Lihue Airport
Relocate Runway 3-21
Safety Risk Assessment Panel Meeting
Safety Risk Management Document

State of Hawaii
Department of Transportation
Airports Division

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Change Control and Version Tracking

SRMD Action/Change	Date	Version
Pre-SRA Panel Meeting with FAA LOB's	September 10, 2019	--
Pre-SRA Panel Meeting with All Stakeholders	April 30, 2020	--
Pre-SRA Panel Meeting with FAA LOB's	September 9, 2021	--
Pre-SRA Panel Meeting with Airlines	April 7, 2022	--
Pre-SRA Panel Meeting with All Stakeholders	April 26, 2022	--
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Signature Page

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Risk Acceptance Signature:

Craig H. Davis — Nov 30, 2022

Craig Davis – Manager, Lihue Airport — Date

Dec 1, 2022

Ross Higashi – HDOT-A Deputy Director — Date

Proposal Rejection:

N/A

Signature, Name and Organization — Date

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Executive Summary

The State of Hawaii, Department of Transportation, Airports division (HDOT-A) proposes to change major design elements related to RSA improvements, provide a comprehensive replacement of the existing airfield electrical lighting systems, and change airfield electrical lighting components. Once completed, airfield safety will be enhanced for all users. This project is estimated to start construction on September 1, 2023 and end in February 2025.

The HDOT-A implemented the Safety Risk Assessment (SRA) process into the Construction Safety Phasing Plan (CSPP) review due to the proposed changes to the airfield had presumed significant impacts to the airfield operational status and the National Airspace System (NAS). All HDOT-A led SRA preliminary and panel meetings were conducted and facilitated in accordance with the FAA Airport (ARP) Safety Management System Order 5200.11A, FAA ARP Safety Management Systems (SMS) Desk Reference, Version 1.0, FAA AC 150/5200-37A Safety Management Systems for Airport Operators, and FAA Order 8040.4B Safety Risk Management Policy.*)* This Safety Risk Management Document (SRMD) documents the Safety Risk Management Panel (SRMP) evaluation of the proposed Construction Safety Phasing Plan (CSPP) to construct, provide, and relocate major design elements related to RSA improvements; re-wire circuits to provide a comprehensive replacement of the existing airfield electrical lighting systems; and replace, repair, and install airfield electrical lighting components.

HDOT-A conducted multiple Preliminary SRA meetings with Airport stakeholder groups to ensure that the panelists are sufficiently knowledgeable of the Federal Aviation Administration (FAA) Airports SMS process and understand the proposed change to the airfield system. These meetings were conducted on the following dates with the indicated stakeholder groups:

1. September 10, 2019, Preliminary SRA invitations were sent out to all FAA Lines of Business (LOB's). HDOT-A-EC, HDOT-A-EP, HDOT-A LIH, AECOM, FAA RSO, FAA HNL ADO, FAA HI/OAK District, FAA HCF ATO, and FAA ATO NAS Planning were able to participate via Teams Video conference call.
2. April 30, 2020, Preliminary SRA invitations were sent out to all stakeholders. HDOT-A, HDOT-A LIH ADM, HDOT-A LIH AAS IV, FAA HNL ADO, FAA HI/GUAM District, FAA HI/OAK District, FAA Flight Procedures, FAA HCF, FAA ATO, FAA FSDO, AECOM, Midwest ATC Services, Ricondo and Associates, FAA Engineering Services, UPS, Hawaiian Airlines, United Airlines, Alaska Airlines, and United Airlines were able to participate via Teams Video conference call.
3. September 9, 2021, Preliminary invitations were sent out to all FAA Lines of Business (LOB's). HDOT-A AIR-EC, HDOT-A AIR-EP, HDOT-A LIH Engineer, HDOT-A LIH Maintenance, HDOT-A LIH SMS Manager, AECOM, FAA LIH SSC, FAA HNL ADO, FAA SMS Specialist, FAA HI/OAK District, FAA HCF ATO, FAA RSO, FAA WSC NPI, FAA NAVAIDS, and Midwest ATC were able to participate via Teams Video conference call. This meeting was called to review the addition of the airfield lighting system replacement.
4. April 7, 2022, Preliminary invitations were sent out to all affected airlines. HDOT-A LIH, HDOT-A AIR-EC, FAA HCF, AECOM, AvAirPros, Southwest Airlines, and United

Airlines were able to participate via Teams Video conference call. This meeting was called to review the addition of the airfield lighting system replacement.

5. April 26, 2022, Preliminary invitations were sent out to all stakeholders. HDOT-A LIH, HDOT-A AIR-EC, AECOM, Ricondo & Associates, HDOT-A AIR-EP, HDOT-A GA, FAA HNL ADO, FAA AWP SMS, FAA HCF ATO, FAA Flight Procedures, FAA RSO, FAA WSC NPI, FAA NAVAIDs, AvAirPros, American Airlines, Hawaiian Airlines, Southwest Airlines, and United Airlines were able to participate via Teams Video conference call.

SRMP Findings

The Hazards were identified, analyzed, and assessed in an organized group discussion, based on the thorough review of the Project Proposal Summary (PPS) and the CSPP. There were seventeen (17) initial presumed hazards generated through the brainstorming session, documented in the Preliminary Hazard List (PHL). The Safety Risk Management Panel (SRMP) evaluated the seventeen (17) hazards in the PHL, determining nine (9) presumed hazards for further evaluation in the Preliminary Hazards Analysis (PHA) worksheet. The PHA process performed preliminary evaluation on the nine (9) presumed hazards, the SRMP determined four (4) hazards were credible and were fully evaluated as shown in Table 6.

The SRMP agreed that the following Hazard LIH-RELOC.RWY3/21-1 LOSA for Pilots, and its worst credible Effects (Runway Incursion), which was rated with Medium Initial Risk 4C, needed further mitigations to lower this Hazard from a Medium risk to a Low Risk. The SRMP members decided that the proposed mitigations for this hazard could include extended tower hours, Jeppesen 10-8 construction pages, Operations Alerts for flight crews, airport to provide updates to IATA/A4A to disseminate to their members, airport operations staff working after Tower hours to deconflict confused taxiing, and direct outreach to Medivacs. These mitigation measures led to a predicted residual risk of 4D – Low. See Table 1 below for summary.

Table 1: Hazard Risk Assessment Results

(1) Hazard ID	(2) Hazard Description	(7) Effects	(12) Initial Risk	(15) Predicted Residual Risk
XYZ-1	Condition, real or potential; can cause injury, illness, etc. Pre-requisite for accident or incident	Potential Outcome or harm of the hazard if it occurs in the defined system state; worst credible	Conditions, characterized by qualities, in which a system can exist; worst credible	Risk status predicted to occur when recommended controls or requirements are verified
LIH-RELOC.RWY3/21-1	LOSA for Pilots	Runway Incursion	4C – Medium	4D – Low

(1) Hazard ID	(2) Hazard Description	(7) Effects	(12) Initial Risk	(15) Predicted Residual Risk
LIH-RELOC.RWY3/21-2	LOSA for Controllers	Runway Incursion	4D – Low	N/A
LIH-RELOC.RWY3/21-3	LOSA for Vehicles and Pedestrians	Runway Incursion	4D – Low	N/A
LIH-RELOC.RWY3/21-4	LOSA for Flaggers	Surface Incident	5D – Low	N/A
LIH-RELOC.RWY3/21-5 (REMOVED)	**Back-Taxi Coordination When Tower is Closed**	**N/A**	**N/A**	**N/A**
LIH-RELOC.RWY3/21-6 (REMOVED)	**Tower Having Trouble Finding Holding Spot for Aircraft Waiting for Gate**	**N/A**	**N/A**	**N/A**
LIH-RELOC.RWY3/21-7 (REMOVED)	**Rubber Buildup**	**N/A**	**N/A**	**N/A**
LIH-RELOC.RWY3/21-8 (REMOVED)	**Non-Standard or No Pilot Communication on Location**	**N/A**	**N/A**	**N/A**
LIH-RELOC.RWY3/21-9 (REMOVED)	**Helicopters Taxiing for Takeoff and Arrivals in that Area Often**	**N/A**	**N/A**	**N/A**

Severity / Likelihood	Minimal 5	Minor 4	Major 3	Hazardous 2	Catastrophic 1
Frequent A					
Probable B					
Remote C		LIH-RELOC.RWY3/21-1			
Extremely Remote D	LIH-RELOC.RWY3/21-4	LIH-RELOC.RWY3/21-2 LIH-RELOC.RWY3/21-3			
Extremely Improbable E					

Figure 1: Risk matrix

High Risk – Unacceptable
Medium Risk – Acceptable with Mitigation
Low Risk – Acceptable

The SRMP applied the SRM process determining that the LIH Relocate RWY 3-21 project can be introduced into the NAS with an acceptable level of risk (See Figure 1 above). Appendix F provides the SAS-1 Form 5200-8 Signature Page, Signifying SRMP member's concurrence of this Safety Risk Assessment for the LIH Relocate RWY 3-21 project.

Introduction and Background

In accordance with FAA AC 150/5300-13A, a standard Runway Safety Area (RSA) for runways accommodating C-IV aircraft must have a minimum of 1,000 feet beyond the runway end for departures and 600 feet prior to the runway threshold for arrivals.

Runway 3-21 meets FAA RSA design standards at the Runway 3 end. However, the RSA at the Runway 21 northeast end is 855 feet short of meeting the RSA standard beyond the runway end for Runway 3 departures. The RSA 600-foot length requirement prior to the Runway 21 arrival threshold is 250 feet short of meeting the FAA standard.

As part of the 2008 RSA Evaluation and Analysis conducted for LIH, the HDOT-A determined that the Runway 3-21 RSA at LIH did not meet standards, and in 2013 and 2015, attempted to identify an alternative that would meet the FAA standards. At the onset of the RSA Study, the FAA acknowledged that full compliance with RSA standards may not be practicable, however it is expected that incremental improvements of the safety areas can be implemented.

The proposed improvements to Runway 3-21 will not fully comply with FAA RSA design standards. In order to maintain the existing Runway 21 Landing Distance Available (LDA) of 6,295 feet, a nonstandard RSA (935 feet) is proposed on the Runway 3 end and has been agreed upon by HDOT-A and FAA as a means of meeting RSA design standards to the maximum extent practicable.

This was deemed to provide an acceptable level of safety by providing RSA compliance for most airport operations (90%) with departures on Runway 3, while providing a non-standard 935-foot RSA for the minority of operations, with less than 10% percent of arrivals and departures occurring on Runway 21. Also, there are generally no take-offs by commercial passenger airplanes occur towards the non-standard 935-foot RSA at the Runway 3 end.

In addition to the RSA improvements, this project will also provide a comprehensive replacement of the existing airfield electrical lighting and signage systems. LIH's existing airfield electrical lighting system is shown to have very low insulation resistance values and concerns have been noted during the Part 139 inspections due to very dim fixtures with low photometric values. Most components including wires, splices, transformers, fixtures, and airfield signs are experiencing moisture induced corrosion and need replacement. The entire signage will be replaced to conform the entire airfield with one sign manufacturer.

The HDOT-A utilized their SRA facilitator services consultant to conduct all SRA preliminary and panel meetings in accordance with the FAA Airports (ARP) Safety Management System (SMS) Order 5200.11A, FAA Order 8040.4B Safety Risk Management Policy, FAA AC 150/5200-37A Safety Management Systems for Airport Operators, and FAA ARP SMS Desk Reference, Version 1.0. A series of preliminary SRA meetings were conducted using a systematic approach to prepare for the final SRA panel meeting. The meetings were scheduled with stakeholder groups as they reviewed the CSPP Phasing and Barricade plan provided by the designer. The following outlines the meeting dates and stakeholder groups that were invited. However, it is not an indicator of the actual attendance, please refer to Appendix E Sign-In Sheets.

Preliminary SRA Meeting Date	Stakeholder Group	Purpose
September 10, 2019	HDOT-A-EC, HDOT-A-EP, HDOT-A LIH, AECOM, FAA RSO, FAA HNL ADO, FAA HI/OAK District, FAA HCF ATO, and FAA ATO NAS Planning	To review the construction phasing and develop to an acceptable level with the FAA.
April 30, 2020	HDOT-A, HDOT-A LIH ADM, DHOT-A LIH AAS IV, FAA HNL ADO, FAA HI/GUAM District, FAA HI/OAK District, FAA Flight Procedures, FAA HCF, FAA ATO, FAA FSDO, AECOM, Midwest ATC Services, Ricondo and Associates, FAA Engineering Services, UPS, Hawaiian Airlines, United Airlines, Alaska Airlines, and United Airlines	To review the construction phasing and develop to an acceptable level by all stakeholders.
September 9, 2021	HDOT-A AIR-EC, HDOT-A AIR-EP, HDOT-A LIH Engineer, HDOT-A LIH Maintenance, HDOT-A LIH SMS Manager, AECOM, FAA LIH SSC, FAA HNL ADO, FAA SMS Specialist, FAA HI/OAK District, FAA HCF ATO, FAA RSO, FAA WSC NPI, FAA NAVAIDS, and Midwest ATC	To review changes to the construction phasing and develop to an acceptable level with the FAA.
April 7, 2022	HDOT-A LIH, HDOT-A AIR-EC, FAA HCF, AECOM, AvAirPros, Southwest Airlines, and United Airlines	To review changes to the construction phasing and develop to an acceptable level with the Airlines.
April 26, 2022	HDOT-A LIH, HDOT-A AIR-EC, AECOM, Ricondo & Associates, HDOT-A AIR-EP, HDOT-A GA, FAA HNL ADO, FAA AWP SMS, FAA HCF ATO, FAA Flight Procedures, FAA RSO, FAA WSC NPI, FAA NAVAIDs, AvAirPros, American Airlines, Hawaiian Airlines, Southwest Airlines, and United Airlines	To review changes to the construction phasing and develop to an acceptable level by all stakeholders .

As the preliminary meetings were conducted, an SRA briefing on the FAA ARP SMS process, roles and responsibilities, and ground rules were presented and posted in the room. The ground rules provided participants the opportunity to ask questions and have their concerns addressed prior to conducting the final SRA Panel Meeting. Throughout these meetings, the participants were reminded of the ground rules. Specifically, “the absence of an answer is understood as agreement.” This fostered open discussion with participants’ concerns, being either addressed during the meeting or placed on the issues board for future discussion.

The following provides a brief overview of the preliminary SRA meetings discussion and concerns by the stakeholder group in narrative format.

The first Preliminary SRA meeting was conducted on September 10, 2019, with FAA LOB's to ensure that the drawings were at the point to have a panel meeting discussion. It was decided that this project would be conducted in two (2) major phases, with each phase including multiple subphases. The following is a recap of the discussion that took place.

a. Phase 0 detailed what will happen prior to the start of the project work. The existing condition is about the RWY 21 end, which has a non-standard RWY 21 arrival RSA of 350'and a non-standard RWY 3 departure RSA of 145'. No work is being performed on site now as they are working on a stabilized route and prep work for hauling. It was brought up that some earthwork will take place at the borrow site at a depth of 5', in which the contractor will transfer dirt and transport it to the end of RWY 3. There are underground utilities that feed the VOR which will need to be looked at as there will be a lot of trucks traversing though the area. With the existing dirt road, there is the potential to prompt ruts and fall apart. It is suggested to use old AC millings to improve the road between the stockpile and the RWY 3 end. However, it will need to be capped off first, then paved to prevent petroleum from leaching into the soil. The project is looking at a 35,000-truck operation, which will require the road to be stabilized. A sketch of the access road will be provided with an explanation that can be considered. Access Gate A, going South of the project road, is considering gating the road up as the lease with Hokuala has been terminated. It is undetermined is Hokuala will allow access from the highway to the roundabout area for the haul route. Access also cannot be done by ARFF as Hokuala also owns that stretch of road. There is a gate behind the post office that is on airport property which can be considered; however, it may need some improvements. The sketch of the access gate should show the 5' deep borrow site and a not to caution VOR underground activities.

   Comments:

   - Background and Justification. As for the discussions regarding the 910' versus 935' RSA, off line discussions will need to take place as it may have to go back to planning or any other process to clarify further.
   - Although the height of the deflector will mitigate effects to the golf course maintenance facility immediately behind, the concern is the trees on the golf course are over 100' and may experience the jet blast as the model is depicting 35mph winds in the blue area and 55mph winds in the turquoise area that will have an impact. Further jet blast modeling will be done.
   - There are underground utilities that supply the VOR which needs to be looked at as there will be a lot of trucks traversing through this area.
   - Will look into changing the access route due to Hokuala property line. The project is looking at a 35,000-truck operation which will require the road to be stabilized. LIH to provide the designer with a sketch of the access road that can be considered.

b. Phase 1A work will be performed at the RWY 3 end during the daytime from 0900-1800, for a duration of four months. There will be no arrivals on RWY 3, and departures on RWY 21 will be restricted to ADG-II and smaller. A portable jet blast deflector will be installed at the end of RWY 3, approximately 300' from the physical end. The RSA for ADG-III and larger will be provided through declared distances. The RWY 3 PAPI will be OTS. Low-profile barricades will need to be installed, and a temporary vehicle service road at the edge of the work limit will need to be included to maintain access if someone needs to get onto the East side of RWY 3. Pavement construction, AOA fence, retaining wall, and the start of the foundation for the jet blast deflector will be set up at the edge temporarily, and will be positioned to its final location when the work is done. The portable jet blast deflector will be installed at the RWY 3 end with portable 12"-18" footings sectioned off in 6" layers, so it can be moved around. During this phase, the use of the non-standard RSA dimensions for RWY 21 will be in use with declared distances. As there is a minimum climb gradient of 400' per the nautical mile requirement, any aircraft can depart on RWY 21 on a 030 heading. However, with a shortened RWY 21, it may be preferable to use RWY 17. If RWY 17-35 is not available, notes are to be written as to what would work for the tower about the potential that aircraft can take off on RWY 21 and would need the ASDA/TORA/TODA to be published somewhere. AECOM sees this as an emergency and can remove the deflector and grade out for emergency landing on RWY 21 as needed. The table currently has notes for ADG III. The emergency protocol notes state that within three hours of an emergency notification, the contractor will relocate the temporary jet blast deflector to a designed area outside the ROFA/TOFA. While the jet blast deflector is being relocated, the contractor will smooth out any irregular grades within the RSA and TSA. Grades within the work area will be mitigated as best as possible and the overrun area will be available. The distances will be published to advise the pilots to make the choice if they want to use it versus the tower. RWY 21 takeoffs will be restricted to ADG-II, except landings, and will need to be published with a smaller number which is for the larger aircraft and will be the most restrictive. NOTAMs and declared distances will be published for the most demanding aircraft. ASDA will have a group restriction for departures for RWY 21, which will be restricted to ADG-II. NOTAMs will be issued to depict the same. It will be up to the pilot to determine if the RWY is useable. Smaller aircraft should be able to utilize the declared distances. Approaches are mainly into RWY 21, and not so much for RWY 17. During bad weather, RWY 21 will be used, and the jet blast deflector would have to be removed with the assumption it will take three hours. Another option would be for aircraft to operate within the published declared distances and the deflector can remain in place. It was suggested to change the vehicle access Gate 30 further North to another road through access Gate 29, which enters at the wash rack as opposed to the current location.

   Comments:

   - In the event Rwy 17/35 is not available, takeoff's will be restricted to ADG-II except landings and will need to be published with a smaller number for the largest aircraft which will be the most restrictive, need more discussion. Declared distances need to be published.

- During bad weather Runway 21would be used and the jet blast deflector would have to be removed with the assumption it will take 3 hours, need more discussion.
- LIH suggested changing (2.12) vehicle access gate 30 further north to another road through access gate 29 which enters at the wash rack as opposed to the current location. Will need to update the drawings on each sheet.

c. Phase 1B will have the haul route access gate to be revised on all applicable sheets. This phase is to set up the work area to conduct the final connection piece somewhat in an implementation phase to connect the new pavement surface to the existing surface. RWY 3-21 will be closed as work will be performed 24/7 for two continuous days with the associated TWY closures. PAPIs and REILs will be OTS. The jet blast deflector will be moved to 300' South of the RWY 3 end to the area of full-strength pavement. There will be some marking work to reconfigure and obliterate the existing centerline. It was asked if there would be any days best suited to have the RWY closed. It will need to be checked with ATCT if flights are added on the weekend, as it may be best to close the RWU during weekdays instead. There is a concern with bad weather to ensure emergency contingencies.

   Comments:

   - It was asked if there would be any particular days best suited to have the runway closed, will need to check with ATCT if flights are added on the weekends may be best to close the runway during the week instead.

d. Phase 1C will have work done during the nighttime, with a closed RWY 3. The work for this phase will be performed behind the jet blast deflector from 2300-0900 for 30 nights. RWY 3-21 will be closed during hours and will only be open at the intersection for taxi operations between TWY "K" and TWY "B". The REILs and PAPIs will be OTS at night during work hours and returned to service during the day with the declared distances to be used. There will be no work at the RWY 21 end. During Kona wind emergency landing, there will be a gap behind the jet blast deflector what may have a hole around 300' long, which will need to be backfilled within three hours and excavated back out once the emergency is terminated.

   Comments:

   - Day time, Non-working hours. NOTAM's will need to be noted and issued as to what ADG can utilize Taxiway M and Taxiway L for both departures and arrivals.

e. The second sheet of Phase 1C will include daytime working hours, with non-working hours for 30 calendar days from 0700-1600. There will be no arrivals on RWY 3, and RWY 21 will have departures restricted to ADG II. Declared distances will apply to this approach and departure. There were concerns with the use of TWY "L" and TWY "M" about TWY "M" being used for departures and restricted to smaller aircraft on arrivals. However, TWY "L" can be used for departures, but will lose 500' of TODA. NOTAMs will need to be noted and issued as to what ADG can utilize TWY "M" and TWY "L" for both departures and arrivals. Landing on RWY 21, TWY "L' will be the last available exit TWY on

NOTAM for aircraft larger than 717 due to the deflector. The TWY "M" centerline will be shifted temporarily due to jet blast deflector. There was a discussion to just close TWY "M" and TWY "L", but airlines will lose 500'. Many would elect to takeoff on RWY 35, so TWY "M" will be kept open with the restrictions decided. For a RWY 21 landing, both exit points for TWYs "L" and "M" will be posted in NOTAM.

f. The third sheet for Phase 1C will ensure the temporary realigned TWY "M" centerline does not incur FOD from the infield engines getting close to the edge of the paved shoulders. The shoulders can withstand the jet blast, which should not create FOD. The shoulders were also confirmed to be in good condition.

g. Phase 1D will have work done to install the RWY 3 PAPIs. Work will be performed from 2300-0900 for 14 days and will be done concurrently with Phase 1C as the RWY will already be closed. Upon completion of the installation of the PAPI on RWY 3, the flight check will be deferred and coordinated to be conducted when the PAPI on RWY 21 is completed to conduct both checks at the same time, as the PAPI for RWY 3 is hardly utilized. The PCU specifications must be approved on the manufacturer's list and restrictions to the separation distance from the light housing to PCU are required for the PCU to be in the RSA. The flight check cost and coordination are still being waited on. Landing on RWY 3 is rare, so it can be done sequentially with RWY 21, with the flight check being done both one at a time. It may be rare for the 717, but not for the smaller aircraft. Both PAPIs are not operational until around two months before RWY 21 is completed. A follow-up will be done on the requirement to have a RWY 3 PAPI. The pilots would benefit by turning them on sooner. There was no analysis run on jet blast at the intersections of TWY "K" and TWY "A" turning both ways away from the fates due to men and equipment in that area. They can enter at TWY "J" and exit off TWY "K", which is 500' from TWY "A". The jet blast issue will need to be further investigated. The RWY 21 PAPI is FAA owned and is being worked on concurrently with the RWY 3 PAPI as work may be done at the same time. However, it was not sequenced as it if FAA owned and there was priority to finish the RWY 3 PAPI first, separating the two. Phase 1C will instead be done concurrently with the RWY 21 PAPI work as they involve the same RWY closures. This will allow for the use of the RWY 3 PAPI for an additional 21 days instead of taking the systems down one by one. The used PAPIs on the new RWY 3 end will be used and may need to be re-aimed if it is off. They will also be installed on the same ground platform.

Comments:

- Designer to follow-up with Kellie (ATC) on the requirements to have Rwy 3 PAPI on for smaller aircraft.
- Designer inquired if there had been any kind of a jet blast analysis at the intersections of Taxiway K and A turning both ways away from the gates due to men and equipment in that area. An analysis was not run. They can enter at Taxiway J and exit off of Taxiway K which is 500' from Taxiway A as far as jet blast, will need to look at this more.
- Designer to consider delaying Rwy 3 PAPI work until Rwy 21 PAPI starts.

h. Phase 2A will have a portion of the phase for the setup of work on the RWY 21 end, which will encompass closing RWY 3-21 for 4 continuous days during the hours of 0000-0600. Work will need to be done with the airport on Access Gate A, which is currently coordinating with Division. It was suggested to change the vehicle access Gate 30 further North to another road through access Gate 29, which enters at the wash rack as opposed to the current location. The concern is that Blue Hawaiian and ASH are currently expanding out at the terminal, and this will present lesser impacts to their operations. This phase will include relocating the temporary jet blast deflector to its end state location near the AOA fence. This phase is also anticipating conducting some grinding and overlay work at the intersection of TWY "M". The RWY 21 threshold will be relocated to its permanent location and the threshold lights will be installed at the new location. The RWY end light colors will be replaces, along with the new threshold and aiming points being restriped. RWY 3-21 will be closed for 4 days and will have declared distances applied to RWY 17-35. Declared distances will be limited to RWY 35 from 0000-0600. TWY "B" will be closed for one night to restripe at the intersection. There will be RSA grading and some backfilling during this phase which will allow for a longer RSA on the RWY 21 end. AECOM is still currently trying to get a survey done to maximize the distances on RY 21. There will be a need to double check the height of the equipment if aircraft are departing on RWY 35, or in the event of a missed approach for landing to prevent any impacts due to construction equipment height.

   Comments:

   - There will be a need to double check the height of the equipment if aircraft are departing on Runway 35 or in the event of a missed approach for landing, the equipment will not cause any impacts.

i. Phase 2B will include daytime, non-working hours. During this phase, REILs for RWY 21 will not be installed, as well as RWY 21 arrivals being restricted. The RWY 21 RSA will include revised dimensions with the TWY "A1" width. It will still be non-standard until all the work on that end is completed. During this work phase, the proper RSA dimensions are utilized as restrictions are being applied to the various ADG's. it will be 30 days to achieve the 60' RSA while working on the RWY 21 end. It may not be a good idea to have a commercial aircraft operate with no visual aids on RWY 3-21. PAPI work will be conducted concurrently with the RWY work. The RWY 21 PAPIs/REILs are preferred to be operational for this phase since the landing threshold is being relocated.

   Comments:

   - Revise Rwy 21 RSA dimension to include Twy A1 width.

The second Preliminary SRA meeting was conducted on April 30, 2020, with all stakeholders to ensure that the drawings were at the point to have a panel meeting discussion. The following is a recap of the discussion that took place.

Background: AC 150/5300-13 defined surface surrounding RWY suitable to prevent risk/damage in the event of excursion or overshoot. The planning meetings received main comments from airlines to minimize reduction to RWY length since existing restrictions have impacts. RWY 3 appch/dep RPZ was able to maintain in place. Existing condition grandfathered in and FAA agreed to Rwy 21 departure RSA of 935' based on the fact that dep on RWY 21 are very seldom if at all by air carriers. If on that RWY 21 end and want to take off, you're facing the mountain so air carriers don't take off on RWY 21. Thus allowing a RWY 21 departure RSA of 935' was deemed a minimal risk (doc since 2016 in EA etc.). In 2019 the alp was updated for FAA review and currently underway. HDOT-A engineering started on the design with an estimated completion by Feb 2021, construction to start January 22 and finish by February 2023.

Design history: 2 alternatives looking at today developed as we were going into the design; the intent was to design the RSA on the planning effort of 935'. After looking at LIH operations, and trying to squeeze the RSA to end of property line, the retaining wall, vehicle perimeter road and AOA fence was encroaching into the 935' RSA.

Alternative 1. If the VSR is relocated behind jet blast deflector, the RWY 21 departure RSA reduces to 910'. The JBD and VSR are outside the RSA and no requirement for ATCT clearance to cross on the VSR. VSR not visible by ATCT due to JBD.

Alternative 2. If the VSR was located inside the RWY 21 departure RSA (935') in front of the jet blast deflector (JBD). This results with the tower having line of sight to the VSR. The VSR needed to be controlled by tower since its inside the RSA. The initial RSA Determination was based on a 935' Rwy 21 departure RSA with minimal risk.

Both alternatives can work but HDOT-A would like to get input to make that informed decision. RSAD allows no Modification of Standards (MOS) for a RSA.

a. The project scope depicts that when designing both ends of the RWY, the design standards must be followed, following approval from EA and ALP. Jet blast on the RWY 21 end and LOS with a downward slope on that end of the RWY were not looked at.
b. Jet blast could affect a building 156' away, as well as affect the nearby trees.
c. Certain airlines may be bringing in larger aircraft; A330 and B777 will have a larger jet blast. This is the justification for wanting a deflector.
d. The first alternative is proposing to move the VSR outside the RSA, as well as install an 18' curved deflector. The second alternative is that there is no way to snake a road behind the RSA, so a 14' vertical deflector will be installed.
e. The RWY 3 end for Alternative 1 include a 910' sloped RSA and will have declared distances per the ALP. A deflector will be installed bust beyond the 910' RSA, along with the AOA fence and retaining wall. The AOA fence will be 8' tall, and the retaining wall will be to get back grade on the other side. This alternative will have an 18' tall, curved deflector as it deflects air upwards better. There is a 25' opening gap between the fence and the property line, which will allow two vehicles to pass each other. If the vehicles deviate from the road, the retaining wall will stop them. The AOA fence will be for security

and the cable rails will prevent people from falling through the fence. The retaining wall will be to catch the grade difference. There can be an increase in workload for air traffic if they must control the road. The B737 preliminary jet blast will also have an 18' tall, curved deflector modeled. Work will be done with the jet blast deflector person to confirm that this height and length will work. LAX and OAK have 14' deflectors. There is a potential issue with the viewing angle of incidence as the lateral discrimination is 0.3 degrees. RWY 17 can be used for landings as the minimums on GPS are not much different than RWY 21. The LDA for RWY 3 has been decreased compared to the current state, with 1,000' on the departure end. It is requested to ensure that any issues with a missed approach evaluation will not be brought up during the panel discussion and that it should be sorted out by that time. It is suspected that there will not be much impact as the lower end of the fuel quantity when landing.

f. The RWY 3 end for Alternative 2 will have a 935' flat RSA and will include the same declared distances as in alternative 1. There will be a vertical jet blast deflector beyond the RSA, and the VSR will traverse through the backside. There will be a penetration of Part 77 by 7.9' with 14', which is larger than alterative 1. It will also penetrate the AOA fence by around 1.2'. This will have vertical clearance from the top of the deflector. The AOA security fence will be located behind the deflector and will include a cable railing system to prevent someone from falling though. The drawbacks for the VSR being inside the RSA include an increased workload for the tower and an increase in the potential for RWY incursions if an inattentive driver goes through the RSA. The lateral discrimination will remain the same as is in alternative 1. There is a different deflector type because the VSR will be outside the RSA for alternate 1 and inside for alternate 2. There is no way to fit the deflector and AOA fence inside a 935' RSA, while keeping the VSR out of it. A 910' RSA gives room to have all the safety features as well as allow the VSR to be outside the RSA. There is an RNAV missed approach, which is a point prior to the RWY, and required a left turn long before getting close to the RWY. Though, a missed approach has nothing to do with the departure end, and will only require a few hundred more feet of movement, which should not have many impacts.

g. The RWY 21 end AOA, VSR, and retaining wall does encroach into the RWY 17 side. There is also FAA equipment in the way, so the VSR must go around it. The grades drop away quickly and must be flattened out a bit. The VSR will be outside the RSA, along with a guard rail, an 8' tall security fence, and a 13' retaining wall. There will be no impacts to the Part 77 surface. The fence may impact the localizer as it will be used further down the hill than it currently is. It previously was not an interference with NAVAIDs, but it was changed to be a PVC non-metallic fence. Confirmation with FAA needs to be done to understand if an issue is being created. The guard rail will be to prevent vehicles from falling off and will include cable rails, like that in alternate 1. The pinch point will have the VSR shrunk to 11', as well as having the guard rail up against the retaining wall and the chain-link fence embedded on the retaining wall. It will be beneficial, but not required, to elevate the road so the tower can see it. There needs to be more space at the pinch point, however, as there could be salt spray and corrosion affecting a portion of the fence. The ARFF truck also won't be able to make the turn, calling for an aluminum fence instead of a steel one. It is unlikely that the fence will have an impact on the localizer signal as it is

far off the centerline. The old localizer shelter is now just a transformer, which will most likely be demolished in order to help with land loss.

The third Preliminary SRA meeting was conducted on September 9, 2021, with FAA LOB's to ensure that the drawings were at the point to have a panel meeting discussion. It was decided that this project would be conducted in six (6) phases, with each phase including smaller subphases. The following is a recap of the discussion that took place.

Background: Looking at jet blast contours for Boeing 737 and 767 (some 100mph). Needed a jet blast deflector to address that safety issue. Given ALP which has 935' RSA, could only fit the JBD right at the fence line (12' wide). Proposed JBD here, but VSR would not have room to go behind JBD, needed to traverse to RSA (that created problems as the tower must see the VSR so they can control it, grades of rwy end sloped downward so tower couldn't see the VSR. Resulting issues with the VSR in the RSA, the tower has to manage vehicle crossings. Also there is a greater potential of RIs and vehicles/people being hit with jet blast. 2020 presented 2 different options to FAA and HDOT-A:

- 935' RSA, making it flat and not sloped down to provide visibility to ATCT; vertical JBD required higher retaining wall.
- 910' sloped RSA, making space for VSR to go behind RSA; deflector with shorter retaining wall; vehicles would be protected.

Preferred 910' RSA, but after that meeting, HDOT-A decided to proceed with 935' option as it was originally agreed to with FAA and the State (to not bring up anything not agreed upon). Part 139 issues with the airfield lighting system. The project added lighting replacement work (replace cables and fixtures). The intent of the application of Declared Distances (DD) are to maximize the RSAs. When coordinating with the airlines, the RWY is short to begin with (6500'), FAA tried to preserve those numbers to the best effort that they could to reduce any type of operational impact to the carriers. When the designer goes into phasing and DDs, they have been run through the airlines (note as to how we came up with these lengths). RWY 21 end is displaced today but will be further displaced in the future.

a. Preconstruction will begin January 2023, with actual work starting in March. Day and night work was identified for each phase, as well as accelerated 24/7 type work. Shearwater season was also identified and is still in discussion on what may be permissible. General FAA moratoriums take place from mid-November through January and the RWY conditions for RWY closure and NAVAID shutdown schedule were highlighted in the phasing plan.
b. Overall Phase 0 is the mobilization phase and will focus on bringing in a lot of dirt and putting erosion control in. Due to heavy hauling, the haul route will be paved as shown around RWY 3. Some of the existing area near the ARFF station will also be paved, with some excavation being done in the TWY "B" TOFA near ARFF. The AC millings will be smoothed out. If there happens to be some dirt inside the TOFA, TWY "B" will be shut down to get the dirt out early and will be added to the RWY 21 end stockpile. Additional access points will be built at some gates to eliminate using the airport loop road, along with a new gate near the RWY 17 end. There will be no changes to the declared distances. The grading will take place at the corner near TWY "B" and TWY "D", with the sign base possibly needing reconstruction. The new signs on the L=shaped cut on the TWY "D/B"

corner will be done as part of the airfield lighting. This will include a 2' max and will taper down as it gets closer to the TWY. It is still being considered if a new gate will be kept at the RWY 21 and RWY 17 areas after the project. ARFF will review the permanency of it as well as it could possibly be an access point.

c. Overall Phase 1 Daytime will be the biggest phase of the project. This phase will be for construction at the RWY 3 end. This phase will have a duration of 210 calendar days, or 7 months, with the working hours of 0900-1800. There will be a temporary AOA fence on the RWY 3 end, as well as a jet blast deflector to protect men and equipment. VSR operations will need to be constructed as the current VSR will not be available. This phase will also include moving dirt and hauling material to the RWY 21 end. Departures on the RWY 3 end will used declared distances. Going through the RSA will require a call to the tower. There is normally a 600' RSA prior to the landing threshold and 1,000' on the other side. However, it is shortened to where you would need a jet blast deflector to protect the people behind that takeoff point. The permanent solution is still being constructed, but the same principles will be applied throughout the construction period. Measures will be put in to protect personnel and equipment. Any vehicle going through the RSA is required to call ATC. It will be declared during the project that the RSA is 250' and will be under ADO. ADO will discuss what will be allowed behind departing aircraft and provide comments and feedback.
d. Phase 1 Daytime Area A has a note requiring vehicles/personnel to contact the tower in order to enter/transit the RSA. According to HCF, ATC needs to control all vehicles crossing an RSA. ADO will need to have an internal meeting to discuss the temporary blast fence and the reduced RSA behind a departing aircraft on RWY 3. The RWY 21 landing has been declared to have a standard 1,000' departure RSA. The same purpose and intent are applied for the long-term and temporary construction of a shortened RSA behind a departing aircraft.
e. Overall Sub-Phase 1A Nighttime will be concurrent with Phase 1, which was previously daytime. Site #3 will be borrowing dirt in the infield area and will have the working hours of 2300-0500. The RWY circuit will be de-energized nightly and will have NOTAMs for closed areas. A temporary jet blast deflector will be placed at the South end of the physical end of the RWY. TWY "B" will be closed at South, and nighttime ADG-IV departures will require some back-taxi on RWY 17-35. An FDC NOTAM for dirt work for the penetration of potential grading equipment off the RWY 35 departure surface, which is penetration under 2', would not affect the climb gradient. RWY 3 will have a PAPI/REIL shutdown. Some shutdowns will occur nightly and reopen in the morning, which will require a radio if crossing at night. Active vacuum sweeping will also be done as the dust will need to be always controlled, which includes cleaning the lenses of AWOS after every work shift. The declared distances have RWY 3-21 shutdown, while RWY 17-35 will remain unaffected.
f. Overall Electrical Sub-Phase 1B Daytime will have the LOC power line near RWY 21 share the circuit for caution, which also feeds the RWY 21 REIL and PAPI. However, these are in a separate conduit but in shared vaults. The same concerns translate to this phase as that in the RSA work. The reduced RSA is a concern for the ADO. Control of the VSR will be done by ATCT as determined by the published RSA.
g. Overall Electrical Sub-Phase 1C Daytime will be working on circuits R1, T1, and T2. This phase will have an estimated duration of 20 calendar days, with all NOTAMs applied in

Phase 1 being in place. There will also be a micro-phase included to work in the LOC Critical Area. Only one circuit shall be de-energized at a time and no arrivals will be allowed on RWY 3 as the PAPI and REIL will be shut down.

h. Overall Electrical Sub-Phase 1E Daytime will have RWY 35 closed for cable replacements, cans, and transformers. The working hours for this phase will be 2300-0600, and it will be requested that the contractor increases the crew to complete the work on time. Coordination will need to be done with Cargo Carriers to delay arrivals and speed up departures.
i. Overall Electrical Sub-Phase 1F Daytime will see back-taxi needed for RWY 35. Coordination will be done with LIH ATCT to discuss the back-taxi during tower hours and opening up TWY "B" and "C" for queuing area. Barricades will be placed across TWY "B", just to the right of TWY "C".

