

PMOC MONTHLY REPORT

Honolulu Rail Transit Project

City and County of Honolulu
Honolulu Authority for Rapid Transportation (HART)
Honolulu, HI

February 2018 (FINAL)

PMOC Contract Number: DTFT60-14-D-00012

Task Order No. 3: Honolulu Rail Transit Project

Project No: DC-27-5288

Work Order No. 4

OPs Referenced: OP 1 and 25

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Length of Time Assigned: Five Years (February 18, 2015 through February 17, 2020)

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1.0 EXECUTIVE SUMMARY

1.1 Project Description

- **General Description:** The Project is a 20-mile-long elevated fixed guideway rail system along Oahu’s south shore between East Kapolei and Ala Moana Center. The Project will include 21 stations. The alignment is elevated, except for a 0.6-mile at-grade portion at the Leeward Community College station. The Project is planned to be delivered in four guideway segments.
 - Segment I (West Oahu/Farrington Highway) – East Kapolei to Pearl Highlands (7 miles/6 stations)
 - Segment II (Kamehameha Highway) – Pearl Highlands to Aloha Stadium (4 miles/3 stations)
 - Segment III (Airport) – Aloha Stadium to Middle Street (5 miles/4 stations)
 - Segment IV (City Center) – Middle Street to Ala Moana Center (4 miles/8 stations)
- **Length:** 20 miles
- **No. of Stations:** 21
- **Additional Facilities:** Maintenance and Storage Facility and parking facilities
- **Vehicles:** 80 vehicles
- **FFGA Ridership Forecast:** Weekday boardings – 104,300 (2020); 119,600 (2030)

1.2 Project Status

- HART submitted their updated Recovery Plan on September 15, 2017. On December 21, 2017 HART submitted an updated Estimate at Completion and Master Program Schedule (MPS) to support the Recovery Plan.
- Project progress as reported by HART against the current Estimate-at-Completion (EAC) and target Revenue Service Date (RSD) is:

Project Progress	Reported Completion	Planned Completion*
Overall	44.4%	52.4%
Design	67.8%	68.1%
Construction	39.5%	47.3%

*Based on HART’s S-curve late plan dated December 2017.

- Section 2.1.2 and Appendix B of this report provide the status of the current design and construction contracts. The following table provides the summary level status of the active primary construction contracts taken from HART’s Monthly Report:

Description	% Complete (As of 01/11/18)		Schedule Status ¹
	Actual (Weighted Value)	Late Plan	
West Oahu /Farrington Highway (WOFH) DB Contract	99.4%	100%	Substantial Completion Mar 2017 ²
Kamehameha Highway Guideway (KHG) DB Contract	99.7%	100%	Substantial Completion Sep 2017 ²
Airport Section Guideway and Stations (AGS) DB Contract	17.4%	20.9%	TBD ³
West Oahu Station Group Construction Contract (WOSG)	39.1%	98.8%	13-month delay
Farrington Highway Station Group Construction Contract (FHSG)	50.8%	98.4%	13-month delay
Kamehameha Stations Group Construction Contract (KHSG)	15.9%	35.6%	3-month delay
Ramp H2R2	99.0%	100%	3-month delay
Core Systems Design-Build-Operate-Maintain (DBOM) Contract (CSC)	46.4%	87.5%	On time ⁴
Elevators and Escalators	13.6%	TBD	TBD ⁵
Fare Collection System	14.9%	TBD	TBD ⁵

¹Delays identified are from current contract completion date.

²KIWC indicated project substantial completion has been achieved, but HART disagrees due to unresolved issues. This issue has been elevated to the executive level.

³Project status can be determined after the full Baseline Project Schedule is approved.

⁴Based on draft re-baseline Rev K. schedule.

⁵Contract schedule is to be re-baselined to incorporate new milestone dates

1.3 Core Accountability Items

The Estimate-at-Completion (EAC) and percentage complete shown below are based on data provided by HART.

Project Status: FFGA		Original at FFGA	HART Current Estimate ²
Cost	Cost Estimate	\$5,122,000,000	\$8,749,000,000
Contingency	Unallocated Contingency	\$101,900,000	\$82,000,000
	Total Contingency (Allocated plus Unallocated)	\$643,600,000	\$862,000,000
Schedule	Revenue Service Date (RSD)	1/31/2020	12/2025
HART Total Project Percent Complete	Based on Expenditures ¹	No longer valid	41.7%
	Based on Earned Value ¹	Not calculated	Not calculated

¹Earned Value is not being calculated for this project. HART utilizes a weighted calculation to report progress.

²HART's current EAC and RSD as presented on December 21, 2017. This EAC includes \$584 million in finance costs.

Major Issues	Status	Comments/Planned Action
Cost Increase & Schedule Delays	HART's EAC for full build-out of the project is \$8.2 billion, including \$862 million in contingency but excluding finance costs. HART's estimated RSD is December 2025 and includes approximately twelve months of contingency.	HART submitted their updated Recovery Plan on September 15, 2017. On December 21, 2017 HART submitted an updated Estimate at Completion and Master Program Schedule (MPS) to support the Recovery Plan. This information is under review by the FTA and PMOC.
Post-Record of Decision (ROD) Changes	HART is considering several proposed design changes that may require additional environmental review.	FTA and HART hold bi-weekly meetings to discuss the status of any potential changes. HART has submitted or will submit information on each proposed change for FTA to determine the level of documentation required to assess impacts and subsequent mitigation measures.
Hawaii Electric Company (HECO)	50-foot clearance requirement for facility maintenance including pole replacement	See PMOC Monthly Report Section 1.4 for status.
Management Capacity and Capability	HART has experienced significant turnover of key management staff since the start of this project.	HART has addressed Management Capacity and Capability in the Recovery Plan and DRAFT update of the Project Management Plan.
Next Quarterly Meeting:	To be determined	

1.4 Major Issues or Concerns

- On December 21, 2017 HART submitted an updated Estimate at Completion (EAC) and Master Program Schedule (MPS) to support the Recovery Plan:
 - In the September 2017 Recovery Plan, the EAC was \$8.749 billion, including \$1.1 billion in allocated and unallocated contingency and \$584 million in financing costs. The Revenue Service Date (RSD) was December 2025 with 12 months of contingency.
 - The December 21, 2017 submission identifies the current EAC as \$8.749 billion, including \$862 million in allocated and unallocated contingency and \$584 million in financing costs. The Revenue Service Date (RSD) remains at December 2025 with 13 months of contingency.
 - It should be noted that the finance costs listed above do not include an additional \$271 million in post-RSD finance charges that are not eligible for federal participation. This brings the total finance costs to \$855 million.
 - HART intends to implement an interim opening from East Kapolei Station to Aloha Stadium Station in 2020.
 - HART is considering various options including Public-Private Partnership (P3) for the City Center Guideway and Stations (CCGS). The updated EAC and MPS that was submitted in December 2017 are based on Design-Build (DB) contracting methodology to complete CCGS. The PMOC's review assumes DB will be utilized for CCGS as planned.
 - A Risk Refresh Workshop was held on February 27, 2018. The results of the risk refresh review will be available in early April 2018.
- The FTA and PMOC have recommended that HART consider performing a Technical Peer Review for the remaining contracts to identify opportunities to contain costs and

mitigate risks. HART indicated that they would hold a second Peer Review that would primarily focus on the AGS, CCGS, and CSC contracts. HART has not indicated when this Peer Review would occur. The Peer Review should be completed prior to any restart of the CCGS procurement.

- Hawaiian Electric Company (HECO) Horizontal Working Clearances Analysis –
 - West Oahu/ Farrington Highway (WOFH) and Kamehameha Highway (KHG) Segments – HECO has indicated that alternative equipment will mitigate the need to move the majority of the 46kV and 138kV lines. However, approximately 1.5 miles of 138kV lines along WOFH and KHG must be under-grounded because the working clearance is insufficient with the alternative equipment. HART intends to complete this work using design-bid-build (DBB). The procurement documents for the design consultant are being prepared. It is anticipated that the design work could take two years. The duration for the construction work has not been determined. However, it is anticipated construction would begin after the start of Interim Revenue Service in 2020. HART has acknowledged that utility work must be carefully designed and coordinated so as to not affect train operations. HART has indicated that costs for this work have been included in the EAC.
 - HART does not have signed agreements with HECO to perform the work related to relocation of overhead transmission and distribution lines. HART and HECO executive management have been meeting to discuss the scope and methodology of relocation. HECO has indicated that HART’s contractors must perform the relocation work for the 138KV lines due to timing and availability of HECO crews. Agreements are pending although HART will bear all costs of the relocations. The PMOC strongly recommends that HART obtain signed agreements with HECO before any work is performed by HART’s contractors.
- Operations and Maintenance –
 - DTS has been provided no budget to add staff in FY 2018 (July 1, 2017 to June 30, 2018).
 - It is anticipated that DTS will be provided budget to add four full-time staff in FY 2019 (July 1, 2018 to June 30, 2019). This is critical with the Interim Opening now scheduled for 2020 and the effort that will be needed to develop an agency sufficiently to support pre-revenue testing and revenue operations.
 - HART and DTS must resolve numerous issues before a detailed Operations and Maintenance budget can be properly developed. This includes development of a detailed plan for the pre-revenue testing and revenue operations. This should be a priority for HART and DTS given the anticipated start if interim operations in 2020.
 - HART and DTS have been coordinating on the development of a roadmap for Operations and Maintenance. However, no formal decision has been made on the structure of the new organization. Development of a roadmap is critical and should be made a priority. It is recommended that the roadmap be available during the first quarter of 2018.

