Space (per 124 occupants) x 54 sf =	6,696 sf
Subtotal	34,584 sf
30% common space calculation =	10,375 sf
Total	44,959 sf
Averaged Total	37,341 sf

Department of Labor

The Department of Labor (DOL) currently supports 138 staff positions, 10 of which are managerial. Out of the remaining 128 staff members, 35 are considered to be professional staff, while 93 are considered to be clerical staff (including 83 trainees). Below are calculations used to derive the amount of square feet needed for DOL in the new governmental center in Hagåtña. It should be noted that it is unclear how many of these DOL employees would be moved to Hagåtña.

Minimum Scenario

10 Management Positions x 180 sf (each) =	1,800 sf
35 Professional Positions x 85 sf (each) =	2,975 sf
93 Clerical Positions x 75 sf (each) =	6,975 sf
Conference / Training space (per 138 occupants) x 32 sf =	4,416 sf
Support Space (per 138 occupants) x 54 sf =	7,452 sf
Subtotal	23,618 sf
30% common space calculation =	7,085 sf
Total	30,703 sf

Maximum Scenario

10 Management Positions x 260 sf (each) =	2,600 sf
35 Professional Positions x 180 sf (each) =	6,300 sf
93 Clerical Positions x 180 sf (each) =	16,740 sf
Conference/Training space (per 138 occupants) x 32 sf =	4,416 sf
Support Space (per 138 occupants) x 54 sf =	7,452 sf
Subtotal	37,508 sf
30% common space calculation =	11,252 sf
Total	48,760 sf
Averaged Total	39,732 sf

Department of Revenue and Taxation

The Revenue and Taxation (DRT) currently supports 177 staff positions, 22 of which are managerial. Out of the remaining 155 staff members, 138 are considered to be professional staff, while 17 are considered to be clerical staff. Below are calculations used to derive the amount of square feet needed for DRT in the new governmental center in Hagåtña.

Minimum Scenario

22 Management Positions x 180 sf (each) =	3,960 sf
138 Professional Positions x 85 sf (each) =	11,730 sf
17 Clerical Positions x 75 sf (each) =	1,275 sf
Conference/Training space (per 177 occupants) x 32 sf =	5,664 sf
Support Space (per 177 occupants) x 54 sf =	9,558 sf
Subtotal	32,187 sf
30% common space calculation =	9,656 sf
Total	41,843 sf

Maximum Scenario

22 Management Positions x 260 sf (each) =	5,720 sf
138 Professional Positions x 180 sf (each) =	24,840 sf
17 Clerical Positions x 180 sf (each) =	3,060 sf
Conference/Training space (per 177 occupants) x 32 sf =	5,664 sf
Support Space (per 177 occupants) x 54 sf =	9,558 sf
Subtotal	48,842 sf
30% common space calculation =	14,653 sf
Total	63,495 sf
Averaged Total	52,669 sf

It is anticipated that only the Director’s Office will move to the new governmental center in Hagåtña. Within the Director’s Office, there are four managerial staff, one professional staff, and two clerical staff.

Minimum Scenario

4 Management Positions x 180 sf (each) =	720 sf
1 Professional Positions x 85 sf (each) =	85 sf
2 Clerical Positions x 75 sf (each) =	150 sf
Conference/Training space (per 7 occupants) x 32 sf =	224 sf
Support Space (per 7 occupants) x 54 sf =	378 sf
Subtotal	1,557 sf
30% common space calculation =	467 sf
Total	2,024 sf

Maximum Scenario

4 Management Positions x 260 sf (each) =	1,040 sf
1 Professional Positions x 180 sf (each) =	180 sf
2 Clerical Positions x 180 sf (each) =	360 sf
Conference/Training space (per 7 occupants) x 32 sf =	224 sf
Support Space (per 7 occupants) x 54 sf =	378 sf
Subtotal	2,182 sf
30% common space calculation =	655 sf
Total	2,837 sf
Averaged Total	2,431 sf

Guam Economic Development Authority

The Guam Economic Development Authority (GEDA) currently supports 35 staff positions, 10 of which are managerial. Out of the remaining 25 staff members, 20 are considered to be professional staff, while five are considered to be clerical staff. Below are calculations used to derive the amount of square feet needed for GEDA in the new governmental center in Hagåtña.

Minimum Scenario

10 Management Positions x 180 sf (each) =	1,800 sf
20 Professional Positions x 85 sf (each) =	1,700 sf
5 Clerical Positions x 75 sf (each) =	375 sf
Conference / Training space (per 35 occupants) x 16 sf =	560 sf
Support Space (per 35 occupants) x 27 sf =	945 sf
Subtotal	5,380 sf
30% common space calculation =	1,614 sf
Total	6,994 sf

Maximum Scenario

10 Management Positions x 260 sf (each) =	2,600 sf
20 Professional Positions x 180 sf (each) =	3,600 sf
5 Clerical Positions x 180 sf (each) =	900 sf
Conference / Training space (per 35 occupants) x 16 sf =	560 sf
Support Space (per 35 occupants) x 27 sf =	945 sf
Subtotal	8,605 sf
30% common space calculation =	2,582 sf
Total	11,187 sf
Averaged Total	9,091 sf

Office of the Governor

The Office of the Governor currently supports 75 staff positions, four of which are managerial (including the Governor and Lieutenant Governor). Out of the remaining 71 staff members, 18 are considered to be professional staff, while 53 are considered to be clerical staff (all categorized as staff assistant). Below are calculations used to derive the amount of square feet needed for the Office of the Governor in the new governmental center in Hagåtña. Extra square footage has been added for the Governor and Lieutenant Governor's office space, as well as for executive conference and support space. It should be noted that there is potential for the reconstruction of the Governor's Palacio at Plaza de España.

Minimum Scenario

2 Management Positions x 180 sf (each) =	360 sf
2 Executive Positions x 1,000 sf =	2,000 sf
18 Professional Positions x 85 sf (each) =	1,530 sf
53 Clerical Positions x 75 sf (each) =	3,975 sf
Conference / Training space (per 75 occupants) x 32 sf =	2,400 sf
Legislative Conference space (per 2 legislators) x 1,200 sf =	2,400 sf
Support Space (per 75 occupants) x 54 sf =	4,050 sf
Subtotal	16,715 sf
30% common space calculation =	5,015 sf
Total	21,730 sf

Maximum Scenario

2 Management Positions x 260 sf (each) =	520 sf
2 Executive Positions x 1,000 sf =	2,000 sf
18 Professional Positions x 180 sf (each) =	3,240 sf
53 Clerical Positions x 180 sf (each) =	9,540 sf
Conference / Training space (per 75 occupants) x 32 sf =	2,400 sf
Legislative Conference space (per 2 legislators) x 1,200 sf =	2,400 sf
Support Space (per 75 occupants) x 54 sf =	4,050 sf
Subtotal	24,150 sf
30% common space calculation =	7,245 sf
Total	31,395 sf
Averaged Total	26,563 sf

It is important to note that within the 2015 Palacio Reconstruction and Site Feasibility Study, the reconstructed Palacio was estimated at about 12,000 square feet (two floors, 6,000 square feet each). The floor plans for the Palacio identified within the Palacio Reconstruction Feasibility Study include space to house the Governor, the Lieutenant Governor, the Chief of Staff, roughly 24-26 other staff members, as well as executive conference and support space. It is unclear if the floor plans identified within this study were large enough to accommodate all staff members within the Office of the Governor.

Source: Palacio Reconstruction and Site Feasibility Study, GPT, 2015

Mayor’s Council of Guam

The Mayor’s Council of Guam (MCoG) currently supports 15 staff positions (not counting the positions located in the respective villages and gymnasiums), one of which is managerial. Out of the remaining 14 staff members, 10 are considered to be professional staff, while four are considered to be clerical staff. Below are calculations used to derive the amount of square feet needed for MCoG in the new governmental center in Hagåtña.

Minimum Scenario

1 Management Positions x 180 sf (each) =	180 sf
10 Professional Positions x 85 sf (each) =	850 sf
4 Clerical Positions x 75 sf (each) =	300 sf
Conference / Training space (per 15 occupants) x 16 sf =	240 sf
Support Space (per 15 occupants) x 27 sf =	405 sf
Subtotal	1,975 sf
30% common space calculation =	593 sf
Total	2,568 sf

Maximum Scenario

1 Management Positions x 260 sf (each) =	260 sf
10 Professional Positions x 180 sf (each) =	1,800 sf
4 Clerical Positions x 180 sf (each) =	720 sf
Conference / Training space (per 35 occupants) x 16 sf =	240 sf
Support Space (per 35 occupants) x 27 sf =	405 sf
Subtotal	3,425 sf
30% common space calculation =	1,028 sf
Total	4,453 sf
Averaged Total	3,511 sf

Office of the Attorney General

The Office of the Attorney General (OAG) currently supports 139 staff positions, six of which are managerial (including the Attorney General and Assistant Attorney General). Out of the remaining 133 staff members, 95 are considered to be professional staff, while 38 are considered to be clerical staff. Below are calculations used to derive the amount of square feet needed for AG staff in the new governmental center in Hagåtña.

Minimum Scenario

6 Management Positions x 180 sf (each) =	1,080 sf
95 Professional Positions x 85 sf (each) =	8,075 sf
38 Clerical Positions x 75 sf (each) =	2,850 sf
Conference / Training space (per 139 occupants) x 32 sf =	4,448 sf
Support Space (per 139 occupants) x 54 sf =	7,506 sf
Subtotal	23,959 sf
30% common space calculation =	7,188 sf
Total	31,147 sf

Maximum Scenario

6 Management Positions x 260 sf (each) =	1,560 sf
95 Professional Positions x 180 sf (each) =	17,100 sf
38 Clerical Positions x 180 sf (each) =	6,840 sf
Conference/Training space (per 139 occupants) x 32 sf =	4,448 sf
Support Space (per 139 occupants) x 54 sf =	7,506 sf
Subtotal	37,454 sf
30% common space calculation =	11,236 sf
Total	48,690 sf
Averaged Total	39,919 sf

Military Buildup Scenario

The 2014 Draft Supplemental Environmental Impact Statement (SEIS), outlined impacts on Guam agency operations and staffing from the military buildup. Impacts were based on either change in population or new development. Of the Guam agencies / entities identified to relocate to the new governmental center in Hagåtña, only several were included in the SEIS as being impacted by the military buildup.

Additionally, comments were given by various Guam agencies on the SEIS projected impacts (which are available at oneguam.com). Comments from Guam agencies were also discussed during an Economic Advisory Committee (EAC) meeting held in July 2014. These comments included some additional assumed staffing needed in anticipation of the military buildup. For all agencies that the SEIS identified impacts on staffing levels for (due to the military buildup), the projected number of additional FTEs (by agency) are included in the following detailed calculations. The summary table below identifies square footage needs for each agency, dependent on additional staffing anticipated in conjunction with the military buildup. Space needs per anticipated additional FTE were calculated using an average space per occupant measurement derived in previous calculations.

Guam Agency	Number of FTE Staff	Existing Square Feet	Square Feet Needed (Avg)	Max Year Additional Staffing Needed – 2014 SEIS	Additional Staffing – GovGuam Comments on 2014 SEIS or July 2014 EAC	Square Feet Needed (Avg.) – Based on Additional Staffing for Military Buildup
BBMR	20	**	4,778	N/A	N/A	4,778
BSP	27	**	6,391	1 FTE	N/A	6,628
DLM*	55	27,449	16,208	2 FTEs	10 FTEs	19,155
DOA	124	30,547**	37,341	N/A	16 FTEs	42,159
DOL	138	**	39,732	11 FTEs	N/A	42,899
DRT	177	46,245	52,669	N/A	N/A	52,669
GEDA	35	13,001	9,091	N/A	N/A	9,091
Governor's Office	75	**	26,563	N/A	N/A	26,563
MCoG	15	**	3,511	N/A	N/A	3,511
Office of AG	139	**	39,919	N/A	N/A	39,919
TOTAL	805	**	236,203	14 FTEs	26 FTEs	247,372

* Expected to go into the planned Land Resources Building

** Incomplete due to missing information from GovGuam

Bureau of Statistics and Plans

According to the 2014 SEIS, impacts from the buildup on Guam's Coastal Management Program would be largest in 2021 at 16 additional permits (per year) and would decline to 5 additional permits per year by 2028. New staff required for monitoring and enforcement makes up a large portion of the combined total employment. The impact to staffing would be largest in 2021, with the need for an additional 0.9 FTEs, dropping to an additional 0.6 FTEs by 2028.

As a result of the military buildup action, BSP's Coastal Management Program would require an additional one (1) FTE. Dividing the number of employees (27) by the 6,391 sf (average) facility size needed (which was derived during previous calculations), space needed per employee averaged out to be 237 sf. With the additional need of one (1) FTE in conjunction with the buildup action, the new BSP facility size needed would be 6,628 sf total.

Source: Draft Supplemental Environmental Impact Statement for the Relocation of Marines from Okinawa to Guam, 2014

Department of Land Management

According to the 2014 SEIS, the impact on permitting operations would be greatest in 2019, when 113 additional permits are anticipated, declining to 14 additional permits per year by 2028. New staff required would be highest in 2019 at 1.7 additional FTEs, dropping to 1.4 FTEs by 2028. New staff would be primarily related to increased demands from land use commission hearings.

As a result of the military buildup action, DLM would require an additional two (2) permitting FTEs. Dividing the number of employees (55) by the 16,208 sf (average) facility size needed (which was derived during previous calculations), space needed per employee averaged out to be 295 sf. With the additional need of two (2) FTEs in conjunction with the buildup action, the new DLM facility size needed would be 16,797 sf total.

At the EAC meeting in July 2014, DLM stated current manpower is reaching stress levels to meet its mandate of serving as primary first tier reviewing and approving agent of all business licenses, contractor license clearance, clearing/grading permit applications, building and final occupancy permits and various intra-agency clearance procedures. DLM stated that they assume an addition of 10 new positions for a total of five years will be required. Dividing the number of current employees (55) by the 16,208 sf (average) facility size needed (which was derived during previous calculations), space needed per employee averaged out to be 295 sf. *Due to comments that came directly from DLM, and for the*

purposes of this memo, the total need assessment using 10 additional FTEs (not 2 FTEs) will be used. With the assumed need of ten (10) FTEs in conjunction with the buildup action, the new DLM facility size needed would be 19,155 sf total.

Source: Draft Supplemental Environmental Impact Statement for the Relocation of Marines from Okinawa to Guam, 2014; DLM Comments on the 2014 Draft SEIS.

Department of Administration

Impacts on DOA were not addressed in the 2014 SEIS. New staff levels required for DOA were also not included within agency comments on the SEIS. During the July 2014 EAC meeting, DOA identified the need for an additional 16 FTEs (2 Computer System Analyst II, 1 Messenger Clerk, 1 General Accounting Supervisor, 1 Management Analyst II, 2 Accountant II, 2 Accounting Technician II, 3 Treasury Cashiers, 2 Buyers II, 2 Personnel Specialist II).

As a result of the military buildup action, DOA assumes it would require an additional sixteen (16) FTEs. Dividing the number of employees (124) by the 37,341 sf (average) facility size needed (which was derived during previous calculations), space needed per employee averaged out to be 301 sf. With the additional need of sixteen (16) FTEs in conjunction with the buildup action, the new DOA facility size needed would be 42,159 sf total.

Source: DOA Comments on the 2014 Draft SEIS.

Department of Labor

According to the 2014 SEIS, impacts on DOL would be highest in 2018, with an additional 2,291 additional Alien Labor Processing and Certification Division (ALPCD) applications, requiring an additional eleven (11) FTEs to help process H-2B visa's and new labor-eligible workers. This impact drops to zero (0) additional FTEs beginning in 2026.

As a result of the military buildup action, DOL's ALPCD would require an additional eleven (11) FTEs. Dividing the number of employees (138) by the 39,732 sf (average) facility size needed (which was derived during previous calculations), space needed per employee averaged out to be 288 sf. With the additional need of eleven (11) FTEs in conjunction with the buildup action, the new DOL facility size needed would be 42,899 sf.

Source: Draft Supplemental Environmental Impact Statement for the Relocation of Marines from Okinawa to Guam, 2014

Legislative Office Space and Leases

Offices for the 15 Senators of the Guam Legislature are considered to be undersized and inappropriately disconnected from one another (located in various buildings). The Office of the Governor and the Guam Legislature have expressed interest in relocating the legislative offices to a consolidated location in central Hagåtña, either in the future renovated Congress Session Hall, or above the United States Post Office branch in Hagåtña, where several of the Senators are currently located.

While there are no set standards for legislative offices, square footage needs identified for the Governor and the Lieutenant Governor’s office spaces were estimated at 1,000 sf each, while support / conference spaces identified for the Governor and Lieutenant Governor were estimated at 1,200 sf each. For the purposes of this facility scoping exercise, an office space estimate of 900 sf and a support / conference space estimate of 700 sf per Senator will be used. An estimate of 700 sf support / conference space per Senator should be large enough to host legislative / senatorial staff members as needed. The estimates shown below do not account for the Council Chambers and the Session Hall.

15 Senatorial Positions x 900 sf (each) =	13,500 sf
Legislature Executive Director x 325 sf =	325 sf
Conference / Staffing space (per 15 Senators) x 700 sf =	10,500 sf
Subtotal	24,325 sf
30% common space calculation =	7,297.5 sf
Total	31,622.5 sf

Legislative Income from Leased Space

The Guam Legislature is currently the owner of the parking lot directly south of Plaza de España, adjacent to the Manuel F. Leon Guerrero Administration Building. This parking lot, which is commonly used by many visitors, residents and employees of GovGuam, is currently being leased to the Judiciary of Guam (JOG) to accommodate the parking needs of its patrons and employees at the Guam Judicial Center. The lot is suitable for roughly 106 vehicles (90 of which are for JOG use). A portion of this parking lot (approximately 15-16 vehicles) may be utilized by the Academy of our Lady of Guam, according to the Parking Lot Use License Agreement.

Source: Guam Legislature and Judiciary of Guam Parking Lot Use License Agreement, 2014

Although the Guam Legislature leases the building at 155 Hesler Place for \$504,000 for a two-year term (equivalent to \$21,000 per month), there is some level of income received back through land owned by the Legislature which is leased out to other parties.

Planned Land Resources Building (DLM)

As stated previously, plans are in place to construct a new GovGuam Land Resources building within Hagåtña. This new building would potentially house land services agencies such as DLM (all divisions), CLTC, and the Guam Ancestral Lands Commission (GALC).

If plans are approved, funding was acquired, and the new land resources building is constructed, it is assumed that DLM (as well as CLTC and GALC) would not be included in the Plaza de España governmental relocation efforts in Hagåtña. The new land resources building is planned to be constructed in central Hagåtña, along West O'Brien Drive on Block 24. The building's architectural drawings identify 5 levels (stories) with a three-story parking structure. The building's plans also detail a large public meeting hall on the first floor, plenty of support space, as well as significant common space and storage areas (including a land records repository on the second floor). The plan also includes a multi-story parking structure.

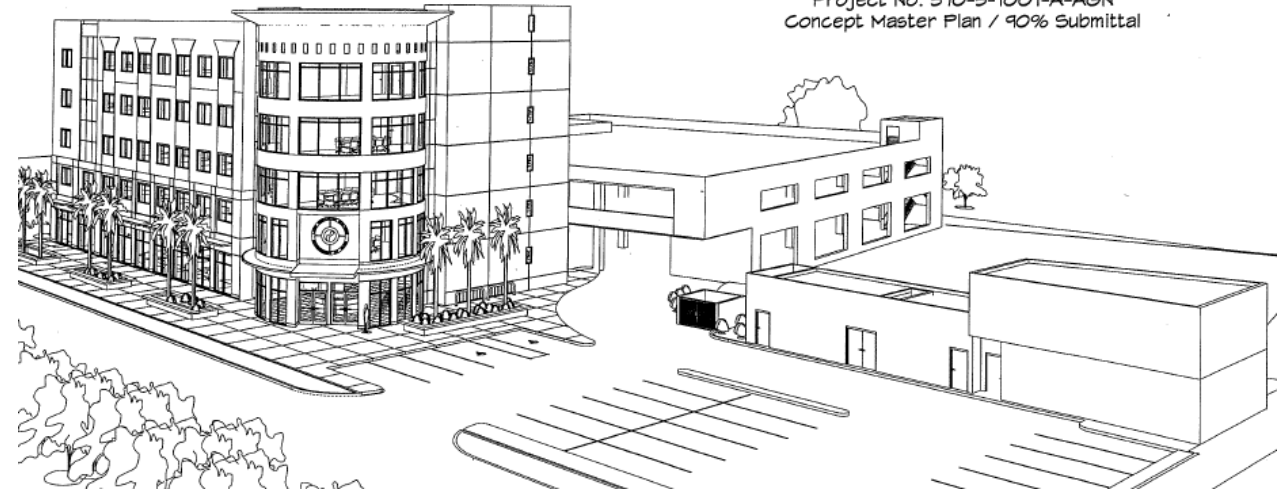
Broad calculations for the planned land resources building are provided below, which identify approximate total square footage for each floor, and approximate total square footage for the facility. It is important to note that these calculations may show square footage estimates that are different than the calculations identified in this facility scoping memo for DLM. According to DLM personnel, the building's size was projected to fit DLM, ALC and CLTC staffing levels at full capacity. As of 2015, DLM, ALC and CLTC are not staffed at full capacity, and only expect to utilize three of the five stories. The remaining two stories could be utilized by other GovGuam agencies that deal with similar land services, creating for a complimentary work environment for Guam land resource agencies, and minimizing additional spatial needs.

Land Resources Building Square Footage Estimates

- Level 1 – Estimated 9,920 sf (to host ALC, CLTC, and a public meeting hall)
- Level 2 – Estimated 9,920 sf (to host DLM Land Records Division, including a 2,832 sf repository)
- Level 3 – Estimated 9,920 sf (to host DLM Land Survey Division)
- Level 4 – Estimated 9,920 sf (to host DLM Land Planning Division, including an 806 sf storage room)
- Level 5 – Estimated 9,920 sf (to host DLM Land Administration, GIS Division, and 333 sf server room)
- Total – Estimated 49,600 sf for land resources building

GOVERNMENT OF GUAM LAND RESOURCES BUILDING

Project No. 370-5-1001-A-AGN
Concept Master Plan / 90% Submittal



Source: Government of Guam Land Resources Building Concept Master Plan 90% Submittal, DLM, 2009

2015 Palacio Reconstruction and Site Feasibility Study

The Palacio Reconstruction and Site Feasibility Study, which was completed in June 2015 for the Guam Preservation Trust (GPT), details a summary of office space leased out by GovGuam, and the total cost of expenditures for those leases. While this facility scoping memorandum only proposes the relocation of 10 or less Guam agencies/departments, the Palacio Reconstruction and Site Feasibility Study summarizes 44 Guam agencies or departments, most of which currently lease office space and several of which would be considered for relocation to Hagåtña. Out of the 44 total agencies listed, 36 agencies lease out a total area of 201,499 square feet of office space for \$4,382,146 annually. The image below is taken from the Palacio Reconstruction and Site Feasibility Study, and details each agency that is currently leasing space, how much square footage they are leasing, and how much those leases cost the government per year.

DEPARTMENT/AGENCY	TOTAL AREA LEASED (SQ. FT.)	FY 2015 LEASE COST
1 BUREAU OF BUDGET AND MANAGEMENT RESEARCH (BBMR)	-	\$21,000.00
2 BUREAU OF STATISTICS AND PLANS (BSP)	-	\$69,650.00
3 CIVIL SERVICE COMMISSION (CSC)	5,508	-
4 COMMISSION ON DECOLONIZATION (COD)	240	-
5 CONTRACTORS LICENSE BOARD (CLB) and GUAM BUILDING CODE COUNCIL (GBCC)	2,490	-
6 CUSTOMS AND QUARANTINE AGENCY (CQA)	66,452	-
7 DEPARTMENT OF ADMINISTRATION	5,320	\$474,924.00
8 DEPARTMENT OF AGRICULTURE (AGR)	28,375	-
9 DEPARTMENT OF CHAMORRO AFFAIRS (DCA)	22,711	\$209,113.00
10 DEPARTMENT OF CORRECTIONS (DOC)	-	-
11 DEPARTMENT OF EDUCATION (DOEL)	731,718	-
12 DEPARTMENT OF INTEGRATED SERVICES FOR INDIVIDUALS WITH DISABILITIES (DISID)	15,181	\$121,944.00
13 DEPARTMENT OF LABOR (DOL)	8,850	\$201,105.00
14 DEPARTMENT OF LAND MANAGEMENT (DLM)	18,337	\$557,106.00
15 GUAM BEHAVIORAL HEALTH AND WELLNESS CENTER (GBHWC)	60,904	\$156,600.00
16 DEPARTMENT OF MILITARY AFFAIRS (DMA)	-	-
17 DEPARTMENT OF PARKS AND RECREATION (DPR)	3,809	-
18 DEPARTMENT OF PUBLIC HEALTH AND SOCIAL SERVICES (DPHSS)	55,744	\$559,032.00
19 DEPARTMENT OF PUBLIC WORKS (DPW)	814,243	-
20 DEPARTMENT OF REVENUE AND TAXATION (DRT)	41,770	\$999,583.00
21 DEPARTMENT OF YOUTH AFFAIRS (DYA)	41,516	\$0.00
22 GUAM BOARD OF ACCOUNTANCY (GBOA)	1,050	-
23 GUAM COMMISSION FOR EDUCATOR CERTIFICATION (GCEC)	600	\$6,000.00
24 GUAM COMMUNITY COLLEGE (GCC)	-	-
25 GUAM COUNCIL ON THE ARTS AND HUMANITIES AGENCY (CAHA)	3,190	\$23,925.00
26 GUAM EDUCATIONAL TELECOMMUNICATIONS CORPORATION/PBS GUAM (GETC)	-	-
27 GUAM ELECTION COMMISSION (GEC)	4,302	\$134,250.00
28 GUAM ENVIRONMENTAL PROTECTION AGENCY (GEPA)	15,194	-
29 GUAM FIRE DEPARTMENT (GFD)	7,925	\$114,000.00
30 GUAM MEMORIAL HOSPITAL AUTHORITY (GMHA)	-	-
31 GUAM POLICE DEPARTMENT (GPD)	80,634	\$404,165.00
32 GUAM PUBLIC LIBRARY SYSTEMS (GPLS)	66,000	-
33 GUAM REGIONAL TRANSIT AUTHORITY (GRTA)	3,000	-
34 GUAM VISITORS BUREAU (GVB)	-	-
35 MAYORS' COUNCIL OF GUAM (MCOG)	9,954	\$111,382.00
36 OFFICE OF PUBLIC ACCOUNTABILITY (OPA)	5,086	\$115,943.00
37 OFFICE OF THE ATTORNEY GENERAL/DEPARTMENT OF LAW (OAG)	23,000	\$932,016.00
38 OFFICE OF THE CHIEF MEDICAL EXAMINER (CME)	1,982	-
39 OFFICE OF THE GOVERNOR (GOV)	7,866	\$40,000.00
40 PUBLIC DEFENDER SERVICES CORPORATION (PDSC)	12,000	\$271,200.00
41 REGISTRATION BOARD FOR PROFESSIONAL ENGINEERS, ARCHITECTS, AND LAND SURVEYORS (PEALS)	-	-
42 UNIFIED COURTS OF GUAM (JUDICIARY)	-	\$279,450.00
43 UNIVERSITY OF GUAM (UOG)	-	-
44 VETERANS AFFAIRS OFFICE (VAO)	15,222	-
TOTAL:	2,181,973	\$5,802,393.00
SUBTOTAL UNDER CONSIDERATION FOR RELOCATION TO HAGATNA:	201,499	\$4,382,146.00

Source: Palacio Reconstruction and Site Feasibility Study, GPT, 2015

Palacio Reconstruction Feasibility Study – Design Scheme Facility Calculations

The Palacio Reconstruction and Site Feasibility Study, completed and submitted on June 1, 2015 includes various alternative concepts or design schemes for the governmental relocation. Four schemes are provided, each with different proposed building layouts and massing. Detailed below are the square footage and parking calculations for each design scheme.

Scheme 1

Bldg. Number	No. of Floors	Gross Floor Area
Palacio	2	12,000 SF
Total	-	12,000 SF
Parking	No. of Floors	Parking Spaces
Surface A	-	42
Surface B	-	38
Total	-	80 Spaces

Scheme 2

Bldg. Number	No. of Floors	Gross Floor Area
B-1	2	36,760 SF
B-2	2	20,750 SF
B-3	2	20,750 SF
Palacio	2	12,000 SF
Total	-	90,260 SF
Parking	No. of Floors	Parking Spaces
Surface A	-	42
Surface B	-	19
Structure	3	329
Total	-	390 Spaces

Scheme 3

Bldg. Number	No. of Floors	Gross Floor Area
B-1	2	36,760 SF
B-2	2	20,750 SF
B-3	2	20,750 SF
B-4	2	23,250 SF
Palacio	2	12,000 SF
Total	-	113,780 SF
Parking	No. of Floors	Parking Spaces
Surface A	-	42
Surface B	-	19
Surface C	-	49
Surface D	-	17
Structure	3	329
Total	-	456 Spaces

Scheme 4

Bldg. Number	No. of Floors	Gross Floor Area
B-1	3	47,260 SF
B-2	2	20,750 SF
B-3	2	20,750 SF
B-4	2	22,600 SF
Palacio	2	12,000 SF
Total	-	123,360 SF
Parking	No. of Floors	Parking Spaces
Surface A	-	42
Surface B	-	90
Structure	3	329
Total	-	461 Spaces

Source: Palacio Reconstruction and Site Feasibility Study, GPT, 2015

Key Findings

- A total of **10 GovGuam agencies/departments** and **805 GovGuam employees** potentially planned for relocation to Hagåtña were analyzed in this facility scoping memorandum.
 - Assume DOL and DLM are going into their own buildings and are not included in the total employee relocation; then a total of **8 GovGuam agencies/departments** and **612 GovGuam employees** potentially planned for relocation.
 - Assume GEDA and MCoG remain in their current locations and are not included in the total employee relocation; then a total of **6 GovGuam agencies/departments** and **562 GovGuam employees** potentially planned for relocation.
 - Total number of employees potentially planned for relocation will help derive amount of parking and size of structure needed to support the new governmental center.
- A total of **236,203 square feet** (average) of space needed to accommodate all 805 GovGuam employees potentially planned for relocation to Hagåtña.
 - Assume DOL and DLM are going into their own buildings and are not included in the total employee relocation; then a total of **180,263 square feet** (average) of space is needed for potential agency/employee relocation of the remaining 8 agencies.
 - Assume GEDA and MCoG remain in their current locations and are not included in the total employee relocation; then a total of **167,661 square feet** (average) of space is needed for potential agency/employee relocation of the remaining 6 agencies.
- A total of **247,372 square feet** (average) of space needed to accommodate all 805 GovGuam agencies/employees potentially planned for relocation to Hagåtña, under the **Military Buildup scenario** which required additional staffing for several agencies (BSP, DLM, DOA, and DOL).
 - Assume DOL and DLM are going into their own buildings and are not included in the total employee relocation; then a total of **185,318 square feet** (average) of space is needed for potential agency/employee relocation under the **Military Buildup scenario**.
 - Assume GEDA and MCoG remain in their current locations and are not included in the total employee relocation; then a total of **172,716 square feet** (average) of space is needed for potential agency/employee relocation under the **Military Buildup scenario**.
- DOA, DOL, DRT, and the Office of the Attorney General each have over 100 employees and therefore require the largest spaces, respectively. It should be noted that it is unclear how many of these total agency employees would be moved to Hagåtña.
 - DOA, DOL, DRT and Attorney General have a combined employee workforce of 578.
 - Assume DOL (and DLM) are going into their own buildings, and those agencies' staff are not included in the total employee relocation count; then a total workforce from DOA, DRT and the Office of the Attorney General would be **440 staff** (72% of the total 612 employees in the remaining 8 agencies).
 - Assume GEDA and MCoG remain in their current locations, and those agencies' staff are not included in the total employee relocation count; then a total workforce from DOA, DRT and the Office of the Attorney General would be **440 staff** (78% of the total 562 employees in the remaining 6 agencies).
- As of 2015, GovGuam spends roughly **\$307,149 monthly** and **\$3,685,793 annually** on leases, for the **129,898 square feet** of leased office space for these 10 agencies (not including Legislature).
- According to the Palacio Reconstruction Feasibility Study, as of 2015, GovGuam spends roughly **\$4,382,146 annually** on leases, for the **201,499 square feet** of leased office space for 36 agencies.
- As of 2015, the current building where *I Liheslaturan Guahan* (Guam Legislature) resides is leased to the Legislature by a private owner for \$504,000 for a two-year term (equivalent to \$21,000 per month). The total amount spent on office leases for the remaining senators is \$568,560 for a two-year term (equivalent to \$23,690 per month). The total amount spent by the Guam Legislature for leases is \$1,072,560 for a two-year period (equivalent to \$44,690 per month).
- The Palacio Reconstruction and Site Feasibility Study's design schemes propose various structures within the Capital District to house agencies/departments for the governmental relocation. The schemes have various space provisions ranging from 12,000 square feet to 123,360 square feet. Several of these schemes would potentially provide for enough space for the agencies identified in this facility scoping memorandum (without DLM and DOL).

- DOA has several satellite facilities; one for the General Services Agency (GSA) in Piti, and another for the Treasurer of Guam in Barrigada. It is unclear if DOA employees located at these two facilities would be included in the potential relocation to Hagåtña.
- Assume 1,000 sf of office space and 1,200 sf of support space for each the Governor and Lieutenant Governor; and 450 sf of office space and 350 sf support space for each Senator. It should be noted that there is potential for the reconstruction of the Governor's Palacio at Plaza de España, which may house the Governor, Lieutenant Governor, and some supporting staff.
- The planned Land Resources Building is larger than the estimated facility space needs required for the current staffing levels at DLM/CLTC. Consideration to incorporate another small size (35 employees or under) GovGuam agency/department (such as DCA/HRRA or GEDA) into the Land Resources Building should be considered. This could reduce monthly / annual lease expenditures.
- An estimate of roughly **31,600 square feet** of space is needed for the Senators of the Guam Legislature, including all 15 Senatorial offices, support space for each Senator, and common space. While there is a plan to redevelop the Guam Legislature Building, it is assumed that the reconstructed building would not have enough space to accommodate all 15 Senators, therefore some of the Senatorial offices may in fact have to be incorporated into the new Governmental center buildings.
- Existing square footage calculations for most GovGuam agencies are incomplete. Floorplans and/or existing square footage for BBMR, BSP, DOA, DOL, Governor's Office, MCoG, and the Office of the Attorney General remain to be collected and analyzed.
- The Palacio Reconstruction and Site Feasibility Study has several schemes that incorporate a large parking structure in place of the Hagåtña Detention Center and Police Precinct. If that facility were to be removed, vetting and feasibility for removal / re-siting would have to be conducted.

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HAGÅTÑA MASTER PLAN

Preserving Our Past. Shaping Our Future.



HAGÅTÑA MASTER PLAN

Preserving Our Past. Shaping Our Future.



Appendix B

HAGÁTÑA MASTER PLAN

Design Guidelines



**HAGÁTÑA
MASTER PLAN**

Preserving Our Past. Shaping Our Future.

HAGÁTÑA, GUAM

 **Matrix**



HAGÁTÑA MASTER PLAN

Preserving Our Past. Shaping Our Future.



Design Guidelines

Prepared for
Hagåtña Restoration and Redevelopment Authority (HRRA)
Hagåtña, Guam

Prepared by
 **Matrix**

August 2022

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Table of Contents

Chapter 1 Introduction..... 1

1.1 Overview	1
1.2 Purpose and Implementation	2
1.3 Design Principles	3
1.4 Design Objectives	6
1.5 Glossary of Terms.....	9

Chapter 2 Public Spaces 15

2.1 Introduction	15
2.2 Rights-of-Way.....	15
2.2.1 Streets	16
2.2.2 Sidewalk Zone	16
2.2.3 Bike Facilities	17
2.2.4 Trails.....	19
2.2.5 Transit	20
2.2.6 On Street Parking	21
2.3 Furnishings and Amenities	23
2.3.1 General.....	23
2.3.2 Benches	23
2.3.3 Bike Racks.....	24
2.3.4 Bollards.....	25
2.3.5 Trash and Recycle Receptacles	25
2.3.6 Planters	26
2.3.7 Shading Devices.....	26
2.3.8 Public Art.....	27

2.4 Landscaping.....	28
2.4.1 Vegetation	28
2.4.2 Paving	30
2.4.3 Walls and Fences.....	30
2.5 Parks and Plazas	31
2.5.1 General.....	31
2.5.2 Parks	31
2.5.3 Plazas.....	32
2.6 Safety.....	33
2.6.1 Lighting.....	33
2.6.2 Pedestrian Lighting.....	36
2.6.3 Pedestrian Safety.....	38
2.6.4 Visibility	39
2.6.5 Lighting Designs	39

Chapter 3 Architectural Design..... 40

3.1 Introduction.....	40
3.2 Building Orientation	40
3.2.1 General.....	40
3.3 Mass, Form and Articulation	41
3.3.1 General.....	41
3.4 Public Realm Features	43
3.4.1 General.....	43
3.5 Building Styles	44
3.5.1 General.....	44
3.5.2 Districts.....	44

3.5.3	Traditional CHamoru Architecture	46
3.6	Roofs.....	47
3.6.1	General.....	47
3.7	Doors and Windows	48
3.7.1	General.....	48
3.8	Flood Zones	49
3.8.1	General.....	49

Chapter 4 Site Design 50

4.1	Introduction	50
4.2	Viewsheds	50
4.2.1	General.....	50
4.3	Parking.....	51
4.3.1	On Street Parking	51
4.3.2	Parking Lots	51
4.3.3	Parking Garages.....	53
4.4	Service Areas	53
4.4.1	Loading Docks	53
4.4.2	Trash Receptacles.....	54
4.4.3	Utilities	54

Chapter 5 Specific Area Guidelines 56

5.1	Introduction	56
5.2	Capital and Cultural Sub Area	56
5.2.1	Structures	57
5.2.2	Streetscape.....	59
5.2.3	Landscaping.....	59
5.3	Riverwalk District	60
5.3.1	Structure.....	60
5.3.2	Riverwalk Trail	61
5.4	Historical and Cultural Sites	62
5.4.1	General.....	62
5.5	Shoreline Protection.....	63
5.5.1	Signage	63
5.5.2	Setbacks	63

5.5.3	Amenities.....	64
5.5.4	Structures	64

Chapter 6 Signage 66

6.1	Introduction.....	66
6.2	Wayfinding	66
6.2.1	Gateways	66
6.2.2	District Kiosks	67
6.2.3	Barrio Signs.....	68
6.2.4	Street Signs.....	68
6.2.5	Banners.....	68
6.3	Directional Signs	70
6.3.1	Bike Network Signs.....	70
6.3.2	Trail Network and Marker Signs	71



1.1 Overview

Hagåtña has been the cultural, social and historic “heart” of Guam since early CHamoru settlements were established on the island. Hagåtña’s reef-protected shoreline and access to plentiful fresh water from the Hagåtña River made this a natural settlement area. During this early period of development, the CHamoru’s began constructing houses on raised foundations, using large pillars (haligi) with cup-shaped stones (tasa) atop the pillars to hold up an A-framed roof. These pillars and attached stones are what eventually became known as “latte”, a significant architectural feature that is still prominent in the City.

During the Spanish Era (1686-1898), Hagåtña was designated as the capital of Guam. With this designation came construction of government buildings and Guam’s first cathedral, all of which introduced Spanish architectural styles and building materials to the island. Guam was also a major port between the Philippines and Mexico, and this cultural exposure brought additional ideas and influences on architecture. During this period, stone-built structures with tiled roofs were common. Several stone structures built during the Spanish colonization are still standing in Hagåtña, such as the Azotea, Chocolate House, and the Spanish Bridge. Also, from this period is the Almacen (three-arch gate) that is a common symbol of Hagåtña today.

Prior to WWII, Hagåtña was the bustling center of Guam and the largest populated area on the island. Housing was closely spaced along roads and paths throughout Hagåtña, and the Hagåtña River was the primary focal point of community life. Architectural features in this era featured social constructs, such as balconies and wide entry staircases with seating areas to welcome visitors. Architecture was also characterized by high ceilings, inclusion of patios and ponds, and a preference for rectangular or square shapes.



Following WWII and the heavy destruction suffered by Hagåtña during the war, the city was rebuilt. The U.S. Seabees created what is now known as the Paseo de Susana from debris from the former community and formed new neighborhoods using a superimposed grid layout, predominant in the U.S. at the time, as the organizational structure for reconstruction. In some cases, this action left original landowners without any property in Hagåtña. Hagåtña's population dropped from 10,000 in 1940 to under 1,000 in 1950. In addition to the grid layout structure, the Hagåtña River was also rechanneled to flow out to sea just east of Route 4, changing a major structural and organizational component of the community along the river's former course through the community. The community was also rebuilt using a range of more modern and institutional architectural styles.

Following the initial reconstruction period, Hagåtña has seen a wide range of architectural styles introduced. These range from Modern Movement-style buildings (such as the Guam Congress / Legislature Building) to modern stone and glass facades (such as the Bank of Guam building) to more standardized concrete tilt-ups.

1.2 Purpose and Implementation

The City of Hagåtña's Design Guidelines provide landowners and developers with guidance on the types and quality of design expected in Hagåtña. The Design Guidelines will be used to influence new development and redevelopment projects in the city in a manner that builds on the city's historic, cultural, and social assets, while forging a path for the city to realize its full economic potential. Themes like access to the waterfront, better public parking, and ample public and social spaces are woven in these Design Guidelines to further embody the CHamoru culture in Hagåtña. These guidelines were created for use by the community, land developers, and by members of City staff who have design review responsibility for development projects within the city.

In general, Design Guidelines provide guidance that helps to shape the form and function of the city and can be used to promote:

- historic and cultural values;
- healthy lifestyles through the provision of safe and attractive pedestrian amenities; and
- establishing quality standards for buildings and infrastructure. These values can have a positive influence on the economic growth and vitality of the city.

The goal of these Design Guidelines is to provide a blueprint for development that will instill a sense of civic pride throughout the community by emphasizing the city's identity; creating a safe and connected urban environment for all residents and visitors; and safeguarding valuable natural assets, such as viewsheds of important historic and cultural sights, all while creating a vibrant community where the rich culture of Hagåtña can be shared and enjoyed by residents and visitors alike. The Design Guidelines provide a framework for the built environment that is flexible enough to allow for development creativity, while still adhering to the desired character of the City. The design objectives provide the link between policy and the built and natural environments. These guidelines are meant to define the look, feel, and context of the built environment, while creating connections and transitions between buildings, transportation infrastructure, and public spaces.

These guidelines are designed to be used in tandem with the City of Hagåtña Zoning Ordinance during the design review and approval process for development and redevelopment proposals. That is, these guidelines should be embedded in the Ordinance as foundational elements when considering development or redevelopment proposals. However, it is imperatively noted that zoning ordinances however crafted, will be new as governance specific to Hagåtña and that these Design Guidelines are not intended to be a rigid, inflexible set of standards. Rather, they are guidelines that seek to improve the efficiency of design review, help to streamline the development process, and help reestablish Hagåtña as the Capital City of Guam.

This document includes graphics for the purpose of illustration and simplification. The images used to illustrate the compliance with the standards should be reviewed in context to the specific guidelines with which the image is associated and not necessarily with all the guidelines of this document. To the extent that there is any inconsistency between the text of these Design Guidelines and any such graphic, the text shall control.

1.3 Design Principles

Design principles are used to describe the general look and feel to obtain a desired urban form within cities and places. Such principles are embedded in the Design Guidelines in various combinations to help formulate a greater sense of place in Hagåtña's districts. There are seven design principles that are identified in this document:

- | | | | |
|---------|---------------------|----------|------------|
| ■ Style | ■ Materials | ■ Color | ■ Scale / |
| ■ Mass | ■ Texture / Pattern | ■ Detail | Proportion |

The following paragraphs provide general definitions of the above seven design principles.

Style

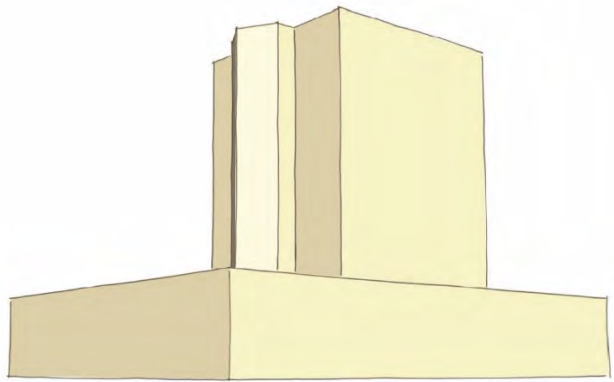
Architectural styles refer to the specific features, elements, or other characteristics in structures and public spaces that help establish an overall appearance. Such features, elements, and characteristics together can be identifiable through a theme, culture, and / or time period, but can evolve over time to new styles. Using consistent styles in specified areas helps unify developments with a coherent look and feel, establishing and enhancing the area's identity.

Hagåtña has a rich historical character based upon a varied number of architectural styles that have been used in the past. Many of these examples still exist today that can be used as models for the design of future developments and revitalization efforts. At the same time, some interpretations and flexibility are needed for development to respond to natural and cultural changes throughout time, as well as technological advancements.

Mass

Mass describes the overall three-dimensional size of buildings or structures. Variances in massing can alter pedestrians' perceptions and emotions in the public realm, making it an important consideration when designing and developing structures along streetscapes and pedestrian paths.

Large uninterrupted portions of structures create a large mass, which can become uncomfortable to pedestrians. Massing can be broken down into smaller pieces with the same amount of floor area, appearing smaller, making it more pedestrian friendly along a streetscape.



Example of the Bank of Guam massing. Features are simplified to their most basic form. This helps explain the basic size and shape of the structure and how it relates to the land.

Materials

Similar to color, the use of different materials can change the appearance of a structure dramatically through creating interest and emphasis on certain features and elements, particularly within the public realm. Materials also have a historical and cultural significance in many places and are directly related to many building styles.