   Comments: Back taxi and opening up a section on TWY B for aircraft queuing. Coordinate with ATCT.

j. Overall Electrical Sub-Phase 1G Nighttime will take place at TWY "B", South of TWY "D". All NOTAMs will be applied similarly to that in Phase 1. This phase will have the working hours of 2200-0600 with continuous shutdown on NAVAID and REILs. As the work will be in the critical area, equipment will not be allowed to park in the VOR critical area. Instead, pickup trucks will be parked on the taxiway. HCF to draft language for holding areas on TWY "E" and TWY "B" to produce for airlines.

   Comments: Create available holding areas for the airlines to avoid head to head taxiing.

k. Overall Electrical Sub-Phase 1H Nighttime had no comments.
l. Overall Electrical Sub-Phase 1I Nighttime will have the notes moved to the NOTAMs. The contractor should stop work 30 minutes prior to ensure the circuit is active again.
m. Overall Electrical Sub-Phase 1J Nighttime will have an estimated duration of 12 calendar days, with the working hours of 2200-0600.
n. Overall Electrical Sub-Phase 1K Nighttime will have an estimated duration of 12 calendar days, with the working hours of 2200-0600. Arrivals that need to go to the terminal will require back-taxi on RWY 3-21.
o. Overall Electrical Sub-Phase 1L Nighttime will have the notes moved to the NOTAMs. The wind cone shall be always operational.
p. Overall Electrical Sub-Phase 1M Nighttime will have electrical work done on RWY 3-21. This phase will have an estimated duration of 49 calendar days, with the working hours of 2300-0900. Barricade distances and proper OFA lines will be included in the drawings. The contractor should vacate the area when a flight is arriving.
q. Overall Electrical Sub-Phase 1M Nighttime Micro-Phase Areas 1 and 2 will have all barricades to show their dimensions out to the TOFA. There is some cabling work in the LOC Critical Area. The contractor will be allowed to access the critical area when flights area coming in at night. However, the contractor should vacate the critical area when a flight is arriving on RWY 35.
r. Overall Phase 2 will have a strikethrough at the end of the scope of work #1. Notes 5 will also be changed to add a control with flaggers and radio. This phase will include

preparation for the shortening of RWY 3, which will call for 24 hours a day of work. All NAVAIDs will be shut down, as there will be a continuous closure of the runway. FAA HNL ADO asked about the blacking out of the centerline, and it is clarified that it will be temporary, and will only be in place for 2.5 months. The area will also be closed to traffic throughout the whole duration of work. The markings will remain in place, as the runway striping will be non-standard at the new RWY 3 location. A 7460 form will be required for cranes to relocate the jet blast deflector. The easiest way to black out the taxiway lights would be to cover them, however, truckers drove over the lights on TWY "B" because they were unable to see them. The lights that are damaged by the contractor will be replaced at their cost. In order to prevent this from happening again, the cones will have reflective tape around it, as well as a PVC pipe tied to the fixture.

s. Phase 2 Area A will have the TWY "A" centerline temporarily blacked out for 2.5 months as it is less damaging to the pavement. The area will be closed for the duration of work. A black cone with reflective tape will be placed on the lights, along with a PVC pipe with reflectors used as a lanyard.
t. Phase 2 Area B had no phase present.
u. Phase 2 Area C had no phase present.
v. Phase 2 Area D had no phase present.
w. Overall Phase 3 Daytime will have a shortened RWY 3, with the RSA prior to the threshold being 250' non-standard. The declared distance will have RWY 21 standard at a 1,000' departure RSA. The dimension line will be moved to the far end of the RWY 3 blast pad, and 250' will be added to the RWY 21 LDA. The PAPI and REILs will be turned off in Phase 3C and will remain off until the completion of flight check in Phase 4. With the pavement work completed, the threshold will move to the end state, and RWY 21 will be displaced. This will call for the need to utilize non-standard RSA dimensions. It is suggested to possibly move the threshold line back to the temporary blast pad, which would gain 250' for the LDA. In order to minimize the damage to the pavement, the RWY 3 temporary configuration will have temporary markings with no piano keys, just a 10' threshold bar and numeral. The same marking scheme and principals as HNL will be applied.
x. Phase 3 Daytime Area A had no comments.
y. Overall Sub-Phase 3A Nighttime had no comments.
z. Sub-Phase 3A Nighttime Area A had no comments.
aa. Overall Sub-Phase 3B Nighttime will be to correct the TWY "H" hold-line back to 250' for RWY 21. It was clarified that the duration of this phase would be 21 calendar days, as it may involve curing time. However, there may not be a need for 21 days of closure.
bb. Sub-Phase 3B Nighttime Area C will have a duration of 2 calendar days.
cc. Overall Sub-Phase 3CB Daytime (Non-working) had no comments.
dd. Sub-Phase 3B Daytime Area A had no comments.
ee. Sub-Phase 3B Daytime Area B had no comments.
ff. Sub-Phase 3B Daytime Area C had no comments.
gg. Overall Sub-Phase 3C Nighttime will have the LOC OTS with REIL work. The REILS will take four nights at 6 hours, though they may need a longer duration. This phase will also include extended trenching in the RSA. The new RWY 21 location will need a flight check for the REILs and PAPI. FAA Flight Procedures will need to be checked with

regarding RWY 21 procedure changes. RNAV, RNP, RNAV GPS, VOR, DME, and TACAN approach will be used for RWY 21.

hh. Overall Sub-Phase 3C Nighttime Area D had no comments.

ii. Overall Phase 4 will have work done within the LOC critical area. GPS and RNAV approach will be used for RWY 35, which is approved as most airlines should have that capability. Shutting down LOC/GS will be considered, and airlines will be asked if they have any issues with using the RNAV GPS approach procedures for RWY 35. They RWY 17 approach surface heights will need to be checked to determine the maximum allowable height. AECOM will look at the estimated maximum allowable heights. The contractor must file for a 7460-1 form for equipment on RWY 21 to evaluate impacts to the RWY 17 approach.

Comments: Confirm the RWY 17 approach is not penetrated by equipment. Denote a max height for equipment in this area.

jj. Phase 4 Area A had no comments.

kk. Phase 4 Area B had no comments.

ll. Phase 4 Area C had no comments.

mm. Phase 4 Area D had no comments.

nn. Overall Phase 4 Micro-Phase Areas 1 and 2 had no comments.

oo. Overall Phase 5 Daytime will have the RWY threshold is at the end state, with the retaining wall still having a non-standard RSA. There will be an option to restrict RWY 21 landings to B-III, or no restrictions based on prior conditions with an improved RSA. Downgrades in ADG/Approach speeds on either runway will not be acceptable. Barricades will be added on the South end as there is public access to the beach road. Other alternatives that have been considered include a displaced threshold to allow for RWY 21 arrivals, which is the most optimal sequence. However, they RWY 21 slope does not allow some carriers to use it, and RWY 17 is preferred during Kona winds. HCF will check on the RWY usage and will defer to the users on which runway is preferred. RWY 17 has a GPS approach, so HCF will work to use the RWY 21 VOR and circle to RWY 17. This matter will be reviewed with airlines. It was questioned on whether arrivals will take place on RWY 17 or 21 during Kona winds. This will also be coordinated with airlines. A barricade will be used to block access from the public road from the RWY 35 side. There is no consideration for larger than B-II to land on RWY 21. Larger aircraft will be allowed once RSA standards have been met.

pp. Phase 5 Daytime Area D had no comments.

qq. Overall Sub-Phase 5A Nighttime had no comments.

rr. Sub-Phase 5A Nighttime Area D had no comments.

ss. Overall Phase 6 Nighttime will be to construct improvements on the RWY 21 ends for a duration of 60 calendar days. This phase will also have the working hours of 2300-0900. It was questioned if arrivals will be allowed on RWY 21 or restricted to B-II. It was also asked if B-II aircraft will be allowed to depart at the displaced threshold. However, it was mentioned that daytime carriers most likely will not be able to depart RWY 21.

tt. Phase 6 Nighttime Area D had no comments.

uu. Overall Phase 6 Daytime Non-Working will have LIH and its users providing input. RWY 21 will be closed during the nighttime phase. The contractor will be working at night, so landings over the construction site will not be allowed. HCF mentioned that they will work aircraft in if it manages to pass muster with ADO. There will be a NOTAM to restrict RWY 21 to ADG-II or smaller during non-working hours. FAA HNL ADO clarified that if there is a non-standard RSA, restrictions should still be in place. Standards may be cut and dry for ARP but could be sent up the chain for review in a special case. RWY 17 will be available if larger than B-II aircraft needs to come in, which would work in favor of the restriction. A data point may be needed from airlines to see if it is a go/no-go as standards should be met. If the 455' RSA is maintained, the questioned posed in Phase 5 will be revisited. Will the declared distances be further reduced? It should be clear to the pilots where they will land if the threshold is not at 600'. However, the reduced threshold is the safest option and airlines should accept the solution.
vv. Phase 6 Daytime Non-Working Area D was not reviewed.

The fourth Preliminary SRA meeting was conducted on April 7, 2022, with airlines to ensure that the drawings were at the point to have a panel meeting discussion. It was decided that this project would be conducted in four (4) major phases, with each phase including multiple subphases. The following is a recap of the discussion that took place.

a. Phase 0 will be the mobilization phase for the contractor and will include getting the site set up. The three stages identified include the RWY 3 end, behind ARFF, and off the side of the airfield for materials and fill dirt required for the RWY 21 retaining wall. This phase will take place outside the RSA and will be to construct the retaining wall and more room for staging. It is not feasible construct from the outside of the fence as airport security should be maintained at that time. Work will be within the airport property and will build platforms for the runway extension. A temporary AOA fence will be installed along RWY 21 and the edge of the public road. The existing fence will be removed, which is where the new retaining wall will be. A 5' ped path outside the fence will be allowed. The public road will be blocked off for the public, ensuring public and contractor safety. The boundaries for the contractor pile maximum height will be 15'. The temporary AOA gate will be used as a point of entrance and exit, so LIH and the contractor can come and go. This will require gate guards and security clearance. LIH will put out appropriate notices to the public regarding the temporary fence. A pedestrian path will need to be created to allow shoreline access, taking place around the RWY 21 work area. There should be enough room on the shoreline side of the AOA to allow for the cutting down of trees to create the pedestrian access. The last week of this phase will be onsite to ensure that access can be maintained. The contractor will establish a survey control, verify utility locations, and pothole to investigate the borrow site. Site grading will need to be completed in a triangular area along TWYs "B" and "D" to smooth the grades and make them more compliant with the FAA design criteria for grading. Borrow Sites 1 and 2 will be the largest areas, holding the excavating material to create those platforms for the retaining wall. The construction of some haul routes will be primarily made of gravel and will make use of the borrow sites to bring dirt over to the RWY 3 and RWY 21 ends. Additional work will be performed as listed in the Phasing and Barricade diagrams, as well as in the phasing notes. There will

not be parked vehicles on the haul routes within the RWY 3 ROFA. This phase will have a duration of 120 calendar days, with the regular daytime working hours of 0900-1800. LIH will need to review the temporary gates and fence.

Comments:

- Designer will add to the notes to create a pedestrian path in the scope of work.
- LIH will be afforded a chance to review all the temporary gates and fence lines.

b. Phase 0 Area A will be to close RWY 3 to install a temporary jet blast deflector on the RWY 3 end. This will allow work to be done behind to fill the RWY 3 RSA. There will be no landings on RWY 3 with the deflector in place. The taxiway signs and lights will be covered for closed areas every work shift. There will also be an above ground cable for the obstruction lights at the jet blast deflector.
c. Phase 0 Area D will be zoomed in.
d. Sub-Phase 0A Nighttime will have RWY 3-21 closed with the work shift area. This phase will include spreading dirt onto other areas of the airfield. Barricades will be placed along the taxiways and RWY 3-21, with TWYs "D" and "B" open as the primary routes between the terminal and apron areas. The barricades will show the outside of the TOFA. The taxiway edge light covers will also be replaced. Airfield signs will be covered to make it clear to the pilots where the closures are, and the open routes are to follow. NOTAMs will be listed for the taxiway closures and the NAVAID shutdowns will be indicated on the sheets. The beginning of this phase will have the RWY 3 PAPI turned off and will remain off until Phase 4. The deflector will be in place, and no landings will occur on the RWY 3 end. A temporary jet blast deflector will be erected before moving into Phase 1.
e. Sub-Phase 0A Area 1 will be zoomed in to see the barricades and clearances. The contractor will stay out of the operational area to maintain safety.
f. Phase 1 will have the jet blast deflector installed 250' being the existing RWY 3 threshold. Peach is the priority area for the contractor with material being brought from the staging area behind the ARFF station. The construction of the RWY 3 retaining wall will be done on a landside with a temporary AOA fence in place. Most of the Phase 1 work for filling operations and drainage will be done during the daytime hours. Declared distances will be imposed for this phase to ensure a 1,000' minimum RSA, measured from the jet blast deflector. RWY 21 will have a reduced ASDA/LDA/TORA/TODA, based on the profile of the runway as it is today. RWY 3 will have the LDA = 0, with no landings over the jet fence. This phase will start the airfield electrical and signage, beginning with the RWY 21 retaining wall work. AvAirPros noticed that the schedule showed this occurring during shearwater season for 280 calendar days and inquired if it considers that work cannot be done during shearwater phase. The contractor will be working permanently during the day, with no designated nighttime work showing. Obstruction lighting for the temporary jet blast deflector will be powered off by the taxiway circuit. The jet blast deflector obstruction lights will be on at night when the taxiway edge light circuit will become activated. The FAA 7460 form for cranes was also noted.
g. Phase 1 Area A will have a jet blast analysis. The light blue indicates 50 mph wind on the breakaway thrust around the corner. The darker lines indicate 35 mph winds.

h. Phase 1 Area D had no comments or questions.
i. Sub-Phase 1A Daytime will be the start of electrical work and will include recircuiting and some replacement, with some civil work also being done. This phase will include daytime work and will have a duration of 7 calendar days for electrical work on TWY "B", RWY 35, and TWY "C". The pending go/no-go conditions for Kona winds include no work if it occurs. NOTAMs will include those in Phase 1, as well as the additional ones listed on the sheet. SPHPS on TWY "C" will include the new installation. Language will be added to refresh the entire hold line marking. It is requested that PAPI training be done for this project as there will be adjustments when they go out of tolerance and turn off automatic.

   Comments:

   - Language will be added to refresh the entire hold line marking.
   - It is requested that PAPI training be done for this project as there will be adjustments when they go out of tolerance and turn off automatic.

j. Sub-Phase 1B Daytime will be concurrent with the major civil phase 1A. This phase will take place on the longer length of the taxiway and will have the working hours of 0800-1800. Back-taxi will take place on RWY 17-35 to get back to the apron. Go/no-go in Kona wind conditions will have TWY "B" open for aircraft landings on RWY 17. Back-taxi will only be needed if departures are needed on RWY 35 during Tradewinds conditions. The RWY 3 departure will remain normal, which will reduce the number of RWY 35 departures. A note will be added for good VFR conditions for electrical work. A temporary sign "C->" will also be added.
k. Sub-Phase 1C Nighttime will be putting on any light covers within the closure zone. These covers will be added to highspeed "D" and any area leading into the barricade closure zones. This phase will have nighttime work, transitioning into when the tower is closed. It was asked if the procedure has been tested and if departing aircraft for RWY 17-35 must hold at the gate for release from HCF. It was never tested to see if it is effective from the gate or not. HCF will coordinate with the midnight shift, as they normally don't call out until they are taxiing out. For coordination with LIH tower, 134.0 is selected as the frequency even if it is not needed. Coordination will be done during the daytime when the LIH tower can reach out to the pilots and ask them to test it out. It is key to not the gate holds, HCF release, and cancel the flight plans. This has a different communication process from non-ATCT hours. It was asked if HCF can hear the communications at the gate. A test will be requested for effectiveness at the gates near a structure, using the 134.0 working night frequency. HCF and ATCT will coordinate the test during the daytime with all airlines. ASOS cleaning of lenses will be appreciated as tower and airlines could be placed in a predicament if it is dirty. It will be a requirement for contractor to confirm ASOS lenses are clean mid-shift or every two hours. The last two NOTAMs were coordinated with HCF and will only affect the work shift from 2200-0700. The assumption is that the NOTAMs will be issued by the airport, with the FAA equipment NOTAMs handled by FAA. A discussion with the designer will be done to see if any phases can benefit from the Jeppesen 10-8 posting. Adding an A1 direction sign on TWY "A" at the RWY 21 end will be considered.

Comments:

- Gate holds are needed to avoid head to head taxiing.
- HCF and LIH ATCT to look into testing comms at the gate for gate release.
- Add contract language to clean ASOS lens midshaft.
- Any phases can benefit with Jepps 10-8 posting? Drew can address, not considered at this time.
- Consider adding a A1 direction sign on A at rwy 21 end. Designer, Addt'l sign not needed at this time.

l. Sub-Phase 1D Nighttime will be for electrical work and will have nighttime arrivals on RWY 35 exiting on TWY "D". This phase will have the same gate release process. If landings are long, aircraft will be required to do a 180 degree turn at the runway end and cancel the flight plan when they are clear of the runway. Periodic cleaning of the ASOS will be added during work time.

m. Sub-Phase 1E Nighttime will have primarily electrical work on TWY "D" between RWY 3-21 and TWY "B". This phase will also include the same nighttime hours. TWY "B" will be the only way to RWY 35, using the same gate release process and holding at the gate for release from HCF – utilizing the TWY "D" closure. TWY "D" will be closed to prevent aircraft using it as a highspeed exit. Sprigging and watering will be used to promote grass growth, and periodic cleaning of the ASOS will be implemented during work time.

n. Sub-Phase 1F Nighttime will include electrical replacement along RWY 17-35. This phase will have the working hours of 2200-0530 to ensure the contractor is out of the way and open for flights in the morning. The work schedule will be updated to accommodate delayed arrivals. Landing at night will be on RWY 35, and work will be delayed if the flights are also delayed. The airfield will not have any aircraft movement during the closure period, and portions of TWYs "B" and "D" will be deenergized to show this. Barricades and graphics will be added for the sign covers, which includes some of the home run circuits. An investigation will be done to determine if the circuits share the same conduit.

   Comments: Note will be added so work schedule accommodate delayed arrivals.

o. Sub-Phase 1F Area D had no comments or questions.

p. Sub-Phase 1G Daytime will be a work-in-progress around the T-Hangar areas. Following the NOTAMs, circuits will be OTS. This phase will take place on TWY "A", West of TWY "F", and on TWY "D", North of RWY 3-21. All connector taxiway edge lights will be OTS. A few edge lights around the apron and home run will be the primary focus, along with a few airfield signs. If there are low VFR conditions, no work will be done, and the lighting system will be available. The contractor can only impact one circuit at a time unless they have prior approval ahead of time. This phase will take place during the daytime, and an investigation will be done to determine of the there are multiple circuits in a single conduit.

   Comments: There should be a contingency plan in place if something happens, and a circuit becomes inoperable. Verbiage will be added in the construction contract stating that reflectors should be included in the event something does not work. For electrical work in the daytime, the contractor must ensure the system can be working that night. Language

will be added for the contractor to have blue reflectors or above ground cabling as a contingency. If the runway lights cannot come back, the contractor will need to run above ground cabling as a contingency. The nighttime work for this project is not as critical.

q. Sub-Phase 1H Daytime had no comments or questions.
r. Sub-Phase 1I Daytime will have the home run completed. It was asked if when the contractors are repulling the wires in the conduits, will the new fixtures and signage be installed at that time. This will be case, and they will not be able to come back to the same area. The removed fixtures and signs will be dated, and the ones in replaced in 2022 will be kept. 150 were recently replaced, and another 150 dim fixtures will be worked on. A note can be added about salvaging newer light fixtures.
s. Sub-Phase 1J Daytime will have work done during good VFR conditions. A note to airlines includes that with daytime phases, one in/one out for aircraft needing to go to the terminal, as the tower is open during the daytime. Work will be done during ATCT hours with queuing areas, which ATCT is aware of.
t. Sub-Phase 1K Nighttime will be finished with the area between TWYs "G" and "B" and will be closing TWY "A" between TWYs "D" and "G" and TWY "H" from RWY 3-21 to the apron. Aircraft will need to taxi on RWY 3-21 to bypass the construction zone.
u. Sub-Phase 1L Nighttime will be for a segment of TWY "D" form the edge of the RSA and will finish the Western half of the cargo apron. This phase will be at the same time the nighttime gate release is required. There will be a one-way taxiway on TWY "D" and back-taxi on RWY 3.
v. Sub-Phase 1M Nighttime will be at the same time the nighttime gate release is required. There will be a one-way taxiway on TWY "D" and back-taxi on RWY 3. This phase will be for electrical replacement between TWY "D", which is closed all the way to TWY "K" but will only have work done on the Eastern half of the commercial edge. Work will also be done on TWYs "A" and "J", up to the edge of the RSA. Along with the electrical work, a sign change will be performed on TWY "J". An item will be added for signage at TWYs "J" and "K" direction signs. The sign legend will also be changing per the request of Southwest pilot. As the change was requested by airlines, it will meet FAA standards and has no concerns. This phase will have the nighttime working hours of 2200-0700. As this phase is during peak season, it was asked if it would be possible to change the shift working hours. It will be investigated as the contractor should be given good working hours to be productive. Shifting the working hours could also impact the cargo flights in the morning as well. It was stressed that airlines will have to give ample notice if flights are coming in delayed. A note will be added to say that the contractor can start certain pieces of work without final approval from airport with aircraft. Airlines are more concerned with the runway closures to get the flights in and out. Closing RWY 17-35 at night is the most concerning as landings are not available on RWY 3. If runway closure takes place in this phase, Phase 1F will need to extend beyond 30 days. The end of major Phase 1 may need to be shifted, or some electrical work may need to be shifted into Phase 1. There is a buffer in the phases, though, so the electrical contractor may be able to finish sooner. If there are multiple wires in the conduit, each line will be marked off and an extra loop can be added for when the work will be done and when the wire is there.

w. Phase 2 will take place on RWY 3-21 and will have it closed 24/7 for 75 days, including a NOTAM closure. There is a 40:1 departure surface for RWY 17-35 and will not raise the departure gradient. This phase will be for the realignment of the sign and line at TWY "H". The only choke point if TWY "A" between TWYs "D" and "J". During non-ATCT hours, there is no gate hold/release restrictions in the notes. There should be ample taxi routes to get around potential head-to-head situations. No response from airlines is understood as concurrence. The approach line and sign will be changed out to meet the new FAA standards. No responses are understood as concurrence from airlines. Because there are no declared distances for RWY 17-35, closure is needed due to the work being performed. This work includes the removal of the jet blast deflector, building an airfield pavement for the runway section for extension, future stub outs, future pavement at TWY "M", and potential movement in and around TWY "M" going into the pavement. This phase also includes the installation of a new runway. The tallest portion of the wall will be at the pinch point. By the end of the 75 days, the section of the runway must be closed with backfilling in place to reinstate the RSA, having RWY 3 open in Phase 3. The milestones in this phase include completing all electrical replacements, reinstalling the jet blast deflector in the previously located spot at the end of Phase 2 (250' behind the existing threshold location), widening and extending TWY "M" to allow opening, and the pinch point inside the RWY 3-21 RSA. Emergency coordination must be done, and the contractor must reopen RWY 3-21 within 24 hours. Emergency NOTAMs are noted. Beyond shearwater, the temporary jumper will be set up to not have any outages. A new holding position sign foundation and conduit will be installed, and the existing sign at TWY "H" will be removed. The runway stop position is slightly inside the RSA, and the hold line will be moved outside the RSA. Because the choke point is between TWY "J" and TWY "D" when the tower is not open, airlines must manage ins and outs. There is not enough room and available taxiways for the aircraft to prevent nose-to-nose. APCH DEP sign foundations and pavement markings are to be installed.

   Comments: None for the RWY 3-21 75 day closure, RWY 17-35 DD, and for the RWY 17 APPCH sign and marking change out to the newer standards.

x. Phase 2 Area A had no comments or questions.
y. Phase 2 Area D had no comments or questions.
z. Sub-Phase 2A Nighttime will be working within the LOC critical area. This phase will have a duration of 21 calendar nights, with the working hours of 2200-0530. The declared distances need to be posted as there are overlapping safety areas (RWY 17-35 overlaps RWY 3-21). For the contractor to complete pulling cables in this area, there needs to be declared distances nightly on RWY 17-35 during that work shift (RWY 35 ASDA/LDA reduced 300' from 6,500' to 6,200'). This declared distance was previously confirmed with airlines as being workable, with electrical replacement in the blue area. The RWY 35 ILS OTS, with the MALSR still operational. The ILS will remain operational during daytime non-working hours, though. There were no concerns from airlines regarding the declared distances. The sign update will be for the future TWY "A1". Construction of the new RWY 21 REIL foundation and conduit for the future displaced threshold will also be done. This

phase will include the NOTAMs from Phase 2 and additional declared distances on RWY 17-35. To have the lowest minimum for RNAV the MALSR will need to be operational.

aa. Sub-Phase 2A Area D had no comments or questions.

bb. Sub-Phase 2B Nighttime will include the last piece of sign legend changes. This phase will also include the RWY 35 wind cone relocation but will not have the demolition of the existing wind cone until the new wind cone is online. There will be no NOTAMs or non-standard conditions to add to the major Phase 2 NOTAMs. There will also be the placement of barricades and light/sign covers for the closed area.

cc. Sub-Phase 2C Nighttime will have TWY "D" closed between RWY 17-35 to prevent people from entering that zone. Departing aircraft will hold at the gate and be released from HCF. There will be one way in and one way out, with TYW "B" being the only taxiway open to get between RWY 17-35 and the connecting apron areas. This phase will include airfield electrical replacement along RWY 3-21 within the TWY "D" TOFA.

dd. Sub-Phase 2D Nighttime will finish the last piece of electrical work. This phase will install barricades for the sign/light covers. Because TWY "B" will be closed, the contractor can add a new trench or directional drill/conduit. This phase will also include the installation of a new RWY 21 PAPI foundation. There will be freedom to get cabling across TWY "B" during the closure window, which would prevent having to do it later. Work will be done near the weather sensors to ensure that it is clean at the end of each work shift. TWY "A" will be extended with barricades for the lights on top of the jet blast deflector. RWY 3-21 will be reopened to traffic. There will be one way in/out of TWY "D". The gate hold/release process will be re-enacted again.

ee. Phase 3 will be a longer phase, like Phase 1. This phase will have a duration of 280 calendar days, with the working hours of 0800-1800. There will be no arrivals on RWY 3 due to the active construction area. The RWY 21 declared distances will be in effect due to the jet blast deflector. The displaced threshold will be 205', with 145' added for the departure RSA for daytime work. This will be different from the 1,000' departure RSA that is listed for nighttime.

Comments: The RWY 21 PAPI will still be in service and NOTAM needs to be changed.

ff. Phase 3 Area A was zoomed in to see the detail of work to occur.

gg. Sub-Phase 3A will have declared distances imposed at nighttime instead of closing the runway. RWY 3-21 will be restricted to ADG B-II and smaller. The departure point at the intersection will be moved so no large aircraft is departing at the threshold. This is because large aircraft will produce a jet blast where the contractor will be working, and there will not be a jet blast deflector in place. The RWY 3 TORA/TODA will be 6,500', but only for smaller aircraft. The ASDA will be 5,500', so 600' will be for the departure dimension that will be set further South of the existing RWY 21 threshold. TWY "B" is designated as the end and will give the 600' RSA. The RWY 21 ASDA will be 4,750', with the TORA/TODA being 5,000'. The declared distance reduces the runway length during working hours. The RSA will also be graded for reopening conditions. This phase will also include taking down the fence and reopening the public road. The RWY 3 nightly shortening will be changed to closure due to commercial flights using RWY 17-35. No small aircraft is anticipated at night.

hh. Sup-Phase 3A Area D had no comments or questions.

Comments: The RWY 3 nightly shortening will be changed to closure due to commercial flights using RWY 17-35. No small aircraft is anticipated at night.

ii. Phase 4 will have RWY 3-21 closed for 21 calendar days 24/7, from mid-January to February 2025. This phase will include a portion of work inside the LOC critical area, which will also be for moving the PAPIs. The LOC will be impacted as work will be done in the critical area. There will also be a continuous shutdown of the RWY 3 and RWY 21 PAPI and REILs as the RWY 21 threshold is relocated. The RWY 35 LOC and ILS approach will not be available as it will be shut down for 21 days 24/7 due to work inside the LOC critical area. Stakeholders should be aware of the amended Runway 21 approach procedures and reduction to the LDA. It was asked if there was any internal coordination from airlines, and no response was understood as concurrence. The publications will be timed with this opening of the new RWY 21 end. The milestones include the RWY 3 end pavement grooving, RWY 3-21 final pavement markings, and the PAPI/REIL installation and relocation. The end of Phase 4 includes flight check before turning the LOC back on. There will be the same emergency protocol notes as Phase 2. The RWY 3-21 declared distances will be the same as the Phase 3 conditions. Work will be performed as noted on the sheet and the notes for the contractor are listed on the sheet. Flaggers will be required for crossing the active TWY "B" or TWY "D", with the ability to monitor ATCT or HCF. The beach road will remain closed until the end of Phase 4, coordinating with the timing of closures. The declared distances will change RWYs 3 and 21. Flaggers are to also manage vehicle crossing at RWY 21 and TWY "B".

Comments: Stakeholders should be aware of the amended Runway 21 approach procedures and reduction to the LDA. It was asked if there was any internal coordination from airlines, and no response was understood as concurrence. The publications will be timed with this opening of the new RWY 21 end.

jj. Sub-Phase 4A Nighttime will have work done within the LOC critical area and will have similar closure of the LOC as during Phase 2. RWY 35 will have a 300' reduction in ASDA/LDA since it will be working within the overlapping triangle RSA. The RWY 21 PAPI will be relocated, and the existing will be removed to be installed on the newly made foundation. New REILs will also be installed at the new RWY 21 threshold location. Some mill and overlay will take place in this phase, along with raising the grade of the existing blast pad/shoulder area. The final segment of the AOA VSR will be constructed with as the grades are currently steeper than those allowed. This work will be done while the LOC is shut down to minimize the impact. The threshold will be relocated, obliterated, then sealed with a coat, to place new markings in the area. The FAA directional drill across TWY "B" can also be done in this phase if it has not been previously done. This phase will have a duration of 21 calendar days to get the grading done. Declared distances will be for RWY 17-35 at night from 2200-0530. The RWY 35 ILS and LOC instrument approach will not be available, but the RWY 35 MALSR will be operational during this time.

kk. Sub-Phase 4A Area D was zoomed in. It was asked if this phase needed to reflect the change of TWY "A" on the end to TWY "A1". TWY "A1" would not come into play at

the end of the phase, so it is not needed. The ILS hold line at the approach will not be changed in this phase, so it should be shown as existing.

ll. Sub-Phase 4B Nighttime will be for one night, concurrently with Phase 4A. This phase includes mostly pavement markings and will reset the threshold location on RWY 3-21. The centerlines need to get reset in this area near the TWY "D" crossing. Because of the Phase 4A RWY 17-35 shortening, it will be noted here also. TWY "D" will be closed, not allowing for highspeed exit off RWY 17-35 for safety. This phase will see the new TWY "A1" done, with RWY 17-35 having declared distances due to work being done in the RSA. There will be a one-way route at TWY "B", with gate hold/release re-enacted.

mm. Sub-Phase 4C Nighttime will have declared distances on RWY 17-35 due to work being done in the RSA. There will be a one-way route at TWY "B", with gate hold/release re-enacted.

nn. End State will be the end of Phase 4 and will have new PAPIs in place for RWY 21. The final markings will also be back in place for the RWY 3 threshold where it currently exists but will see a new TWY "A" extension with a 935' RSA. This will allow it to be compliant with the 1,000' RSA for departure. With the new IAP for RWY 3-21 anticipated to be published on 02/20/25, this will take place a week or two away from it. There may be a gap in the time between when the runway opens and when it is published. The lines show the threshold sitting surface 20:1 at the actual threshold, as well as 40:1 at the TERPS departure surface. The deflector was noted, with the green dashed line being Part 77 measured from the end of the blast pad. HCF asked about provisions for reopening RWY 3-21 if RWY 17-35 becomes unusable. The emergency protocol will be similar to that in Phase 2. The LOC will be down 24/7 for 21 days due to grading and will need to be flight checked before it turns back on.

Comments: Emphasized Ph 4 the LOC will be down 24/7 for 21 days due to grading, needs to be flight checked before turning back on

The fifth Preliminary SRA meeting was conducted on April 26, 2022, with all stakeholders to ensure that the drawings were at the point to have a panel meeting discussion. It was decided that this project would be conducted in four (4) major phases, with each phase including smaller subphases. The following is a recap of the discussion that took place.

a. There were no objections from the group to bypass review of the General Phasing Notes (G2.01) because they have been reviewed once in prior PreSRA meetings and more refined notes are captured in the phases.
b. There were no objections from the group to bypass review of the Existing Conditions (G2.10).
c. Phase 0 will have the contractor begin mobilization and set up staging areas 1, 2, and 3. There will be no change to the existing declared distances, and temporary AOA fences/gates will be installed. Beach access roads will be closed until the end of Phase 3. LIH will be afforded to review the drawings to make sure it complies with FAA. The stockpile height will be restricted to 15' tall, which is planned to be below the runway surface. The airspace analysis shows 63.33' of vertical clearance. Height restrictions are based on LML restrictions. As they build the wall on the end, the SML restrictions will be provided to that the contractor has a good understanding based on the work they are going

to do. When the contractor comes on board, the maximum height of equipment will be formally established. The only time there will be airspace penetration during construction is at the wall, right at the pinch point. Work for this phase will take place during closure. A maximum height of 80' will be set, with the option to shut down the runway as a backup plan. The submittal of the construction 7460 forms are still being processing, so the determination of height restrictions cannot be definitively set. Tech Ops will continue to have access to the closed beach access road, though it may require an escort. RWY 3 arrival on the RWY 21 end is currently existing and will not be changed. The 145' departure RSA shown is the existing condition and base of the project. The only phase closing the runway is Phase 2 for 75 days and there are no nighttime closures for RWY 3-21. However, there will be nighttime closure for Phase 3. The goal is to close during the construction of the wall. Then, there will be a 21-day full runway closure to do markings refreshment. The focus is to minimize the closure of the runway and to have minimal impacts to operations. In the initial phases presented, a full RWY 3-21 closure was not presented, but it was changed to minimize the impacts to the airlines.

Comments: Where are the stockpiles and the work being performed outside the approach ends? Is that already calculated as acceptable or is that study to be shared? Yes, we are providing a stockpile area and that is going to be below the runway surface. This is the planned area of that stockpile to be 15' high. The stockpile profile shown is well below the rwy 35 missed Appch and OEI dep surf

d. Phase 0 Area A had no comments or questions.
e. Phase 0 Area D had no comments or questions.
f. Sub-Phase 0A Nighttime will be the last 4 nights of Phase 0 and will have RWY 3-21 closed at night to install temporary a jet blast deflector behind the RWY 3 threshold. The taxiway edge light covers and hatched shaded bands over the top of the signs area apart of the runway closure implementation. This phase includes the erection of the jet blast deflector and the addition of a temporary conduit and transformer attached to the existing RWY 3 and REILS. Instead of power to the jet blast deflector, it is better to connect it to the REIL circuits as they are always energized. An investigation will be done to determine if the REILs come on when the runway lights are on. If constant power circuit is an issue, the jet blast deflector will have painted markings such as alternating white and orange stripes, also taking care of the daytime visuals. However, the designer's concern was with nighttime, so a follow up with the LIH electrician will be done. It was confirmed that the wind cone comes off the RWY 3 circuit as well. The PAPIs will be turned off in the first night of this phase when installing the temporary jet blast deflector and going close to the runway so aircraft does not land over top with construction going on behind it.

   Comments: If constant power circuit is going to be an issue, the JBD will have painted markings such as alternating white and orange stripes. That should take care of your daytime visuals. Designer concern was the nighttime, Designer will follow up with the LIH electrician. Alternately, designer wants those lights steady burning at night.

g. Sub-Phase 0A Area 1 will have a duration of 4 nights and will have the runway closed. If the deflector needs to be moved, it will be done with the runway closed. So, they will have access to the equipment out there and will be able to move around.
h. Phase 1 will be the first phase where the contractors begin work. There will be no arrivals on RWY 3, with RWY 21 having declared distances in effect. The temporary portable jet blast deflector height is about 15.3', including the lights. The only change will be on RWY 3 not allowing landings. The 205' displaced threshold will be utilized, along with the 145' departure RSA. The existing 205' and 245' declared distances are remaining during the project. At the end of the project, it will get up to 1,000'.

   Comments: The designer anticipates that there will be training for the contractor, so no ASOS sensors will be damaged. It is suggested to add it as an assumption, and the designer will include some notes to make sure that there is appropriate training for sensor cleaning.

i. Phase 1 Area A had no comments or questions.
j. Phase 1 Area D will have fencing near the recently relocated RWY 35 ILS. Line work was provided by the FAA NAVAIDs lead engineer, and it shows the most recent improvements of the LOC. He and AECOM will be in touch to ensure the fencing is depicted accurately. The temporary gate will be constructed by the project contractor and will block the public road. FAA Tech Ops will be using the fence through the airfield to get to the station. If the contractor is actively working, a security guard will be placed at the gate.

   Comments: The designer will circle back with the airport management team to see if there are any questions or concerns with the county on the pedestrian path.

k. Sub-Phase 1A Daytime will see new signs, new SPHPS, and refresh existing radius and SPHPS for good continuity. There will be no change to the declared distances. If there are any updates to the specific phases, NOTAMs will be issued for them to be secured. There possibly is an easier location on the East side of TWY "B", directly across TWY "B" for the new TWY "C" sign. It already has a cement base, with a can with wires running through it. A note will be made, and coordination will be made to discuss the possible new location. It was inquired where traffic is expected to depart for RWY 35 departures. The typical flow departs from RWY 3, but in Kona wind conditions, it is covered with go/no-go decision. Sub-Phase 1A and 1B will be performed concurrently with no work being performed during bad VFR conditions. Work will remain outside the LOC critical area.
l. Sub-Phase 1B Daytime will be performed concurrently with Sub-Phase 1A. Work will start way up in from TWY "C" to TWY "D" with electrical placement. No declared distances will be imposed, but the table will still be included. Electrical replacement will be done along TWY "B", at the edge lights between TWY "B" and TWY "C", and at RWY 17-35. The grading for this phase will be low compared to that of TWY "B" and will start as it relates to the borrow site. The taxiway will be closed for electrical work, getting grading done to meet the requirements. It will be raised up to meet the object free grading requirement. Work will be done pending go/no-go conditions and good VFR conditions.
m. Sub-Phase 1C Nighttime will consist of electrical and civil grading and will consist of the working hours of 2300-0800. The homerun circuit will be completed in 2 calendar nights

at most. The contractor must provide temporary jumper cables as contingency plan for the lights as only one circuit can be de-energized at a time. The back hillside will be shaved to reduce the grades, making it more compliant with aircraft at LIH. Excess material will be moved to the RWY 3 area, where the stockpile will be built up. A haul route will be added onto the phasing and diagram sheet to show where vehicles will go in and out. It was asked if there is a way to not back-taxi and what the density or volume of traffic is anticipated for this condition. Work will be starting at 2300, after the later mainland flights have landed at LIH. This will impact some of the cargo operators coming in, as they typically land on RWY 35. Minimal impact is anticipated and RWY 3-21 will be available for departures. Because this phase will only be 3 calendar nights, 3-4 cargo flights per night would only call for back-taxi during Kona wind conditions if they land on RWY 17. However, this is a very small percentage of operation. A radio frequency of 126.5 is primarily used on Mount Kaala and is an enroute radio that covers LIH well. There are also alternative ways of contacting HCF, they can call the Honolulu radio and get release through Flight Service, or they can contact the help desk at (808) 840-6201 via cell phone. The methods of communication will be confirmed before the SRA Panel. However, there have been instances where pilots have called on cell phone indicating they were having trouble reaching HCF via radio. It was confirmed that it would be standard for ATIS to have the frequencies in the NOTAMs highlighted along with the other options. It was suggested that 10-8 pages be issued showing the taxi and construction page with diagrams, taxi routes, and subsequent phases. Aircraft will hold on to the taxiway between TWYs "C" and "B", waiting for clearance. There does not seem to be a problem stacking up aircraft, though it will be good to provide additional protection. HCF will help to deconflict so there are no nose-to-nose and ensuring nobody goes to TWY "F" beyond RWY 3-21. As the tower opens at 0600, there should be a notation for calling HCF from gate for release only when tower is not open. There is a blind spot at LIH at night when tower turns into radio control, which will be included in the notes. It was mentioned that if the Jeppesen Charts are published, then the date slides, the information will be stale. The designer and contractor will look more into it once the contractor is on board, and it gets closer to construction. Airport construction notices should also be done, and HCF will stay on top of the ACAC notifications. To get to the RWY 35 end by TWY "E", aircraft would need to take TWY "D" back. If there is a nose-to-nose to TWY "E", aircraft should stay on TWY "B" and go through on TWY "B". It was asked that for this phase and Phase 1B, with work being done on the edge lighting, will back-taxi take place on RWY 17-35 and TWY "C", as that section will be off. AECOM answered that temporary jumpers will be used to implement this.