- Management Capacity and Capability – HART has experienced significant turnover of key management staff since the start of this project. The following table provides the status of open key positions:

Position	Status
Deputy Executive Director	Position open; Executive Director is considering options for this position
Grants Manager	Candidate identified with start date pending
Real Estate Manager	Candidate identified with start date pending
Cost Analyst	New position
Director of Core Systems & Activation	Bob Good started in February 2018

- Former Interim Executive Director will remain involved with the project as a Special Advisor into 2018.
- The PMOC recommends that HART implement an independent claims management group. Currently, they have two on-call consultants and some in-house resources (technical and Corporation Counsel). However, it is anticipated that these resources will not be sufficient to address all potential issues that may arise on this project.
- HART addressed Management Capacity and Capability in the updated DRAFT Project Management Plan, which was provided in November 2017. The PMOC provided review comments in December 2017.
- Executive Management is reviewing the organizational structure in an effort to optimize and streamline the agency. However, the most recent update of the PMP does not fully address this review. The PMP may require additional updates to reflect any changes.

2.0 BODY OF REPORT

2.1 Project Status

Project progress as reported by HART against the current Estimate-at-Completion (EAC) and target Revenue Service Date (RSD) is:

Project Progress	Reported Completion	Planned Completion*
Overall	44.4%	52.4%
Design	67.8%	68.1%
Construction	39.5%	47.3%

*Based on HART's S-curve late plan dated December 2017.

Section 2.1.2 and Appendix B of this report provide the status of the current design and construction contracts.

2.1.1 Status of Procurement

- City Center Guideway and Stations DB Contract (CCGS) – HART intends to advertise in April 2018, and the NTP would be issued October 2019. These dates could change if P3 is utilized.
- City Center Utilities and Roadway (CCUR) – Proposals were received February 23, 2018. NTP is anticipated to be issued in April 2018. This will be an IDIQ unit price contract with work being completed under Task Orders. HART intends to award only one contract.
- Engineering Design and Design Review Services Contract – Pursuant to a solicitation, HART has qualified and ranked offerors to enter into negotiations to support third party government agencies for the AGS and CCGS segments. Award is anticipated in July 2018.
- Design Services for 138 KV Underground at KHG – Proposals were received on August 2, 2017. NTP is pending.
- On-Call Hazardous Materials Assessment – Contract was awarded to CH2M Hill, Inc. NTP was issued on February 23, 2018.
- KHG Civil Work Design – Sole source was approved for the Engineer-of- Record, who designed the work under the KHG Design-Build contract, to provide repackaging of the design for a DBB solicitation and design support during construction. NTP was issued January 16, 2018.

2.1.2 Status of Primary Construction Contracts

- West Oahu/Farrington Highway (WOFH) Design-Build (DB) Contract –
 - Contract is approximately 99.4% complete. Late Plan completion is approximately 100%.
 - Closeout of the contract cannot occur until all major unresolved work has been satisfactorily completed, including but not limited to, the tendon issue.
 - HART and KIWC are continuing discussions to resolve all open issues.

- Kamehameha Highway Guideway (KHG) DB Contract –
 - Contract is approximately 99.7% complete. Late Plan completion is 100%.
 - The current substantial completion is September 30, 2017.
- Airport Guideway and Stations (AGS) DB Contract -
 - Contract is approximately 17.4% complete. Late Plan completion is 20.9%.
 - Full Baseline Project Schedule (BPS) Revision C was rejected since it lacked proper resource loading. HART has indicated that a fully compliant BPS is expected in late January or February 2018.
 - Production shafts and column construction have begun.
 - Pre-casting is to begin in the next few months.
- West Oahu Station Group Construction Contract –
 - Contract is approximately 39.1% complete. Late Plan completion is approximately 98.8%.
 - The schedule updates indicate the contract is behind 13 months. Time Impact Analyses (TIA) are being reviewed and will address delays incurred to date.
 - HART is working with the contractor to determine mitigation strategies and to identify CSC station access dates.
 - Issues have been identified with conduit installation that impacts CSC and fare equipment contractor.
- Farrington Highway Station Group Construction Contract –
 - Contract is approximately 50.8% complete. Late Plan completion is approximately 98.4%.
 - The schedule updates indicate the work is behind 13 months. HART accepted the re-baseline schedule and meets weekly with HDCC to keep the working schedule current.
 - HART is working with the contractor to determine mitigation strategies and to identify CSC station access dates.
- Kamehameha Stations Group Construction Contract –
 - Contract is approximately 15.9% complete. Late Plan completion is approximately 35.6%.
 - The work is behind 3 months from the current contract completion date.
 - HART is working with the contractor to determine mitigation strategies and to identify CSC station access dates.
- Elevators and Escalators Manufacture-Install-Maintain Contract –
 - Contract is approximately 13.6% complete. Late Plan completion is to be determined pending a determination of access dates.
 - A revised baseline schedule will need to be prepared at a later date once the DB contracts for the east portion of the guideway are awarded.
- Fare Collection System Contract –
 - Contract is approximately 14.9% complete. Late Plan completion is to be determined pending a determination of access dates.
 - The baseline schedule has been approved.

2.1.3 Status of Core Systems Contract

- Contract is approximately 46.4% complete. Late Plan completion is approximately 87.5%.
- Most design is complete with exception of Communications, which is delayed. Lack of resources within AHJV and its communications subcontractor have contributed to the design delay. AHJV has informed HART that additional resources are being sought out to aid in the physical design.
- Schedule – AHJV has submitted a revised baseline schedule (Rev K) to address the interim opening only based upon the HART supplied May 2017 construction access milestone (CAM) dates. HART returned the schedule with a disposition of revise and resubmit.
- AHJV has included an impact analysis that indicates \$139 million in costs due to delay to interim opening. HART is looking at various options to mitigate delay (e.g. demobilization/remobilization, negotiating interim opening only, negotiating full opening, de-scope).
- Construction –
 - CSC yard construction work at the MSF is ongoing with communication equipment and ATC equipment.
 - Continued installation of Train Control wayside equipment on the guideway.
 - Platform Screen Gate (PSG) installation is to begin in April 2018.
- LRVs –
 - Frames – Carshell fabrication has resumed since AHJV has completed their root cause analysis of the aluminum extrusion issue. HART will closely monitor this work to ensure there are no issues with the extrusions.
 - LRV 3 will arrive in April 2018. One LRV per month will be delivered thereafter until mid-2019.
 - HART will perform interim Buy America Audit in 2Q18.
- Dynamic Testing –
 - Informal dynamic testing began on October 6, 2017 with propulsion tests. Formal testing is scheduled to begin in April 2018 and will continue for approximately six months on a two-mile section of the WOFH guideway.
 - HART implemented a Car Readiness Review Board to ensure that all critical information is provided to HART.
- AHJV has several critical positions that are staffed by offsite personnel or are open (and filled on an interim basis). HART has asked AHJV for target dates to fill all positions with permanent onsite staff.
 - O&M Director – Candidate identified
 - O&M Engineer – Temporarily on site from Italy
 - O&M Safety Manager – Open
 - O&M Quality Manager – Offsite
 - Safety and Security Certification Manager – Offsite
 - Public Information Manager – Open
 - Construction Manager – Open

2.1.4 Real Estate Acquisition

- Budget – HART has updated the real estate EAC to reflect potential for significant cost increases for key parcels in City Center and multiple easements associated with HECO undergrounding.
- Lee Property – Lee parcel has not been remediated by the terms of court settlement. HART notified the owner they have 60 days to file a remediation plan with Hawaii Department of Health to remediate the original contamination. If no action is taken within 60 days, HART will notify the court. HART may complete the cleanup and back charge the owner.
- International Express – Relocation dispute is still not settled. HART is considering deferral of construction of Lagoon Drive Station. They are coordinating with the AGS contractor to mitigate any impacts to the schedule.
- HART sent a letter to the FTA and the Office of the Inspector General dated February 22, 2018 that stated HART had “discovered facts and circumstances that cause it to believe that HART may have paid relocation expenses in excess of what is allowable under the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended, 42 U.S.C. § 4601 et. seq. ("URA") and that HART has sought and received reimbursements in federal funding from the FTA for such payments.” HART intends to work with FTA to undertake appropriate corrective actions. This includes offsetting the full amount of the FTA relocation reimbursements to date, which is \$3.8 million.
- Howard Hughes – Howard Hughes parcels are likely headed for condemnation. There was a big spread between HART offer and the counteroffer by the owner.
- HECO – Design of the undergrounding 138kV line is ongoing and must be sufficiently developed to identify additional parcels that are needed. Up to 100 new parcels may be needed due to the HECO agreement. HART is proposing to acquire easements using FTA/project funds then transfer the easements to HECO. The parcels will need to be acquired by HART since condemnation may be needed, and the agreement with HECO requires HART to provide the new right of way. HART is looking at alternatives and will discuss with FTA if it appears that a disposition of project assets will be necessary.
- Blood Bank of Hawaii Inc. – Owner is demanding a total take of their existing facility and full relocation payments to move. HART has refused as the taking is minor. HART filed condemnation in May 2017.
- Relocations – Nearly all relocation parcels are completed with only nine unresolved. HART real estate, construction management and project controls staff meet regularly to update the status of acquisitions and relocations to determine their potential impact on the MPS.