Hagåtña has ties to the Mamposteria construction style, largely consisting of stone and mortar with wood accents. While keeping the use of building materials flexible to create new, unique places, some districts, including the Capital and Cultural District and Riverwalk District, have additional regulations restricting and requiring the use of certain materials to establish a consistent character and identity throughout.

Texture / Pattern

The way in which materials are used creates textures and patterns within the urban fabric of cities. Certain textures and the way they are applied create a rough or smooth visual feeling in the public realm. Patterns refer to how these materials and textures are repeated to cue pedestrians as to what to expect or create interest as the cadence is interrupted.

Color

Color can be provided by both the natural color of a material (i.e., brick, stone) or by the application of a color. A well-balanced color palette helps create more visual interest in urban spaces and contributes to the overall composition of an area.

Certain districts in Hagåtña require stricter color regulations than others. Such regulations ensure a common color palette is used, which helps to create a harmonious place. Other districts have less stringent color regulations to allow more color flexibility.

Detail

Architectural detail is created through small but prominent features on façades that contribute to and help define the structure's overall character. These details contribute to the development's visual interest, and the overall spaces character and feel. Such details can include articulation,



balconies, columns, tile bands, and other features which may be incorporated onto building façades that create a visual break in blank walls.

Scale and Proportion

A structure's scale and proportion between adjacent developments and compared to pedestrians are integral in establishing comfortable pedestrian interactions in public spaces. Retaining a consistent vertical scale across a streetscape creates a more harmonious pedestrian experience in the public realm.

Similar to massing, large-scale developments that expand beyond the human scale should create building forms that appear smaller in scale through certain design methods identified in these Design Guidelines.

1.4 Design Objectives

The Design Guidelines were developed to support the Vision and Guiding Principles defined in the Hagåtña Master Plan.

Hagåtña Master Plan Vision

Re-establish Hagåtña as the Capital City of Guam, and the governmental, cultural, and commercial heart of the island supported by vibrant residential mixed-use areas.

Hagåtña Master Plan Guiding Principles

- Re-establish Hagåtña as the Capital City
- Develop Mixed-Use centers throughout Hagåtña
- Preserve, Enhance, and Educate about Cultural and Historic Resources
- Develop Appropriate Urban Design Standards
- Create a multimodal circulation system and enhance connectivity throughout the city
- Use the Shoreline's Valuable Resources to Its Full Potential

Design objectives supported:

- ✓ **Culture**
- ✓ **Pedestrian Experience**
- ✓ **Mobility**
- ✓ **Safety & Security**
- ✓ **Environmental Protection**
- ✓ **Urban Design**

This graphic will be provided for each subsection to display which design objectives the respective subsection will cover. Design objectives that are covered will be **bolded** and those that are not will be gray.



- Establish a Vibrant Downtown
- Encourage Residential Growth, Bringing More Residents into Hagåtña
- Promote Economic Growth

In developing the Hagåtña Design Guidelines, a set of six objectives were established:

- Culture
- Pedestrian Experience
- Mobility
- Safety & Security
- Environmental Protection
- Urban Design

Culture

Protect and enhance historic and cultural features to re-establish Hagåtña as the cultural capital of Guam.

The Hagåtña Master Plan is designed to re-establish Hagåtña as the governmental, cultural, and social hub of Guam. A critical component of this is the protection and enhancement of historic and cultural features that make Hagåtña the “heart of Guam”. These Design Guidelines support this effort and set standards for new developments to incorporate historic design features and protect existing historic resources.

Pedestrian Experience

Promote design that encourages and enhances pedestrian activity.

Most iconic and historic places are best experienced by walking. Designing for the pedestrian first ensures that all new development supports a pedestrian friendly environment and creates a comfortable environment that encourages active, healthy lifestyles. The Design Guidelines seek to encourage pedestrian activity and accessibility along all streets through enhanced pedestrian facilities that improve connectivity, safety, and comfort.



Mobility

Provide roadway, sidewalk, transit, biking and trail standards that promote a multi-modal community.

Creating a well-connected multi-modal circulation system was identified as a Guiding Principle of Hagåtña's Master Plan. The Design Guidelines support the Master Plan by providing roadway, sidewalk, transit, biking, and trail standards that promote a multi-modal community. Enhancing the flow of all transportation systems is essential for creating inclusive, accessible places, and limits conflicts between pedestrians, bicyclists, and vehicles. The Design Guidelines set standards that encourage the use of alternative modes of transportation through implementing best practices for transportation design.

Safety & Security

Set standards for lighting, environmental design, and traffic safety that promote safety to all users and modes of transportation.

Creating a safe place to live, work and play is crucial for healthy, active public spaces, economic growth, and the overall community's quality of life. The Design Guidelines sets standards that ensure areas are well-lit at night; providing security through environmental design; and traffic safety through design that limits conflicts between pedestrians, bicyclists, and vehicles.

Environmental Protection

Protect shoreline for resiliency in the wake of intensifying climate and to promote Hagåtña's natural elements as a tourist attraction.

The natural environment is both a powerful force and one of Hagåtña's greatest assets. The shoreline is a major tourist attraction and an iconic element in the city's history and culture. Protecting the shoreline's integrity, accessibility and viewsheds is critical for Hagåtña's identity as a waterfront capital city. However, as a waterfront community, Hagåtña also faces severe weather at times. Establishing guidelines for developments to be proactive in mitigating the impacts of severe weather will enhance the community's resiliency long-term.





Urban Design

Standardize urban design elements to generate vibrancy and maintain uniformity.

Urban design is critical in the effort to create an attractive place for residents and visitors to walk, mingle, shop, and engage with each other and the city. The design of buildings and their setting, circulation, and public spaces work to unify the city and enhance its vibrancy. The Design Guidelines seek to implement the vision of the Hagåtña's Master Plan by setting standards for urban design elements such as building orientation, materials and architectural details, and public realm features.

1.5 Glossary of Terms

This glossary of terms describes certain features and elements in the Design Guidelines in further detail.

Amenity Zone – is a location for landscaping, furnishings, and amenities. This zone provides enhancements to the sidewalk and helps provide comfort and safety to pedestrians.

Americans with Disabilities Act of 1990 (ADA) – is a broad civil rights law that protects individuals from discrimination based on disability. For cities, this law is important because it means that a city must be designed to be accessible by all members of the community, including those with disabilities.

Arcade – is an extension of the façade over the sidewalk, or Walking Zone, and supported by columns or arches. This extension provides a covered walkway for pedestrians to protect against adverse weather.

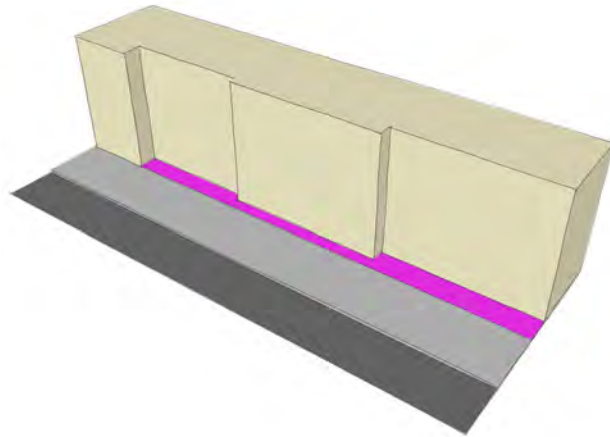
Art – is original works created by an individual or design team as a form of creative expression for the purpose of controlling an aesthetic outcome.

Art, Public – is art which is located on public property and/or integrated with public construction projects, which are accessible to the public.

Articulation – is a change in depth along building facades.



Example of an arcade.



Example of the Build-to Zone



Example of a courtyard

Awning – is a roof-like cover extending out from the side of a wall or roof to provide protection from the weather or add a decorative element. Awnings can be made of fabric, metal, plastic, fiberglass, or glass. Awnings are often retractable and differ from arcades in that they lack supporting columns.

Bike Box – is a designated area for bicyclists turning left at intersections with traffic lights. Bike boxes are located at the front of traffic lanes to give bicycles a head start over vehicles on shared roadways.

Bike Lane – is a marked and identified portion of the street designated for bicyclists.

Build-to Zone – is a linear area located along the edge of a right-of-way, in which and a building's front façade should be located. The width varies between land uses as defined in the Zoning Code.

Bulb-out – is an extension of the curb into the street, typically where on-street parking exists.

CHamoru-Spanish Vernacular Architecture – Defined as “a recuperation of a tradition of styles and shapes, favored by further generations of CHamorus”¹.

Cornice – is a decorative horizontal feature emphasizing building elements, most commonly atop a roof line.

Courtyard – is an outdoor open space that is completely, or nearly completely enclosed by a building, or group of buildings.

Curb Zone – is a pedestrian waiting area and access to on-street parking. This zone is the last buffer between sidewalk and roadway.

¹Dr. Carlos Madrid. Comments and Recommendations- Hagåtña Restoration and Redevelopment Authority (Guidelines and Map Atlas) October 2019.

Cycle Track – is a bike lane separated by some sort of buffer, whether it is a curb, a landscaped median, or on-street parking.

Façade – is a single side of a building from floor to roof. In many cases, the façade is considered the front or ornamented side facing the street.

Floor Area Ratio (FAR) – is the ratio between a building’s total floor area compared to the total area of the lot the building is located.

Frontage Zone – is a space for outdoor dining, congregating, and additional furnishings and amenities. This zone assists in creating an engaging environment and helps keep “eyes on the street.”

Gateway – is a sign that indicates the arrival at a place and can be a physical element or a sense or recognition of arrival or departure.

Geometric Design – is a landscape or structure that consists of formal and regular shapes to define a space.

HAWK Signal (High-Intensity Activated Crosswalk) – is a traffic signal, typically at mid-block crossings that halts traffic and allows for pedestrians to cross the street. These are useful traffic control devices for large blocks that have long distances between crosswalks.

Historic and Cultural District – is an area designated by the City of Hagåtña as significant contributors to the history and culture of the city. The purpose of these districts is to strengthen Hagåtña as a unique destination offering cultural activity, while preserving and teaching the history of the city.

Landscaped Buffer – is a landscaped area that is used to separate land uses or a land use from a right-of-way and serves as a way of lessening the effects of one land use on the other.

Landmark – is an object, feature, or structure that is easily seen and recognized. Landmarks play important roles in wayfinding, establishing urban space or generating social interaction due to their design, cultural identity, history, or location.

Loading Zones – are areas of commercial properties where goods are delivered by truck.

Mamposteria Style – is a style of construction using stone and mortar, which has been widely adopted throughout Guam.

Mixed-Use – is a type of development designed to encourage a variety of community activities, uses, and services to work together within close proximity. Mixed-use developments blend residential, commercial, cultural, institutional, or industrial uses. Mixed-use spaces promote walkability by promoting pedestrian connections and add to the vibrancy of an area.

Multi-Modal Transportation – is the consideration of various modes of transportation in a given area and the connection among each mode. These can include walking, cycling, automobile, and public transit.

Mullions – are metal bars in large windows holding together separate panes of glass.

Native Vegetation – is any species of plant life that is indigenous to an area. In the case of Hagåtña, it is grass, shrubs, and trees that are indigenous to Guam.

Natural Surveillance – is a method of keeping public spaces open and visible from private properties to maximize the number of people watching such spaces to deter criminal activity.

Parapet – is low wall that protects the edge of a building or other platform.

Passive Solar Heating – is a design method that uses the sun's natural energy to heat indoor spaces, as well as methods that restrict sun exposure into indoor spaces to keep temperatures down.

Parking Kiosk – is an electronic parking meter that also offers parking information.

Pedestrian Islands – are safe pedestrian waiting areas located along crosswalks and between roadways, where pedestrians can wait for traffic to pass. Pedestrian Islands are often located on roadway medians to reduce the number of lanes they must cross to reach safety.



Example of a rooftop terrace.

Right-of-Way (ROW) – is a transportation easement provided for roadways, sidewalks, and other necessary pathways throughout a city.

Roof, Flat – is a horizontal plane roof with a pitch or slope capable of being walked upon easily.

Roof, Gable – is a pitched roof with two sloping planes that meet at the peak in the center and terminating with a gable at each end.

Roof, Hip – is a roof that slopes downwards to the walls on all sides, and typically consists of a fairly gentle slope.

Roof, Mansard – is a roof that has four sloping sides, which become steeper halfway down the roof.

Rooftop Terrace – is an accessible and habitable outdoor space located atop a flat roof.

Setback – is the distance a building is required to be from its property boundaries per the zoning ordinance.

Shared Parking – is a strategy that permits nearby complimentary land uses to share parking spaces, which reduces the maximum number of parking spaces required for development.

Sharrows – are roadways that do not have a separation between bicycles and vehicles but may still be shared by both vehicles and bicyclists together.

Signs – are any structure, placard, announcement, or demonstration used to disseminate instructions or information regarding direction, identification or advertisements.

Solar Heat Gain – is an increase in room temperature within a space caused by the sun's natural energy.

Spanish Mission Style – is a style of architecture the Spanish introduced to the Americas and East Indies in the 16th Century. It consists primarily of stucco exterior walls, arches, terracotta roof tiles, balconies, exposed wood beams, as well as courtyards and shared spaces between buildings.



Example of Spanish Colonial Style Architecture.

By expert interpretation, this style was made popular in contemporary Guam, deriving from an attempt to reflect or represent CHamoru-Spanish vernacular architecture.

Streetscape – is combination of all the various elements located within the public right-of-way including street furniture, lighting, landscaping, paving, and the adjoining buildings that form the street’s character.

Storefront – is the ground-floor façade facing the sidewalk on a commercial building.

Stormwater Retention Basin – is an area that collects stormwater runoff to prevent flooding.

Style – is the distinctive form of expression exhibited in a structure. Architectural or building styles are composed of form, technique, materials, time period, and region, and impact the character and identity of an area.

Traffic Calming – is a method of reducing vehicular speed along streets through design to improve pedestrian safety.

Trails – are identifiable non-vehicular paths, separated from roadways.

Viewshed – is the geographic area that can be seen by a specific point within the line-of-sight from that location.

Walking Zone – is a pedestrian walking area. This zone helps facilitate the movement of pedestrians from one point to another.

Window Caps – are decorative elements placed atop the exterior of a window.

Window Lintels – are exposed horizontal beams that spans the space between two vertical supports.

Window Sashes – are two offset windowpanes that permit a window to be opened.

Windowsills – are short horizontal ledges that form the bottom of a window.



2.1 Introduction

For the purpose of this section, public spaces are defined as spaces within Hagåtña, such as parks, plazas, and streets, which are available for public use. Oftentimes, public spaces are iconic to a city's identity, like Hagåtña's Plaza de España. Such places offer space for social gatherings and cultural interaction, as well as fostering community pride and a stronger sense of place.

It is important to provide guidance for the design of public spaces to ensure accessibility for all residents and visitors and to make sure that the design reflects Hagåtña's character and culture. Components of public space that are described in this chapter are right-of-ways, furnishings and amenities, landscaping, parks and plazas, and safety.

2.2 Rights-of-Way

The term right-of-way (ROW) is used to describe land that is owned or held as an easement over land that allows movement or use by the public over the land, or as defined in the Guam Code Annotated Chapter 62, right-of-ways are "the entire width between property lines of a highway, street, or alley," and include "easements for roadways created by law or operation of law." A typical ROW is used for public streets but can also be used to describe some public trails and utility corridors. The Design Guidelines provide guidance on how right-of-ways should look and function. This section covers streets, sidewalks, bike lanes, trails, and transit.



*Curb Zone
Amenity Zone
Walking Zone
Frontage Zone*

The Sidewalk Zones organize various activities that occur on sidewalks.



Rain gardens retain stormwater, reducing the amount of runoff that enters the sewer system.

2.2.1 Streets

- a) Roadways with intersections occurring at odd angles shall have directional overhead signage to prevent turning into the wrong lanes.
- b) Existing medians should be landscaped with native vegetation where feasible and adhere to Section 2.4.

2.2.2 Sidewalk Zone

- a) Sidewalks should be located along both sides of all streets whenever feasible and without compromising safety.
- b) The Walking Zone should maintain a vertical clearance height of nine feet. The vertical clearance height should be clear of hanging tree branches, awnings, etc. Projecting signs may hang below nine feet but should not hang below seven feet.
- c) A minimum of 50% of the sidewalk's path shall be clear and void of obstacles.
- d) Sidewalk Zones should adhere to the guidelines outlined in Table 2-1:

Table 2-1. Sidewalk Zone Dimensions

Measure	Type of Intersection
Curb Zone	If on-street parking is present, 18 – 24 inches
Amenity Zone	2-foot minimum
Walking Zone	6-foot minimum
Frontage Zone	Up to 50% of sidewalk, so long as Walking Zone maintains 6-foot minimum dimension

- e) Landscape buffers containing shrubs and other smaller plants are encouraged along sidewalks in the Amenity Zone where feasible, for both aesthetics and functionality. Such landscaping should be used to create rain gardens located periodically along the street and at bulbed intersections to help retain stormwater.



Buffered bike lanes increase safety for bicyclists, pedestrians, and motorists.

- f) The Amenity Zone along sidewalks should contain street trees that adhere to Section 2.4. Trees should be placed in either a landscaped buffer, tree grate, or planter box with enough space to grow and thrive. Up to two tree species may be used for each street segment.
- g) Street trees should be placed between 15 feet and 30 feet apart in regular intervals depending on tree canopy size and upon Planning Administrator approval.
- h) Sidewalks shall be provided to connect sidewalks and parking lots / garages to building entrances, as well as parks, trails, and other public spaces and amenities.
- i) All paving and walkways shall maintain a level surface, void of tripping hazards, and be designed to be slip resistant.

2.2.3 Bike Facilities

- a) Bike lanes should be incorporated along all highways and are encouraged to run along all collector roads where feasible. Local roads should establish sharrows.
- b) Bike lanes along highways should be clearly marked, separated, and buffered between drive lanes. Possibilities include:
 - 1 On-street parking (parallel parking only)
 - 2 Striped two- to three-foot buffer
 - 3 Landscaped median
 - 4 Raised cycle tracks—extended sidewalk as a multiuse path

- c) Bike lanes should be designed to connect to current or future bike facilities in villages adjacent to Hagåtña.
- d) Raised cycle tracks should contain a two-foot landscaped buffer between bicycle and pedestrian lanes, and have clear signage separating the lanes.
- e) Signage for bicycle amenities can be found in Section 6.4.
- f) Narrow residential streets should incorporate sharrow lane designations.



A simple sharrow stencil can be easily applied to roadways to caution drivers of bicyclists.



Trails promote walking and bicycling as a form of transportation and other healthy lifestyle habits

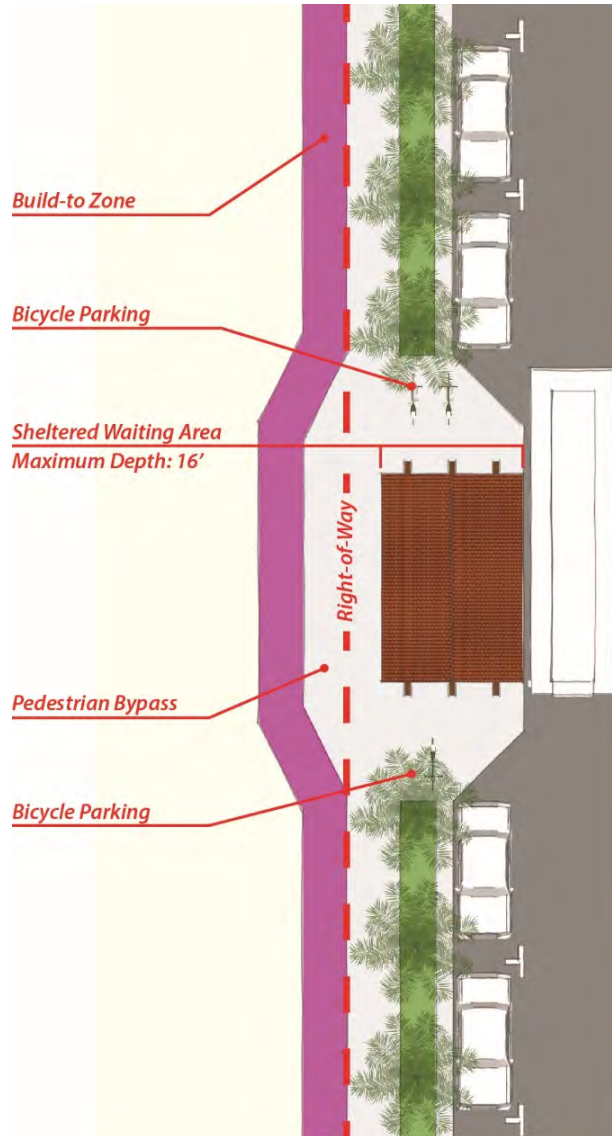
2.2.4 Trails

The locations of trails in Hagåtña are shown in the Hagåtña Master Plan. The following are guidelines for these trails.

- a) Trails should be designed with pedestrian amenities and lighting for user convenience and safety, and in compliance with Section 2.3.
- b) Trails should provide connections to transit stops and stations.
- c) Trails should be looped and interconnected throughout the city when feasible.
- d) Trails should be clearly identified with signage every 300 to 500 feet in accordance with Section 6.4.
- e) Trails should have adequate access points from sidewalks, bikeway systems, and public parking areas.

Table 2-2 Trail Design

Trail	Width	Material	Mode	Features
Hagåtña Heritage Trail	10 feet	Asphalt	Bicycles, walking	Teal surface, painted centerline, wayfinding kiosks, benches
Waterfront Trail	14 feet	Concrete	Bicycles, walking	Beach adjacent
Hagåtña Riverwalk Trail	12 feet	Brick pavers	Bicycles, walking	On both sides of river, benches
Pedestrian Trail	10 feet	Asphalt/concrete	Bicycles, walking	Teal surface
Cliff line Trail	10 feet	Asphalt/concrete	Bicycles, walking	Viewpoints



Example of a transit stop along a two-way street with on-street parking.

2.2.5 Transit

- a) Stations should be standalone structures whose design represents Hagåtña's culture and character and feature the following amenities:
 - Sheltered bicycle parking
 - A park-and-ride facility
 - Pedestrian drop-off zone
 - Ticket sales
 - Public Restrooms
 - Service information
 - Drinking fountains
 - Covered waiting areas
- b) Transit stations should have a saw-tooth layout to accommodate multiple buses at one time and facilitate bus movement.



Example of a saw-tooth transit station.

- c) Benches, trash / recycle receptacles, and bike racks should be present at every transit stop.

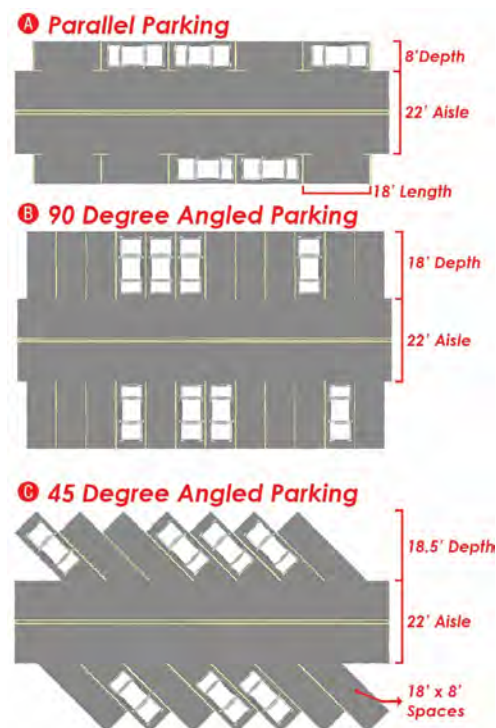


Well-furnished transit stops enhance ridership experiences and promote public transit as a viable mode of transportation.

- d) Transit stops should have an overhead shelter and surrounding walls to protect riders from inclement weather.
- e) Shelters should have at least a four-foot depth with a roof that may extend over the Curb Zone. Transit shelters should be at least eight feet in height with a length of at least 12 feet.
- f) Transit stops and stations should be highly visible and well-lit between dusk and dawn.
- g) Transit stops should display information about the transit schedule, routes, connections, and attractions located nearby each stop.
- h) Transit shelters should be placed in the Amenity Zone along sidewalks that have a minimum of a 12-foot width, or in place of on-street parking. Transit stops may extend into the walking zone only if the remaining sidewalk is still wide enough to support a six- to eight-foot Walking Zone.
- i) Transit stops and stations are encouraged to feature local public art to increase their attractiveness.

2.2.6 On Street Parking

- a) On-street parallel parking spaces **A** shall be a minimum dimension of 8 feet deep by 18 feet long.
- b) Angled on-street parking shall be at a 90-degree angle **B** or 45-degree angle **C**. Dimensions are provided on the figure to the left.



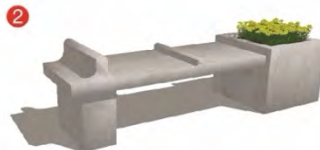
Dimensions required for on-street parking.
Design Guidelines

- c) On-street parking spots should be located 18 feet from the intersection, as delineated by the crosswalk location .
- d) Parking kiosks should be located in the Amenity Zone along streets with pay-by-space on-street parking. One kiosk should be placed per eight to ten parking spots, or every 200 feet on streets segments larger than 400 feet.
- e) Parking kiosks shall feature an overhang or shade structure to shelter users from inclement weather.
- f) Motorcycle and scooter parking should be perpendicular to the sidewalk and should be 10 feet deep and 5 feet wide.
- g) On-street parking shall be prohibited 10 feet from fire hydrants in all directions.



Design objectives supported:

- ✓ **Culture**
- ✓ **Pedestrian Experience**
- Mobility*
- Safety & Security*
- Environmental Protection*
- Urban Design*



2.3 Furnishings and Amenities

Furnishings and amenities are features that create a comfortable environment and provide conveniences for those using or visiting an area. This section includes guidelines for benches, bike racks, trash and recycle receptacles, lighting, shading, and public art.

2.3.1 General

- a) Street furniture and amenities should be located in active pedestrian areas, including intersections; building entrances; transit stations and stops; and public parks, plazas, and open spaces. Such street furniture and amenities along the sidewalk shall be placed within the Amenity Zone or Frontage Zone, ensuring a clear path for pedestrians in the Walking Zone.
- b) All amenities should be made primarily of concrete and / or recycled materials, and be coated with an anti-graffiti coating, and designed to reduce vandalism potential. Concrete shall have a smooth finish with minimum porosity. No exposed aggregate finishes.
- c) Amenities should have a consistent design within developments, districts, and / or barrios.

2.3.2 Benches

- a) Benches and should be located in the Waterfront District and Riverfront District. Benches and should be located in the Capital and Cultural District and West Hagåtña District.
- b) Benches shall be placed periodically, every 300 feet, along all sidewalks of major and minor roadways and in areas of high visibility from the streets.
- c) Benches shall be located in well-lit areas, near streetlights or pedestrian lighting, and preferably in parklets near trees or shade structures to provide shade.
- d) Benches should incorporate features to deter their use for sleeping.

- e) Benches should be combined with concrete planters when appropriate (see , ,).

2.3.3 Bike Racks

- a) Bike rack placement shall be compliant with GCA 21.61 §61531, specifically:

- Spaces shall be a minimum of two feet by six feet
- Spaces shall have the minimum number of conflict points between bicycle and motor vehicles
- Spaces shall have adequate spacing for access to the bicycle and locking device when the spaces are occupied
- Racks shall be located within view of building entrances, windows, and / or security.

- b) Bike racks shall allow for bikes to be locked through two different points of contact.

- c) Bike racks shall be provided enough space for a typical 6.5-foot-long bicycle to park while keeping the Walking Zone clear and at least two feet from the curb to avoid the bicycle encroachment onto the street. Ideal locations for bicycle racks are in curb extensions and bulb-outs, where the Amenity Zone is extended.

- d) On sidewalks with adequate widths, bike racks should be placed perpendicular to the curb, otherwise, angled parking can be used to reduce space requirements.

- e) Bike racks should be strategically located in areas of high visibility from the street, windows, and doors with sufficient lighting.

- f) Bike racks should be located near schools, libraries, and other public buildings, as well as transit stations / stops, parks, and at major commercial areas.

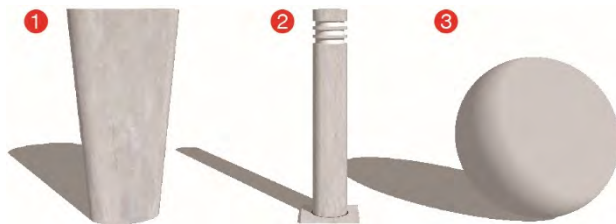


Example of a bike rack



Bike racks can be placed at curb extensions as to not infringe upon the Walking Zone.

2.3.4 Bollards



Standard bollard design

Retractable bollard design

Park / trail bollard design

- a) Bollards shall serve as entry markers to trails or pathways and should be used to prevent unauthorized motor vehicles from entering sidewalks, trails, plazas and other public gathering locations and public buildings.
- b) Design Guidelines provide 3 bollard types or designs: Bollard 1 should be used as the standard bollard design across Hagåtña; Bollard 2 should be the bollard used for locations that require a retractable bollard; and Bollard 3 should be used in public parks and along trails where needed.
- c) Typical bollard placement should be four to six feet off-centered. This may vary based on the facility and site design needs.
- d) Bollards should be designed to be highly visible at all times of day. Incorporating LED lighting is also encouraged in bollard design.

2.3.5 Trash and Recycle Receptacles



Standard trash and recycling receptacle design for Hagåtña.

- a) Both trash and recycle receptacles should be placed together at every 300 feet along major pedestrian streets and intersections, near major civic buildings, transit stations and stops, and at other areas of high pedestrian activity.
- b) Trash and recycling receptacles should have removable bins placed inside a base made of concrete to replace trash liner.
- c) Trash and recycle bins should have removable lid with a spring-loaded door to prevent rain from entering the receptacle. Lid should be able to lock onto concrete base.
- d) Trash and recycle bins should be identifiable by the color of their lid. Trash bins shall have a black or dark gray lid and recycle bins should have a green lid.

2.3.6 Planters

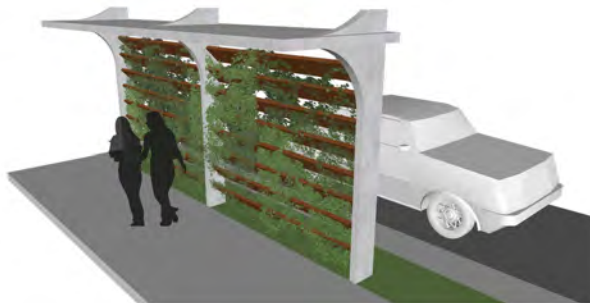
- a) Planters shall be made of concrete and should be round and low to the ground **A**.
- b) Planters should be used in place of bollards. Planters are also encouraged at intersections to improve aesthetics, yet low-lying so as to not create a blind hazard to drivers.
- c) Planter design should be complementary to the surrounding environment and contain vegetation compliant with outline in Section 2.4.1.
- d) Planters should cover no more than 25% of the total sidewalk width.



Round concrete planter design

2.3.7 Shading Devices

- a) Shade structures **B** should be placed within the Amenity Zone or Frontage Zone along all heavily traveled pedestrian paths. Shade should also be provided wherever benches and / or parking meter kiosks are located.
- b) Shade should primarily be provided by landscaping (trees), but shade structures may also be used. Shade structures may be constructed with a trellis wall of plants to provide a natural texture.
- c) Shade structures should be no taller than 15 feet and shall not prevent visibility into public areas.



Example of a small shade structure that can be located along any street with inadequate shade.

2.3.8 Public Art

- a)** All new developments shall comply with Guam’s “Percent for Arts Law” (Guam Code Annotated Title 1, Chapter 8, Article 2). Such public art should be incorporated in or on the site for all new public buildings. Art can also be standalone structures or sculptures in the Amenity Zone, parks, and plazas.
- b)** Public art should be cohesive with the surrounding environment and shall not block windows, entranceways, create blind spots in the built environment, or interrupt the regular flow of pedestrian movement.
- c)** Public art should express Hagåtña’s rich history, culture, and environment. Local residents and schools should be encouraged to participate in the creation of public art.
- d)** Art pieces do not always have to be a focal point when incorporated into a public area environment.

Design objectives supported:

- ✓ **Culture**
- ✓ **Pedestrian Experience**
- Mobility
- Safety & Security
- Environmental Protection
- Urban Design



Allamanda Tree



Flame Tree

2.4 Landscaping

This section identifies the plants that are appropriate for use within Hagåtña. Identifying appropriate landscape materials that will aid in upholding a complementary aesthetic look throughout the city and help guide the use of native plants in landscaping. This section covers pavers, walls, and fences.

2.4.1 Vegetation

- a) New developments, other than single-family residential units, should plant one tree and ten shrubs for each increment of 500 square feet of the site not occupied by a structure.
- b) All landscaping should consist only of plant species native to Guam. Any plants identified as invasive species in the Guam Invasive Species Management Plan should not be used. Native species should include, but are not limited to, the plant species in Table 2-2:

Table 2-2. Native Plant Species in Guam

Native Plant Species	
<i>Trees</i>	
• Allamanda Tree	• Ifit Tree
• Flame Tree	• Leucaena leucocephala Tree
<i>Flowers / Shrubs</i>	
• Birds of Paradise	• Cup-of-Gold
• Bromeliads	• Hibiscus Shrub
• Orchid Flower	

- c) Streetscape vegetation shall not be used if they bear fruit or have thorns.
- d) No more than two species of street trees should be used on a single block segment.
- e) Street trees should be planted at the same time for an entire block segment.
- f) New developments are encouraged to retain as much of the existing, native vegetation on the property as possible. Any native vegetation that is removed is encouraged to be relocated. All invasive species shall be eliminated from the project site with new construction or renovation.



Ifit Tree



Birds of Paradise Shrub



Cup-of-Gold



Leucaena leucocephala Tree



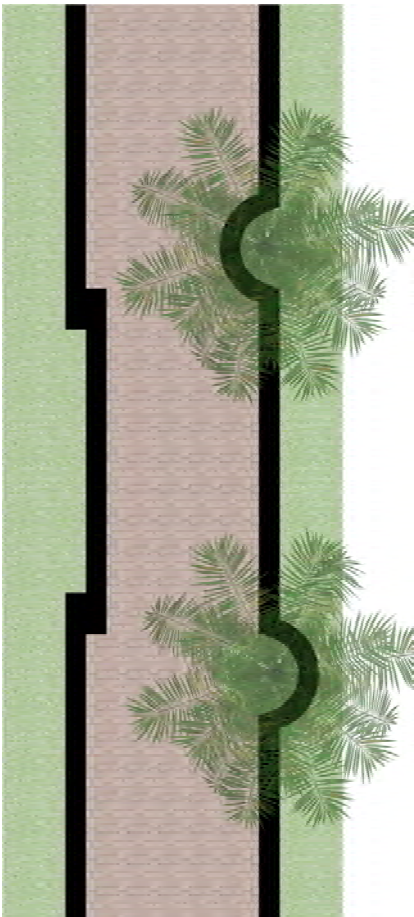
Bromeliads



Hibiscus shrub



Examples of pavement textures, pavers (L) and flagstone (R).



Examples of walls and fences.

2.4.2 Paving

- a) Paving for sidewalks and roadways shall be firm, stable, and slip resistant.
- b) Porous asphalt should be used on all roadways.
- c) Stamped concrete pavers with a natural colored stain should be used for all crosswalks.
- d) Materials such as permeable concrete, pavers, bricks, or flagstone are recommended for all sidewalks.
- e) The materials for paving used shall be easily traversed by those with varying abilities.
- f) Porous materials, such as grass pavers and bricks, are the recommended materials for both on-street parking and for parking lot surfaces.

2.4.3 Walls & Fences

- a) Walls and fences located in the required front yard setback as specified in the Zoning Code should not exceed 36 inches in height. Such fences may be increased to a maximum height of 42 inches if the material extending above the 36-inch height is an open material such as wrought iron or vinyl rail.
- b) A fence constructed on a side or rear property line of residential properties should not exceed a height of six feet six feet from highest finished grade adjacent to the fence.
- c) Fence materials shall be durable and consistent with abutting fences.
- d) Wood, PVC, wire mesh, and chain link walls or fences are prohibited for mixed-use, residential, and commercial designated properties.
- e) Such walls and fences that face the public right-of-way should be decoratively treated and be complementary of the material, color, scale, detail, and general architecture of adjacent buildings.

Design objectives supported:

- ✓ **Culture**
- ✓ **Pedestrian Experience**
- Mobility
- Safety & Security
- Environmental Protection
- Urban Design



Parks and plazas help create a healthy and engaging public environment.

Design Guidelines

- f) Walls shall provide the opportunity for seating and landscaping into its design when located near an active pedestrian path, sidewalk, or public open space.
- g) Long walls and fences should utilize staggers, offsets, or pockets every 50 feet to break long, linear features.

2.5 Parks and Plazas

This section provides guidance for parks and plazas to retain Hagåtña's character and open feel as it continues to be developed. This section also ensures all public parks and plazas are open and accessible to the community.

2.5.1 General

- a) Furnishings in parks and plazas shall adhere to Section 2.3.
- b) Landscaping in parks and plazas shall adhere to Section 2.4.
- c) Parks and plazas shall incorporate safety measures into the site in compliance with Section 2.6.

2.5.2 Parks

- a) Parks should provide for different levels of recreation, such as active and passive recreational activities.
- b) Parks should provide access for all members of the community.
- c) Structures at parks, such as recreational centers and restroom facilities, should incorporate rooftop solar panels or vegetated roofs and should be made of concrete and coated with an anti-graffiti finish. Roofing shall comply with Section 3.7.
- d) Stormwater retention basins should be incorporated into public parks and plazas as part of their landscape design. Parks should generally be designed to minimize impervious surfaces.
- e) Parks should connect to pedestrian and bicycling trails when possible.

2.5.3 Plazas

- a)** Plazas shall be flush with the adjoining sidewalk and not be blocked off by landscaping, walls, fences, parking, etc.
- b)** Native vegetation, such as trees, shrubs, and grass lawns, should be provided to soften the built environment, but not restrict visibility from the street.
- c)** Plazas should have connections to other pedestrian networks, such as trails, sidewalks, interiors of buildings, recreational areas.
- d)** Plazas should incorporate sufficient lighting throughout to promote a safe environment at all hours.
- e)** Plazas should include amenities for comfort such as water fountains, shade structures and public restrooms.
- f)** Plazas shall receive regular maintenance from the property owner, including trash removal, landscaping, and damage repair.
- g)** Plazas should have programmable space for events, activities, and gatherings.
- h)** Plazas should reflect and balance the aesthetics and appearances of surrounding structures through material choices and landscaping.

Design objectives supported:

- Culture
- ✓ **Pedestrian Experience**
- Mobility
- ✓ **Safety & Security**
- Environmental Protection
- Urban Design



Flashing pavement lights increase pedestrian safety during times of low light.

2.6 Safety

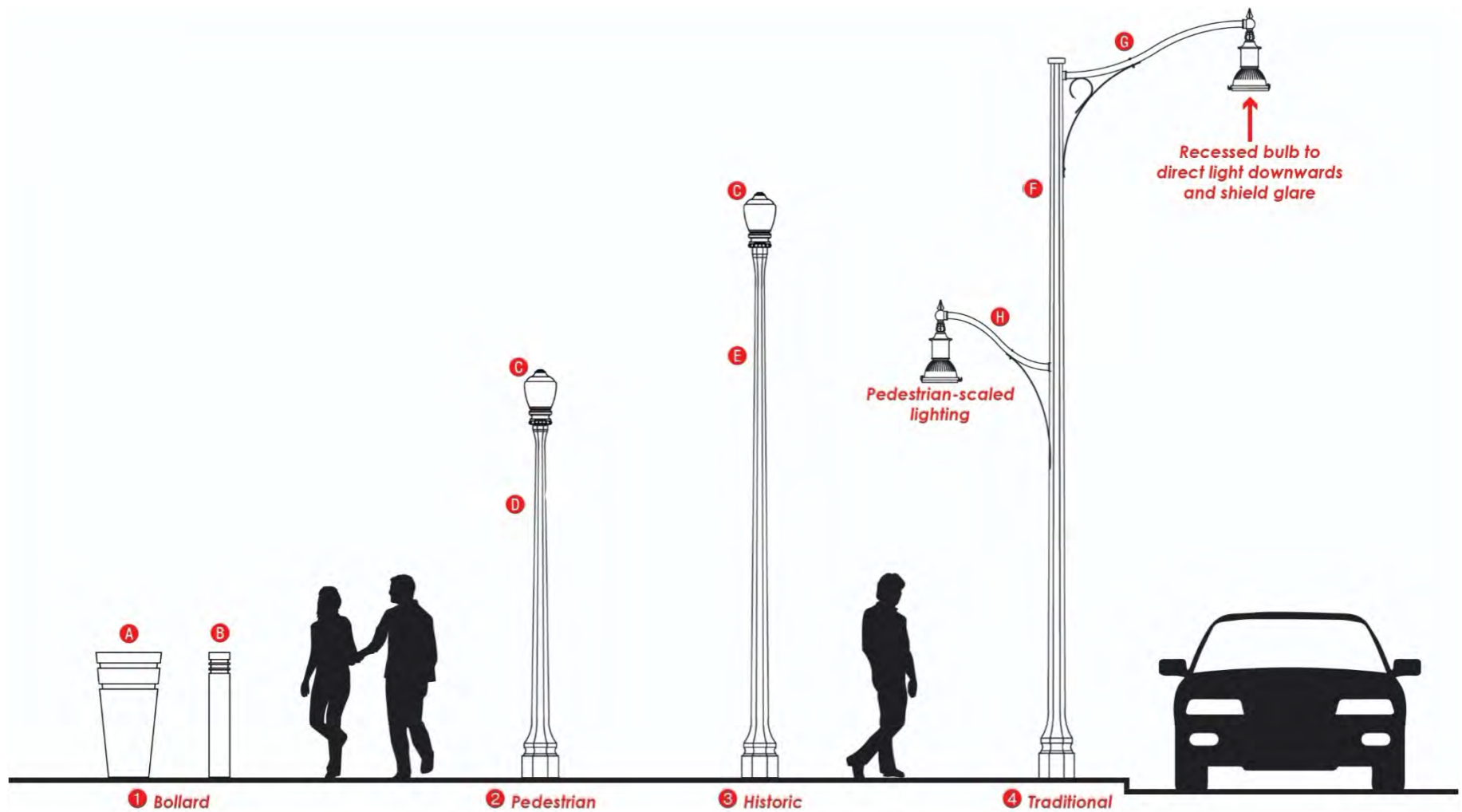
Designing for safe environments is crucial in maintaining a level of comfort for residents and visitors. This section covers lighting and visibility.

2.6.1 Lighting

- a) All public ROWs, paths and parking lots shall be well lit with streetlights and pedestrian scale lighting. Extra lighting in potential problem areas, such as arcades, intersections, entrances / exits, and stairs should be provided. Illuminance standards for street / pedestrian lighting shall follow guidelines outlined in Table 2-3:

Table 2-3. Street / Pedestrian Lighting Guidelines

Type	Footcandles (FC)
Roadways	
Highway (Major & Minor)	1.1 – 1.5
Collector	0.8 - 1.0
Local	0.4 – 0.7
Intersections	
Highway / Highway	2.6 – 3.4
Highway / Collector	2.2 – 2.9
Highway / Local	2.0 – 2.6
Collector / Collector	1.8 – 2.4
Collector / Local	1.0 – 2.1
Local / Local	0.8 – 1.4
Pedestrian / Bike Paths	
Commercial Sidewalks	1.0 – 2.0
Public Sidewalks	0.5 – 1.0
Residential Sidewalks	0.2 – 0.5
Multiuse Trails	0.5 – 1.7
Parking	
Surface Parking	0.6 – 1.3
Structured Parking	0.5 – 1.0



Note: Lamp light shown in this diagram do not reflect CHamoru-Spanish Vernacular Architecture

- b) All intersections shall have at least one streetlight and major intersections shall have at least two.
- c) Traditional streetlights shall be spaced between 100 feet and 120 feet apart. Traditional streetlights without a second lower arm for pedestrian lighting shall be spaced between 125 feet and 175 feet apart in a staggered pattern along opposite sides of the street to ensure adequate, equal lighting across all open spaces. These streetlights are found throughout the city with the exception of the Capital and Cultural District, where the historic streetlights are located (see Section 2.6.2).
- d) Light fixture features (e.g., pole, luminary, arm, and color) should be chosen from a specified catalog of components and shall remain consistent throughout a district. Dimensions for street and pedestrian lighting should follow guidelines outlined in Table 2-4.

Table 2-4. Street / Pedestrian Lighting Dimensions

Lighting Feature	Dimension
1 Bollard Walkway Lighting	
A Retractable Bollard Height	3.5'
B Standard Bollard Height	3.5'
2 Pedestrian Light	
C Luminaire type	Globe
D Concrete pole height	10'
3 Historic Street District Lighting	
C Luminaire type	Globe
E Concrete pole height	15'
4 Traditional Street Light	
F Concrete pole height	20'
Luminaire type	Pendant
G Arm extension length	6'
H Secondary pedestrian arm extension length	3'

- e) Streetlights shall be shielded and / or recessed to direct lighting downwards and reduce upwards glare.
- f) All streetlights shall support an armature suitable for hanging banners. Such armatures shall be spring loaded. Armatures and banners shall be elevated over seven feet from the ground plane and shall not extend over the street.
- g) Flashing pavement lights should be considered for crosswalks to enhance pedestrian safety at night.
- h) Historic streetlights located in the Capital and Cultural District should use the pedestrian lighting identified in Section 2.6.2.

2.6.2 Pedestrian Lighting

- a) Pedestrian light fixtures shall be placed along pedestrian paths, plazas, and other public spaces.
- b) Pedestrian lights in areas without streetlights shall be spaced between 50 feet and 100 feet. Placement should take into consideration vegetation and other obstructions that can block light. Bollard lighting is an acceptable alternative for pedestrian lighting where appropriate.
- c) LED bulbs shall be used for all pedestrian lighting in the public realm.
- d) Pedestrian lighting in the form of wall mounted fixtures shall be prohibited in public spaces.
- e) Up-lighting structures, landscape, or signs should be to highlight significant and important cultural elements in the streetscape but shall not be the primary pedestrian light source.
- f) Pedestrian lighting should be shielded to direct light downward, reduce glare and light pollution, and confine light within the site's boundary.

