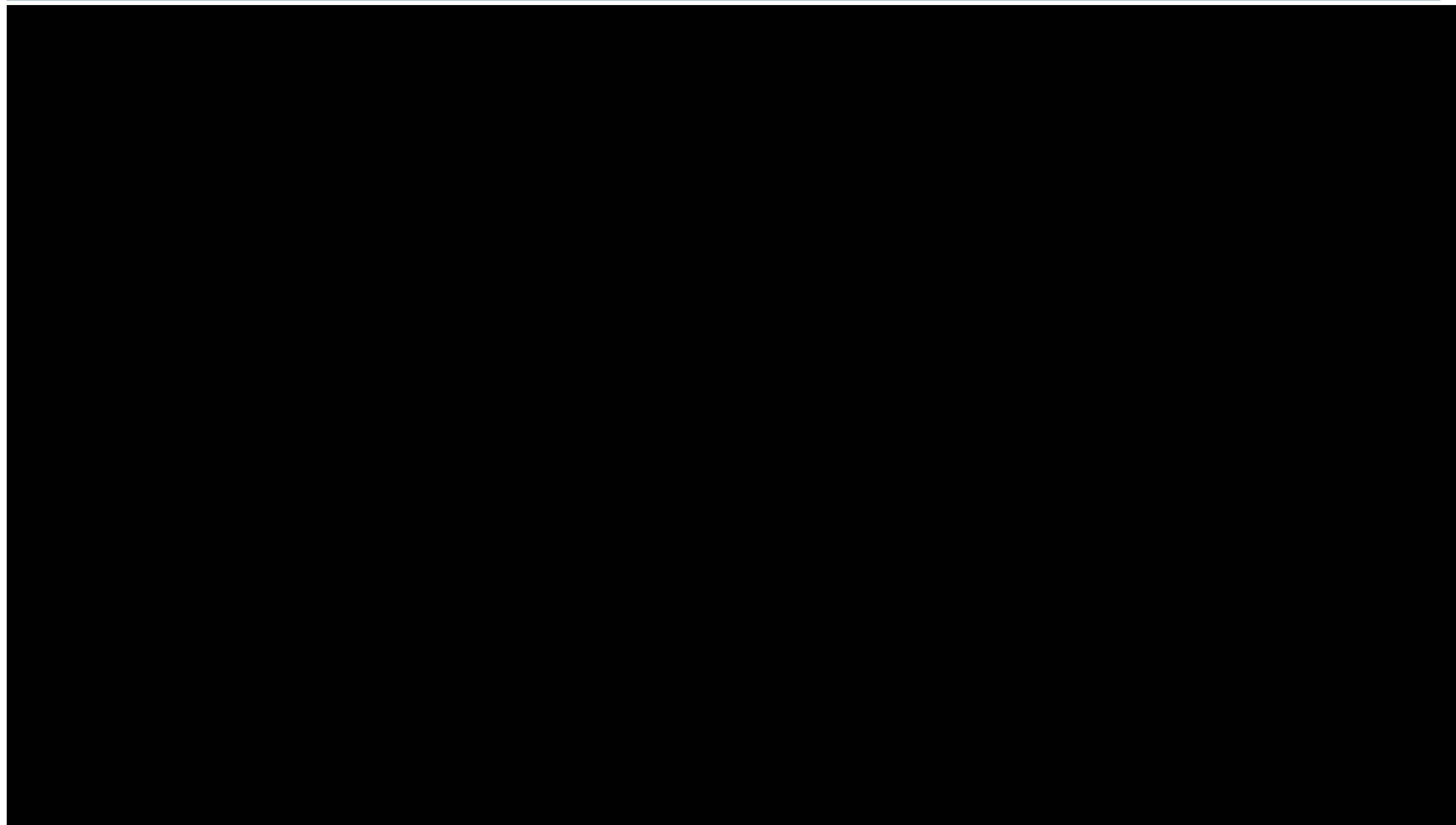




Guam Transportation Program

An Overview of the Federal Aid Program on Guam

August 2018



Background



- ☞ **The Federal Highway Administration (FHWA) allocates \$14-16 million annually to the Government of Guam**
 - ☞ Planning, design & construction improvements to Guam's Territorial Highway System
- ☞ **In 2005, FHWA allocations were at approximately \$250 million:**
 - ☞ Unexpended Federal Aid Funds from previous years
 - ☞ Emergency Relief Funds
 - ☞ American Recovery & Reinvestment Act (ARRA) Funds
 - ☞ Defense Access Road (DAR) Funds
 - ☞ Annual FHWA Allocations for years 2008 – 2011

Background: Stewardship Agreement





- ✍ **Government of Guam & FHWA entered into a Stewardship Agreement in the Spring of 2007:**
 - ✍ Established framework for the allocation and use of FHWA funds
 - ✍ Established the roles & responsibilities of the signatories to develop, operate and maintain a federally compliant roads program
 - ✍ Requires that GovGuam develop a federally compliant transportation program
 - ✍ Conformance with the *Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects FP-03*



Background: Signatory Roles



Role of the Guam Department of Public Works:

-  Development and implementation of a roads program in accordance with FHWA regulations and GovGuam procurement regulations
-  Develop and maintain policies, procedures, and standards of environmental clearance, rights of way, financial management, planning and programming and construction management

Role of the Federal Highways Administration:

-  Oversight and approval authority for projects, documents, deliverables, procurements, contractor payments and other items relative to the operation of the program
-  Verification of conformance with the program through in-depth audits of project documentation