2.1.5 Third Party Agreements and Coordination

Appendix F includes a table with the status of all pending third party agreements.

2.1.6 Utilities

Following are updates related to Hawaiian Electric Company (HECO):

- HECO has a collective bargaining agreement that has different wage scales and allows payment to its labor forces biweekly, which is pending a finding whether HECO wage scales are subject to Davis-Bacon. HECO wage scales do not conform to Davis-Bacon. HECO has requested a waiver that has so far been denied by the United States Department of Labor (DOL), although HECO has appealed. HECO and HART are still awaiting a final decision from the DOL.
- HECO 46kV Substation near MSF area – HECO indicated a need in the 2018/2019 timeframe for a new 46kV substation to feed the MSF area due to requirements in HECO Rule 13 for line extensions and substations.
- Hawaiian Electric Company (HECO) Horizontal Working Clearances Analysis –
 - West Oahu/ Farrington Highway (WOFH) and Kamehameha Highway (KHG) Segments – HECO has indicated that alternative equipment will mitigate the need to move the majority of the 46kV and 138kV lines. However, approximately 1.5 miles of 138kV lines along WOFH and KHG must be under-grounded because the working clearance is insufficient with the alternative equipment. HART intends to complete this work using design-bid-build (DBB). The procurement documents for the design consultant are being prepared. It is anticipated that the design work could take two years. The duration for the construction work has not been determined. However, it is anticipated construction would begin after the start of Interim Revenue Service in December 2020. HART has acknowledged that utility work must be carefully designed and coordinated so as to not affect train operations. HART has indicated that costs for this work have been included in the EAC.
 - HART does not have signed agreements with HECO to perform the work related to relocation of overhead transmission and distribution lines. HART and HECO executive management have been meeting to discuss the scope and methodology of relocation. HECO has indicated that HART’s contractors must perform the relocation work for the 138KV lines due to timing and availability of HECO crews. Agreements are pending although HART will bear all costs of the relocations. The PMOC strongly recommends that HART obtain signed agreements with HECO before any work is performed by HART’s contractors.

2.1.7 Environmental Mitigation Measures

- Proposed Design Changes/Refinement – HART is considering several proposed design refinements that may require additional environmental review. FTA and HART hold meetings, as needed, to discuss the status of any potential changes. HART has submitted or will submit information on each proposed change for FTA to determine the level of documentation required to assess impacts and subsequent mitigation measures:
 - City Center Casting Yard – Pending FTA comments on Over-the-Shoulder draft version of Post-ROD and State Historic Preservation Division (SHPD) concurrence letter of no adverse effect.
 - Emergency Generators – Pending FTA review of Over-the-Shoulder draft that was revised to include required additional noise and vibration analysis.
 - 138kV Undergrounding – HART is awaiting identification of ROW parcels that will be required.

- Antennae Relocation – FCC approved Environmental Assessment (EA)/Finding of No Significant Impact (FONSI) in July 2017 for the Keehi Interchange location. The Keehi Interchange location is active as of August 18, 2017. The FCC is requiring an EA be completed for the Nimitz Highway Tower Relocation, which is scheduled to be in place by the end of 2018.

2.2 Project Management Plan (PMP) and Sub-Plans

HART is in the process of updating key management plans. These updates are necessary due to HART organizational changes and the contract packaging changes that are being implemented. It is critical for HART to update these plans and procedures soon. Following is the status of all management plans:

Plan	Rev.	Date Approved	Status
Before-and-After Study Plan	0.0	January 4, 2018	Approved/Baselined
Bus Fleet Management Plan (BFMP)	4.0	January 4, 2018	Approved/Baselined
Buy America Plan (BAP)	2.0	December 6, 2017	Approved/Baselined
CADD Procedures	1.0	August 4, 2015	Approved/Baselined
Configuration Management Plan (CFMP)	3.0	—	Under Review
Construction Management Plan (CMP)	3.0	December 11, 2017	Approved/Baselined
Construction Safety and Security Plan (CSSP)	4.0	December 7, 2017	Approved/Baselined
Contract Packaging Plan (CPP)	5.0	December 13, 2017	Approved/Baselined
Force Account Plan	2.0	December 7, 2017	Approved/Baselined
HART Procurement Manual	0.0	December 13, 2017	Approved/Baselined
Interface Management Plan (IMP)	3.0	January 12, 2018	Approved/Baselined
Mitigation Monitoring Plan (MMP)	2.0	January 4, 2018	Approved/Baselined
Operation and Management Plan (OMP)	1.0	—	Under Review
Preliminary Hazard Analysis (PHA)	3.0	December 7, 2017	Approved/Baselined
Project Financial Plan (PFP)	1.0	—	Under Review
Project Management Plan (PMP)	6.0	—	PMOC comments provided in December 2017; update will be available in February 2018
Public Involvement Plan (PIP)	1.0	December 6, 2017	Approved/Baselined
Quality Management Plan (QMP)	3.0	—	Under Review
Rail Activation Plan	1.0	January 4, 2018	Approved/Baselined
Rail Fleet Management Plan (RFMP)	1.0	December 11, 2017	Approved/Baselined
Real Estate Acquisition Management Plan (RAMP)	7.0	—	Update to be submitted in March 2018
Risk and Contingency Management Plan (RCMP)	2.0	—	PMOC comments provided in January 2018; update will be available in March 2018
Safety and Security Certification Plan (SSCP)	6.0	January 11, 2018	Approved/Baselined
Safety and Security Management Plan (SSMP)	7.0	—	Under Review
Sensitive Safety Information Plan	1.0	December 13, 2017	Approved/Baselined
Staffing and Succession Plan	6.0	—	Under Review
System Integration and Test Plan (SITP)	1.0	December 7, 2017	Approved/Baselined

2.3 Management Capacity and Capability (MCC)

HART has experienced significant turnover of key management staff. The following table provides the status of open key positions:

Position	Status
Deputy Executive Director	Position open; Executive Director is considering options for this position
Grants Manager	Candidate identified with start date pending
Real Estate Manager	Candidate identified with start date pending
Cost Analyst	New position

- Former Interim Executive Director will remain involved with the project as a Special Advisor into 2018.
- The PMOC recommends that HART implement an independent claims management group. Currently, they have two on-call consultants and some in-house resources (technical and Corporation Counsel). However, it is anticipated that these resources will not be sufficient to address all potential issues that may arise on this project.
- HART addressed Management Capacity and Capability in the updated DRAFT Project Management Plan, which was provided in November 2017. The PMOC provided review comments in December 2017.
- Executive Management is reviewing the organizational structure in an effort to optimize and streamline the agency. However, the most recent update of the PMP does not fully address this review. The PMP may require additional updates to reflect any changes.

2.4 Project Cost

The FFGA Project Budget is \$5.122 billion in Year-of-Expenditure (YOE) dollars, including \$644 million in allocated and unallocated contingency and \$173 million financing costs.

In the September 2017 Recovery Plan, the EAC was \$8.749 billion, including \$1.1 billion in allocated and unallocated contingency and \$584 million in financing costs. The Revenue Service Date (RSD) was December 2025 with 12 months of contingency.

The December 21, 2017 submission identifies the current EAC as \$8.749 billion, including \$862 million in allocated and unallocated contingency and \$584 million in financing costs. The Revenue Service Date (RSD) remains at December 2025 with 13 months of contingency.

It should be noted that the finance costs listed above do not include an additional \$271 million in post-RSD finance charges that are not eligible for federal participation. This brings the total finance costs to \$855 million.

The following table provides a comparison of the FFGA budget and the Recovery Plan budget by Standard Cost Category (SCC).

SCC	Description	FFGA	Recovery Plan	Recovery Plan
			September 2017	December 2017
			(\$M)	
10	Guideway & Track Elements	\$1,275	\$1,696	\$1,720
20	Stations, Stops, Terminals, Intermodal	\$506	\$917	\$922
30	Support Facilities: Yards, Shops, Admin. Bldgs.	\$99	\$120	\$120
40	Sitework & Special Conditions	\$1,104	\$2,181	\$2,069
50	Systems	\$247	\$324	\$324
60	ROW, Land, Existing Improvements	\$222	\$264	\$364
70	Vehicles	\$209	\$212	\$212
80	Professional Services	\$1,184	\$2,178	\$2,355
90	Unallocated Contingency	\$102	\$274	\$79
100	Finance Charges*	\$173	\$584	\$584
	TOTAL	\$5,122	\$8,749	\$8,749

*Finance Charges do not include an additional \$271 million in post-RSD finance charges that are not eligible for federal participation.

HART hired Ernst & Young as a subconsultant under the PMSC (HDR) contract to assist with evaluating market sounding and feasibility of P3 options. Target for completion of the market sounding/feasibility study of P3 options is late March 2018. It is unclear at this time what P3 options may be considered. If HART determines implementing P3 would be beneficial to the project, it could result in some cost savings and contingency replenishment. However, it could adversely impact the full RSD.

The updated EAC that was submitted in December 2017 is based on Design-Build (DB) contracting methodology to complete CCGS. The PMOC's review assumes DB will be utilized for CCGS as planned.

The Total Expenditures to Date are \$3.047 billion (through December 2017). The following table presents the FFGA budget and expenditures to date. The EAC for each Standard Cost Categories (SCC) will be provided once HART formally re-baselines the budget.