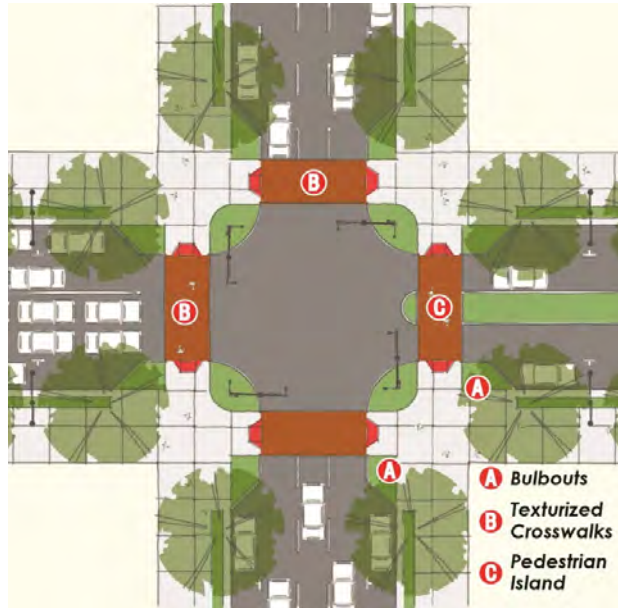
2.6.3 Pedestrian Safety

- a) Bulb-outs should be spaced between every seven on-street parking spaces and at intersections to give pedestrians a shorter distance to cross the street, provide protection to parked cars, and act as traffic calming devices. Bulb-outs shall be at least the width of an on-street parking space as to provide protection for parked cars from cars turning onto the street. Mid-block bulb-outs can also be in the form of planters to increase landscaping on the streetscape.
- b) All intersections shall contain identified or texturized crosswalks with pedestrian crossing signs. Crosswalks at intersections should incorporate material or textural changes—such as poured concrete with a brick impression that is stained a natural brick color.
- c) Intersections shall be well lit at all times of the day. See Section 2.6.1.
- d) Traffic calming measures should be implemented at all intersections in correlation with Table 2-5.

Table 2-5. Traffic Calming Requirements

Measure	Type of Intersection
Identified crosswalks	All
Textured crosswalks	Highway / Highway Highway / Collector
Raised crosswalks	Local / Local
Bulb-outs at intersections with on-street parking	All
Pedestrian islands on center medians	Highway / Highway Highway / Collector Highway / Local
HAWK (High-Intensity Activated Crosswalk) Signal	Midblock Highway Collectors with high pedestrian crossings

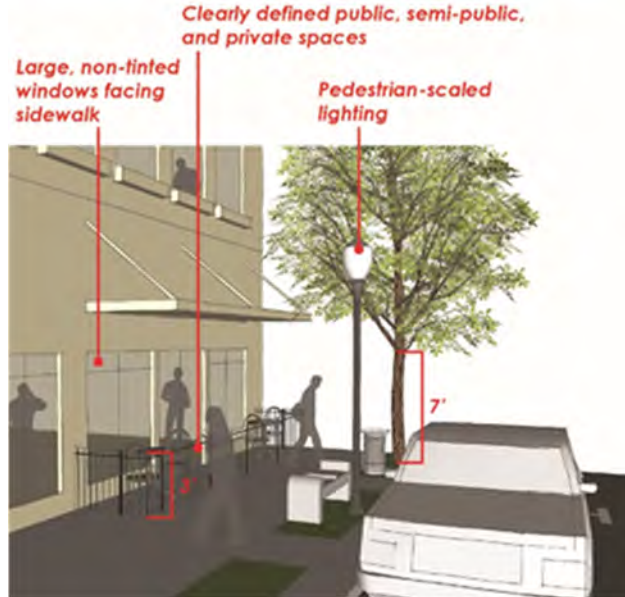
- e) All streets and other public spaces and access points shall be ADA compliant.



Bulb-outs, pedestrian islands, and textured crosswalks enhance the pedestrian environment and make street crossing easier and safer.



HAWK signals provide opportunities for pedestrians to safely cross busy streets.



Example of how streetscapes should be designed for safety.

2.6.4 Visibility

- a) Large windows facing public spaces increases “eyes on the street,” or natural surveillance into public spaces.
- b) To support keeping eyes on the street from large windows, obstructions obscuring views into public spaces shall be removed and vegetation shall be maintained. Shrubs and other small plants should not grow over 3 feet in height, and tree canopies should not fall below 7 feet.
- c) Residential units should be oriented towards the street and include front porches and / or balconies overlooking public space.
- d) Surveillance cameras should be considered atop traffic lights at intersections and highly trafficked locations, as well as at public open spaces and plazas.
- e) Emergency kiosks should be placed in publicly-owned open spaces.

2.6.5 Lighting Designs

- a) Buildings having wall lanterns (farol) placed on the entrance of the building traditionally signify the structure as a government building.
- b) Streetlamps and similar lighting features, both historical and traditional, should have a simple and functional design to encourage the spirit of vernacular architecture. Shaped streetlamps, with simple design, austere and functional.

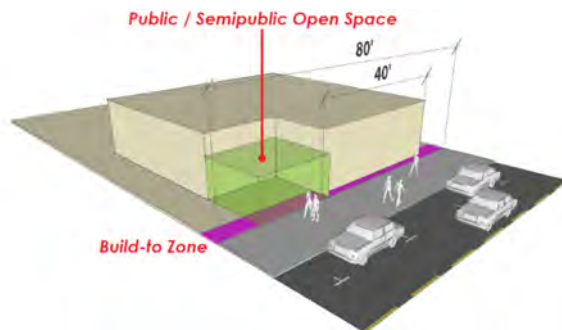
HAGÁTNĀ MASTER PLAN

Preserving Our Past. Shaping Our Future.

3 Architectural Design

Design objectives supported:

- ✓ **Culture**
- ✓ **Pedestrian Experience**
 - Mobility
 - Safety & Security
 - Environmental Protection
- ✓ **Urban Design**



Maximized street frontages enhance the pedestrian realm by creating a more visually engaging environment.

3.1 Introduction

This section provides guidelines for the form and appearance of buildings (public and private) as well as how buildings relate to each other and surrounding areas. Included are guidelines for building orientation; mass, form, and articulation; public realm features; building styles; roofs; and doors and windows.

3.2 Building Orientation

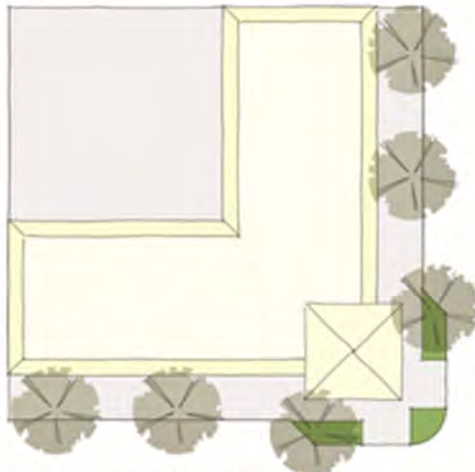
Building orientation refers to the way in which a structure sits on a property. Ensuring all new buildings are compatible with existing developments and support a pedestrian friendly experience along streets and trails is essential.

3.2.1 General

- a) Buildings should maximize street frontage with a minimum of 50% of the structure's front façade within the build-to zone, which is identified in the Zoning Code.
- b) Properties along trails should consider secondary frontage along the trail's ROW,
- c) Loading zones shall not be located along a public roadway or trail.
- d) If the building form creates a significant enclave or void along the street (L-shaped and U-shaped buildings), the open area should become public / semipublic open space, such as a plaza or courtyard.

3.3 Mass, Form and Articulation

Establishing mass, form and articulation standards for each building are important to create cohesive developments throughout the community that support Hagåtña's identity and vision. However, these guidelines are flexible enough to permit design freedom.



Prominent Building Articulation

Design objectives supported:

- ✓ **Culture**
- ✓ **Pedestrian Experience**
 - Mobility
 - Safety & Security
 - Environmental Protection
- ✓ **Urban Design**

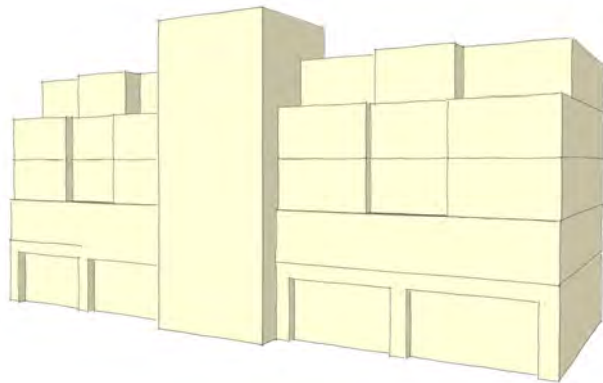


Engaging Public Plaza

Corner lot articulation, whether it is through an extending architectural feature or recessed public plaza, can help enhance the built environment.

3.3.1 General

- a) Site configuration and design should be influenced by and proportional to the form and design of adjacent properties, and new buildings should be evaluated for consistency.
- b) Except within the CBD zoning district, structures should be of similar heights in relation to the adjacent properties. Buildings that have additional stories compared to the neighboring properties should have the upper floors stepped back as to not overpower the neighboring structures.
- c) A building's principal entryway shall be directly accessible from the primary street. Buildings on corner lots should have an entryway oriented toward the intersection ().
- d) Building façades should differ from other nearby structures, while retaining similar patterns and architectural features.



Articulation helps breakup a street wall into a more human scale form, creating a more exciting and comfortable pedestrian experience.

- e) Building façades should have articulation both horizontally and vertically to avoid box-like structures and blank walls.
- f) Except within the CBD zoning designation, corner lot developments may be two stories or 24 feet taller than the adjacent buildings, with step backs being encouraged. This height difference will help visually define an entrance point to the block.
- g) New buildings located in the CBD zoning designation are not required to design structures with similar heights compared to adjacent properties.
- h) Ground-floor storefronts should appear to be smaller in scale than the overall building by breaking up the structure's massing and through the use of articulation and other ground-level architectural details (). Storefronts should be less than 100 feet. Storefronts longer than 50 feet should be broken up by planar changes of at least 24 inches.
- i) Buildings with heights greater than 50 feet should be divided into three smaller components, a base, a middle, and a top:
 - Base – Shall incorporate features and amenities in Section 2.3 and should be one- to two-stories or 25 feet tall.
 - Middle – May incorporate unique window treatments and should serve as the main, identifiable body of the building.
 - Top – Should be stepped back to create visual interest and should appear less bulky than the base and middle. Varied roof lines and cornices are recommended.
- j) For buildings over 50,000 square feet, consider including semiprivate and / or private interior courtyards for increased natural lighting within the structure's core. This also fosters a semiprivate gathering space for residents.

Design objectives supported:

Culture

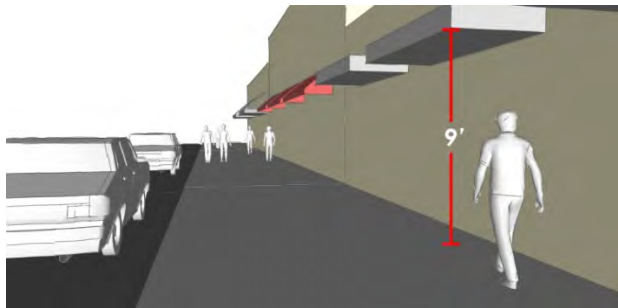
✓ **Pedestrian Experience**

Mobility

Safety & Security

Environmental Protection

✓ **Urban Design**



Awnings provide protection from the sun through shaded areas, which promotes a walkable environment.

3.4 Public Realm Features

Certain building features have greater influences on the public realm when they are included along sidewalks, street ROWs, trails, and plazas. Providing appropriate features and amenities along these spaces support an exciting and more comfortable pedestrian experience and community.

3.4.1 General

- a) Ground floor commercial and office buildings should include awnings over windows if they are exposed to direct sunlight. Awnings should be at least nine feet above the ground and extend three to five feet from the façade over the public space. Awnings shall be concrete and should be complementary to the building.
- b) Except within residential zoning designation Low-Density Residential (LDR), buildings near heavily used pedestrian areas should include covered walkways in the form of recessed arcades or projected, covered walkways that encroach upon the Frontage and Walking Zones. The covered walkways should provide pedestrians with shade from the sun and protection from inclement weather.
- c) Certain building uses, such as a hotel, restaurant, or residence, could benefit from having a rooftop terrace. Rooftop terraces are encouraged to be incorporated into buildings.
- d) Bright, non-natural colors should not exceed 15% of a single façade in any land use district other than residential. Color may be applied to façade materials where appropriate for accents and focal points in structures, or where stated otherwise.

Design objectives supported:

- ✓ **Culture**
- ✓ **Pedestrian Experience**
 - Mobility
 - Safety & Security
 - Environmental Protection
- ✓ **Urban Design**



Changing building materials along a façade helps create visually engaging environment.

3.5 Building Styles

Each new development has a significant influence on an area's character and identity. Ensuring all new buildings are compatible with Hagåtña's character and identity is crucial to supporting and protecting cultural and community values of the city.

3.5.1 General

- a) Buildings should be of concrete construction and façades should be composed of glass, stone, painted stucco, or smooth plaster. Other materials may be used for accent features if it is less than 20 percent of the facade.
- b) All materials used on the first floor of a building shall be applied with a graffiti resistant coating.

3.5.2 Districts

- a) Due to the different uses, intensity of use, and prominence of the *Capital Cultural District* and the *North Riverwalk District*, a higher level of architectural design is recommended than in the other districts. All new development or change of use, signage, building façade treatment, streetscaping, and development intensity shall be designed so as to conform to the Hagåtña Master Plan and Zoning Ordinance.
- b) Since the majority of the historical structures in Hagåtña's are located in the *Capital Cultural District*, new developments should reflect the history and be designed for compatibility. This area will also be focused on government and public / open space. The architectural character should be inspired by CHamoru-Spanish Vernacular architecture. These buildings are gathered around shared open spaces and will achieve a sense of unity in the civic areas of the city.
- c) The *Riverwalk District* is located along the proposed Riverwalk Trail along the Hagåtña River. This area has been disconnected from the river for decades. New development should be mixed-use and relate and connect to the river. The architectural character in this district allows for more flexibility with respect to colors and roof styles. Contributing elements to structures in this district include modern style with rectangular and square shapes, flat or low-pitched gabled roofs.

- d) Building styles in each district should substantially conform to the guidelines established Table 3-1 below.

Table 3-1. Architectural Styles

Feature	Guideline
Capital and Cultural District	
Primary Exterior Surface	Plaster or stucco, smooth finish
Exterior Colors	White
Roof Type	Gable, multi-level
Roof Material/Style	Red terracotta tiles
Additional Features	Balconies, exposed wood beams, arcades, courtyards, and shared spaces between buildings
Riverwalk District	
Primary Exterior Surface	Plaster or stucco, smooth finish
Exterior Colors	White, gold, pink, neon, orange
Roof Type	Hip, mansard, gable
Roof Material/Style	Stamped concrete tiles
Additional Features	Balconies, arcades, square and rectangular shapes, high ceilings, and patios
Primary Exterior Surface	Hollow-block cement
Exterior Colors	White, brown, yellow, blue
Roof Type	Flat, hip
Roof Material/Style	Stamped concrete tiles
Additional Features	Balconies, porches
Primary Exterior Surface	Stone and mortar, white plaster
Exterior Colors	White, brown, yellow
Roof Type	Gable, hip
Roof Material/Style	Terracotta or stamped concrete tiles
Additional Features	Stone exterior stairways, terraces, raised masonry porches with overhanging roofs



Typical Spanish Colonial Architecture, rendering of the Palacio



Modern Block Home. <http://www.guampedia.com/changes-in-construction-styles/>

3.5.3 Traditional CHamoru Architecture

- a) The design of buildings should reflect traditional CHamoru culture, which can be an expression of CHamoru-Spanish Vernacular Architecture.
- b) Building design should use the mamposteria construction style when appropriate.
- c) Construction should be primarily made of stone and mortar. Bright colors may be used as accent colors where appropriate (see).
- d) The design of buildings should incorporate high ceilings on the first floor of public and commercial buildings.
- e) Traditional style of architecture should incorporate balconies on upper floors or stories and should be wrapped with spindles (see).
- f) Pitched roofs should have an overhang of at least three feet (see).
- g) Wide stairwells should lead to the entrance of residential buildings with broad sidewalls and a space for a planter at the bottom (see).
- h) Structures should have generally square or rectangular shapes with uneven features (see).



Sample features found in traditional CHamoru architecture



Example of wide stairwells.



Example of traditional CHamoru building form with rectangular shapes and uneven features.

Design objectives supported:

- ✓ **Culture**
 - Pedestrian Experience*
 - Mobility*
 - Safety & Security*
- ✓ **Environmental Protection**
 - Urban Design*



Concrete tiles can take similar looks to clay tiles but are more resistant to high winds and storms.

3.6 Roofs

Roofs feature many different forms and are significant features in a city's skyline. The following guidance is established to create cohesiveness with rooflines, as well as establish usable spaces and stormwater mitigation.

3.6.1 General

- a) All pitched roofs, roof covering shall be made of poured concrete with a tile form that reflects the look of clay tiles, but with greater resistance to high winds. Clay tile roofs shall only be permitted for historic structures where this roofing is necessary to maintain the historic design or for the partial replacement of an existing tile roof and structures surrounding the Plaza de España.
- b) For all pitched, concrete colors should be in the range of terra cotta and brown tones.
- c) Flat roofs should be coated in silicone.
- d) Solar panels can be used on roof structures if the design does not produce glare on adjacent properties or public spaces.

Design objectives supported:

- ✓ **Culture**
- ✓ **Pedestrian Experience**
 - Mobility*
 - Safety & Security*
- ✓ **Environmental Protection**
 - Urban Design*



Features, such as arched windows, storefront windows, and deep-set windows, make buildings more approachable and less expensive to cool.

3.7 Doors and Windows

Doors and windows are a defining and prominent feature in all buildings and can have significant effects on aesthetics, pedestrian comfort and building performance. Establishing standards and guidelines for doors and windows is essential to support Hagåtña's character, pedestrian safety, and sustainable buildings.

3.7.1 General

- a) Building entrances should consider arched doorways and openings.
- b) Doors and windows on buildings should be inset a minimum of one foot to maximize shade and to reduce solar heat gain in the building. Recessed area will also allow installation of typhoon shutters not on the façade of the building.
- c) Storefront windows shall be at minimum five feet tall, and the bottom shall be no more than three feet above the sidewalk.
- d) Windows larger than eight square feet should be divided into smaller sections by integrating mullions into their design.
- e) Window details such as sills, caps, sashes, and lintels should be incorporated, but variations of windows shall be limited or complimentary within the building.
- f) New construction should strategically design and place windows to maximize indirect sunlight and passive solar heating.
 - North-facing exterior walls should maximize window openings for indirect sunlight.
 - South-facing exterior walls should include sun shading mechanisms over any opening at windows to block direct sunlight.
 - East-facing exterior walls should maximize window openings for early morning sunlight.

- West-facing exterior walls should include sun shading mechanisms over any opening or window to block or filter afternoon sun.

- g) Dark, reflective, and otherwise mirrored glass shall be prohibited for use on storefront windows.

Design objectives supported:

Culture

Pedestrian Experience

Mobility

Safety & Security

✓ ***Environmental Protection***

Urban Design

3.8 Flood Zones

The majority of Hagåtña is currently located within a flood zone. The city is in the process of reconfiguring the flood zone, which, in the future, will not impact the same properties. Guidelines are for new developments, which will be recommended to be transitional in nature until the flood zone has been reconfigured.

3.8.1 General

- a) For all new developments within the current flood zone, the ground floor should be utilized for parking or other temporary uses and built in such a way to allow water to pass through unimpeded. Flood resistant building materials should be utilized.
- b) Once the flood zone has been reconfigured and a property is no longer within the flood zone, the ground floor should be redesigned for the highest and best use.



Design objectives supported:

- ✓ **Culture**
- ✓ **Pedestrian Experience**
 - Mobility*
 - Safety & Security*
- ✓ **Environmental Protection**
 - Urban Design*



Landscaping, such as the placement of trees, can help to block views into residences.

4.1 Introduction

The way in which private developments relate to the public realm contributes to Hagåtña's character and identity. Establishing guidelines for site design is important for ensuring all sites help fulfil Hagåtña's vision. These guidelines address issues related to specific components of developments, such as viewsheds, parking, and service areas.

4.2 Viewsheds

Hagåtña has many historic and cultural landmarks that create identity for the city as well as natural environments that have shaped its culture. Preserving viewsheds in Hagåtña is important for maintaining the unique character of the city.

4.2.1 General

- a) New buildings should create viewing opportunities of natural and cultural features in Hagåtña where applicable.
- b) New buildings should not obscure views of significant natural and cultural features within the city.
- c) New buildings should not encroach upon the privacy of existing residential units and their private outdoor space. A landscaped buffer should be provided to increase privacy along the adjoining property line if necessary and should adhere to landscaping Design Guidelines in Section 2.4.

Design objectives supported:

- Culture*
- ✓ **Pedestrian Experience**
- ✓ **Mobility**
- Safety & Security*
- Environmental Protection*
- Urban Design*

- d) Landscaping and amenities that are located along the shoreline, nearby cultural and historical landmarks, and other prominent locations shall not dominate the view.

4.3 Parking

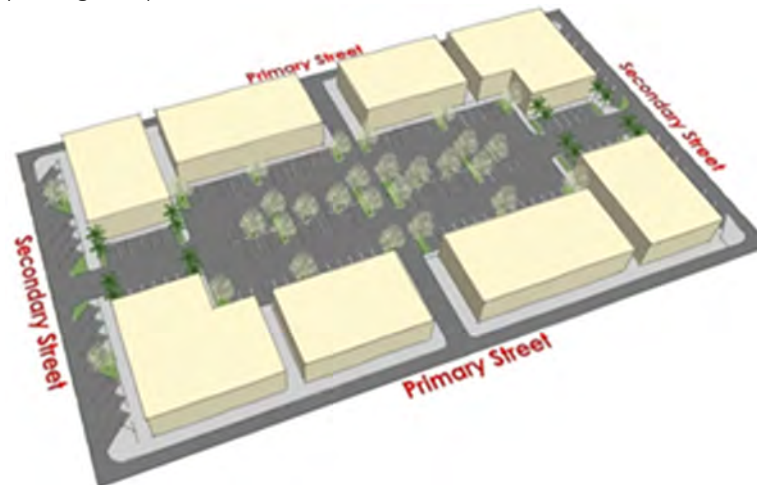
Parking is an essential urban component, but when poorly designed, can hinder walkability and create unattractive places. Well-designed parking plans retain the city's character while meeting parking demands for residents and businesses. Designing for parking in Hagåtña will help to create convenience and improve traffic flow along streets. This section includes Design Guidelines for on-street parking, parking lots, and parking garages. Required parking rates and other regulatory requirements are found in the Hagåtña Zoning Code.

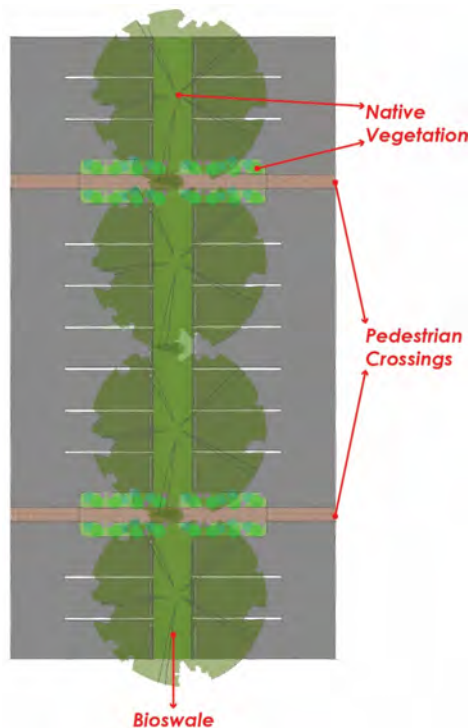
4.3.1 On-Street Parking

For design guidance, see Section 2.2.6.

4.3.2 Parking Lots

- a) Parking lots should not dominate street frontages or shoreline areas. Parking lots should be placed in the back of the property and away from the primary street (ex. RCA building parking area).





Landscaping in parking lots can enhance the aesthetics of a property, reduce stormwater runoff by providing pervious surfaces for rainwater to flow to, and provide shading along pedestrian paths through a parking lot.

- b)** Adjacent lots should establish reciprocal access to parking lots and internal circulation to minimize curb cuts.
- c)** The perimeter of any outside parking areas that face a public street should be landscaped to create a visual screen from the street. Landscaping shall adhere to the landscaping guidelines in Section 2.4.
- d)** A pedestrian path should be provided from the end of the parking lot to the primary entrance of the building.
- e)** Shared surface parking or parking garages are preferred and encouraged for all mixed-use developments and multi-tenant commercial developments.
- f)** Surface parking lots should include landscaped islands at least every seven spaces and at the end of each parking row to reduce the visual impact of the lot and to mitigate stormwater flooding. Landscaped islands should be at least three feet by three feet and be wide enough to protect trees and vegetation against bumper overhand and swinging doors.
- g)** Landscaped areas in surface parking lots should be protected from vehicular encroachment by a vertical curb six inches in height.
- h)** Parking lots shall provide designated parking spots for persons with disabilities. These spots shall be clearly marked and shall be ADA-compliant.
- i)** Parking should be located away from the edge of bodies of water, such as the shoreline and the Hagåtña River, when feasible.
- j)** There should be at least one bike rack for every 20 vehicular parking spaces developed. See Bike Rack Design Guidelines Section 2.3.3, Furnishings and Amenities.



Example of a surface parking lot using grass pavers to help mitigate stormwater.



Mixed-use parking garages provide pedestrian friendly activities on the ground floor. The use of vegetation and screening along the garage facade maintains a high level of aesthetic along the streetscape.

- k)** Pervious pavement and grass pavers should be considered for surface parking lots to mitigate stormwater runoff. See Design Guideline 2.4.2.

4.3.3 Parking Garages

- a)** Parking garages shall be well lit with LED lighting. Lighting within the garage should not create excessive glare for neighboring residential units.
- b)** Public parking garages throughout the city should have the same aesthetic design and shall be clearly identified by signage and wayfinding.
- c)** Public parking garages should incorporate public art along the façade of the structure.
- d)** Elevators and stairs should be located on corners with high pedestrian activity and should be clearly marked with signage along the perimeter of the parking structure. This will help to lessen the use of ramps as main pedestrian access points within the garage.
- e)** Parking garages should have an external skin when exposed to the public right-of-way as to not deter the visual character of the streetscape.
- f)** The street frontage of parking garages should be lined with ground-floor commercial uses to promote pedestrian activity.

4.4 Service Areas

Loading docks, shared trash receptacles, utility areas and similar facilities are critical components of functional developments, but if poorly designed can interrupt circulation and detract from the visual character of the building and area. Properly planned and sited service areas are screened from the public view while still retaining their essential functions. This section covers loading docks, trash receptacles, and utilities.

4.4.1 Loading Docks

- a)** Loading and unloading zones should be located in the rear of buildings and accessed through a service entry way if possible.



Landscaping screens these utilities and enhances the aesthetics of both these utilities and the overall site.



An example of an enclosed trash receptacle location that is compatible with the main building it is associated with. A roof

4.4.2 Trash Receptacles

- a) Trash collection location areas shall be located in the rear of buildings, away from pedestrian entrances.
- b) If located outside, the trash collection area shall be enclosed by a seven-foot wall. Wall material shall be compatible with the main building, and an access gate shall be lockable both in the open and closed position.
- c) The perimeter of the trash collection wall should be landscaped to screen the view.

4.4.3 Utilities

- a) Where feasible, utilities should be placed off the ground plane, either underground or on roofs of structures and set back from the front building façade so it is not visible from the street.
- b) Utility connections located on the ground plane should be located in the rear of structures when possible.
- c) Utilities should be screened with shrubs and other vegetation from public view, while maintaining accessibility.

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Design objectives supported:

- ✓ **Culture**
- ✓ **Pedestrian Experience**
 - Mobility*
 - Safety & Security*
 - Environmental Protection*
- ✓ **Urban Design**

5.1 Introduction

There are areas within Hagåtña that require additional guidelines to support the City’s vision, goals, and aspirations. Specific Area Guidelines typically focus on a particular property, block, neighborhood, or broader area, such as the development of an entire civic center or new community and public spaces. These guidelines ensure that each specific area reflects a unique and recognizable design that identifies the area. The Specific Area Guidelines section focuses on the Capital and Cultural Sub Area, Riverwalk District, Historical and Cultural Sites, and Shoreline Protection.

Guidelines set forth in this section are in addition to the general guidelines established throughout the Design Guidelines. If guidelines in the Specific Area Guidelines contradicts guidelines as written in another section, the guidelines in this section will apply.

5.2 Capital and Cultural Sub Area

The Capital and Cultural Sub Area has a rich history in being the government center for Guam and will be designed to enforce the function of the sub area. This section includes Design Guidelines for structures, streetscape, landscaping, and maintenance within the Capital and Cultural Sub Area.



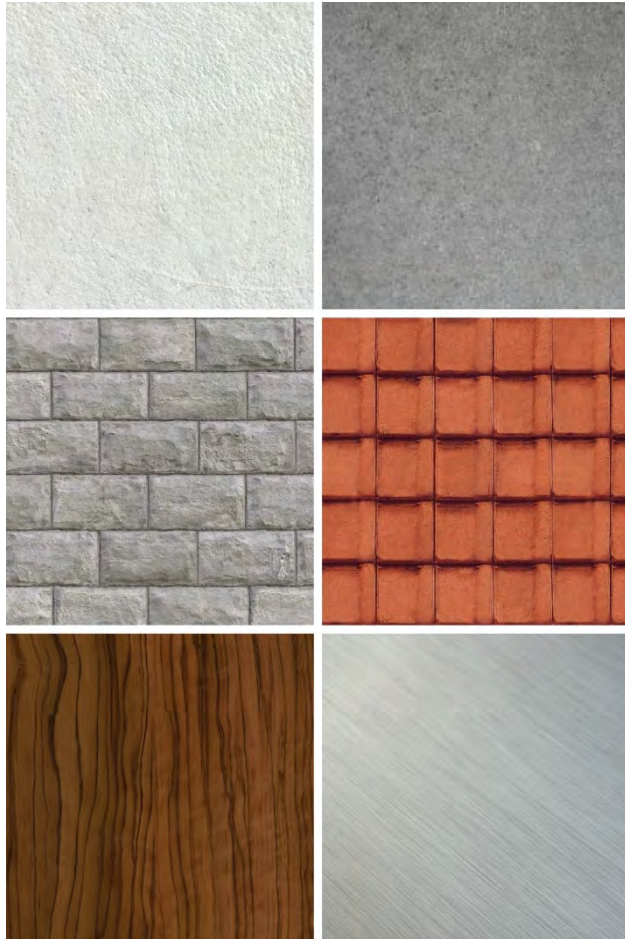
Structures in the Capital and Cultural sub area should be of similar architectural style to the historic Governors Palace of the 19th century.

5.2.1 Structures

The following guidance shall be used for new structures in the Capital and Cultural sub area of Hagåtña's City Center District.

Style	<i>CHamoru-Spanish Vernacular Architecture</i>
Mass	<i>Simple regular forms</i>
Materials	<i>Stucco, clay tile roofs, wood, concrete, flagstone</i>
Texture / Pattern	<i>Smooth texture with a recognizable pattern</i>
Color	<i>Natural hues, terracotta, and neutral earth tones</i>
Detail	<i>Exposed wood trim, columns, wide stairwells, balconies with wood spindles, logo of government agency occupying the building</i>
Scale / Proportion	<i>All structures should have similar scales</i>

- a)** Columns and posts shall be of similar design, creating a unified and cohesive feeling throughout the Sub Area.
- b)** Architectural articulation on the second floor that extends past the 6 feet overhang limit is acceptable. Overhang should be centrally located and limited to 30 feet in length, or 50% of the structure's width—whichever is shorter.
- c)** Balconies may be placed on the second floor if there is no overhang but should not extend more than four feet from the façade.
- d)** Façades should have an identifiable rhythmic pattern or cadence embedded in the architectural detail, such as windows, doors, articulation, and textures.
- e)** Roof styles should be either hip or gable or a mixture of the two.
- f)** New government buildings should feature shared covered walkways with stone pavers and railings.



Color and texture palette for the Capital and Cultural District: (from left to right) white stucco, concrete, bricks, terracotta roof files, wood, aluminum.

- g)** New structures in the Capital and Cultural District should incorporate similar design principles as the historic Palacio. At the same time, new developments are encouraged to modernize new facilities to provide design flexibility to the district. Such details new buildings should incorporate include the following:

- Stamped concrete roof tiles
- B** Stucco exterior walls with a smooth or worm finish
- C** Logo of government agency occupying the building
- D** Wood or wood veneer columns
- E** Wood spindles
- F** Balconies



Sample features new buildings in the Capital and Cultural District should incorporate into new developments to create a cohesive government center.

- h)** Colors should be limited to the natural hues of materials and other earth-tone colors. Stucco exterior siding should be white, and roofs should be terracotta (whether or not they are clay tiles or stamped concrete).
- i)** Trolley Stops within the Sub Area should be of similar architectural style as the surrounding historic buildings and adhere to the transit stop guidelines outlined in Section 2.2.5 designed specifically for the Sub Area.



Uniform landscaping within the Plaza de España, and the Capital & Cultural Sub Area as a whole, helps create an environment with a sense of place unique to the Sub Area.

5.2.2 Streetscape

- a)** Sidewalks shall be at least 10 feet wide and include pedestrian amenities, such as benches, historic streetlights, trash bins, and bike racks. Pedestrian amenities should adhere to Section 2.3.
- b)** Sidewalks throughout the district should be made of stamped concrete pavers.
- c)** Each intersection shall have identified crosswalks, sufficient lighting, benches, and trash / recycle receptacles where sidewalks intersect.
- d)** Crosswalks shall include a material change from the asphalt street to stamped concrete pavers with a natural colored stain.

5.2.3 Landscaping

- a)** Landscaping should express a formal, geometrical design.
- b)** Royal Palms should be evenly-spaced on both sides of all streets. Rows of Royal Palms should all line internal sidewalks within the Plaza de España that lead to government buildings.
- c)** Native canopy trees should be strategically placed to provide shade in public gathering areas and periodically throughout Plaza de España.
- d)** All structures, landscaping, and R.O.W.s shall be regularly maintained, and deficiencies should be repaired within a reasonable amount of time.

Design objectives supported:

- ✓ **Culture**
- ✓ **Pedestrian Experience**
 - Mobility*
 - Safety & Security*
 - Environmental Protection*
- ✓ **Urban Design**

5.3 Riverwalk District

The Riverwalk along the Hagåtña River provides a unique opportunity for a new destination and activity hub in Hagåtña. These guidelines help create a new distinctive identity for the Riverwalk District that will support a vibrant, active, mixed-use community in Hagåtña, much different than the other districts. The following guidance shall be used for new structures in the Riverwalk District.

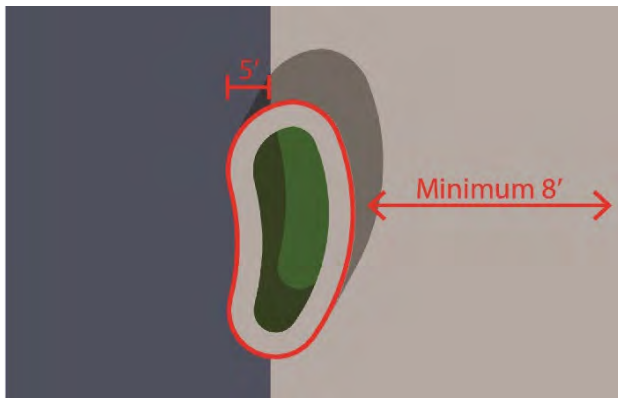
5.3.1 Structures

Style	<i>No style requirements</i>
Mass	<i>Ground floor massing should be broken down into smaller forms. No requirements for upper floors</i>
Materials	<i>No requirements</i>
Texture / Pattern	<i>Patterns may be irregular to create interest</i>
Color	<i>Bright colors may be used as accent colors</i>
Detail	<i>Balconies, awnings, planters, large windows, outdoor seating areas</i>
Scale / Proportion	<i>Up to 20 feet should be smaller scale, or human-scale features. No requirements above 20 feet</i>

- a) Building design should include restaurants and outdoor seating areas. Buildings with restaurants on the first floor should ensure enough room is provided for umbrellas to open at each table.
- b) Structures along the Riverwalk Trail should incorporate gallery storefronts that create shade and shelter for pedestrians. Restaurants may have outdoor seating within these gallery areas and will not require umbrellas so long as tables are completely under the gallery shelter.



A bright color palette will help make a more vibrant atmosphere in the Riverwalk District.



Example of a landscaped bulb-out that breaks the linearity of the Riverwalk Trail and provides vegetation and shade.

- c) Buildings and structures should use bright accent colors in the public realm to create a vibrant atmosphere. Accent colors may be painted on stucco or other exterior surfaces but should not exceed 25% of the total surface area of a single façade.
- d) Upper floors should include balconies that overlook the Hagåtña River where appropriate.

5.3.2 Riverwalk Trail

- a) The Riverwalk Trail should provide ample seating, whether it is along ledges or in the placement of benches and / or tables and chairs.
- b) The trail shall be constructed of porous pavers, either brick pavers or flagstone to allow stormwater runoff to flow through. The surface material may alter along the trail but must remain porous.
- c) Landscaped bulb-outs () should be periodically located between the Hagåtña River and trail to create a winding path along the Riverwalk Trail. Such bulb-outs should be enclosed by a retaining wall that is 18 inches in height measured from the trail surface and 12 to 24 inches in depth. Length and width of the bulb-outs may vary but should not extend more than five feet into the Hagåtña River and shall ensure there is at least eight feet available along the Riverwalk Trail.
- d) Signage along the Riverwalk Trail should differ from signage across Hagåtña. The district should develop a new unique identity along the Riverwalk Trail. Signage may be bright, neon, and 15% larger than the standard requirements. More design flexibility should be given to properties and business along the Riverwalk Trail.

Design objectives supported:

- ✓ **Culture**
- ✓ **Pedestrian Experience**
 - Mobility*
 - Safety & Security*
 - Environmental Protection*
 - Urban Design*



Iconic landmarks, like the arches of the Almacén, should be well-maintained and protected from alteration and deterioration.

5.4 Historical and Cultural Sites

Hagåtña has an abundance of historic and cultural sites that form the City's character and identity, such as CHamoru Village, Arches of the Almacén, Hagåtña Spanish Bridge, and the Dulce Nombre De Maria Cathedral. Preserving these landmarks and sites through the design of neighboring development will help maintain the historic and cultural character of the city.

5.4.1 General

- a) New developments within 100 feet of a historic building or cultural site should adopt similar articulation, patterns, materials, and floor heights (or perceived floor heights) used in the historic building.
- b) New structures adjacent to a historic structure shall have a gap of at least 20 feet.
- c) Structures located within 200 feet of a historic structure must have a compatible height. Building heights within 50 feet from the historic structure's edge shall match the height of the historic structure. Following the 50-foot height match distance, an extra 12 feet in height may be added to new buildings in 30-foot intervals up to the 200-foot compatible height distance.
- d) Underutilized historic and cultural structures should be adaptively reused in the design of new developments when feasible instead of being demolished.
- e) The removal of iconic markers, materials, or features that characterize a historic site shall be prohibited.
- f) Historical landmarks and buildings shall be maintained regularly to preserve their integrity.
- g) Maintenance of historical landmarks shall be conducted in a way that is sensitive to the material and age.
- h) Street signs located in historic and cultural sights should follow standards outlined in the Design Guideline's Section 6.3.1.

Design objectives supported:

- ✓ **Culture**
 - Pedestrian Experience*
 - Mobility*
 - Safety & Security*
- ✓ **Environmental Protection**
 - Urban Design*



Hagåtña's shoreline offers a multitude of ecological and economic benefits including storm surge protection and tourist destinations.

5.5 Shoreline Protection

Hagåtña's shoreline is a precious resource that needs to be protected. As the drawn of the capital become more prevalent, visitors will be inexplicably attracted to the shoreline. Because of this, guidelines and protective measures should be in place to help sustain and maintain the natural beauty of Hagåtña's shoreline. This section includes guidance on signage, setbacks, amenities, and structures.

5.5.1 Signage

- a) Safety signs shall be posted throughout the shoreline to alert visitors of the effects of damaging local ecology.
- b) Existing native vegetation should be protected along the shoreline, and signage should identify specific types and species along the Waterfront Trail.
- c) Public access to the shore should be protected and marked with signage.

5.5.2 Setbacks

- a) Development along the coastline shall be set back a minimum of 20 feet from the established shoreline to protect the coastline's ecology.
- b) Setbacks for new development or redevelopment endeavors should consider a 100-year planning timeframe to address the effects of sea level rise.
- c) Setbacks under public ownership shall allow for public access to the shoreline wherever feasible.



Infrastructure should be put in place to ensure that all citizens and visitors can enjoy Hagåtña's natural resources.

5.5.3 Amenities

- a) Public access ways to the shoreline should be accessible to all members of the community.
- b) Public amenities, such as restrooms and picnic areas, should be sited and designed in a way that reduces their visual intrusion on the shore.
- c) Trash and recycling receptacles located along the waterfront must be enclosed to protect water quality.

5.5.4 Structures

- a) Building densities should be lower closer to the shoreline to lessen the impacts of urbanization on the natural environment.
- b) Large-scale developments should include breaks between buildings to preserve views and maintain pedestrian access to the waterfront.

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6.1 Introduction

Signage refers to the design or use of signs and symbols to communicate a public or commercial message. Signage plays a large role in assisting in the navigation of public space, offering guidance and direction to destinations. Often, signage has a symbolic design that represents the area's values and character. It is important for Hagåtña to establish standards for signage design representing the City's character and identity, while limiting signage that does not. This chapter includes sections for gateways, wayfinding, and identification.

Design objectives supported:

- ✓ **Culture**
- ✓ **Pedestrian Experience**
- ✓ **Mobility**

Safety & Security

Environmental Protection

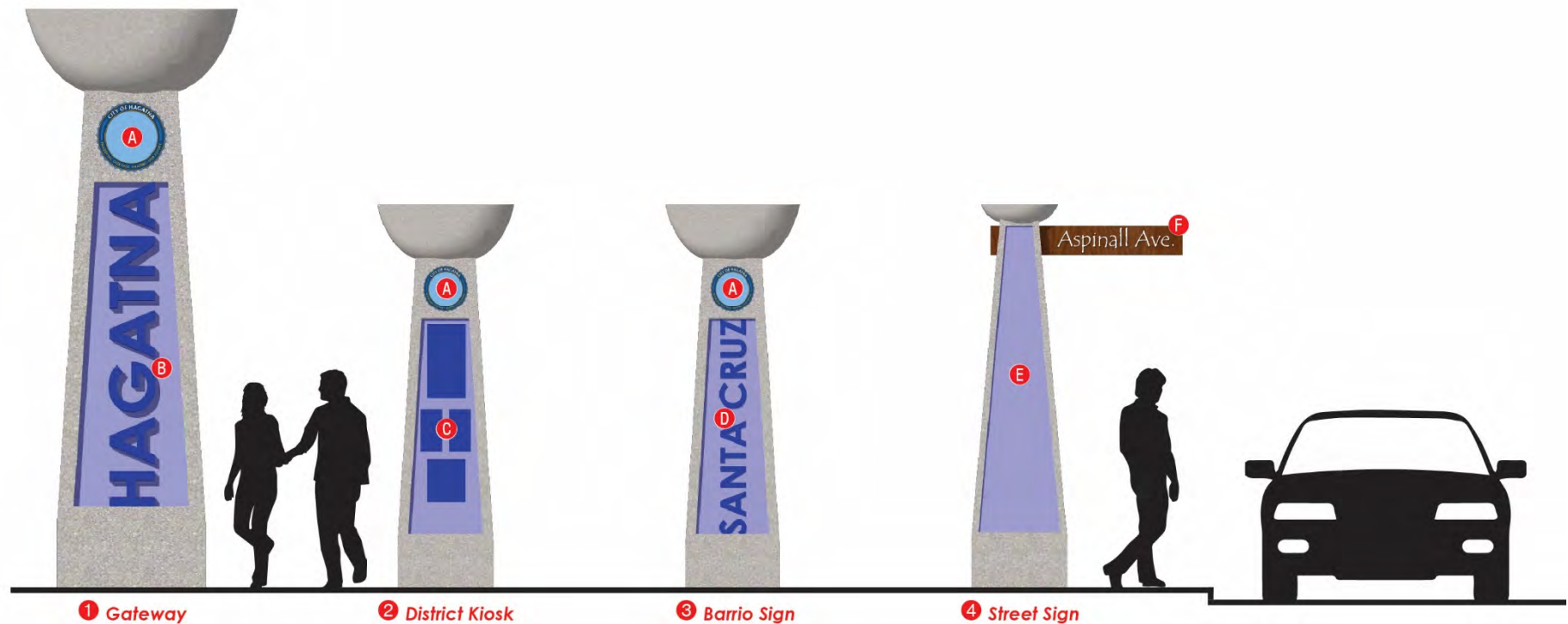
Urban Design

6.2 Wayfinding

Wayfinding signage assists in directing people to places. It is an essential function of the circulation system, supporting connectivity. This section provides guidance on street signs, barrio signs, and district kiosks.

6.2.1 Gateways

- a) Major gateways () should be 15 feet tall by four feet wide by four feet deep and shall be artistic entryways into Hagåtña along the city's primary entrances: where Marine Corps Drive and Route 4 enter Hagåtña. Such major gateways should resemble latte stones to represent Guam's culture and heritage.
- b) Minor gateways should replicate major gateways but reduced in size to be 10 feet tall by two feet wide by two feet deep and shall serve the same purpose as major gateways, but should be located at other entryways into the city along less heavily trafficked streets.
- c) Concrete shall be the primary material used in gateway monuments.