Comments:

- Contractor to provide contingency plan for bringing edge lights back to service. Can install temporary jumpers.
- Trying to reduce the amount of back taxi. The work hours are late night when there are minimal amounts of flights.
- Gate holds and release to be considered by HCF to avoid head to nose to nose on one way taxi routes.
- HCF to stay on top of ACAC notifications.

n. Sub-Phase 1D Nighttime. Will show the haul route across TWY D.
o. Sub-Phase 1E Nighttime will have haul routes added if that is where the crossing is going to be for earth work. This includes adjustments, raising, and widening. Will show the haul route across TWY D.
p. Sub-Phase 1F Nighttime will put a time limit on delays. Details in the back of the phasing package are to accommodate the gap between barricades to allow ARFF access. A 15–30-minute flight delay will be allowed as this will take place late January -February 2024.

   Comments: Late arrival flights can provide a 4 hour warning.

q. Sub-Phase 1F Area D will consist of electrical replacement, a small area of grading, and tying in the road into a new road alignment.
r. Sub-Phase 1G Daytime will take place around the vault building and ATCT. This phase will take place during the daytime, and will be touching the homerun circuit, pending go/no-go conditions. Impacts to GA will be minimized, with flaggers to help aircraft get in and out. This phase will be a work-in-progress and will need to vacate the cable, pull it out, and put a new cable in. The designer estimates 2 hours per segment along the T-Hangars. Reference durations of the last recircuiting took place 10 years ago along the edge of the runway. It was asked if this could be done at night, but it would be more difficult as there would be a larger outage. Gate D will be entrance and exit only, with not a lot of movement in and out as work will be done in and around the blue hatch zone. AIR-1 will hover-taxi near Gate D near Air Ambulance for expedited removal. This will not have an impact to rotor wing as fixed wing aircraft for Air Ambulance near Gate D is not covered by the blue hatch zone. Fixed wing is in the ramp, so will have TWY “H” to access TWY “A”. Aircraft can then hover out.
s. Sub-Phase 1H Daytime will consist of taking down segments of the edge lights. The edge lights will be OTS for this phase.
t. Sub-Phase 1I Daytime had no comments or questions.
u. Sub-Phase 1J Daytime will see the crosshatch area done as a work-in-progress. Aircraft normally land on RWY 35 and exit on TWYs “D” and “E”, but in this scenario, aircraft will need to take TWY “D” back to the terminal ramp. During departures, they will head left and take off from TWY “M”. For arrival on RWY 17, if a longer runway is needed, TWY “D” will be congested during Kona wind conditions. If aircraft can make the shorter LDA, they will defer to RWY 17.
v. Sub-Phase 1K Nighttime will be difficult to put VFR aircraft in place as they will not be regulated. The local control frequency will become CTAF after the tower is closed, as that will be where the pilots need to announce. However, this is not a standard scenario and language will be added for pilots to be aware. AOCs will be available only during operations, not 24/7, even during construction. It can be requested from the ADM that the AOCs be present during construction, however. This phase will be done one circuit at a time, being replaced in kind.
w. Sub-Phase 1L Nighttime had no comments or questions.
x. Sub-Phase 1M Nighttime will have a duration of 14 calendar nights, with the working hours of 2300-0800.

Comments: Taxiway nomenclature will include existing legends saying "TERM", which is proposed to show the TWY "J" directional sign.

y. Phase 2 will be the kilo portion part of the subphase. It was decided that it would be faster for the contractor to close the runway and have freedom to go into the area to complete the construction of TWY "M". The full-depth pavement needs to be constructed in the TWY "A" extension and the first 300' of the runway extension. The back side of the APCH-DEP sign currently shows a holding position sign, which will need to be changed to an ILS hold line. Current operations have everyone stop at the RWY 17 approach as the approach-departure surface is unknown. The red sign is a mandatory hold, which should be addressed with LIH tower. This phase will take place at TWY "A1" on the RWY 21 end and TWY "A2" on the RWY 3 end. RWY 3 is a primary departure, however, so it could be preferred to have TWY "A1" at the RWY 3 end. The discussion for changing the LIH nomenclature has not been started, and the focus should be on finishing the RSA project.

   Comments:

   - New taxiway nomenclature flow from A1 to A9 may be reconsidered to flow in the primary direction of north to south.
   - Designer and LIH to meet and discuss the TWY A1 and A2 locations.
   - The LIH Master Plan is underway, and discussions for the nomenclature is not currently listed. It was suggested that SMEs be invited to the TAC meeting for the LIH Master Plan.

z. Phase 2 Area A had no comments or questions.
aa. Phase 2 Area D will have new ILS markings installed, along with a replacement of the sign legend.
bb. Sub-Phase 2A Nighttime had no comments or questions.
cc. Sub-Phase 2A Area D had no comments or questions.
dd. Sub-Phase 2B Nighttime will be to relocate the RWY 3 wind cone and remove the segmented circle.
ee. Sub-Phase 2C Nighttime had no comments or questions.
ff. Sub-Phase 2D Nighttime had no comments or questions.
gg. Phase 3 had no comments or questions.
hh. Phase 3 Area A had no comments or questions.
ii. Sub-Phase 3A Nighttime will change Note 3 for RWY 35 departure OEI.
jj. Phase 4 had no comments or questions.
kk. Sub-Phase 4A Nighttime will use FAA equipment. Tech Ops will issue the NOTAM for the equipment. An SEC form must be sent in for approximate dates, then the exact time can be figured out as time approaches the 30-day notice. Local Tech Ops need to coordinate for engineering services who will have a presence on site. If not, work will be through Rick Ambriz, the local SSC manager, to get NOTAMs issued as they come up. As the turnover dates get closer, the CM must communicate with Tech Ops.
ll. Sub-Phase 4A Area D had no comments or questions.

mm. Sub-Phase 4B Nighttime will close the intersection for 3 calendar nights to finish any signs located within the TOFA crossing and finish pavement marking adjustments. This will reset the center point of the runway.

nn. Sub-Phase 4C Nighttime will have flight check for the RWY 21 PAPI REILS and approach, the RWY 3 displaced threshold, the RWY 3 PAPIs, and validating the grading that will be occurring for the LOC.

oo. End State will include publications in case they are off from the 56-day chart publication cycle for the new instrument approach procedures and new TORA/TODA. The 1,000' RSA will not be achieved, but a 935' RSA can be. It was asked if there was anything documented by an RSA determination letter that specifies it is not standard and why it is not standard. FAA HNL ADO answered that an RSAD will be done after this project is completed. FAA also approved the ALP showing this RSA project in October 2020. It was asked if the displaced threshold on both ends will affect the approach surfaces and parallel taxiway, and tower procedures. It was also asked that relative to aircraft travelling on TWY "A", is there an approach surface that will be penetrated enroute past the displaced threshold and will there be a need for an approach hold on either end of the runway. The Threshold Sitting Surface (TSS) will have penetration and the designer will go back and evaluate it. The RWY 3 end is a visual runway, so the expectation would be small GA using RWY 3 for approaches. Approach surfaces resulting from the displaced threshold results in holding back the aircraft. An update will be made to AC 150/5300-13D. The tower has changed management over the past few years. However, they have been in the previous preliminary meetings and suggested RWY 3 full closure to get the work done. FAA HCF noted that LIH cannot do line-up-and-wait, so that may not be a situation. RWY 21 has so few departures, and the original move of the hold line way back on TWY "A" was because of the overlap of approach on RWY 17 and departure of RWY 21. However, air carrier departures are so infrequent on RWY 21, that it will not have an operational impact.

    Comments: Designer to look at the RWY 3 Part 77 profile again and reach out to LIH ATCT. Due to the displaced threshold, it may affect hold line location.

At the conclusion of the multiple preliminary SRA meetings with all the FAA offices, airlines, military, general aviation, and other stakeholders; the designer was able to refine the Phasing and Barricade Plan, and the CSPP narrative for the SRA Panel review. The SRA Panel meeting was conducted on August 10-11, 2022.

Section 1 – Current System / Baseline

Lihue Airport is on the island of Kauai in the State of Hawaii and is located on the southeast coastline. The airport is designated as a primary airport in the FAA's National Plan for Integrated Airport Systems (NPIAS).

The existing airfield configuration consists of two (2) runways on which air traffic is carried: Runway 3-21 and Runway 17-35, which are both classified as Runway Design Code (RDC) C-IV. Runway 3-21 is primarily dedicated for departures, and Runway 17-35 is primarily dedicated for arrivals, and because it is a primary arrival runway, it is equipped with an instrument landing system (ILS).

Table 2: Runway Data Summary

Item	Runway 03/21		Runway 17/35	
	03	**21**	**17**	**35**
Width	150'		150'	
Length	6,500'		6,500'	
Marking Type	Non-Precision		Precision	
Part 77 Approach	Visual	Non-Precision	Non-Precision	Precision
Navigational Aids	None	RNAV/VOR/DME	RNAV	ILS/RNAV/VOR
Visual Aids	4-light PAPI, REIL	4-light PAPI, REIL	4-Light PAPI, REIL	4-Light PAPI, MALSR
Lighting Type	MIRL	MIRL	HIRL	HIRL

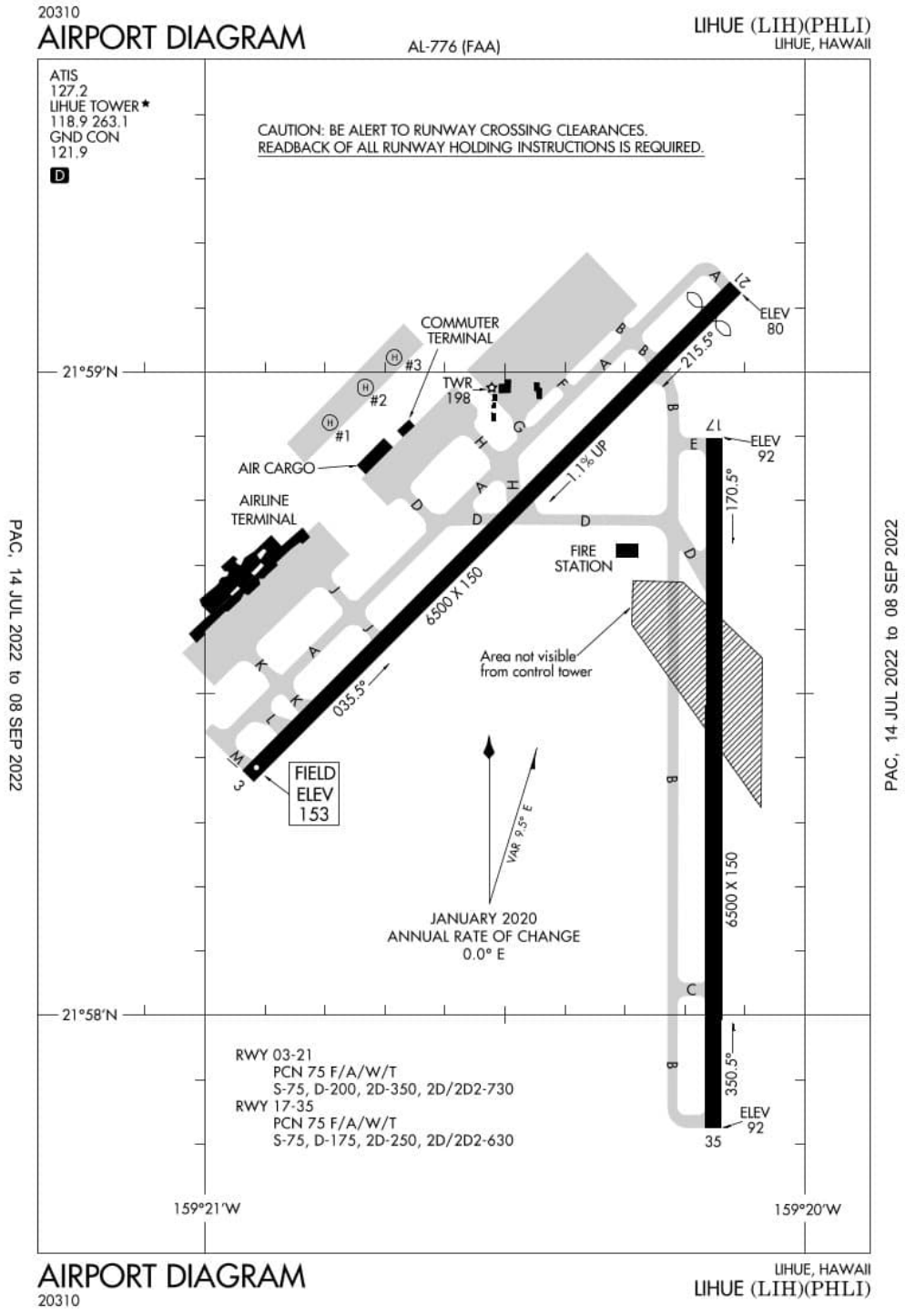

Figure 2: LIH Airport Diagram

Section 2 – Proposed Change

The scope of work consists of RSA improvements, a comprehensive replacement of the existing airfield electrical lighting systems, and repairing, replacing, and installing airfield electrical lighting components.

This project will be constructed in four (4) phases (Phase 0 through Phase 4), with each phase having subphases. The designer received concurrence from the Panel members to skip the General Phasing Notes and Existing Conditions because they were reviewed in all the PreSRA meetings and haven't changed. The following proposed stages (Figures 3-50) were presented at the SRA Panel Meeting. Any agreed upon revisions have been included in the updated CSPP (See Appendix K).

Contractor Access, Staging Areas, and Haul Routes (G0.20):

- Traffic Control Notes:
  - It is the contractor's sole responsibility to see that all traffic control devices are properly installed and maintained at the project site in accordance with the plans, specifications and related industry standards and regulations. The contractor shall submit for review a traffic control and barricade plan for approval by the state.
  - Temporary traffic signal devices shall conform to the State of Hawaii typical sign and manual on barricade standards sheets and to the uniform traffic control devices.
  - The contractor must maintain all streets within the project limits open to through traffic by repairing trenches, potholes, leveling up with asphalt, etc. At no direct payment, cost to be included in other items.
  - All temporary traffic control devices, etc., shall be provided by the contractor without direct payment, unless otherwise noted or stated.
  - Any damage to permanent traffic signals, the controller box loops or conduits during or upon completion of the project shall be repaired or replaced at the contractor's expense. The decision to repair, as opposed to replace, the engineer shall make the damaged equipment.
  - The contractor is responsible for repairing all streets outside the project limits which were damaged by construction activities, HDOT-A. must approve the replacing section There will be no direct payment for this work, the cost is to be included in other items.
- General Notes:
  - Contractor shall be responsible for placing temporary rock base material as needed. The rock material shall be removed by the contractor at no cost to the owner at the completion of the project.
  - See Sheets C1.01 to C1.30 for existing conditions.
  - Payment for staging area preparation and utilities shall be made as part of "mobilization".

- Contractor shall provide badged personnel at temporary access gate and at all construction site access points.
- The contractor shall be responsible for repairing damages to existing roads as a result of hauling materials to the work area. Repairs shall match existing road materials and is to include pavement markings if damaged as well. Any repair efforts are to be to the satisfaction of the owner, at no additional cost to the owner.
- See general phasing notes, Sheet G0.31 for safety notes regarding Runway Safety Area and Object Free Areas.
- Contractor to provide stabilized construction entrance/exit to construction area, as shown on plans.
- Contractor shall provide erosion control measures as necessary along the perimeter of the staging area. See Sheet C0.50 for environmental notes.
- Contractor shall maintain a guard at the site access gate at all times when it is in use. Gate shall be locked when not in use.
- Contractor to smooth out staging areas at the end of the project and ensure positive drainage.

- Comments:
  - None.

Contractor Staging Area #1 & RWY 3 End Temporary AOA Fence (G0.21):

- Notes:
  - Stabilized construction entrances, roads, and haul routes shall be installed at the beginning of construction and maintained for the duration of the project.
  - Additional BMP measures, such as wash pads, may be required to ensure that all paved areas are kept clean for the duration of the project.
  - Contractor shall comply with Construction Safety and Phasing Plan (CSPP) requirements.
  - Contractor is required to provide red obstruction listed (illuminated 224 hours per day), located on the highest point of the batch plant.
  - All contractor's access gates in use shall be manned by badged allied security personnel (hired by contractor) that will be required to verify the identities of authorized construction workers and inspect vehicles in accordance with TSA and airport requirements.
  - The engineer's office facility to be located within the contractor staging area.

Contractor Staging Area #2 (G0.22):

- Notes:
  - Stabilized construction entrances, roads, and haul routes shall be installed at the beginning of construction and maintained for the duration of the project.

    - Additional BMP measures, such as wash pads, may be required to ensure that all paved areas are kept clean for the duration of the project.
    - Contractor shall comply with Construction Safety and Phasing Plan (CSPP) requirements.
    - Contractor is required to provide red obstruction listed (illuminated 224 hours per day), located on the highest point of the batch plant.
    - All contractor's access gates in use shall be manned by badged allied security personnel (hired by contractor) that will be required to verify the identities of authorized construction workers and inspect vehicles in accordance with TSA and airport requirements.
    - The engineer's office facility to be located within the contractor staging area.
- Comments:
    - None.

Contractor Staging Area #3 & RWY 21 End Temporary AOA Fence (G0.23):

- Notes:
    - Stabilized construction entrances, roads, and haul routes shall be installed at the beginning of construction and maintained for the duration of the project.
    - Additional BMP measures, such as wash pads, may be required to ensure that all paved areas are kept clean for the duration of the project.
    - Contractor shall comply with Construction Safety and Phasing Plan (CSPP) requirements.
    - Contractor is required to provide red obstruction listed (illuminated 224 hours per day), located on the highest point of the batch plant.
    - All contractor's access gates in use shall be manned by badged allied security personnel (hired by contractor) that will be required to verify the identities of authorized construction workers and inspect vehicles in accordance with TSA and airport requirements.
    - The engineer's office facility to be located within the contractor staging area.
- Comments:
    - None.

Haul Road Details (G0.24):

- Notes:
    - Geotextile filter fabric shall be placed over the cleared area prior to placing coarse aggregate.
    - Stabilized construction entrance shall be installed prior to onset of construction phase and shall be maintained throughout construction duration.

- Construction entrance shall be removed upon completion of phase and only when directed by the engineer.

- Comments:
  - None.

Construction Sequencing Schedule (G0.30):

- Schedule Notes:
  - All durations are in calendar days.
- Comments:
  - There will be four major phases.
  - Phase 0 will have an estimated duration of 4 months for the contractor, with a temporary jet blast deflector installed at the end of this phase. This phase will start in august 2023.
  - Phase 1 will see construction at the RWY 3 end and will take place from September 2023 through the end of March 2024.
  - Phase 2 will have a duration of 75 days and will have RWY 3-21 closed 24/7. The highest and most difficult portion of the retaining wall will be completed during this time. This cannot be done with the runway open and operational as there are too many safety concerns.
  - Phase 3 will consist of completing the remaining pieces of the wall. This phase will have a duration of 3.5 months that will finish the nighttime work for the wall construction. There will be no construction within the blue boxes, and the red boxes are the FAA moratorium dates.
  - Phase 4 will have a duration of 21 days and will have RWY 3-21 closed for three weeks. All final pavement markings will be implemented, and the signs will be in place for the RWY 3 extension. Flight checks will also be done.

General Phasing Notes (G0.31):

- General Phasing Notes:
  - Unless otherwise indicated, all work shall be performed between the hours shown on these construction phasing drawings.
  - The contractor's attention is directed to advisory circular 150/5370-2G Operational Safety on Airports during construction and the Construction Safety and Phasing Plan (CSPP), to which the contractor shall adhere to.
  - A minimum of 3 hours prior to the beginning of each work shift, the contractor shall coordinate with AOC for going go/no-go decision to determine if work will be permitted during the upcoming shift. Due to certain weather conditions, AOC and/or ATC may cancel work shifts and require the opening of the runway and taxiways for aircraft use. Weather conditions which would require cancellation of

work typically occur during Kona wind conditions with certain wind velocity thresholds. Historic data from the airport shows that these conditions occur less than 10% of the time. Note that the airport will not close RWY 3-21 or RWY 17-35 nightly or begin a new phase with continuous closure of RWY 3-21 if Kona winds are predicted.

- Light towers shall be provided by the contractor for all nighttime work spaced at not greater than 100 feet. Light towers shall be shielded and down pointing lights, not be aimed such that they interfere with pilot visibility or tower personnel visibility. Further restrictions may be required during shearwater bird season from September to December if nighttime work is permitted.
- At the beginning of each shift/night, contractor shall coordinate the location of all traffic control devices and low-profile barricades with the airport operations.
- No open tranches shall be permitted within the safety areas of active runways or taxiways.
- Prior to reopening the runways and taxiways after closures, the safety areas shall be:
    - Cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations.
    - No abrupt changes in grade such as drops or lips greater than 3-inches.
    - Drained by grading to prevent water accumulation.
    - Capable, under dry conditions, of supporting aircraft rescue and fire fighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft.
    - Free of foreign objects, which can damage aircraft.
- An inspection will be performed by the construction manager and airport operations, 30 minutes prior to reopening the runway/taxiway to determine if the above criteria are met.
- At the end of each shift/night, the work area shall be returned to full operational conditions including removing barricades and restoring pavement markings, lighting and signage to original conditions and clarity. Failure to open the airfield on-time to return all runway and taxiway lighting to full operational condition will result in liquidated damages.
- Contractor shall stop work and allow at least 30 minutes for electrical troubleshooting prior to the reopening of the runway/taxiway. The contractor shall be ready to provide temporary jumper cables necessary to re-energize the airfield electrical system in case of collapsed conduits or other unforeseen issues that prevent full restoration at the end of the shift. Temporary jumper cables shall be installed within above ground conduits and anchored from jet blast.
- Contractor shall provide FOD, dust, and smoke control at all times. Haul routes crossing active aircraft pavements (runways, taxiways, and aprons) and public roads shall be continuously cleaned with a vacuum sweeper.

- Waste material or dirt stockpiles shall not be temporarily stored within the runway to taxiway object free area. All materials shall be removed from the airport and placed in designated stockpile location or disposed of at the end of each work shift.
- Construction traffic on the airport is limited to haul and access routes as shown on plans. Haul routes and pavement, including adjacent affected areas, shall be kept in vacuum broom clean condition at all times.
- Haul routes shall be maintained by the contractor and shall be restored to their original condition upon completion of the project. The before and after condition of the on-site haul routes shall be jointly inspected, photographed, and agreed upon by the contractor and the engineer. The contractor is responsible for repairing any damage to the haul routes resulting from construction activity, including repair of striping.
- Contractor shall provide sufficient flag person to ensure construction vehicles using the construction haul road do not interrupt travel of aircraft. Flag persons shown on these plans are the minimum the contractor must provide. It is the responsibility of the contractor to coordinate with airport operations if field conditions warrant additional flag persons or escort vehicles especially during heavy construction activities with material deliveries and excavations.
- The contractor's laydown and storage area as shown are approximate. Contractor shall submit a layout plan of the final size and location of staging areas to the engineer for review and approval prior to mobilization, temporary fencing, power, and utility lines, are the responsibility of the contractor.
- The contractor shall provide and apply dust control at all times, as required, to abate nuisance dust which is a direct result of construction activities on and around the construction and staging areas. Contractor shall clean the lenses of the ASOS at the middle and end of each work shift.
- Any vehicle and equipment that must be transient through the Instrument Landing System (ILS) Critical Area or Localizer (LOC) Critical Area, shall not be parked or stopped in this area for any reason. Provide 72-hour notification to the airport prior to accessing work through this area. A Notice to Airmen (NOTAM) must be filled for work in the ILS and LOC Critical Areas. No equipment or material storages/stockpiling will be allowed within the ILS and LOC Critical Areas. Any work or traversing through this area could degrade the ILS signal and impact airport operations during Instrument Flight Rules (IFR) conditions. The contractor may be required to reschedule work during instrument weather conditions.
- Contractor shall remain outside of VOR Critical Area at all times. Any vehicle and equipment that must be transient through the VOR Critical Area shall not be parked or stopped in this area for any reason. Provide 72-hour notification to the airport prior to accessing work through this area.
- The contractor shall exercise caution when excavating in areas of existing utilities. Existing utilities shall be located and marked in advance of excavation in all areas.

Any damage done to utilities shall be repaired immediately by the contractor at their expense. The location of any utilities shown on the plan is approximate only, and depths may not be known. The contractor shall be responsible for replacing or repairing all damage to utilities and airport property.

- FAA Form 7460-1 shall be filed by the contractor a minimum of 3 months in advance of construction for this project and for all crane activity associated, and obtain approval from FAA prior to work being performed. Contractor shall coordinate with the airport a minimum of 14 days in advance for any required NOTAMs and NAVAID shutdowns.
- Once a phase has started, that phase shall be completed in the total number of continuous calendar days as indicated.
- Contractor haul route will be used by other airport vehicles. The contractor shall not interfere with other vehicle traffic, obey speed limits, and shall yield to all emergency vehicles and aircraft. All existing gates shall be unobstructed and operational at all times.
- Contractor shall be responsible to establish new haul routes or improve existing roads as shown on the plans, or as he/she deems necessary in order to complete the project scope.
- Contractor shall coordinate with the airport for any new construction access gates, and provide airport qualified security personnel to perform required checks and inspections to maintain airport security.

Existing Condition (G0.32):

- Accelerated Stop Distance Available (ASDA) Declared Distances:
  - RWY 3: 6,500’.
  - RWY 21: 6,500’.
  - RWY 17: 6,500’.
  - RWY 35: 6,500’.
- Landing Distance Available (LDA) Declared Distances:
  - RWY 3: 6,500’.
  - RWY 21: 6,295’.
  - RWY 17: 6,500’.
  - RWY 35: 6,500’.
- Takeoff Run Available (TORA) Declared Distances:
  - RWY 3: 6,500’.
  - RWY 21: 6,500’.
  - RWY 17: 6,500’.
  - RWY 35: 6,500’.
- Takeoff Distance Available (TODA) Declared Distances:
  - RWY 3: 6,500’.

- RWY 21: 6,500'.
- RWY 17: 6,500'.
- RWY 35: 6,500'.

Phase 0 (G0.50):

- Duration:
  - 120 calendar days.
- Work Shift:
  - 0900-1800 HST.
- Airfield Operations NOTAMs:
  - Utility potholing and erosion control measures along TWY "B" and TWY "D" TOFAs to be performed as a work-in progress.
- Phase 0 Milestone:
  - Install RWY 3 and RWY 21 temporary AOA fence and temporary access gates.
  - Install erosion control measures.
  - Construct haul routes.
  - Complete early site investigations, utility potholes, and establish survey control.
  - Install temporary jet blast deflector.
- Comments:
  - Work will get done landside, so a temporary security fence is not needed. The haul routes are blue arrows, inside the AOA fence, that can handle contractor vehicles. The gate will have guards, along with a staging area behind the ARFF station. Soils will be removed from the borrow sites. There will be no fixed above-ground objects or vehicles allowed in the VOR area. The bike path will be closed for around 1.5 years until Phase 3 is completed. There will also not be any changes to the declared distances. The gate to the Marriott property will be closed, and the gate near the public access at the RWY 21 side will be completely impenetrable. The temporary AOA fence on the North side will be for the contractor to move. The gate guard is to help direct the public away from this area. This resolves the issue of controlling public access as low-profile barricades will not keep people out. The gate guards are more to turn away vehicles. Pedestrians and bikers will still have access to the shoreline, regulated with a flagger. However, the public will not have access in and out of the airfield and the road will be blocked with a temporary pedestrian gate. At night, there will not be a person to monitor the gate, but the barricades should deter the public form using the road. Night work is not anticipated during this phase, but a gate guard will be used to do additional checks in the event night work is needed. The main concern is with the area East of RWY 21, as there is a large homeless population. This could potentially be a security concern. There is no cultural significance in this area, and if any archeological discoveries are made, the contractor will stop work and a qualified person will be called.

Phase 0 Area A (G0.51):

- General Notes:
  - See C100 series for existing conditions plans and utility locations.
  - Install erosion control measures in work areas, see C0.00 series.
  - Limited nighttime work hours during shearwater season (September through December). See Note 4, Drawing G0.31 for shearwater protection.
- Comments:
  - The bold line in the drawing indicates the temporary AOA fence placed along the RWY 3 end, with the existing AOA fence shown as a gray line. The contractor will construct a haul route landside. Perimeter road improvements will be done for contractor hauling inside the fence airside. A perimeter VSR will be used to keep operations, TSA, and wildlife.

Phase 0 Area D (G0.52):

- General Notes:
  - See C100 series for existing conditions plans and utility locations.
  - Install erosion control measures in work areas, see C0.00 series.
  - Limited nighttime work hours during shearwater season (September through December). See Note 4, Drawing G0.31 for shearwater protection.
- Comments:
  - This phase will take place on the RWY 21 end. The haul route will be stabilized if needed and both sides will be used for gaining contractor access. There will be a temporary perimeter fence and pedestrian trail constructed outside. The designer is aware of the FAA handholds and electrical lines in the road, and potholes will be done prior to installing the fence to ensure nothing hits those existing lines.

Sub-Phase 0A Nighttime (G0.53):

- Duration:
  - 4 consecutive calendar nights.
  - Concurrent with final 4 days of Phase 0.
- Work Shift:
  - 2300-0800 HST.
- Airfield Operations NOTAMs:
  - Refer to Drawing G0.50 for Phase 0 Airfield Operations NOTAMs.
  - RWY 3-21 closed.
  - TWY “A” closed West of TWY “K” and East of TWY “B”.
  - TWY “H” closed South of TWY “A”.
  - TWY “J” closed South of TWY “A”.

    - TWY “K” closed South of TWY “A”.
    - TWY “L” closed.
    - TWY “M” closed.
- Sub-Phase 0A Milestone:
    - Install temporary jet blast deflector.
- Comments:
    - This phase will be concurrent with the final four days of Phase 0 and will have the working hours of 2300-0800. RWY 3-21 will be closed, along with TWY “A” West of TWY “K”. Traffic to RWY 17-35 will be maintained via TWY “D” and TWY “B”. TWYs “L” and “M” will be closed as there should be no traffic where the jet blast deflector will be erected. The jet blast analysis has a conservative approach. The NAVAIDs will be shut down and the RAPI and REILs will remain off. As soon as the jet blast deflector is in place, there will be no landings on RWY 3 over the construction area.

Sub-Phase 0A Area 1 (G0.54):

- General Notes:
    - See C100 series for existing conditions plans and utility locations.
    - Install erosion control measures in work areas, see C0.00 series.
    - Limited nighttime work hours during shearwater season (September through December). See Note 4, Drawing G0.31 for shearwater protection.
- Comments:
    - There is an error in the Boeing documents for B-737 jet blast, as it is overly exaggerated. There is a possibility the jet blast deflector (JBD) is over built. It has been corrected as the breakaway thrust on the corner looks more like a take-off thrust. In any event, the JBD meets or exceeds the minimum requirement. The designer will evaluate any updates to the B-737 jet blast model and get back to the group if there are any changes. There will be more than 60’ of vertical clearance as the stockpile site is below the road height. The designer has reidentified the critical aircraft for Runway 3 departure as the B-767 for jet blast analysis, and it is reflected in the updated CSPP (See Appendix K).

Phase 1 (G1.01):

- Duration:
    - 210 calendar days.
- Work Shift:
    - 0900-1800 HST.
- Airfield Operations NOTAMs:
    - No arrivals on RWY 3 due to active construction work area.

    - RWY 21 declared distances in effect.
    - Temporary portable jet blast deflector installed 250’ South of physical end of RWY 3.
    - Temporary portable jet blast deflector height is ~15.3’ (including foundation and obstruction lights). RWY 21 TORA/TODA reduced to provide clearance for 40:1 departure surface.
    - Contractor working near runways and will remain outside of RWY 17-35 and RWY 3-21 RSA’s.
- Phase 1 Milestone:
    - RWY 3 end:
        - Priority area: storm drain improvements and earthwork embankment fill.
        - Complete retaining wall construction.
    - RWY 21 end:
        - Southern 300’ of retaining wall, backfill and utility improvements.
        - Northern 200’ of retaining wall and backfill.
        - Construct access road to future RWY 21 PAPI.
- Comments:
    - This phase will have a duration of 210 calendar days, with the working hours of 0900-1800. The reviewed NOTAMs are listed and there will be a continuous shutdown of the RWY 3 PAPI and REILs. Airfield non-standard conditions and milestones/priority areas were reviewed. Daily checks will be done along the fence for the haul route for TSA, LIH operations, and wildlife. This will be one of the larger phases as it will have a seven-month duration. The declared distances for the RWY 3 LDA = 0 because of the jet blast deflector, leading to no landings on RWY 3. The RWY 21 ASDA and LDA will be shortened because of that jet blast deflector. 4760 forms will be needed for cranes once the contractor is onboard as it will be easier to determine where the cranes will be needed. The foundation, or first 300’ of the wall will be built and will not be in the 80’ MSL. Instead, it will more likely be down to 50-60 MSL. AECOM will look at the breakaway thrust as they enter the runway to see if the jet blast deflector will be of use. There is a deep storm drain that will require equipment. The equipment used cannot exceed the 14’ tall jet blast deflector. This storm drain will need to be actively worked on during this phase, or the duration will need to be extended.

Phase 1 Area A (G1.02):

- General Notes:
    - See C100 series for existing conditions plans and utility locations.
    - Install erosion control measures in work areas, see C0.00 series.
    - Limited nighttime work hours during shearwater season (September through December). See Note 4, Drawing G0.31 for shearwater protection.

- Comments:
    - None.

Phase 1 Area D (G1.03):

- General Notes:
    - See C100 series for existing conditions plans and utility locations.
    - Install erosion control measures in work areas, see C0.00 series.
    - Limited nighttime work hours during shearwater season (September through December). See Note 4, Drawing G0.31 for shearwater protection.
- Comments:
    - None.

Sub-Phase 1A Daytime (G1.04):

- Duration:
    - 7 calendar days.
    - Concurrent with Phase 1 and Sub-Phase 1B duration.
    - Pending go/no-go with Kona winds and good VFR conditions.
- Work Shift:
    - 0800-1800 HST.
- Airfield Operations NOTAMs:
    - Refer to Drawing G1.01 for Phase 1 NOTAMs.
    - TWY "B" closed South of TWY "D" to RWY 35 end.
    - TWY "C" closed.
- Comments:
    - The SPHPS will be removed, and pavement protection will be put down. Following this, the pavement markings will be put down to allow for that turning movement. The new TWY "C" sign on the West side of TWY "B" has an existing foundation on the East side near the PAPI lights, but it will not work as the power leg would have to be redone anyways. Demolishing the old one and redoing it will not allow for the existing foundation to be used. No work during Kona winds. If Kona winds arise during the shift, they still have the option to land RWY 21 and depart RWY 17, as normally done. RWY 21 will have a reduced LDA. Aircraft may need to land on RWY 17 for a longer LDA, and the contractor needs to be stopped and cleared off TWY B. As aircraft are requesting RWY 35 departure, ATCT and radar facility will have to coordinate to have them utilize the runway for back-taxi. Some aircraft may request departure on RWY 35, which is not standard. It can be worked out to clear the contractor from TWY B for RWY 35 departure. Work during this phase is planned to be daytime, so nighttime departures can depart on RWY 35 as the barricades will be removed after 1800.

Sub-Phase 1B Daytime (G1.05):

- Duration:
  - 21 calendar days.
  - Concurrent with Phase 1 and Sub-Phase 1A duration.
  - Pending go/no-go for Kona winds and good VFR conditions.
- Work Shift:
  - 0800-1800 HST.
- Airfield Operations NOTAMs:
  - Refer to Drawing G1.01 for Phase 1 NOTAMs.
  - TWY "B" closed between TWY "D" and TWY "C".
- Comments:
  - This phase will have a duration of 25 calendar days and will be concurrent with major Phase 1. The airfield will have non-standard conditions and drawing G1.01 will be referred to for Phase 1 conditions. In the unlikely event that the far Southern edge of TWY "B" needs to be lighted up in the daytime, it was asked if there is a temporary electrical leg to light the TWY "B" edge lights up. At this point, jumpers are not anticipated in this area. Therefore, this phase is scheduled for daytime and why there are go/no-go for IFR conditions.

Sub-Phase 1C Nighttime (G1.06):

- Duration:
  - 3 calendar nights.
  - Concurrent with Phase 1.
  - Homerun circuit to be completed in 2 calendar nights max.
- Work Shift:
  - 2300-0800 HST.
- Airfield Operations NOTAMs:
  - Refer to Drawing G1.01 for Phase 1 NOTAMs.
  - TWY "B" closed between TWY "E" and TWY "C".
  - TWY "D" closed between RWY 17-35 and RWY 3-21.
  - Departing aircraft for RWY 35 must back-taxi to TWY "E".
  - Arriving aircraft on RWY 17 must back-taxi to TWY "E".
- Special Instructions for ATIS:
  - Departing IFR aircraft for RWY 17-35 must hold at gate for release form HCF on 134.0/319.2, 126.5/269.4 or call HCF at 808-840-6201.
  - Arriving IFR aircraft shall cancel flight plan when clear of landing runway and all taxiways.

- Comments:
    - This phase will be for moving North along TWY "B" and will see the intersection at TWYs "B" and "D" closed. The duration of this phase will be 3 calendar nights as there is less air traffic. This phase will be done concurrently with Phase 1. The homerun circuit will be completed in a maximum of two calendar nights.
    - There are special instructions for ATIS to hold at the gate for release form HCF. The radio frequency and HCF number are to be provided. Aircraft will call for release after tower hours, as that is the standard procedure. However, this information cannot be put on a NOTAM and will need to be on the closing ATIS. It was discovered during the rubber removal project that this could not be a NOTAM, and coordination was done to put it on the closing ATIS. Jeppesen will be updated to have that information, and the 134.0 frequency is available and not assigned to anyone in the facility. However, the LIH approach never got set up due to Hurricane Iniki. After tower is closed (2200-0600), aircraft will need to call HCF. By aircraft listening to ATIS, they will not push until they contact HCF.
    - A NOTAM can be added stating that the lights on the far South end of TWY "B" leading to RWY 35 cannot be controlled and will time out after 15 minutes. The lights need to be clicked again to turn them back on. AOC's will have to drive back up to TWY "D" to turn it back on. It was suggested that this should be added as a note to the phasing plan. It was also suggested to include it in Jeppesen 10-8 construction page. A CSPP note will be added for stakeholder awareness as aircraft antenna are higher than the trucks.