SCC	SCC Description	FFGA Budget	Base Cost	Allocated Cont.	Incurred
10	GUIDEWAY & TRACK ELEMENTS	1,275,328,962	1,114,305,144	161,023,818	589,944,753
10.02	Guideway: At-grade semi-exclusive	0	0	0	17,378
10.04	Guideway: Aerial structure	1,175,328,184	1,022,380,670	152,947,514	499,600,062
10.05	Guideway: Built-up fill	0	0	0	5,054,744
10.06	Guideway: Underground Cut & Cover	0	0	0	
10.08	Guideway: Retained cut or fill	8,077,393	7,492,943	584,450	0
10.09	Track: Direct fixation	86,332,027	79,437,204	6,894,823	81,347,320
10.11	Track: Ballasted	3,550,634	3,293,724	256,910	2,394,373
10.12	Track: Special (switches, turnouts)	2,040,724	1,700,603	340,121	1,530,876
20	STATIONS, STOPS, TERMINALS, INTERMODA	506,165,689	421,804,742	84,360,947	72,123,047
20.01	At-grade station, stop, shelter, mall, terminal, platform	0	0	0	2,630,609
20.02	Aerial station, stop, shelter, mall, terminal, platform	353,476,148	294,563,457	58,912,691	59,786,291
20.06	Automobile parking multi-story structure	79,690,518	66,408,765	13,281,753	0
20.07	Elevators, escalators	65,665,424	54,721,187	10,944,237	9,706,147
30	SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS	99,425,456	92,535,013	6,890,443	120,036,063
30.01	Administration Building: Office, Sales	0	0	0	231,250
30.02	Light Maintenance Facility	8,161,279	7,591,887	569,392	7,582,704
30.03	Heavy Maintenance Facility	40,906,889	38,099,138	2,807,751	46,317,810
30.04	Storage or Maintenance of Way Building	8,382,270	7,797,460	584,810	8,892,739
30.05	Yard and Yard Track	41,975,018	39,046,528	2,928,490	57,011,560
40	SITework & SPECIAL CONDITIONS	1,103,867,264	980,569,426	123,297,838	792,660,775
40.01	Demolition, Clearing, Earthwork	34,695,802	29,980,157	4,715,645	21,950,216
40.02	Site Utilities, Utility Relocation	350,694,801	299,449,755	51,245,046	177,772,888
40.03	Haz. Mat'l, contam'd soil removal/mitigation, ground water treatments	7,228,935	6,590,542	638,393	7,029,970
40.04	Environmental mitigation, e.g. wetlands, historic/archeologic, parks	30,841,906	26,979,122	3,862,784	11,391,864
40.05	Site structures including retaining walls, sound walls	8,637,582	7,998,960	638,622	14,196,915
40.06	Pedestrian / bike access and accommodation, landscaping	48,262,816	41,073,897	7,188,919	1,826,292
40.07	Automobile, bus, van accessways including roads, parking lots	212,536,181	181,979,369	30,556,812	47,026,892
40.08	Temporary Facilities and other indirect costs during construction	410,969,241	386,517,624	24,451,617	511,465,738
80.07	Surveys, Testing, Investigation, Inspection	0	0	0	110,410,067
50	SYSTEMS	247,460,781	221,284,483	26,176,298	36,014,024
50.01	Train control and signals	91,492,532	81,982,556	9,509,976	98,000
50.02	Traffic signals and crossing protection	12,524,011	10,458,227	2,065,784	12,620,331
50.03	Traction power supply: substations	32,873,934	29,500,927	3,373,007	26,186,531
50.04	Traction power distribution: catenary and third rail	36,426,286	32,878,150	3,548,136	29,520,726
50.05	Communications	59,889,234	53,691,339	6,197,895	3,386,230
50.06	Fare collection system and equipment	10,221,753	9,159,277	1,062,476	2,584,225
50.07	Central Control	4,033,031	3,614,007	419,024	1,685,174,705
	Construction Subtotal (10 – 50)	3,232,248,152	2,830,498,808	401,749,344	589,944,753
60	ROW, LAND, EXISTING IMPROVEMENTS	222,188,386	197,397,947	24,790,439	156,022,719
60.01	Purchase or lease of real estate	201,658,907	179,360,664	22,298,243	136,843,002
60.02	Relocation of existing households and businesses	20,529,479	18,037,283	2,492,196	19,179,717
70	VEHICLES	208,501,186	186,829,020	21,672,166	77,552,208
70.02	Heavy Rail	186,061,066	166,721,385	19,339,681	65,169,384
70.05	Other	0	0	0	493,700
70.06	Non-revenue vehicles	16,011,166	14,346,923	1,664,243	11,889,124
70.07	Spare parts	6,428,954	5,760,712	668,242	0
80	PROFESSIONAL SERVICES	1,183,826,026	1,090,438,814	93,387,212	1,127,366,941
80.01	Preliminary Engineering	95,120,484	94,055,262	1,065,222	132,021,974
80.02	Final Design	257,934,908	228,321,632	29,613,276	239,993,752
80.03	Project Management for Design and Construction	385,825,694	366,458,463	19,367,231	428,050,093
80.04	Construction Administration & Management	218,155,752	199,656,728	18,499,024	145,528,205
80.05	Professional Liability and other Non-Construction Insurance	52,138,030	46,549,724	5,588,306	43,191,897
80.06	Legal; Permits; Review Fees by other agencies, cities, etc.	76,135,125	67,641,006	8,494,119	30,396,005
80.07	Surveys, Testing, Investigation, Inspection	24,955,327	21,759,335	3,195,992	61,982,602
80.08	Start up	73,560,706	65,996,664	7,564,042	46,202,413
90	Subtotal (10 – 80)	4,846,763,750	4,305,164,589	541,599,161	3,046,116,573
	UNALLOCATED CONTINGENCY	101,871,170	0	101,871,170	
100	Subtotal (10 – 90)	4,948,634,920	4,305,164,589	643,470,331	3,046,116,573
	FINANCE CHARGES	173,058,242			1,807,165
	Total Project Cost (10 – 100)	5,121,693,162	4,305,164,589	643,470,331	3,047,923,738

2.4.1 Contingency

The September 2017 Recovery Plan included \$1.1 billion in allocated and unallocated contingency. The December 21, 2017 submission includes \$862 million in allocated and unallocated contingency.

The available unallocated contingency as reported by HART for the past several months is as follows:

- August 2017 – \$196 million
- September 2017 – \$162 million
- October 2017 – \$79 million
- November 2017 – \$79 million
- December 2017 – \$82 million

2.4.2 Funding Sources

During a Special Session in September 2017, the State Legislature passed Act 1, which provides additional funding to the City and HART to complete the Project as originally scoped, a 20.1-mile and 21-station elevated rail transit system extending from East Kapolei to the Ala Moana Center. On Tuesday, September 5, 2017, the Governor of the State of Hawaii signed Act 1 into law which:

- Authorized an extension of the 0.5% General Excise Tax (GET) surcharge three (3) years from December 31, 2027, to December 31, 2030; and,
- Increased the state-wide Transient Accommodation Tax (TAT) by 1.0%, and dedicated the revenues from that increase to the capital costs of the Project.
- Decreased the State’s administrative share of GET from 10% to 1% effective September 5, 2017.

Subsequent to the State action, the City Council adopted Ordinance 17-48 in support of the funding language in the bill, and the Mayor signed the same on September 7, 2017.

2.5 Project Schedule

The Revenue Service Date (RSD) identified in the FFGA is January 31, 2020. The September 2017 Recovery Plan identified the RSD as December 2025 with 12 months of contingency. The December 21, 2017 identified the RSD as December 2025 with 13 months of contingency.

HART intends implement and interim opening from East Kapolei Station to Aloha Stadium Station in 2020.

A revised baseline schedule for the CSC DBOM has not been approved yet since HART cannot provide definitive dates for contract milestones and access dates for CCGS. Until these dates can be provided to the CSC, the contract schedule cannot be finalized, which also is key in assessing the critical path for the project.

The following is a look ahead for important activities associated with the Project:

Period: March 2018 – May 2018		
Activity	Responsibility	Date
Risk Refresh	FTA, HART and PMOC	February 26-28, 2018
Monthly Progress Meeting	FTA, HART and PMOC	March 14, 2018
Monthly Progress Meeting	FTA, HART and PMOC	April 11, 2018
Quarterly Meeting	FTA, HART and PMOC	TBD

2.6 Quality Assurance/Quality Control (QA/QC)

- WOFH Tendons – HART received a final technical report. The main concern is monitoring of structure to ensure there are no long-term impacts. HART intends to seek compensation from the contractor to cover costs for monitoring.
- LRV Underframe – On December 1, 2016, AHJV provided HART with a summary of material defect that was identified during ultrasound testing of welds. The defect is with an aluminum extrusion part that makes up the vehicle under carriage.
 - 8 of 27 frames require repair. AHJV has developed a procedure to replace the compromised structural members in the frames that have been fabricated. They have completed replacement of one frame.
 - AHJV started dynamic testing with LRV 1 prior to the replacement of the affected structural members. The frames were instrumented to confirm no excessive deflections or issues occur.
 - AHJV indicated a 30-year warranty could be provided on all affected carshells.