- d) Hagåtña's city seal (A) shall be visible on the front of the sign, and it shall not overlap any lettering or other information.
- e) Gateways should incorporate up-lighting to be highly visible at night.
- f) "Hagåtña" shall be written in extruded letters with at least 10-inch font and visible from the front of the sign (B).

6.2.2 District Kiosks

- a) District kiosks (2) should be located near intersections with high pedestrian traffic in each district.

- b)** The kiosks should be nine feet in height, two feet in length, and two feet in depth, large enough to be seen by bicyclists and motorists.
- c)** The design of the kiosks should reflect and resemble gateways, but the interior portion **C** should include maps and information for each respective district.
- d)** Kiosks should include information about the district such as the attractions and destinations that are located within the district, along with a map to guide them in the right direction.
- e)** District Kiosks shall display information in three languages: English, Japanese, and CHamoru.
- f)** Hagåtña's city seal (**A**) shall be visible from the front barrio signs and shall not overlap other information on the sign.

6.2.3 Barrio Signs

- a)** Barrio signs (**3**) should resemble minor gateway monument signs but should include the name of the respective barrio (**D**) instead of "Hagåtña" in extruded letters.
- b)** Barrio signs should be located at major intersections leading into the respective barrio but shall not replace gateway signs or district kiosk signs.
- c)** The name of the barrio shall be displayed vertical from top to bottom with at least 8-inch lettering visible from the front of the sign.
- d)** Hagåtña's city seal (**A**) shall be visible from the front barrio signs and shall not overlap other information on the sign.

6.2.4 Street Signs

- a)** Street signs () should be attached to traffic lights and stop signs at intersections where applicable and shall be made of aluminum with reflective vinyl lettering.

- b)** Street signs that display the name of the street must hang down from an arm of an aluminum pole and be secured to the arm with hinges to minimize pressure from high winds. The total height of the pole and sign should be 18 feet.
- c)** If an intersection does not have a traffic light, street signs shall be mounted to an aluminum pole that is at least nine feet in height. The aluminum pole should include both intersecting streets. The bottom of the street signs shall be at least eight feet from the sidewalk surface.
- d)** Street signs located in the Capital and Cultural District and other historic districts should resemble the character of Hagātña's historic street signs (4). Such street signs should be free standing at intersections. The base should be nine feet in height, two feet in length, and two feet in depth. The street signs should be made of primarily concrete and have a design to articulate the symbol of the latte stone. Desirable and appropriate graphic designs may be inserted into the interior of the base (E). The bottom of the street name panel (F) should 8 feet from the sidewalk and contain a wood veneer with white lettering with reflective material.

6.2.5 Banners

- a)** Banners should be hung on light poles within the Capital and Cultural District and Riverwalk District, and should display announcements of events, festivals, and programs in Hagātña.
- b)** Banners shall be attached with spring-loaded brackets to reduce pressure from high winds on both traditional and historic streetlights.
- c)** Banner material shall be resistant to inclement weather, such as heavy moisture and sun weathering.
- d)** Banners should have designs that are consistent with the character of the district in which it is located or with the city as a whole.
- e)** Banners should be available at a pedestrian scale and at a vehicular scale.



Banners on light poles notify residents and visitors of events occurring in Hagātña.

Design objectives supported:

- ✓ **Culture**
- ✓ **Pedestrian Experience**
- ✓ **Mobility**
 - Safety & Security*
 - Environmental Protection*
 - Urban Design*

- f) The bottom of the banner shall be at least eight feet above the sidewalk surface. If the banner extends over the roadway, the bottom of the banner shall be at least 14 feet from the roadway surface.

6.3 Directional Signs

Directional signs guide residents and visitors along designated paths throughout the city, such as bike lanes and trails. The Directional Sign section focuses on Design Guidelines for both bike network signs and trail network signs and markers.

6.3.1 Bike Network Signs

- a) Bike network signs should be located along a bike path or lane and should display the following information:
- The name of the trail
 - Nearby destinations that are accessible via the bike network
 - The distance and directions to destinations
- b) Bike network signs should be mounted on existing infrastructure such as street
- c) lights.
- d) The bike network signs should receive their own branding and be of different design than other signs within Hagåtña.
- e) Bike network signs should be six feet tall if mounted on a free-standing aluminum pole. They may be taller if mounted on existing infrastructure, but it may not be lower than six feet.
- f) Bike network signs shall be coated with a retroreflective material as to reduce glare and reflections.
- g) Bike network signs should be placed every 300 feet along the bike path.



Markers along trails educate visitors on specific landmarks and facts about Hagåtña.

6.3.2 Trail Network and Marker Signs

- a) Trail network signs should be placed at the beginning and end of a trail and should display key natural features along the trail and a brief history of the area.
- b) Trail network signs should be of unique design and be different than other signs within Hagåtña.
- c) Trail network signs should be five to six feet tall and may be mounted alongside standalone bike signs.
- d) Trail network signs should be placed every 300 feet and should display the names of the trail and the direction to attractions along the trail.



Trail signs guide users to destinations.



HAGÁTÑA MASTER PLAN

Preserving Our Past. Shaping Our Future.



HAGÅTÑA MASTER PLAN

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HAGÁTÑA MASTER PLAN

Map Atlas





HAGÁTÑA MASTER PLAN

Preserving Our Past. Shaping Our Future.



Map Atlas

Prepared for
Hagåtña Restoration and Redevelopment Authority (HARRA)
Hagåtña, Guam

Prepared by
 **Matrix**

August 2022

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Table of Contents

Introduction	1
Hagåtña Regional Setting.....	2
Demographics and Socioeconomics	4
Existing Land Use	8
Master Plans.....	10
Zoning.....	12
Land Ownership	14
Economic Development	16
Cultural and Historic Resources	18
Roadway Network.....	20
Transit and Alternative Circulation Systems	22
Parking.....	24
Water	26
Wastewater.....	28
Storm Drainage	30
Electrical Distribution	32
Public Buildings and Facilities	34
Parks and Recreation.....	36
Natural Resources	38
Natural Hazards – Seismic / Geological.....	40
Natural Hazards – Weather-Related	42
Man-Made Hazards	44
 Tables	
Table 1. Demographic Profile for Hagåtña and Guam, 2000-2010	4
Table 2. Housing Values for Hagåtña and Guam, 2010	6
Table 3. Gross Rent Data for Hagåtña and Guam, 2010	6
Table 4. Hagåtña and Guam Residential Housing Age, 2010.....	6
Table 5. Future Population Projections, 2012	6
Table 6. Existing Land Use in Hagåtña, 2015	8
Table 7. Hagåtña Master Plan 2005 Land Uses	10
Table 8. Hagåtña Zoning Districts, 2014	12
Table 9. Hagåtña Land Ownership, 2015	14
Table 10. Planned Public Building Capital Improvement Projects, 2015.....	16
Table 11. Register of Historic Places, Hagåtña, 2010	18
Table 12. Roadway Capital Improvement Projects, 2012-2015	20

Hagåtña Master Plan Map Atlas

Table 13.	Water Capital Improvement Projects, 2014-2019	26
Table 14.	Wastewater Capital Improvement Projects, 2014-2019	28
Table 15.	Storm Drainage Capital Improvement Projects, 2012-2015	30
Table 16.	Electrical Capital Improvement Projects, 2011-2015	32
Table 17.	Hagåtña Parks Acreage, 2015	36
 Figures		
Figure 1.	Hagåtña Regional Setting	3
Figure 2.	Population Pyramid for Hagåtña, 2010	4
Figure 3.	Existing Land Use.....	9
Figure 4.	Master Plan 2005	11
Figure 5.	Zoning District Acreage and Percentage, Hagåtña, 2014	12
Figure 6.	Existing Zoning	13
Figure 7.	Land Ownership.....	15
Figure 8.	Economic Development Projects	17
Figure 9.	Cultural and Historic Resources.....	19
Figure 10.	Existing Roadway Network	21
Figure 11.	Transit Systems	23
Figure 12.	Existing Parking Facilities.....	25
Figure 13.	Existing Water Infrastructure	27
Figure 14.	Existing Wastewater Infrastructure	29
Figure 15.	Existing Stormwater Facilities	31
Figure 16.	Electrical Distribution Systems	33
Figure 17.	Public Buildings and Facilities	35
Figure 18.	Parks and Recreation Facilities.....	37
Figure 19.	Natural Resources	39
Figure 20.	Seismic / Geological Hazards.....	41
Figure 21.	Weather-Related Natural Hazards	43
Figure 22.	Man-Made Hazards.....	45
 Photo Credits		
Fractional Lot Map (National Register of Historic Places Inventory-Nomination Form, Agana Historic District, 1985)		14
Pre-war Hagåtña (National Parks Service, nps.gov)		18
Guam Red Line Bus (Guampdn.com, 2015)		22
Water Main Break (Guampdn.com, 2014).....		26
Hagåtña Treatment Plant Aerial (Google Earth, 2015).....		28
Hagåtña Treatment Plant Hazmat Flush (Guampdn.com, 2014).....		44
Layon Landfill (GSWA, http://www.guamsolidwastereceiver.org/index.html , 2015).....		44

Introduction

A master plan can be described as the "proposal" for the future of a specific area, village or city. It expresses the community's vision through goals and policies, directing decisions relating to land use, roads, housing, utilities and other related concerns for Hagåtña. The Hagåtña Restoration and Redevelopment Authority (HRRRA) is updating the 2005 master plan for Hagåtña. The update will be an all-inclusive plan that assesses existing conditions, provides unique alternatives for consideration, identifies a preferred concept, and provides actions and programs which will need to be enacted in order to realize Hagåtña’s preferred future vision. The update of the Hagåtña Master Plan is based on accomplishing the following:

- Providing a description of current conditions and trends shaping Hagåtña;
- Identifying planning issues, opportunities, and challenges that should be addressed in the Master Plan;
- Providing the public with opportunities for meaningful participation in the planning and decision-making process;
- Ensuring that the master plan is current, internally consistent, and easy to use;
- Providing guidance in the planning and evaluation of future land and resource decisions;
- Exploring land use and policy alternatives; and
- Providing a vision and framework for the future of Hagåtña.

The Hagåtña Master Plan has three defining features:

- **All-inclusive.** The master plan covers a wide range of social, economic, infrastructure, and natural resource topics. These include land use, housing, transportation, utilities, public services, recreation, cultural resources, and environmental hazards.
- **Design-oriented.** In addition to new goals, policies and actions for Hagåtña, the master plan also includes design guidelines supported by land use and development strategies.
- **Long-range.** Master plan goals typically have a ten year horizon. This master plan update will look at a planning horizon of 15 years to the year 2030. To accomplish this future, the update will include policies and actions that address both immediate and long-term objectives.



The eight components of the master plan update are described below.

- **Map Atlas.** The Map Atlas provides a detailed description of existing conditions and trends within Hagåtña, as of 2015.
- **Alternative Plans.** This document contains new alternative land use plans and design concepts that were developed as part of the update.
- **Master Plan (Land Use Plan).** The Land Use Plan contains the goals and policies which will guide future land use and development decisions within Hagåtña. It also identifies actions that will be used to accomplish these goals and policies.
- **Zoning Code.** The Zoning Code will provide Hagåtña with a new regulatory framework (zoning) tailored to the needs of Hagåtña.
- **Design Guidelines and Regulations.** This document contains design guidelines and regulations intended to encourage pedestrian comfort and aesthetically pleasing design, while maintain functionality.
- **Implementation Plan.** The Implementation Plan and related schedule identify prioritized actions that HRRRA, Guam Economic Development Authority (GEDA) and the Government of Guam can take to implement the Master Plan.
- **Hagåtña River Flood Protection Study.** This feasibility study will examine the Army Corps of Engineers (ACOE) Flood Damage Reduction project and associated costs, and will provide alternatives for different approaches to reducing the designated flood zone of the Hagåtña River.
- **Hagåtña Restoration Organizational / Financial Construct.** This part of the master plan will help establish sound organizational and funding mechanisms for plan implementation.

What is the Map Atlas?

The Map Atlas updates the 2005 Hagåtña Master Plan Research Report. It summarizes and highlights information in clear and concise graphic format with supporting descriptive text. Existing conditions information in this document includes the following topics:

Introduction and Background

- Hagåtña Regional Setting
- Demographics / Socioeconomics

Community Development

- Existing Land Use
- Master Plans
- Zoning
- Land Ownership
- Economic Development
- Cultural and Historic Resources

Mobility and Transit

- Roadway Network
- Transit and Alternative Circulation Systems
- Parking

Public Facilities and Services

- Water
- Wastewater
- Storm Drainage
- Electrical Distribution
- Public Buildings and Facilities
- Parks and Recreation

Environmental Resources and Hazards

- Natural Resources
- Natural Hazards - Seismic / Geological
- Natural Hazards – Weather-Related
- Man-Made Hazards

Each topic section summarizes important highlights and describes the current setting within Hagåtña. Where possible, maps illustrate the topic in a graphic format.

Hagåtña Regional Setting

Physical Setting – Island of Guam

The island of Guam lies within the Mariana Islands in the western Pacific Ocean. At 232 square miles, Guam is the largest Mariana Island. In addition, Guam’s 2010 population of roughly 160,000 people make it the largest Mariana Island in terms of population. Guam’s population is concentrated in the north-central municipalities (commonly referred to as villages) of Tamuning, Barrigada, Mangilao, Dededo, and Yigo. Approximately 68% of the total population lives in these municipalities. Other municipalities in Guam include Merizo, Inarajan, Umatac, Talofofo, Agat, Santa Rita, Yona, Piti, Asan, Chalan-Pago-Ordot, Agaña Heights, Hagåtña, Sinajana, and Mongmong-Toto-Maite (See Figure 1). Guam’s southern area has less population and contains more rural and low-density development due to topography and water availability.

Regional Context – Hagåtña

Hagåtña is the capital of Guam and is located along the western coast in central Guam, nestled between Agaña Bay and Agaña Heights. Hagåtña is bordered by Tamuning, Mongmong-Toto-Maite, Sinajana, and Asan.



City of Hagåtña

Hagåtña’s boundary, as shown on Figure 1 and described in 1 Guam Code Annotated (GCA) Chapter 4, Political Authority and Jurisdiction, Section 403(b), “begins at the mouth of the Fonte River and runs east along the shoreline of Agaña Bay to the northeast corner of Lot Number 2010, then southeast along eastern boundaries of Lots 2010 and 2032, to the southeast corner of Lot Number 2032, then southwest and west along the northern boundaries of Lot Numbers 2054, 2051, 2049 and 2048, to the northwest corner of Lot Number 2048, then south along the west boundaries of Lot Numbers 2048, 2047 and 1116 to a point on centerline of Route Number 8, then southwest along the eastern boundary of Lot Number 1152, to the centerline of the Hagåtña River, then southeast along the centerline of the Hagåtña River to the easternmost corner of Lot Number 89, then southwest along the southeastern boundary of said Lot, then northwest along the old Hagåtña Spring Road to Route Number 4, to the southeast corner of Lot Number 3201, then southwest along the southern boundary of said Lot to the centerline of old Senator Gibson Highway, then northwest to the point of junction of said highway and Route Number 7, then northwest to the northeast corner of the United States Naval Hospital,

now known as the Naval Regional Medical Center, boundary, then west and northwest along the northern boundary of said Naval Hospital, then south and southwest along the western boundary of said Naval Hospital to the Fonte River, then northwest along said river to the point of beginning and to include the Bordallo Governors Complex, also known as Adelup Point.”

Hagåtña’s elevation ranges from sea level along the coastline to approximately 350 feet above mean sea level in the Kuestan / San Ramon Hill vicinity. Composing a significant portion of Hagåtña’s southeastern section is one of Guam’s largest wetlands, Sesonyan (Hagåtña Swamp or wetlands). Drastic changes in elevation exist along the Agaña cliffs and near Fort Santa Agueda. Agaña Bay, along the northern boundary of Hagåtña is a natural bay protected by a reef barrier approximately 1,500 feet from the shoreline, with a channel opening that leads to the Gregorio D. Perez Marina in Hagåtña.

Formerly a densely populated area, Hagåtña is now one of the least populated municipalities on the island and the second smallest in terms of size, behind only Sinajana. Hagåtña covers roughly one square mile and is home to just over 1,000 people (2010). Although small in size and population, Hagåtña is one of the island’s major centers of commerce and government.

Agencies Influencing Planning in Hagåtña

Hagåtña Restoration and Redevelopment Authority

The Hagåtña Restoration and Redevelopment Authority was established by Public Law 24-110 and codified under GCA Division 2, Chapter 79. HRRRA was created to protect and promote the heritage, economic vitality, restoration, and redevelopment of Hagåtña. HRRRA also strives to protect and promote the general welfare of the people of Guam.

HRRRA strives to restore and revitalize historical sites and parks, to revitalize the city through public-private initiatives, and is responsible for developing and maintaining an overall land use plan for redevelopment in Hagåtña. Moving forward, HRRRA plans to revitalize Hagåtña by implementing goals and policies and following through on action items established within the update of the Hagåtña Master Plan. Other means of revitalization of Hagåtña include redevelopment projects such as the Guam and CHamoru Educational Facility, commonly known as the new Guam Museum.

Guam Economic Development Authority

Established and authorized as a public corporation under GCA Division 12, Chapter 50, GEDA was created to develop a sound and sustainable economy through innovative programs that preserve and promote local culture, economic opportunities and quality of life. GEDA also has a broad responsibility for the centralized direction, control and supervision of an integrated plan for the economic development of Guam through its programs and offerings which include public finance services, incentive programs, and real property management. Major GEDA influences on Hagåtña include capital improvement

projects funded through the Hotel Occupancy Tax Bond. Projects include the renovation and restoration of cultural and historic sites, such as Plaza de España and Senator Angel L.G. Santos Memorial Park (also known as Latte Park), as well as the construction of new amenities like the new Guam Museum.

Department of Parks and Recreation, State Historic Preservation Office

The Department of Parks and Recreation (DPR), operates public parks in Guam. The Guam Historic Resources Division of DPR, also known as the State Historic Preservation Office (SHPO), maintains and manages all historic sites on Guam, including the various historic sites and buildings in Hagåtña. The Guam Historic Preservation Review Board is an entity within DPR and SHPO.

Department of Land Management

The Department of Land Management (DLM) maintains and manages all public lands and regulates and controls all developments, including lands in Hagåtña. DLM assists in assuring effective regulation and control of developments determined to be in the best interest of the public. Entities within DLM that also influence land in Hagåtña include the Guam Land Use Commission (GULC), the Guam Seashore Protection Commission (GSPC), the CHamoru Land Trust Commission (CLTC) and the Guam Ancestral Lands Commission (GALC).

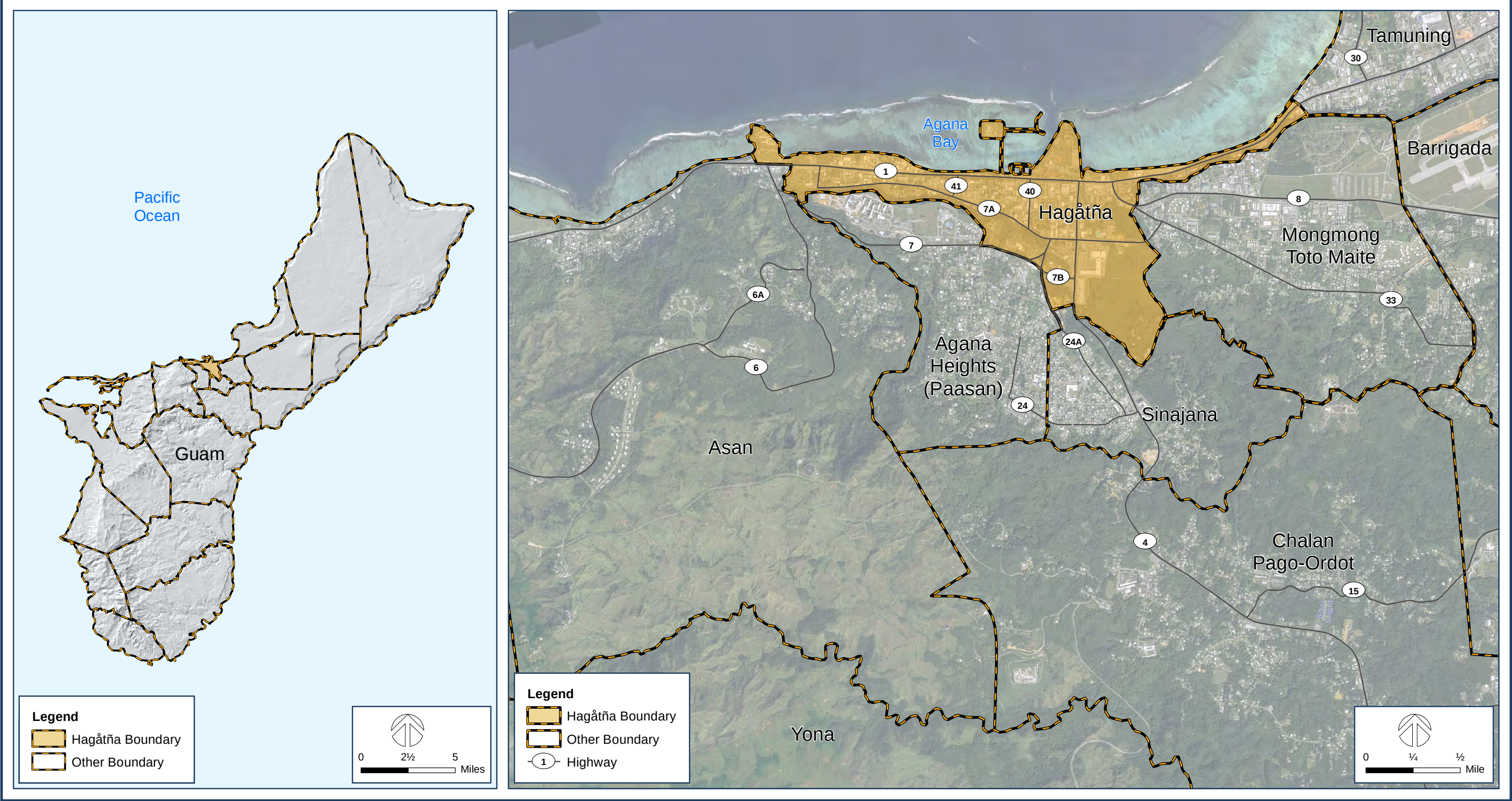
Other Government of Guam Agencies Influencing Hagåtña

- Governor of Guam / Governor’s Office
- Liheslaturan Guahan (Guam Legislature)
- Bureau of Statistics and Plans, Guam Coastal Management Program
- Department of Agriculture
- Department of CHamoru Affairs
- Department of Homeland Security
- Department of Labor / AHRD
- Department of Public Works
- Department of Revenue and Taxation
- Guam Environmental Protection Agency
- Guam Fire Department
- Guam Housing and Urban Renewal Authority
- Guam Police Department
- Guam Power Authority
- Guam Preservation Trust
- Guam Public Library System
- Guam Regional Transit Authority
- Guam Waterworks Authority
- Judiciary of Guam
- Port Authority of Guam
- University of Guam, Micronesia Area Research Center

Sources: HRRRA Citizen Centric Report, 2010; GEDA Citizen Centric Report, 2013; <http://www.bsp.guam.gov/>; <http://dln.guam.gov/>; <http://www.guam.gov/>

Figure 1
Hagåtña Regional Setting

Sources: Department of Land Management, 2014; Bureau of Statistics and Plans, 2014.



Demographics / Socioeconomics

Overview

According to the 2010 U.S. Census, Hagåtña is the second least populous municipality on Guam, with a 2010 population of 1,051 (see Table 1). However, Hagåtña’s population density of over 1,000 persons per square mile greatly exceeds many of the other municipalities on Guam.

Table 1. Demographic Profile for Hagåtña and Guam, 2000-2010

Population	Hagåtña	Island of Guam
2000 Population	1,100	154,805
2010 Population	1,051	159,358
2014 Population (estimate)	1,062	161,001
Average Annual Percentage Population Growth (2000-2010)	-0.45%	0.29%
Land (Square Miles)	0.98	232
Population Density per Sq. Mile (2010)	1,072	687

Sources: 2000 and 2010 U.S. Census

2010 U.S. Census Summary: Population Demographics

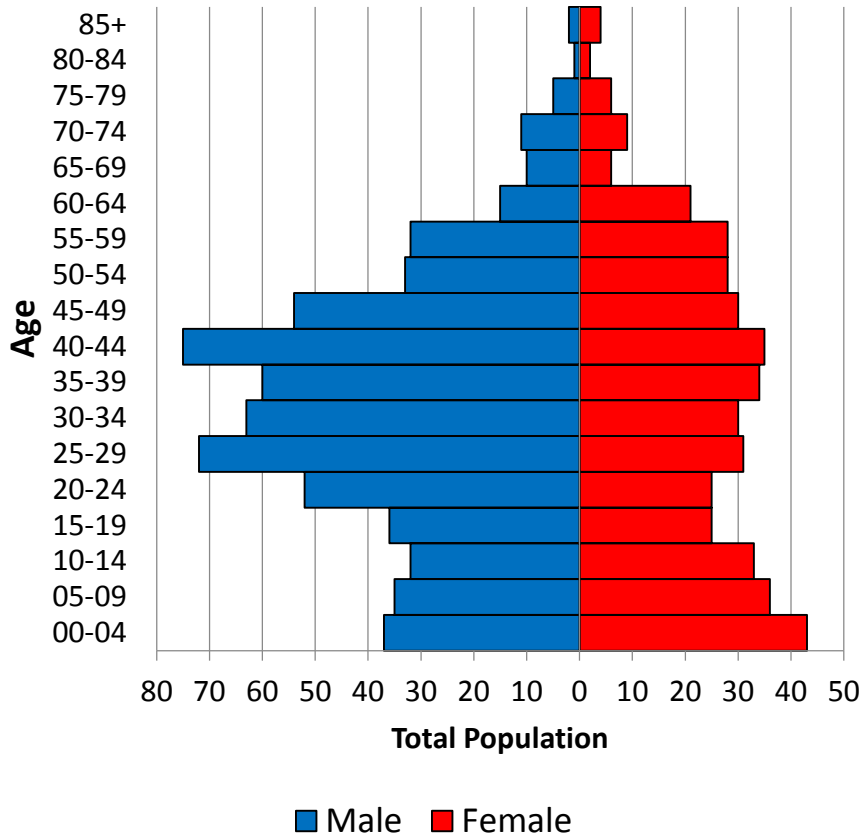
Census 2010 provides extensive information about Hagåtña’s population and socioeconomic characteristics. The following summary focuses on the population and socioeconomic characteristics that are considered most relevant to the Master Plan update.

Age and Gender Profile. Hagåtña’s age profile contains a larger population of adult men living in Hagåtña than women. The largest cohorts (age groups) for men are ages 25-29 and ages 40-44, and in fact, a substantial percentage (60.0%) of the male population in Hagåtña between ages 20 and 49, which can partially be attributed to the Hagåtña Detention Facility population. The largest cohorts for females are ages 0-9 and ages 40-49, although, unlike their male counterparts, the age of females in Hagåtña is more evenly distributed. Assuming that residency, birth, death, family size and other factors remain relatively constant, Hagåtña can anticipate a very large elderly male population, as the “bubble” shifts upward. If the median male age is between ages 35-39 (at present), by the plan horizon of 2030, this median male age will shift to around age 53. This will have implications in terms of housing, healthcare, transportation and the types of services Hagåtña may need to provide.

Homeless. According to Guam Housing and Urban Renewal, a 2014 Homelessness Point-In-Time Count revealed that there were roughly 1,356 homeless individuals in Guam, 591 of which were male and 638 of which were female. Only 126 of the homeless individuals on Guam were sheltered, leaving 1230 unsheltered. Out of the 1,356 homeless individuals, 535 were under 18, 149 were between 18 and 24, and 672 were over the age of 24. The count identified that roughly 65 of these 1,356 individuals are located within Hagåtña, which

would increase the population of Hagåtña to just over 1,100. Of the 65 homeless individuals in Hagåtña, 49 were individuals without children, and 16 were individuals with children. At this time, age and gender of the 65 homeless individuals in Hagåtña is unclear.

Figure 2. Population Pyramid for Hagåtña, 2010



Source: 2010 U.S. Census

Over Age 65 Households. In 2010, there were 44 households with the head of the household over age 65, and 56 persons in Hagåtña over age 65, of which 7 lived alone. They represent nearly 1 out of every 7 households in Hagåtña. At present, the frail elderly (age 85+) compose only 0.6% of Hagåtña population (6 persons). However, this population will increase fairly rapidly over the next 30 years as the age pyramid “bubble” shifts upward. The numbers below identify over age 65 households, as well as persons over 65 and 85 years of age for Hagåtña and Guam. Guam has a higher percentage of over age 65 households and persons over age 65. Percentages of people over age 85 are fairly consistent in Hagåtña and Guam overall.

	Hagåtña	Guam
Over Age 65 Households	44 (15.4% of households)	8,051 (19.2% of households)
Persons over age 65	56 (5.3% of population)	10,747 (6.7% of population)
Persons over age 85	6 (0.6% of population)	693 (0.4% of population)

Under Age 18 with One Parent Present. A total of 49 households (17.1% of all households) in Hagåtña included a child under 18 year’s old living with one parent. There are more households with a child under 18 living with their mother (no husband present), then with their fathers (no mother present), which is consistent with the island overall.

	Hagåtña	Guam
Single Households with child under age 18	49 (17.1% of households)	6,228 (14.8% of households)
Child <18 with father	20 (7.0% of population)	2,030 (4.8% of population)
Child <18 with mother	29 (10.1% of population)	4,198 (10.0% of population)

Armed Forces Members and Veterans. A total of 3 Hagåtña residents were active duty members of the armed forces in 2010. This comprises 0.4% of the population over age 16 in Hagåtña, which is a much lower percentage of armed forces members than in Guam overall (4.4%). 51 civilian veterans resided in Hagåtña in 2010, which is also a lower percentage of veterans as compared to Guam overall. Out of the 51 veterans in Hagåtña, 11 have a service-connected disability rating.

	Hagåtña	Guam
Armed Forces Members	3 (0.4% of pop >16)	5,006 (4.4% of pop >16)
Civilian Veterans	51 (6.4% of population)	8,041 (7.9% of population)
Veterans with Disability	11 (1.4% of population)	1,655 (1.6% of population)

Disabilities. Of the total civilian non-institutionalized population in Hagåtña in 2010, about 11.0% (97 persons) has a disability. Of all such residents under 18 years old, 4.0% have a disability. Additionally, 12.4% of those aged 18 to 64 also have a disability, as did 26.8% of those aged 65 and older. The numbers below show that Hagåtña has a higher percentage of people with disabilities from age 0-65 than other areas of the island, but a lower percentage of people with disabilities over age 65 as compared to the island overall.

	Hagåtña	Guam
Disability (under age 18)	10 (4.0% of age <18)	1,226 (2.3% of age <18)
Disability (age 18-64)	72 (12.4% of age 18-64)	6,809 (7.5% of age 18-64)
Disability (over age 65)	15 (26.8% of age >65)	4,052 (37.9% of age >65)

Ethnicity. The majority of Hagåtña’s population identifies as Native Hawaiian and other Pacific Islanders (NHOPI) (over 60.0%). Of the 640 NHOPI, more than 397 persons are CHamoru and 165 persons are Chuukese. CHamoru and Chuukese individuals make up more than half the population in Hagåtña. Out of the Asian population of 207 persons (19.7% of the total population), Filipinos comprise 116 persons (11.0% of total population). Other large ethnic groups include Chinese (except Taiwanese) at 4.0% of the total population, Korean (3.5%), and White (3.8%).

The numbers below identify ethnicity percentages for Hagåtña and Guam. Most ethnic origins are consistent with Guam overall, with the exception of Chuukese and Chinese, which are more prominent in Hagåtña as compared to Guam, and Filipino and Caucasian, which are more prominent in Guam than in Hagåtña.

Ethnic Origin or Race	Number in Hagåtña (% of total population)	Number in Guam (% of total population)
NHOPI (Total)	640 (60.9%)	78,582 (49.3%)
Carolinian	2 (0.2%)	242 (0.2%)
CHamoru	397 (37.8%)	59,381 (37.3%)
Chuukese	165 (15.7%)	11,230 (7.0%)
Other NHOPI	78 (7.4%)	7,971 (5.0%)
Asian (Total)	207 (19.7%)	51,381 (32.2%)
Chinese (except Taiwanese)	42 (4.0%)	2,368 (1.5%)
Filipino	116 (11.0%)	41,944 (26.3%)
Korean	37 (3.5%)	3,437 (2.2%)
Other Asian	12 (1.2%)	3,632 (2.2%)
African American	5 (0.5%)	1,540 (1.0%)
Hispanic / Latino	9 (0.9%)	1,201 (0.8%)
White (Caucasian)	40 (3.8%)	11,231 (7.1%)
Other	1 (0.1%)	404 (0.3%)
Two or ethnic origins	149 (14.2%)	14,929 (9.4%)

Foreign Born. Only 534 persons (50.8%) of Hagåtña residents are native born in Guam. 92 (8.8%) were born in the U.S., 43 (4.1%) were born in a U.S. island area or Puerto Rico; and 10 (1.0%) were born elsewhere of their U.S. parent’s origin. The remaining 372 are foreign born residents, of which 48 persons are naturalized citizens, and 324 are neither U.S. citizen nor national; which means roughly 30.8% of the total population of Hagåtña are not U.S. citizens. Of those 372 foreign born, 176 were born in Asia, primarily in the Philippines, followed closely by China and Korea; 185 are from the Federated States of Micronesia. Additionally, 4 people of the foreign born population were born elsewhere. Most ethnicities are consistent between Hagåtña and other places on Guam, however, Hagåtña has a higher foreign born population as compared to Guam, specifically from the Oceania regions (Federated States of Micronesia, Marshall Islands, and Palau). Additionally, there is a lower percentage of naturalized U.S. Citizens in Hagåtña than in Guam overall.

Place of Birth / Origin	Number in Hagåtña (% of total population)	Number in Guam (% of total population)
Native (Total)	679 (64.6%)	109,296 (68.6%)
Native (Born in Guam)	534 (50.8%)	83,942 (52.7%)
Native (Born in U.S.)	92 (8.8%)	18,348 (11.5%)
Native (U.S. island area)	43 (4.1%)	3,915 (2.5%)
Native (Elsewhere)	10 (1.0%)	3,091 (1.9%)
Foreign (Total)	372 (35.4%)	50,062 (31.4%)
Foreign (Asian)	176 (16.7%)	36,772 (23.1%)
Foreign (Micronesia)	185 (17.7%)	12,371 (7.7%)
Foreign (Elsewhere)	7 (0.7%)	434 (0.9%)
Naturalized U.S. Citizen	48 (4.6%)	20,619 (12.9%)
Not a U.S. Citizen	324 (30.8%)	29,443 (18.5%)

Language. Of the 971 Hagåtña residents who were over the age of 5 in 2010, 369 of them (38.0%) spoke English only while the other 602 residents spoke a language other than English as their primary language. A total of 497 residents spoke Pacific Island languages, including 207 who spoke CHamoru, 92 who spoke Philippine languages, and 198 who spoke other Pacific Island languages. A total of 93 persons (9.6%) of the residents over age 5 spoke Asian languages. The numbers below show that Hagåtña has a lower percentage of English only speakers as compared to Guam overall, with a higher percentage of people speaking Pacific Island languages, specifically CHamoru.

Language Spoken at Home	Number in Hagåtña (% of population > age 5)	Number in Guam (% of population > age 5)
English Only	369 (38.0%)	63,238 (43.6%)
Other than English	602 (62.0%)	81,831 (56.4%)
Pacific Island Language	497 (51.2%)	70,988 (48.9%)
CHamoru	207 (21.3%)	25,827 (17.8%)
Asian Languages	93 (9.6%)	9,192 (6.3%)

Educational Attainment. According to the 2010 Census, of the population 25 years and older, 235 people in Hagåtña had the equivalent of a high school diploma and 263 people had attended some college, while 129 of those who attended college did not receive a degree. 71.4% of the population over 25 years of age had the equivalent of a high school diploma or higher. Overall, the island of Guam has a higher percentage of post-secondary graduates as compared to Hagåtña, while high school attainment is consistent.

Education Level	Number in Hagåtña (% of population > age 25)	Number in Guam (% of population > age 25)
High School Graduate	235 (33.7%)	30,176 (33.8%)
Some College, No Degree	129 (18.5%)	17,587 (19.7%)
Bachelor’s Degree	61 (8.8%)	13,513 (15.1%)
High School or Higher	71.4%	79.4%
Bachelor’s Degree or Higher	15.2%	20.4%

2010 U.S. Census Summary: Socioeconomics

Employment and Unemployment. Of the 821 residents aged 16 and over in Hagåtña in 2010, 371 (45.2%) were not in the labor force, leaving 450 people (54.8%) participating in the labor force. Out of the civilian labor force of 447, only 43 were unemployed. Overall, the percentage of people over age 16 in the labor force is higher for Guam than for Hagåtña, as is the civilian labor force. The unemployment rate is consistent between Guam and Hagåtña, although a higher percentage of people over age 16 in Hagåtña were not in the labor force, as compared to the island of Guam overall. This can possibly be attributed to the fact that a significant amount of Hagåtña residents are institutionalized. Of the 404 employed civilian residents in Hagåtña, 292 of them work outside of Hagåtña, while only 107 worked in Hagåtña.

	Number in Hagåtña (% of population > age 16)	Number in Guam (% of population > age 16)
In Labor Force	450 (54.8%)	74,400 (65.8%)
Civilian Labor Force	447 (54.4%)	69,394 (61.4%)
Employed	404 (49.2%)	63,394 (56.3%)
Unemployed	43 (5.2%)	5,716 (5.1%)
Not In Labor Force	371 (45.2%)	38,667 (34.2%)
Worked in Guam	399 (99.8% of workers >16)	67,198 (99.5% of workers >16)
Same Municipality	107 (26.8% of workers >16)	N/A
Other Municipality	292 (73.0% of workers >16)	N/A
Worked outside Guam	1 (0.3% of workers >16)	366 (0.5% of workers >16)

Income and Poverty Status. In 2009 (2010 Census) the median household income in Hagåtña was \$37,083, while the median household income for Guam was \$48,274. Overall, Hagåtña has lower median and mean household incomes (both are roughly \$10,000 less than that of Guam). In 2010, a total of 286 Hagåtña residents (27.2% of total population) had a 2009 income below the poverty level, while 47 families have a 2009 income below the poverty level. Percentages of individuals and families below the poverty level are higher in Hagåtña as compared to Guam overall.

	Hagåtña	Guam
Median Household Income	\$37,083	\$48,274
Mean Household Income	\$51,776	\$60,671
Families in Poverty	47 (24.5% of families)	6,514 (19.0% of families)
Individuals in Poverty	286 (27.2% of population)	35,848 (22.5% of population)

2010 U.S. Census Summary: Housing

Housing Units, Size and Occupancy. In 2010 there were 396 housing units within Hagåtña, 286 (72.2%) of which were occupied. In 2010, the overall average household size was 2.87 persons per unit, with the average for owner-occupied units at 2.64 and the average for renter-occupied units at 2.95. A total of 89 of the 396 housing units (22.5%) were single family detached units, while 265 of the 396 housing units (66.9%) contained 3 or more units. Overall, Hagåtña has a higher vacancy rate and smaller average household sizes than that of Guam.

	Hagåtña	Guam
Total Housing Units	396	50,567
Occupied Housing Units	286 (72.2%)	42, 026 (83.1%)
Vacant Housing Units	110 (27.8%)	8,541 (16.9%)
Average Household Size	2.87	3.67
Owner Occupied Average	2.64	3.83
Renter Occupied Average	2.95	3.50

Owner Occupied vs. Renter Occupied. Of the 286 occupied housing units in Hagåtña in 2010, 76 of them were owner-occupied (26.6%), while the majority of housing units (210 total) were renter-occupied (73.4%). While homeowner vacancy rates were at 0% in 2010, the rental vacancy rate in 2010 was 22.3% which is quite high. While Guam’s owner and renter occupied units are about the same, Hagåtña has a much higher percentage of renter occupied units than Guam. The rental vacancy rate was 22.3% in 2010, which is higher than that of Guam’s rental vacancy rate, which was 15.2%.

	Hagåtña	Guam
Occupied Housing Units	286 (72.2% of all units)	42, 026 (83.1% of all units)
Owner Occupied Units	76 (26.6% of occupied units)	21,140 (50.3% of occupied units)
Renter Occupied Units	210 (73.4% of occupied units)	20,886 (49.7% of occupied units)
Rental Vacancy Rates	22.3%	15.2%

Group Quarters. The 2010 Census estimates that 22% of the population of Hagåtña, or 231 persons, live in group quarters. Of those, 158 individuals are institutionalized (all 158 are male), and 73 are non-institutionalized (54 are male). In comparison to Guam overall, there is a much higher percentage of the population living in group quarters (particularly institutionalized) in Hagåtña, which can be attributed to the Hagåtña Detention Facility.

	Hagåtña	Guam
Group Quarters	231 (22.0% of total pop)	5,298 (3.3% of total pop)
Institutionalized	158 (15.0% of total pop)	727 (0.5% of total pop)
Non-Institutionalized	73 (6.9% of total pop)	4,571 (2.9% of total pop)

Housing Values. Of the total 76 owner-occupied housing units, the median house value was \$246,429, which is more than \$30,000 higher than the median owner-occupied house value for the Island of Guam (\$216,145). A small percentage of the owner-occupied housing units in Hagåtña were worth less than \$99,000 (10.5%), while a sizable percentage of owner-occupied housing units in Hagåtña were worth more than \$500,000 (19.7%), which is much higher than that of Guam overall (7.2%).

Table 2. Housing Values for Hagåtña and Guam, 2010

Housing Value	Number (Hagåtña)	Percent	Number (Guam)	Percent
Less than \$99,000	8	10.5%	1,963	9.3%
\$100,000 to \$149,000	9	11.8%	2,547	12.0%
\$150,000 to \$199,000	8	10.5%	4,873	23.1%
\$200,000 to \$299,000	27	35.5%	6,740	31.9%
\$300,000 to \$499,000	9	11.8%	2,587	12.2%
\$500,000 or more	15	19.7%	1,523	7.2%
Median (dollars)	246,429	-	216,145	-

Source: 2010 U.S. Census

Gross Rent Rates. Of the total 210 renter-occupied units in year 2010, the median rental rate was approximately \$752, which is more than \$100 lower than the median rental rate for the Island of Guam (\$879). The majority of renters in Hagåtña (58.5%) paid between \$500 and \$999 a month for rent which is somewhat consistent with the Island of Guam overall (36.9%). A small percentage of renters paid under \$499 a month (10.5%), while 14.8% (31 units) paid no rent, which is a lower percentage that than of Guam overall (22.0%).

Table 3. Gross Rent Data for Hagåtña and Guam, 2010

Gross Rental Rates	Number (Hagåtña)	Percent	Number (Guam)	Percent
Less than \$499	22	10.5%	2,116	10.1%
\$500 to \$699	56	26.6%	2,986	14.3%
\$700 to \$999	67	31.9%	4,727	22.6%
\$1,000 to \$1,499	28	13.3%	3,119	14.9%
\$1,500 or more	6	2.9%	3,353	16.1%
No rent paid	31	14.8%	4,585	22.0%
Median (dollars)	\$752	-	\$879	-

Source: 2010 U.S. Census

Residential Housing Age. The residential housing age in Hagåtña is consistent with the overall Island of Guam, with a majority of structures having been built during the 1970’s and 1980’s (roughly 71.4% of Hagåtña housing stock). In general, very few residential structures were built in Hagåtña before 1950, and housing production in Hagåtña decreased significantly between 1990 and 2010.

Table 4. Hagåtña and Guam Residential Housing Age, 2010

Originally Built	Number of Units (Hagåtña)	Percent	Number of Units (Guam)	Percent
1939 or earlier	2	0.5%	101	0.2%
1940 to 1949	2	0.5%	169	0.3%
1950 to 1959	13	3.3%	826	1.6%
1960 to 1969	42	10.6%	3,525	7.0%
1970 to 1979	168	42.4%	12,954	25.6%
1980 to 1989	115	29.1%	11,805	23.3%
1990 to 1999	37	9.3%	12,471	24.7%
2000 to 2008	10	2.5%	6,781	13.4%
2009 to March 2010	7	1.8%	1,935	3.8%
TOTAL	396	100%	50,567	100%

Source: 2010 U.S. Census, 2012 Guam Statistical Yearbook

Population Projections

The 2012 Guam Statistical Yearbook provides population projections for the Island of Guam and all of its election districts (municipalities) for every year up to 2020. The yearbook estimates that the overall Guam population will grow by 8,964 persons (by 5.6%) to total population of 168,322 by 2020. The population is only expected to grow slightly in Hagåtña, with an estimated 49 additional residents by 2020, an increase of just over 0.5% per year. The largest increase in population for the entire Island of Guam (including Hagåtña) is expected to occur between 2015 and 2020, when the anticipated military buildup will take place.

Table 5. Future Population Projections, 2012

	2010	2015	2020	Annual % Change (2010-2020)
Guam Population	159,358	161,785	168,322	0.56%
Hagåtña Population	1,051	1,067	1,110	0.47%

Source: 2012 Guam Statistical Yearbook

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Existing Land Use

Hagåtña is characterized by low rise commercial and industrial buildings, low density residential, historic parks and structures, and an expansive coastline. With the exception of many light industrial buildings and single family houses in the western residential neighborhoods, the majority of Hagåtña’s development lies within the center of Hagåtña (Capital / Cultural District) and adjacent to the primary thoroughfares, Marine Corps Drive (Route 1), Route 4 and Route 6.

As of 2014, Hagåtña’s existing land uses include agricultural, residential, commercial, industrial and other uses. There are many blocks in Hagåtña containing a mix of uses, such as commercial, industrial and residential uses. Residential uses are predominantly grouped in the west areas of Hagåtña, with a few residential buildings (many historic) scattered throughout the central area of Hagåtña (Capital / Cultural District). Several blocks along Santa Cruz Lane and West O’Brien Drive (Route 7a) support both single-family residential and multi-family residential, some of which are vacant and underutilized.