Stewardship Agreement Implementation



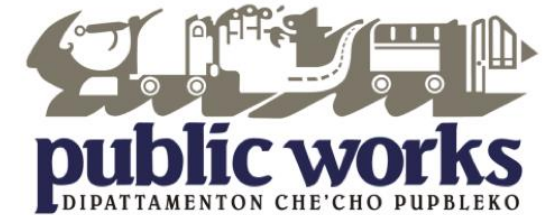
- ☞ **The DPW solicited firms to provide support through a Program Management Contract (PMC).**
- ☞ **PB Americas engaged in 2007 for program management services:**
 - ☞ Transportation Planning, Engineering Design and Oversight, Right-of-Way, Environmental, Traffic Engineering & Bridge Inspection
- ☞ **Parsons Transportation Group engaged in 2008 for project construction support and guidance:**
 - ☞ Procurement Support, Compliance Monitoring, Construction Management Support
- ☞ **PMC continues today (WSP and Parsons Transportation Group)**

Program Components



-
- 👉 **2030 Guam Transportation Plan - 20 year master plan for transportation improvements throughout Guam**
 - 👉 Identifies transportation needs & long-term improvement strategy
 - 👉 Focuses on improving the efficiency, safety and effectiveness of existing roadways
 - 👉 Addresses the impact of the military build-up
 - 👉 Establishes sustainable financing & project implementation recommendations
 - 👉 Identifies policy & institutional improvements
 - 👉 Currently working to update plan

Program Components



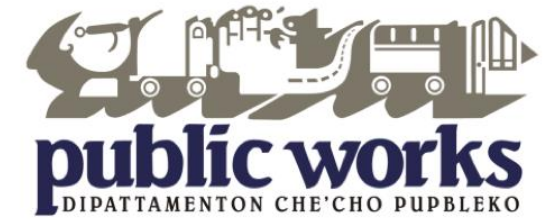
🔗 Territorial Transportation Improvement Plan (TTIP)

- 🔗 Four year program - identified 81 projects and \$250 million in available funding for 2008-2011
- 🔗 Program currently funded at \$14-\$16M annually
- 🔗 Prioritizes safety, pavement and bridge issues
- 🔗 Updated every two years through a public process

🔗 Guam Road Network (Defense Access Roads)

- 🔗 Identified 49 Road Projects required to support the build-up
- 🔗 \$49 million allocated in 2009-2010 and \$80 million anticipated for 2011-2012
- 🔗 Addresses traffic congestion, workforce housing impacts, construction materials movements, post construction military equipment movements & pavement management

Supportive Initiatives



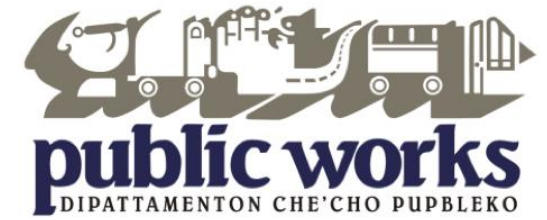
-
- 👁 Village Streets Master Plan
 - 👁 Storm Water Drainage Master Plan
 - 👁 Transp. Storm Drainage Manual
 - 👁 Guam Road Network Implementation Plan (for storm water drainage)
 - 👁 Right of Way Manual
 - 👁 Guam Transportation Training Initiative
 - 👁 Transit Business Plan, 2009 -2015
 - 👁 Standard Plans & Details
 - 👁 Bridge Inspection and Rating Program
 - 👁 Traffic Management Program
 - 👁 Environmental Procedures Guide
 - 👁 Funding Sources Report for Long Term Transportation Needs
 - 👁 Traffic Signal Timing & Coordination Program
 - 👁 Program Management Information System
 - 👁 Construction Management Program
 - 👁 Construction Management & Inspection Services Manual
 - 👁 ADA Compliance Program
 - 👁 Asset Management Information System (AMIS)
 - 👁 Training Program for DPW, Design Consultants & Contractors

Program Challenges



-
- Accuracy of underground utility information
 - Limited understanding of federal compliance requirements among local construction firms and resistance to change
 - Agency coordination processes
 - Contract approval processes
 - Right of Way acquisition
 - Traffic Management Program
 - Procurement process
 - Environmental clearance and compliance
 - Limited resources within DPW
 - Pacing of projects
 - Limited labor pool

Construction Project Responsibilities



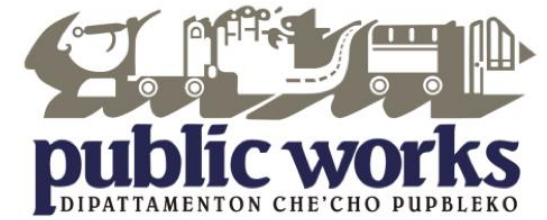
☞ Contractor is responsible for:

- ☞ Traffic Control, site safety and local access
- ☞ Schedule – contract specifies # of days from NTP to completion
- ☞ Compliance –conformance to plans and specs, regulatory requirements, laws & necessary documentation

☞ DPW's Construction Manager is responsible for:

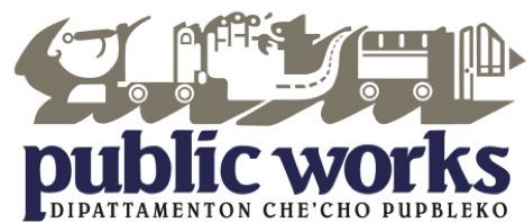
- ☞ Ensuring project is built to match the plans and specs (inspection)
- ☞ Tracking schedule, potential delays and change orders
- ☞ Daily verification of contractor's quantities against monthly invoices (quantities, payroll certifications, submittals, etc.)
- ☞ Project correspondence – letters, submittals, etc.
- ☞ Project documentation to meet FHWA (and DoD) audit requirements