2.7 Safety and Security

- HART Design Conformance is progressing with the exception of a few CSC Design Criteria Conformance Checklists (DCCC). Construction Conformance Checklists are pending finalization of the construction checklists and the submission of construction submittals/test reports.
- The specification and testing conformance checklist verification effort lags behind construction completion percentage due to submittals being provided at the end of the project (e.g. test reports, O&M manuals, training, and as-built drawings).
- AHJV Safety and Security Certification Manager is onsite approximately 10 days once every 6 weeks. An interim plan proposed by AHJV to address gaps in coverage in meeting system safety requirements has been accepted. This issue will be ongoing and monitored by HART Safety and Security and CSC. The PMOC strongly recommends the AHJV Safety and Security Manager to be on site full time since dynamic testing has started.
- AHJV started vehicle testing on approximately two-mile section of the WOFH Guideway. Initial approval by HDOT SOA, and SSRC limited speed of train to 25 mph. However, AHJV requested and received approval from HART (via Executive Director) to operate at 55 mph. Although informal notification was provided to HDOT, HDOT has noted that operating at speeds greater than 25 mph may be considered a “violation” since that was the limit identified in the Vehicle Aluminum Extrusion Corrective Action Plan submitted to HDOT. HDOT has expressed concern that proper protocol for amending the

restriction and communicating with the SOA were not followed. HDOT and HART executive management met on this issue on November 17, 2017 with no resolution. A follow up meeting is to be scheduled.

- There was a “near miss” during brake testing of the LRV when station contractor personnel entered the trackway at the Waipahu Station. The incident was classified as a “near miss”, but HART indicated there was no imminent danger to contractor personnel. The track allocation process is under review since this was a direct failure of communication between HART, AHJV and the station contractor.
- HART provided DTS with an example RFP for security services. The example was also provided to the PMOC for review. The PMOC provided comments for consideration.
- HDOT SOA
 - Grant application has been approved by FTA for HDOT to receive funding.
 - HDOT SOA Consultant – HDOT awarded a contract to Transportation Research Associates. NTP was issued in December 2017.
 - HDOT indicated they will be submitting their final application for certification in 1Q18.

2.8 Buy America

- Ansaldo Honolulu Joint Venture (AHJV) has changed the truck supplier for the Light Rail Vehicles (LRV). AHJV submitted revised calculation that indicates 61.2% US content. AHJV previously reported 64% US content. HART intends to perform a post-delivery audit in early 2018.
- Ship America – HART has had discussions with MARAD regarding Ship America requirements. MARAD expressed concern because AHJV has not engaged US flag carriers. HART issued a letter to AHJV requiring action. AHJV responded via email, but HART was not satisfied with the response. However, MARAD has subsequently confirmed via an email to HART that AHJV has executed a contract with a US flag carrier. HART must continue to monitor AHJV to ensure all Ship America requirements are satisfied throughout the duration of the contract.

2.9 Operations & Maintenance (O&M)

- DTS has been provided no budget to add staff in FY 2018 (July 1, 2017 to June 30, 2018).
- It is anticipated that DTS will be provided budget to add four full-time staff in FY 2019 (July 1, 2018 to June 30, 2019). This is critical with the Interim Opening now scheduled for 2020 and the effort that will be needed to develop an agency sufficiently to support pre-revenue testing and revenue operations.
- HART and DTS must resolve numerous issues before a detailed Operations and Maintenance budget can be properly developed. This includes development of a detailed plan for the pre-revenue testing and revenue operations. This should be a priority for HART and DTS given the anticipated start if interim operations in 2020.
- HART and DTS have been coordinating on the development of a roadmap for Operations and Maintenance. However, no formal decision has been made on the structure of the

new organization. Development of a roadmap is critical and should be made a priority. It is recommended that the roadmap be available during the first quarter of 2018.

2.10 Project Risk

HART has developed a robust risk management program with support from its Program Management Consultant. They are using a bottoms-up risk modeling approach. The focus is primarily on construction contracts. PMOC has emphasized that HART must still focus on soft costs and ancillary contracts since they can impact overall cost and schedule.

HART submitted a FINAL DRAFT Risk and Contingency Management Plan (RCMP) in late November 2017. The PMOC provided comments in January 2018. HART update of RCMP is to be completed in March 2018.

A Risk Refresh Workshop was held on February 27, 2018. The results of the risk refresh review will be available in early April 2018.

2.11 Action Item Table

Item No.	Item	Responsible Party	Date Identified	Date Due	Date Completed	Status
1	Provide HECO agreements and 46KV/138KV reports	HART	Jun 2017	Mar 2018		Reports received; agreements pending
2	Develop O&M roadmap	HART	Oct 2017	Mar 2018		Open
3	Provide MOU and/or Interagency Agreement with GSA regarding courthouse	HART	Nov 2017	Feb 2018		Open
4	PMOC witnessing of Dynamic Testing	PMOC	Dec 2017	Mar 2018		Open
5	International Express conference call	PMOC	Jan 2018	Mar 2018		Open
6	Risk Refresh Workshop:					
	Forecast Backup for: - PMSC - GEC - CSC Consultant - HART	HART	Feb 2017	Mar 2018		Open
	Supporting detail for CCGS DB ICE	HART	Feb 2017	Mar 2018		Open
	Supporting detail for OCIP forecast	HART	Feb 2017	Mar 2018		Open
	Comprehensive Basis of Estimate	HART	Feb 2017	Mar 2018		Open
	Calculation supporting \$470M escalation in FTA SCC workbook	HART	Feb 2017	Mar 2018		Open
	SCC spreadsheet to match "Input Tab" (or CPP values)	HART	Feb 2017	Mar 2018		Open
7	Include written basis for all risk magnitudes identified in Risk Register	HART	Feb 2017	Apr 2018		Open
8	Update Milestones / Drawdown Curves	HART	Feb 2017	Mar 2018		Open
9	Develop detail for viable Secondary Mitigation strategies	HART	Feb 2017	Apr 2018		Open; HART and PMOC will coordinate to ensure proper level of detail is included
10	Baseline updated PMP and all companion documents	HART	Feb 2017	Apr 2018		Open

3.0 APPENDICES

Appendix A: Acronym List

AGS	▪ Airport Guideway and Stations
AHJV	▪ Ansaldo Honolulu Joint Venture
AIS	▪ Archeological Inventory Survey
ARRA	▪ American Recovery and Reinvestment Act
BAFO	▪ Best and Final Offer
BCE	▪ Base Cost Estimate
BFMP	▪ Bus Fleet Management Plan
CCGS	▪ City Center Guideway and Stations
CE&I	▪ Construction Engineering and Inspection
CMP	▪ Construction Management Plan
CPP	▪ Contract Packaging Plan
CROE	▪ Construction Right of Entry
CSC	▪ Core Systems Contract
CSL	▪ Cross-hole Sonic Logging
DAGS	▪ Department of Accounting & General Services
DB	▪ Design-Build
DBB	▪ Design-Bid-Build
DBOM	▪ Design-Build-Operate-Maintain
DCCA	▪ Department of Commerce and Consumer Affairs
DHHL	▪ Department of Hawaiian Home Lands
DLNR	▪ Department of Land and Natural Resources
DOL	▪ Department of Labor
EAC	▪ Estimate at Completion
EIS	▪ Environmental Impact Statement
FD	▪ Final Design
FEIS	▪ Final Environmental Impact Statement
FFGA	▪ Full Funding Grant Agreement
FHSG	▪ Farrington Highway Station Group
FPO	▪ Federal Preservation Officer
FTA	▪ Federal Transit Administration
FY	▪ Fiscal Year
GEC	▪ General Engineering Consultant
GET	▪ General Excise Tax
GSA	▪ General Services Administration
HART	▪ Honolulu Authority for Rapid Transportation
HDOT	▪ Hawaii Department of Transportation
HECO	▪ Hawaiian Electric Company
IFB	▪ Invitation to Bid
KHG	▪ Kamehameha Highway Guideway
KHSG	▪ Kamehameha Highway Stations Group
KIWC	▪ Kiewit Infrastructure West Company
KKJV	▪ Kiewit Kobayashi Joint Venture
LCC	▪ Leeward Community College
LRV	▪ Light Rail Vehicle
MCC	▪ Management Capacity and Capability
MMP	▪ Mitigation Monitoring Program
MOU	▪ Memorandum of Understanding
MOW	▪ Maintenance of Way
MPS	▪ Master Project Schedule
MSF	▪ Maintenance and Storage Facility
NCR	▪ Non-Compliance Report

NEPA	▪ National Environmental Policy Act
NTP	▪ Notice to Proceed
O&M	▪ Operations & Maintenance
OCIP	▪ Owner Controlled Insurance Program
OP	▪ Oversight Procedure
P3	▪ Public Private Partnership
PHPS	▪ Pearl Highlands Parking Structure
PMOC	▪ Project Management Oversight Contractor
PMP	▪ Project Management Plan
PMSC	▪ Project Management Support Consultant
PSG	▪ Platform Screen Gate
QA/QC	▪ Quality Assurance/Quality Control
QAM	▪ Quality Assurance Manager
QMP	▪ Quality Management Plan
RAMP	▪ Real Estate Acquisition and Management Plan
RCMP	▪ Risk and Contingency Management Plan
RFB	▪ Request for Bids
RFMP	▪ Rail Fleet Management Plan
RFP	▪ Request for Proposals
RFQ	▪ Request for Qualifications
ROC	▪ Rail Operations Center
ROD	▪ Record of Decision
ROE	▪ Right of Entry
ROW	▪ Right of Way
RSD	▪ Revenue Service Date
SCC	▪ Standard Cost Category
SOA	▪ State Oversight Agency
SSCP	▪ Safety and Security Certification Plan
SSMP	▪ Safety and Security Management Plan
SSPP	▪ System Safety Program Plan
SSSPS	▪ System Safety and Security Program Standards
STCC	▪ Specification Testing Conformance Checklist
TBD	▪ To be Determined
UH	▪ University of Hawaii
USN	▪ United States Navy
USPS	▪ United States Postal Service
WOFH	▪ West Oahu/Farrington Highway
WOSG	▪ West Oahu Stations Group
YOE	▪ Year of Expenditure