Guam local and federal courts along with many other Guam and federal government agencies are located in Hagåtña, in publicly owned and privately owned buildings. Some government agencies are located in leased office space, such as the federal US Citizenship and Immigration Services, Hagåtña Branch office (pictured below) which is located in a privately owned building.



The commercial uses in Hagåtña include offices, commercial retail and shopping centers. Many of the existing land uses, and their locations in Hagåtña, do not comply with Guam’s Zoning Law. This places incompatible land uses proximate to each other, which can impact the quality of life and daily operations of one or both uses. For instance, there are industrial-type uses in the residential areas of Hagåtña, and commercial establishments are located in residentially-zoned areas in the center of the city. This zoning inconsistency is described in more detail on page 12.

Many of the “private” existing land uses in Hagåtña are also encroaching onto publicly owned lands, particularly along the waterfront areas and in public rights-of-way. These areas where development is partially encroaching on Government land creates temporary and potentially permanent issues with land use compatibility, zoning compliance, and property tax assessments.



Land uses in Hagåtña are divided into one of 19 land use classifications, as shown in Table 6. Figure 3, on the following page, shows the location of existing land use classifications throughout Hagåtña. Table 6 identifies the total acreage per each land use classification, and the percentage of Hagåtña in each land use classification.

Source: 2005 Hagåtña Master Plan

Table 6. Existing Land Use in Hagåtña, 2015

Land Use Category / Classification	Acres	Percent of Hagåtña
AG – Agricultural	4.95	0.9%
OSC – Open Space and Conservation	132.48	24.9%
SFR – Single Family Residential	44.41	8.3%
MFR – Multi-Family Residential	12.12	2.3%
CMU – Commercial Mixed Use	13.06	2.5%
O – Office	36.85	6.9%
NC – Neighborhood Commercial	0.11	0.0%
CR – Commercial Retail	31.55	5.9%
SC – Shopping Center	18.89	3.5%
I – Industrial	8.59	1.6%
PQP – Public / Quasi-Public	32.7	6.2%
PR – Parks and Recreation	123.02	23.1%
EDU – Educational	1.83	0.3%
REL – Religious	5.28	1.0%
MA - Marina	2.99	0.6%
CEM – Cemetery	12.16	2.3%
U – Utilities	9.29	1.7%
P – Parking	9.24	1.7%
V - Vacant	32.87	6.2%
TOTAL*	532.46	100%

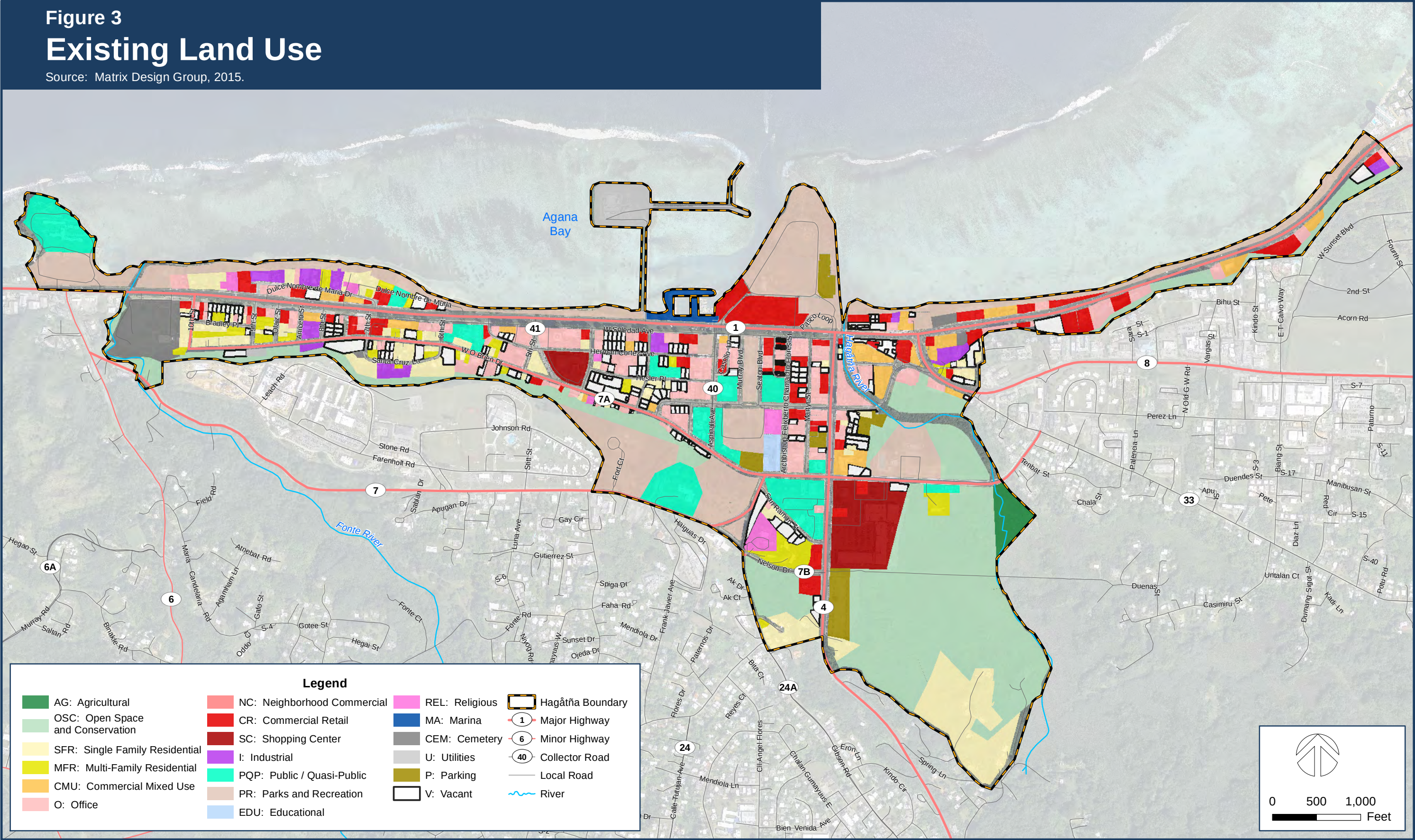
Sources: Matrix Design Group

*NOTE: * = Total land use acreage does not account for roadway right-of-ways.*



Figure 3
Existing Land Use

Source: Matrix Design Group, 2015.



Master Plans

1967 Guam Master Plan

The 1967 Guam Master Plan was developed as the initial master plan to guide land use and development for all areas of Guam, including Hagåtña. The plan describes the municipalities of Guam within part three, which states that the City of Hagåtña is the central city of Guam, which represents the nucleus about which the urban activity and growth of the area is organized. It further states that the activities of Hagåtña are inter-related with the activities of the other communities, and the rural areas surrounding the city.

The 1967 Master Plan identifies that Hagåtña was roughly 1.1 square miles at that time, made up of various land uses, and having a complex problem of fractional lots. In part three of the master plan, land uses are predominately detailed by municipality, although for the purposes of the study, Hagåtña was grouped with Agaña Heights and Sinajana due to small sizes and proximity of the communities. According to the master plan, the municipalities of Hagåtña, Agaña Heights and Sinajana collectively equal about 2,223.15 acres which is broken down into the following land use categories:

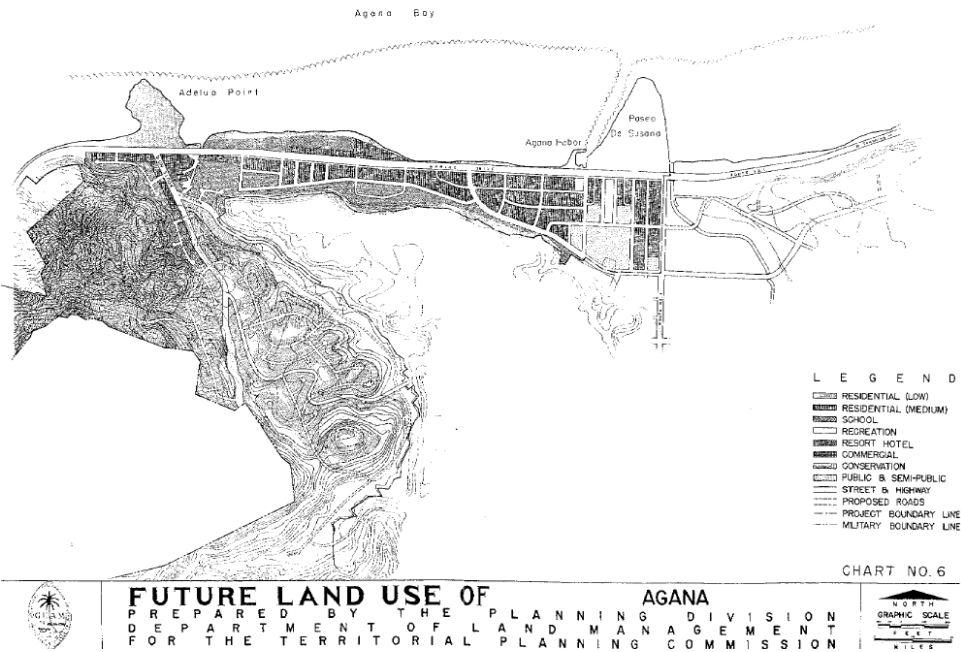
- Public (142.80 acres, or 6.4%)
- Semi-Public (74.19 acres, or 3.3%)
- Residential (167.68 acres, or 7.54%)
- Commercial (22.49 acres, or 1.0%)
- Industrial (6.51 acres, or 0.29%)
- Roads (176.66 acres, or 7.94%)
- Military (229.53 acres, or 10.32%)
- Non-Urban (1,403.27 acres, or 63.12%)

Other land uses identified in the master plan include conservation and agriculture, neither of which comprise any acreage in Hagåtña according to the master plan existing land use map.

Future land uses for Guam are identified in part four of the master plan, in the Land Use Element. The following “future” land uses, and their acreages are identified for the whole of Guam, looking ahead to year 1985.

- Public and Semi-Public (2,192 acres, or 1.61%)
- Residential – Single Family / Multi Family (3,927.34 acres, or 2.89%)
- Commercial (538.42 acres, or 0.39%)
- Hotel Areas (no acreage identified)
- Industrial (442.58 acres, or 0.32%)
- Roads (2,227. 42 acres, or 1.64%)
- Agriculture (no acreage identified)
- Conservation (6,057.01 acres, or 4.46%)
- Military (45,716.15 acres, or 33.69%)
- Non-Urban (74,578.64 acres, or 54.96%)

The map below, taken from the 1967 Guam Master Plan, identifies future land uses for the City of Hagåtña. Due to the document’s availability in black and white and the similar shades of color for the land use identifiers, it is unclear how many acres of each land use is proposed for Hagåtña.



2005 Draft Hagåtña Master Plan

The Hagåtña Land Use Plan was an integral part of the broader planning process involved in the 2005 Hagåtña Master Plan effort. The Master Plan defines future development in the terms of all determinants of growth and change (economic, political, social, and physical). The Land Use part of the overall plan is the physical interpretation of those elements of the plan on the geographic areas of Hagåtña and focuses on the arrangement and types of land use types, their impact upon the environment, and relation to community development. The 2005 Land Use Plan objectives are to organize, coordinate, and encourage and guide the process of development so as to protect the essential character of Hagåtña, including the environment, culture, and aesthetics, while meeting the essential needs of an increasing population.

The 2005 Land Use Plan identified that various public and cultural activities are concentrated in the central core of the city, the heart of Hagåtña. To the north are the retail and recreational areas of the CHamoru village, the Marina, and Paseo de Susana Park. Commercial activities flank the east and west side of central core and while a smattering of single and multi-family residences can be found throughout Hagåtña. The highest concentration of residential land use can be found to the far west side of Hagåtña (Anigua). For the purpose of the 2005 Hagåtña Land Use Plan, these land uses, and their geographies, were envisioned to remain intact.

The various uses of land for Guam and Hagåtña as identified in the master plans has evolved over time. Broad uses such as the commercial land use were broken down into various, more specific land use classifications such as shopping center, commercial and commercial high-rise. Additional uses were proposed in the 2005 Master Plan, such as cemeteries, mixed-use areas, the Planned Use Development (PUD) district, and various Planned Development Districts (PDD). As far as geographic locale, uses identified in the 2005 Master Plan are somewhat similar to those identified in the 1967 Master Plan. What had primarily changed between the two plans was the acreage of allocated land for those land uses. For example, the 2005 Master Plan identified higher percentages of parks / open space, commercial uses, and conservation areas as opposed to the 1967 Master Plan, while the 1967 Master Plan identified higher percentages of public (or civic), residential, and military uses.

The 2005 Master Plan was a draft plan that was never finalized or adopted, and therefor has no implications on land use policy. The various proposed land use designations within the 2005 Hagåtña Master Plan are shown on Figure 4, and listed in Table 7 (with acreage and percentage of Hagåtña area).

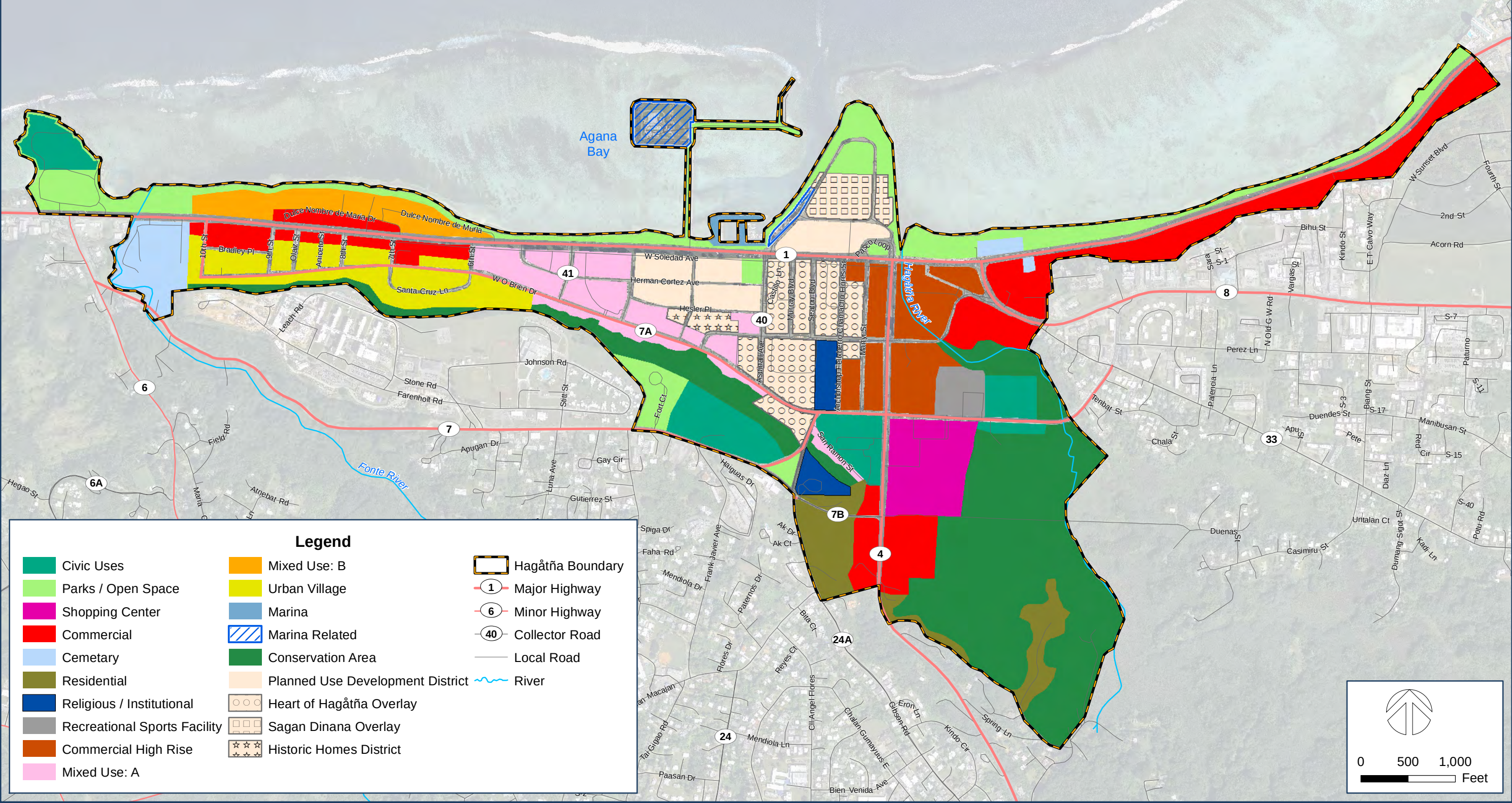
Table 7. Hagåtña Master Plan 2005 Land Uses

Land Use	Acres	Percent of Hagåtña
Civic Uses	34.44	6.5%
Parks and Open Space	58.57	10.5%
Shopping Center	19.78	3.8%
Commercial	67.84	12.7%
Cemetery	15.92	3.0%
Residential	22.79	4.3%
Religious and Institutional	7.33	1.4%
Recreation and Sports Facility	6.03	1.1%
Commercial High Rise	31.03	5.8%
Mixed Use A: Pedestrian Friendly	29.12	5.5%
Mixed Use B: Auto Oriented	17.07	3.2%
Urban Village	28.16	5.3%
Marina*	1.39	0.3%
Marina Related	7.70	1.4%
Conservation Area	124.3	23.3%
Planned Use Development District	20.74	3.9%
Hagåtña PDD: Heart of Hagåtña Overlay	28.33	5.3%
Hagåtña PDD: Sagan Dinaña Overlay	8.76	1.6%
Historic Homes District	3.17	0.6%
TOTAL**	532.46	100%

Sources: 2005 Hagåtña Master Plan, Matrix Design Group, 2014
NOTE: * = The majority of the Marina Land Use from the 2005 master plan map is not shown on Figure 4 due to the bulk of the use being shown over water. The marina acreage above is for land use coverage only.
** = Total land use acreage does not account for roadway right-of-ways

Figure 4
Master Plan 2005

Source: 2005 Hagåtña Master Plan.



Zoning

The Guam Zoning Law, found in GCA Title 21: Real Property, Chapter 61, is an island-wide ordinance which sets forth the zoning regulations for the Island of Guam. As an island-wide construct, the Zoning Law is not refined to address specific needs and opportunities in Hagåtña. This ordinance establishes and regulates:

- Land use, building height, occupancy standards, and other minimum development requirements for the protection and promotion of the public health, safety, convenience, aesthetics and general welfare of the people of the Territory of Guam;
- The provision of adequate open spaces around buildings for light / air; and
- Undue concentration of population, to assure adequate provisions for community utilities and facilities such as water, schools, parks and other public requirements.

Land throughout the Island of Guam is categorized into several different zones, each having particular regulations. Within Hagåtña, there are several zones that are identified on the DLM Official Zoning Map. Zoning districts and their acreage within Hagåtña are detailed in Table 8 and on Figure 5. Figure 6 on the following page portrays the different zoning districts and their locations within Hagåtña.

Table 8. Hagåtña Zoning Districts, 2014

Zoning District	Acres	Percent of Hagåtña
Agriculture / Rural		
A: Rural (Agricultural) Zone	211.01	39.6%
Residential		
R-1: One-Family Dwelling Zone	23.57	4.4%
R-2: Multiple Dwelling Zone	61.43	11.5%
Total Residential	85.00	15.9%
Commercial		
C: Commercial Zone	201.22	37.8%
Industrial		
M1: Light Industrial Zone	35.06	6.6%
Other		
PUD (Planned Unit Development) Zone	0.17	0.0%
TOTAL	532.46	100%

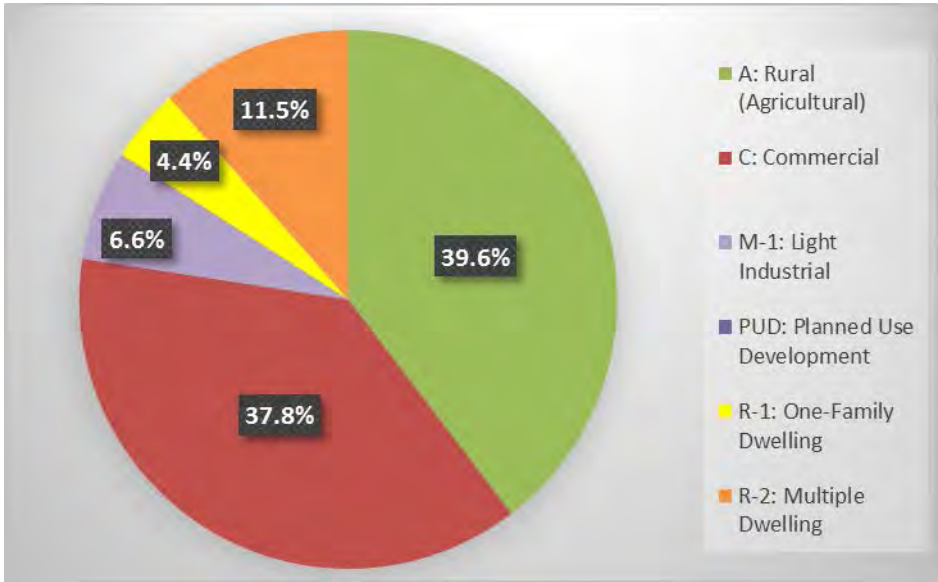
Sources: DLM; BSP; Guam Code Annotated Title 21, Chapter 61 Zoning Law; Matrix Design Group

NOTE: ** = Total zoning acreage does not account for roadway right-of-ways.

As more mixed-use developments are introduced into Hagåtña, new zoning districts, such as PUDs or PDDs may become more common throughout the denser, higher populated areas of Hagåtña. Additionally, since there is no zoning classification for uses such as public facilities, parks, and open space, many of these special uses are currently zoned agricultural. In the future update

of the Master Plan, separate designations like those in the current Master Plan, may be warranted for the area to designate expected uses.

Figure 5. Zoning District Acreage and Percentage, Hagåtña, 2014



Sources: DLM; BSP; Matrix Design Group

Paseo de Susana Planned Development District

Pursuant to Public Law 86-664, DLM Document No. 44682, an area of 36.75 acres (including Lot Number A-4) in Hagåtña was declared as the Paseo de Susana PDD in 1989. Compliance with this Public Law enables the unified development of this property, inclusive of any fraction of public land consolidated therein, with a combination of civic, park, and recreational uses.

Legislative Authority

According to Article Six, Part Four of the Zoning Law, submission to the Legislature on any zoning map or amendment is required. The section states that the Zoning Map or any amendments thereto adopted by the Commission and approved by the Governor shall be submitted to the next portion of the next regular session of the Legislature convening after the said approval. The Zoning Map or any amendments thereto shall remain in effect unless amended or repealed by statute.

Zoning Map of Hagåtña

Within 21 GCA Chapter 61, section 61202 identifies the Zoning Map of Hagåtña. This section specifically states:

The zoning map of Agaña, identified as Drawing No. GI-54517 and heretofore adopted as part of the zoning map, is hereby amended by extending the commercial zones appearing on said map, north of Route 8 and south of the Mongmong-Maite road, two hundred (200) feet in depth on each such area. Notwithstanding any other provision of law, these two commercial zones may not hereafter be altered or changed except by statute. The zoning map of Agaña is further amended by extending the commercial zones north and south of Route Four, from Marine Drive to Lot 83 Sinajana on the north side and to Lot 3202

Sinajana on the south side, to a depth of two hundred (200) feet where the zones are not already of that depth and by further extending the commercial zone on said map to include the entire area bordered by Route Four, 3rd Street South, First Street East and Cliff Drive Extension.

Zoning Inconsistency

The Zoning Law of Guam was established to set forth land use requirements, applicable to Guam’s municipalities, including Hagåtña. Meanwhile, some existing land uses in Hagåtña do not comply with Guam’s Zoning Law. For example, there are junkyards and other industrial-type uses in the Santa Cruz Lane loop area of Hagåtña, which is zoned as R-2 Multi-family dwelling. Also, the parcels Cliffside of West O’Brien Drive, west of Latte Park, are zoned as R-2, yet there are various commercial offices located here. As such, many of the “private” existing land uses in Hagåtña are also encroaching onto publicly owned lands, particularly along the waterfront areas and in public rights-of-way. In regards to this issue, section 61523 of the Guam Zoning Law (Nonconforming Use of Buildings) states:

- (a) *The nonconforming use of a building, existing at the time this law became effective, may be continued;*
- (b) *The use of nonconforming building may be changed to any other use which is permitted in the same zone as the use for which the building or structure is designed or intended. The use of a non-conforming building may also be changed to any use permitted in a more restricted zone classification. Where the use of a nonconforming building is hereafter changed to a use of a more restricted zone classification, it shall not thereafter be changed to a use of a less restricted zone classification.”*

Additionally, section 61524 of the Guam Zoning Law (Nonconforming Use of Land) states:

The nonconforming use of land, existing at the time this law became effective, may be continued except that such use shall not be extended either on the same or on to adjoining property. Where a nonconforming use of land is discontinued or changed, any future use of such land shall be in conformity with the provisions of this Chapter.

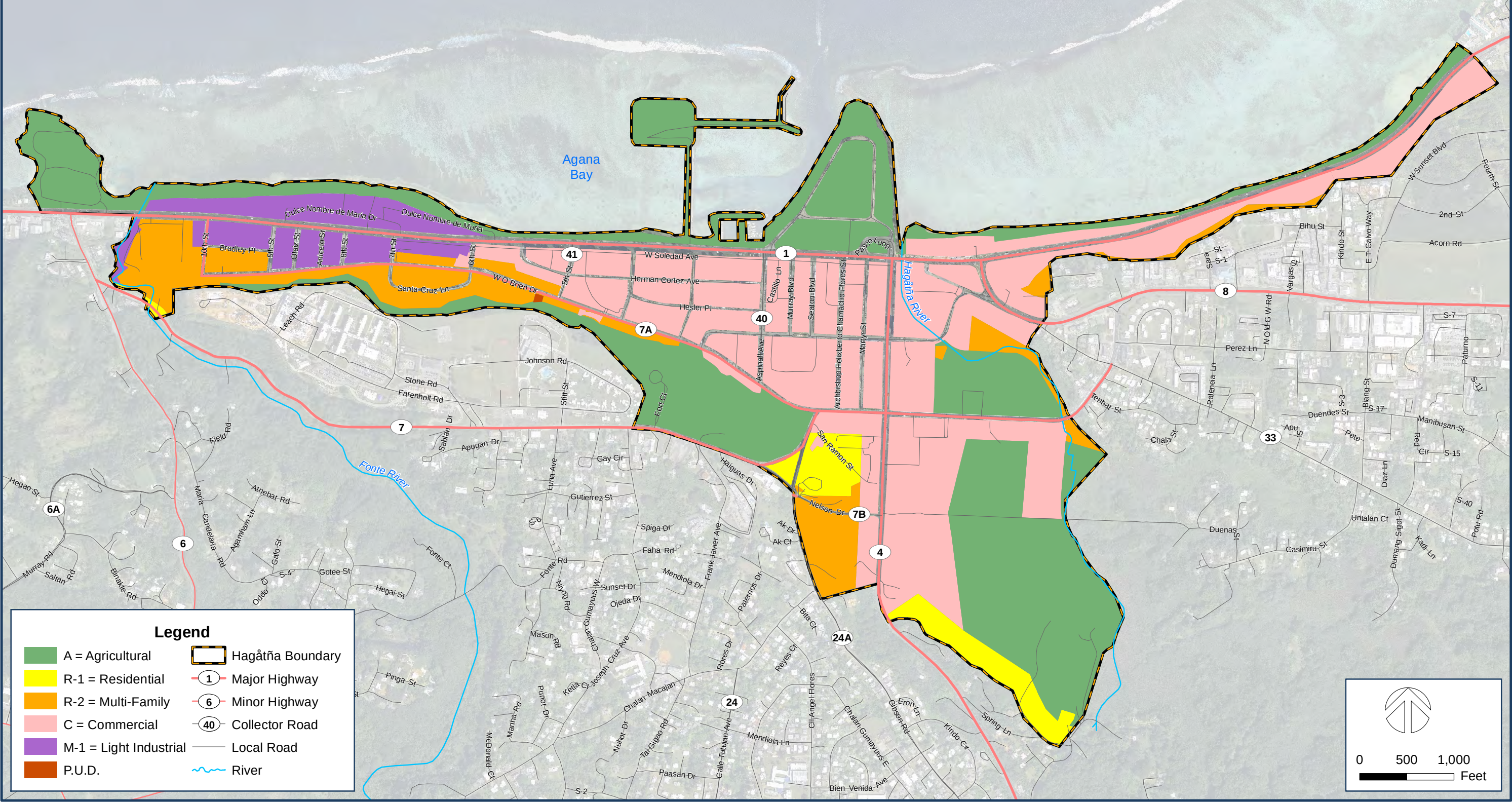
Furthermore, section 61566 of the Guam Zoning Law (Nonconforming Junk Yards) states:

- (a) *The nonconforming use of a building or premises for the purpose of operating a junk yard within any Agricultural (A), Residential (R1 and R2), or Commercial Zone (C and LC) shall, within five (5) years after the effective date of this Chapter, be discontinued and the building or premises thereafter devoted to a use permitted in the zone in which such building or premises are located;*
- (b) *The nonconforming use of a building or premises for the purpose of operating a junk yard within a Light Industrial (M1) Zone may continue subject to the provisions of Article 5, Part 3 of this Chapter, provided that it is made to conform to the provisions of § 61562 within the (1) year of the effective date of this Part. If such action is not taken, the provisions of subparagraph (a) shall apply.*

Sources: Guam Code Annotated Title 21, Chapter 61 Zoning Law.

Figure 6
Existing Zoning

Sources: Department of Land Management, 2014; Bureau of Statistics and Plans, 2014.



Land Ownership

Land in Hagåtña is owned by a mixture of private, public (government) and institutional owners. Shown on Figure 7 on the following page, roughly 35% of the land (222 acres) in Hagåtña is considered public lands, owned by the Government of Guam. The vast majority of this land is zoned either agricultural or commercial. The other 65% of the land in Hagåtña is private land. The majority of this land is zoned industrial, commercial and residential. Although the development of lands within Hagåtña is viewed as fairly orderly, in some cases, “remnant” lot configurations (referred to as “fractional lots”) and ownership create significant impediments to development.

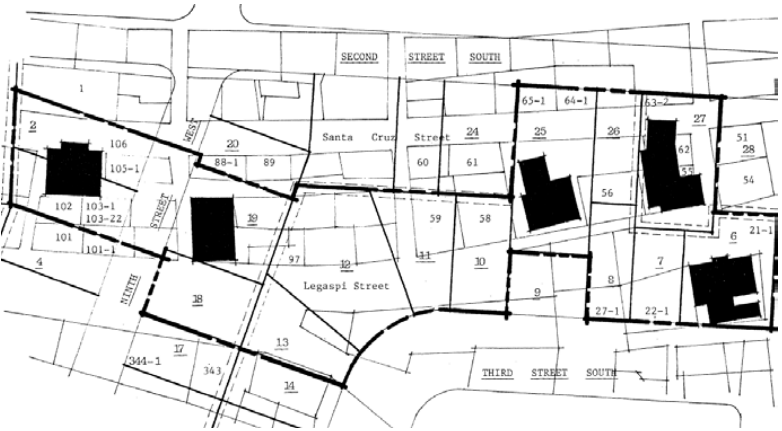
Reconfiguration of Land in Hagåtña

The layout of Hagåtña was much different before World War II. Rivers and streets were not in the same location and lots were configured differently. When Guam was recaptured from Japan by the U.S., Hagåtña had been almost completely destroyed, setting the stage for the reconfiguration of roads, property lines and natural features as part of the reconstruction effort. The figure below portrays the pre-war layout of Hagåtña land parcels.



During the post-war era, the new layout was based on blocks of land divided into rectangular lots, oriented to the new street pattern. These new lots were overlaid on top of the old pre-war lots, creating undivided interest and many conflicts with property lines and boundaries. The affected lots became known as the Hagåtña “Fractional Lots.” This term was used to describe these lots

because when the new lot lines were laid out, many of the pre-war lots were split into various pieces – for example, a single pre-war lot may have been given new boundaries where a portion would be located on one of the new lots, a portion on an adjacent new lot and possibly another portion located in the new road. In some cases, some smaller lots, which may have bordered old streets, were nowhere near the new streets that were developed and hence became land locked. The figure below portrays an example of the new lot boundaries (darker outline) placed over the old lot system, creating what was known as fractional lots.



Corresponding efforts to resolve fractional lot issues in Hagåtña were initiated and carried out. Fractional lots, in earlier report, were identified as no longer existing in Hagåtña. However, in an interview with the Department of Land, certain cases on fractional lots remain open and in pursuit to be rectified through judiciary means. Notwithstanding, certain lots are too small to build upon, or otherwise un-developable as currently configured. In some cases, consolidation of these lots for the purpose of singular lease arrangements has resulted in successful developments and construction of facilities/utilities within the new rectangular lots, which conform to the new lot and block system. However, while these developments may have resolved the undivided interest issue, the percentage of undivided interest in these respective lots many not always be known. In other cases, vacant land may also remain undeveloped because of government disapproval of development plans without legal easements for utilities and access, or because the lots do not provide sufficient area and/or geometry to accommodate the proposed development.

Undivided Interest

The case of undivided interest has been existent in Guam since the fractional lot issue developed. If a lot is partially owned by two different people, where one person owns 40% of the parcel, then they have an undivided interest of 40%. Title 21 GCA, Chapter 29 Land Title Registration identifies undivided interest, and how to receive certificates of ownership where tenants are in common. Section 29126 (Certificate Where Tenants in Common) states the following:

In all cases where two (2) or more persons are entitled as tenants in common to an estate in registered land, such persons may receive one certificate for the entirety, or each may receive a separate certificate for his undivided share.

Additionally, 21 GCA Chapter 29, Section 29199 (Action for Partition by Owner of Undivided Interest) states that:

An owner of an undivided interest in registered lands may bring an action for the partition thereof. A notice of such action shall, at the time for the commencement thereof, be filed with the registrar and a memorial entered by him upon the register. A certified copy of any judgment or decree rendered in pursuance of such action shall be filed with the registrar, who shall thereupon issue a new certificate in accordance therewith.

Furthermore, 21 GCA Chapter 60, Section 60508 (Identification of Land Markers) helps to informally identify change of lot boundaries by use of permanent lot markers, situated by registered land surveyors. It is unclear if these lot markers are also used to disseminate properties where there are common tenants or where there is undivided interest.

Public Lands

Approximately 222 acres (roughly 35%) of Hagåtña’s estimated 630 acres is public land owned by the Government of Guam. A breakdown of private or publicly owned land in Hagåtña and the amount of land per each category are detailed in Table 9 and shown on Figure 7.

Table 9. Hagåtña Land Ownership, 2015

Landowner	Acres	Percent of Hagåtña
Government of Guam Land	221.93	35.2%
Private Land	407.85	64.8%

Sources: Guam and CNMI Military Relocation Final EIS, 2010, U.S. Navy; Matrix Design Group

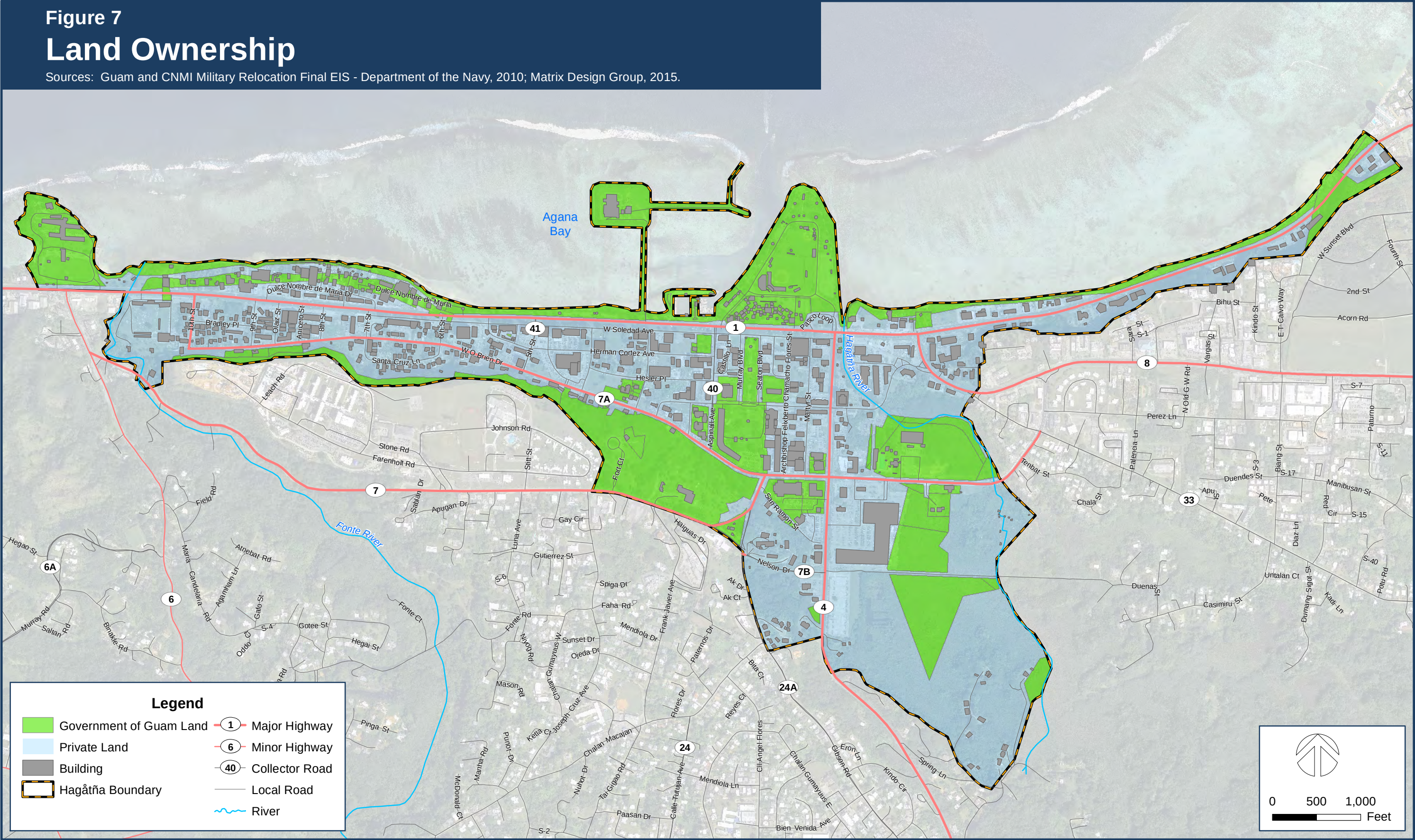
While some of the public land within Hagåtña houses Guam agencies within government owned buildings, some public lands contain public buildings that house federal agencies through lease agreements. An example of this is the Hagåtña Branch U.S. Post Office, which is a federal agency located inside of a building owned by the Government of Guam.



Sources: GovGuam; 2005 Hagåtña Master Plan; Hagåtña Restoration and Redevelopment Authority.

Figure 7
Land Ownership

Sources: Guam and CNMI Military Relocation Final EIS - Department of the Navy, 2010; Matrix Design Group, 2015.



Economic Development

Economic development is one of the principal means by which municipalities can affect community revitalization, foster the appropriate use of land, promote redevelopment, provide public amenities, increase housing opportunities, enhance urban aesthetics, and promote public health and welfare. Redevelopment benefits not only the immediate area surrounding the project, but also the entire area and Guam. The positive effects of economic development include the following:

- Increased job opportunities, including the construction jobs created by the development of new buildings, new infrastructure, and remodeling of existing buildings;
- Development of new cultural, shopping, and recreation opportunities within the community;
- Increase in revenues associated with new development (i.e., taxes and increased earning);
- Reversal of the financial drain of the blighted area into a positive financial asset to the community;
- Improved safety and environment of the project and adjacent areas;
- Restoration of community pride; and,
- Establishing barriers to the spread of blighted conditions within the community.

Economic Development in Guam and Hagåtña

Guam has been making a conscious effort to improve transportation, attract future employers in particular industries, and promote shopping, entertainment and hospitality through GEDA and the Guam Visitors Bureau (GVB). GEDA along with HRRA, developers, property owners, and the Hagåtña Mayor’s Office have been actively involved in revitalizing Hagåtña’s business enterprises and extension of its infrastructure. This is done through the use of funding assistance tied to certain plans, such as the Comprehensive Economic Development Strategy (CEDS) and through the use of the Hotel Occupancy (HOT) Bond Tax and the promotion of new developments.



There have been recent developments including enhancements to the Heritage Trail, the proposed redevelopment of Paseo Stadium and the renovation of the Gregorio D. Perez Marina, as well as the construction of the new Guam Museum, which is currently underway. Additionally, as part of the recent CEDS 3rd year update, many infrastructure improvements and redevelopment projects have been proposed in Hagåtña to capitalize on unique historical and cultural sites. Some of these proposed projects include waterfront development and shoreline protection, Plaza de España restoration, and the Paseo de Susana development, which includes an expansion of CHamoru Village. The expansion and revitalization of the CHamoru Village will be one of the most crucial economic development projects for Hagåtña in the coming year due to the pending Festival of the Pacific Arts (FestPac), which will be held on May 22-June 4 2016 at Paseo de Susana. The Festival of the Pacific Arts is held every four years since 1972, and brings together artists and cultural practitioners from around the Pacific region for two weeks of festivity. It is recognized as a major regional cultural event, and is the largest gathering in which Pacific peoples unite to enhance their respect and appreciation of one another. The 2016 festival is Guam’s opportunity to showcase its unique CHamoru culture that has survived colonization of the past and modernization of the present.

Specific redevelopment and future revitalization plans identified by HRRA, GEDA, HRRA, and Hagåtña have created several nodes in which pedestrian use, economic development and business retention is critical. Several economic development projects identified within the CEDS 3rd year update have been deliberated that are intended to encourage reinvestment and rehabilitation of public properties and buildings within Hagåtña, more specifically in the Capital / Cultural District. The CEDS 3rd year update also details how the HRRA will integrate economic zoning and infrastructure development, and providing incentives to entice businesses to locate, or relocate, to Hagåtña. These economic development projects within Hagåtña are detailed in Table 10 and shown on Figure 8 on the following page.

Also shown on Figure 8 is the location of major HOT BOND funded projects in Hagåtña, such as the new Guam Museum. HOT BOND projects within Hagåtña include, but are not limited to, the following:

- Restoration of the walls, Azotea, and Chocolate House at Plaza de España
- Paver-surface crosswalk connection between Skinner Plaza and CHamoru Village
- Construction of the new Guam Museum
- Hagåtña entrance / gateway signage
- Restoration and repair of street lighting along Marine Corps Drive
- Restoration and repair of picnic shelters and ocean views at beach parks
- Construction of a permanent monument / statue at Latte Park
- Improvements to Hagåtña’s Central Park tennis courts and pool
- Enhancements to the Heritage Trail

Table 10. Planned Public Building Capital Improvements Projects, 2015

Capital Improvement Project	Cost
Gregorio D. Perez Marina - Phase III Construction, Renovation & Site Improvements	\$2,491,200
Hagåtña Riverwalk Project	\$4,500,000
Plaza De España Restoration - Government House Spanish Palace Reconstruction	\$4,500,000
Plaza De España Restoration- Government House-Spanish Palace Annex Reconstruction	\$5,000,000
Plaza De España – Garrison / Marine Barracks Reconstruction	\$5,000,000
Plaza De España Restoration - Almacen Reconstruction	\$1,800,000
Plaza De España Restoration – Arboriteum / Governor's Farm / Garden Redevelopment	\$600,000
Hagåtña Central Park Redevelopment	\$4,000,000
Nieves M. Flores Memorial Library Expansion Project	\$15,000,000
Guam Congress Session Hall Restoration	\$8,000,000
Hagåtña Car Park Development Project	\$24,000,000
Paseo De Susana PDD- Paseo Stadium Redevelopment	\$41,200,000
Paseo De Susana PDD- Canoe House & Launch Site	\$700,000
Paseo De Susana PDD- West Agaña Bay Rec. Area I Development	\$1,200,000
Paseo De Susana PDD- West Agaña Bay Rec. Area II Development	\$1,500,000
I Sengsong CHamoru (CHamoru Village) Improvements	\$17,200,000
I Sengsong CHamoru Expansion	\$2,800,000
Land Services, Finance &Tax Services, & Labor Services Building	\$15,000,000
Government of Guam Line Agency Building	\$15,000,000
Guam Museum of Natural History & Arboretum	\$3,800,000
The Heritage Trail Enhancement	\$500,000
Hagåtña Neighborhood Revitalization Initiative	\$2,300,000
Guam Seal Park Project	\$2,500,000

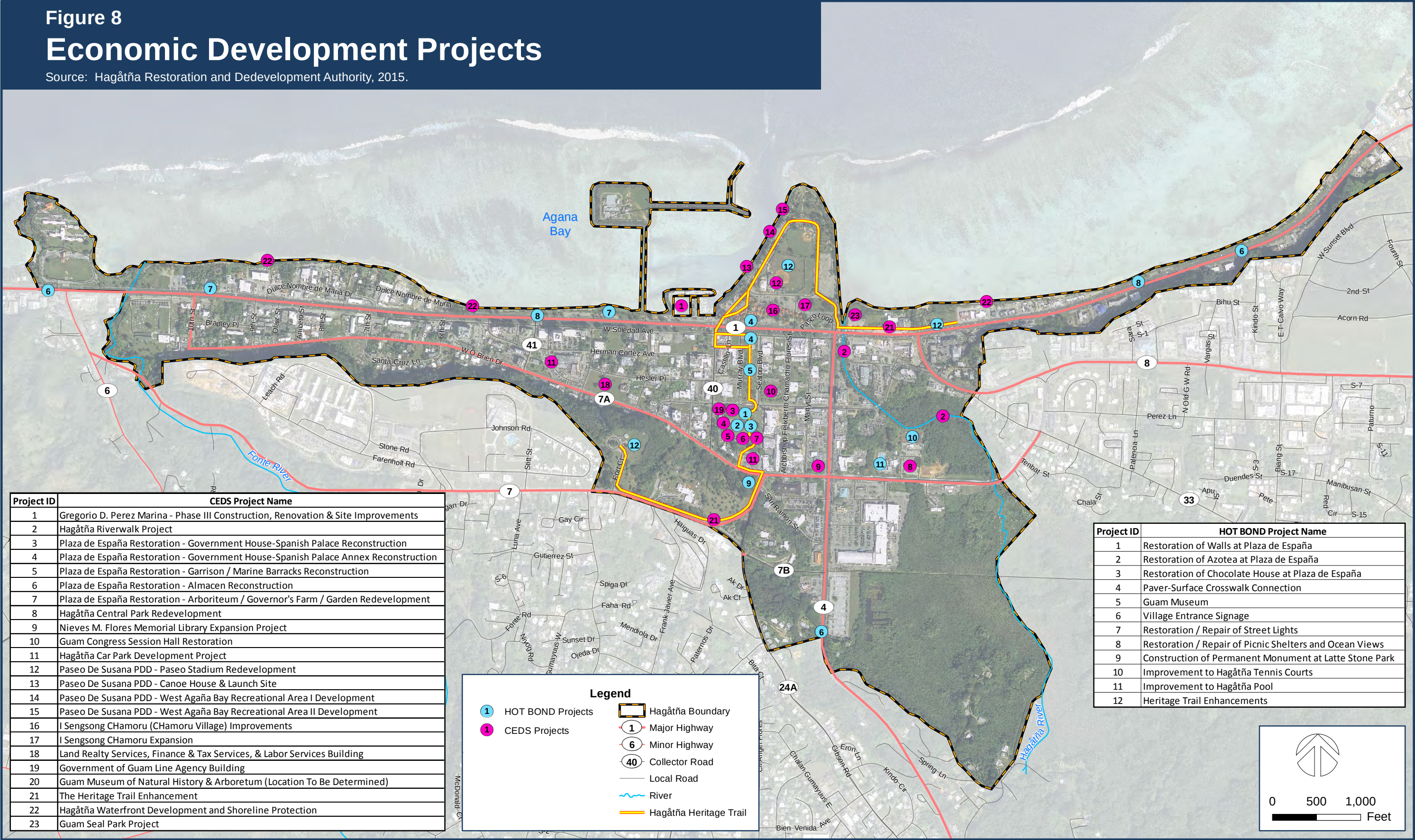
Sources: GovGuam; 2011 CEDS, 3rd year update; HRRA Briefing, August 2013



Sources: 2005 Hagåtña Master Plan; 2011 Comprehensive Economic Development Strategy (CEDS), 3rd year update; HOTBOND Project listing, GEDA, 2014

Figure 8
Economic Development Projects

Source: Hagåtña Restoration and Dedevlopment Authority, 2015.