Construction Project Responsibilities

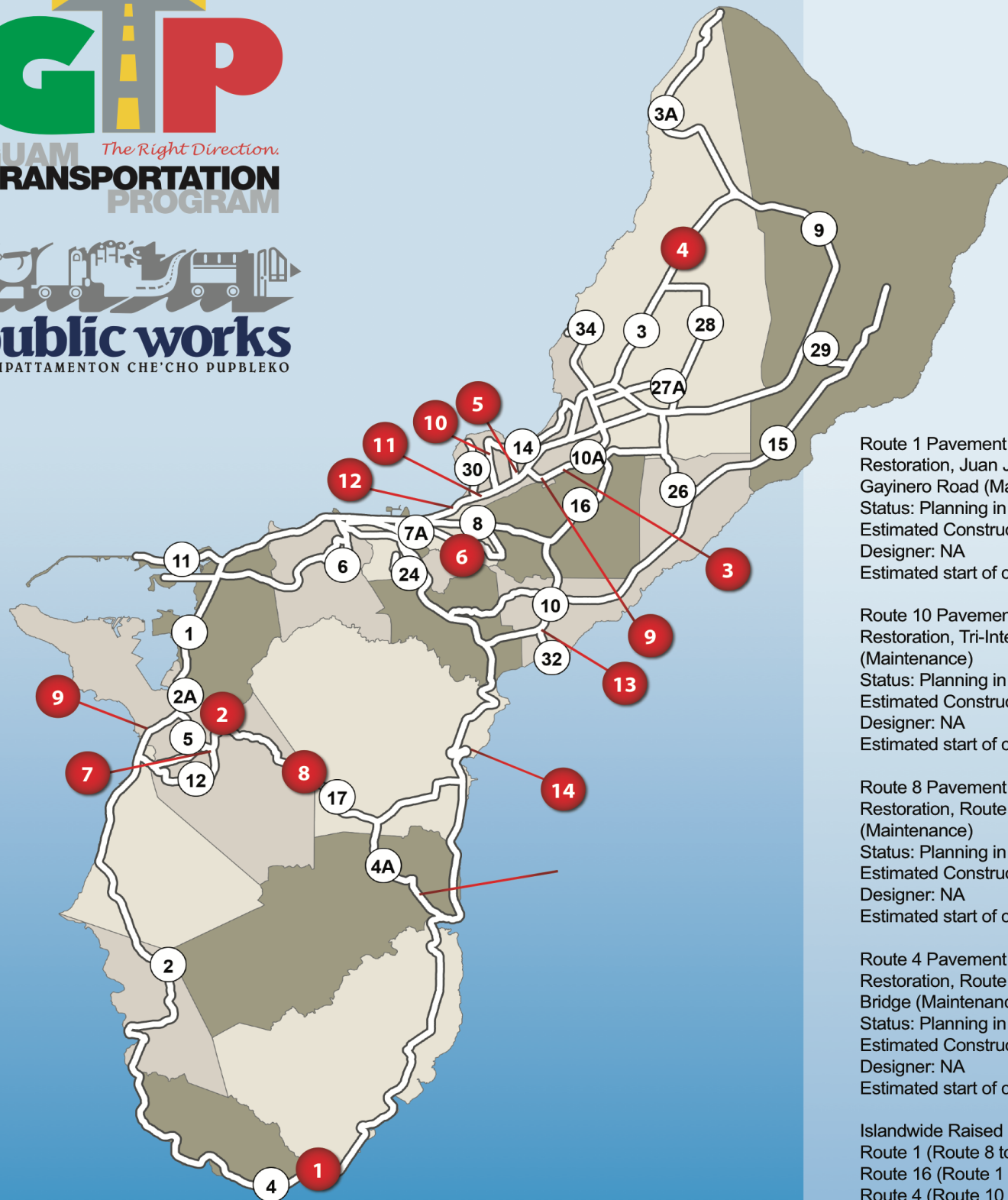


🌀 Program Management Team's Role:

- 🌀 Create, Implement and Administer an FHWA compliant construction program on behalf of DPW
- 🌀 Train DPW staff and assist contractors with the new policies and procedures
- 🌀 Augment DPW staff
- 🌀 Maintain document control for all DPW CM projects
- 🌀 Develop Consultant CM services program – local A/E firms provide CM services
- 🌀 Assist local A/E firms providing CM services
- 🌀 Provide CM Administration, Oversight and DPW staff augmentation
- 🌀 Coordinate with jurisdictional agencies during construction



Projects



Route 1 Pavement Markings
Restoration, Juan Jacinto Drive to
Gayinero Road (Maintenance)
Status: Planning in Progress
Estimated Construction Cost: TBD
Designer: NA
Estimated start of construction: TBD

Route 10 Pavement Markings
Restoration, Tri-Intersection to Route 4
(Maintenance)
Status: Planning in Progress
Estimated Construction Cost: TBD
Designer: NA
Estimated start of construction: TBD

Route 8 Pavement Markings
Restoration, Route 1 to Tri-Intersection
(Maintenance)
Status: Planning in Progress
Estimated Construction Cost: TBD
Designer: NA
Estimated start of construction: TBD

Route 4 Pavement Markings
Restoration, Route 1 to Pago Bay
Bridge (Maintenance)
Status: Planning in Progress
Estimated Construction Cost: TBD
Designer: NA
Estimated start of construction: TBD

Islandwide Raised Medians Painting,
Route 1 (Route 8 to Macy's Entrance),
Route 16 (Route 1 to Tri-Intersection),
Route 4 (Route 10 to Route 1), Route 8
(Route 1 to Tri-Intersection)
Maintenance
Status: Planning in Progress
Estimated Construction Cost: \$46,000
Designer: NA
Estimated start of construction: TBD



PLANNING/DESIGN

Valued at \$113M

APRIL 2018

1 Ajayan Bridge Replacement
Status: Design Completed
Estimated Construction Cost: \$3.0M
Designer: NC Macario & Associates
Estimated start of construction: FY2018