Appendix B: Contract Status

Contract	Description	Contractor	Base Contract Value	Change Orders	Change Order %	Current Contract Value	Expended	Weighted % Complete	Award Date	Contract Compl. Date	Target Compl.	Notes
MM-901	Program Management Support Consultant (PMSC-2)	HDR/InfraConsult LLC	\$33,376,897	\$18,444,023	55%	\$51,820,920	\$49,739,335	96%	Mar-12	Dec-16	-	
MM-902	Program Management Support Consultant (PMSC-3)	HDR/InfraConsult LLC	\$63,522,963	\$0	0%	\$63,522,963	\$11,781,904	18.5%	Jan-17	Dec-22	-	
MM-913	General Engineering Consultant (GEC III)	CH2M	\$46,143,277	\$699,576	1.5%	\$46,842,849	\$44,668,512	95.4%	Dec-13	Apr-19	-	Option for up to 3-year extension
MM-290	Construction Engineering and Inspection (West)	PGH Wong Engineering, Inc.	\$54,232,480	\$16,000,000	29.50%	\$70,232,480	\$58,968,117	84.9%	Jan-14	Jan-20	-	
MM-596	Construction Engineering and Inspection II (East)	Stantec Consulting Services Inc.	\$55,036,130	\$0	0%	\$55,036,130	\$23,847,019	43.3%	Sep-15	Dec-19	-	Option for up to 2-year extension
MM-962	Core System Contract Oversight Consultant	Lea + Elliott, Inc.	\$43,988,989	\$0	0%	\$43,988,989	\$27,631,493	62.8%	Feb-14	Sep-18	-	Option for up to 3-year extension
FD-140	West Oahu Station Group Construction FD	URS, Inc. (now, AECOM)	\$7,789,000	\$3,400,416	43.7%	\$11,189,416	\$11,116,535	99.3%	Jun-12	TBD	-	Term of contract until completion of services
FD-240	Farrington Highway Station Group FD	HDR, Inc. / URS (now, AECOM)	\$9,300,696	\$5,854,620	63.1%	\$15,155,316	\$14,411,270	95.1%	Jan-11	TBD	-	Term of contract until completion of services
FD-340	Kamehameha Highway Station Group Construction FD	Anil Verma, Inc.	\$8,702,592	\$1,957,636	22.4%	\$10,660,228	\$10,536,394	98.8%	Nov-12	TBD	-	Term of contract until completion of services
FD-430	Airport Section Guideway and Utilities FD	AECOM	\$38,840,960	\$4,111,440	10%	\$42,952,400	\$41,903,152	97.6%	Dec-11	TBD	-	Term of contract until completion of services
FD-440	Airport Station Group Construction FD	AECOM	\$10,177,365	\$1,396,487	14%	\$11,573,852	\$10,059,820	87%	Nov-12	Jul-17	-	Combined with Airport Stations into DB Contract.
FD-530	City Center Section Guideway and Utilities FD	AECOM	\$43,948,220	\$13,941,087	31.72%	\$57,889,307	\$48,437,899	83.7%	Jul-12	May-18	-	Combined with Dillingham and Kaka'ako Stations into DB Contract.

Contract	Description	Contractor	Base Contract Value	Change Orders	Change Order %	Current Contract Value	Expended	Weighted % Complete	Award Date	Contract Compl. Date	Target Compl.	Notes
FD-550	Dillingham and Kaka'ako Station Group Construction FD	Perkins & Will	\$18,321,918	\$1,370,7418	5%	\$19,692,236	\$12,341,535	62.7%	Jun-13	Jul-18	-	Will be combined and incorporated into City Center Guideway and Stations DB contract
DB-120	West Oahu/Farrington Highway DB	KIWC	\$482,924,000	\$186,423,831	38.60%	\$668,848,032	\$665,624,607	99.5%	Nov-09	Mar-17	May-17	
DB-200	Maintenance and Storage Facility DB	Kiewit/Kobayashi JV	\$195,258,000	\$86,517,032	43.4%	\$281,775,032	\$281,753,403	100%	Jun-11	Jul-16	Jul-16	Closeout ongoing
DB-320	Kamehameha Highway Guideway DB	KIWC	\$372,150,000	\$21,007,573	5.6%	\$393,157,573	\$391,825,707	99.7%	Jun-11	Sep-17	Sep-17	
DBOM-920	Core Systems Contract	Ansaldo/Honolulu JV	\$573,782,793	\$40,035,964	7.0%	\$613,818,757	\$312,218,958	50.9%	Nov-11	Jan-21	Jan-22	Schedule must be revised to reflect Construction Access Milestone dates. HART is deferring revision of milestone dates until better information is available on the other contracts.
DB-450	Airport Section Guideway and Stations (AGS)	STG JV	\$874,750,000	\$14,308	0.002%	\$874,764,308	\$198,687,140	22.7%	Jul-16	May-21	May-21	
MI-930	Elevators and Escalators Install & Maintain	Schindler Elevator Corporation	\$50,982,714	\$1,499,208	3.1%	\$52,481,922	\$9,706,147	18.5%	Aug-13	Jun-18	Jun-18	Schedule may be delayed due to revised Construction Access Milestone dates.
DBB-505	Airport Section Utilities Construction	Nan, Inc.	\$27,993,290	\$182,255	0.5%	\$28,175,549	\$27,919,489	100%	Jul-14	Jul-16	Sep-16	
DBB-525	Airport Section Guideway Seven Pier Construction	HDCC/CJA JV	\$3,973,000	\$54,843	1%	\$4,027,843	\$4,027,843	100%	Sep-14	Feb-15	-	Closed
DBB-171	West Oahu Station Group Construction	Nan, Inc.	\$56,088,470	\$3,521,866	6.0%	\$59,610,336	\$25,643,764	43.0%	Oct-15	Mar-18	Mar-18	
DBB-271	Farrington Highway Station Group Construction	Hawaiian Dredging	\$78,999,000	\$3,473,034	4.3%	\$82,472,034	\$42,225,112	51.2%	Aug-15	Jan-18	Jan-18	
DBB-371	Kamehameha Highway Stations Group Construction	Nan, Inc.	\$115,805,845	\$1,558,663	1.3%	\$117,364,508	\$23,151,418	19.7%	Apr-16	May-19	May-19	
MI-900	Fare Collection System	INIT	\$15,464,198	\$0	0%	\$15,464,198	\$4,156,881	26.9%	Mar-16	Sep-21	Sep-21	

Contract	Description	Contractor	Base Contract Value	Change Orders	Change Order %	Current Contract Value	Expended	Weighted % Complete	Award Date	Contract Compl. Date	Target Compl.	Notes
DBB-385	Ramp H2R2	Royal Contracting	\$5,203,646	\$453,401	8.7%	\$5,657,047	\$5,310,349	93.9%	May-15	May-16	Nov-17	

Appendix C: PMOC Team

Name	Position	Background
Tim Mantych, PE	Program Manager	Overall responsibility for the Jacobs PMO program. He has spent 16 years in key management roles on the PMO program, including Program Manager and Task Order Manager, effectively managing oversight services for major capital projects in Regions V and IX.
Bill Tsiforas	Task Order Manager	Responsible for oversight of this task order. He has over 25 years of experience and has served as Task Order Manager and as a systems integration manager in the PMO Program since 2008. His project management experience covers a wide range of transit projects including BRT, monorail, streetcar, light rail, and heavy rail systems. In rail projects and other transportation modes, he has experience in management of project planning, engineering, and architecture service contract, engineering design, and construction management.
Keith Konradi, PE	Civil Engineer	Has extensive over 40 years of experience as a civil engineer and trackwork expert who can provide informed reviews of all issues regarding the design and construction of civil, railroad, and transit. He has specialized in railroad and transit projects, designing new alignments, realignments, profiles, yard, and maintenance facility layouts, connections, and interlockings.
Charles Neathery	Construction Management Manager	Responsible for oversight of construction management activities and project scheduling. He has served on the PMO Program since 1995 in various key positions: Deputy Program Manager, Task Order Manager, Construction Manager, Risk Manager, and Technical Specialist. His heavy civil construction background as a construction contractor Project Manager and as Program and Controls Director combines experience on both sides of the industry as a builder and a manager.
Tim Morris	Cost Estimating Manager	Responsible for oversight of cost estimating and cost control. He brings 34 years of experience in cost estimating. His background includes: construction and project management of heavy civil projects; cost estimating; field engineering; scheduling; project controls; change order negotiations; and procurement.
Brian Carpenter	Project Scheduling Manager	Responsible for oversight of project scheduling. Has over 25 years of experience project controls including schedule development and management. Well versed with following: Primavera Project Planner (P3), Primavera 7.0, Suretrak, M.S. Project, Schedule Analyzer, Claim Digger, Private Investigator, and PertMaster (Monte Carlo Risk Analyzer), as well as document management tools: Prolog, ProjectWise, and Contract Manager (Expedition).
Dorothy Schulz, PhD	Systems Safety Manager	Responsible for oversight of safety and security activities. She has been Director of Transit Security Practice at Interactive Elements for more than 20 years. She performs safety and security studies and oversights for various agencies. She also performs FTA State Oversight Agency (SOA) audits as well as Safety and Security Readiness Reviews (SSRRs). Dr. Schulz has written and/or reviewed numerous TVAs, PHAs, SSPPs, and SSPs; all require comprehensive understanding of the 882C Standard.
Arun Virginkar	Rail Equipment Engineer	Responsible for oversight of rail vehicle engineering and Buy America compliance. He has been involved with the PMOC Program since 1994. He has experience in contract management, vehicle and systems equipment engineering, operations and maintenance planning, system integration and testing, safety certification plans, and quality and system assurance. He also has specialized experience in Buy America Pre-Award and Post-Delivery audits of car builders.
Bob Merryman	Real Estate Manager	Responsible for oversight of real estate activities on the project. He has 35 years of practical experience in the implementation of the Uniform Act in federally funded projects. In addition, he has written three text books used by FHWA, as well as the one additional course text used by the FTA discussing the implementation of the Uniform Act. He also served as lead investigator on the business retrospective study for the Federal Highway Administration. The information gleaned from this investigation was to develop the most recent revisions to 49 CFR Part 24.