Cultural and Historic Resources

Pre-Latte Period (1,687 BC – 1000)

People first arrived on Guam and the rest of the Mariana Islands perhaps from Southeast Indo-Malaya, possibly in many waves over many years. These people evolved into the CHamoru people with their own distinct language and way of life. As far as the pre-latte period, ancient CHamoru's were involved in seafaring trade and served as early navigators among the Marianas. Carbon dating indicates that Hagåtña was inhabited over 2,600 years ago, although little is known about Hagåtña from that early period.

Latte Period (1000-1668)

After a period of cultural transition and change, the Latte Period was distinct by the 9th century A.D. Accounts of the CHamoru's at this time describe a tiered matrilineal social organization, an organized government, a religion based on ancestral veneration, and a uniform language. They also had a division of labor and a system of transportation for both land and sea. Their sophisticated fishing technology complemented their fast sailing vessels to create a well-known seafaring culture and economy. During this period, the CHamoru's began constructing houses on raised foundations, using large pillars (*haligi*) with cup-shaped stones (*tasa*) atop the pillars to hold up an A-framed roof. These pillars and attached stones are what eventually became known as “latte stones”.

Spanish Era (1686-1898)

Hagåtña has been Guam’s capital since 1686, declared under Spanish rule during the CHamoru Spanish Wars (1668-1700) for two centuries, as the head of the Marianas. Starting the colonization, the influential Padre San Vitores established Guam’s first cathedral, which would contribute to the sizeable relocation of a larger population to Hagåtña. During this period, Hagåtña was estimated to have 1,000 residents, over 200 dwellings, and had first established the concept of ‘barrios’, an unofficial division of residential neighborhoods.

As a result of the Spanish Galleon Trade between the Philippines and Mexico, Hagåtña became a way port for commercial ships. This contributed to the influx of Filipino laborers. The Spanish also allowed for other people to be educated through religion and culture. For this reason, processions and religious festivals like Santa Maria de la Camarin are celebrated in Hagåtña and around the island.

U.S. Naval Era (1898-1941)

As a condition of the Peace Treaty at end of the Spanish-American War, the U.S. acquired Guam. During this period, Hagåtña remained the central location for religious, commercial, and economic activity, and eventually became the seat of the government under U.S. Naval administration. The CHamoru's petitioned for US citizenship for the first time in 1901.

World War II / Japanese Transition Period (1941-1944)

In December 1941, during World War II, Guam was officially claimed by Japan, and Hagåtña was transformed into the headquarters of the Japanese Administration on Guam. While the Japanese occupation only lasted about two and a half years, there was significant effect on Hagåtña and the Island of Guam. During this time, most of the physical structures in Hagåtña were destroyed by actions carried out to try and reclaim the island.

Post-War Era (1944-1950)

It wasn’t until Guam’s recapture from the Japanese in July 1944 that Hagåtña experienced significant infrastructure, cultural and administrative changes. A period of rebuilding after the destruction of World War II. Naval Governors were once again in charge of the island. This was the period when the U.S. military took land and built several large bases. The U.S. Seabees created what is now known as the Paseo de Susana and formed new neighborhoods using a superimposed grid layout, predominant in the U.S. at the time, as the organizational structure for reconstruction. In some cases, this action left original landowners without any property in Hagåtña. Hagåtña population dropped from 10,000 in 1940 to under 1,000 in 1950, before eventually rising back up to 1,640 by 1960.

Guamanian Era (1950-1970)

With the signing of the Organic Act on August 1, 1950, CHamoru's became US citizens, though they had limited self-government. The governor, a civilian, was appointed by the U.S. President. The Organic Act set up the Government of Guam as well, with the Administration, the Legislature and the Courts. The term “Guamanian” was coined, which includes CHamoru's, Filipinos and everyone else who makes Guam their home. Since the conversion to a U.S. territory, Guam has served as a strategic military base. Many residents are involved with the military. As a consequence, Guam has been recognized as the most westernized island in the Marianas.

Contemporary Guam (1970-present)

During this period, Guam’s first elected governor took office and Guam started having tourism on a regular basis which gave the island a second industry besides the military. Although Hagåtña is still home to the Legislature and a number of Government of Guam, judicial (Guam and Federal), and federal agencies, the once populous community now serves primarily as the administrative headquarters of the island’s businesses and commerce. It functions mainly as a hub for public sector jobs, tourism due to cultural and

historically relevant sites, and large-scale ceremonial activities. Many improvements to cultural amenities in Hagåtña are planned, including restoring the Plaza de España, enhancing the Heritage Trail, improving and expanding the CHamoru Village, and historic preservation.

Sources: *Governing Guam* 2010; <http://guam.stripes.com/>; *Guampedia*

Hagåtña Historic Structures and Landmarks

Guam has a myriad of cultural and historic assets, many of which are located in Hagåtña. Historic buildings and landmarks registered with the Guam Register of Historic Places are shown on Figure 9 and noted in Table 11, along with the dates they were added to the National Register (if applicable).

Table 11. Register of Historic Places, Hagåtña, 2010

Building, Landmark, or District	Added to Guam Register	Added to National Register
Spanish Dikes	June 1974	November 1974
Cormoran Monument	July 1974	-
Hagåtña Spanish Bridge	December 1974	September 1974
Fort Santa Agueda	January 1975	August 1974
Plaza de España	January 1975	May 1974
Guam Institute / Lujan House	May 1977	October 1977
Agaña Fortification	August 1979	March 1991
Japanese Caves	August 1979	-
Dr. Mesa House	April 1984	February 1985
Garrido House	April 1984	February 1985
Shimizu House	April 1984	-
Ungacta House	April 1984	February 1985
Toves House	April 1984	February 1985
Hagåtña Historic District	February 1985	February 1985
Hagåtña Cliffline Fortifications	June 1988	March 1991
Hagåtña Pillbox	June 1988	March 1991
U.S. Naval Cemetery Fortification	June 1988	March 1991
Dulce Nombre de Maria Cathedral-Basilica	August 1996	-
Guam Congress Building	August 2001	February 2007

Sources: <http://www.historicguam.org/historic.htm>; *Guam Historic Preservation Plan 2007-2011*; 2005 *Hagåtña Master Plan*; U.S. *National Register of Historic Places*

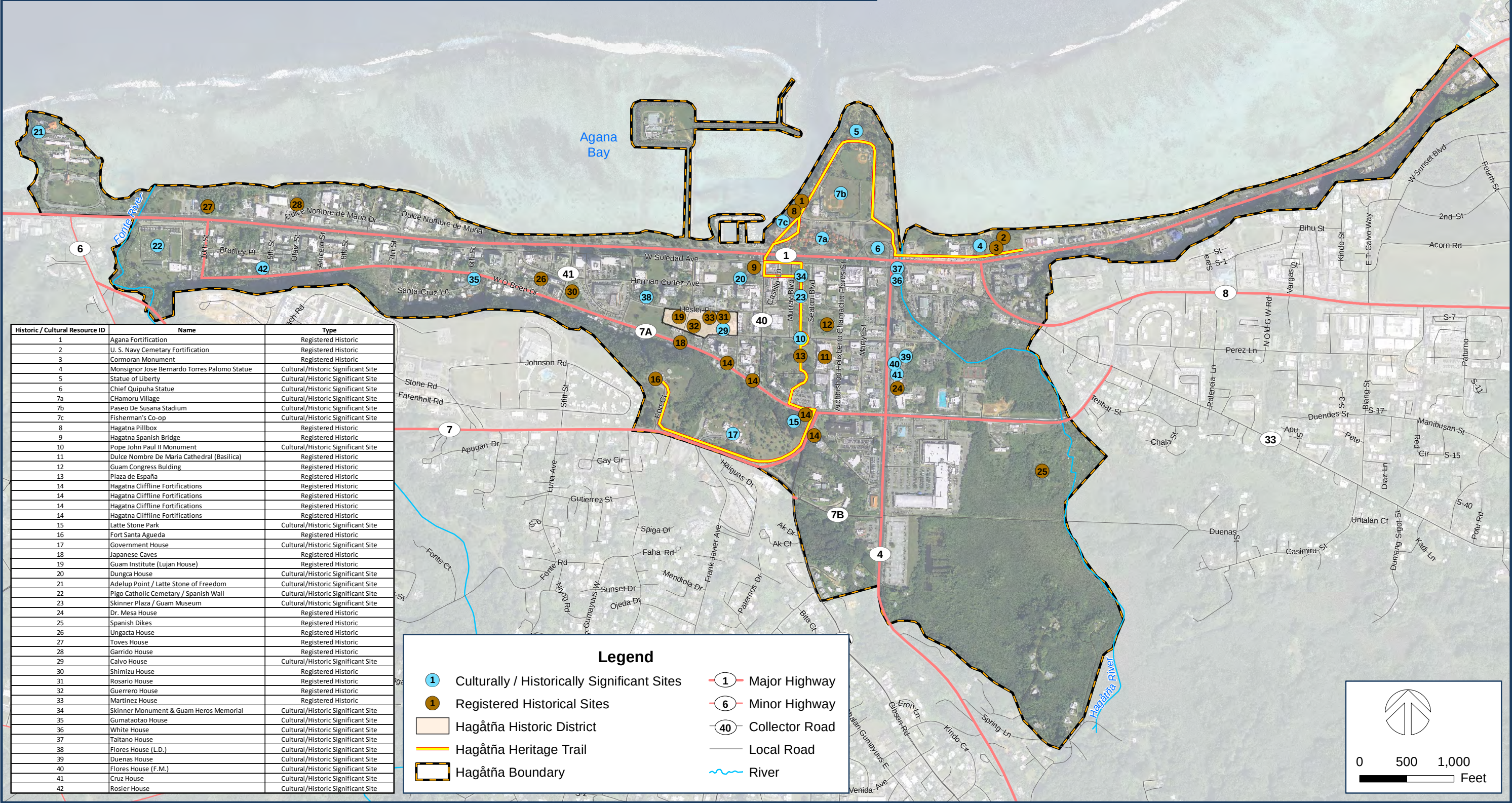
Other Cultural Amenities

Aside from registered historic buildings and landmarks located in Hagåtña, other cultural amenities within Hagåtña include over 25 other (non-registered) historic sites, the Senator Angel L.G. Santos Memorial Park (or Latte Park), the Government House, the Governor’s Complex (also known as Adelup Point, which includes the Latte of Freedom), CHamoru Village, Paseo de Susana (which includes the Statue of Liberty and Chief Quipuha Park), the Marina and Fisherman’s Co-Op, Pigo Cemetery, the Hagåtña River, and Skinner Plaza, which is the future site of the Guam Museum. Figure 9 on the following page shows the locations of all registered historic structures and landmarks, as well as the locations of other cultural amenities and resources within Hagåtña.



Figure 9
Cultural and Historic Resources

Source: 2005 Hagåtña Master Plan.



Roadway Network

Hagåtña Circulation

A safe, efficient, and reliable roadway network will be an important factor for the economic prosperity and continued growth of Hagåtña. Due to the anticipated organic and military related increase in population, traffic impacts are a concern for Guam. Hagåtña is a major crossroad in Guam, with Marine Corps Drive (Route 1), Purple Heart Highway (Route 8) and Route 4 connecting through the area. Guam residents and visitors depend on these roads to reach Hagåtña and to move between municipalities on Guam. Many residents also depend on the collector and local roads in Hagåtña for day to day mobility and activities in the area as well.

Functional Classification of Roadways

A functionally classified roadway system allows streets to be grouped according to their purpose and function within the roadway network. Urban streets generally serve two primary functions: mobility and accessibility. The functional classification of the Territorial Highway System describes the level of mobility and access provided by roadways within a community’s transportation network.

Guam currently includes roadway infrastructure in four functional categories: major highways, minor highways, collector roads and local roads, although Hagåtña contains no minor highways. The width of a roadway does not always correspond directly to its function in the overall circulation system, although wider roadways tend to have more regional functionality within the overall circulation system of Hagåtña, as depicted on Figure 10.

Major Highways. Major highways are intended to serve both regional and inter-city travel. Major highways provide for high speed and through traffic movement on continuous, multiple lane routes. Major highways provide connections to other highways and are capable of carrying the heaviest traffic volumes. Major highways usually accommodate the highest speed limits. Access to major highways should be the most restricted, but areas in Hagåtña have extensive access points which limits their capabilities. Major highways that traverse Hagåtña are Marine Corps Drive (Route 1), Route 4, Route 7, West O’Brien Drive (Route 7a), and the end of Purple Heart Highway (Route 8).

Minor Highways. Minor highways provide for mobility to municipalities and adjacent areas. Minor highways are designed to carry through traffic on continuous routes and connect major traffic origins and destinations, major highways, and collector roads. For minor highways, access is more restricted than collector roads, although access to and from adjacent property may be permitted depending on the location and other factors. There are currently no minor highways in Hagåtña.

Collector Roads. Collectors are major streets that provide for internal traffic movement within Hagåtña and other municipalities and connect major and minor highways to local roads. Collector roads are designed to take traffic off of local roads and feed it into major highways. Collectors accommodate a substantial amount of the vehicular travel in Hagåtña and throughout Guam. Collector roads that exist in Hagåtña include Routes 7b, 40, and 41.

Local Roads. Local roads are lower-speed facilities that provide direct access to adjacent properties and connect with collectors and highways. Local roads are typically developed as two lanes, but profiles can vary depending on location and other factors. The majority of roads in Hagåtña are local roads.



Major Corridors

Hagåtña is served by three primary highway routes which are considered Hagåtña’s major traffic (and freight) corridors: east and west via Marine Corps Drive (Route 1), and north and south via Route 4 and Purple Heart Highway (Route 8). Marine Corps Drive (Route 1) is the primary highway on Guam and within Hagåtña, spanning a total of 22 miles of four to six lanes, with speed limits of 35-45 miles per hour. Its pavement condition varies.

Route 4 spans a total of 24.4 miles and has several speed limits with lane widths ranging from 2 to 6. Its northern terminus is in Hagåtña. Its pavement condition is generally unacceptable.

Purple Heart Highway (Route 8) consists of 4 lanes spanning a total of 4.3 miles (only a small portion of this is in Hagåtña) with speed limits of 35 and 45. Its western terminus is in Hagåtña, and the pavement condition is categorized as poor.

Other major corridors in Hagåtña include Route 7, and West O’Brien Drive (Route 7a) which becomes Route 33. Two collector roads that are minor corridors and serve as important linkages are Aspinall Avenue (Route 40) and 5th Street (Route 41) which provide important links between Routes 1 and 7a.

Additionally, some local roads in Hagåtña are one-way thoroughfares. West Soledad Avenue, Seaton Boulevard, and Archbishop Felixberto Chamacho Flores Street all support one-way direction of traffic.

Four bridges exist in Hagåtña, most of which are over 30 years old. These include the Fonte Bridge which overpasses the Fonte River, and three bridges over the Hagåtña River (Minondo Bridge, Route 1 / Hagåtña Bridge, and the Santo Papa Bridge). The Route 1 Bridge over the Hagåtña River has recently been enhanced and modernized, while the Santo Papa Bridge is currently being modernized. Hagåtña also contains nine traffic signals, six of them along Route 1, two along Route 4, and one at the intersection of Routes 7 and 7a.

Future Anticipated Improvements

The Guam Department of Public Works (DPW) has identified many future roadway and bridge infrastructure improvements to be undertaken throughout the island of Guam, several of which are in Hagåtña. All of these projects are either part of the Territorial Highway Program and Transportation Improvement Plan (TIP), funded by the Federal Highway Administration, or part of the 2011 CEDS, 3rd year update. Future anticipated roadway improvements relevant to Hagåtña are listed in the table below and shown on Figure 10.

Table 12. Roadway Capital Improvements Projects, 2012-2015

Capital Improvement Project	Cost	Funding Source
Route 33 Planning Study	\$100,000	Territorial Highway Program
Traffic Signal System Upgrade	\$3,103,000	Territorial Highway Program
ADA Compliance Design / Build	\$902,000	Territorial Highway Program
Nuestra De Senora Soledad Avenue Road Expansion	\$1,840,000	US EDA (2011 CEDS)
Route 7/7a/24 Y-Intersection Reconfiguration	\$700,000	Territorial Highway Program
Route 1/Route 4 Southbound Left Turn Lanes	\$1,200,000	Territorial Highway Program
Route 1/8 Improvements and Agaña Bridge Replacement*	\$16,400,000	Territorial Highway Program

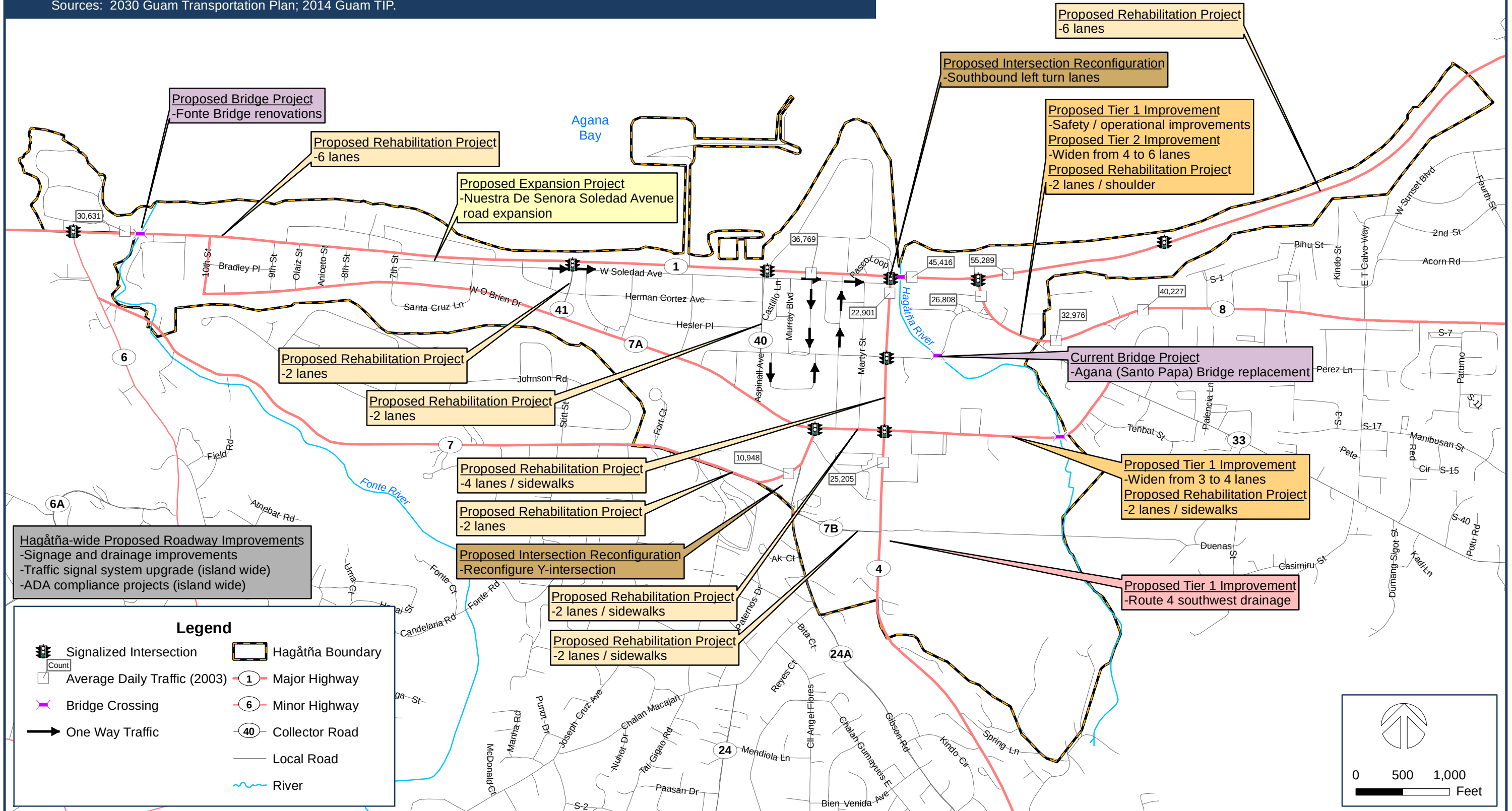
Sources: Guam Department of Public Works TIP 2014; 2011 CEDS, 3rd year update; 2030 Guam Transportation Plan

*NOTE: * = Project recently completed, Santo Papa Bridge and Minondo Bridge in Hagåtña also being renovated*

Other anticipated roadway infrastructure projects proposed as part of the 2030 Guam Transportation Plan include congestion relief improvements, rehabilitation improvements, intersection improvements and bridge improvements. The projects located in Hagåtña are shown on Figure 10. Overall, these anticipated improvements will provide Hagåtña with a more effective and balanced roadway network, which will increase the quality of life, local economic vitality, and circulation safety.

Source: 2030 Guam Transportation Plan; Village Streets Master Plan, 2009

Sources: 2030 Guam Transportation Plan; 2014 Guam TIP.



Transit and Alternative Circulation Systems

Transit Systems

With significant coastal destinations and major government, historical, and retail facilities, the transit needs in Hagåtña are both internal (movement within Hagåtña) as well as external (movement in and out of Hagåtña). Continued growth in entertainment and tourism related development, downtown revitalization, and enhancement of recreational facilities will require enhancements to Hagåtña's transit services.

Mass Transit

The majority of Hagåtña residents rely on personal motor vehicles as their primary means of transportation. According to the 2012 Statistical yearbook, there were over 74,000 licensed private motor vehicles on Guam.

Mass transit (public and private) in Hagåtña includes the following modes and service types:

- Fixed-route (buses on designated routes at prescribed headways)
- Demand-response (reservation-type service linking residential areas with fixed-route service or nearby activity centers)
- Paratransit (service for disabled)
- Tour buses (motor coaches that carry tourists between hotels and major tourist destinations or provide sightseeing tours)
- Shopping buses (trolley-style or conventional buses that connect tourists with shops, restaurants, or other activities)
- Taxis (there are about 225 on Guam)
- School buses

Hagåtña mass transit services are managed by the Guam Regional Transit Authority (GRTA) and provided by Kloppenburg Enterprises, Inc., a private bus operator. Kloppenburg, who also operates some of the shopping and tour buses around the island, is responsible for Guam mass transit services through a month-to-month contract with the Government of Guam Department of Administration (DOA), Division of Public Transportation Services. There are two additional private bus operators that assist in the operation of Hagåtña's mass transit, Sanko and Micronesian. Service is provided with a total of about 25 buses, including up to seven buses provided by Sanko, an average of ten buses by Kloppenburg, and the remainder provided by Micronesian. This does not include the private tour and shopping buses, one of which is pictured below. According to the 2012 Statistical yearbook, over 700 buses are licensed with the Department of Motor Vehicles (island-wide).

According to the Guam Transportation Petroleum-Use Reduction Plan (TPURP), GRTA is initiating a move away from contracting out its bus service and making headway in purchasing its own buses and a maintenance facility.



Guam mass transit operates nine routes island wide. A total of six of those routes connect in Hagåtña. Those routes are noted below and shown on Figure 11, with the exception of the Express Line.

- **Blue Line 1:** from Dededo, south through Tamuning to Hagåtña.
- **Blue Line 2:** from Hagåtña, south along western coast past Agat.
- **Green Line:** from CHamoru Village across to the eastern coast, then south past Inarajan connecting with Red Line 1.
- **Red Line:** Servicing the center portion of the island, making a loop from Hagåtña to the eastern coast to Mangilao, then back to Hagåtña.
- **Orange Line:** from Hagåtña to Barrigada back to Tumon Bay.
- **Express Line:** from Hagåtña to Micronesia Mall / Tamuning

The routes operate from 5:30 a.m. to 7:30 p.m., Monday - Saturday and 7:30 a.m. to 5:30 p.m., Sundays and on holidays. According to GRTA, the sole public transportation authority on Guam, there are approximately 219,000 passengers of the fixed routes per year, the total fleet of buses (described above) can accommodate approximately 253 people at one time, and the buses adhere to the set schedule on average 90% of the time.

GRTA and the private bus operators also provides paratransit service. The four paratransit service lines include Freedom Lines 1-4 and supply door-to-door transportation for persons with disabilities, offered by reservation. Freedom Line 2 services Hagåtña. According to GRTA, there are approximately 50,363 paratransit passengers per year as of 2014.

A portion of the CHamoru Village, located in Hagåtña, acts as a transit center consisting of a shared-use parking lot with two bus shelters. Three routes in the fixed system are anchored by this location. Additionally, two out of six demand response routes (a reservation-type service linking residential areas with fixed-

route services or nearby activity centers), originate and terminate at the CHamoru Village. This allows for the current mass transit system to provide the majority of route services in one central location simultaneously to maximize transfer potential. Aside from the CHamoru Village terminus location, there are approximately 12 other bus stops located throughout Hagåtña, shown on Figure 11, although they do not all have bus shelters. In addition to existing facilities, \$8 million of the proposed 2011 CEDS 3rd year update has been allocated for transit hub development, new bus stops and 10 new trolley buses.

Alternative Transportation / Circulation

Hagåtña roadways have limited accommodations for pedestrian and bicycle travel and the quality of facilities generally parallel that of the road conditions. Sidewalks and roadway shoulders generally make up the existing bicycle and pedestrian system. The majority of the 26 miles of sidewalk on Guam is in the central western portion of the island, in the Hagåtña and Tumon Bay area. Sidewalks often contain obstructions, such as fire hydrants, power poles, traffic signal controllers, or other utilities. Similarly, bicycle and pedestrian mobility and safety on road shoulders is often impeded by conflicting uses, such as parking and utilities.

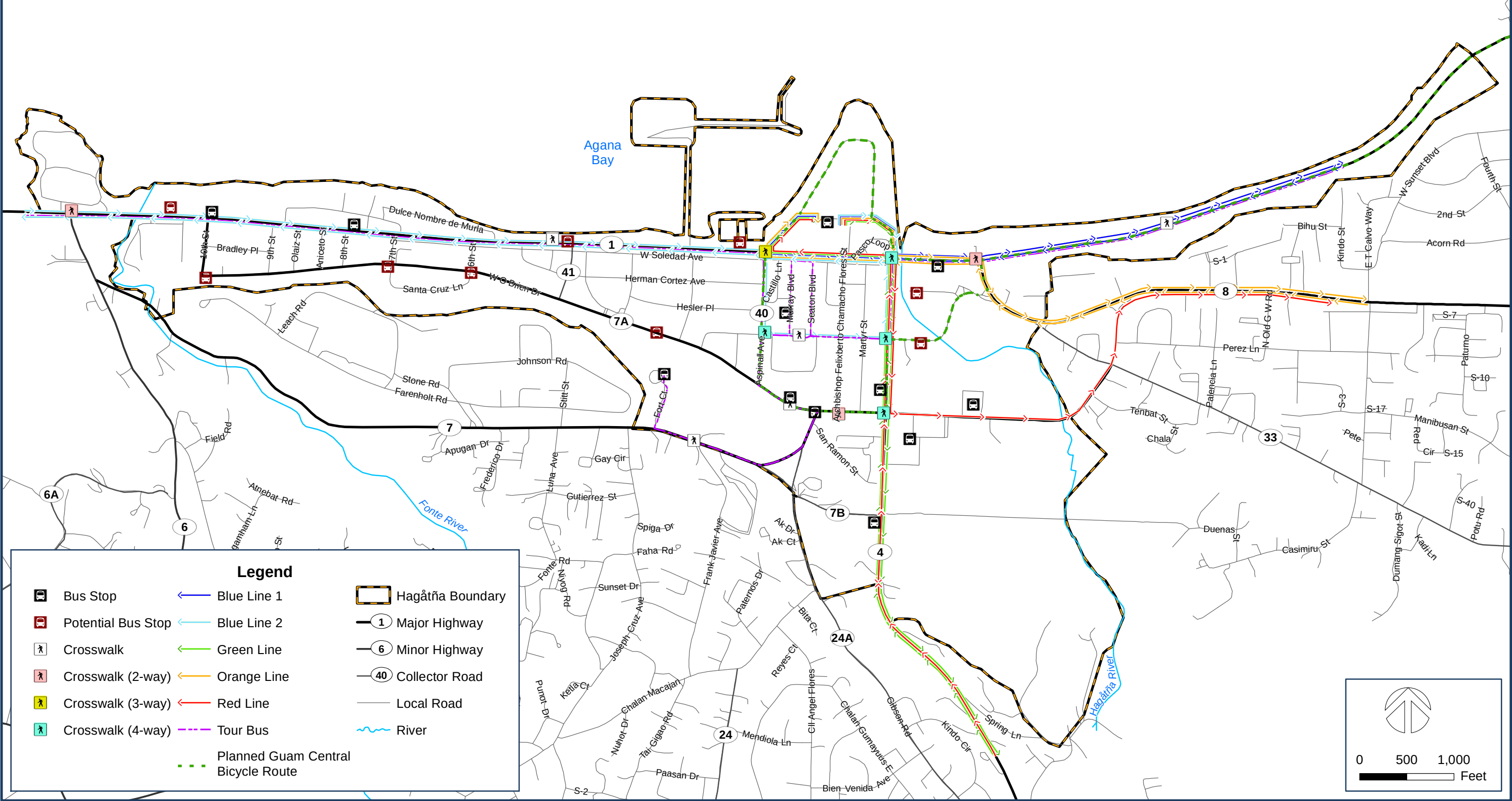
Currently, there are no marked or designated bicycle lanes or paths in Hagåtña, although \$1 million of the proposed 2011 CEDS 3rd year update has been appropriated for establishing a proper transportation road and traffic circulation system for pedestrians and bicycles. This CEDS allocation may be to implement the planned bicycle route, identified in the TPURP that will span from Micronesia Mall in Tamuning, down Route 1 through Hagåtña's Capital / Cultural District. This planned bicycle route will not only reduce vehicle miles traveled, but will also encourage safe and convenient bicycling. Other proposed projects identified in the TPURP include potential rideshare and bike share systems, development of a motorcycle and bicycle safety strategic plan, encouraging telecommuting, and educational campaigns for alternative transportation. Additionally, the Guam Energy Action Plan includes a transportation options strategy aimed at reducing fossil fuel consumption, such as examining the feasibility of bringing electric vehicles to Guam.

Bicycle and pedestrian travel constitute a very small portion of the total transportation system in Hagåtña. Providing sidewalks and paths becomes more relevant as the population increases. Hagåtña provides pedestrian facilities within and between residential neighborhoods along with commercial and industrial areas. Pedestrian facilities are especially important in those parts of Hagåtña where sidewalks are currently only provided along Marine Corps Drive (Route 1), Route 4, and Route 7a. Marked crosswalks and pedestrian safety devices are located at some signalized intersections throughout Guam, although few are located within Hagåtña. Existing pedestrian corridors, such as the Heritage Trail, as well as new proposed pedestrian linkages will be identified in the accompanying sections of the Master Plan and the Alternatives Plan.

Sources: 2030 Guam Transportation Plan; 2012 Statistical Yearbook; 2011 CEDS, 3rd year update

Figure 11
Transit Systems

Sources: 2030 Guam Transportation Plan; 2011 CEDS.



Parking

Hagåtña's transportation system also includes a range of on-street and off-street parking locations. Although there is a strong resident dependency on the automobile, there is a lack of available parking to serve most of the area's commercial and governmental locations.

On-Street Parking

Except for major highways (Route 1, 4, 8, and parts of 7 and 7a) most streets in Hagåtña accommodate on-street parking, although not all of this on-street parking is recognizable with road markings or actually "designated" for parking use. On roads where no sidewalks are present, the shoulder generally functions as pedestrian or cyclist space, which can create safety concerns due to conflicting on-street parking use. Primary roadways used for on-street parking are shown on Figure 12.

West Soledad Avenue (pictured below), which is a collector road parallel to Marine Corps Drive, is heavily used for on-street parking. Other roads that have on-street parking include Martyr Street, Archbishop Felixberto Chamacho Flores Street, Aspinall Avenue (Route 40) and 5th Street (Route 41). The only streets that have physically designated, marked on-street parking are Archbishop Felixberto Chamacho Flores Street, Seaton Boulevard, and the thruway adjacent to Dulce Nombre de Maria Cathedral Basilica, which are all one-way streets that contain diagonal on-street parking.



Off-Street Parking

There are many off-street parking locations in Hagåtña, although not all of them are public parking locations. Some of these lots function as mass transit fixed-route layover points. As noted, a section of CHamoru Village currently acts as a transit center and consists of a shared-use parking lot with several bus shelters.

Many parking areas in Hagåtña result from improvised use of underutilized land and are not designated or designed for parking. For example, several grass lots proximate to the Spanish Bridge have been used for parking by employees in the area, and many vacant lots have been used as overflow parking during large community events such as the Wednesday Night Market at CHamoru Village. Several peripheral areas of the Plaza de España have been turned into underutilized and poorly maintained parking lots (pictured below), the largest of which serves as the only pedestrian link between Senator Angel L.G. Santos Memorial Park (also known as Latte Park), and Plaza de España – a connection that is traversed by many visitors to Hagåtña.



Other parking areas throughout Hagåtña are primarily private and accompany commercial business or major places of employment and retail, such as the lot at the Agaña Shopping Center and the Julale Shopping Center (see Figure 12).

Public parking is provided at most parks in Hagåtña, including Paseo de Susana, Central Park, Plaza de España, Trinchera Beach Park, West Hagåtña Beach Park and Alupang (Apurgan) Beach Park.

Parking Challenges

Based on interviews with local businesses and Government of Guam agency staff, Hagåtña is considered to have a lack of parking in general.

According to the 2005 Master Plan, the development of parking structures that present architectural significance at the street level, and liner buildings with retail facilities on the ground floor should be encouraged. Furthermore, the plan states that land devoted to surface parking should be reduced, on-street parking should be employed where appropriate to help calm traffic and serve as a safety buffer and smart parking rules should be encouraged where applicable. The 2005 Master Plan also states that parking structures should be placed at either mid-block locations for ease of access, or have liner buildings supporting ground level retail when fronting a public street. For any structures with liner buildings, the architectural massing and façade of the structure should be compatible with the architectural character of the district and/or the building it is serving. One solution identified in the 2005 Master Plan was to develop a parking strategy for the various districts to include accommodations for tourism / government uses in the PDD and community / recreational uses in the residential districts. The solutions may also entail changes to zoning provisions. For example, existing regulations require setbacks that are often too deep for parking structures, or regulations require too much on site parking, which may not allow for economically feasible development of a particular site. One solution to this issue could be zoning amendments in some areas which could encourage denser development with associated parking structures and better shared parking concepts. Parking plans for Hagåtña also need to address temporary and overflow parking for special events, like Wednesday nights at CHamoru Village.

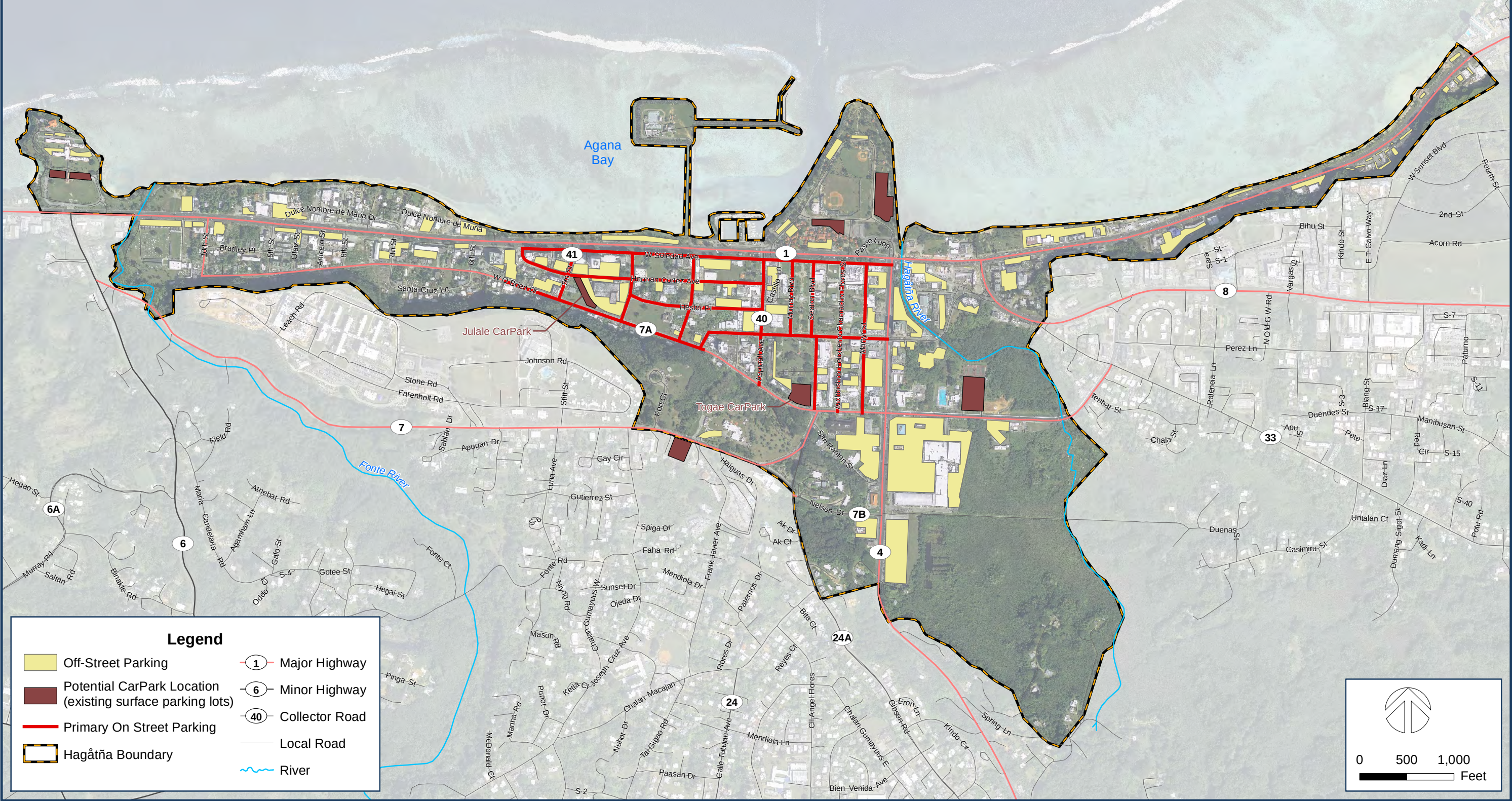
Future Anticipated Improvements

Ideas such as additional parking structures located near Plaza de España, more designated and improved on-street parking along collector and local roads (which would also help with traffic calming) and creating additional surface parking lots have been proposed. One of the main concerns with future parking is that visitors and residents want it to remain free. According to the 2011 CEDS, 3rd Year Update, there are plans to spend roughly \$200,000 on a feasibility study for a Parking Meter System in Hagåtña, and another \$24 million on the construction of two (2) car parks (Togae -adjacent to Plaza de España; and Julale -adjacent to Julale Shopping Center) with provision of signage for the Togae, Julale, Minondo, Paseo de Susana, and Adelup Point parking areas. Additionally, various Capital / Cultural District development and construction plans, including the plans for the Guam Museum and the Guam Congress Session Hall Renovation, identify designated on-street parking for the new or renovated buildings. Potential areas to implement on-street parking and parking regulations will be identified in the accompanying sections of the Master Plan and the Alternatives Plan.

Sources: 2030 Guam Transportation Plan; 2005 Hagåtña Master Plan; 2011 CEDS, 3rd year update; Matrix Design Group

Figure 12
Existing Parking Facilities

Sources: 2030 Guam Tranportation Plan; 2011 CEDS.



Water

Potable water system service throughout Guam is provided by the Guam Waterworks Authority (GWA). GWA operates and maintains over 200 water facilities on Guam. These facilities include:

- Water sources (such as wells and springs),
- Reservoirs and piping, and
- Treatment plants and booster pumping stations.

These facilities operate under three public water systems. These systems are classified by the Guam Environmental Protection Agency (GEPA) based on the size of population they serve and their geographic locale. The Northern and Central Public Water Systems are classified as large distribution systems, while the Southern Public Water System is designated as a small distribution system. This can be attributed to the fact that the southern areas of Guam are primarily rural, whereas the central and northern areas of Guam are comprised of more dense municipalities, commercial districts, and military installations. Guam water system was originally established by the U.S. Navy, and was then turned over to the Government of Guam. The complete GWA water system consists of roughly 400 miles of distribution pipelines, over 66,000 feet (over 12.5 miles) of which are located within Hagåtña. The system also includes 36 storage tanks, only 20 of which are used, with a capacity of 25.2 million gallons.

Hagåtña lies in the uppermost portion of the Central Public Water System, which includes areas of Hagåtña, Mongmong-Toto-Maite, Asan, Agaña Heights, Sinajana, Piti, Santa Rita, and Agat. Several of these jurisdictions, including Hagåtña, may also receive water from the Northern System through water mains that run along Route 17. The Central Public Water System serves approximately 22,000 people.

Hagåtña Water System

Hagåtña is comprised of several different pressure zones: the Piti-Agaña-Tumon pressure zone, the Chaot pressure zone, and the Tumon pressure zone, with a very small portion of Hagåtña’s southern tip falling within the groundwater protection zone (see Figure 13). Additionally, there are roughly 90 fire hydrants connected to the water lines in Hagåtña, which is an adequate amount for the size of Hagåtña, although none of these hydrants are located as Paseo de Susana.

Piping material for the lines in Hagåtña include cast iron (13,517 feet), ductile iron (2,536 feet) and polyvinyl chloride (50,550 feet) and range anywhere from 11 to 40+ years old and main trunk lines run anywhere from 2 inches to 20 inches in diameter. Much of GWA’s water system infrastructure is adversely affected by natural disasters, poor maintenance, and vandalism. Also, due to the age of some of the infrastructure, equipment within the system has periodically been disrupted by inconsistent delivery of power. Furthermore, the system network does not have a separate water transmission system to convey water from

supply to storage and then from storage to customers through the distribution system. The transmission and distribution of water are combined into a single network, which may lead to significant challenges now, and as water demands increase in the future.

According to a 2012 Environmental Protection Agency (EPA) inspection report, water demand on the island was estimated to be roughly 42 million gallons per day (mgs) in March 2010; during that same time period, GWA reported that they produced roughly 38.5 mgd and purchased the difference from the US Navy. The main water supply sources are deep wells that are primarily located in the northern / central portion of the island. Only one well is located in Hagåtña. These wells provide over 75% of the 42 mgd of water supply for Guam. According to the 2007 Water Resource Master Plan, and based on customer billing records, only 21 mgd of the 42 mgd were accounted for by GWA. The “unaccounted-for” water is that which is released from the system through illegal connections, unattended pipeline leaks, or misreported by dysfunctional meters. This unaccounted-for water is ultimately non-billable by the GWA, and is one of the most significant issues associated with GWA infrastructure and Guam’s Public Water Systems. Other issues with water utilities can include pipe leaks and bursts, as well as backups.



Hagåtña has only one water well located at the southern end of Hagåtña. Four other wells are located close to Hagåtña, located in Agaña Heights and Sinajana. There are four main waterlines passing through the entirety of Hagåtña (east to west), and two mains running north to south along Route 4, with many other smaller waterlines branching off and following local roadways. While there are only 1,050 residents (2010 Census) in Hagåtña, due to a much larger daytime population and planned governmental relocation, water use in Hagåtña is expected to increase in future years. Along with a need for water system improvements, upgrades, and repairs within Hagåtña, the lack of main water distribution lines may create potential constraints for future growth and development. For new development to take place in areas without existing water infrastructure, extensions will be needed.