2 Aplacho Bridge Replacement
Status: Design Completed
Estimated Construction Cost: \$2.4M
Designer: Duenas Camacho & Associates
Estimated start of construction: FY2019

**3 Route 10A, Route 1 –
GIA/Tiyan Intersection**
Status: Design in Progress
Estimated Construction Cost: \$13.5M
Designer: Duenas Camacho & Associates
Estimated start of construction: TBD

4 Traffic Signal Upgrade, Islandwide
Status: Design Completed
Estimated Construction Cost: \$2.6M
Designer: EMCE Consulting Engineers
Estimated start of construction: TBD

5 Route 14B, Ypao Road
Status: Design Completed
Estimated Construction Cost: \$14.0M
Designer: EM Chen & Associates
Estimated start of construction: FY2019

6 Route 33 Planning Study
Status: Planning Study in Progress
Estimated Construction Cost: TBD
Designer: WSP
Estimated start of construction: N/A

**7 Route 5 Improvements from Route 2A
to Naval Magazine**
Status: Design in Progress
Estimated Construction Cost: \$13.6M
Designer: EMPSCO
Estimated start of construction: FY2018

8 Route 17, Phase 2B
Status: Design in Process
Estimated Construction Cost: \$19.5M
Designer: Duenas, Camacho and
Associates
Estimated start of construction: TBD

9 Tiyan Parkway, Phase 2
Status: Design in Progress
Estimated Construction Cost: \$30M
Designer: TG Engineers
Estimated start of construction: TBD

**10 Route 14 Improvements - Route 1 to
Archbishop Felixberto Flores Circle**
Status: Design in Progress
Estimated Construction Cost: \$10.3M
Designer: GHD
Estimated start of construction: FY2018

**11 Route 20 Tiyan Parkway
Structure Demolition, Phase 2**
Status: Planning
Estimated Construction Cost: \$1.1M
Designer: WSP
Estimated start of construction: TBD

12 Route 1/8 Memorial
Status: Planning
Estimated Construction Cost: <\$1M
Designer: TBD
Estimated start of construction: TBD

13 Route 10 Safety Improvements
Status: Planning
Estimated Construction Cost: \$3M
Designer: TBD
Estimated start of construction: FY2019

14 Ylig Memorial
Status: Design Completed
Estimated Construction Cost: TBD
Designer: PTG
Estimated start of construction: TBD