Name	Position	Background
David Sillars, PhD	Risk Assessment Manager	Responsible for oversight of the risk management activities for the project. He has over 35 years of experience in risk and management consulting and transportation research. He assisted FTA with editing and developing the updated MAP-21 Risk and Contingency Management Oversight Procedure (OP 40) and updated FTA risk workbook. He has co-developed and delivered the New Starts risk management training program for the National Transit Institute on behalf of the FTA.
David Nelson	Transit Operations Manager	Responsible for oversight of the transit operations planning for the project Has more than 30 years of experience with in-depth, working knowledge of North American public transportation agencies. Was previously assistant director and project manager of planning and manager of transit applications for the Massachusetts Bay Transportation Authority and the manager of planning and administration for the Boston & Maine Railroad.

Appendix D: Project Overview and Map

Date: January 2018
Project Name: Honolulu Rail Transit Project
Grantee: City and County of Honolulu
FTA Regional contact: Catherine Luu
FTA HQ contact: Kim Nguyen

SCOPE

Description	The proposed Project is an approximately 20-mile rail alignment extending from East Kapolei to Ala Moana Center.
Guideway	The majority of the Project is to be built on aerial structure, but the Project also includes a short at-grade section (0.6 miles).
Stations	21 stations (20 aerial and 1 at-grade)
Support Facility	Maintenance and Storage Facility (located near Leeward Community College)
Vehicles	80 light metro rail
Ridership	104,300 weekday boardings in 2019; 119,600 weekday boardings in 2030

SCHEDULE

10/09 Approval Entry to PE	03/19 Estimated RSD at Entry to PE
12/11 Approval Entry to FD	03/19 Estimated RSD at Entry to FD
06/12 Request for FFGA	03/19 Estimated RSD at Request for FFGA
12/12 FFGA	01/20 RSD at FFGA
09/17 Recovery Plan	12/25 RSD at Recovery Plan

COST

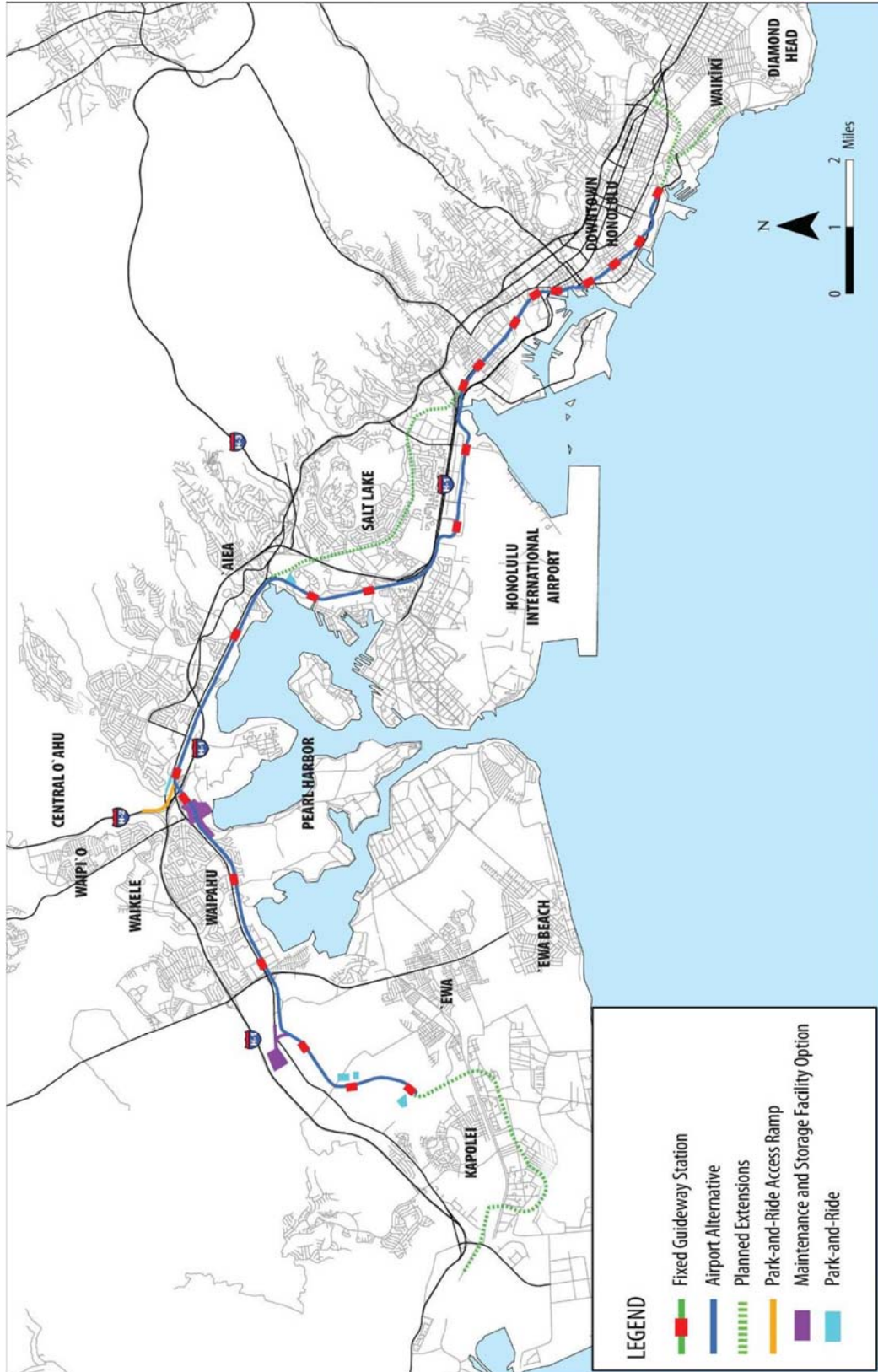
\$5.348 B Total Project Cost (\$YOE) at Approval Entry to PE
 \$5.126 B Total Project Cost (\$YOE) at Approval Entry to FD
 \$5.122 B Total Project Cost (\$YOE) at request for an FFGA
 \$5.122 B Total Project Cost (\$YOE) at FFGA
 \$9.023 B Total Project Cost (\$YOE) at Recovery Plan

 \$2.953B Amount of Expenditures at date of this report
 57.6% complete (Total Project Expenditures/FFGA Total Project Cost)
 32.7% complete (Total Project Expenditures/EAC)

Notes

- HART submitted an updated Recovery Plan on September 15, 2017. On December 21, 2017 HART submitted an updated Estimate at Completion and Master Program Schedule (MPS) to support the Recovery Plan:
 - In the September 2017 Recovery Plan, the EAC was \$9.023 billion, including \$1.1 billion in allocated and unallocated contingency and \$858 million in financing costs. The Revenue Service Date (RSD) was December 2025 with 12 months of contingency.
 - The December 21, 2017 submission identifies the current EAC as \$8.749 billion, including \$862 million in allocated and unallocated contingency and \$584 million in financing costs. The Revenue Service Date (RSD) remains at December 2025 with 13 months of contingency.
 - HART intends to implement an interim opening from East Kapolei Station to Aloha Stadium Station in 2020.
 - The EAC and RSD are dependent on the strategy for the City Center Guideway and Stations (CCGS) Design-Build (DB) contract. HART is considering various options including Public-Private Partnership (P3) since the procurement of the CCGS DB contract was cancelled. However, the EAC and RSD reviews will be based on the current proposed delivery strategy of DB for CCGS.