Sub-Phase 1D Nighttime (G1.07):

- Duration:
    - 11 calendar nights.
    - Concurrent with Phase 1.
    - Homerun circuit to be completed in 2 calendar nights max.
- Work Shift:
    - 2300-0800 HST.
- Airfield Operations NOTAMs:
    - Refer to Drawing G1.01 for Phase 1 NOTAMs.
    - TWY "B" closed between TWY "D" and RWY 3-21.
    - TWY "E" closed.
    - Nighttime arrival on RWY 35 to exit at TWY "D".
    - Nighttime arrival on RWY 35 landing long will require aircraft to 180-degree turn at RWY 17 end and back-taxi to TWY "D".
    - Departing aircraft for RWY 17 must back-taxi on the runway.
    - Potential FDC NOTAM for penetration of 40:1 departure surface for RWY 35, but will not raise the departure climb gradient.

- Special Instructions for ATIS:
    - Departing IFR aircraft for RWY 17-35 must hold at gate for release form HCF on 134.0/319.2, 126.5/269.4 or call HCF at 808-840-6201.
    - Arriving IFR aircraft shall cancel flight plan when clear of landing runway and all taxiways.
- Comments:
    - TWY "B" will be closed between TWY "D" and the RWY 3-21 RSA boundary as work will be moving further down TWY "B". This phase will have a duration of 11 calendar nights and will be concurrent with major Phase 1. The working hours for this phase will be 2300-0800. The major homerun circuit is to be completed in a maximum of 2 calendar nights. Grading will be done in this area. The hillside does not comply to TSA grading requirements, so the contractor will be shaving it down and performing minor grading improvements. Sprigging will be done to reinstall grass inside the island area. The area will also continue to be watered so that the new grass can properly grow.
    - The only signage for 180-degree turns on the runway back, to TWY "D" is on TWY "B" for closure. If aircraft lands on RWY 17, they would be able to go to the end of the runway and come up on TWY "B" and use TWY "D" to get back to the terminal. The 180-degree turn is only needed if someone was landing on RWY 35 and missed TWY "D" to the terminal. The hope is that the chance of this situation is low as work will be done at night. There are no signs no RWY 17 to notify pilots, but TWY "D" will be on their right. RWY 3-21 will be open for early departures. Most of the cargo planes will get off at the TWY "D" high-speed when landing on RWY 35. If coming of TWY "D", it may delineate the edge of the taxiway. The LIH ATCT Manager shared the gate hold procedures in Jeppesen 10-5. The contractor will cross the active TWY "D" with two flaggers in place so there are no issues. They will need to be aware of the requirement to keep this area clear of FOD.

Sub-Phase 1E Nighttime (G1.08):

- Duration:
    - 17 calendar nights.
    - Concurrent with Phase 1.
- Work Shift:
    - 2300-0800 HST.
- Airfield Operations NOTAMs:
    - Refer to Drawing G1.01 for Phase 1 NOTAMs.
    - TWY "D" closed between RWY 17-35 and TWY "B", and between TWY "B" and RWY 3-21.

- Special Instructions for ATIS:
  - Departing IFR aircraft for RWY 17-35 must hold at gate for release form HCF on 134.0/319.2, 126.5/269.4 or call HCF at 808-840-6201.
  - Arriving IFR aircraft shall cancel flight plan when clear of landing runway and all taxiways.
- Comments:
  - This phase will have a duration of 17 calendar days and will be done concurrently with Phase 1. There will also be the same special inspections for ATIS. There are two storm drain structures that need to be raised up to grade. The FAA access road to the new RWY 21 PAPI is being designed by FAA and is prescribed to be completed during this phase.

Sub-Phase 1F Nighttime (G1.09):

- Duration:
  - 30 calendar nights.
  - Concurrent with Phase 1.
- Work Shift:
  - 2300-0530 HST.
  - Pending go/no-go for Kona wind conditions.
  - RWY 17-35 closure start time is dependent on:
    - Arrival of last schedule flight, which may be delayed up to 30 minutes. Beyond 30-minute delay, runway will be closed, and flights shall be diverted.
    - Kona wind conditions with aircraft needing the longer RWY 17 for arrivals.
- Airfield Operations NOTAMs:
  - Refer to Drawing G1.01 for Phase 1 NOTAMs.
  - RWY 17-35 closed.
  - TWY “B” closed South of RWY 3-21.
  - TWY “C” closed.
  - TWY “D” closed South of RWY 3-21.
  - TWY “E” closed.
- Comments:
  - RWY 17-35 will be closed during this phase, which has a duration of 30 calendar nights. This phase will also be done concurrently with major Phase 1, with the working hours of 2300-0530. RWY 17-35 will be reopened before morning traffic increases at LIH. Pending go/no-go for Kona wind conditions, the RWY 17-35 closure start time is dependent on the arrival of the last scheduled slight, which may be delayed up to 30 minutes. Beyond a 30-minute delay, the runway will be closed and flights shall be diverted. The runway closure time is also dependent on Kona wind conditions with aircraft needing the longer RWY 17 for arrivals.

- The airfield operational NOTAMs and NAVAID shutdowns were reviewed, along with the work to be performed. Civil grading is required in the RWY 17-35 RSA sliver along the edge where cones are shown. There will be no bumps, dips, or grades in the RSA when it is completed. The RWY 17-35 LDA = 0.

Sub-Phase 1F Area D (G1.10):

- General Notes:
  - See C100 series for existing conditions plans and utility locations.
  - Install erosion control measures in work areas, see C0.00 series.
  - Limited nighttime work hours during shearwater season (September through December). See Note 4, Drawing G0.31 for shearwater protection.
- Comments:
  - None.

Sub-Phase 1G Daytime (G1.11):

- Duration:
  - 4 calendar days.
  - Concurrent with Phase 1.
- Work Shift:
  - 0800-1800 HST.
  - Pending go/no-go for good VFR conditions.
- Airfield Operations NOTAMs:
  - Refer to Drawing G1.01 for Phase 1 NOTAMs.
  - TWY “G” closed.
  - Electrical replacement within apron to be performed as a work-in-progress.
  - Circuit R1: RWY 17-35 edge lights out of service.
  - Circuit R2: RWY 3-21 edge lights out of service.
  - Circuit T1: TWY “B” South of TWY “D” and TWY “C” edge lights out of service.
  - Circuit T2: TWY “A” East of TWY “G”, TWY “B” North of TWY “D”, TWY “D” between RWY 3 and RWY 17 edge lights out of service.
  - Circuit T3: TWY “A” West of TWY “F”, TWY “D” North of RWY 3-21, TWY “H”, TWY “J”, TWY “K”, TWY “L” and TWY “M” edge lights out of service.
- Comments:
  - This phase will have impacts to the homerun and apron edge West of TWY “F”. The duration and work shift were reviewed, along with the airfield operational NOTAMs. TWY “G” is closed along the OFA. Apron work will be done as a work-in-progress as Air Ambulance will need access to the area. Pilots will be notified that the edge lights may be OTS for the runway and taxiway during this construction phase. It should be ensured that the hangar within that phasing area for the county rescue helicopter is not impacted.

- As the contractor makes progress, they will move the barricades over to not close an area completely. The flaggers will have ATCT radio communications so they can listen and help the contractor. It should be ensured that the cones where the two RSA's meet at the RWY 21 end are weighted so they do not become a FOD risk. Previous site investigations have used heavy duty traffic cones, and they can also be double weighed down. The cones are down the hillside so they are not concerned that they will be blown away. There will be a standard approach as the linked barricades would apply to the paved surfaces. Theses barricades will be for the infield areas and will be spaced out appropriately to minimize the number of barricades required. An area will also have to be staked out for the RSA delineation. It should be ensured that the contractor is aware not to go past the cones.

Sub-Phase 1H Daytime (G1.12):

- Duration:
  - 2 calendar days.
  - Concurrent with Phase 1.
- Work Shift:
  - 0800-1800 HST.
  - Pending go/no-go for good VFR conditions.
- Airfield Operations NOTAMs:
  - Refer to Drawing G1.01 for Phase 1 NOTAMs.
  - TWY "A" closed between TWY "F" and TWY "H".
  - TWY "G" closed.
  - Aircraft to taxi on RWY 3-21 to bypass construction.
  - Electrical replacement within apron to be performed as work-in-progress.
  - Circuit R2: RWY 3-21 edge lights out of service.
  - Circuit T3: TWY "A" West of TWY "F", TWY "D" North of RWY 3-21, TWY "H", TWY "J", TWY "K", TWY "L", and TWY "M" edge lights out of service.
- Comments:
  - This phase will have a duration of 2 calendar days and will be concurrent with Phase 1. Work will be done between TWY "F" and TWY "H" pending go/no-go conditions. This phase will be done during the daytime as the tower will be open to assist as needed. The segment of circuitry along the edge of the apron and some of the homerun circuit are to be done as a work-in-progress.

Sub-Phase 1I Daytime (G1.13):

- Duration:
  - 4 calendar days.
  - Concurrent with Phase 1.

- Work Shift:
  - 0800-1800 HST.
  - Pending go/no-go for good VFR conditions.
- Airfield Operations NOTAMs:
  - Refer to Drawing G1.01 for Phase 1 NOTAMs.
  - TWY “A” closed between TWY “F” and TWY “H”.
  - TWY “G” closed.
  - Aircraft to taxi on RWY 3-21 to bypass construction.
- Comments:
  - The back-taxi scenario for this phase is to taxi on RWY 3-21 to bypass construction. A segment of TWY “A” will be closed during the daytime as aircraft will need to back-taxi on RWY 3-21 to gain access to the RWY 3 end from the north apron.

Sub-Phase 1J Daytime (G1.14):

- Duration:
  - 7 calendar days.
  - Concurrent with Phase 1.
- Work Shift:
  - 0800-1800 HST.
  - Pending go/no-go decision for good VFR conditions.
- Airfield Operations NOTAMs:
  - Refer to Drawing G1.01 for Phase 1 NOTAMs.
  - TWY “A” closed between TWY “B” and TWY “G”.
  - TWY “F” closed.
  - Aircraft to taxi on RWY 3-21 to bypass construction.
  - Electrical replacement along edge of apron to be performed as work-in-progress.
  - Circuit R1: RWY 17-35 edge lights out of service.
  - Circuit T1: TWY “B” South of TWY “D” and TWY “C” edge lights out of service.
  - Circuit T2: TWY “A” East of TWY “G”, TWY “B” North of TWY “D”, and TWY “D” between TWY 3 and RWY 17 edge lights out of service.
- Comments:
  - This phase will have a duration of 7 calendar days and will be done concurrently with Phase 1. TWY “F” will be closed, so access into the GA area will be through TWY “G”. The contractor shall limit the impact to ensure aircraft can safely bypass this area.

Sub-Phase 1K Nighttime (G1.15):

- Duration:
  - 7 calendar nights.
  - Concurrent with Phase 1.

- Work Shift:
  - 2300-0800 HST.
- Airfield Operations NOTAMs:
  - Refer to Drawing G1.01 for Phase 1 NOTAMs.
  - TWY "A" closed between TWY "D" and TWY "G".
  - TWY "H" closed.
  - Aircraft to taxi on RWY 3-21 to bypass construction.
  - Departing aircraft for RWY 17-35 must hold at gate for release from HCF.
  - Arriving aircraft shall cancel flight plan when clear of landing runway.
  - Electrical replacement along edge of apron to be performed as a work-in-progress.
- Comments:
  - Back-taxi will be done on RWY 3-21. Cargo can gain access up through TWY "D", with the area being one-in one-out. HCF stated that departing gate hold procedure and arriving cancellation of flight plan notes need to be moved out of NOTAMs and into special instructions for all phases. Apron work will be a work-in-progress.

Sub-Phase 1L Nighttime (G1.16):

- Duration:
  - 7 calendar nights.
  - Concurrent with Phase 1.
- Work Shift:
  - 2300-0800 HST.
- Airfield Operations NOTAMs:
  - Refer to Drawing G1.01 for Phase 1 NOTAMs.
  - TWY "A" closed between TWY "H" and TWY "J".
  - TWY "D" closed between apron and RWY 3-21.
  - Aircraft to taxi on RWY 3-21 to bypass construction.
  - Departing aircraft for RWY 17-35 must hold at gate for release from HCF.
  - Arriving aircraft shall cancel flight plan when clear of landing runway.
  - Electrical replacement along edge of terminal apron to be performed as work-in-progress.
- Comments:
  - The duration, work shift, and NOTAMs were reviewed. Departing and arriving NOTAMs are to be moved. Jeppesen 10-8 pages could be changed to say numerous. The area may require back-taxi, so there should be a 10-8 page published for this. There should be multiple sequences for pilots at night, but it should not be that bad during the day as the tower is open.
  - As an example, HNL RWY 8L Phase 1 NOTAM states that TWY "E" is the last exit. A similar NOTAM may be issued for notification that LIH TWY "D" will be the last available taxiway exit for aircraft landing on RWY 35. Regarding concerns with back-taxi on RWY 3-21, HCF will talk to aircraft prior to their movement. If

landing on RWY 35, aircraft that land long can always be given an advisory that TWY "E" is closed and if they go to the end, a 180 degree turn is needed. IFR if departing during closure period, they can reference on frequency that back-taxi will be needed on RWY 3. There are a limited number of aircraft that will be doing this, but HCF will talk to them. Alaska Airlines noted that they also call out the need to back-taxi in their company NOTAMs and 10-8 pages for construction. Last year at KOA, taxiway construction required back-taxi during hours that the tower was closed. They put out company information during that time documenting this. Southwest Airlines also noted that they did the same with added notices to the release. The CM will be taking on the responsibility of notifying users via email, which will include these safety plan exhibits, NOTAMs, and notifications two weeks prior to it happening and three-week schedule as the project goes on. Questions can be filtered through the CM team, which will then be distributed through HCF, ATC, and LIH Operations. As the project date gets closer, the main POC, support POC, and all who need to be included will be added to an email list for notifications. As noted in previous meetings, it should be ensured that A4A and IATA are on the distribution lists to share with their members: A4rep@airlines.org and MIAO&I@iata.org.

Sub-Phase 1M Nighttime (G1.17):

- Duration:
  - 7 calendar nights.
  - Concurrent with Phase 1.
- Work Shift:
  - 2300-0800 HST.
- Airfield Operations NOTAMs:
  - Refer to Drawing G1.01 for Phase 1 NOTAMs.
  - TWY "A" closed between TWY "K" and TWY "D".
  - TWY "J" closed.
  - Aircraft to taxi on RWY 3-21 to bypass construction.
  - Departing aircraft for RWY 17-35 must hold at gate for release from HCF.
  - Arriving aircraft shall cancel flight plan when clear of landing runway.
  - Electrical replacement along edge of terminal apron to be performed as work-in-progress.
- Comments:
  - Electrical along TWY "A" between TWYs "K" and "D" will be replaced. The areas along TWY "J" from the RWY 3-21 RSA up to the apron and along the apron will be done as a work-in-progress. This phase will have a duration of 7 calendar nights, with the working hours of 2300-0800. It will be ensured that there are ample clearances for departing aircraft. A flagger will monitor ATC radio and will hear when aircraft is being pushed back so the contractor can be moved out of this area

to give way to aircraft. The contractor will be badged and will have inspectors looking for FOD in the area, and other apron edges where there are work-in-progress scenarios. It is critical for the contractor to be aware of that, and the CM team should also help with this as FOD is a part of the CSPP. Previous meetings discussed changing the sign panel legends. They are currently indicated as TERM and will be changed to taxiway directional signs for TWY "J" (<-J or J->). When going to declared distances and shortened runways, heavy breaking action and rubber build up was a concern. Friction testing equipment must be checked for operational status, otherwise the runway length reductions will still allow for normal taxiway exits and rubber build up should not occur at a faster rate.

Phase 2 (G2.01):

- Duration:
  - 75 calendar nights.
- Work Shift:
  - 24/7.
- Airfield Operations NOTAMs:
  - RWY 3-21 closed.
  - TWY "A" closed West of TWY "D" and East of TWY "B".
  - TWY "H" closed South of TWY "A".
  - TWY "J" closed South of TWY "A".
  - TWY "K" closed South of TWY "A".
  - TWY "L" closed.
  - TWY "M" closed.
  - Contractor working near runways will remain outside of RWY 17-35 RSA and LOC Critical Area.
  - Potential FDC NOTAM for penetration of 40:1 departure surface for RWY 35 located West of TWY "B" but will not raise the departure climb gradient. Applying the same measures from the past OEAAA determination for equipment. Designer will add an equipment height restriction note in the CSPP.
- Phase 2 Milestone:
  - Complete airfield electrical replacement.
  - During final 4 days of Phase 2: re-install temporary portable jet blast deflector.
  - RWY 3 end:
    - Complete TWY "M" widening and priority area 300' of runway and taxiway extension.
  - RWY 21 end:
    - Complete 350' of retaining wall inside RWY 3-21 RSA (for a total of 850' completed), inspection road, VSR, and platform fill and grading outside LOC Critical Area.

- Comments:
    - The jet blast deflector will be reinstalled.

Phase 2 Area A (G2.02):

- General Notes:
    - See C100 series for existing conditions plans and utility locations.
    - Install erosion control measures in work areas, see C0.00 series.
    - Limited nighttime work hours during shearwater season (September through December). See Note 4, Drawing G0.31 for shearwater protection.
- Comments:
    - None.

Phase 2 Area D (G2.03):

- General Notes:
    - See C100 series for existing conditions plans and utility locations.
    - Install erosion control measures in work areas, see C0.00 series.
    - Limited nighttime work hours during shearwater season (September through December). See Note 4, Drawing G0.31 for shearwater protection.
- Comments:
    - None.

Sub-Phase 2A Nighttime (G2.04):

- Duration:
    - 21 calendar nights.
    - Concurrent with Phase 2
- Work Shift:
    - 2200-0530 HST.
- Airfield Operations NOTAMs:
    - Refer to Drawing G2.01 for Phase 2 NOTAMs.
    - Declared distances implemented on RWY 17-35.
- Comments:
    - There was a question regarding the 40:1 departure surface previously discussed. With the RWY 3 wind cone move, it was confirmed that the segmented circle and traffic pattern indicator are being removed and not reinstalled at the new location.
    - Clarification on RWY 35 shortening via Declared Distances, do the last 2,000 ft. of runway edge lights have to be changed? Usually no amber/white lenses are relocated due to Declared Distances temporary conditions and the last available exit at TWY E. End of RWY 35 still open for taxi and exit at TWY E.

Sub-Phase 2A Area D (G2.05):

- General Notes:
  - See C100 series for existing conditions plans and utility locations.
  - Install erosion control measures in work areas, see C0.00 series.
  - Limited nighttime work hours during shearwater season (September through December). See Note 4, Drawing G0.31 for shearwater protection.
- Comments:
  - None.

Sub-Phase 2B Nighttime (G2.06):

- Duration:
  - 7 calendar nights.
  - Concurrent with Phase 2
- Work Shift:
  - 2200-0800 HST.
- Airfield Operations NOTAMs:
  - Refer to Drawing G2.01 for Phase 2 NOTAMs.
  - TWY "A" closed West of TWY "J".
  - TWY "K" closed.
  - Electrical replacement along edge of apron to be performed as work-in-progress.
- Comments:
  - None.

Sub-Phase 2C Nighttime (G2.07):

- Duration:
  - 7 calendar nights.
  - Concurrent with Phase 2
- Work Shift:
  - 2200-0800 HST.
- Airfield Operations NOTAMs:
  - Refer to Drawing G2.01 for Phase 2 NOTAMs.
  - TWY "D" closed between TWY "A" and TWY "B", and between RWY 17-35 and TWY "B".
  - Departing aircraft must hold at gate for release form HCF.
  - Arriving aircraft shall cancel flight plan when clear of landing runway.
- Comments:
  - There was a concern with one-way-in, one-way-out and its coordination with the crews. It was suggested that tower hours should be extended for this phase as it closes at 2200 and there are still aircraft at 2300 or 0000. It was considered having

a tug on standby during this phase or extending ATCT hours as a mitigation. Because LIH is an FCT, though, it is a bit complicated.
    - TWY "D" between RWY 17-35 and TWY "B" will be closed, making the only exit at TWY "E". Aircraft could taxi in the apron area if going on the runway to bypass TWYs "B" and "F". The evening crew will put more emphasis on this phase, so they are prepared. This is a mitigation and will be added to the IOU's. The extended tower hours will be coordinated with the airport, FAA, and contract services. It was suggested to keep the North Ramp aircraft parking as far away from the area the planes will need to use to get off TWY "A" as possible as it will get crowded. Further discussion regarding extended tower hours was ELMO'd.
    - Coordination between LIH FCT and HCF evening shift on this phase to start now. Listed as an assumption.

Sub-Phase 2D Nighttime (G2.08):

- Duration:
    - 10 calendar nights.
    - Concurrent with Phase 2
- Work Shift:
    - 2200-0800 HST.
- Airfield Operations NOTAMs:
    - Refer to Drawing G2.01 for Phase 2 NOTAMs.
    - TWY "B" closed North of TWY "E".
    - Electrical replacement along edge of apron to be performed as work-in-progress.
    - Departing aircraft must hold at gate for release form HCF.
    - Arriving aircraft shall cancel flight plan when clear of landing runway.
- Comments:
    - This phase has similar traffic as the previous phase, so there is the same concern on one-way traffic. For the last 4 days, the contractor will reinstall the temporary jet blast deflector in the same location shown in Phase 1
    - Coordination between LIH FCT and HCF evening shift on this phase to start now. Listed as an assumption.

Phase 3 (G3.01):

- Duration:
    - 210 calendar days.
- Work Shift:
    - 0800-1800 HST.
- Airfield Operations NOTAMs:
    - No arrivals on RWY 3 due to active construction work area.

    - RWY 21 declared distances in effect.
    - Temporary portable jet blast deflector installed 250’ South of physical end of RWY 3.
    - Temporary portable jet blast deflector height is ~15.3’ (including foundation and obstruction lights). RWY 21 TORA/TODA reduced to provide clearance for 40:1 departure surface from threshold.
    - Contractor working near runways and will remain outside of RWY 17-35 and RWY 3-21 RSA’s.
- Phase 3 Milestone:
    - 30 days prior to end of Phase 3: complete all runway paving (to allow for curing prior to Phase 4 runway grooving).
    - RWY 3 end:
        - Complete earthwork embankment fill and inspection road construction.
        - Install new AOA fence and remove temporary AOA fence.
        - Construct AOA VSR and install permanent jet blast deflector.
        - Complete civil construction and new airfield electrical.
    - RWY 21 end:
        - Construct remaining 180’ of RWY 21 retaining wall, drainage and platform fill prior to start of shearwater season.
        - Complete AOA VSR and inspection road outside LOC Critical Area.
        - Complete civil construction outside LOC Critical Area.
- Comments:
    - This phase will have a duration of 210 calendar days, with the working hours of 0800-1800. The NOTAMs and milestones were reviewed. New runway paving and curing prior to the start of Phase 4 will be done for grooving. The pedestrian access and bike path will need to be maintained, and the same haul routes will be used as in the previous phases. The same concern regarding one-way traffic was shared. TWY “D” Northbound does not have a sign that shows TWY “D” to the right. A temporary marking will be added if this movement is needed, as it is currently not shown. It was asked if TWY “H” had to be closed. TWY “H” will change to say it will be available, but the concern is with a runway incursion. If all the correct signs and markings are not available, there could be a risk for a runway incursion.
    - The declared distances for Phase 3 will be the same as what we had in Phase 1. The same condition for RWY 3 will be in place where there are no landings due to the jet blast deflector. RWY 3-21 will be open for this phase.

Phase 3 Area A (G3.02):

- General Notes:
    - See C100 series for existing conditions plans and utility locations.
    - Install erosion control measures in work areas, see C0.00 series.

    - Limited nighttime work hours during shearwater season (September through December). See Note 4, Drawing G0.31 for shearwater protection.
- Comments:
    - None.

Sub-Phase 3A Nighttime (G3.03):

- Duration:
    - 120 calendar nights.
    - Concurrent with Phase 3.
- Work Shift:
    - 2200-0800 HST.
    - Pending go/no-go for Kona wind conditions.
- Airfield Operations NOTAMs:
    - Refer to Drawing G3.01 for Phase 3 NOTAMs.
    - RWY 3-21 closed.
    - TWY "A" closed West of TWY "K" and East of TWY "B".
    - TWY "H" closed South of TWY "A".
    - TWY "J" closed South of TWY "A".
    - TWY "K" closed South of TWY "A".
    - TWY "L" closed.
    - TWY "M" closed.
    - Contractor working near runways and will remain outside of RWY 17-35 RSA and LOC Critical Area.
- Comments:
    - The schedule shows this phase taking place around mid-June through mid-September 2024. This phase must be completed prior to the start of Shearwater Season, as nighttime construction will not be allowed. The NOTAMs and NAVAIDs were reviewed. The airfield will not have an non-standard conditions. This area will also be opened to air traffic every morning.

Sub-Phase 3A Area D (G3.04):

- General Notes:
    - See C100 series for existing conditions plans and utility locations.
    - Install erosion control measures in work areas, see C0.00 series.
    - Limited nighttime work hours during shearwater season (September through December). See Note 4, Drawing G0.31 for shearwater protection.
- Comments:
    - The concrete wall will be 3.5' wide, as shown on the profile. It will notch down to 1', then back up to 3.5'. However, this will become an above-ground object in the

ROFA, which is not allowed. Different criteria will be looked at to determine which type of protection the workers will be provided with. The concern, however, is that the parapet wall sticks up. FAA allows a 1' parapet wall, which will be efficient wo stop a vehicle form going over it. A row of delineators next to the road will be placed to show that there will be a hazard if vehicles travel beyond that point. LOBs did not bring up any concern in previous discussions about the 3' wall being inside the ROFA. It was determined that the odds of an aircraft wind hitting this area was very low. The plans show a 1' parapet, and with the FAA LOB's response on the 7460 forms, there may be room to go with a 3/5' continuous wall.

Phase 4 (G4.01):

- Duration:
  - 21 calendar nights.
- Work Shift:
  - 24/7.
- Airfield Operations NOTAMs:
  - RWY 3-21 closed.
  - TWY "A" closed West of TWY "K" and East of TWY "B".
  - TWY "H" closed South of TWY "A".
  - TWY "J" closed South of TWY "A".
  - TWY "K" closed South of TWY "A".
  - TWY "L" closed.
  - TWY "M" closed.
  - Contractor working near runways and will remain outside of RWY 17-35 RSA and LOC Critical Area.
- Phase 4 Milestone:
  - RWY 3 end pavement grooving.
  - RWY 3-21 final pavement markings, relocate RWY 21 threshold, adjust airfield lighting and signs.
  - Install RWY 21 REILs and relocate PAPI (FAA).
  - RWY 21 grading, blast pad mill and overlay, construct AOA CSR and FAA access road inside of LOC Critical Area.
  - Flight Check:
    - New RWY 3 displaced threshold, PAPI and REILs.
    - New RWY 21 displaced thresholds, PAPI and REILs, and new RWY 21 instrument approach procedure.
    - RWY 35 Localizer Critical Area grading.
- Comments:
  - The wall will be complete for both the RWY 3 and RWY 21 ends, and the AOA fence will be completed in the final and current location. The permanent jet blast

deflector will be in place at the top of the RWY 3 wall. RWY 3-21 will be closed 24/7 for 21 days, as this phase take place mid-January 2025 through early February. The NOTAMs, milestones, work to be performed, and phasing notes were reviewed. The emergency protocol notes and NOTAMs were also reviewed, largely because the flight check has not yet been completed.

Sub-Phase 4A Nighttime (G4.02):

- Duration:
  - 21 calendar nights.
  - Concurrent with Phase 4.
- Work Shift:
  - 2200-0530 HST.
- Airfield Operations NOTAMs:
  - Refer to Drawing G4.01 for Phase 4 NOTAMs.
  - RWY 17-35 declared distances in effect nightly from 2200-0530.
  - RWY 35 LOC and ILS approach not available 24/7 for 21 days.
- Comments:
  - This phase will be like the need in Phase 1 as they both share overlapping safety areas. There will be new lighting for the RWY 21 location, and the RWY 21 PAPI will shift over to the left side of the intersection. Minor civil work will be done within the LOC Critical Area that has not been completed. The working hours for this phase will be 2200-0530, though it may be revised based on discussions in the previous phase. Declared distances will be imposed for RWY 35. The NOTAMs and NAVAID shutdowns were reviewed, along with the work to be performed and phasing notes.

Sub-Phase 4A Area D (G4.03):

- General Notes:
  - See C100 series for existing conditions plans and utility locations.
  - Install erosion control measures in work areas, see C0.00 series.
  - Limited nighttime work hours during shearwater season (September through December). See Note 4, Drawing G0.31 for shearwater protection.
- Comments:
  - During the PreSRA, it was discussed that the TWY A1 and TWY A2 nomenclature could be changed. The new taxiway will be TWY "N" and existing taxiways nomenclature will remain unchanged.

Sub-Phase 4B Nighttime (G4.04):

- Duration:
  - 3 calendar nights.
  - Concurrent with Phase 4 and Sub-Phase 4A.
- Work Shift:
  - 2300-0800 HST.
- Airfield Operations NOTAMs:
  - Refer to Drawing G4.01 for Phase 4 NOTAMs.
  - Refer to Drawing G4.02 for Sub-Phase 4A NOTAMs.
  - TWY "D" closed between TWY "A" and TWY "B", and between TWY "B" and RWY 17-35.
  - Departing aircraft must hold at gate for release from HCF.
  - Arriving aircraft shall cancel flight plan when clear of landing runway.
- Comments:
  - This phase will have a duration of 3 calendar nights and will see TWY "D" closed as RWY 3-21 is closed. The NOTAMs will be the same as those in Phase 2. Pavement markings will be used to reset the center point of the runway. The markings will be obliterated and sealed with a coat, then will be replaced. A fillet will be constructed beyond the ADG-V OFA.
  - Note will be added for use of the GA or Cargo Ramps to deconflict nose-to-nose traffic.

Sub-Phase 4C Nighttime (G4.05):

- Duration:
  - 3 calendar nights.
  - Concurrent with Phase 4 and Sub-Phase 4A.
- Work Shift:
  - 2300-0800 HST.
- Airfield Operations NOTAMs:
  - Refer to Drawing G4.01 for Phase 4 NOTAMs.
  - Refer to Drawing G4.02 for Sub-Phase 4A NOTAMs.
  - TWY "B" closed between TWY "A" and TWY "E".
  - Departing aircraft must hold at gate for release from HCF.
  - Arriving aircraft shall cancel flight plan when clear of landing runway.
- Comments:
  - The work to be performed was reviewed and will be like the previous phase. Flight checks will be complete during the last night of Phase 4. The same concerns regarding one-way traffic were brought up once again.

End State (G5.01):

- Publication Notes:
  - New Instrument Approach Procedures (IAP) for RWY 3-21 are anticipated to be published on February 20, 2025 based on a 56-day chart publication cycle.
  - When construction is completed, the following IAP's would not be available until the publication:
    - RNAV (RNP) ZRWY 21
    - RNAV (GPA) Y RWY 21
    - VOR/DME or TACAN RWY 21
  - In addition, RWY 3 IFR departures may also be impacted.
- Work to be performed:
  - Contractor shall demobilize and remove any equipment, vehicles, and materials from the airport.
  - Contractor shall remove any temporary access gates.
- Comments:
  - A few items previously discussed in the PreSRAs were noted. The Phase 4 milestones and flight check will be completed in the first week of February, possibly a few weeks before publication.
  - It was asked that for the portions of RWY 17-35 where the declared distances are in effect, will the RWY 35 MALSR and PAPI be retained. It was confirmed as the RWY 35 LOC and ILS OTS, though it will have no impacts to the RWY 17-35 PAPI. It was requested to add a note about the PAPI being operational.
  - With all the work being done on the thresholds, there is a concern about the displaced thresholds and the ground proximity warning algorithms not being accurate during that work. The onboard aircraft system shows where the runway ends are. Flight check will take care of this, but there could be a long duration with displacements. There are Honeywell databases, though, the terrain database will need to be updated for the Ground Proximity Warning system. Research will be done and a response to this issue will be provided.
  - Correspondence for lighting was unable to be found. The RWY 35 declared distance of 300' reduction, and the last 2,000' remains amber/white. It was asked if it could be covered and replaced with a different color. There is still runway available, so aircraft can taxi off the runway. The ground proximity warning system and terrain database for landing does not make a difference, but there is an alerting system for departures that needs an updated database to include new pavement. No change in runway edge lighting color scheme.