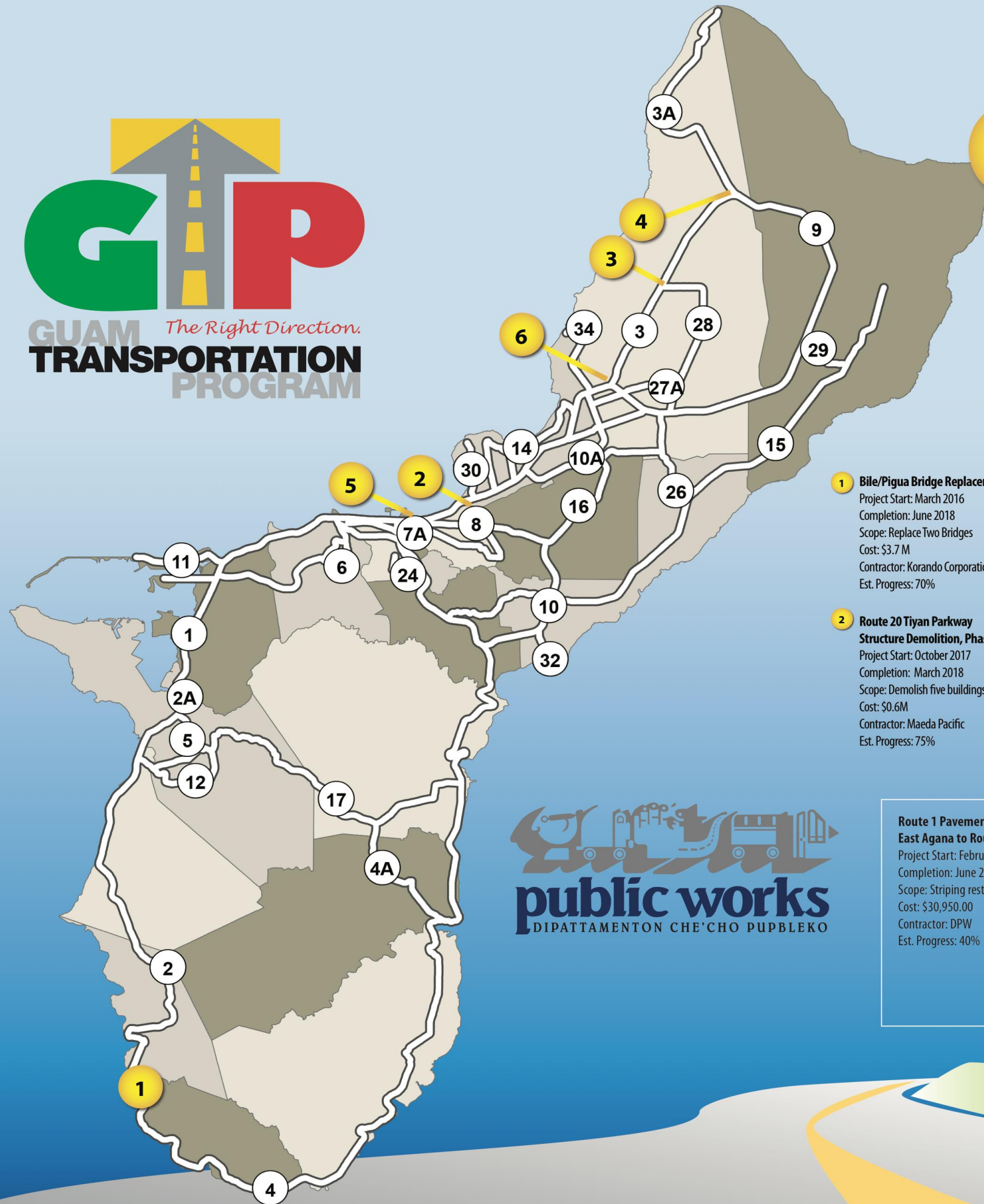




April 2018

ONGOING PROJECTS

Valued at \$82.3M



3 Route 3 Widening Route 28 - Chalan Kareta
 Project Start: February 2018
 Completion: January 2020
 Scope: Widen roadway
 Cost: \$44.3M
 Contractor: Black Construction
 Est. Progress: 0%

6 Route 3A Pavement Restoration
 Project Start: March 2018
 Completion: June 2018
 Scope: Pavement Restoration
 Cost: \$0.7M

1 Bile/Pigua Bridge Replacements
 Project Start: March 2016
 Completion: June 2018
 Scope: Replace Two Bridges
 Cost: \$3.7M
 Contractor: Korando Corporation
 Est. Progress: 70%

4 Route 3A Pavement Restoration
 Project Start: March 2018
 Completion: June 2018
 Scope: Pavement Restoration
 Cost: \$0.7M
 Contractor: Hawaiian Rock Products
 Est. Progress: 0%

7 Resurfacing : Route 1 (Asan - Piti and Yigo – Dededo); Route 8 (Barrigada and Mongmong Toto Maite); Route 8/Canada-Toto Loop Road Intersection Improvements
 Project Start: June 2018
 Completion: March 2019
 Scope: Pavement repair and traffic signalization
 Cost: \$8.4 M
 Contractor: Hawaiian Rock Products
 Est. Progress: 0%

2 Route 20 Tiyan Parkway Structure Demolition, Phase 1
 Project Start: October 2017
 Completion: March 2018
 Scope: Demolish five buildings
 Cost: \$0.6M
 Contractor: Maeda Pacific
 Est. Progress: 75%

5 Route 1/8 Intersection Improvements and Agana Bridges Replacement (Design-Build)
 Project Start: October 2011
 Completion: TBD
 Scope: Intersection Improvements & Replace 2 bridges
 Cost: \$16.4M
 Contractor: Core Tech International
 Est. Progress: 95%

2017 Islandwide Bridge Inspections
 Project Start: November 2017
 Completion: September 2018
 Scope: Inspection of bridges
 Cost: \$851,000
 Contractor: TG Engineers
 Est. Progress: 80%



Route 1 Pavement Marking Improvements East Agana to Route 16 (Maintenance)
 Project Start: February 2018
 Completion: June 2018
 Scope: Striping restoration
 Cost: \$30,950.00
 Contractor: DPW
 Est. Progress: 40%

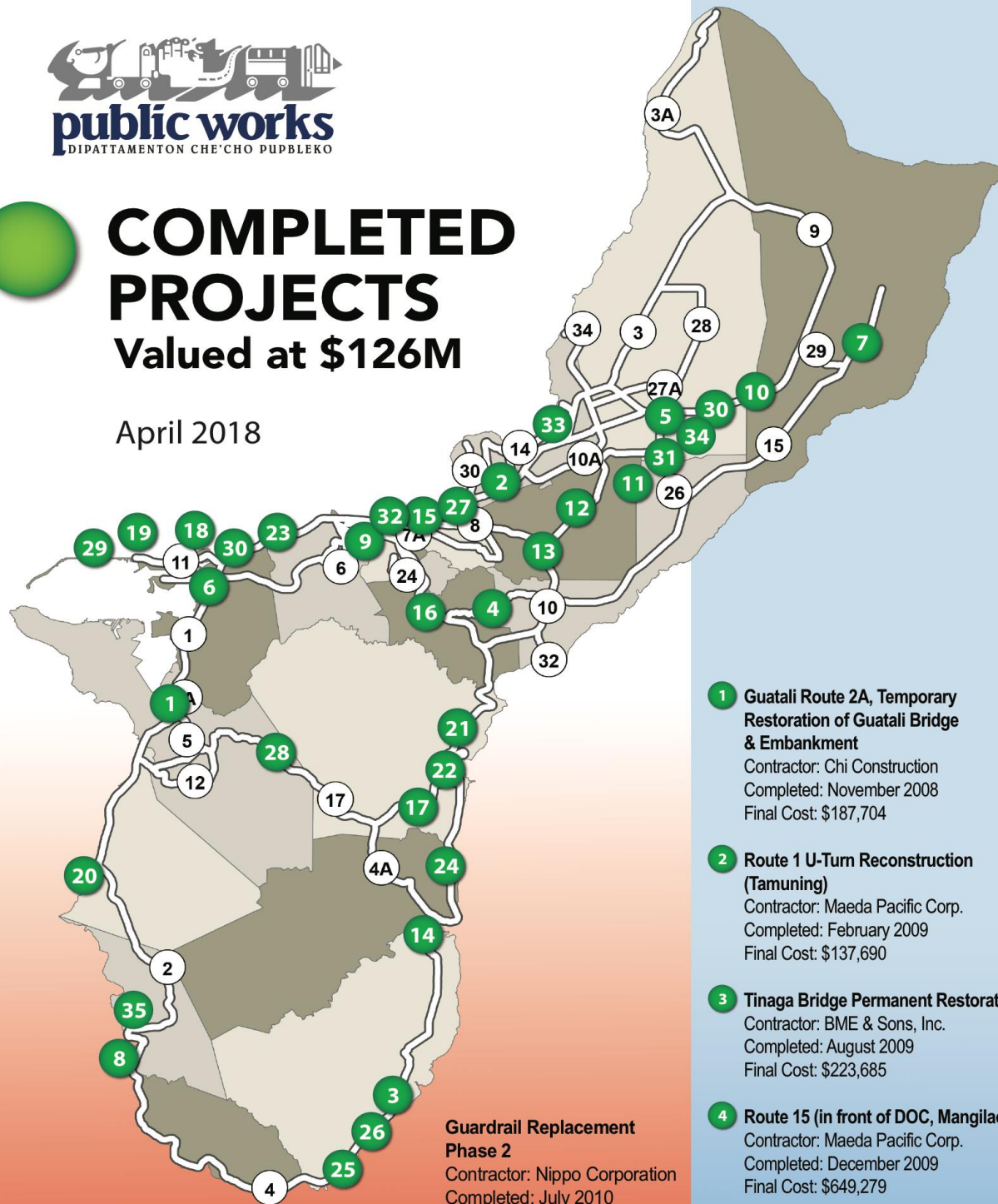
Village Road Pavement Restoration (Maintenance)
 Project Start: December 2017
 Completion: TBD
 Scope: Pavement Restoration
 Cost: Base Prep = TBD
 Paving = TBD
 Striping = \$494,385.30
 Contractor: DPW and Hawaiian Rock Products
 Est. Progress: 5%