Honolulu Rail Transit Project Map



Appendix E: Safety and Security Checklist

Project Overview			
Project Name	Honolulu Rail Transit Project		
Project mode (Rail, Bus, BRT, Multimode)	Rail		
Project phase (Preliminary Engineering, Final Design, Construction, or Start-up)	Construction		
Project Delivery Method (Design/Build, Design/Build/Operate Maintain, CMGC, etc.)	DB, DBB and DBOM		
Project Plans	Version	Review by FTA	Status
Safety and Security Management Plan	5	Y	Complete
Safety and Security Certification Plan	4	Y	Complete
System Safety Program Plan			Submittal date Mar-13
System Security Plan or Security and Emergency Preparedness Plan (SSEPP)		N	TBD
Construction Safety and Security Plan	3	Jun-11	Completed Oct 2015
Safety and Security Authority	Y/N	Status	
Is the grantee subject to 49 CFR Part 659 state safety oversight requirements?	Y		
Has the state designated an oversight agency as per Part 659.9	Y	Executive Order 10-04 effective April 6, 2010	
Has the oversight agency reviewed and approved the grantee's SSPP as per Part 659.17?	N	Submission/Approval in 2013	
Has the oversight agency reviewed and approved the grantee's Security Plan or SEPP as per Part 659.21?	N	Submission/Approval in 2013	
Did the oversight agency participate in the last Quarterly Program Review Meeting?	Y	April 16, 2014	
Has the grantee submitted its safety certification plan to the oversight agency?	Y	SOA information	
Has the grantee implemented security directives issues by the Department Homeland Security, Transportation Security Administration?	N	None issued to date	
SSMP Monitoring			
Is the SSMP project-specific, clearly demonstrating the scope of safety and security activities for this project?	Y		
Grantee reviews the SSMP and related project plans to determine if updates are necessary?	Y		
Does the grantee implement a process through which the Designated Function (DF) for Safety and DF for Security are integrated into the overall project management team? Please specify.	Y		
Does the grantee maintain a regularly scheduled report on the status of safety and security activities?	Y	Reported Monthly	
Has the grantee established staffing requirements, procedures and authority for safety and security activities throughout all project phases?	Y		
Does the grantee update the safety and security responsibility matrix/organization chart as necessary?	Y		
Has the grantee allocated sufficient resources to oversee or carry out safety and security activities?	Y		
Has the grantee developed hazard and vulnerability analysis techniques, including specific types of analysis to be performed during different project phases?	Y		

Does the grantee implement regularly scheduled meetings to track to resolution any identified hazards and/or vulnerabilities?	Y	
Does the grantee monitor the progress of safety and security activities throughout all project phases? Please describe briefly.	Y	
Does the grantee ensure the conduct of preliminary hazard and vulnerability analyses? Please specify analyses conducted.	Y	
Has the grantee ensured the development of safety design criteria?	Y	
Has the grantee ensured the development of security design criteria?	Y	
Has the grantee verified conformance with the safety and security requirements in the design?	N	Will be done during FD/Construction
Has the grantee identified conformance with safety and security requirements in equipment and materials procurement?	N	Will be done during FD/Construction
Has the grantee verified construction specification conformance?	N	Will be done during construction
Has the grantee identified safety and security critical tests to be performed prior to passenger operations?	N	Will be done during Rail Activation phase
Has the grantee verified conformance with safety and security requirements during testing, inspection and start up phases?	N	Will be done during Rail Activation phase
Does the grantee evaluate change orders, design waivers, or test variances for potential hazards and/or vulnerabilities?	N	Will be done during FD/Construction
Has the grantee ensured the performance of safety and security analyses for proposed work-arounds?	N	Will be done during Rail Activation phase
Has the grantee demonstrated through meetings or other methods, the integration of safety and security in the following? <ul style="list-style-type: none"> • Activation Plan and Procedures • Integrated Test Plan and Procedures • Operations and Maintenance Plan • Emergency Operations Plan 	N	Will be done during Rail Activation phase
Has the grantee issued final safety and security certification?	N	Will be done after completion of Rail Activation phase
Has the grantee issued the final safety and security verification report?	N	Will be done during Rail Activation phase
Construction Safety		
Does the grantee have a documented/implementation Contractor Safety Program with which it expects contractors to comply?	Y	CSP development is included in construction contracts
Does the grantee's contractor(s) have a documented company-wide safety and security program plan?	TBD	Is a requirement of CSSP
Does the grantee's contractor(s) have a site-specific safety and security program plan?	TBD	Is a requirement of CSSP
Provide the grantee's OSHA statistics compared to the national average for the same type of work?	TBD	None developed yet
If the comparison is not favorable, what actions are being taken by the grantee to improve its safety record?	TBD	None developed yet
Does the grantee conduct site audits of the contractor's performance versus required safety/security procedures?	Y	Audit required in CSSP

Federal Railroad Administration		
If the shared track: has the grantee submitted its waiver request application to FRA? (Please identify any specific regulations for which waivers are being requested)	NA	
If the shared corridor: has grantee specified specific measures to address shared corridor safety concerns?	NA	
Is the Collision Hazard Analysis underway?	NA	
Other FRA required Hazard Analysis – fencing, etc.?	NA	
Does the project have Quiet Zones?	NA	
Does FRA attend Quarterly Review Meetings?	NA	

Appendix F: Third Party Agreements

Agency	Pending Agreements	Target	Section	CROE*	Notes/Remarks
STATE					
UH – University of Hawaii, West Oahu (UHWO) East Kapolei	Construction Right of Entry and Occupancy & Use Agreement for East Kapolei Temporary Park & Ride	Dec 2018	WOFH		To be processed.
UH – Urban Gardens	Conveyance to HDOT(H) – Dept. of Transportation Highways	May 2018	KHG	Yes	In process. HART’s Construction is not impacted as the HART Right of Entry (ROE) for right to access and construct is executed. Contractor & sub-contractors’ ROE are pending.
UH – Honolulu Community College (HCC)	Construction Right of Entry for guideway & station	May 2018	CC		In review.
DLNR – Dept. of Land & Natural Resources	Kapolei Easement Agreement for overhead guideway and for park and ride facility	June 2019	WOFH	Yes	In process. Construction is not impacted as the ROE for right to access and construct is executed.
DLNR	Keeki Lagoon Easement Agreement	Feb 2018	Airport	Yes	In process. Construction is not impacted as the ROE for right to access and construct is executed.
DLNR	City Center Construction Right of Entry	Aug 2018	CC		In process.
DLNR	City Center Easement Agreement	Aug 2018	CC		In process.
DLNR/C&C Wastewater Div.	Easement Agreement	Jan 2019	CC		In process.
DLNR/C&C Wastewater Div.	Construction Right of Entry	Aug 2018	CC		In process.
DOE – Dept. of Education Waipahu HS	Memorandum of Understanding (State portion)	Aug 2018	WOFH	Yes	In process. Construction is not impacted as the ROE for right to access and construct is executed.
DOE - Waipahu HS	Permanent Easement (State portion)	May 2019	WOFH	Yes	In process. Construction is not impacted as the ROE for right to access and construct is executed.
DOE – Waipahu HS	Memorandum of Understanding (City portion)	Aug 2018	WOFH	Yes	In process. Construction is not impacted as the ROE for right to access and construct is executed.
DOE – Waipahu HS	Permanent Easement (City portion)	May 2019	WOFH	Yes	Permanent easement from City in process. Construction is not impacted as the Master/Construction Agreement is executed.

Agency	Pending Agreements	Target	Section	CROE*	Notes/Remarks
Aloha Stadium / Dept. of Accounting & General Services (DAGS)	Easement Agreement for guideway	Jan 2020	KHG	Yes	In process. Construction is not impacted as the ROE for right to access and construct is executed.
Aloha Stadium/ DAGS	Easement Agreement for station park and ride	Jan 2020	KHG	Yes	In process. Construction is not impacted as the ROE for right to access and construct is executed.
HDOT(H) – Dept. of Transportation Highways	Master Agreement Amendment	Feb 2018	WOFH	Yes	In process. Construction is not impacted as the Joint Use & Occupancy Agreement (JU&O) for right to access and construct is executed.
HDOT(H) and (A) – Dept. of Transportation Highways & Airports	Master Agreement for KHG, Airport and City Center Amendment	Feb 2018	KHG/ Airport/ CC	Yes (KHG/ AGS)	Construction is not impacted as the JU&O for right to access and construct for City Center will be executed when NTP is issued.
HDOT(H)	Joint Use & Occupancy (JU&O) Sub-agreement	Feb 2018	WOFH	Yes	In process. Construction is not impacted as the JU&O for right to access and construct is executed.
HDOT(H)	Joint Use & Occupancy (JU&O) Sub-agreement	Aug 2018	CC		In process. Construction is not impacted as the JU&O will be executed when Notice to Proceed (NTP) is issued.
HCDA -HI Community Development Authority	Construction ROE, License Agreement, & Final Disposition	Aug 2018	CC		Coordination is ongoing.
DAGS – Dept. of Accounting & General Services / Hi Housing Finance & Development Corp (HHFDC)	Construction Right of Entry	Aug 2018	CC		In process.
DAGS/HHFDC	Easement Agreement	Aug 2018	CC		To be processed.
DAGS	Construction Right of Entry for City Center	Aug 2018	CC		To be processed.
DAGS	Easement Agreement for City Center	Aug 2018	CC		To be processed.
FEDERAL					
U.S. Gov't/General Services Administration (GSA)/Federal Courthouse	Master Agreement to include Security & Landscape Plan	Sept 2018	CC		Under review.
GSA Federal Courthouse	Temporary Construction Easement (TCE)	Aug 2018	CC		Under review.

Agency	Pending Agreements	Target	Section	CROE*	Notes/Remarks
GSA Federal Courthouse	Quitclaim Easement Document	Mar 2020	CC		Under review.
OTHER					
D.R. Horton	Construction Right of Entry Amendment – D.R. Horton & HART	May 2018	WOFH	Yes	Amendment in process.
D.R. Horton	Construction Right of Entry - D.R. Horton & HECO	TBD	WOFH		In process.
D.R. Horton	Final Easement Agreement	Jan 2020	WOFH	Yes	In process and subject to owner's development plans. Construction is not impacted.

*CROE – Construction Right of Entry