Future Anticipated Improvements

GWA has identified many future infrastructure improvements to be undertaken throughout the island of Guam, several of which apply directly to Hagåtña. All of these projects are part of their Capital Improvements Project (CIP) listing for years 2014-2019 as identified in the GWA CIP from 2014. All future anticipated water system infrastructure projects relevant to Hagåtña are listed in Table 13 and are shown on Figure 13. It is important to note that none of these projects are specific to Hagåtña, they are all island-wide improvement projects, portions of which will take place in Hagåtña and support better water infrastructure in Hagåtña. It is also important to note that there are various additional proposed potable water capital projects identified in the 2007 Water Resources Master Plan, although funding for them is not yet identified.

Table 13. Water Capital Improvements Projects, 2014-2019

Capital Improvement Project	Cost	Funding Source
Meter Replacement Program	\$5,748,000	2010/2013/2015 bonds
Leak Detection / Line Replacement	\$300,000	2013/2015 bonds, Internal CIP
Water Distribution System Pipe Replacement	\$29,944,000	2010/2013/2015/2018 bonds, Internal CIP
Mechanical / Electrical Equipment Replacement	\$491,000	2010/2013 bonds
Fire Hydrant Replacement Program	\$2,000,000	2013/2015 bonds
Central Water Distribution System	\$350,000	2010 bond
2005 Improvements		

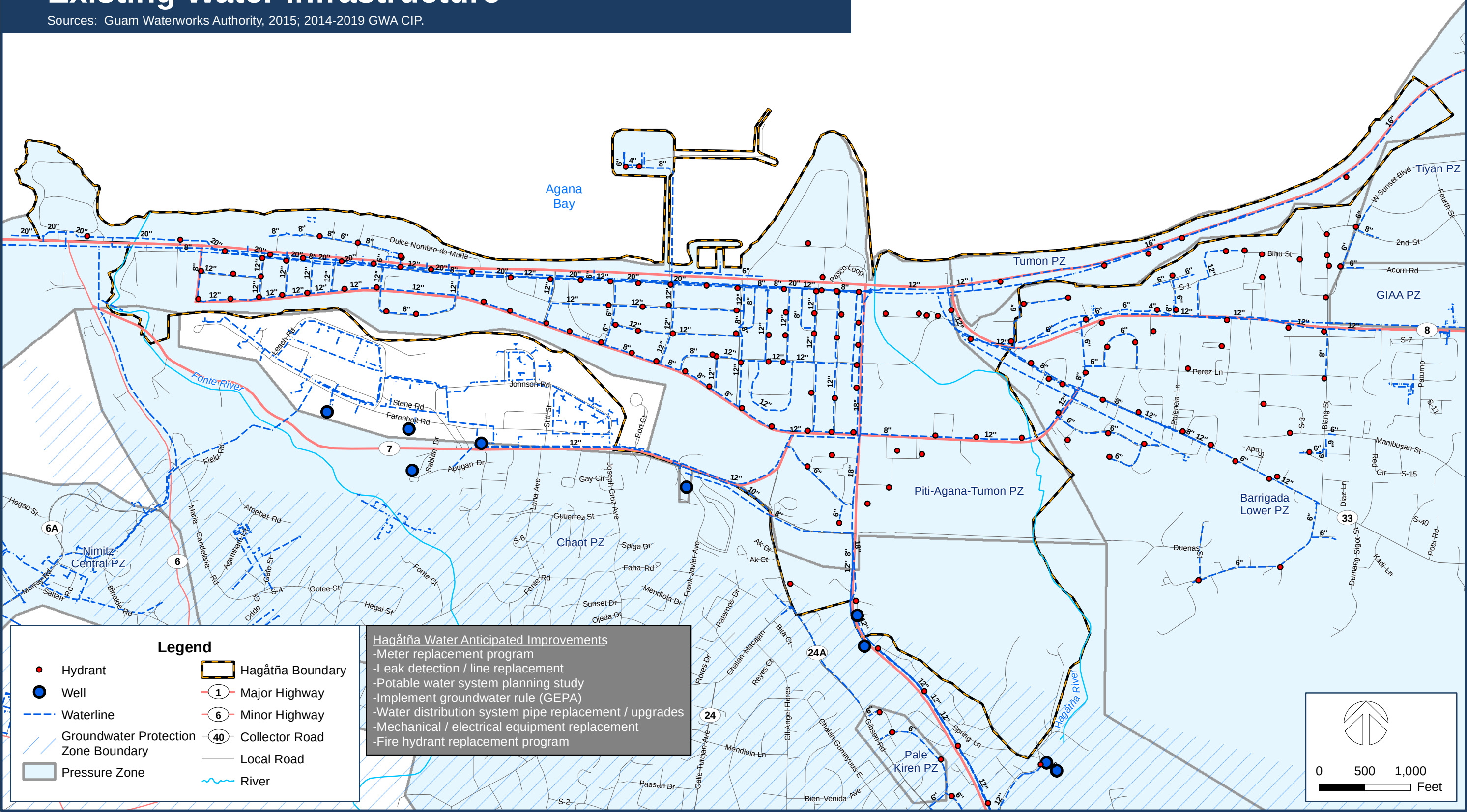
Source: Guam Waterworks Authority Capital Improvements Plan, 2014-2019

These future anticipated projects will help to reduce deficiencies in the existing water utility system in Hagåtña, as well as for the overall Public Water System in Guam. Water distribution system pipe replacements being addressed in Hagåtña are helpful, although funding is insufficient to implement all planned improvements at this time. Additionally, although budgeted funds are limited, the replacement of water mechanical metering and fire hydrants will also provide for safer infrastructure, more adequate monitoring measures, and a more reliable distribution of water.

Sources: Guam Waterworks Authority; GWA CIP, 2014; GWA Water Resources Master Plan, 2007; 2012 EPA Potable Water Systems Inspection Report.

Figure 13
Existing Water Infrastructure

Sources: Guam Waterworks Authority, 2015; 2014-2019 GWA CIP.



Wastewater

Wastewater system service throughout Guam is provided by GWA. The wastewater system on Guam consists of seven wastewater basins (Agat, Umatac-Merizo, Inarajan, Baza Gardens, Northern District, Hagåtña, and Pago Socio), roughly 310 miles of collection system and lines, 77 wastewater pumps (lift stations) and seven wastewater treatment plants (WWTP). Hagåtña has its own designated wastewater basin which serves a large portion of the central areas of Guam.

Wastewater regulations set by GWA are designed to comply with the federal Clean Water Act. This act establishes treatment plant discharge requirements, wastewater and bio-solids standards, and other key waste water system regulations. Another significant determinant of wastewater requirements on Guam is the federal Safe Drinking Water Act, which establishes drinking water regulations, requiring that ground water sources are protected and those affected by surface activities (i.e., wastewater spills or septic tanks) be treated.

Hagåtña Wastewater System

The Hagåtña WWTP (also called the Agaña Sewage Treatment Plant) is located on a 498 ft. by 698 ft. man-made island (Take Island) in the Agaña Bay, connected to shore by a single access road directly west of the Gregorio D. Perez Marina and Paseo De Susana. The Hagåtña wastewater plant was established in 1979 as a Class III WWTP, and is designated as a regional facility, which means it provides wastewater treatment service for multiple surrounding municipalities as opposed to just serving Hagåtña. The facility collects and treats wastewater from the central region of Guam which includes Hagåtña, Agaña Heights, Asan Piti, Tamuning, Mongmong-Toto, Sinajana, Chalan Pago-Ordot, Yona, Mangilao, portion of Barrigada, and Tumon. The service area also includes federal government installations (Naval Hospital facilities and personnel residences). The Hagåtña plant currently provides primary treatment for a population of approximately 82,645 people.

According to the National Pollutant Discharge Elimination System (NPDES) permit fact sheet for the plant, the average daily and peak hourly design flow capacities of the facility are estimated at 12.0 and 34.1 mgd respectively. From 2011 Discharge Monitoring Reports (DMR) data, EPA determined that the

See NPDES Permit No. GU0020087 - <https://www.epa.gov/sites/production/files/2019-11/documents/gu0020141-gu0020087-gu0020222-gu0020273-guam-waterworks-authority-facilities-2019-11.pdf>

monthly average discharge flow is 6.5 mgd and the maximum discharge flow is 9.9 mgd. The photo below is an aerial view of the Hagåtña wastewater plant island and several of its associated structures.



Approval of wastewater outfall discharge is based in a 1986 NPDES permit issued for the plant. This permit expired in 1991 and multiple applications for renewal have been denied by the Environmental Protection Agency (EPA) due to discharged wastewater impacts to coastal water quality and the coral reef environment. The most recent NPDES re-application for the plant was submitted in 2013. In January of 2020, the Guam WaterWorks Authority garnered authorization from the U.S. Environmental Protection Agency to discharge domestic wastewater in compliance with prescribed effluent limits and monitoring requirements

The wastewater collection process consists of two primary components, wastewater collection pipelines and wastewater pump (lift) stations. Currently, the Guam wastewater system is comprised of approximately 1,420,000 feet of gravity main pipes, 240,000 feet of force main pipes, and 77 pump stations of varying types (73 are operated by GWA). Pipe diameter sizes range anywhere from 4" to 48", although the majority of the collection system is comprised of 8" pipes. Within Hagåtña, there are approximately 59,000 feet (under 11 miles) of collection pipelines (roughly 56,538 feet of gravity mains, and 2,144 feet of force mains), two outfalls (including a 42" outfall line from the Hagåtña WWTP), and one pump station (Hagåtña lift station), located near Paseo de Susana. Many of these mains are sized between 6" to 8", with the exception of gravity mains along Marine Corps Drive (36" and 27") and Route 4 (24"). All wastewater utilities in Hagåtña are shown on Figure 14. While this is considerable amounts of sewer mains for a small jurisdiction like Hagåtña, there are still areas of Hagåtña that are not connected to sewer lines. Any additional development and increase in residences in Hagåtña would require either new or enlarged sewer mains or new sewer connections.

Future Anticipated Improvements

Many future wastewater infrastructure improvements have been identified by GWA to be undertaken throughout the island of Guam, and several of these apply directly to Hagåtña. All of these projects are part of the GWA CIP listing for years 2014-2019, as identified in the GWA CIP from 2014. All future anticipated water system infrastructure projects relevant to Hagåtña are listed in Table 14 and are shown on Figure 14. It is important to note that some of these projects are specific to Hagåtña, while others are island-wide improvement projects, portions of which will take place in Hagåtña. It is also important to note that there are additional proposed wastewater capital projects identified, although funding for these has not been finalized. These include projects identified within the 2007 Water Resources Master Plan and other planned works such as sewer rehabilitation along Route 4, and sewer rehabilitation from Asan Park to Adelup Point.

Table 14. Wastewater Capital Improvements Projects, 2014-2019

Capital Improvement Project	Cost	Funding Source
Islandwide Lift Station Upgrades	\$11,407,000	EPA Grants, SRF Grant, 2013/2015 bonds, Internal CIP
WWTP Priority 1 Upgrades*	\$1,300,000	Internal CIP (through 2014)
Wastewater Collection System Rehabilitation Program	\$18,334,000	2010/2013 bonds, SRF Grant, Internal CIP
Hagåtña WWTP Interim Measures*	\$1,518,000	2010 Bond
Inflow & Infiltration Assessment, SSES Central	\$1,458,000	2010 Bond, SRF Grant
Wastewater Facility Back Up Power*	\$960,000	SRF Grant
Wastewater Pumping Stations Electrical Upgrade*	\$620,000	2013 Bond

Source: Guam Waterworks Authority Capital Improvements Plan, 2014-2019;

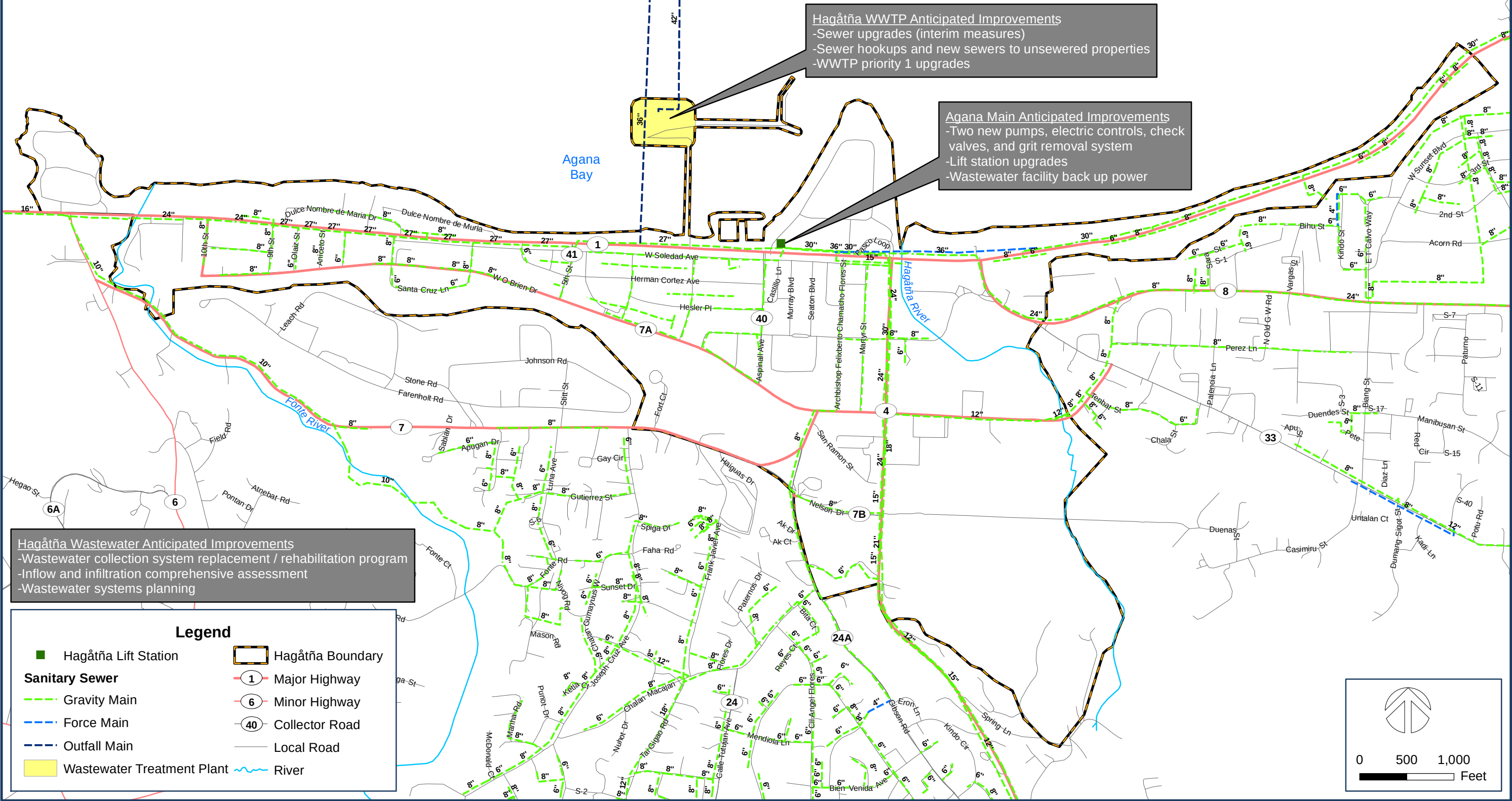
NOTE: * = According to GWA, project has been completed as of 2015

Future anticipated wastewater projects for Guam and Hagåtña will help to mitigate any issues the existing wastewater utility system is experiencing, specifically for the WWTP's. Priority 1 upgrades and interim measures for the Hagåtña WWTP are tangible efforts at mitigating utility inadequacy. Periodic maintenance and upgrade of the lift station, electrical control systems, and collection pipes will generally also provide for newer infrastructure, improved capacity, and a more reliable transmission of wastewater throughout Hagåtña and in Guam. Finally, the assessment of the needs for backup power and a Sanitary Sewer Evaluation Study (SSES) will allow GWA to outline projects to reduce inflow and infiltration in the sewer system.

Sources: Guam Waterworks Authority; GWA CIP, 2014; GWA Water Resources Master Plan, 2007; NPDES Permit Fact Sheet, Agaña Sewage Treatment Plant, 2013

Figure 14
Existing Wastewater Infrastructure

Sources: Guam Waterworks Authority, 2015; 2014-2019 GWA CIP.



Storm Drainage

The Guam DPW provides for storm drainage throughout Guam. Guam has roughly 116 miles of shoreline and the island is divided into two distinct geological formations by a central fault line. The northern half is primarily a broad sloping limestone plateau that is bordered by steep cliffs and surrounded by narrow coral reefs. The southern half is mountainous and composed of eroding volcanic formations with well-defined watersheds. According to the 2010 Stormwater Drainage Master Plan, Hagåtña is part of the south Guam watershed, where surface drainage is accommodated by the numerous rivers that bisect the mountainous uplands in the area, as well as conservation and retention areas. The existing drainage systems within the jurisdictions in the south Guam watershed consist of earthen and riprap-lined channels, infiltration (i.e. ponding) basins, underground injection chambers, lined channels and ditches, and developed storm drain networks in some of the more urban environments like Hagåtña. Storm drain networks can include gutters, storm drain inlets, underground laterals and trunk lines, ditches, and culverts.

Hagåtña Storm Drainage System

The storm drainage system within Hagåtña is common for post-WW II construction and is integrated with the Guam road network. Onsite drainage characteristics of the road network in Guam are broken down by roadways located in rural and urbanized areas, both of which exist in Hagåtña. Roadway cross-sections in rural areas are generally not curbed and allow onsite runoff to sheet flow from the roadway onto grass shoulders. Roadway cross-sections within urbanized areas are generally curbed due to right-of-way constraints. The latter generally possess concentrated flow conveyance systems consisting of inlets and storm drains conveying flow to a single point. Inception and conveyance of storm drainage flow in the more urbanized areas, such as Hagåtña, are accomplished with existing grass shoulders, catch basins and storm drains. These include storm drain networks along Route 1 and Route 8 within Hagåtña, which comprise of Route 8 drainage systems that outlet directly into the Hagåtña River and Route 1 drainage systems that outlet directly into the Agaña Bay. These storm drain outfalls that outlet into the Agaña Bay are shown on Figure 15.

Primarily, storm drainage infrastructure was developed with roadway infrastructure and most recently, through construction and road widening projects along Routes 1, 4 and 8, with most runoff draining into the Hagåtña River or the ocean. The below-ground drainage system is said to perform adequately, but gets overburdened during heavy rain events. Additionally, because of the age of some roadways, and new standards for storm drainage and hazard mitigation, a systematic enhancement may be needed.



Currently, the Guam Zoning Law regulations do not address stormwater management practices, although the subdivision law regulations do to some extent. The subdivision law state that subdivisions must include storm drainage facilities that shall “be designed to dispose of normal stormwater falling on the subdivision without hazard of flooding, inconvenience of ponding, or the erosion of public and private lands.”

FEMA Flood Zone

The west side of southern Guam (which includes Hagåtña) is traversed by rivers that are short with steep gradients and small drainage areas. Marine Corps Drive (Route 1) is located very close to the mouths of several of these rivers, like the Hagåtña River. Several rivers are designated as primary floodways by the Federal Emergency Management Agency (FEMA), while others are designated as flood hazard zones with minimal flooding potential. The Fonte River and Hagåtña River areas are both classified as floodways, areas with more than minimal flood potential.

The 100-year flood is expressed as a rate of flow, based on the expectation of a 100-year flood flow rate in a given river or surface water system, the flood water level can be mapped. The resulting floodplain or flood zone map is referred to as the 100-year flood zone, which is an area designated with velocity hazards due to wave action / storm surge and may influence building permits, environmental regulations, and flood insurance. Most of Hagåtña, including the majority of the Agaña Bay, is designated within the FEMA 100-year flood zone, as shown on Figure 15. Roughly 450 structures in Hagåtña lie within the FEMA flood zone.

Source: Federal Emergency Management Agency, 2015

Future Anticipated Improvements

Land development changes the physical, chemical, and biological conditions of waterways and water resources. The addition of buildings, roadways, parking lots, and other impervious surfaces can reduce natural infiltration, increase runoff, and provide additional sources of pollution.

Additional necessary drainage improvements were determined within the 2010 Storm Water Drainage Master Plan by evaluating and identifying the following: deficiencies in drainage conveyance and storm drain systems; issues regarding hillside, channel and shoreline erosion; potential undermining at bridges; areas prone to sever sediment and/or debris deposition; and maintenance issues. From these improvements, roughly 20 projects totaling over \$12 million were proposed in Hagåtña. The majority of the improvements were to address erosion control and storm drain or conveyance improvements, although it is unknown if funding for these projects has been identified.

Table 15. Storm Drainage Capital Improvements Projects, 2012-2015

Capital Improvement Project	Cost	Funding Source
Route 4 Stormwater Drainage	\$360,000	Territorial Highway Program

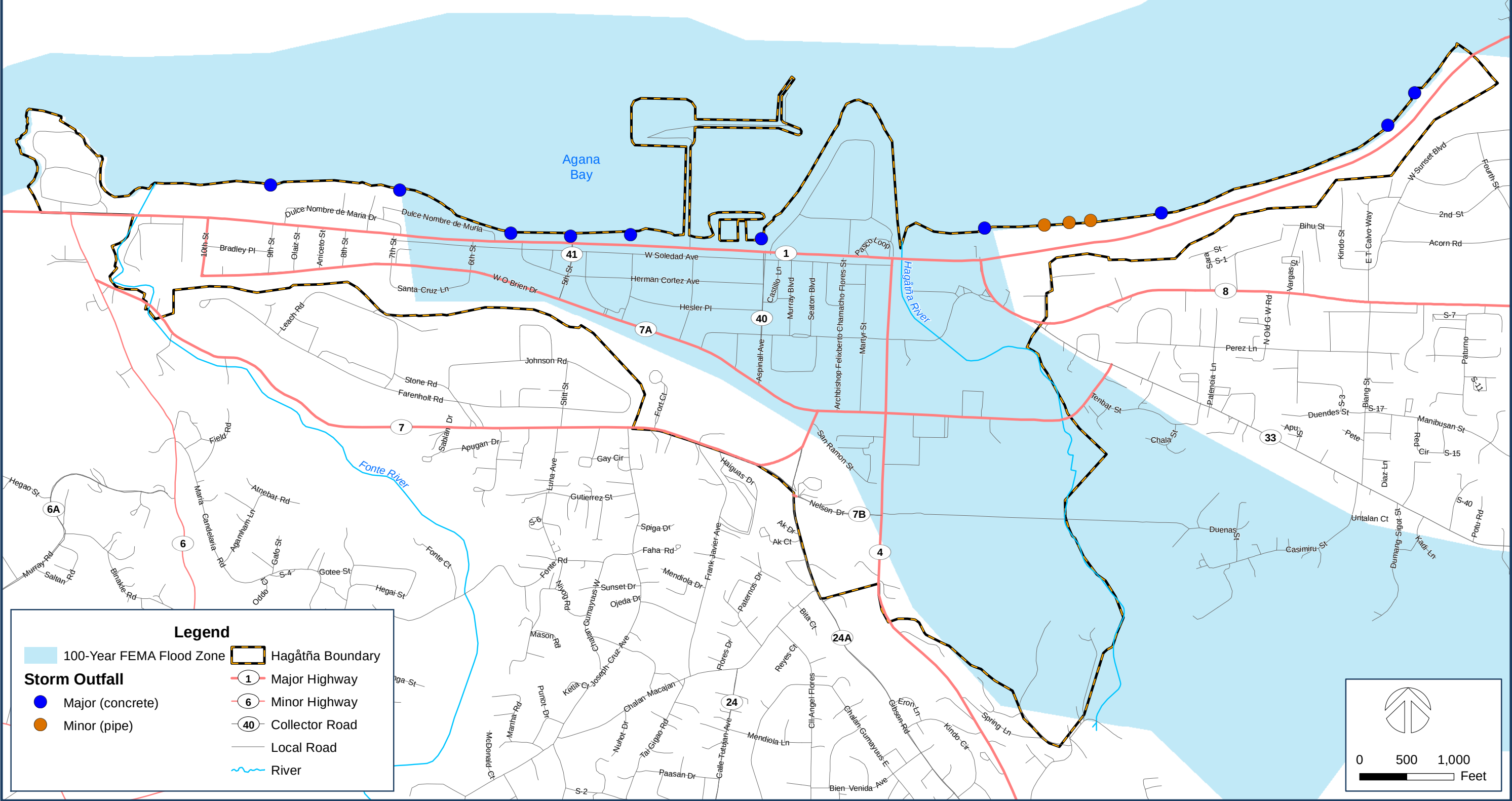
Sources: Guam Department of Public Works TIP 2012-2015

Sources: Guam Code Annotated, Title 21 Real Property, Chapter 62 Subdivision Law; Guam Draft Storm Water Implementation Plan, 2010; Storm Water Drainage Master Plan, 2010; 2005 Hagåtña Master Plan



Figure 15
Existing Stormwater Facilities

Source: FEMA, 2015.



Electrical Distribution

Generation and distribution of electrical power on Guam is provided by the Guam Power Authority (GPA). The Guam Power Authority Act established GPA in 1968, and they have been the major supplier of electricity for the Government of Guam ever since. According to the 2013 GPA Integrated Resource Plan, in FY 2012, GPA had 48,512 customers, including residential, commercial and military users. GPA is considered a full service electric utility, which means that it generates, transmits, and distributes electric energy from its various power generation resources to all individual customers. GPA has established a total generation capacity of 552 Megawatts (MW) for the island of Guam (including 181 MW from Independent Power Producers), with the highest peak system demand to date of 281.5 MW. There are roughly 660 miles of transmission and distribution lines and 29 substations throughout the island.

GPA’s existing operations are regulated by the environmental operating permits issued for each power plant by the U.S. Environmental Protection Agency (EPA). Several GPA generation units located at various power plants on Guam are classified by the EPA as a “synthetic minor source of power”. This classification applies to units that require specific operational hour limits which are imposed for the purpose of pollutant emissions reduction. According to GPA’s 2013 Integrated Resources Plan, power plants / generation units (along with their capacities) proximate to Hagåtña include:

- Combustion Turbine Power Plant, Piti
 - Piti 7 (39.3 MW capacity)
- Low-Speed Diesel Power Plant, Piti
 - Piti 8 (43.2 MW capacity)
 - Piti 9 (43.2 MW capacity)
- Cabras 1 & 2 Power Plant, Piti
 - Cabras 1 (60 MW capacity)
 - Cabras 2 (60 MW capacity)
- Cabras 3 & 4 Power Plant, Piti
 - Cabras 3 (37.7 MW capacity)
 - Cabras 4 (37.7 MW capacity)

There are limitations presented for electrical infrastructure site options located on the western coast of the island (including Hagåtña), due to congestion around the port and marinas and proximity to various national parks and environmentally sensitive areas such as coastlines and wetlands. The environmental permitting process, taking a significant amount of time to proceed, can also be a constraining factor to power generation development, although this does not affect Hagåtña. Additionally, the extensive use of overhead transmission cables is very visible in the urbanized setting of Hagåtña due to the number and close adjacency of transmission facilities. Furthermore, there is private residential encroachment within infrastructure easements. Most utilities are not located in their 10 foot designated utility easements due to this.

Hagåtña Power System

The GPA infrastructure in Hagåtña consist mostly of secondary overhead conductors (power lines), with several transmission lines and primary overhead conductors passing through the entirety of Hagåtña (along Routes 7 and 7a, and along Marine Corps Drive near Adelup Point). Transmission lines are held up by power poles, and transfer energy from power plants to electrical substations. Overhead conductors connect to these transmission lines and transfer power to the different users connected to the distribution system. Primary and secondary conductors differ in their sizing and varying current-carrying capacity. In total, there are roughly 21,000 feet of transmission lines, and 115,200 feet of overhead (primary and secondary) conductors in Hagåtña (see Figure 16). There are very few underground conductors in Hagåtña, more than 75% of which are primary underground conductors (see Figure 16). In total, there are roughly 14,864 feet of underground (primary and secondary) conductors. With the majority of transmission facilities above ground, views within Hagåtña are impacted by these facilities, which can give a cluttered and distracting view. Hagåtña contains approximately 736 power poles, with a lack of available poles in certain areas (primarily to the east of Route 4), which may lead to current and/or future capacity needs in Hagåtña.



The only electrical station or substation in Hagåtña proper is the Hagåtña substation (pictured below), which has a max rating capacity of 936 Amps, a current max load of 646 Amps, and hosts three 115 kV lines and one 115 kV/35 kV transformer. While the size of Hagåtña is small compared to other jurisdictions (1 square mile), there are a high concentration of residential and commercial users of electricity in Hagåtña.



Future Anticipated Improvements

The 2005 GPA System Stability Study identified GPA infrastructure throughout the island, and provided insight on existing deficiencies, with specific suggested improvements to all substations, including the Hagåtña substation. One suggestion that came out of this assessment was that the ground overcurrent relays cannot provide adequate protection for the transmission lines connecting to the Hagåtña substation, and should be replaced with ground distance relays. Ground overcurrent relays and ground distance relays are both types of transmission line protection. Ground overcurrent relays are the simplest and cheapest, and usually the quickest to need readjustment or replacement. Since this study was completed, line reclosing and load profiling has been conducted by GPA to address deficiencies with transmission line protection.

GPA has identified many future infrastructure improvements to be undertaken throughout the island of Guam, several of which apply directly to Hagåtña. Many of these projects are part of their Engineering CIP listing for years 2011-2015. All future (or recently completed) anticipated electricity infrastructure projects relevant to Hagåtña are listed below and identified on Figure 16.

Table 16. Electrical Capital Improvements Projects, 2011-2015

Capital Improvement Project	Cost	Funding Source
System Stability and Relay Coordination Underground Fiber Optic Lines*	\$2,494,375	Revenue bonds and bond funds
GPA Connected Grid Project*	\$16,603,507	DOE Smart Grid Initiative Grant
Energy Efficient Street lighting Project	\$2,500,000	GEO Energy Efficiency and Conservation Block Grant
Hagåtña Substation 115Kv and 34.5kV Breaker Replacements*	\$2,940,000	Bond funds
Hagåtña Substation Transformer Capacity Upgrade*	\$1,250,000	Bond funds
Line Reclosing and Load Profiling*	\$1,038,750	Bond funds
Renewal Energy Street Lighting*	\$1,200,000	US EDA (2011 CEDS)
Guam Museum Renewal Power	\$500,000	US EDA (2011 CEDS)

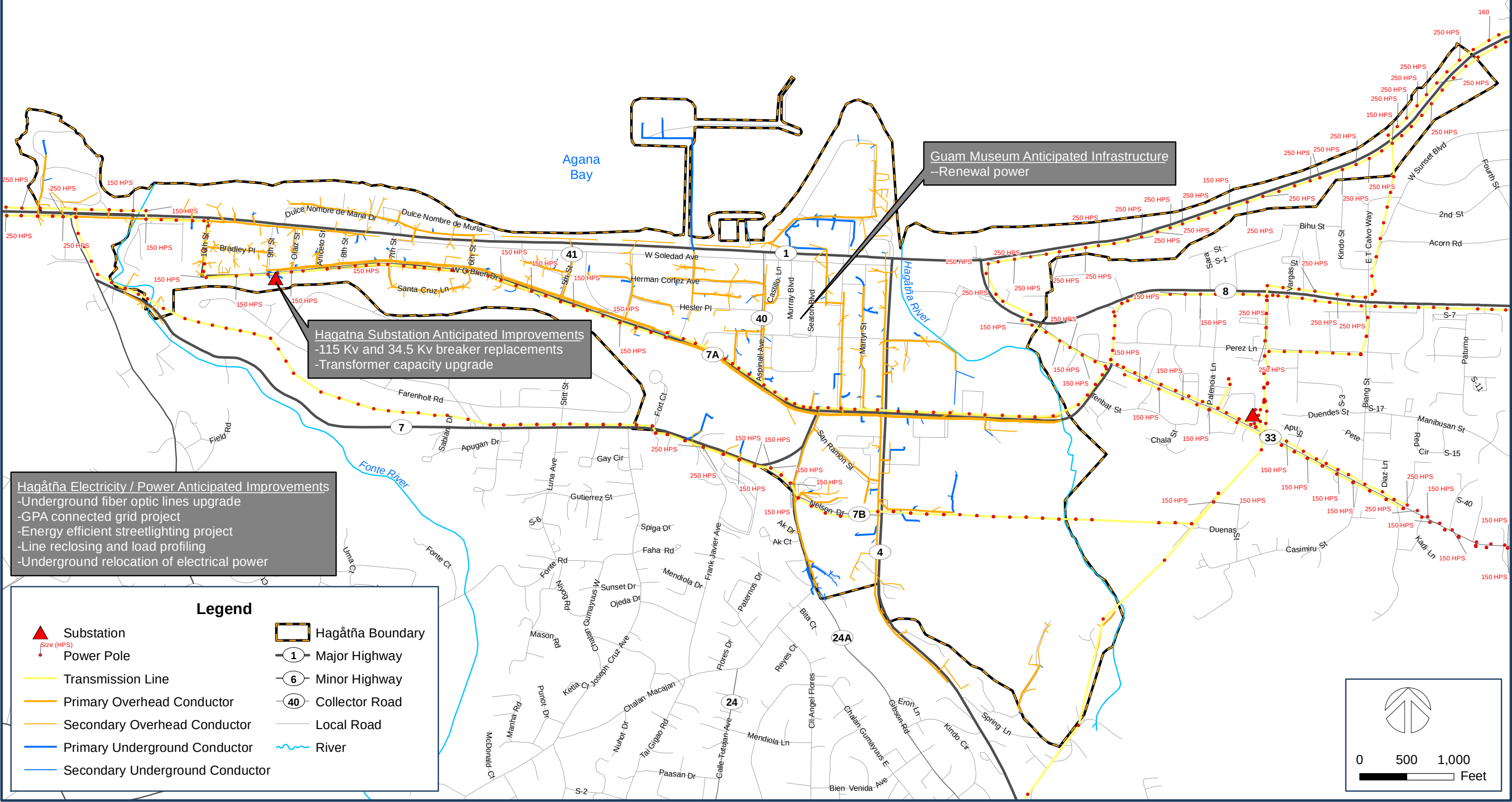
Sources: Guam Power Authority; GPA Engineering CIP, 2011; 2011 CEDS, 3rd year update; http://guampowerauthority.com/gpa_authority/strategicplanning/gpa_strategic_planning.php
NOTE: * = According to GPA, project has been completed as of 2015

These engineering projects portray a great effort to improve upon in the existing electrical distribution system in Hagåtña and for the overall system in Guam. Upgrades and limitations being addressed for the Hagåtña substation, as well as the installation of underground fiber optic lines, will provide for new infrastructure and more reliable, efficient transmission of power.

Sources: GPA Integrated Resource Plan, 2013; Generation Resource Handbook, 2008; GPA System Stability, Reliability, and Relay Protection Coordination Study, 2005; GE Digital Energy, “Line Protection with Overcurrent Relays”, 2014

Figure 16
Electrical Distribution Systems

Sources: Guam Power Authority, 2015; GPA Engineering CIP.



Public Buildings and Facilities

Within Hagåtña, there is a great deal of public land (roughly 222 acres, over 1/3 of the land in Hagåtña), as well as a sizable number of public buildings and facilities owned by the local government which are used by both the local and federal government (shown on Figure 17). The general condition of these facilities can range anywhere from poor to excellent, depending on the year the structure was built. For instance, although it was established in 1950, the U.S. Courthouse of Guam is a newly renovated building (past 10 years) and is in great condition, while the old DOA and Department of Education buildings located adjacent to Plaza de España are decades-old buildings which are in poor condition, not up to code, and need to be razed and reconstructed. Furthermore, some of the public buildings and facilities in Hagåtña, like the buildings at Adelup Point and Paseo Stadium, have been in existence for over 30 years and have only seen minor renovations which is leading to deteriorating conditions.

Hagåtña Public Buildings and Facilities

Federal agencies in Hagåtña comprise the smallest number of public entities, with only three federal agencies located in (leased) local government-owned buildings: the U.S. Courthouse of Guam, the U.S. Citizenship and Immigration Services office, and the U.S. Post Office branch in Hagåtña. All of these facilities are in good condition or better, and are adequate medium sized facilities. All public buildings in Hagåtña are owned by the local government, with roughly 25 buildings and facilities throughout Hagåtña, which are shown on Figure 17. Many of these facilities have been in existence since the 1970's and 1980's and need improvements.

While most buildings and facilities have seen some sort of renovation or rehabilitation over the years, the lack of funding and distribution of (limited) available funds has required as hoc attempts to fix deteriorating conditions. The facilities at the Paseo de Susana Park and Stadium are in poor condition, are improperly maintained, and are underutilized. Furthermore, the CHamoru Village, which is one of Hagåtña's top destinations, is in below average condition and is constantly crowded and over capacity, leading to safety issues along Marine Corps Drive (Route 1). The facilities at the Hagåtña Central Park are also in below average condition and are underutilized, possibly attributed to the location or proximity to the Hagåtña River which often floods.

Several public buildings in Hagåtña are not large enough to meet demands and are well over their available capacity, such as the Judicial Center, the Legislative Building, and the Hagåtña Detention Facility and Police Precinct. It is important to note however, that the Judicial Center and the Hagåtña Police Precinct service the entire Hagåtña area and all of its residents. Other public facilities and buildings that are considered historic structures or landmarks, such as the Lujan House (pictured to the right) and the Old Congress Session Hall, are underutilized, but are in decent condition due to historic preservation efforts.

Public Services

The Hagåtña precinct has since been relocated to Sinajana. The remaining facility has been turned over to the Hagåtña Detention Facility under the Department of Corrections, which services the whole municipality of Hagåtña, as well as many adjacent municipalities. There are discussions about relocating the detention facility. The Harbor Patrol office is located in a private building along the coastline of the Agaña Bay away from most of the public facilities, and while its position along the water is adequate, it would be advantageous if the facility were located closer to the Marina and Paseo de Susana.



In regards to emergency services, while there is no Guam Fire Department (GFD) fire station in Hagåtña, there is a station in Sinajana, less than a mile away, which services the majority of Hagåtña. Another GFD station is located roughly 1.5 miles away in Tamuning, which also responds to emergency service needs in eastern and central Hagåtña.

Leased Space for Public Agencies

There are also several private buildings in Hagåtña that house Government of Guam agencies, which is one of the constraints associated with public infrastructure. With a surplus of available commercial space and a lack of space in government owned buildings in Hagåtña, many public agencies have been prompted to lease space in privately owned buildings.

More than 10 agencies (or divisions or satellite facilities) are located in private buildings across Hagåtña (see Figure 17). The DNA building currently hosts the GFD Headquarters (administration) and the Department of Integrated Services for Individuals with Disabilities, while several other agencies used to be located there. The GCIC building along Marine Corps Drive hosts the Department of Labor, the Bureau of Women's Affairs, and the Guam Election Commission as well as a myriad of private businesses and agencies. While all of these facilities are of adequate size, their conditions are average, and public funds would not be used to improve them.

These public buildings and facilities are primarily located throughout the commercial core of Hagåtña, with a few outliers in various locations such as the Bordallo Governor's Complex (Adelup Point) and the Hagåtña WWTP, which sits on its own man-made island. Furthermore, only two public facilities and one private building with public agencies are located to the east of Route 4. This may be due to zoning constraints and an abundance of conservation areas near the wetlands.

The need to relocate some of the Government of Guam agency offices is critical to the modernization of Hagåtña, and consolidation of agencies into common buildings throughout the downtown area will be beneficial. The need for additional public buildings to host public services, such as a fire station and healthcare services is also evident within Hagåtña. Additionally, the use of underutilized buildings, such as the Guam Preservation Trust using the Lujan House, is another potential opportunity for Government of Guam agency relocation.



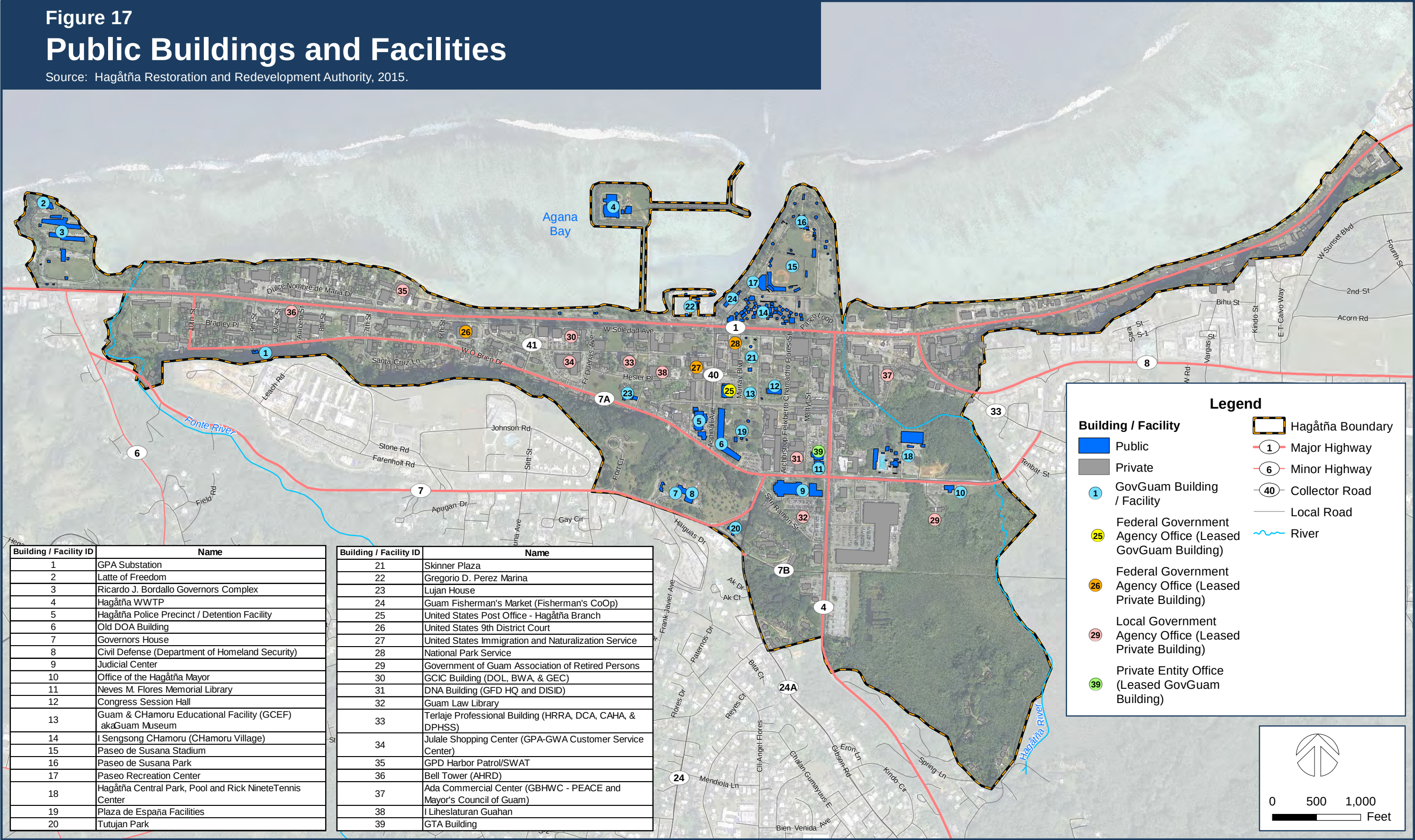
Future Anticipated Improvements

HRRA and other entities of the Government of Guam have identified many future improvements for public buildings and facilities to be undertaken throughout Hagåtña, including major renovations to public buildings such as the Nieves M. Flores Memorial Library and the Congress Session Hall. All of these projects are part of the 2011 CEDS, 3rd Year Update and are assumed to be potentially funded by any approved US Economic Development Administration (EDA) allocations. All future anticipated public buildings and facilities projects relevant to Hagåtña are listed in Table 10 on page 16. These future anticipated projects, totaling over \$150 million, exemplify great potential opportunity for a governmental center in Hagåtña, as well as the revitalization of Hagåtña's unique assets.

Sources: Hagåtña Restoration and Redevelopment Authority; 2005 Hagåtña Master Plan; 2011 CEDS, 3rd year update; Matrix Design Group

Figure 17
Public Buildings and Facilities

Source: Hagåtña Restoration and Redevelopment Authority, 2015.



Parks and Recreation

Hagåtña offers a variety of parks, open space and recreational opportunities through the Guam Department of Parks and Recreation. Hagåtña’s setting on the western coast of the Island of Guam also allows for people to enjoy the surrounding natural landscapes for many recreation opportunities. Within Hagåtña, DPR currently operates over 16 parks and two conservation areas, all part of the Guam Territorial Park System. Pursuant to GCA, Title 21, Chapter 77, Guam parks are classified in the following categories:

- **Territorial Parks** – Parks that are meant for a local area and to meet community recreational needs and preserve unique landscapes and open spaces. Territorial Parks, including cemeteries and waterfront parks, are larger than neighborhood parks but not as large and regional parks or conservation reserves and tend to serve residents (and tourists) within a several-mile radius. Territorial parks typically have facilities for specific recreation purposes such as athletic fields and courts or picnic shelters.
- **Conservation Areas or Natural Preserves** – Areas that are relatively undeveloped and compliment a regional trail system or other such greenway. Conservation areas are meant to protect wetlands or wildlife habitat for unique species of plant or animal. Conservation areas can include limited recreational opportunities such as picnic tables, wildlife viewing, or educational stanchions.
- **Historic Parks and Pre-Historical Sites** – Parks or sites with any structure, object, area or site that is significant in the history, architecture, archaeology, or culture of Guam or the nation.

Hagåtña Parks

A listing and brief description of the major parks and conservation areas located within Hagåtña are provided below and these assets are also shown on Figure 18 on the following page. Table 17 indicates that there is more than enough parkland in Hagåtña to service Hagåtña and its residents, and many other users coming from nearby municipalities.

Paseo de Susana / Statue of Liberty Park. Paseo de Susana is a peninsula with several park and recreation facilities adjacent to the Gregorio D. Perez Marina. Paseo de Susana contains the Statue of Liberty Park, the Governor’s Park, the Great Seal of Guam Park, and Chief Quipuha Park. Chief Quipuha was the highest ranking chief in the area, as well as the first Catholic chief, at the time of the first European settlement on the island of Guam.