COMPLETED PROJECTS Valued at \$126M

April 2018



ISLANDWIDE

Guardrail Replacement Phase 1
Contractor: Orion Construction Corporation
Completed: February 2010
Final Cost: \$4.54M

LED Signal Light Upgrade
Contractor: Kinden Corporation
Completed: March 2010
Final Cost: \$521,875

GPS Lock and Loops
Contractor: Kinden Corporation
Completed: March 2010
Final Cost: \$91,255

Pavement Markings Improvement Phase 1
Contractor: Nippo Construction
Completed: April 2010
Final Cost: \$2.09M

Pavement Markings Improvement Phase 2
Contractor: Highway Safety Services
Completed: March 2010
Final Cost: \$1.63M

Islandwide & School Zone Signs
Contractor: Highway Safety Services
Completed: December 2011
Final Cost: \$300,000

2014 Islandwide Bridge Inspections
Contractor: Parsons Brinckerhoff, Inc.
Completed: April 2015
Final Cost: N/A

Guardrail Replacement Phase 2
Contractor: Nippo Corporation
Completed: July 2010
Final Cost: \$3.22M

1 Guatali Route 2A, Temporary Restoration of Guatali Bridge & Embankment
Contractor: Chi Construction
Completed: November 2008
Final Cost: \$187,704

2 Route 1 U-Turn Reconstruction (Tamuning)
Contractor: Maeda Pacific Corp.
Completed: February 2009
Final Cost: \$137,690

3 Tinaga Bridge Permanent Restoration
Contractor: BME & Sons, Inc.
Completed: August 2009
Final Cost: \$223,685

4 Route 15 (in front of DOC, Mangilao)
Contractor: Maeda Pacific Corp.
Completed: December 2009
Final Cost: \$649,279

5 Skatepark Barrier/Iglesia Circle Traffic Signal
Contractor: Kinden Corp.
Completed: March 2010
Final Cost: \$562,923

6 Masso River Bridge Embankment
Contractor: Chi Construction
Completed: December 2011
Final Cost: \$330,000

7 Route 15 Embankment Restoration
Contractor: International Bridge Corp.
Completed: March 2012
Final Cost: \$650,000

8 Route 2 Culverts & Slide Repair
Contractor: IMCO
Completed: February 2012
Final Cost: \$3.8M

9 Route 6A Murray Road, Maina-Nimitz Hill
Contractor: Rex International
Completed: April 2012
Final Cost: \$360,000

10 North Guam Signalization
Contractor: Bejess Enterprises Inc., GEMCCO
Completed: August 2012
Final Cost: \$1.1 M

11 Route 25 (Alageta Road)
Contractor: Guam Construction Co.
Completed: July 2012
Final Cost: \$7.4M

12 Route 16/GMF Post Office/ Army National Guard Intersection Signal Upgrade
Contractor: Maeda Pacific Corp.
Completed: July 2012
Final Cost: \$1.5M

13 Route 8/10/16 Tri Intersection
Contractor: Kinden Corporation
Completed: June 2012
Final Cost: \$5.1M

14 Rehabilitation of Route 4 Bridges (Talofofo & Togcha River)
Contractor: Black Construction
Completed: August 2012
Final Cost: \$4.0M

15 Route 7A Resurfacing
Contractor: Sumitomo Mitsui Const. Co.
Completed: December 2012
Final Cost: \$5.5M

16 Route 4 Resurfacing & Widening (McDonalds to Route 10)
Contractor: Hawaiian Rock Products
Completed: December 2012
Final Cost: \$16.6M

17 Route 17 Rehabilitation & Widening
Contractor: Sumitomo Mitsui
Completed: February 2013
Final Cost: \$6M

18 Route 11 Improvements & Traffic Enforcement Screening Station
Contractor: Core Tech International
Completed: May 2013
Final Cost: \$16.5M

19 Route 11 Shore Protection
Contractor: Core Tech International
Completed: April 2013
Final Cost: \$5.2M

20 Taleyfak Bridge Restoration
Completed: May 2013
Contractor: Rex International
Final Cost: \$9M

21 Route 4 Resurfacing & Widening (Ylig Bridge to Pago Bay)
Contractor: Nippo Corporation
Completed: June 2013
Final Cost: \$3.8M