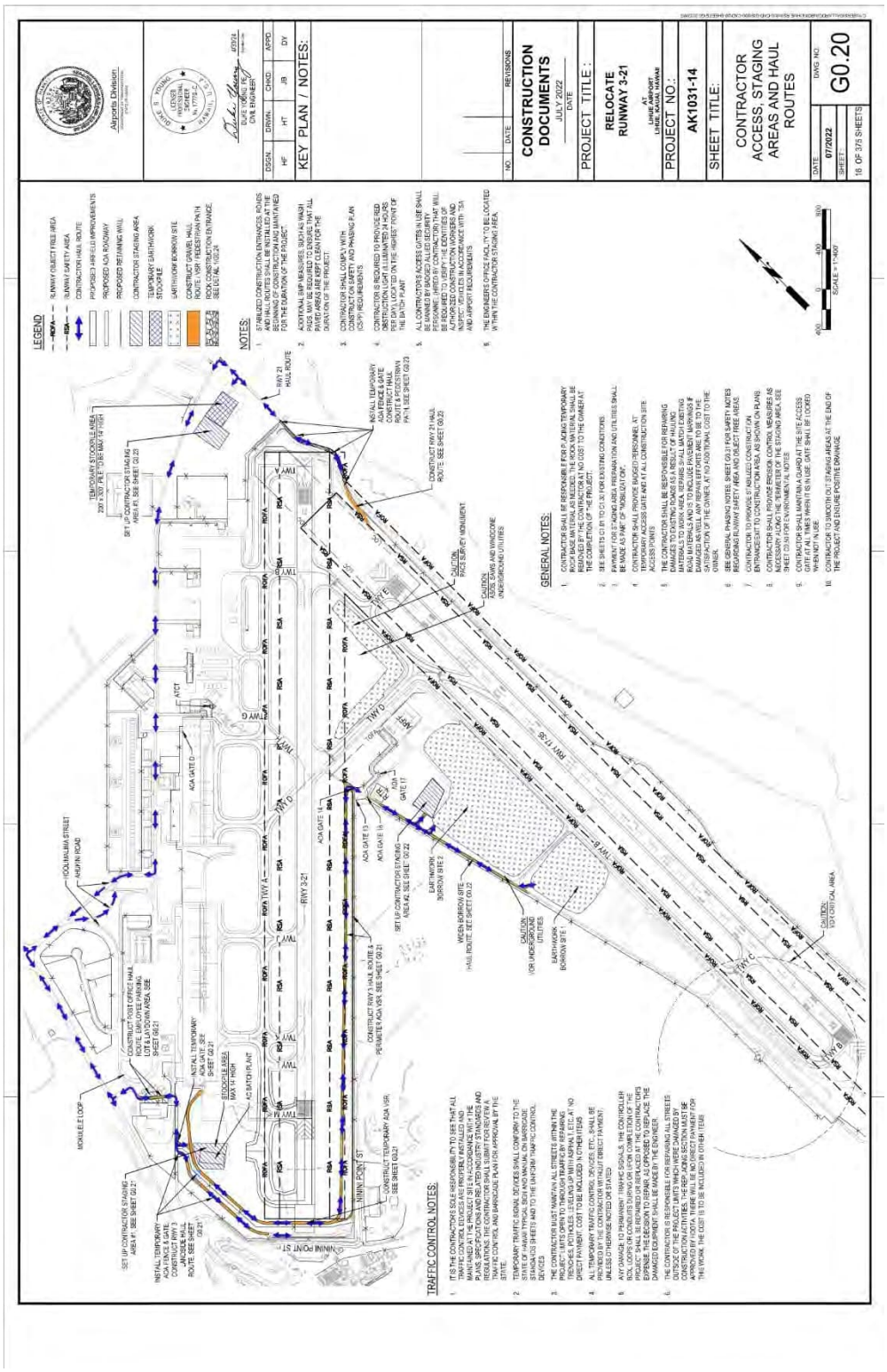

Figure 3: Contractor Access, Staging Areas, and Haul Routes

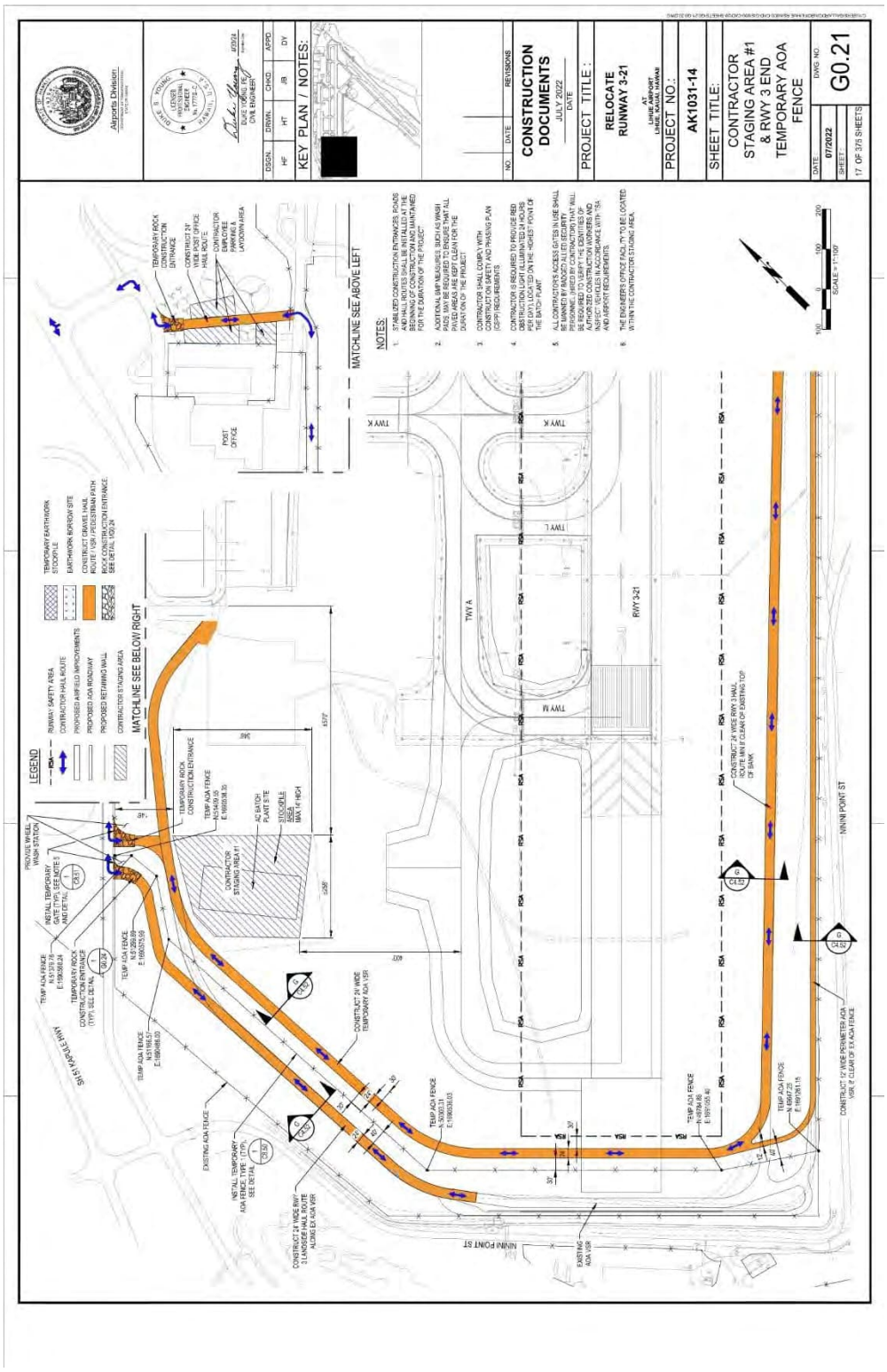

Figure 4: Contractor Staging Area #1 & RWY 3 End Temporary AOA Fence

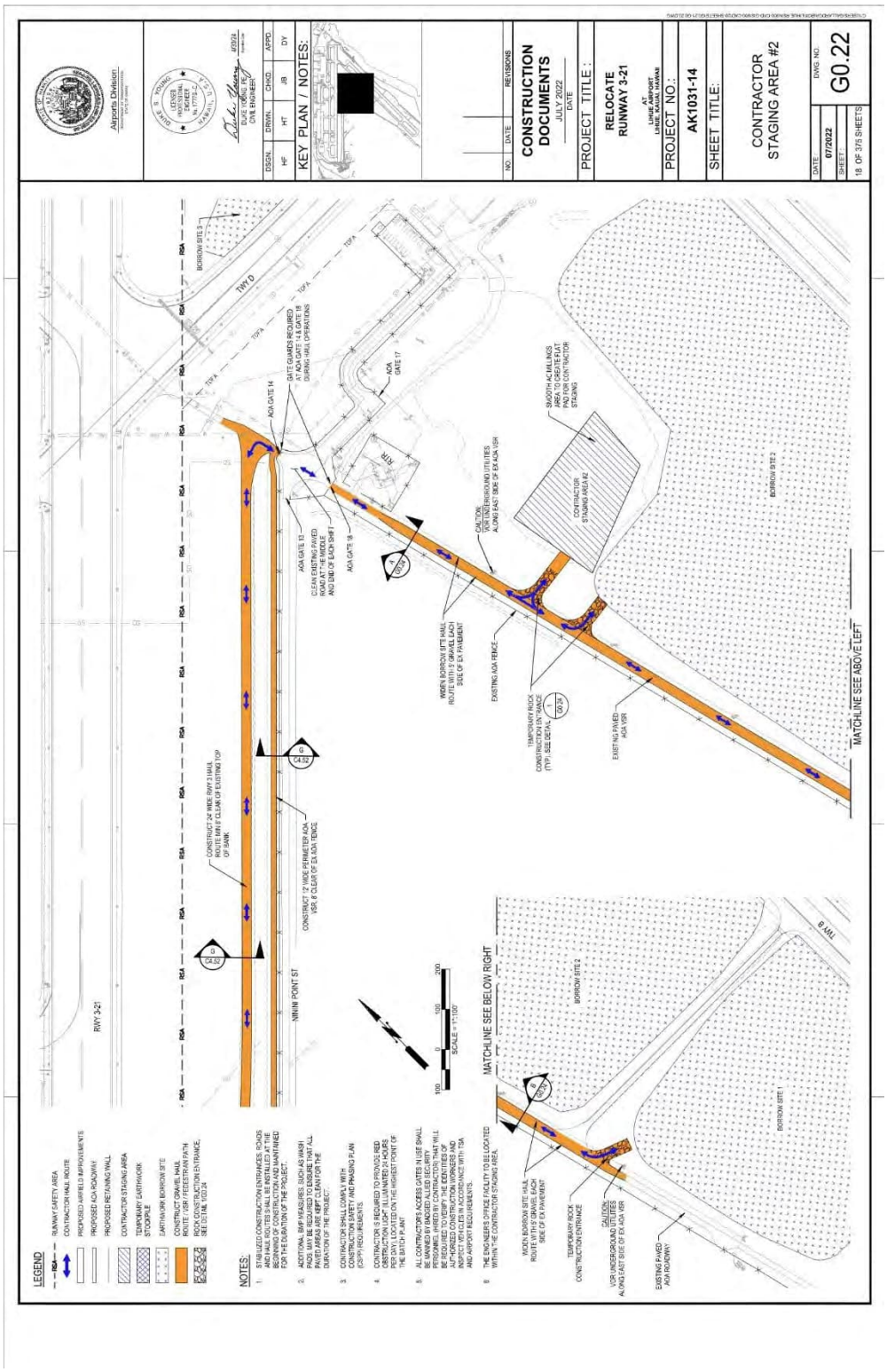

Figure 5: Contractor Staging Area #2

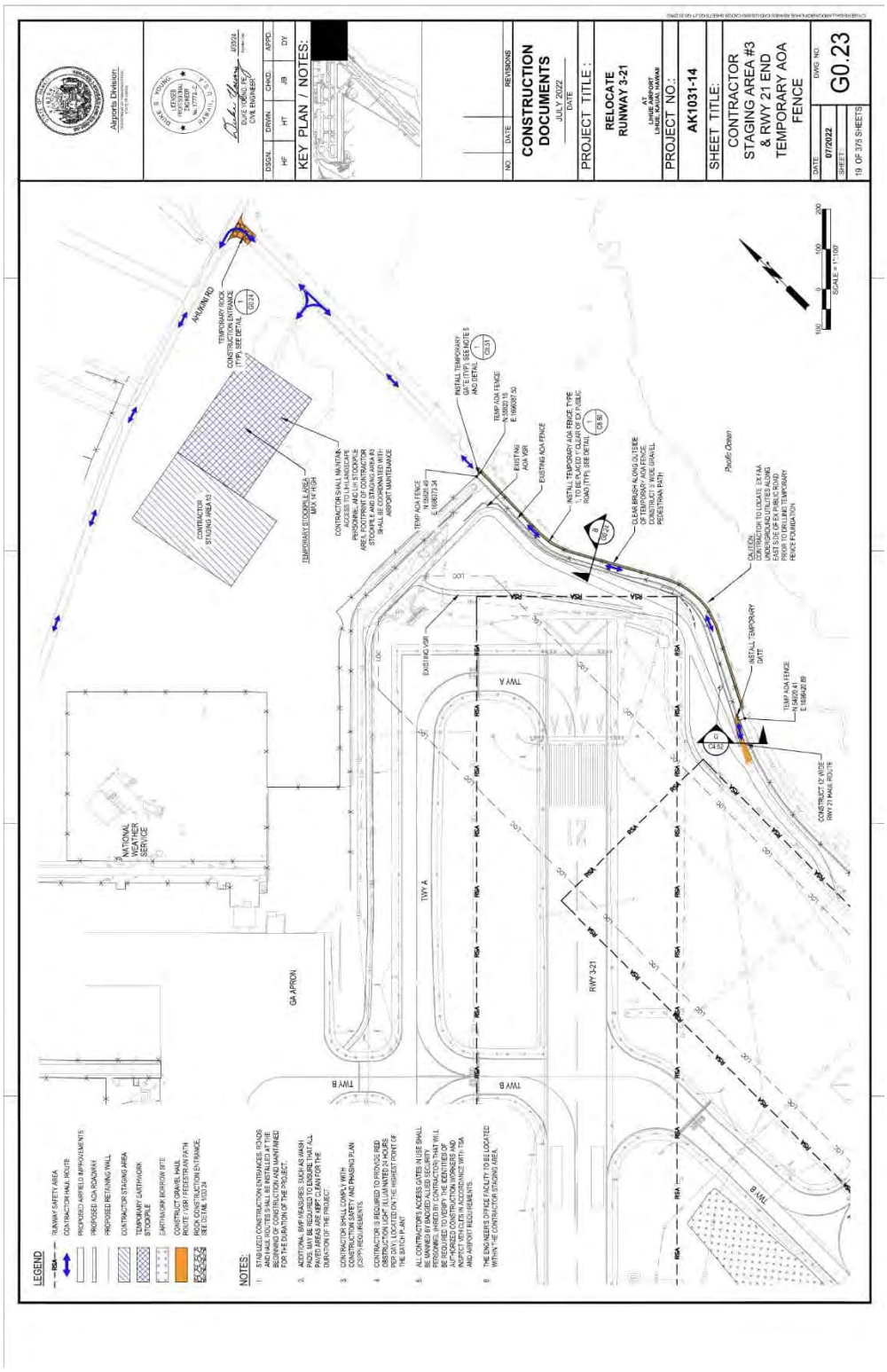

Figure 6: Contractor Staging Area #3 & RWY 21 End Temporary AOA Fence

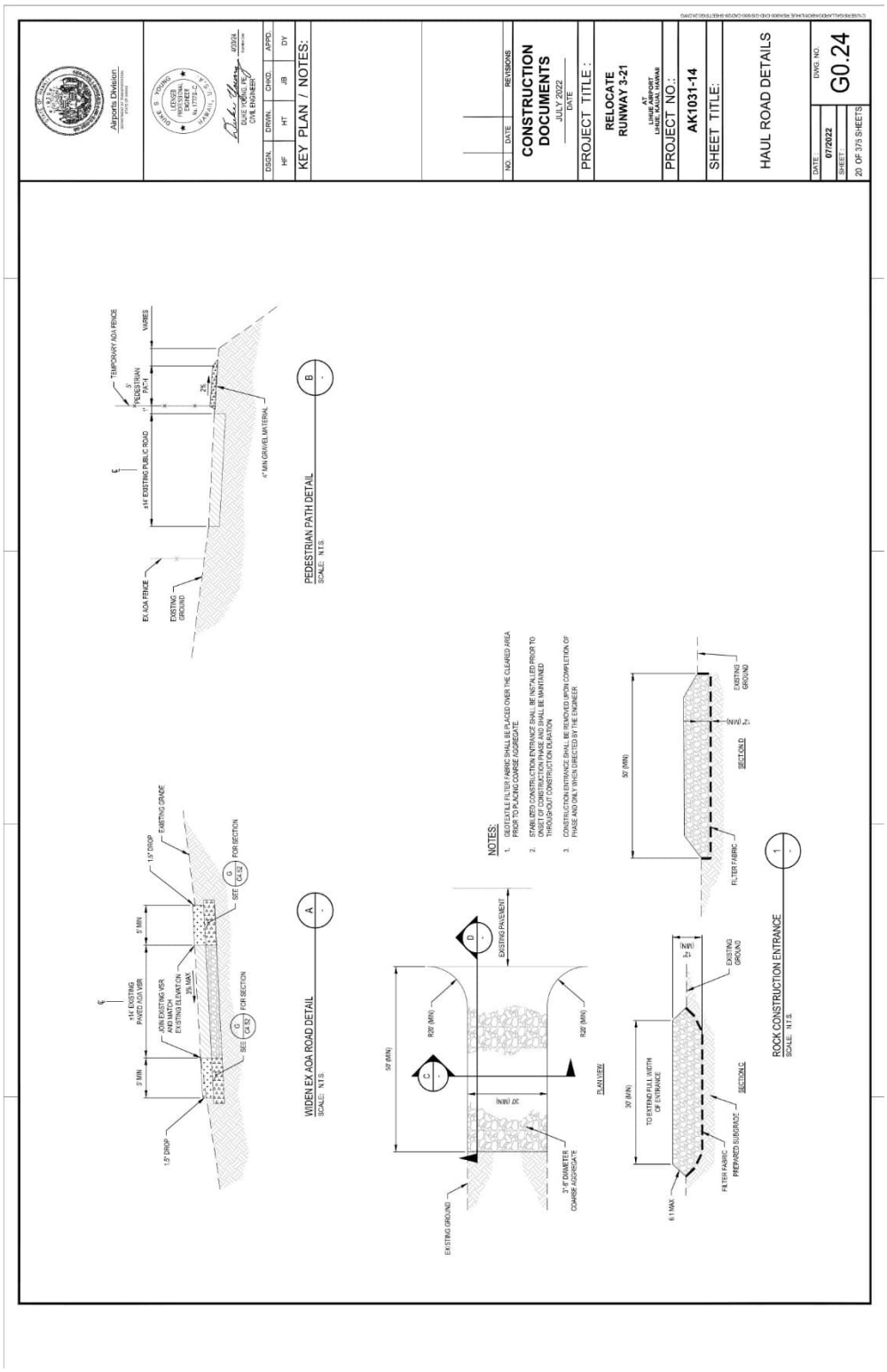

Figure 7: Haul Road Details

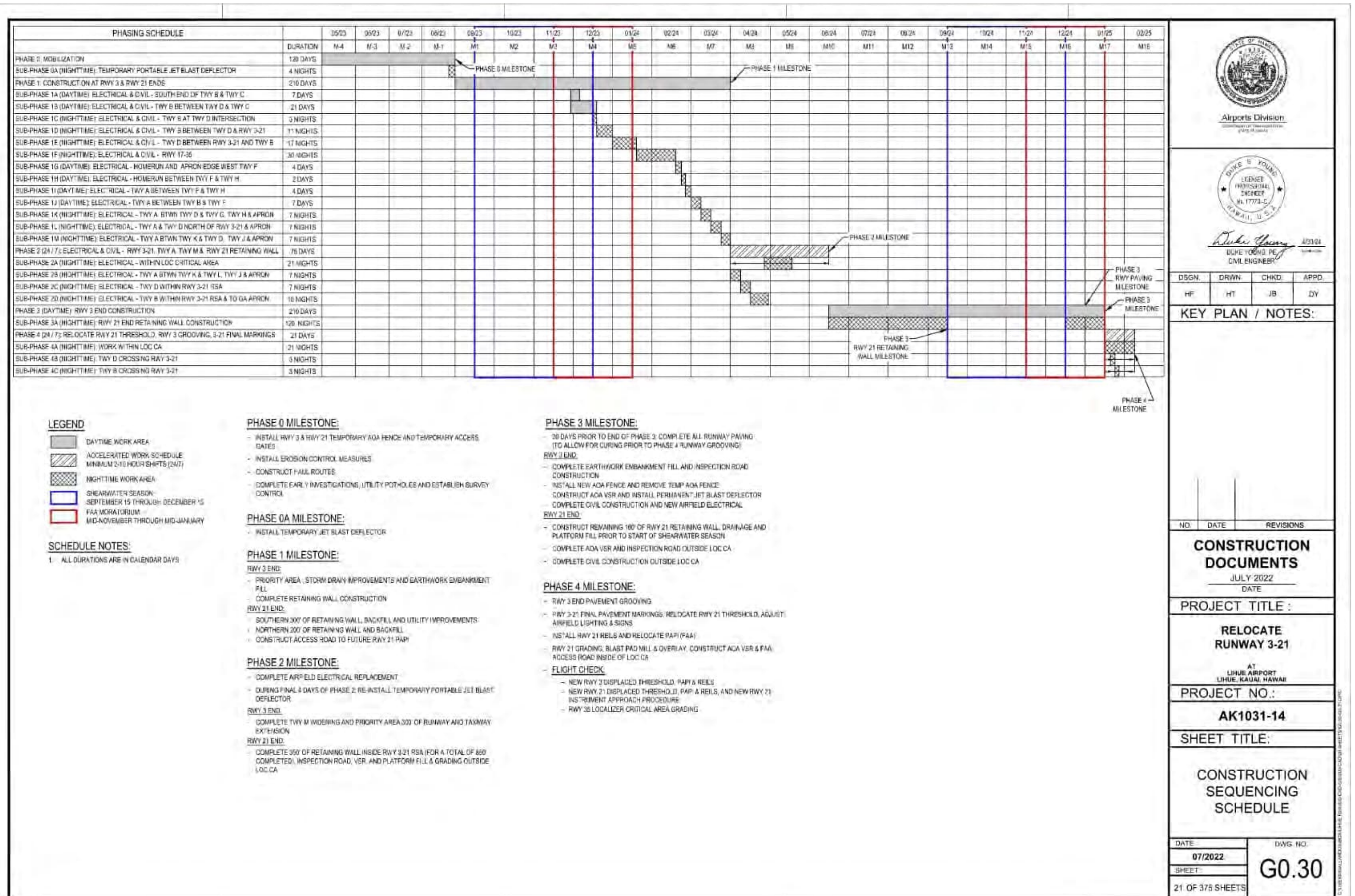

Figure 8: Construction Sequencing Schedule

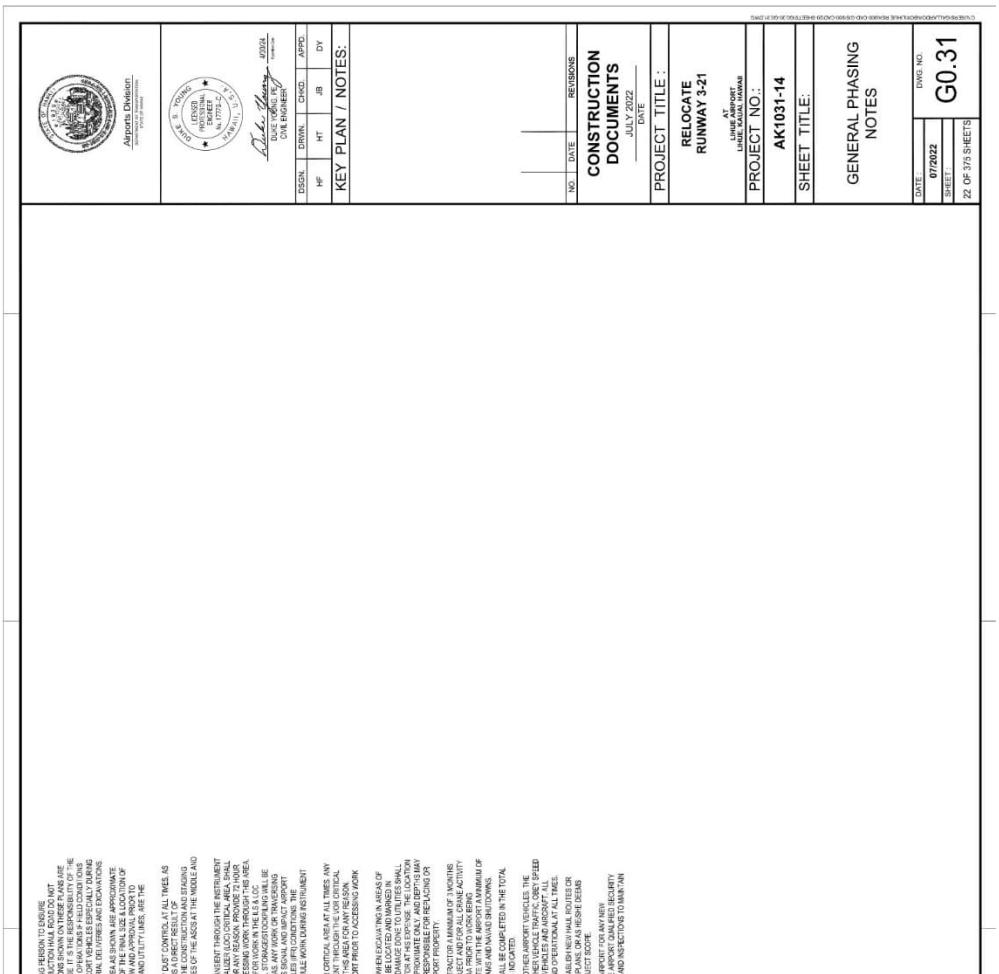

Figure 9: General Phasing Notes

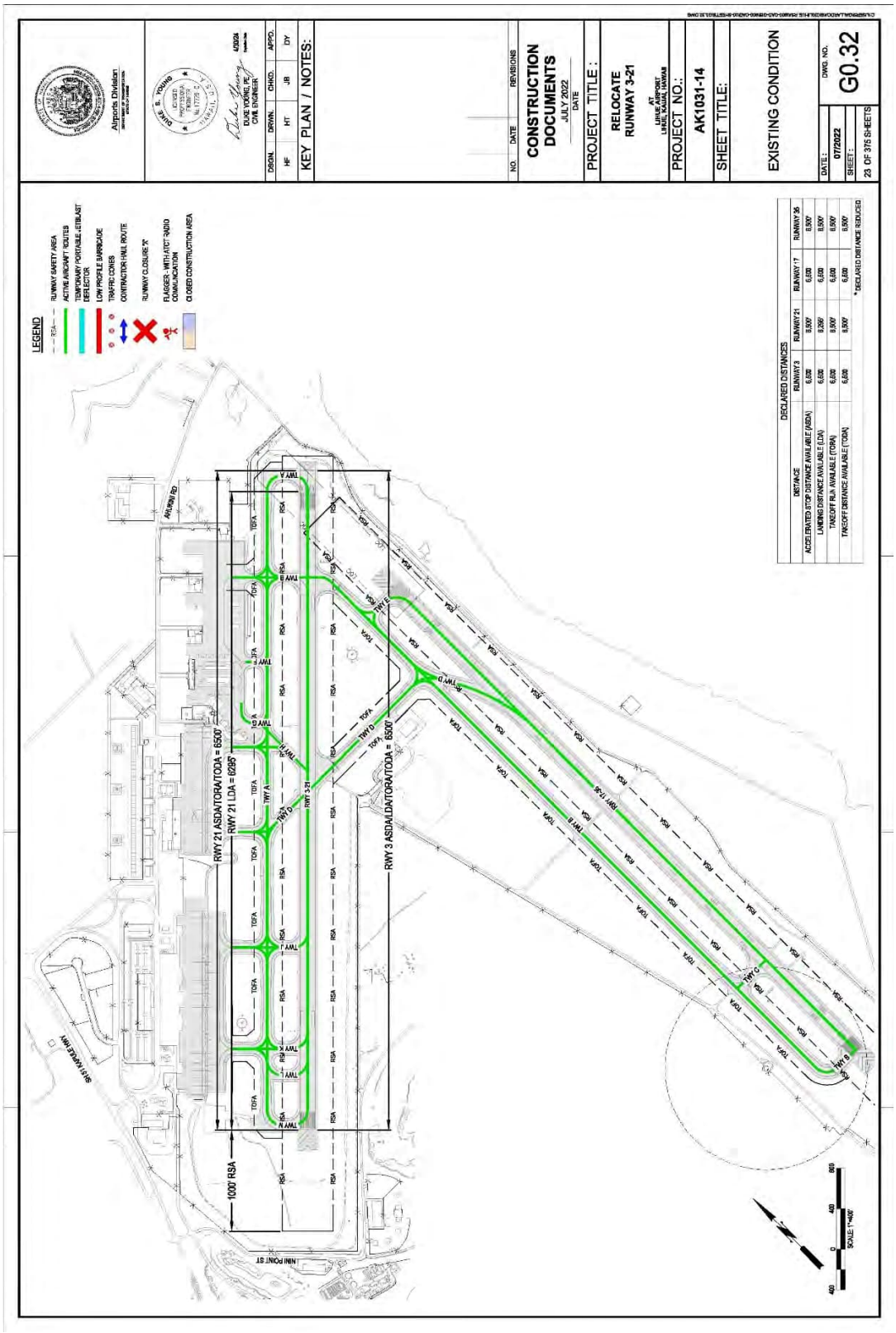

Figure 10: Existing Conditions

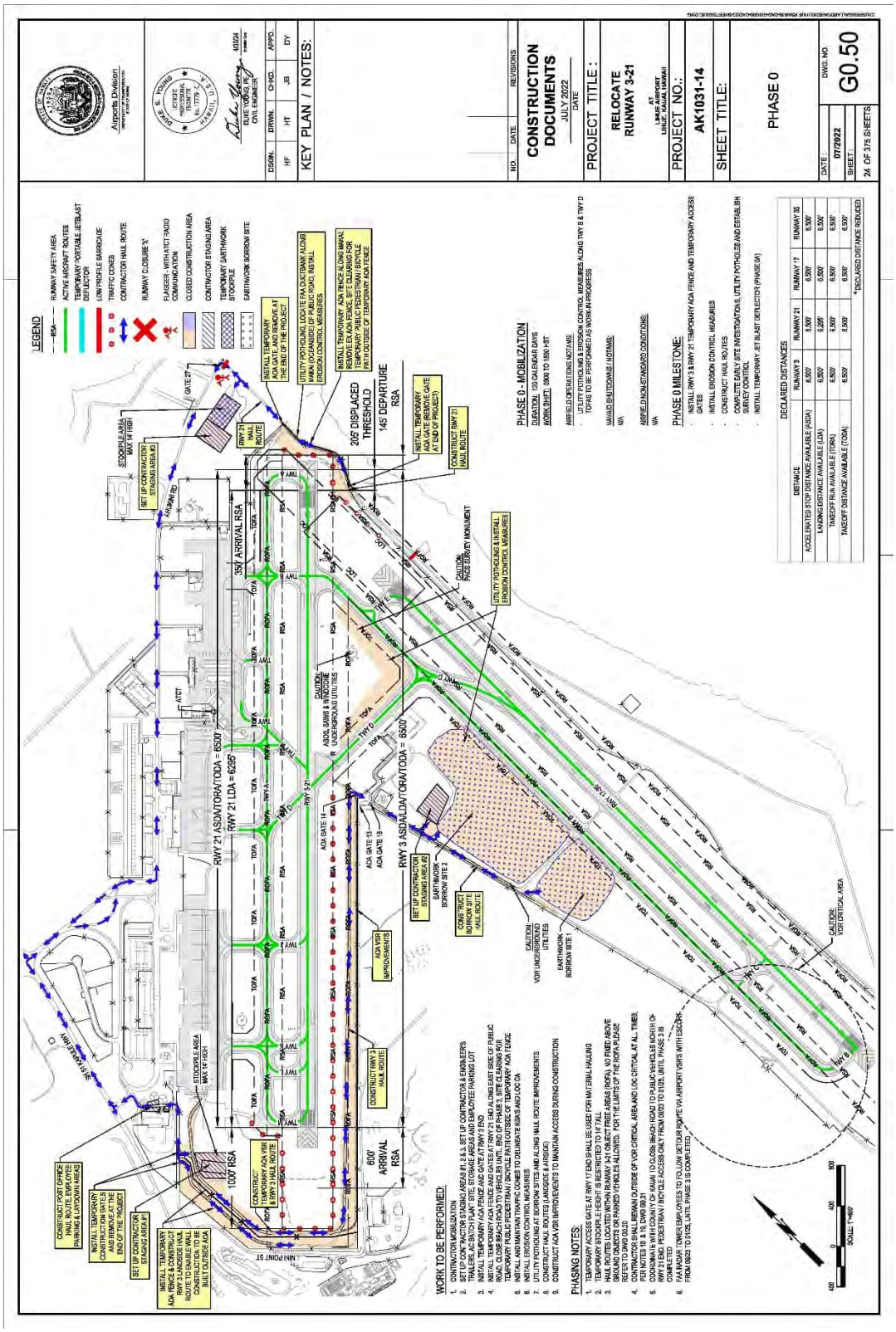

Figure 11: Phase 0

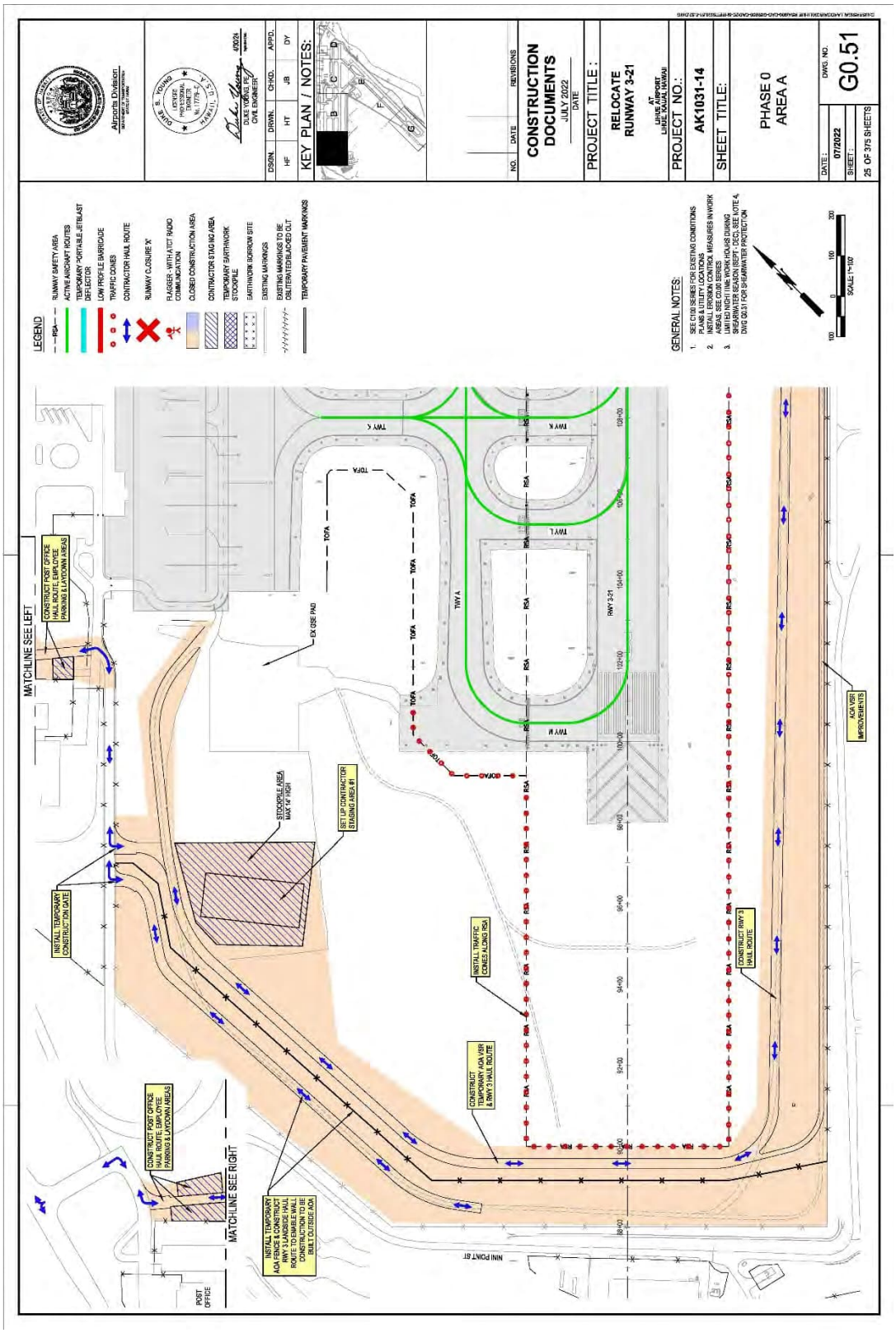

Figure 12: Phase 0 Area A

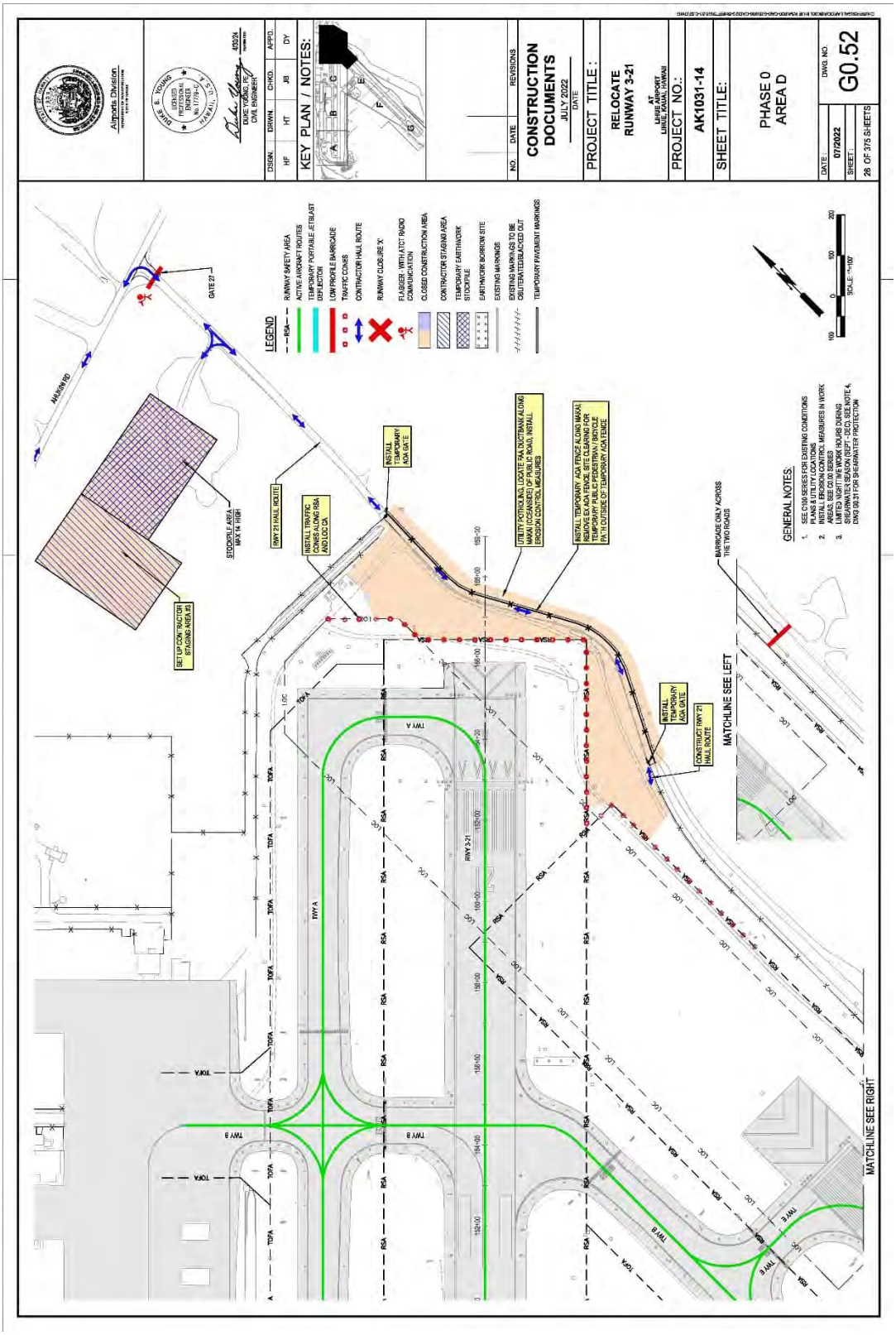

Figure 13: Phase 0 Area D

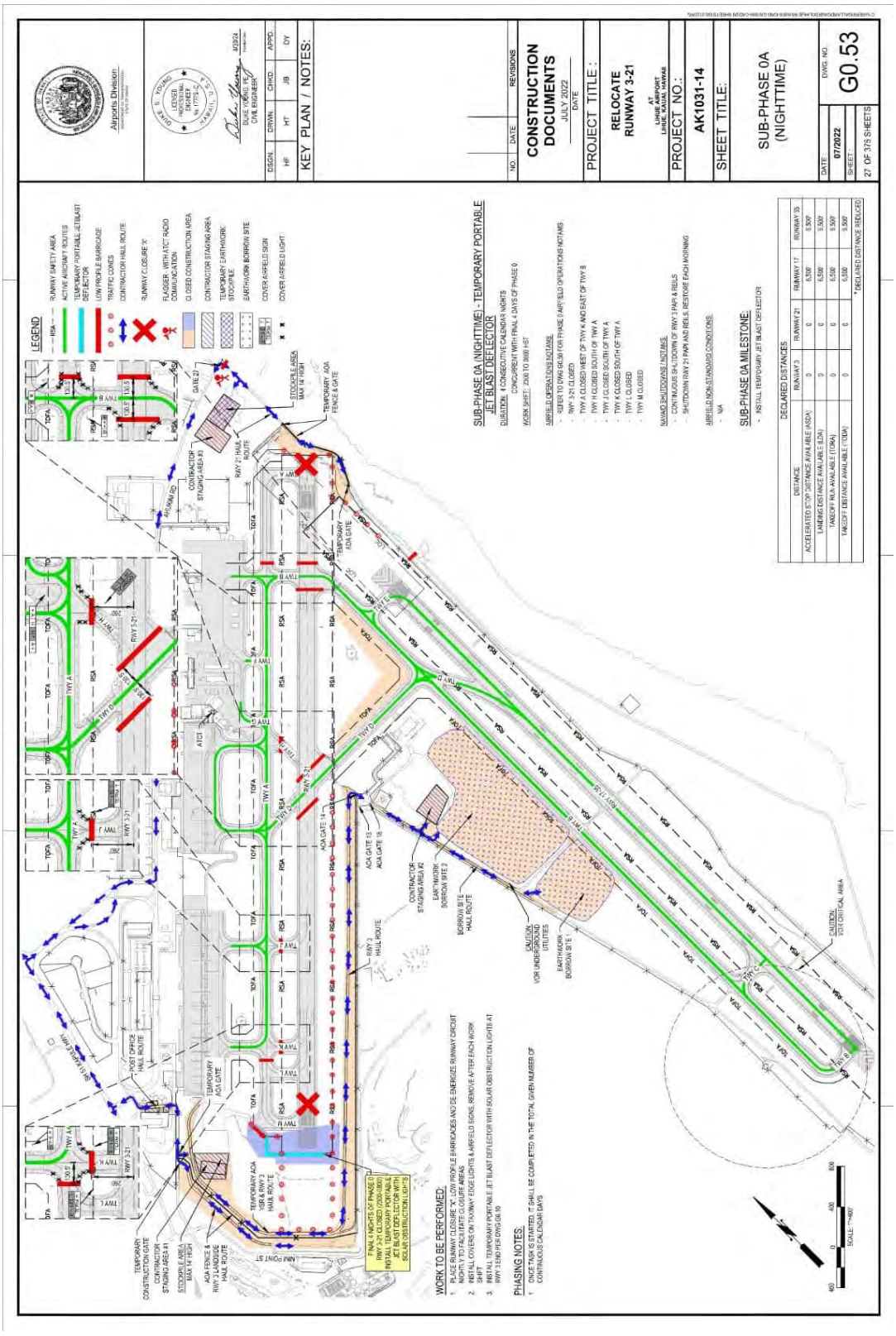

Figure 14: Sub-Phase 0A (Nighttime)