Sirena Park. Sirena Park is named after Guam’s legendary mermaid Sirena, who was said to have lived in Hagåtña during Spanish times. Sirena Park is located adjacent to the historic Dungca House and is host to the historic Spanish (San Antonio) Bridge. Sirena Park is frequently visited by tourists due to the Spanish Bridge and the popular statue of Sirena.

Skinner Plaza. Skinner Plaza is located along Marine Corps Drive (Route 1), between Plaza de España and Paseo de Susana and has been a popular public open space in Hagåtña for many decades. Known as a central location for cultural and recreation activity in Hagåtña, Skinner Plaza was chosen as the site for the new Guam Museum, which is currently under construction.

Plaza de España. The Plaza de España was the location of the Governor’s Palace during the Spanish occupation. The Governor’s Palace served as the seat of government for both the Spanish and the first U.S. Naval Government. Most of the palace was destroyed by the shelling of Hagåtña during the retaking of Guam in World War II, leaving ruins throughout the plaza. The Plaza was listed on the National Register of Historic Places on May 1, 1974, and today the plaza is one of the most visited locations in Guam and one of the most popular park destinations. The historical structures of the Plaza de España still standing today include the Garden House, the Azotea, the Chocolate House, the Almacen and the Ruins.

Senator Angel L.G. Santos Memorial Park (Latte Park). This park was originally established in the 1950’s and in 2005, the park was renamed the Senator Angel Leon Guerrero Santos Memorial Park in honor of the senator’s efforts on behalf of the CHamoru people. The park contains eight latte stones (stone pillars topped with capstones) which signify the CHamoru identity.

Recreational Water Use Management Area. As identified in the Guam Recreational Water Use Management Plan (RWUMP), the RWUMP areas (also known as the Seashore Park) covers the bays of Agaña, Asan, and Piti. The Agaña Bay shoreline is the most developed with both commercial and residential buildings, while the RWUMP area extends out past the coral reef barrier, primarily on the eastern side of the Agaña Bay.

Agaña Bay is this only area under the Plan where mechanized water recreational craft are operated, including jet skis and similar recreational vehicles. Other events that take place in this area include swimming, fishing, paddling races, and recreational boating.

Other parks in Hagåtña. Other parks and conservation areas within Hagåtña include Fort Santa Agueda Park (which has anticipated restoration projects), Adelup Park, Tatuhan (Triangle) Park, Central Park, Padre Palomo Park, West Hagåtña Beach Park, Trinchera (East) Beach Park, Alupang (Apurgan) Beach Park, and the Hagåtña Swamp / wetlands and Cliff Line (which are considered Conservation Areas).

Additionally, public cemeteries in Guam are also considered to be territorial parks. In this case, all public cemeteries were shown on Figure 18, with the other parks located in Hagåtña.

Table 17. Hagåtña Parks Acreage, 2015

Park	Total Acreage
Paseo de Susana Park	10.6
Statue of Libery Park	6.8
Chief Quipuha Park	0.5
Guam Seal Park	0.4
Padre Palomo Beach Park	0.8
Veterans Sunset Beach Park	2.0
Hagåtña Central Park	8.5
Tutujan Park	0.9
West Hagåtña Beach Park	5.1
Santos Memorial Park (Latte Park)	2.6
Plaza de España	4.4
Skinner Plaza	3.2
Sirena Park	0.8
Fort Sanata Agueda Park	7.0
Adelup Beach Park	5.0
Governor’s Park	0.8
Apurgan Beach Park	4.0
East Hagåtña Beach Park	5.0
Pigo Cemetery	10.8
Naval Cemetery	1.1

Sources: 2005 Hagåtña Master Plan; Matrix Design Group

Recreation Opportunities

Territorial or community recreation facilities are opportunities for recreational activity for all ages, and for special uses such as aquatics or other sports. These existing and future anticipated recreation facilities are located in several areas throughout Hagåtña and include:

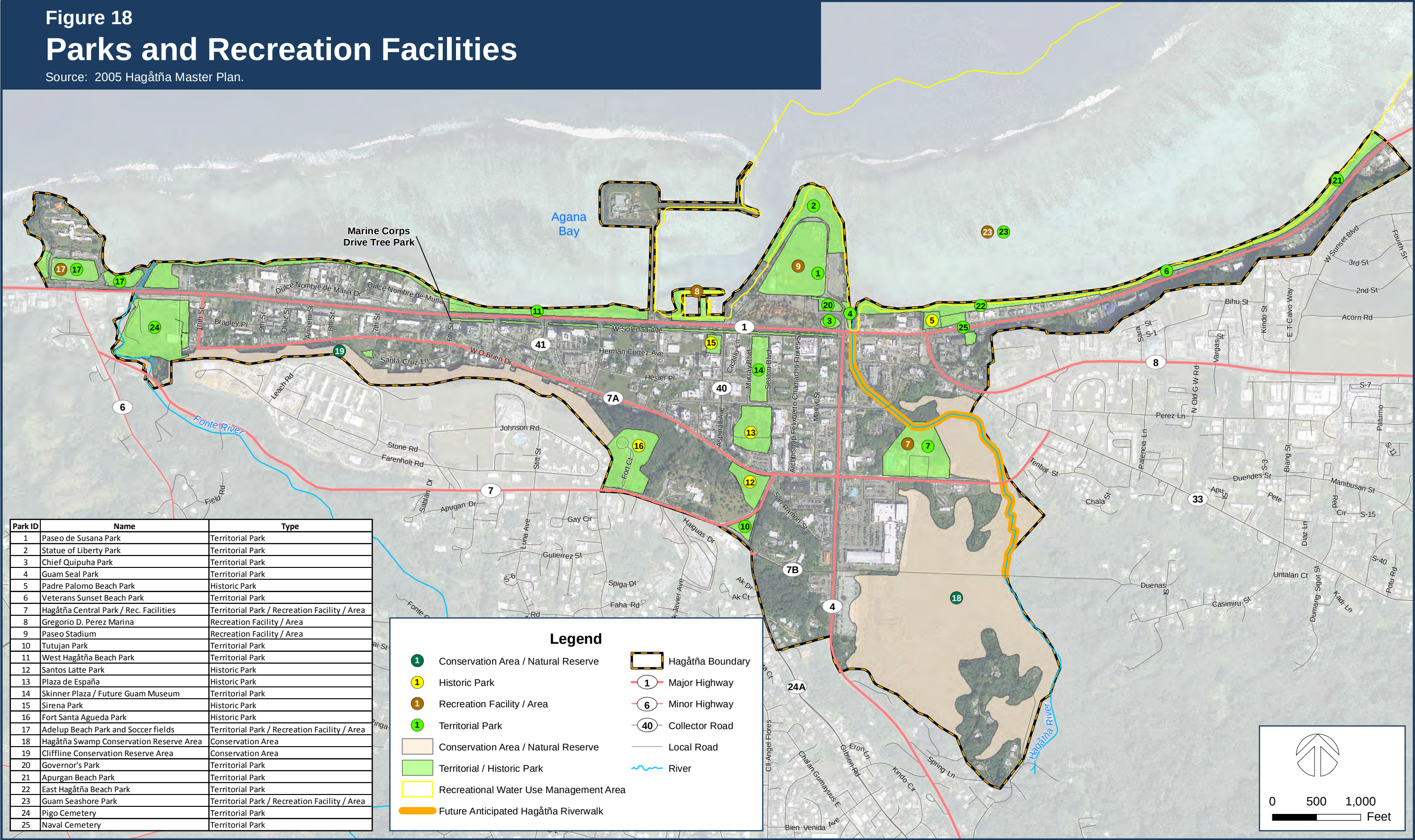
- **Paseo Stadium** which includes several baseball / softball fields
- **Hagåtña Rec Center** includes tennis courts and the Agaña Pool
- **Marina and Fisherman’s Co-Op** includes water related activities; anticipated facilities include a fisherman’s platform and market
- **Adelup Park** which includes several sports fields
- **Hagåtña Riverwalk** which is an anticipated recreation linkage
- **CHamoru Village** which hosts an outdoor mall / marketplace with vendors selling food, souvenirs and cultural goods.

Hagåtña offers a wide variety of youth and adult recreational programs that are designed to meet the needs of all residents. The promotion and supervision of these recreation programs is the responsibility of Hagåtña and Mayor’s Council of Guam staff. Programs at some of Hagåtña facilities include soccer leagues and summer camps.

Sources: 2005 Hagåtña Master Plan; Guam Code Annotated Title 21, Chapter 77 Parks and Recreation; “The Importance of Unique Park and Recreation Standards”, National Recreation and Park Association, 2015

Figure 18
Parks and Recreation Facilities

Source: 2005 Hagåtña Master Plan.



Natural Resources

Along with Hagåtña’s urban character and environment, Hagåtña is home to an abundance of natural resources. From Hagåtña’s coastlines’ seashore reserve to the wetlands in the southeast portion of Hagåtña, to the vegetative cliff line that acts as a physical and natural boundary, natural resources (shown on Figure 19) are a crucial feature of visual beauty and conservation in Hagåtña.

Seashore Reserve

The Guam Seashore Reserve was established after the enactment of the Guam Territorial Seashore Protection Act in 1974. That Act governs the land and water area of Guam extending seaward to the ten fathom contour, including all Government owned islands, except Cabras Island and those municipalities wherein residences have been constructed along the shoreline prior to the effective date of the act, and extending inland closest to the following points:

- From the mean high water line for a distance on a horizontal plane of 10 meters;
- From the mean high water line to the inland edge of the nearest public right-of-way.

All proposed development within the Reserve must be reviewed and garner approval by the Guam Seashore Protection Commission (GSPC) before construction may occur. Proposed projects are also reviewed by the Application Review Committee (ARC), which forwards its recommendations to the GSPC before a final decision is made. Since the seashore reserve primarily only reaches 10 meters inland (or to the first public right-of-way), there are not many new or proposed development reviews taking place within the reserve areas.

According to the 2005 Master Plan, the shore and waters of Agaña Bay comprise approximately 3 miles of shoreline. The extent of the seashore reserve is shown on Figure 19 on the following page. To help protect the reserve areas, a seawall constructed of concrete and rubble parallels the shoreline along sections of East and West Agaña Bay, including Paseo de Susana Beach Park. The seawall, along with natural coral reef, is the main source of shore protection along the bayfront. The shore protection system has been subject to storm surge damage from typhoons and other storms throughout history. In recent years, the Bureau of Statistics and Plans Guam Coastal Management Program (GCMP) has been assisting with shoreline protection, coastal management and planning for preservation of these natural resources.

Coral Reef

A variety of reef types can be found around Guam, including fringing reefs, patch reefs, submerged reefs, offshore banks and barrier reefs. Hagåtña’s coral reef resources are both economically and culturally important to Hagåtña, providing numerous goods and services for residents, including cultural and traditional use, tourism, recreation, fisheries, and shoreline infrastructure protection. A recent economic evaluation of Guam’s reefs has estimated its

contribution to the local economy at approximately \$127 million each year. With over 5,000 species recorded within Guam’s reefs, Hagåtña’s reefs host a majority of marine organisms relative to Guam. Traditionally, the coral reef fishery provided a substantial portion of the local CHamoru community’s diet and included finfish and invertebrates. In addition to the economic value of these edible fish and invertebrates, reef-related fisheries are culturally important as family and group fishing is a common activity in Hagåtña’s coastal waters. Coral reef boundaries within the waters adjacent to Hagåtña are shown on Figure 19.

Watersheds

With over 100 miles of coastline, Guam’s land mass is divided into 19 watersheds. Five watersheds lie in the limestone formation of northern Guam and fourteen are in the volcanic rock terrain of southern Guam. The majority of Hagåtña (with the exception of Adelup Point and Pigo Cemetery) lies within the Agaña Watershed, which also covers parts of Agaña Heights, Sinajana, Chalan-Pago-Ordot, Tamuning, Barrigada, and Mongmong-Toto-Maite (see Figure 19).

According to the Coastal and Estuarine Land Conservation Program (CELCP) Plan, Guam’s watersheds are the source of Guam’s drinking water supply. The Northern Watershed provides the island with approximately 80% of its drinking water supply, and surface water accounts for the remaining 20% of the water developed. Controlling nonpoint sources of pollution and ensuring that watershed ecosystems and wetlands are protected are critical to conservation efforts and ensuring Guam’s natural resources including critical coral reefs.

Wetlands

A unique natural resource in Hagåtña is Hagåtña’s wetlands (shown on Figure 19) which include swamps, marshes, mangroves, natural ponds, and the historic Spanish Dikes. Wetlands are natural habitats of high biological productivity and significant resource value. They support aquatic plants and animals. Wetlands also act as a source of freshwater or as floodplains. Most importantly, they are a nursery ground for juvenile plants and animals. The mangrove wetlands are not only a wildlife habitat, but are also useful for shoreline protection from wind and waves. Development within wetlands should not involve uses which adversely affect water quality or wildlife.

The main wetland area in the Hagåtña is the Marsh Conservation Reserve, locally known as the “Hagåtña Swamp.” The Hagåtña River flows through the marsh, which extends from the mouth of the Agaña Bay to the Agaña Heights area. Vegetation in this wetland is primarily karisso (*Phragmites karka*), a wetland reed that has gradually encroached into much of the open-water areas. The wetland serves as habitat for the federally-listed endangered Mariana common moorhen (*Gallinula chloropus guami*), and a candidate species for listing, the Guam tree snail (*Partula radiolata*). The Guam tree snail is a locally protected endangered species. This wetland conservation area is also noted as the only primary moorhen (known as the “Swamp Chicken”) habitat under private or government ownership.

The Hagåtña wetland is protected under the Guam Wetlands Conservation Plan. The Wetland Conservation Plan proposes programmatic changes and refinement to the management and conservation of wetland resources on Guam. This includes the cooperation of the Guam EPA (GEPA) and Guam Department of Agriculture (Division of Aquatic & Wildlife Resources) in operating the existing wetland permit program.

Rivers

Two major rivers pass through Hagåtña, the Fonte River in the western area of Hagåtña (Anigua) which flows into Agaña Heights, and the Hagåtña River which flows through the center of the municipality, down through the wetlands. These rivers are a vital component of the Agaña Watershed, and were a key resource for the historic people of Guam, used for fishing, bathing, and washing clothes are other garments. Flooding of the Hagåtña River is one of the primary reasons the Hagåtña Swamp remains so fertile and biodiverse, although the flooding is also a major natural hazard, described further on page 42. Today, flood control projects are being conducted to mitigate impacts of this flooding.

Natural Resource Planning

Over the past decade, several key natural resource management plans and projects have been developed for the island of Guam. In 2005, the Department of Agriculture completed the Guam Comprehensive Wildlife Conservation Strategy (GCWCS), which guides conservation efforts for a number of species of greatest concern. The GCWCS recognizes that species recovery efforts cannot succeed without habitat protection and that any serious threat to habitat loss and major modification must be addressed. Furthermore, as part of the 2011 CEDS 3rd year update, three proposed projects totaling over \$300 million are in direct association with natural resource restoration and conservation. These include the Hagåtña Wetland and Watershed Redevelopment project, Hagåtña Waterfront Development and Shoreline Protection project, and the Hagåtña Land Reclamation project.

As stated previously, the GCMP assists the Territory of Guam in complying with the Coastal Zone Management Act (CZMA), and has developed coastal regulations and management efforts through a coastal zone enhancement grant program. The GCMP is responsible for coordinating and assisting the development and implementation of plans, policies and programs which affect the management, use and preservation of Guam’s coastal and seashore reserve resource areas to ensure that Guam’s resources are effectively used and properly maintained. One of the resources that was developed by the GCMP to assist in this effort is the CELCP Plan, which was developed to help protect important coastal and estuarine areas that have significant conservation, recreation, ecological, historical, or aesthetic values with consideration given to the degree of threat of loss, ecological significance, and potential for effective management.

Sources: 2005 Hagåtña Master Plan; Guam Natural Resources Strategy 2012; 2011 CEDS, 3rd year update; The State of Coral Reef Ecosystems of Guam, 2007; Coastal and Estuarine Land Conservation Program Plan, 2008

Natural Hazards – Seismic / Geological

Guam is susceptible to many types of natural hazards such as tsunamis and geological hazards (coastal erosion, earthquakes, landslides and drought). Historical records of seismic natural hazards from the 1970s to 2010 show that damages (losses in \$) are greatest for liquefaction (\$8 million -caused by earthquakes) and earthquakes themselves (\$1 million). Many other types of geological hazards such as landslides have the potential to create damage to the island and Hagåtña in particular. As stated before, Guam Department of Homeland Security (DHS) assists the territory by responding to and mitigating effects from natural hazards. The text below is an analysis of all seismic and geological natural hazards affecting the island and an assessment of susceptibility for Hagåtña.

Earthquakes

An earthquake is a sudden motion or trembling caused by a release of strain accumulated within or along the edge of the earth's tectonic plates. The entire island of Guam is susceptible to the impact of an earthquake. The effects of an earthquake can be felt far beyond the site of its occurrence. Earthquakes usually occur without warning and, after just a few seconds, can cause massive damage and extensive casualties. The most common effect of earthquakes is ground motion, or the vibration or shaking of the ground during an earthquake. In addition to ground motion, other several secondary natural hazards can occur from earthquakes.

- **Surface Fault Rupture** is the differential movement of two sides of a fault at the earth's surface. Displacement along faults, both in terms of length and width, varies but can be significant (e.g., up to 20 feet in width and 200 miles in length). Surface faulting can cause severe damage to linear structures, including railways, highways, and tunnels.
- **Liquefaction** occurs when seismic waves pass through saturated granular soil, distorting its granular structure, and causing some of the empty spaces between granules to collapse. Liquefaction causes lateral spreads (horizontal movements of commonly 10 to 15 feet, but up to 100 feet), flow failures (massive flows of soil, typically hundreds of feet, but up to 12 miles), and loss of bearing strength (soil deformations causing structures to settle). Liquefaction is categorized into different zones, and can cause stark damage to property.
- **Lateral Spreads** are a type of landslide, but are distinctive because they usually occur on very gentle slopes or flat terrain and occur in a rapid fluid-like flow movement, caused by liquefaction. Ground failure is usually triggered by rapid ground motion, such as that experienced during an earthquake, but can also be artificially induced. Lateral spreads are almost always discussed in conjunction with liquefaction.

Due to Hagåtña's location adjacent to a major cliff line, Hagåtña is primarily susceptible to earthquake related damage, particularly surface fault ruptures and liquefaction in flat terrain areas, which also causes lateral spreads. A

majority of Hagåtña's land is actually within fault proximity zones and liquefaction zones (see Figure 20). Liquefaction damage in Hagåtña is evident near the newly renovated courthouse building in Hagåtña, as well as in other areas of Hagåtña. The courthouse area was redeveloped with fill material on top of fine-grained Hagåtña sediments.

Coastal Erosion

Coastal erosion can be described as the horizontal retreat of the shoreline. It is a part of a larger process of shoreline change that includes erosion and accretion, except along coastal cliffs. Coastal erosion is the movement of sediment from the shoreline into the ocean. Accretion is the movement of sediment onto a shoreline from the ocean. Many shorelines experience both erosion and accretion. Coastal erosion on Guam can be caused by winds; ocean currents; storm surges; high surf; seismic activity; changes in the geometry of tidal inlets, river outlets, and bay entrances; man-made structures and human activities, such as shore protection and dredging.

The entire coastline of Guam, including the coastlines of the Agaña Bay, is susceptible to coastal erosion hazards. The western coast of Guam, which includes Hagåtña, has experienced the most coastal erosion to date due to typhoons and monsoon surges that produce high waves. On average, three tropical storms and one typhoon pass within 180 nautical miles of Guam each year, meaning there is considerable probability of future coastline erosion for the island, including coastal areas along the Agaña Bay. Land reclamation projects along the coastline in the Agaña Bay have been proposed and are currently being evaluated for feasibility.

Slope Failure / Landslides

Slope failure can lead to a variety of hazards. For the island of Guam the concerns include landslides, mudslides, and post-fire debris flows. Landslides, which are the primary slope failure hazard of concern for Hagåtña, are the dislodging and falling of a mass of soil or rocks along a sloped surface; the dislodged mass itself is also referred to as a landslide. Landslides can be earthquake-induced or non-earthquake-induced. Earthquake-induced landslides occur as a result of ground shaking. The most common earthquake-induced landslides include shallow rock falls, disrupted rock slides, and disrupted slides of earth and debris. Non-earthquake-induced landslides may involve a wide range of combinations of natural rock, soil, or artificial fill. The susceptibility of hillside and mountainous areas to non-earthquake-induced landslides depends on variations in geology, topography, vegetation, and weather. Non-earthquake-induced landslides often occur as a result of intense rain that can soak slopes and cause failures.

Susceptibility to landslide hazards on Guam can be determined by the geology and the slope angle of the various specific areas on the island. All slopes with an angle of 30 percent or more are considered to have a moderate to high potential for a landslide to occur. Within Hagåtña, areas along the cliff line (pictured below) which are shown on Figure 20 are considered areas of very

high risk for landslides. The remaining areas of Hagåtña are considered to be located in low risk landslide areas, with the exception of the Bordallo Governor's Complex (Adelup Point), which is partially inside of a medium risk landslide hazard zone.



Tsunami Run-up and Inundation

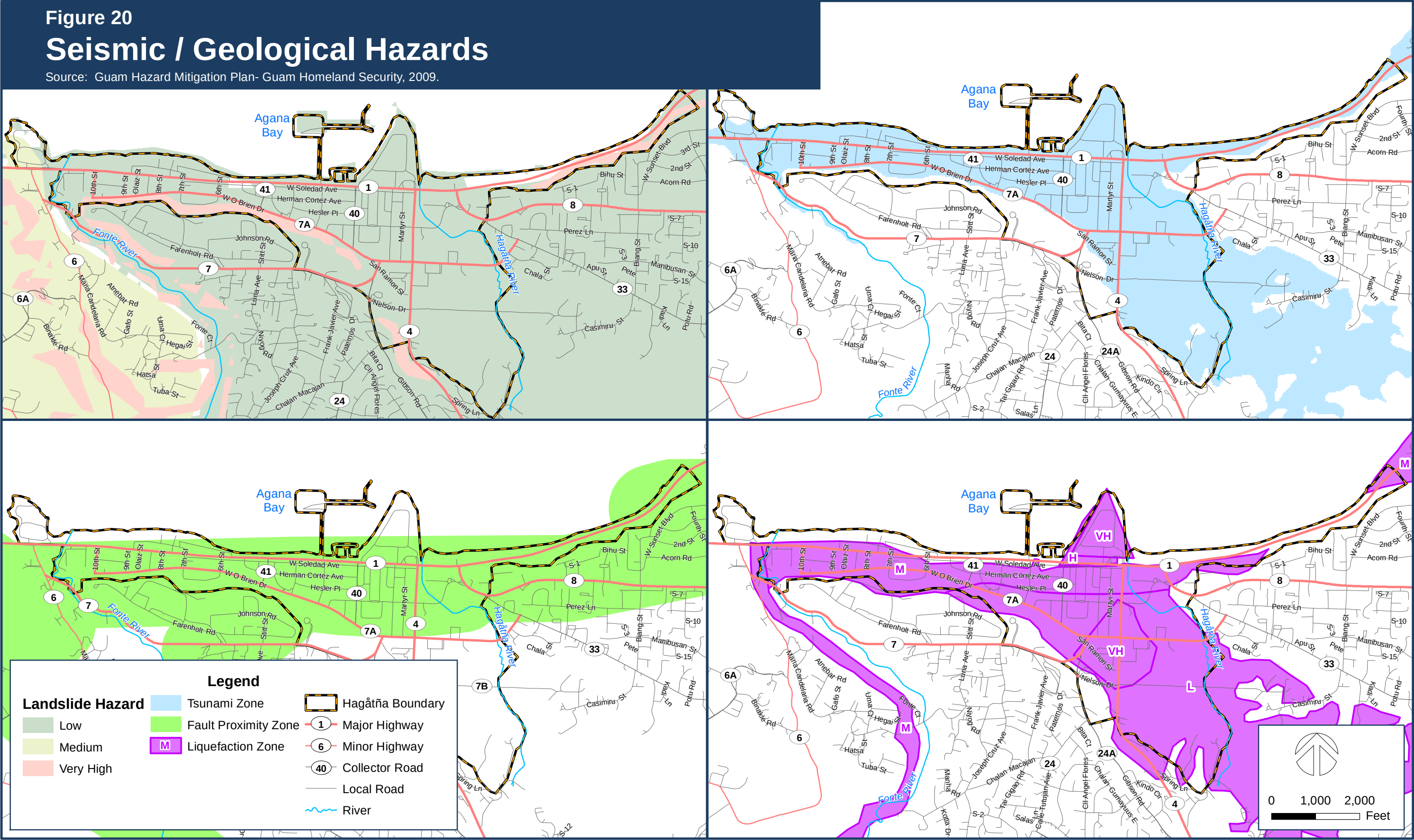
A tsunami is a series of traveling ocean waves of extremely long length generated by disturbances associated primarily with earthquakes occurring below or near the ocean floor. However, tsunamis can also be generated by submarine landslides, submarine volcanic eruptions, the collapse of volcanic edifices, and in very rare instances, large meteorite impacts in the ocean. When a tsunami wave nears the coastline, it can grow to a great height, smash into the shore, and cause much destruction. Tsunamis not only affect beaches that are open to the ocean, but also bay mouths, tidal flats, and the shores of large coastal rivers. Tsunami run-up occurs when a peak in the tsunami wave travels from the near-shore region onto shore. Associated risks often include flooding, polluted water supplies, drowning, and damage to structures and utilities, which can lead to fires.

Tsunamis have the potential to create damage inland in Guam, as well as along coastal areas like the Agaña Bay, primarily from inundation. A tsunami inundation hazard zone had been identified for all areas of Guam, wherein over 90% of Hagåtña is included (as shown on Figure 20). While the majority of Hagåtña is susceptible to tsunami damage, the general view is that tsunamis occur infrequently on the island and that the band of coral reefs surrounding the island (including areas in the Agaña Bay) forms a natural barrier against destructive tsunami waves and run-up. Although historical documentation is minimal and incomplete, according to the 2011 Guam Hazard Mitigation Plan and the National Oceanic and Atmospheric Administration's (NOAA) National Centers for Environmental Information (NCEI), somewhere between 12-16 tsunami events (tsunami run-up or inundation) have ever affected Guam, although it is unclear how many of these specifically affected Hagåtña, or what the respective maximum water heights / distance of inundation were.

Sources: Guam Emergency Response Plan; Guam Hazard Mitigation Plan, Guam Homeland Security, 2011; NOAA National Centers for Environmental Information, Tsunami Run-up Search

Figure 20
Seismic / Geological Hazards

Source: Guam Hazard Mitigation Plan- Guam Homeland Security, 2009.



Natural Hazards – Weather-Related

Due to its location and terrain, Guam is vulnerable to many types of natural hazards such as flooding and other tropical hazards (typhoons, tropical storms, tropical depressions). Historical records of natural hazards from the 1970s to 2010 show that damages (losses in \$) are greatest on island for typhoons / super typhoons (over \$2 billion), followed by flooding (\$6.5 million), and severe wind damage (\$775,000). The Guam DHS assists the territory with responding to and mitigating effects from natural hazards. The text below is an analysis of all tropical natural hazards affecting the island and an assessment of susceptibility for Hagåtña.

Flooding

Flooding is one of the most common natural hazards; it occurs whenever rainfall accumulates in an area faster than it can drain off or can be absorbed by the soil. This accumulation causes an overflow from a water body onto an adjacent floodplain. However, all floods are not alike, and different areas are susceptible to different types of flooding. Guam is vulnerable to coastal flooding, riverine flooding (excess stormwater runoff), and flash flooding.

Coastal flooding on Guam is primarily due to inundation from ocean water that is associated with storm surges and wind-driven waves. A storm surge occurs when the seawater surface that is near to or under the eye of an approaching typhoon is elevated in the shape of a mound. The sea level can be as much as 5 feet higher than normal during a storm surge. The strong winds associated with a typhoon produce wind-driven waves that ride on top of the storm surge. With the addition of an astronomical high tide, incursion of seawater onto a normally dry land area (i.e., coastal flooding and inundation) can occur. Due to its location along the Agaña Bay, Hagåtña is very susceptible to coastal flooding, especially during tropical storms. Much of the western area of Hagåtña is located in a typhoon flooding zone, and the majority of Hagåtña is located within the 100-year FEMA flood zone boundary, as shown on Figure 21.

The most common type of flooding is riverine flooding, also known as overbank flooding. Riverine floodplains range from narrow, confined channels in the steep valleys of mountainous and hilly regions to wide, flat areas in plains and coastal regions. On Guam, flooding in rivers and streams is typically caused by prolonged periods of rainfall from typhoons or monsoon surges. These systems can saturate the ground and overload the rivers and reservoirs in numerous smaller basins that drain into larger rivers. Hagåtña is extremely susceptible to riverine flooding due to the Hagåtña River and the Fonte River which both traverse Hagåtña. The Hagåtña River is completely encompassed by the flood zone boundary, and is one of the most problematic bodies of water on the island in regards to flooding and flood damage.

Over the past several decades, many efforts have been made to study and mitigate harmful effects of flooding from the Hagåtña River. To help mitigate flooding, the 2011 CEDS 3rd year update identified \$30 million for Hagåtña River

Channeling, and a River Flood Damage Reduction Feasibility Study will be completed by Matrix in 2015 as part of the Master Plan Update.

Typhoon

A typhoon is a general term for an intense, circulating storm that is related to, or the same as, a tropical depression, tropical storm, and super typhoon. Typhoons primarily occur over tropical and subtropical oceans. The disastrous effect of typhoons on islands in the western North Pacific Ocean can be sub classified into several hazard types, including coastal erosion, flooding, high surf, salt spray, severe wind, and slope failure.

All of Guam is susceptible to typhoons. Most typhoons that pass near Guam are moving in a westward direction. Historically, 60 percent have approached Guam from the east through the southeast, 19 percent have approached from the southeast through the south, and 7 percent have approached from the northeast through the east, meaning Hagåtña is less susceptible to these hazards than other areas of Guam. Since Guam is located in “Typhoon Alley”, there is still a high probability of typhoon damage to areas in Hagåtña. Roughly 33 percent of the world’s tropical cyclones or typhoons develop in the immediate area around Guam, and the island has been affected by approximately 61 typhoons or super typhoons, which have made landfall onto Guam and have resulted in severe winds, heavy rainfall, or flooding, although it is unclear how many of these typhoons made an impact on Hagåtña.

A fair portion of Hagåtña’s land comprises a typhoon flooding zone, all of which is located along the coastline of the Agaña Bay, as shown on Figure 21. The typhoon flooding zone in Hagåtña also stretches inland, encompassing both residential and industrial areas, as well as the Pigo Cemetery.

Typhoons can cause catastrophic damage to infrastructure, which has occurred to many buildings (as seen in the photo below) in Hagåtña since the 1800’s. Typhoons can also cause damage to wetlands, vegetation and soil, due to severe winds picking up sea water and depositing it onto land (salt spray) where salt is introduced and can damage crops and other plant life.



Severe Wind

Severe wind is often the most destructive part of a typhoon. The strongest winds of a typhoon are generally near the center of the storm. Winds during these storms occur at a sustained level and in gusts. When typhoons have sustained winds of about 60 mph, an “eye” begins to form at the very center of the storm. Since the winds of a typhoon are circulating around the eye of the storm, the eye has relatively calm winds. The eye-wall is the ring of deep thunderstorm-like clouds that surrounds the eye of a typhoon and creates the strongest and most destructive winds of a typhoon. The passage of an eye of a typhoon over a particular location produces the greatest possible destructive winds of that typhoon.

The terrain of a landmass can alter the wind patterns of a typhoon. When a typhoon makes landfall on an island such as Guam, generally the speed of the sustained winds of the storm decrease, but the potential peak gusts remain the same speed. The frequency of peak gusts can vary over a landmass and depends on whether the terrain of the landmass is smooth or rough. Smooth terrain experiences a higher frequency of peak gusts than rough terrain. Due to the relatively flat terrain of Hagåtña, higher frequencies of wind gusts have the potential to occur. Hagåtña is actually within a severe wind hazard zone, in which wind hazards are shown to occur in all areas within 500 feet of the coastline.

Natural Hazard Mitigation

The Guam Hazard Mitigation Plan developed in 2011 is the primary tool for attempting to mitigate natural hazards as well as man-made hazards. The plan identifies pre- and post- disaster hazard mitigation policies and programs, some of which are listed below.

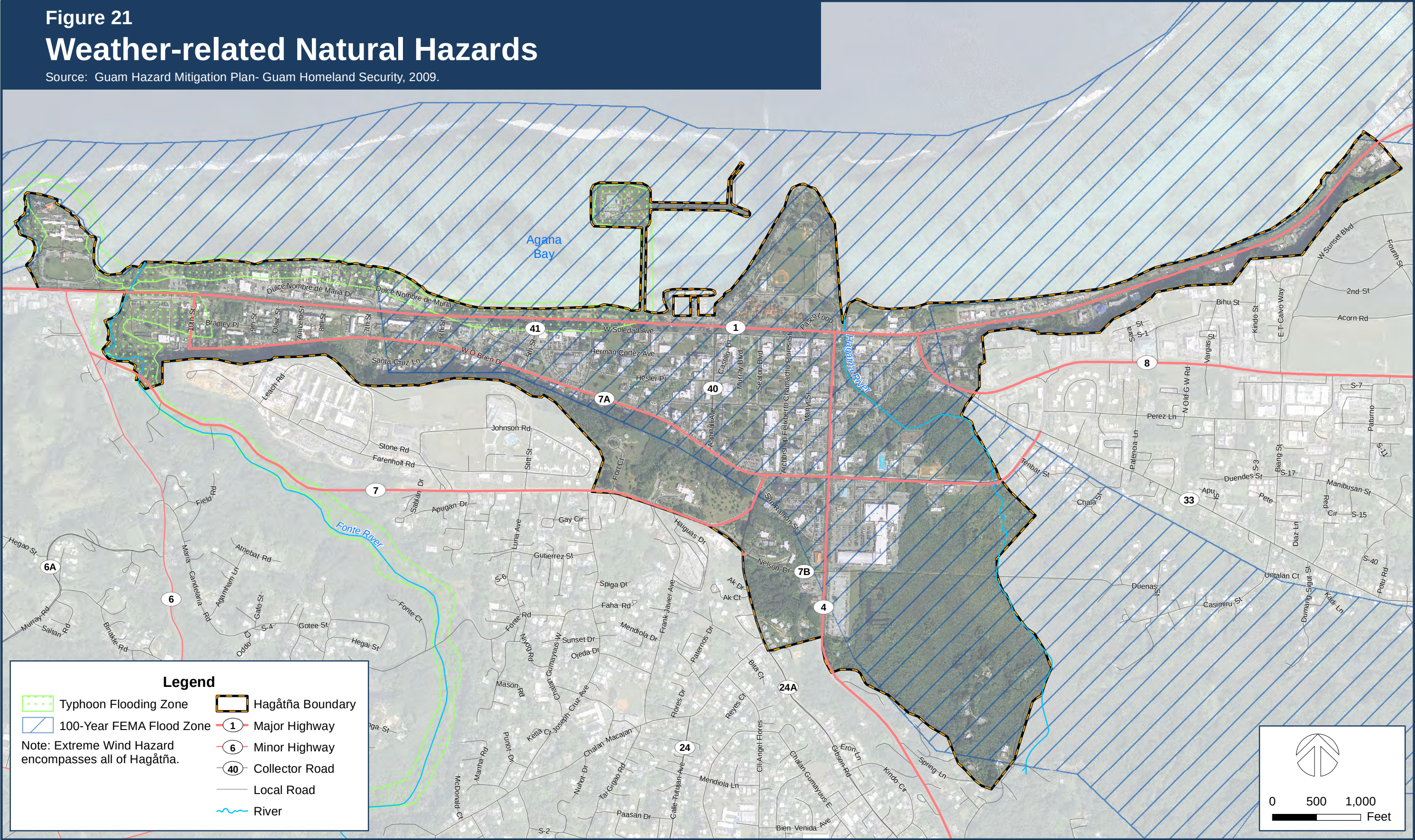
- Regulation of Building Construction
- Seashore Reserve Zone
- Floodplain Management
- FEMA Floodplain insurance program
- Elevate and retrofit bridges and roads where applicable
- Update the Hazard Mitigation Plan every 3 years
- Install typhoon shutters
- Upgrade the stormwater drainage system

The Guam Emergency Response Plan was also developed for the purpose of providing guidance in preparing for and reacting to threats caused by natural and man-made hazards. The Emergency Response Plan puts emphasis on utilization of Government resources, providing a mechanism for government-wide coordination, agency responsibility and capabilities.

Sources: Guam Emergency Response Plan; Guam Hazard Mitigation Plan, 2011

Figure 21
Weather-related Natural Hazards

Source: Guam Hazard Mitigation Plan- Guam Homeland Security, 2009.



Man-Made Hazards

Hagåtña, like all other municipal jurisdictions, is susceptible to man-made hazards as well as natural hazards. Unlike natural hazards, man-made hazards are not caused by external forces such as extreme weather or geological transformation; they are caused by people. Man-made hazards arise from deliberate human actions (e.g., hazardous materials, war, terrorism, fires, etc.) that are usually predictable and preventable. They may also arise from the unforeseen or unexpected consequences of human development and technology, such as industrial accidents, and have the potential to cause immediate danger or risk to life and health or property.

Hazardous Materials

Hazardous materials (HAZMAT) include all substances that may pose a significant risk to human health. These substances tend to be highly toxic, reactive, corrosive, flammable, radioactive, or infectious. Hundreds of hazardous material release accidents occur annually in the U.S. which contaminate air, soil, or groundwater resources, can potentially cost millions of dollars in cleanup, human and / or wildlife injuries, and even cause fatalities. Although release of such substances isn't a common occurrence within Hagåtña itself, incidents have occurred (and have the potential to occur) which pose potential risk on residents. Hazardous material releases in or around Hagåtña may occur from any of the following:

- Fixed site facilities (e.g., refineries, chemical plants, storage facilities, landfills or hardfills, manufacturing facilities, warehouses, wastewater treatment plants, automotive sales/repair, and gas stations)
- Highway transportation (e.g., tanker trucks, chemical trucks, highway tankers, or spills from any of these)
- Marine transportation (e.g., bulk liquefied gas carriers, oil tankers, tank barges, or commercial / recreational boating accidents)
- Potential historic dump sites (according to the U.S. Government Accountability Office and the Department of Defense Formerly Used Defense Sites (FUDS), Paseo de Susana was reportedly a Toxic Chemical Dump Site for noxious gas).

HAZMAT can be released accidentally by a human-caused action, such as an unintended release from a pressure valve or an oil tanker accident, or even a recreational boating accident. In addition to these possibilities, natural hazards can complicate response activities. The impact of earthquakes or tropical storms on fixed facilities can be particularly negative due to the impairment of the physical integrity or even failure of containment facilities. The threat of a HAZMAT event can be magnified by a natural hazard due to restricted access for response personnel to an area with a HAZMAT release, reduced fire suppression and spill containment capability, and even complete cut-off of response personnel and equipment. The risk of HAZMAT is considered a major threat due to the location of HAZMAT facilities and HAZMAT transport routes in populated areas to and from these facilities.

Hagåtña Wastewater Treatment Plant

The Hagåtña WWTP is one of three ocean outfall facilities located on Guam. The treatment plant contains a 42" outfall main placed on the sea floor that extends a certain distance from the shoreline and ends with a diffuser piece that releases the sewage into the water. The coastal waters and even coral reef could be contaminated or damaged during a sewage hazard event. A sewage hazard event could occur if the outfall main is damaged close to shore and sewage is released closer to shore than intended. It could also occur from a sewage spill or overflow, originating from the plant itself which is located on a man-made island. The total coastal surface water potentially affected by sewage hazard events within a 1-mile radius of each of the 3 sewage plants is 6.2 square miles. Roughly 2 square miles of this is attributable to the Hagåtña WWTP, and the associated HAZMAT Sewage Discharge Zone are shown on Figure 22. Sewage hazard is expected to affect only coastal waters and not any of Guam's land area, although hazardous sewage does have the potential to adversely affect coastal erosion, sediment accretion, and even the beaches along the coastline.

The Hagåtña WWTP affects the air quality in parts of Hagåtña and potentially in surrounding municipalities. Also shown on Figure 22 is the air permit zone for the WWTP, and an adverse smell zone, where pungent odors created by sewage discharge and plant operations are occurring. Many drivers and pedestrians experience these strong aromas while moving along Route 1 or in the Paseo de Susana / Marina area. This unofficial "smell zone" extends an estimated 2,500 feet radius from the WWTP, and is commonly affected by wind, tide, and WWTP operational activities.



National Pollutant Discharge Elimination System Facilities

Certain facilities within or proximate to Hagåtña, such as the Hagåtña WWTP, have NPDES permits to discharge certain quantities of hazardous waste into surface waters. Additionally, some of those facilities also have permits to discharge HAZMATs into the atmosphere, potentially affecting air quality. For facilities that are permitted to discharge hazardous waste into the water or atmosphere, a 1- mile radius around each facility has been determined to be the area that could be potentially exposed to a HAZMAT release. Water Permit and Air Permit HAZMAT zones that cover or traverse areas of Hagåtña are shown on Figure 22.

Hardfill / Landfill Sites

Although there are no identified hardfill / landfill sites in Hagåtña, those sites that may exist within the vicinity of Hagåtña's boundaries pose potential risks up to a 1 or 2-mile radius around each site, which may encompass southern portions of Hagåtña. The closest site to Hagåtña is the Layon Landfill (pictured below), roughly 2 miles south of the municipal boundary.



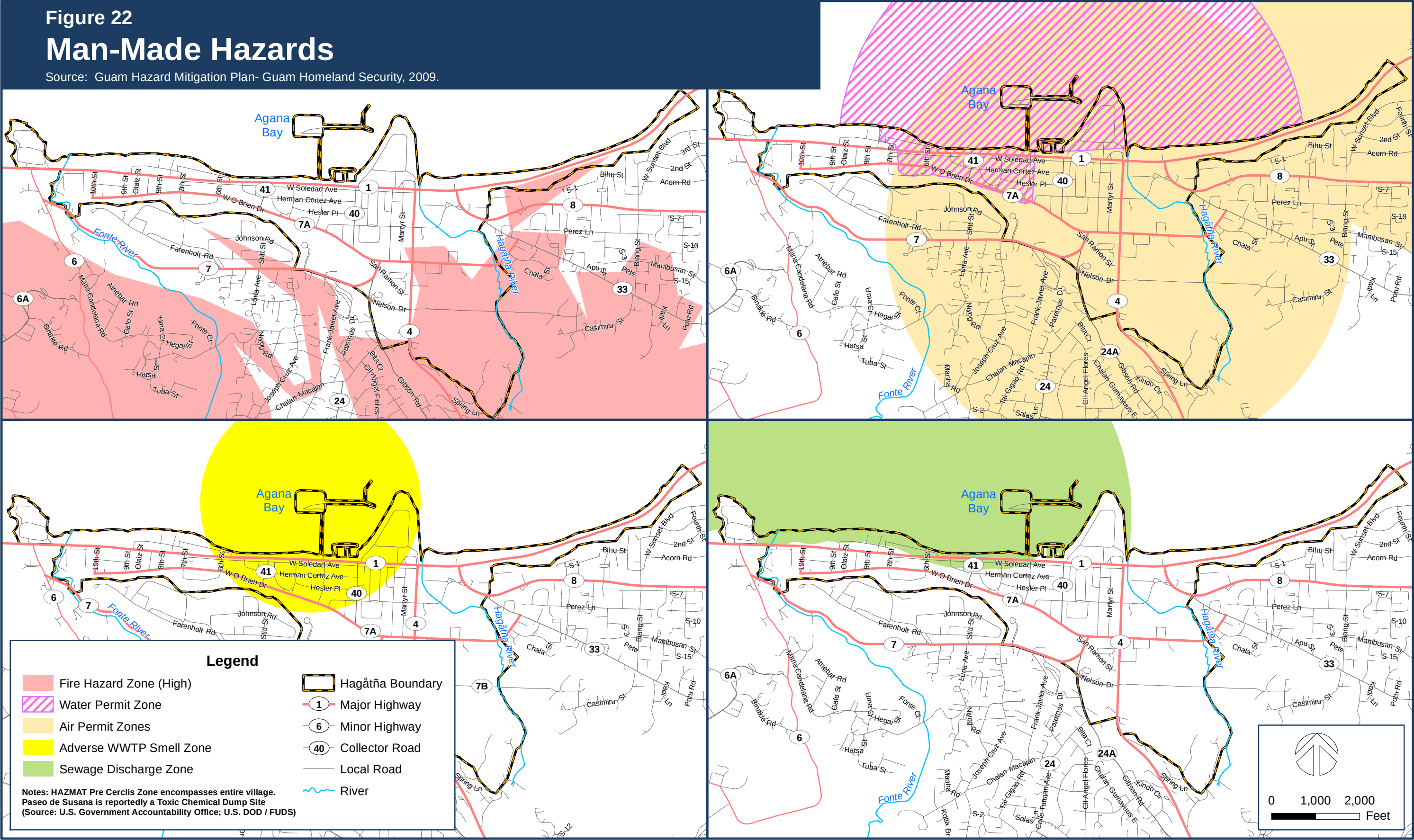
Fire Hazards

While wildland fires can be caused naturally, for example by lightning, most wildland fires on Guam are caused artificially and by human activity such as arson, cigarettes, or uncontrolled campfires. On Guam, lightning has the potential to start wildland fires, but with heavy rain and high humidity year round, the area is not generally conducive to these types of wildfires. Arson is said to be a common cause of wildland fires on the island, although many fires are often started by fallen or dysfunctional electric cables/poles. Fires also have the potential to create hazardous debris flows along sloped areas. Figure 22 shows areas susceptible to fire hazards within and proximate to Hagåtña, with the majority of susceptible areas located through the wetlands.

Source: Guam Hazard Mitigation Plan, 2011.

Figure 22
Man-Made Hazards

Source: Guam Hazard Mitigation Plan- Guam Homeland Security, 2009.



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HAGÁTÑA MASTER PLAN

Preserving Our Past. Shaping Our Future.