22 Ylig Bridge Replacement
Contractor: Smithbridge Guam, Inc.
Completed: May 2014
Cost: \$8.1M

23 Asan & Aguada Bridges Rehabilitation
Contractor: Maeda Pacific Corporation
Completed: October 2014
Final Cost: \$880,000

24 Route 4, Togcha to Ipan Beach Park
Contractor: Nippo Corporation
Completed: October 2014
Final Cost: \$835,000

25 Route 4 Agfayan Bridge
Contractor: Black Construction
Completed: April 2015
Final Cost: \$4.5M

26 Inarajan North Leg (As-Misa)
Contractor: IMCO
Completed: June 2015
Final Cost: \$1.2M

27 Route 20, Maga Haga Highway
Contractor: IMCO
Completed: June 2015
Final Cost: \$7.4M

28 Route 17 Rehabilitation & Widening Phase 2A
Contractor: Nippo Corporation
Completed: November 2015
Final Cost: \$2.7M

29 Replacement of Welded Petroleum Distribution Piping & Appurtenances
Contractor: Rex International
Completed: November 2015
Cost: \$1.5 M

30 Route 1 Resurfacing (Yigo - Asan/Piti)
Contractor: Nippo Corporation
Completed: November 2015
Final Cost: \$773,155

31 Route 25/26 Intersection Improvement
Contractor: Korando Corporation
Completed: June 2016
Final Cost: \$2.9M

32 Route 1 Signalized Pedestrian Crossing at Chamorro Village
Contractor: Maeda Pacific
Completed: June 2016
Final Cost: \$201,400

33 Route 27 (Hamburger Road) Pavement Rehabilitation (Maintenance)
Contractor: DPW and Hawaiian Rock Products
Completed: June 2017
Final Cost: \$446,042

34 Route 26 Pavement Rehabilitation (Maintenance)
Contractor: DPW & Hawaiian Rock Products
Completed: August 2017
Final Cost: \$288,854

35 Route 4 (Umatac) Pavement Rehabilitation (Maintenance)
Contractor: DPW & Hawaiian Rock Products
Completed: November 2017
Final Cost: \$601,655

36 Route 4 Spot Repair Work (Maintenance)
Contractor: DPW & Hawaiian Rock Products
Completed: April 2016
Final Cost: \$82,542

37 Sgt. Roy T. Damian Road Spot Repair Work (Maintenance)
Contractor: DPW & Hawaiian Rock Products
Completed: December 2015
Final Cost: \$89,039

38 Resurfacing of Chalan Lumasu (Chalan Guagua to Route 3), (Maintenance)
Contractor: Hawaiian Rock Products
Completed: October 2015
Final Cost: \$186,935

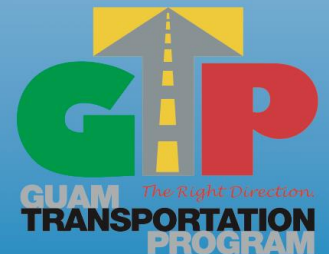
39 Chalan Balako Resurfacing (Maintenance)
Contractor: DPW & Hawaiian Rock Products
Completed: March 2017
Final Cost: \$201,139

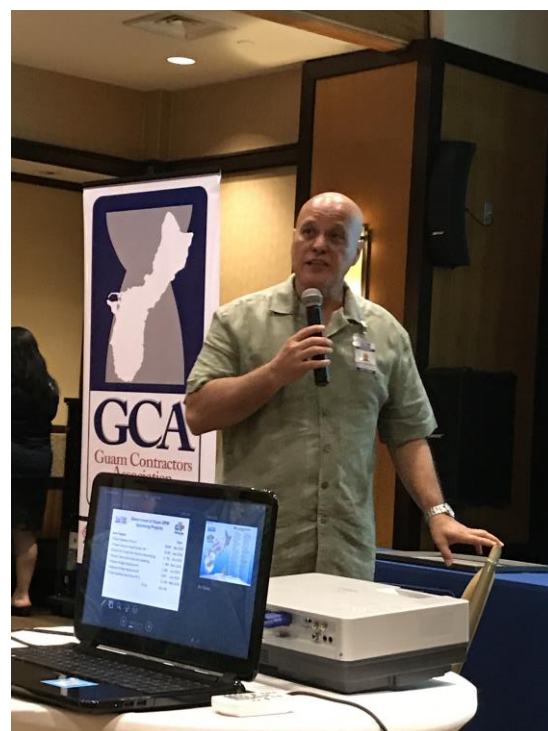
40 Flood Mitigation of Lot 6-1, Block 2, Barrigada, Route 8, Design-Build (Maintenance)
Contractor: ProPacific Builder Corporation
Completed: January 2018
Final Cost: \$108,985

41 Route 16 Pavement Markings Restoration (Route 1 to Tri-Intersection), (Maintenance)
Contractor: DPW - HMC
Completed: February 2018
Final Cost: \$34,450

42 Route 3 Pavement Markings Restoration, GRMC to Y-Sengsong, (Maintenance)
Contractor: DPW - HMC
Completed: December 2017
Final Cost: \$19,650