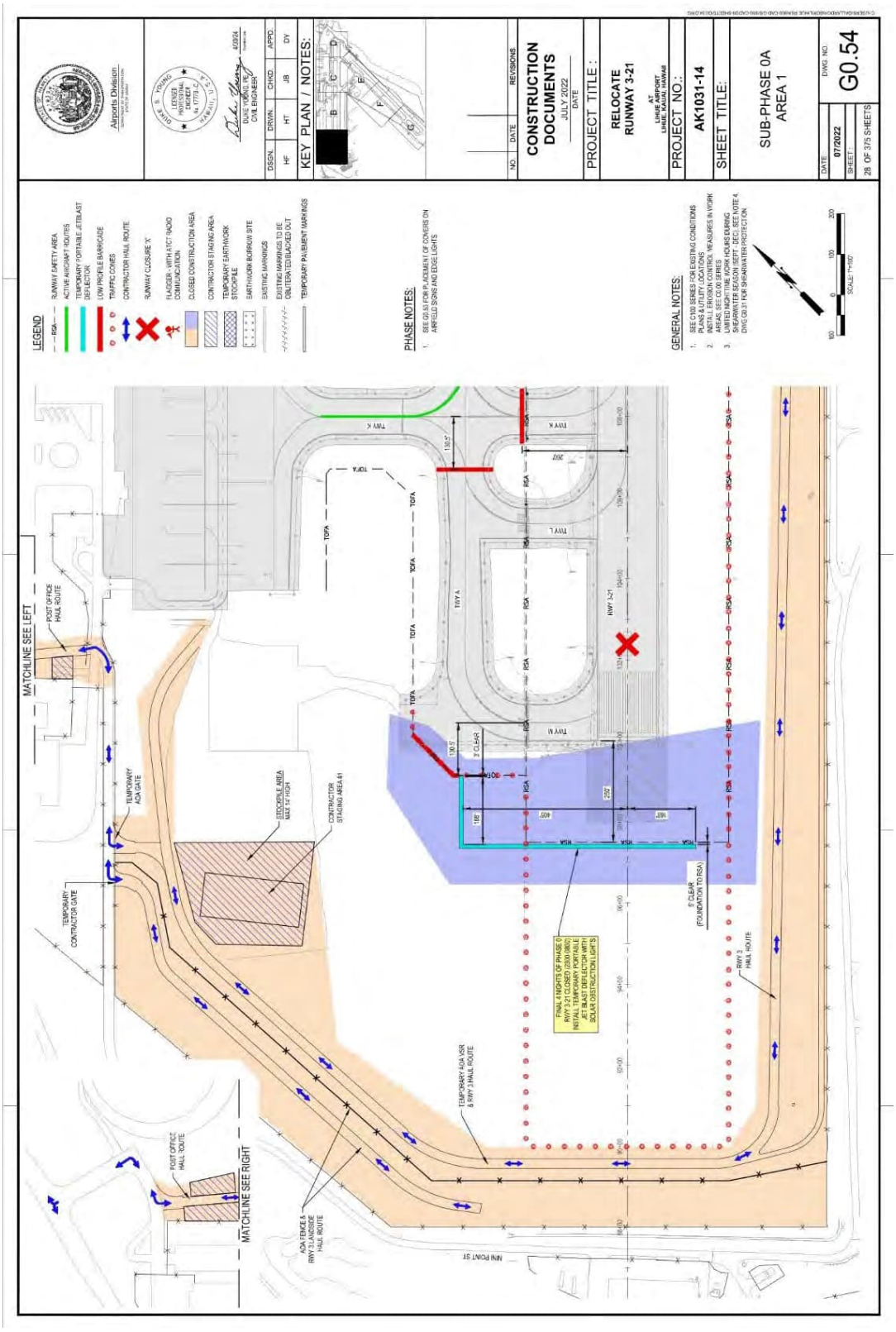

Figure 15: Sub-Phase 0A Area 1

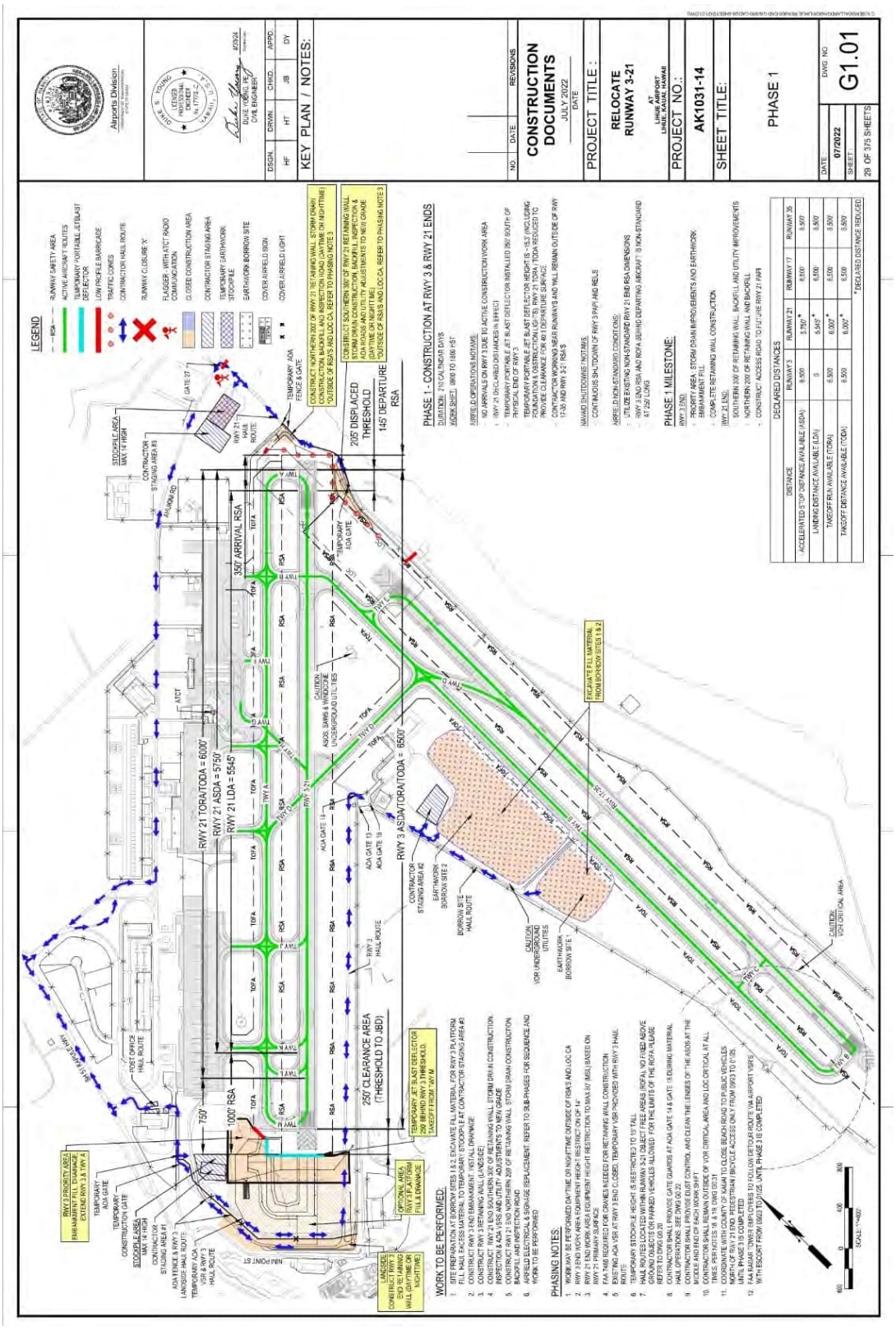

Figure 16: Phase 1

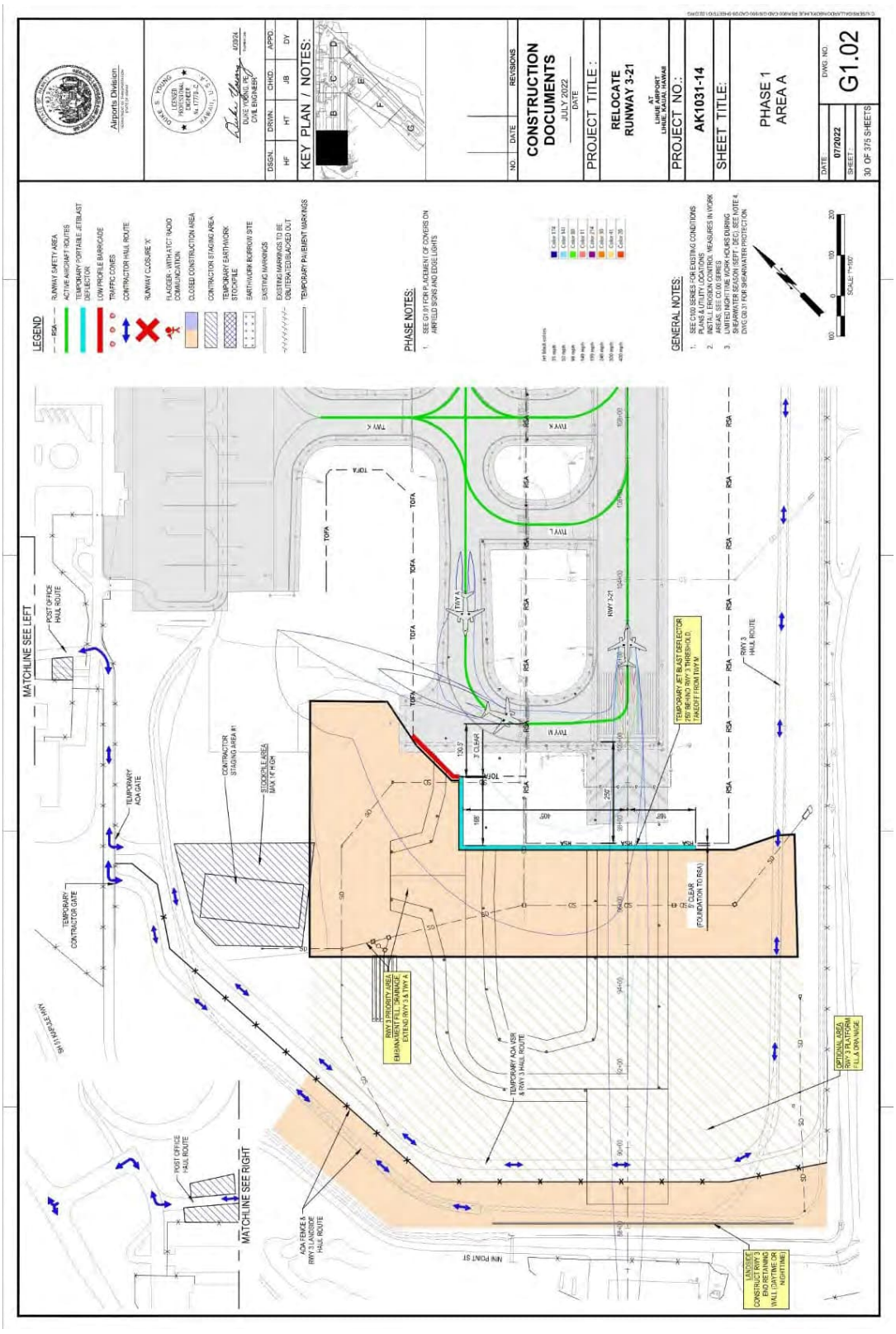

Figure 17: Phase 1 Area A

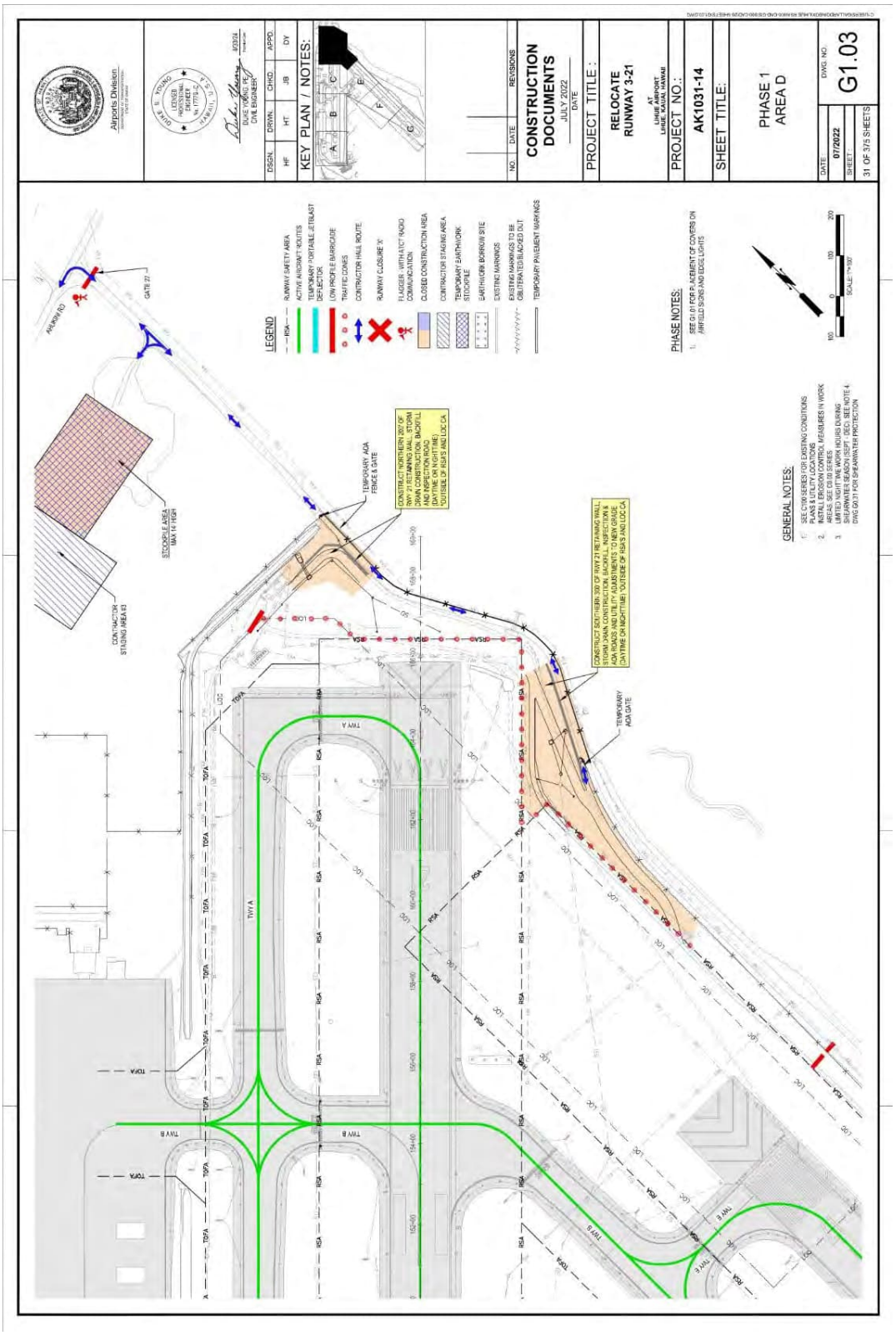

Figure 18: Phase 1 Area D

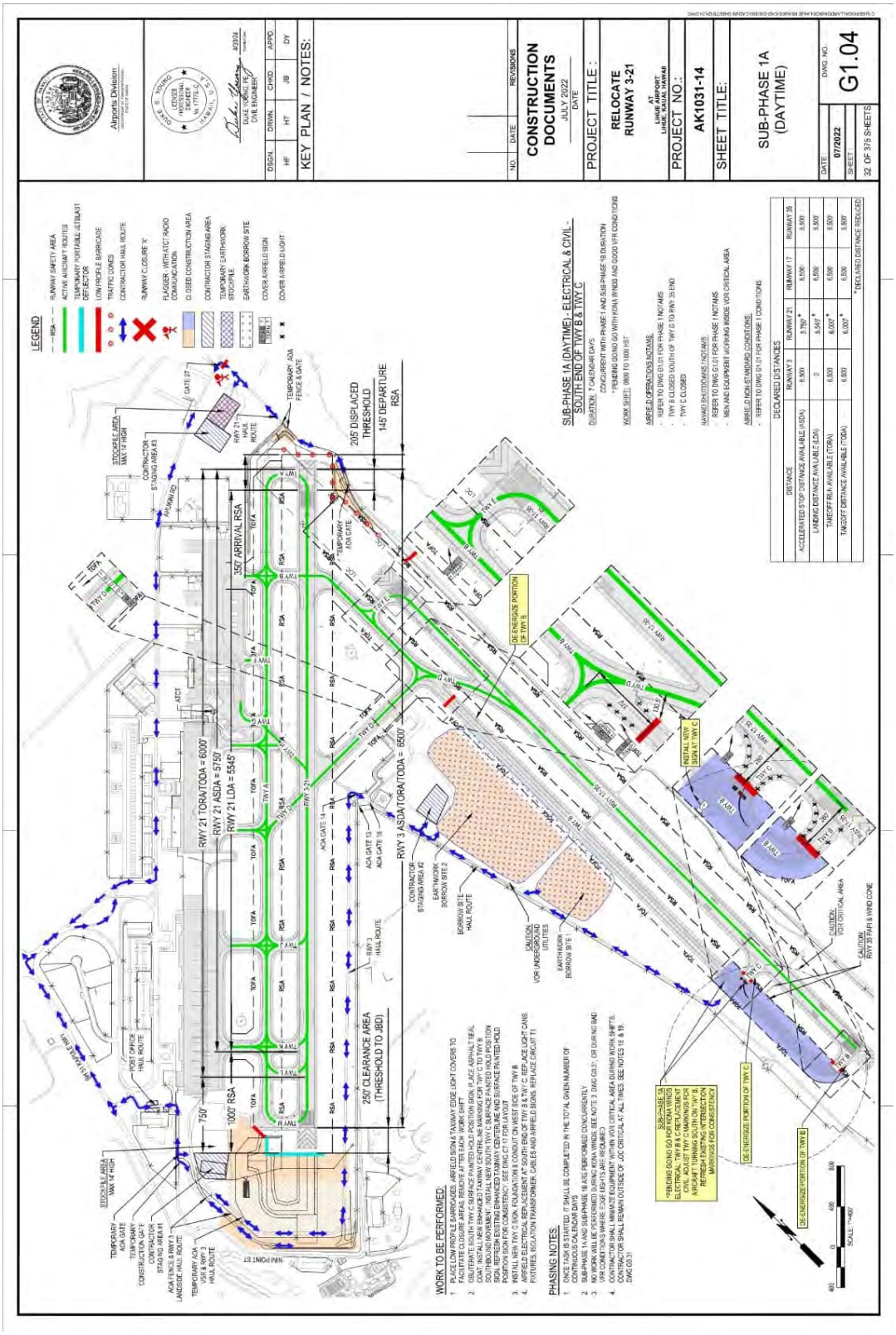

Figure 19: Sub-Phase 1A (Daytime)

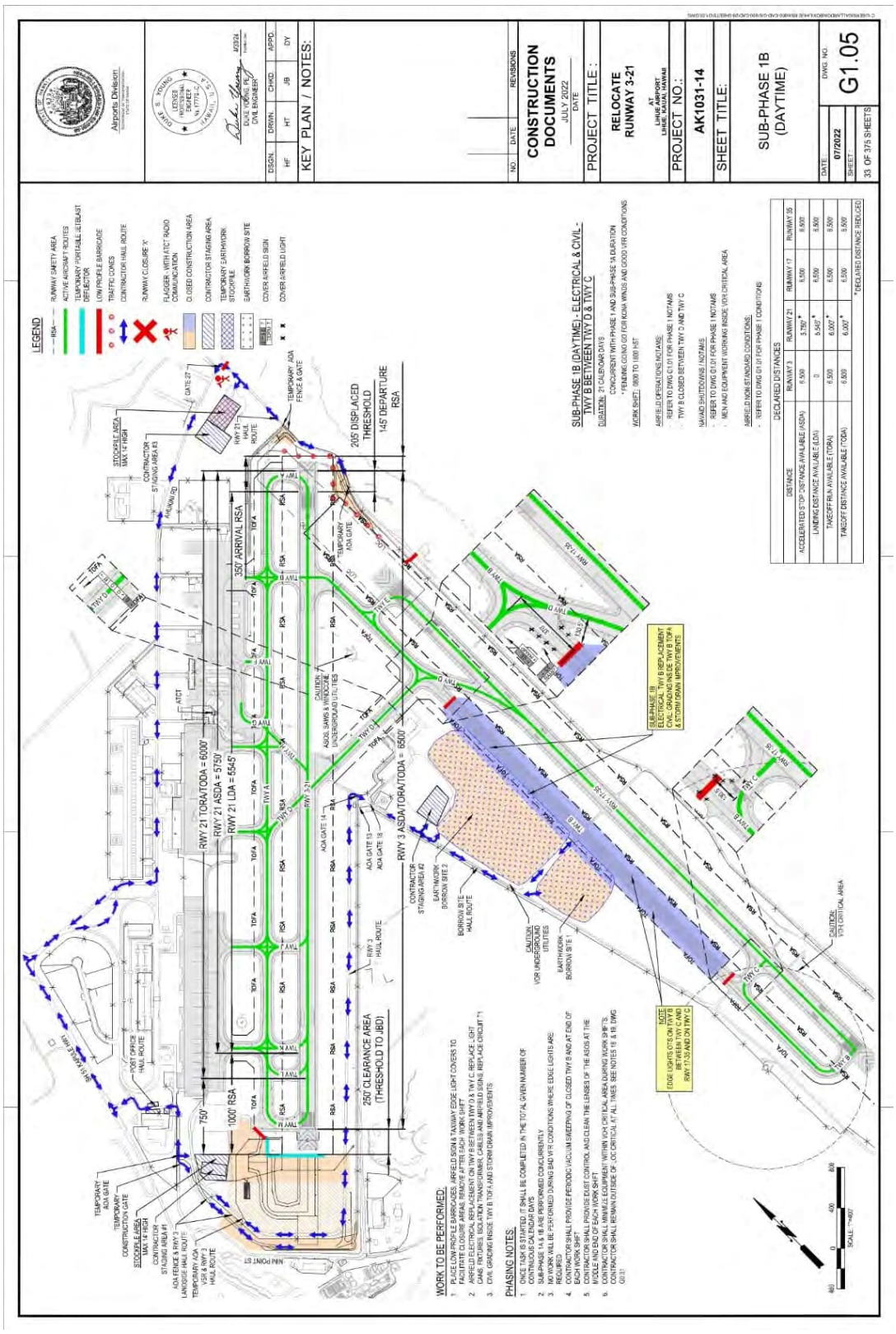

Figure 20: Sub-Phase 1B (Daytime)

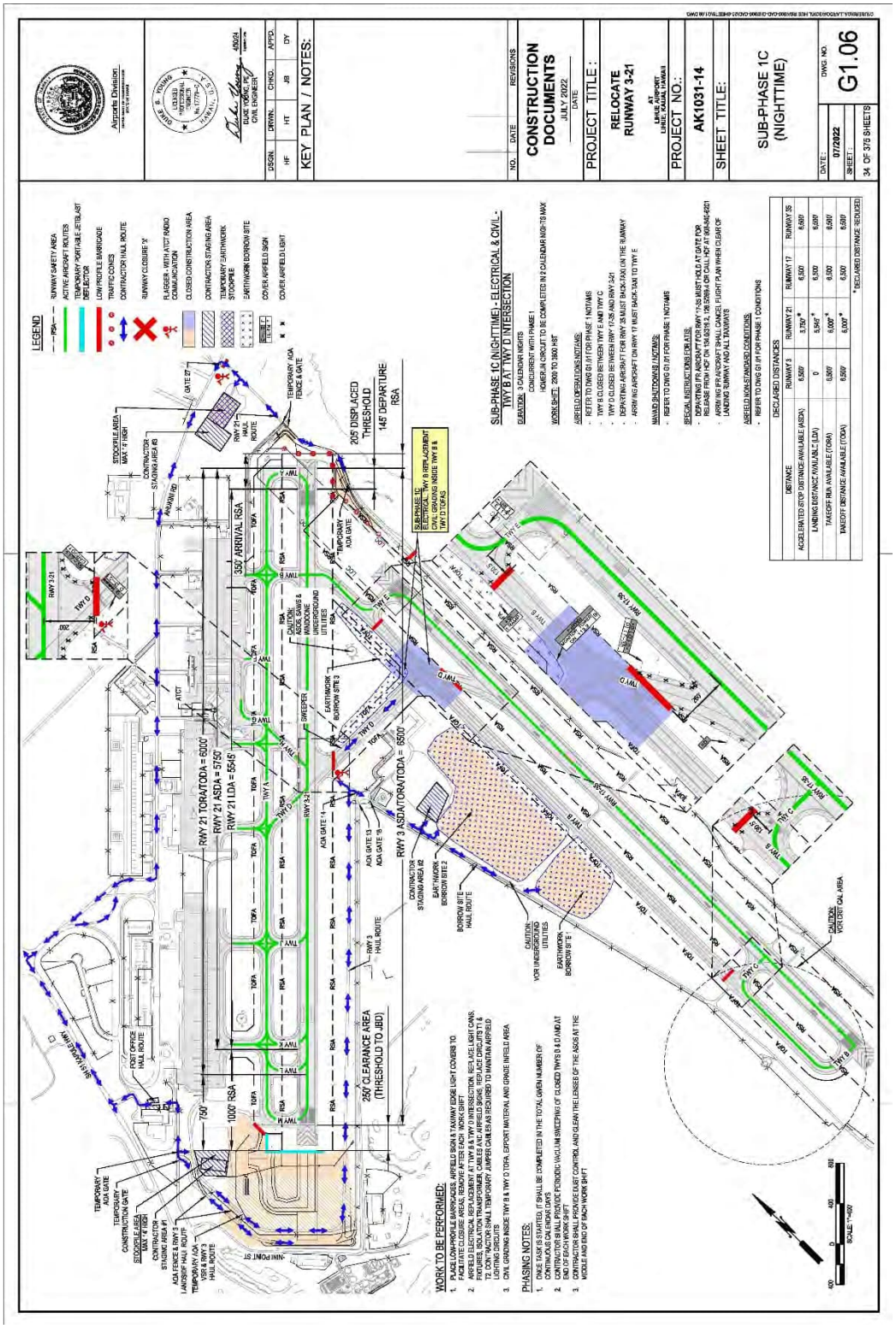

Figure 21: Sub-Phase 1C (Nighttime)

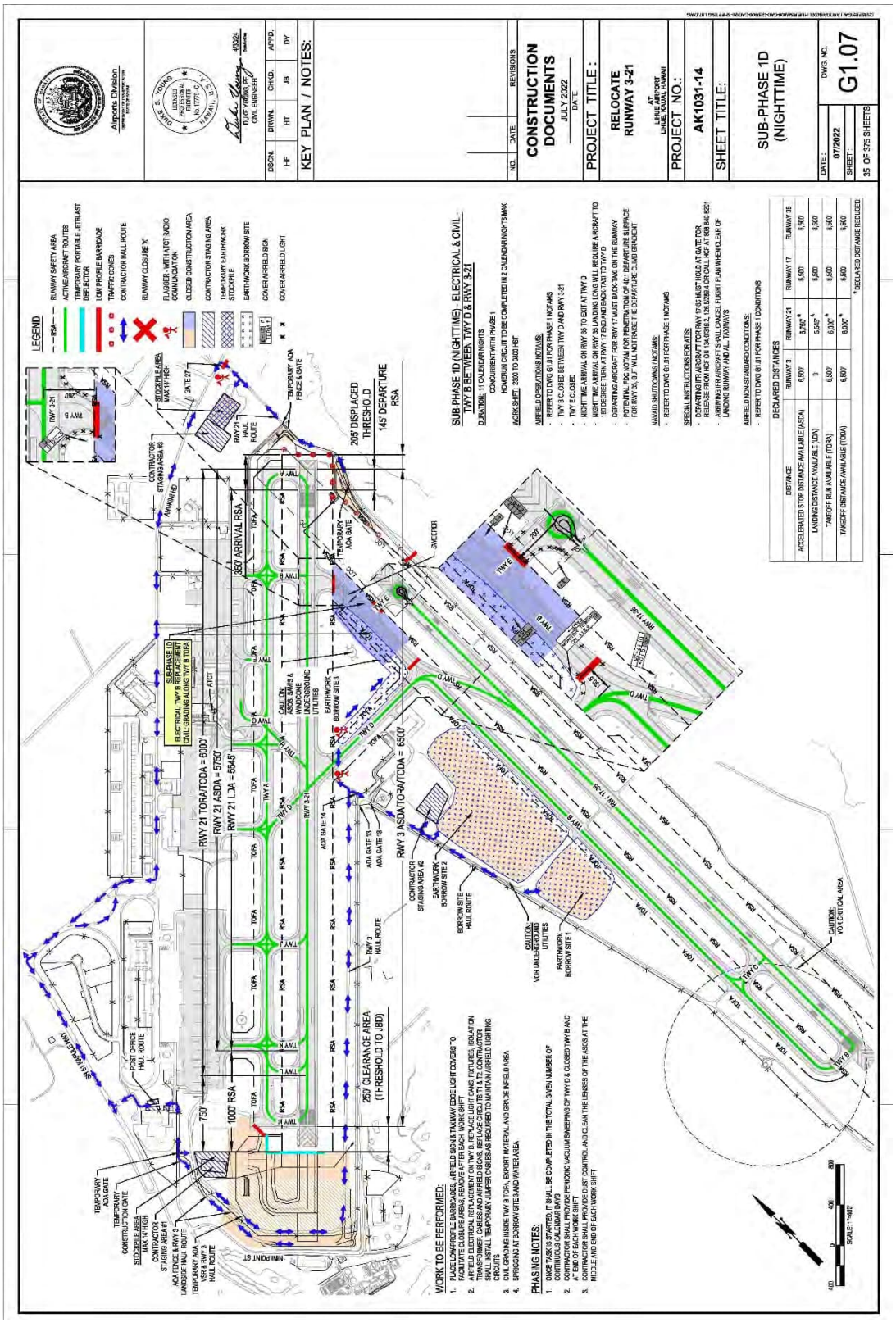

Figure 22: Sub-Phase 1D (Nighttime)

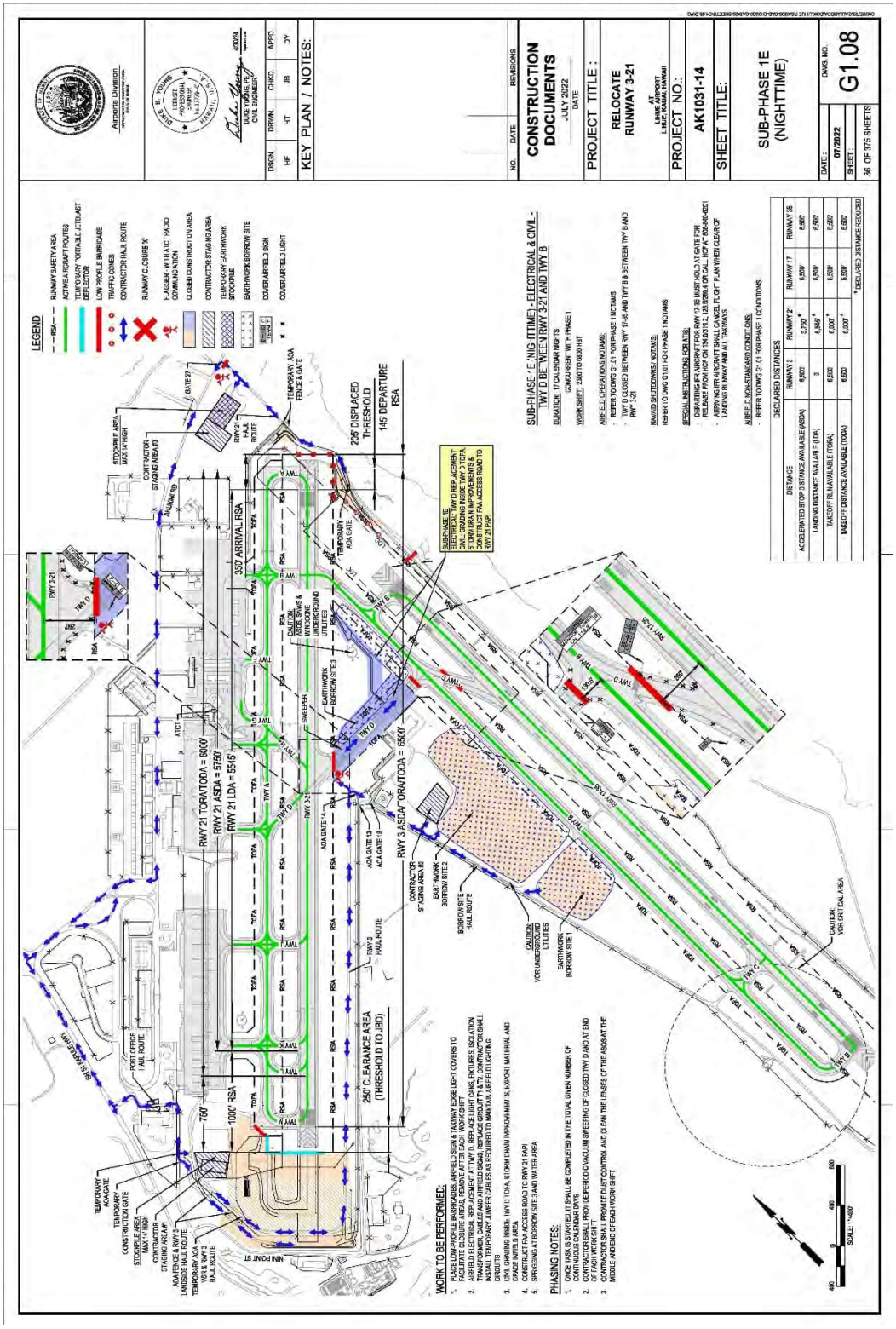

Figure 23: Sub-Phase 1E (Nighttime)

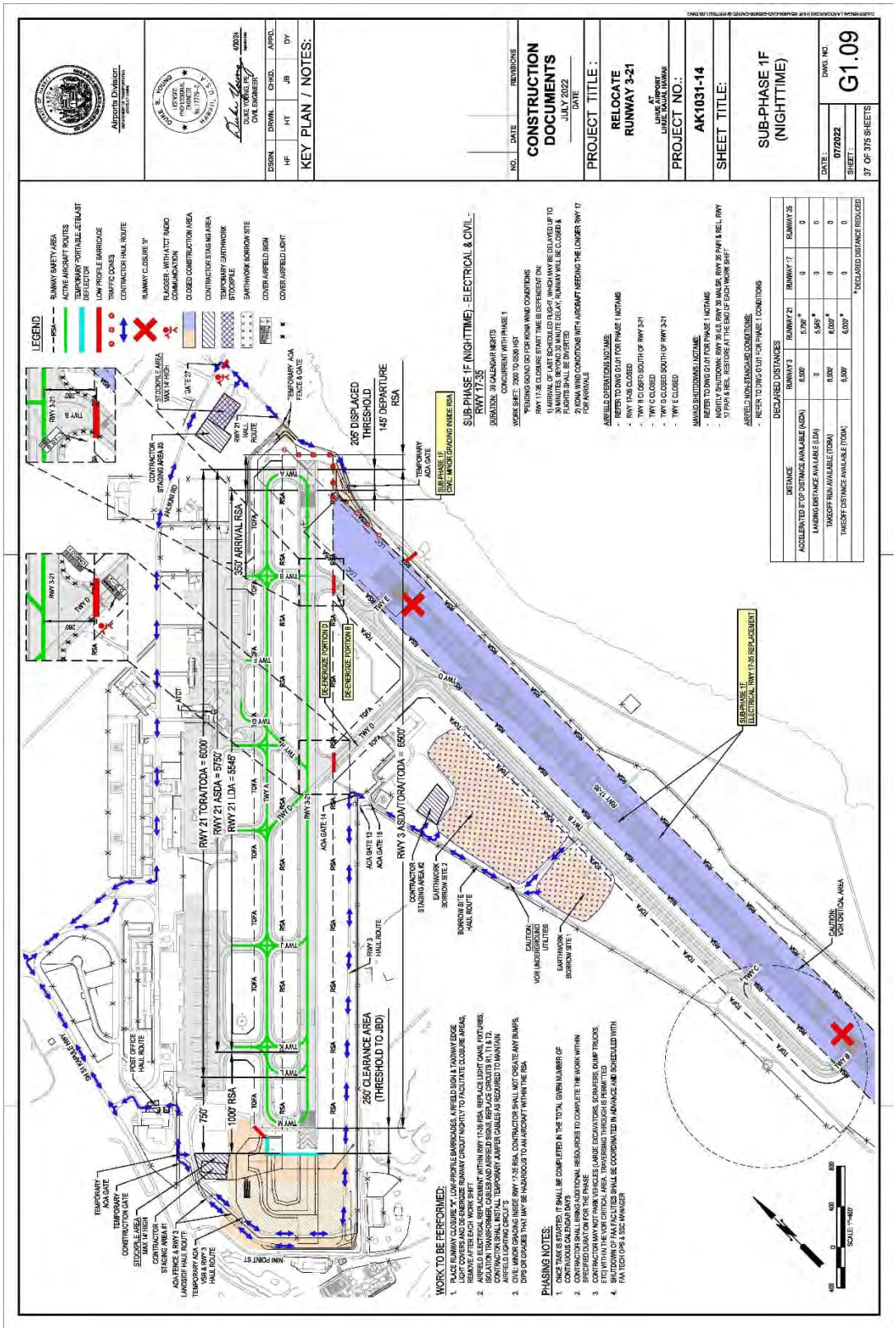

Figure 24: Sub-Phase 1F (Nighttime)

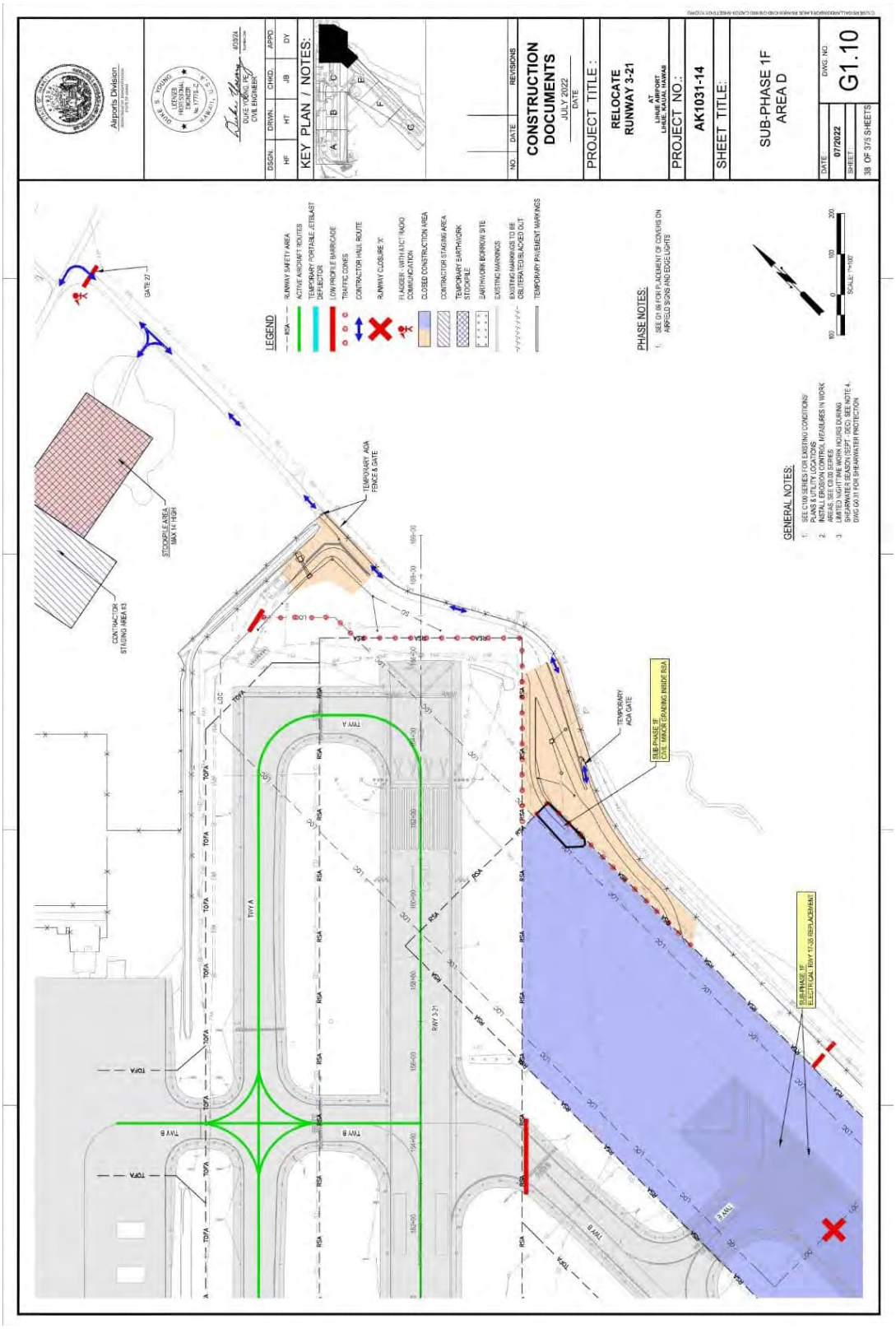

Figure 25: Sub-Phase 1F Area D

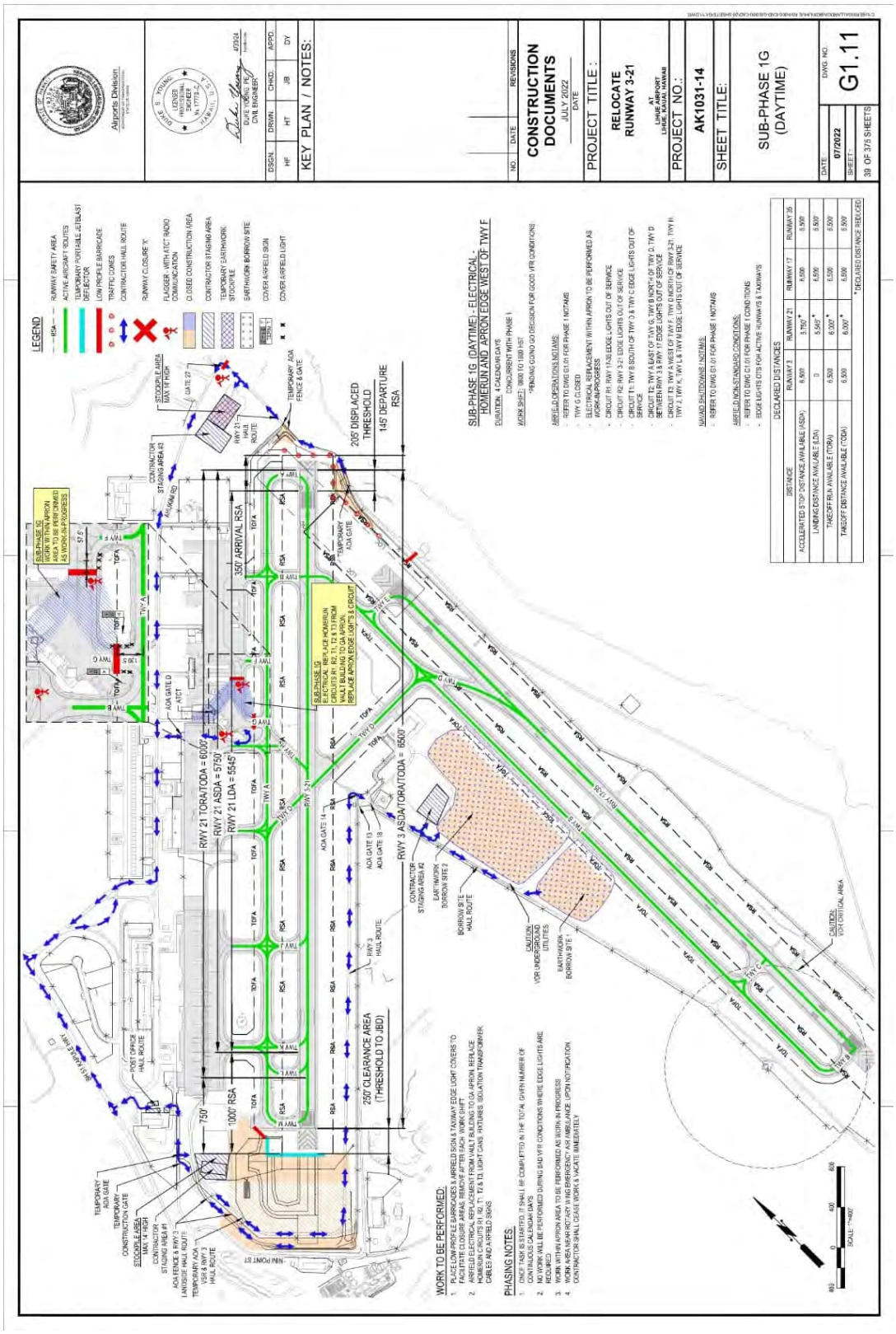

Figure 26: Sub-Phase 1G (Daytime)

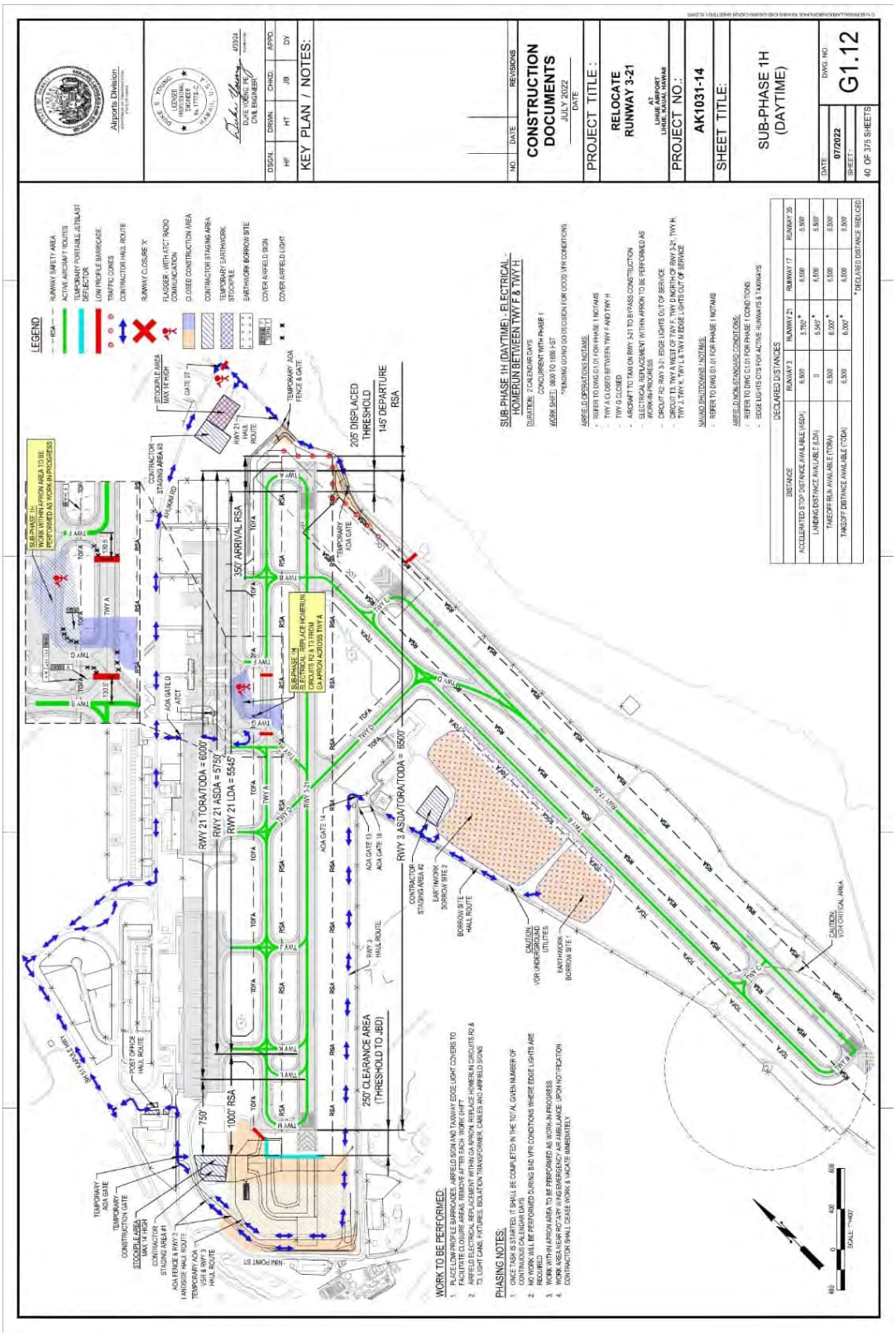

Figure 27: Sub-Phase 1H (Daytime)

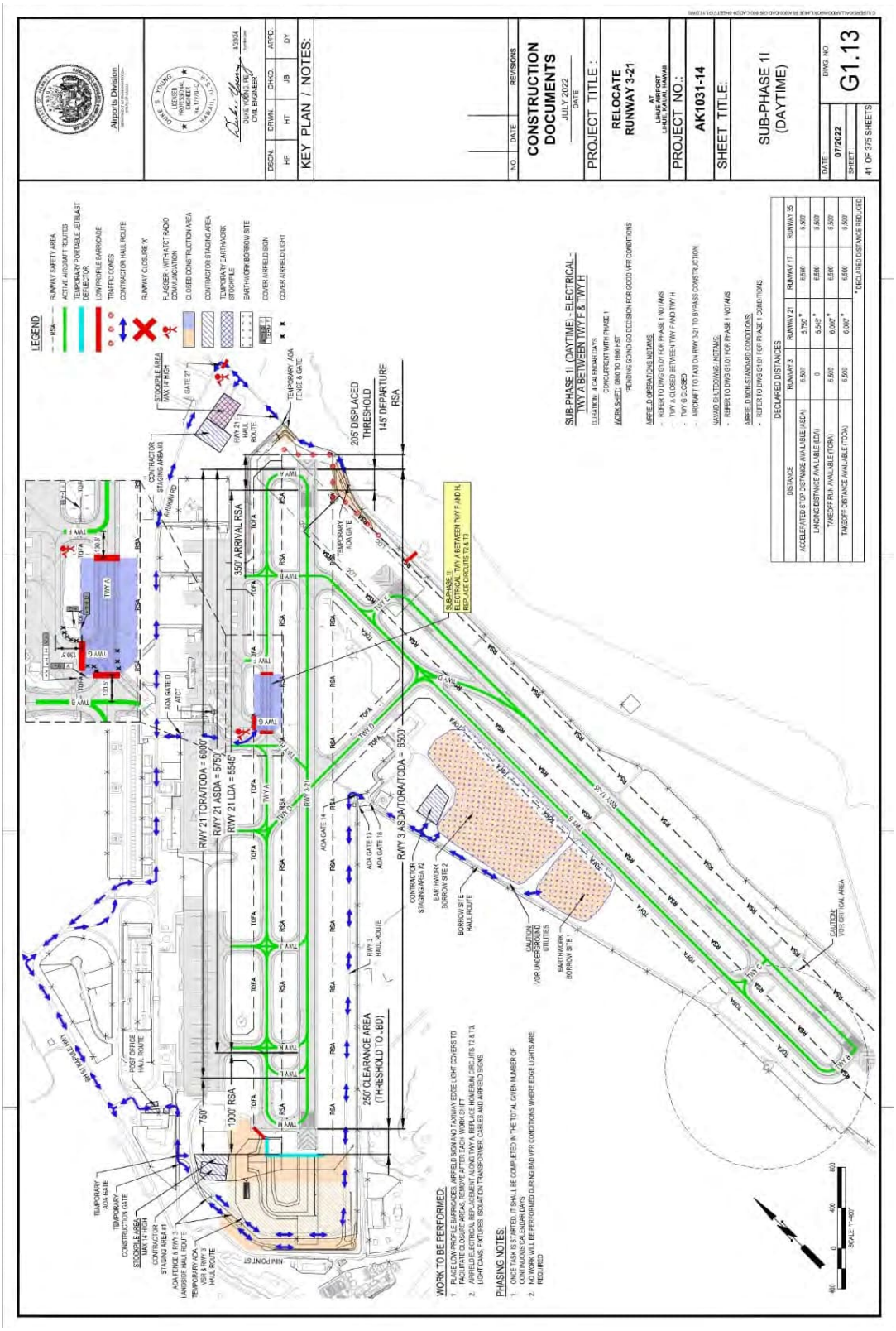

Figure 28: Sub-Phase 1I (Daytime)

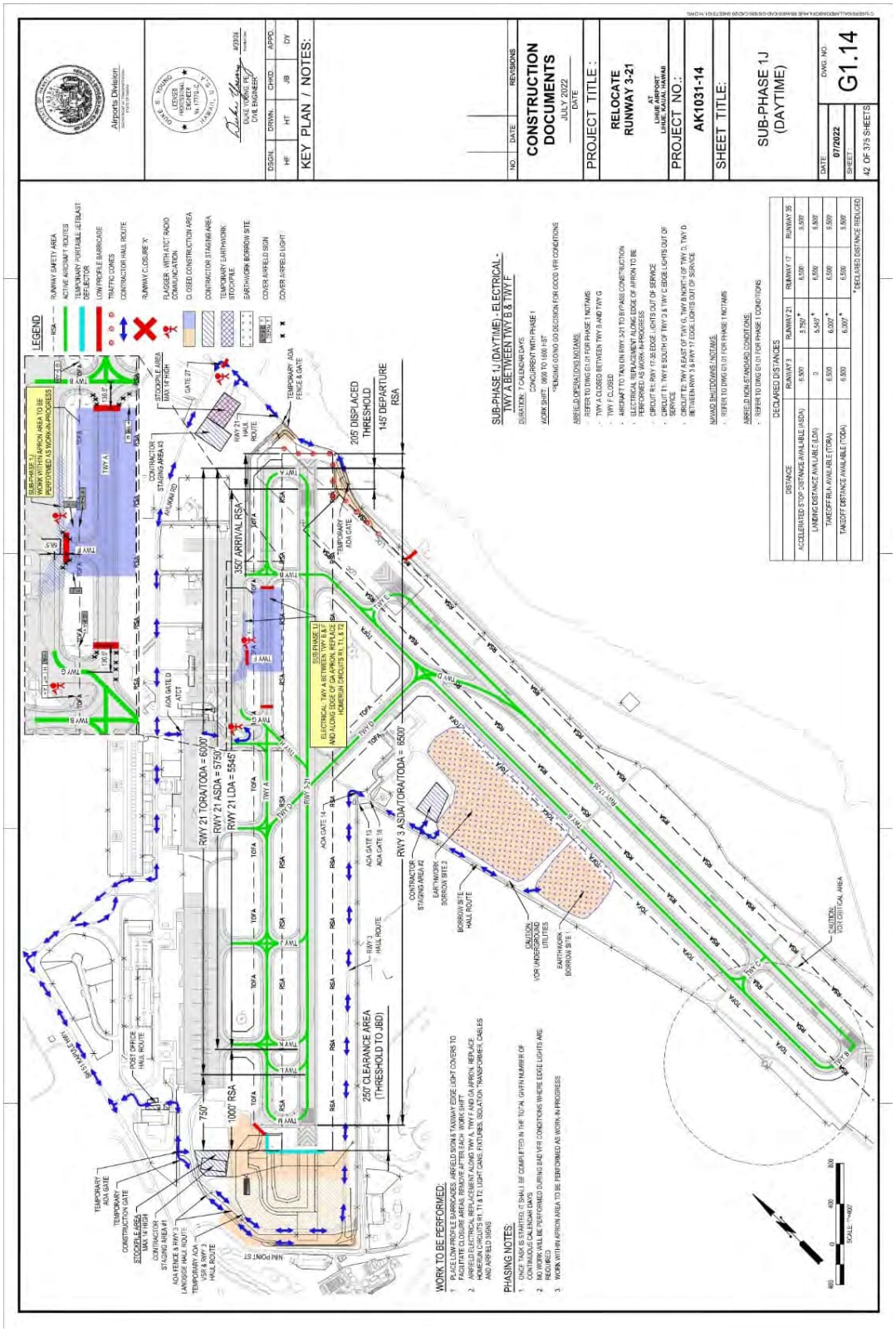

Figure 29: Sub-Phase 1J (Daytime)

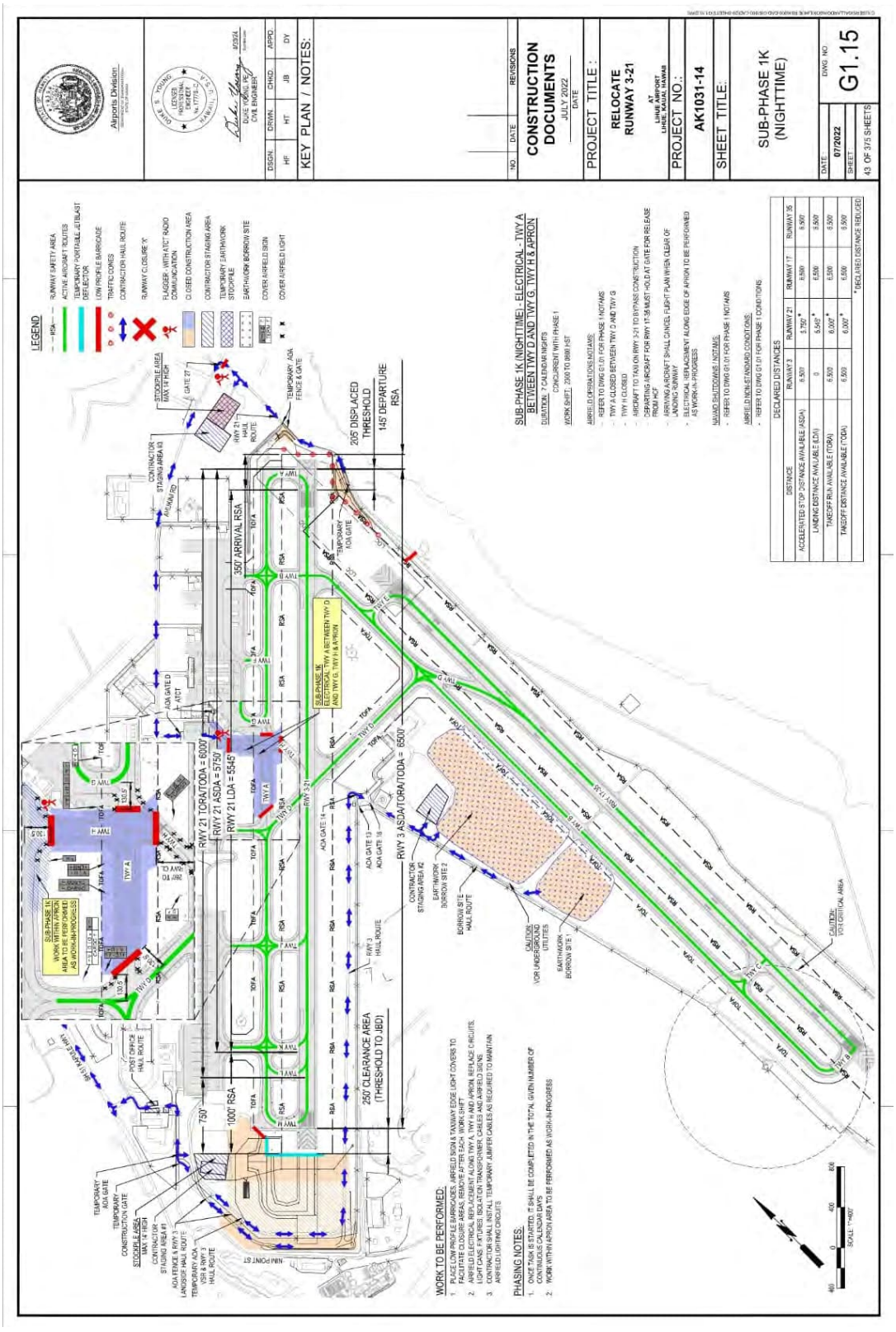

Figure 30: Sub-Phase 1K (Nighttime)

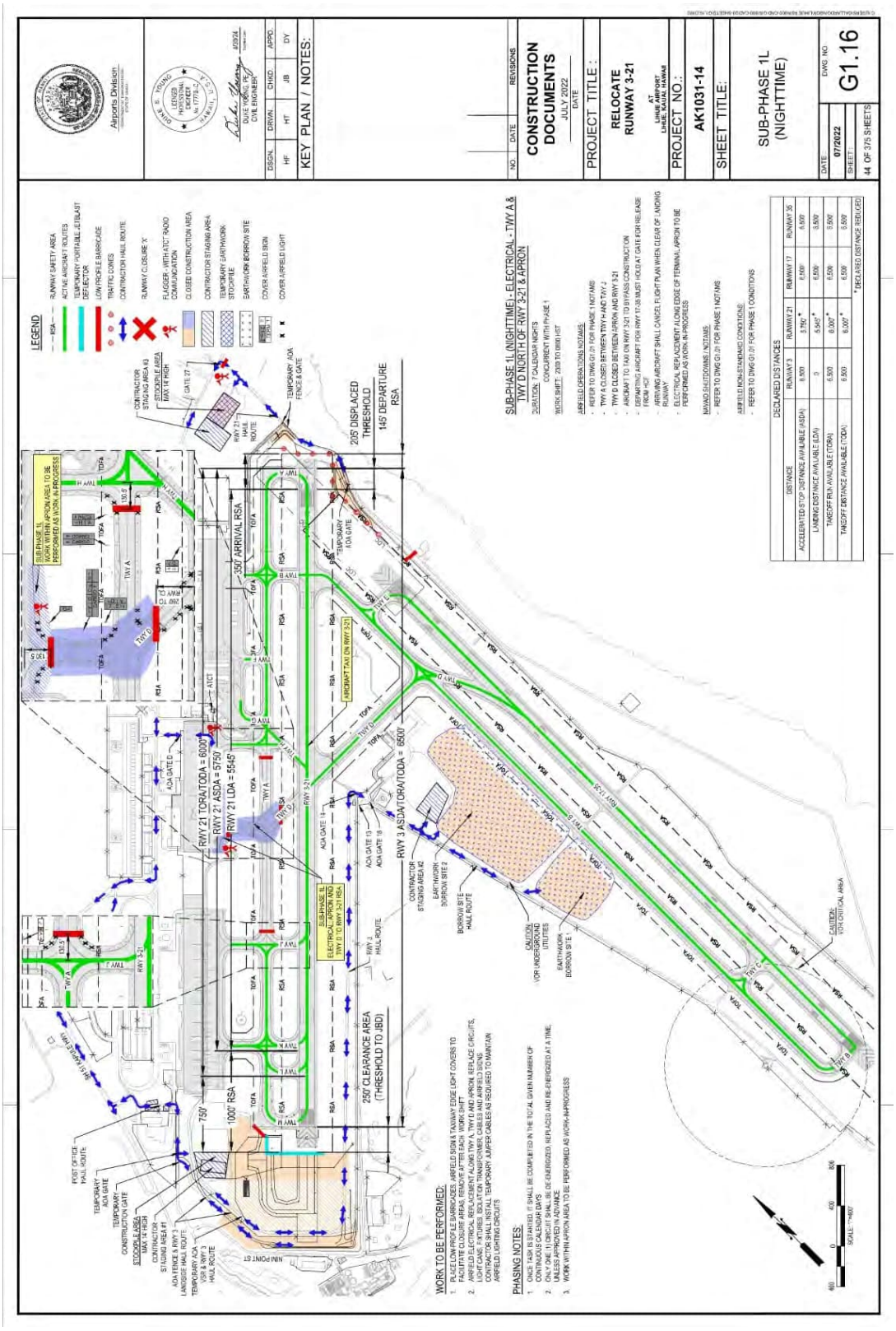

Figure 31: Sub-Phase 1L (Nighttime)

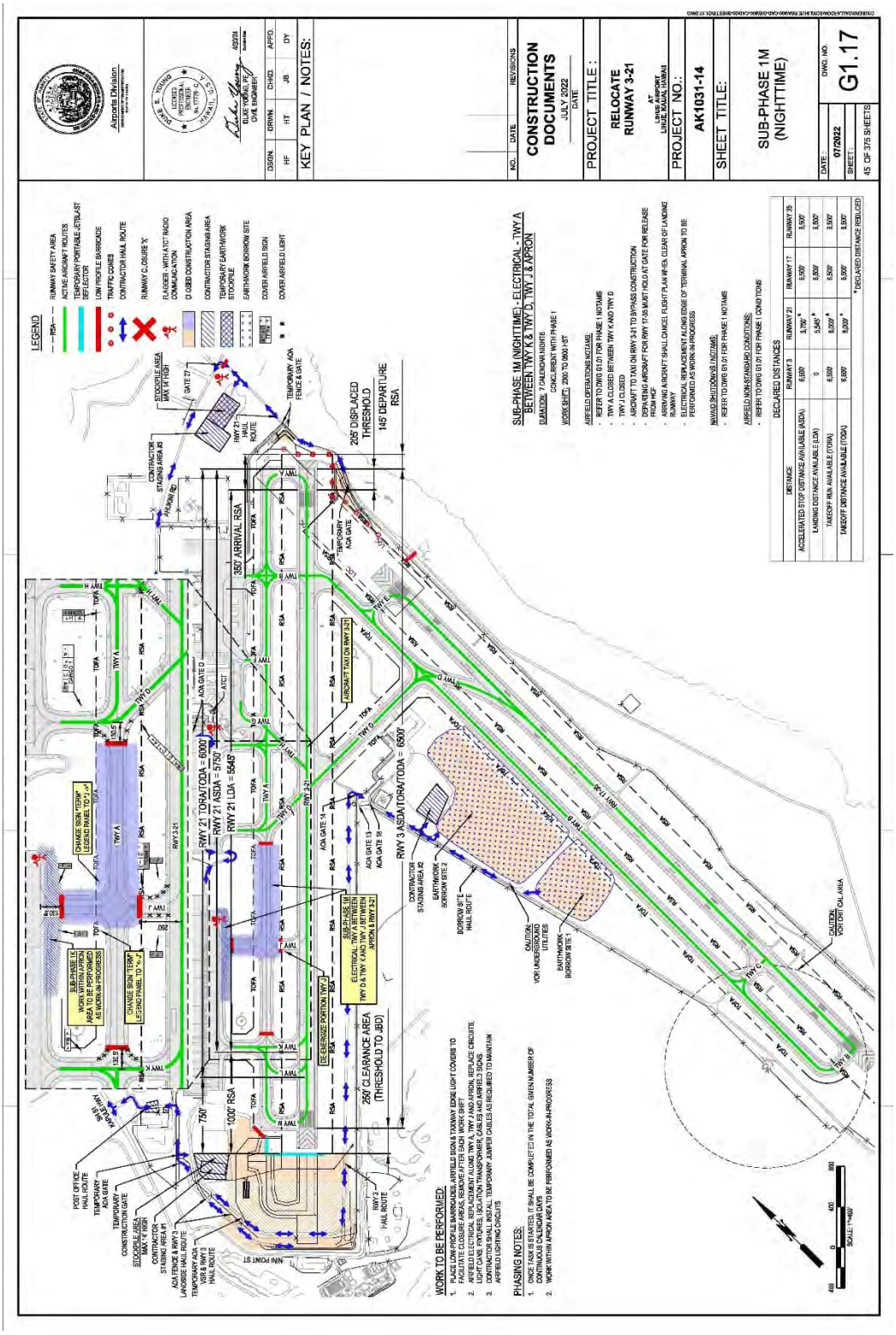

Figure 32: Sub-Phase 1M (Nighttime)

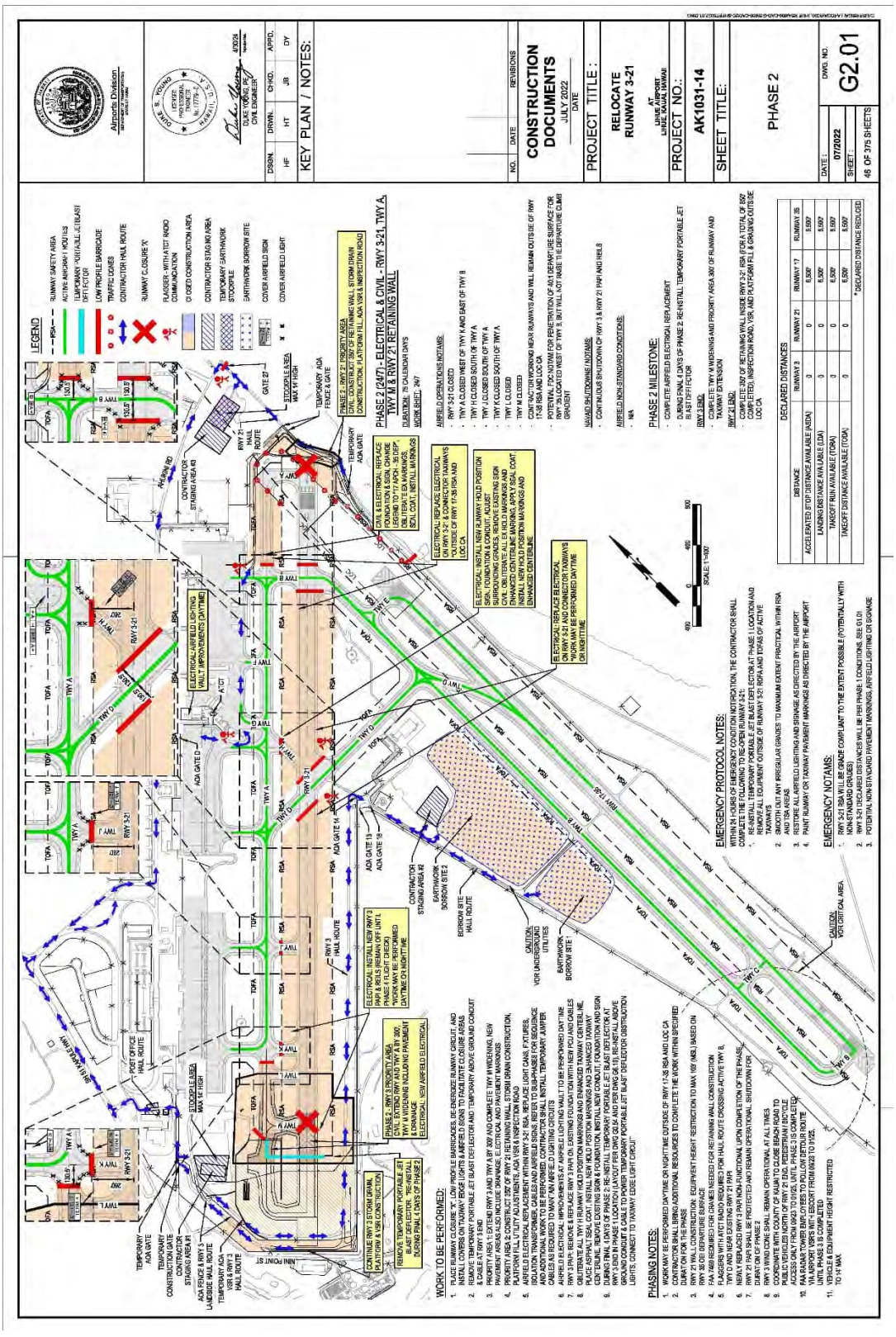

Figure 33: Phase 2

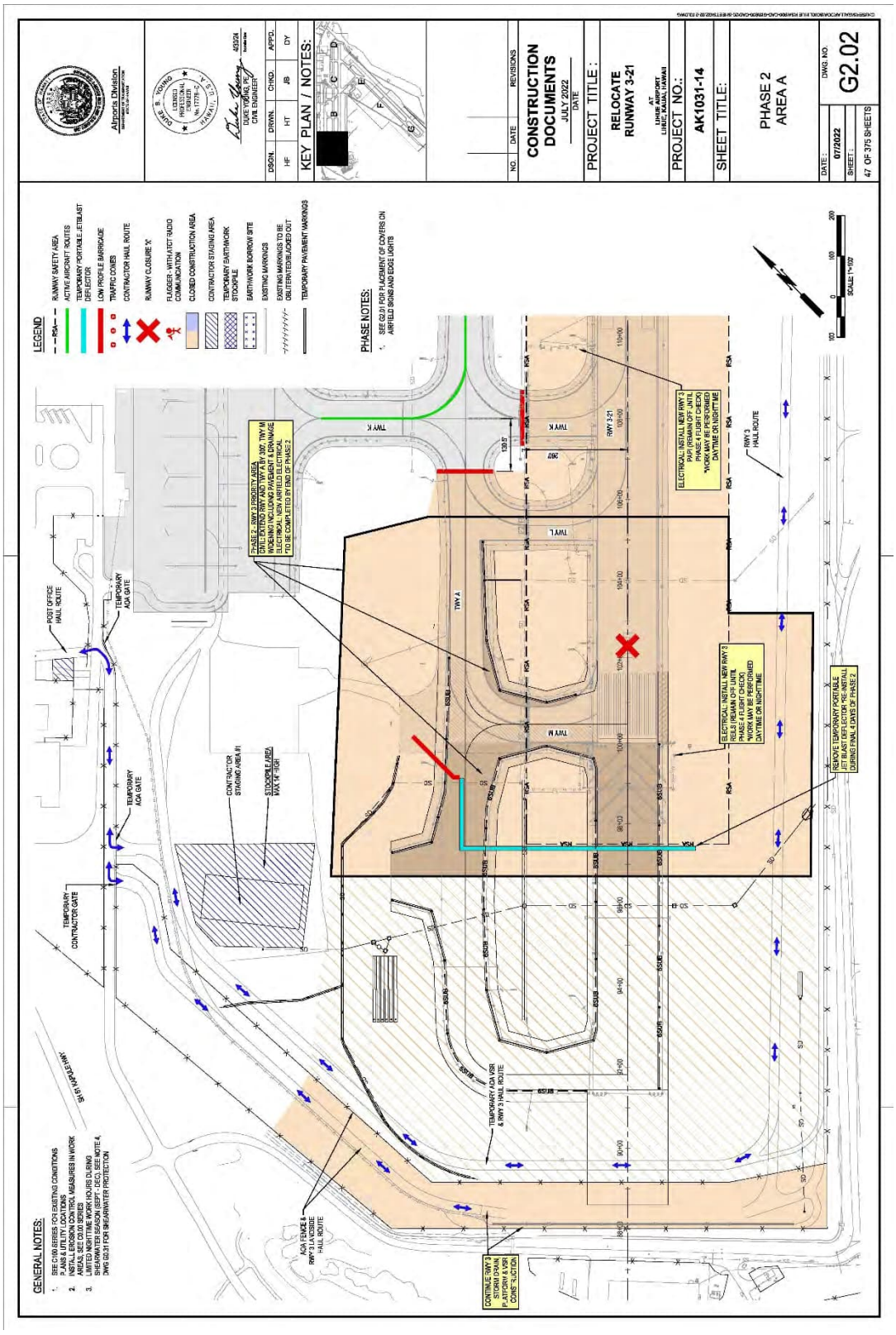

Figure 34: Phase 2 Area A

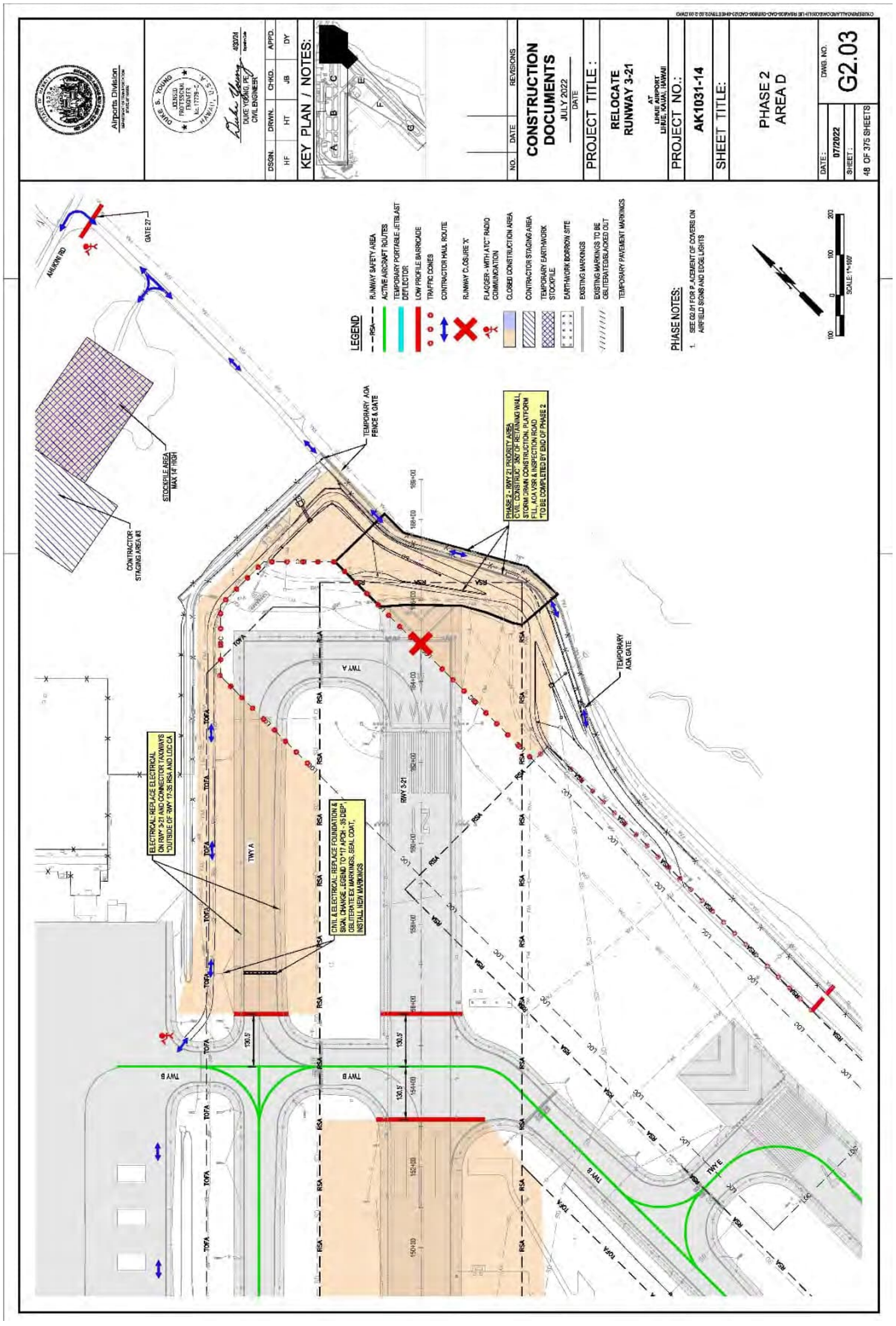

Figure 35: Phase 2 Area D

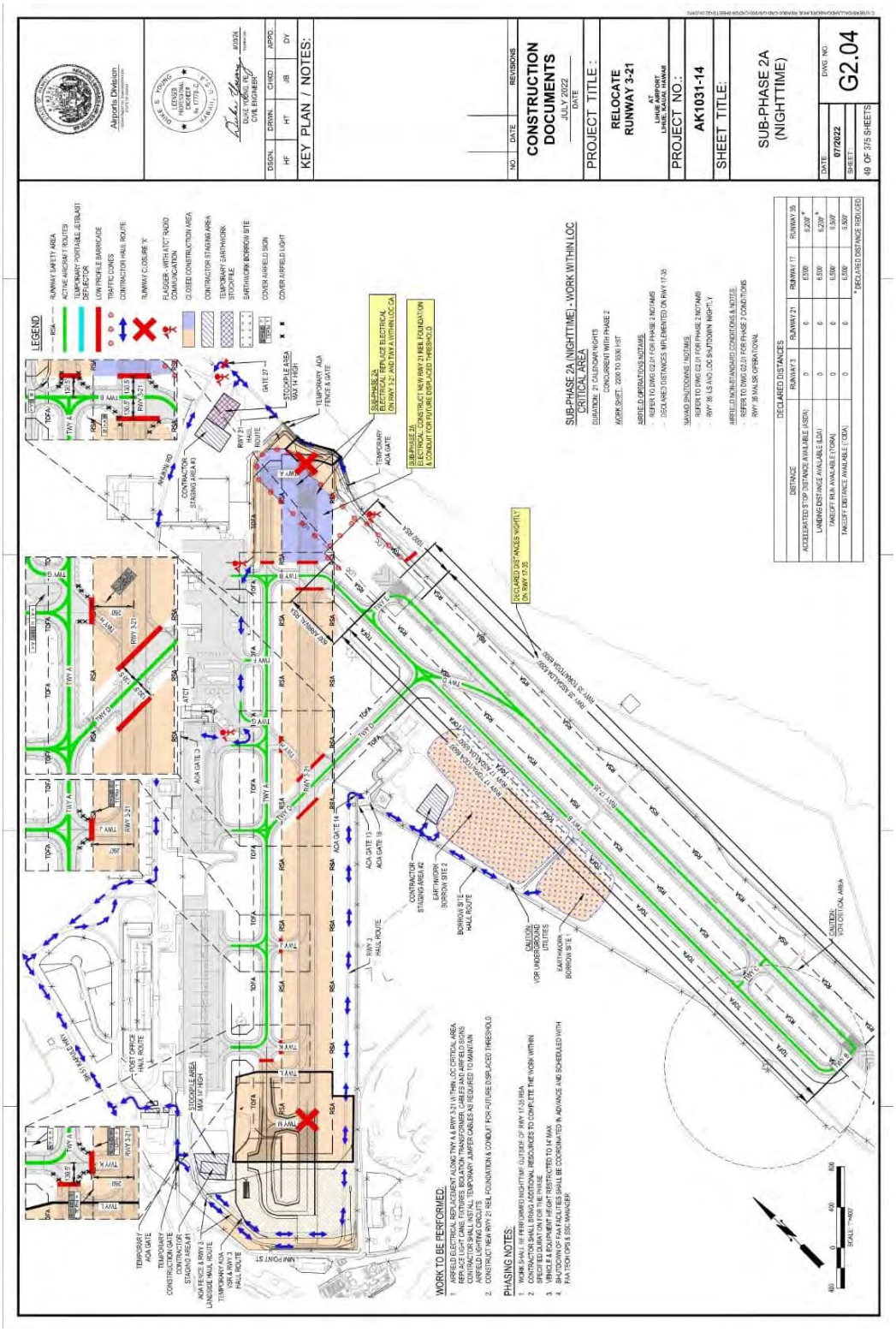

Figure 36: Sub-Phase 2A (Nighttime)