43 Gill Baza Access Road, Paving & Markings (Maintenance)
Contractor: NIPPO
Completed: July 2012
Final Cost: \$210,202





TESS Weigh Station



Aplacho
Bridge

Bile/Pigua Bridge
Construction



As Misa Bridge

Design Innovations Being Advanced by DPW



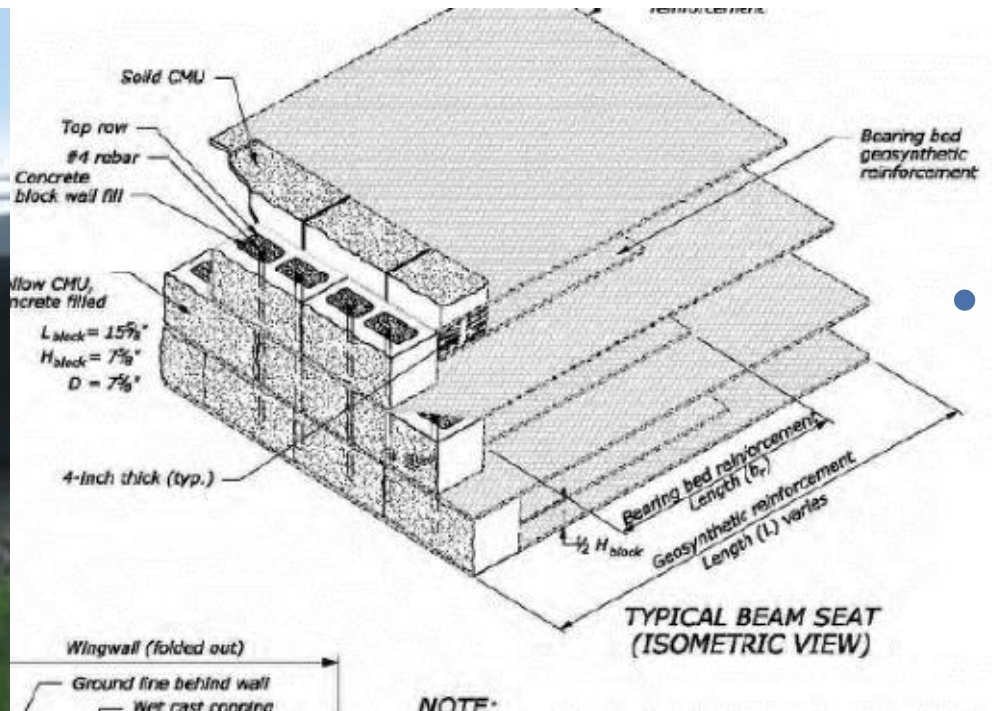
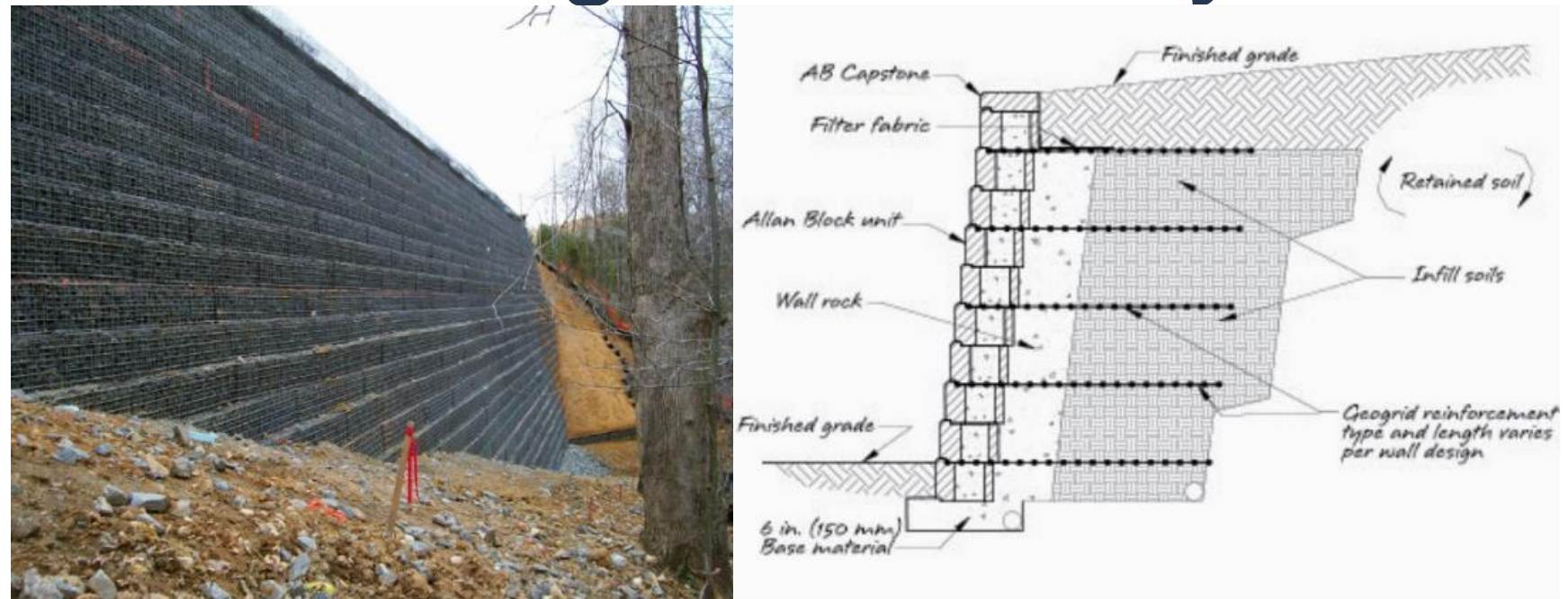
- **Cement Treated Base**

- **Grouted Rock Nail Wall for rock cut**

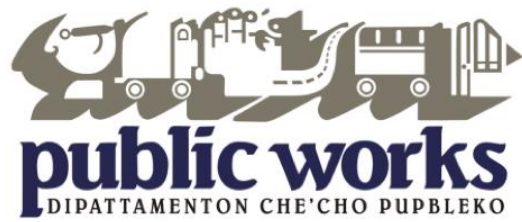


Design Innovations Being Advanced by DPW

- Mechanical Stabilized Earth (MSE) Retaining Wall



- Geosynthetic Reinforced Soil (GRS) Integrated Bridge System



Questions and Comments



Thank You &
Si Yu'os Ma'ase!