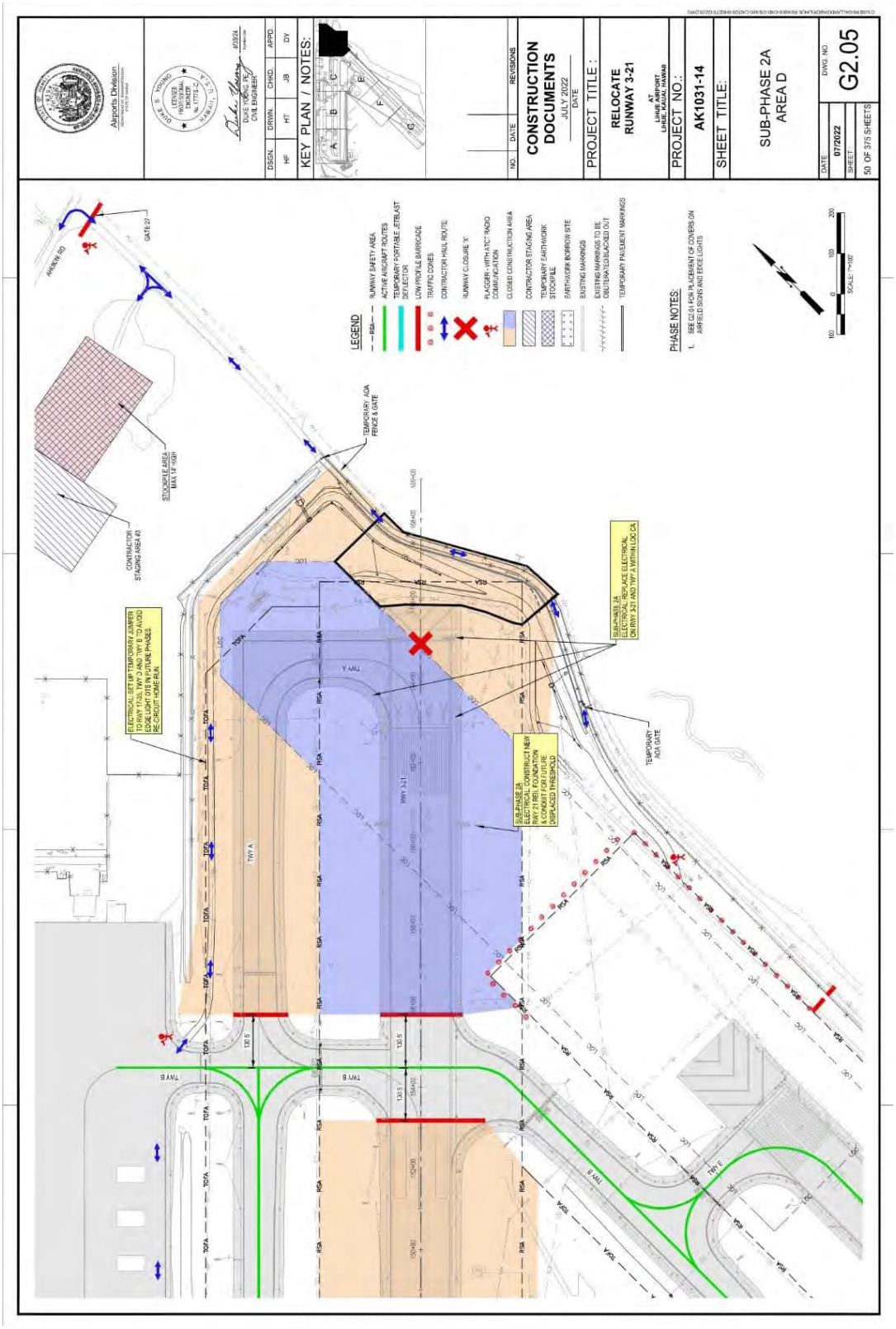

Figure 37: Sub-Phase 2A Area D

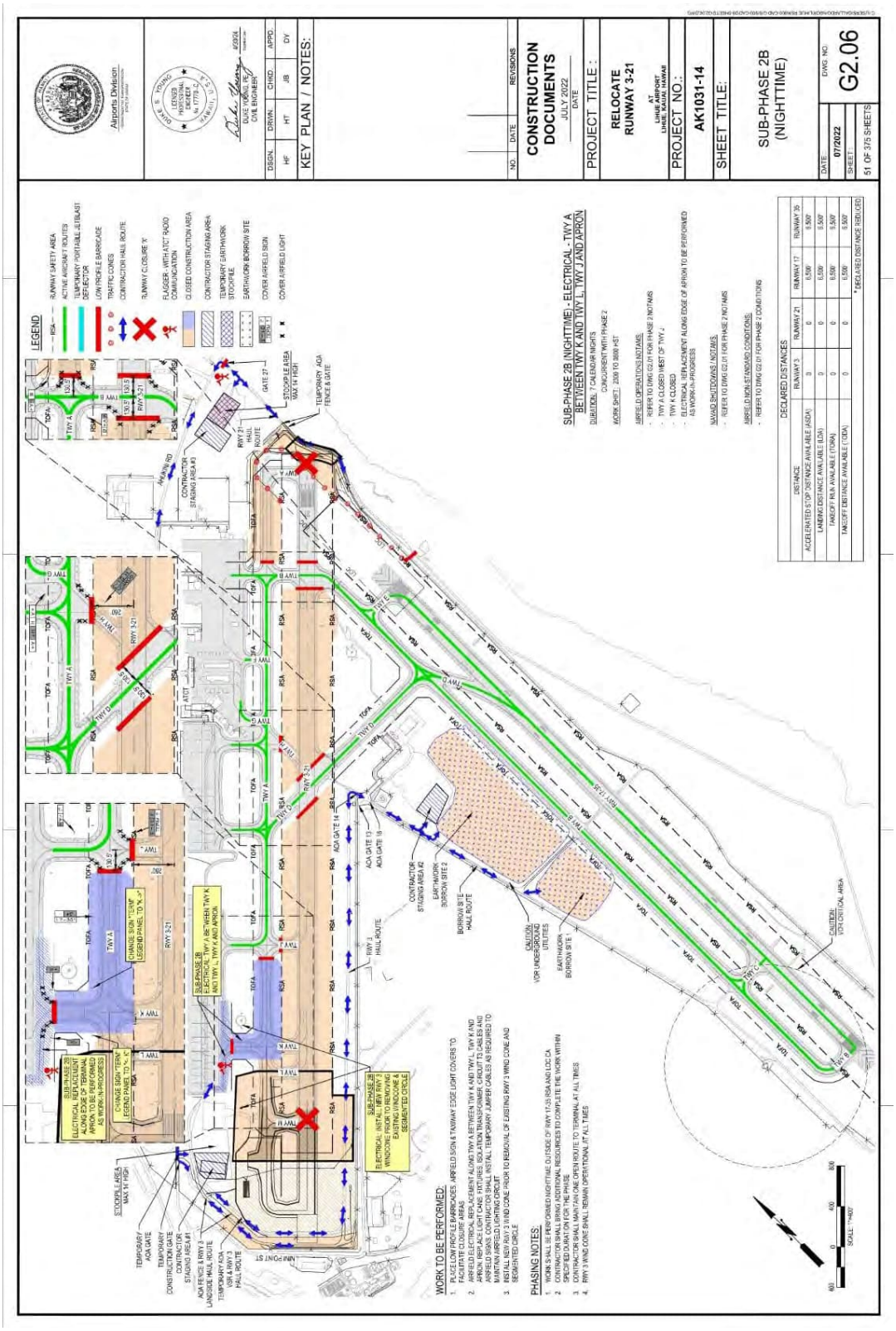

Figure 38: Sub-Phase 2B (Nighttime)

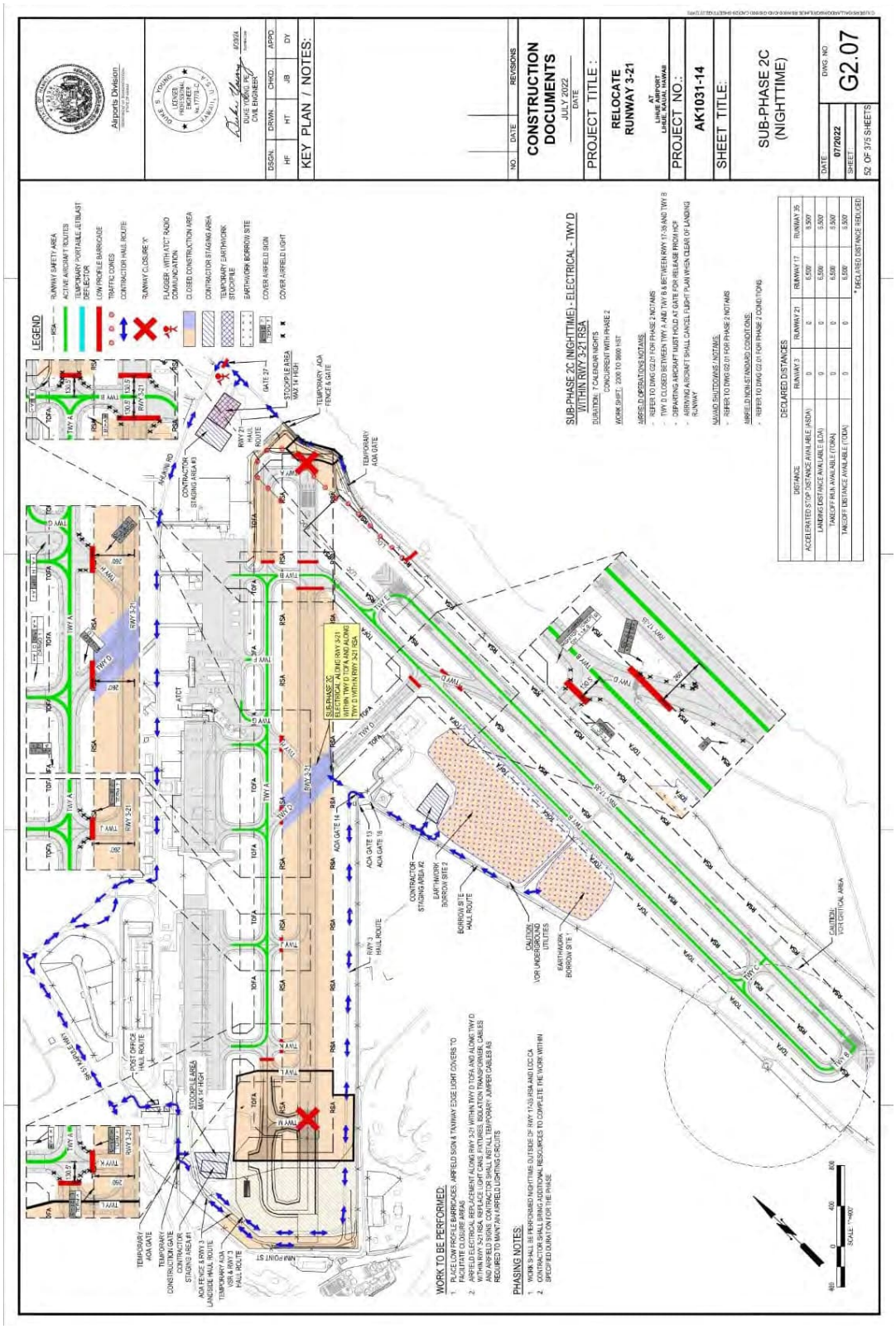

Figure 39: Sub-Phase 2C (Nighttime)

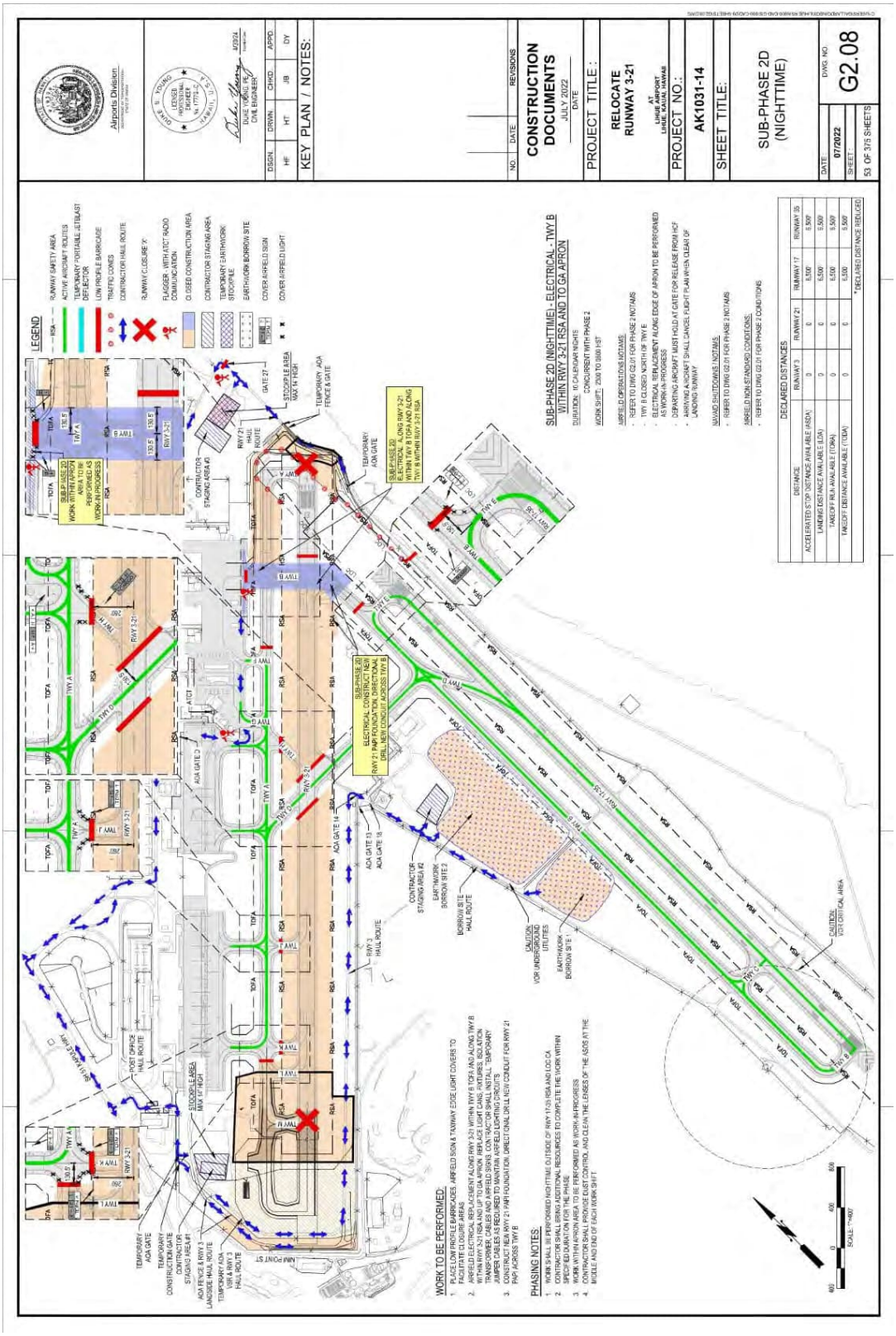

Figure 40: Sub-Phase 2D (Nighttime)

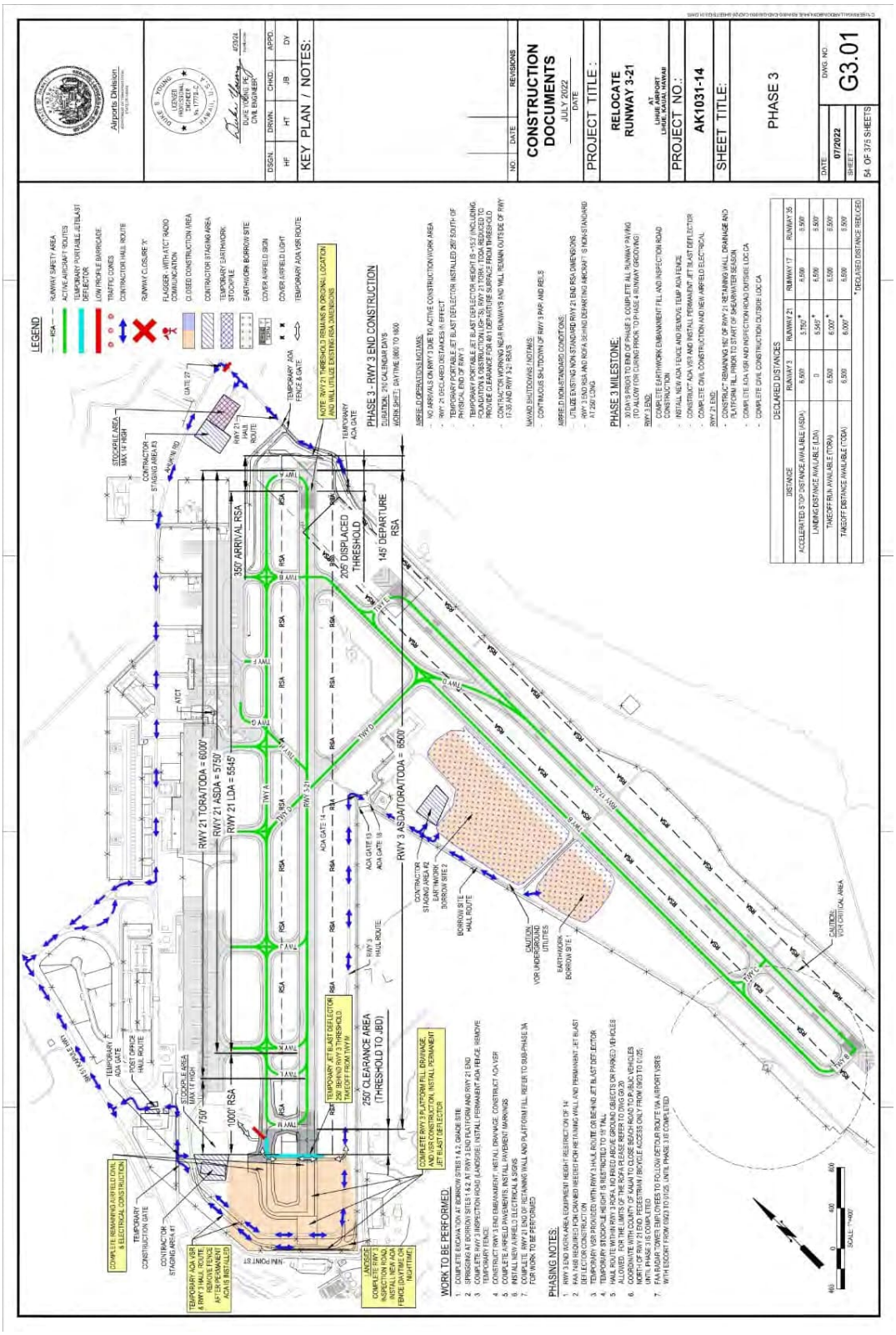

Figure 41: Phase 3

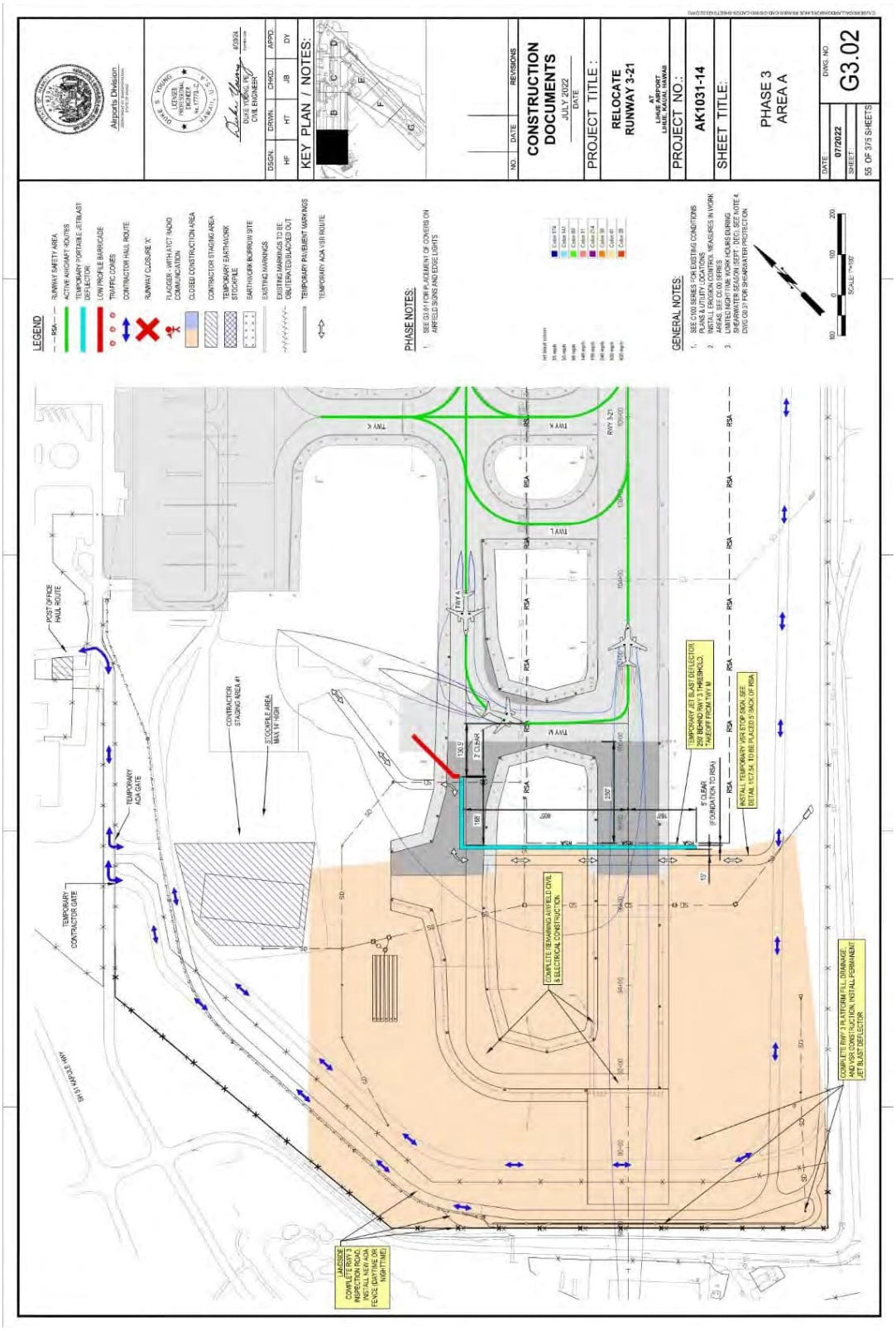

Figure 42: Phase 3 Area A

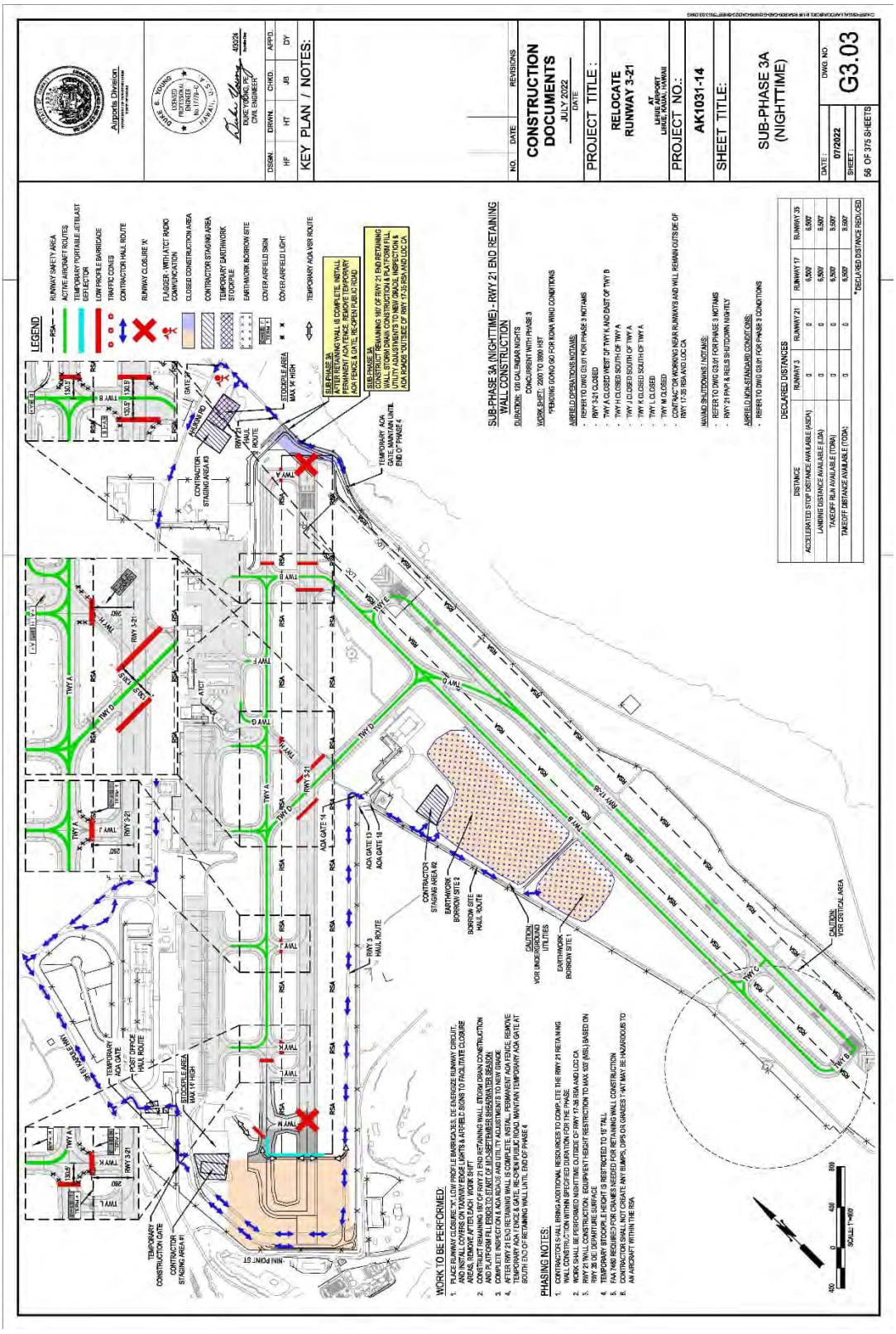

Figure 43: Sub-Phase 3A (Nighttime)

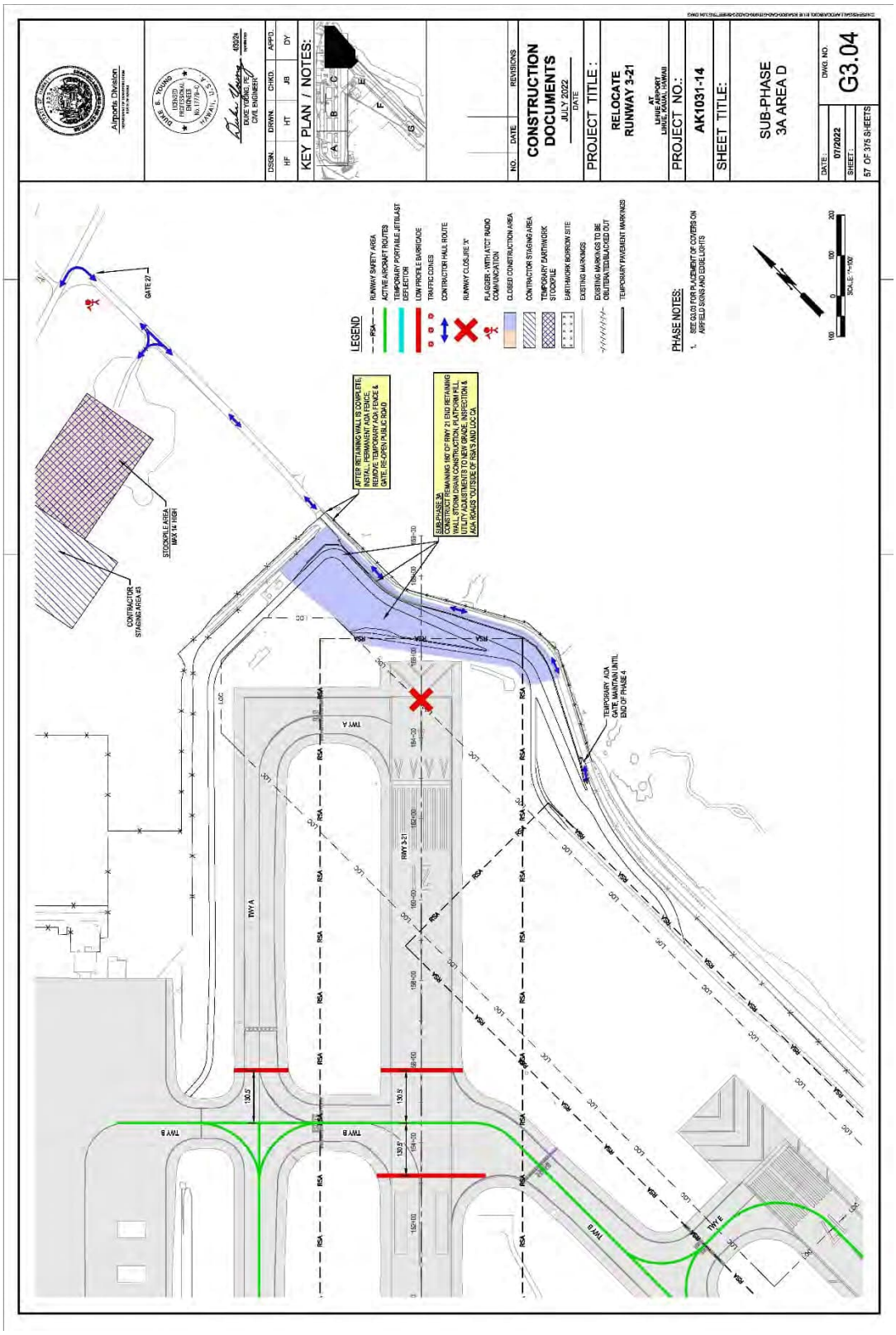

Figure 44: Sub-Phase 3A Area D

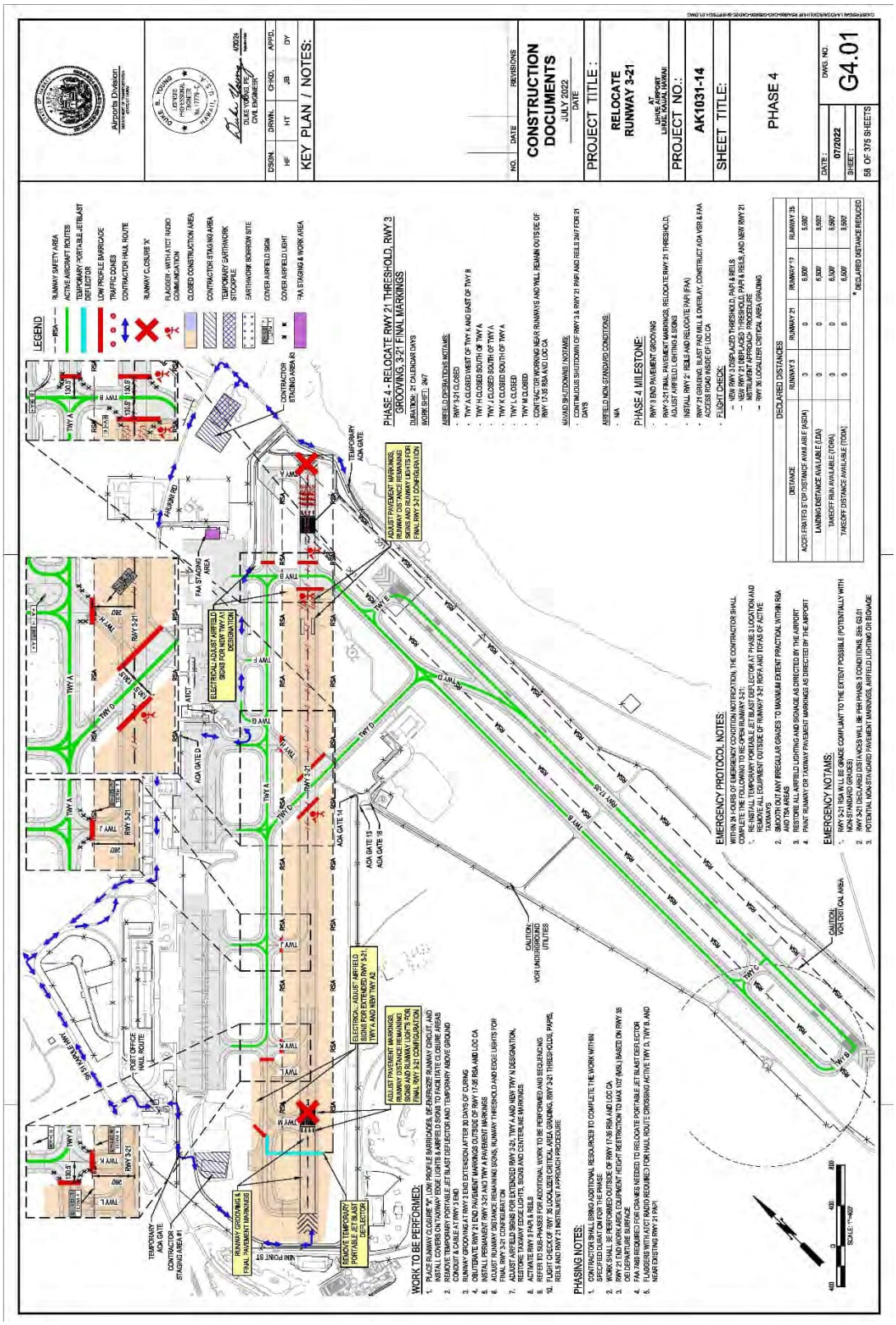

Figure 45: Phase 4

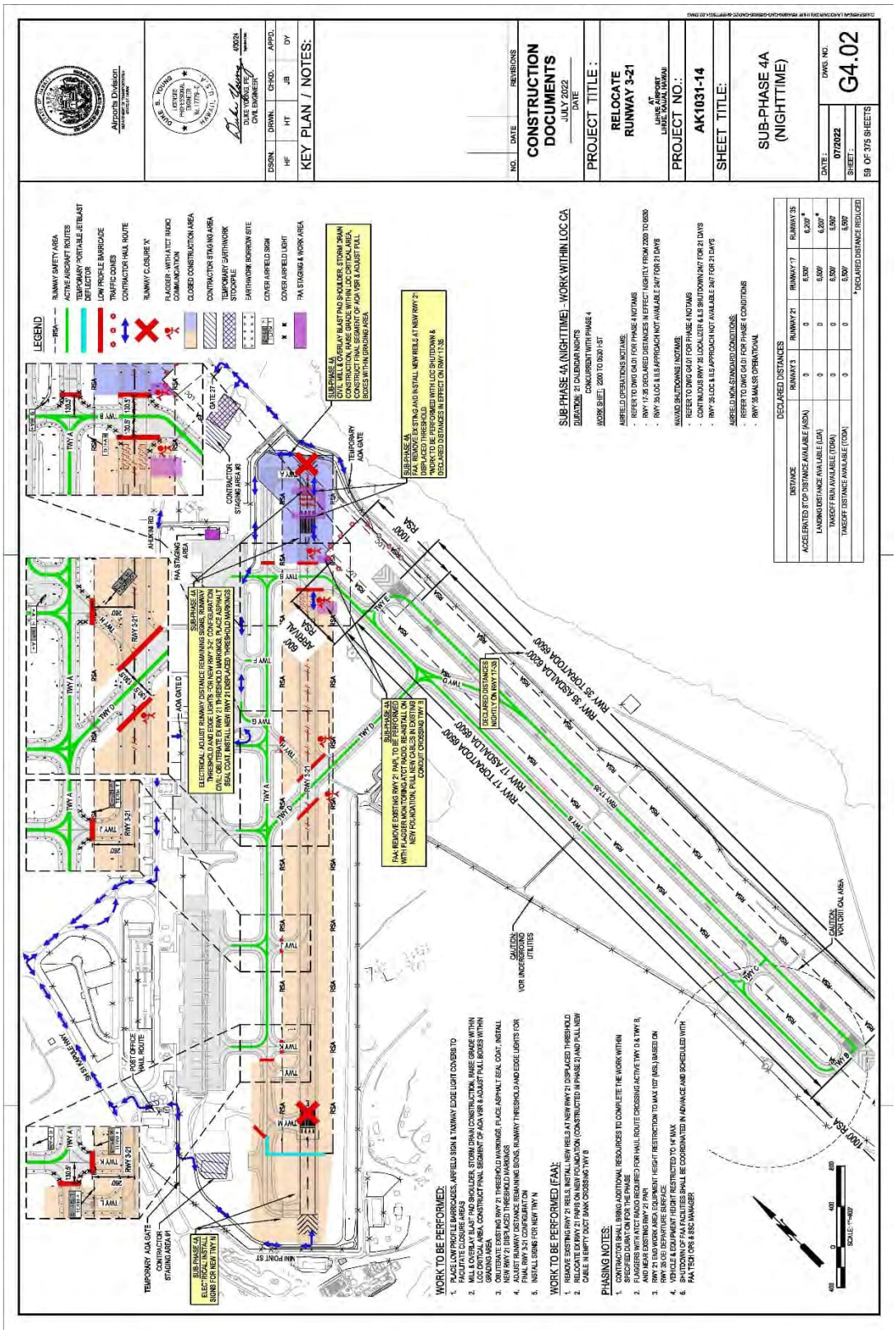

Figure 46: Sub-Phase 4A (Nighttime)

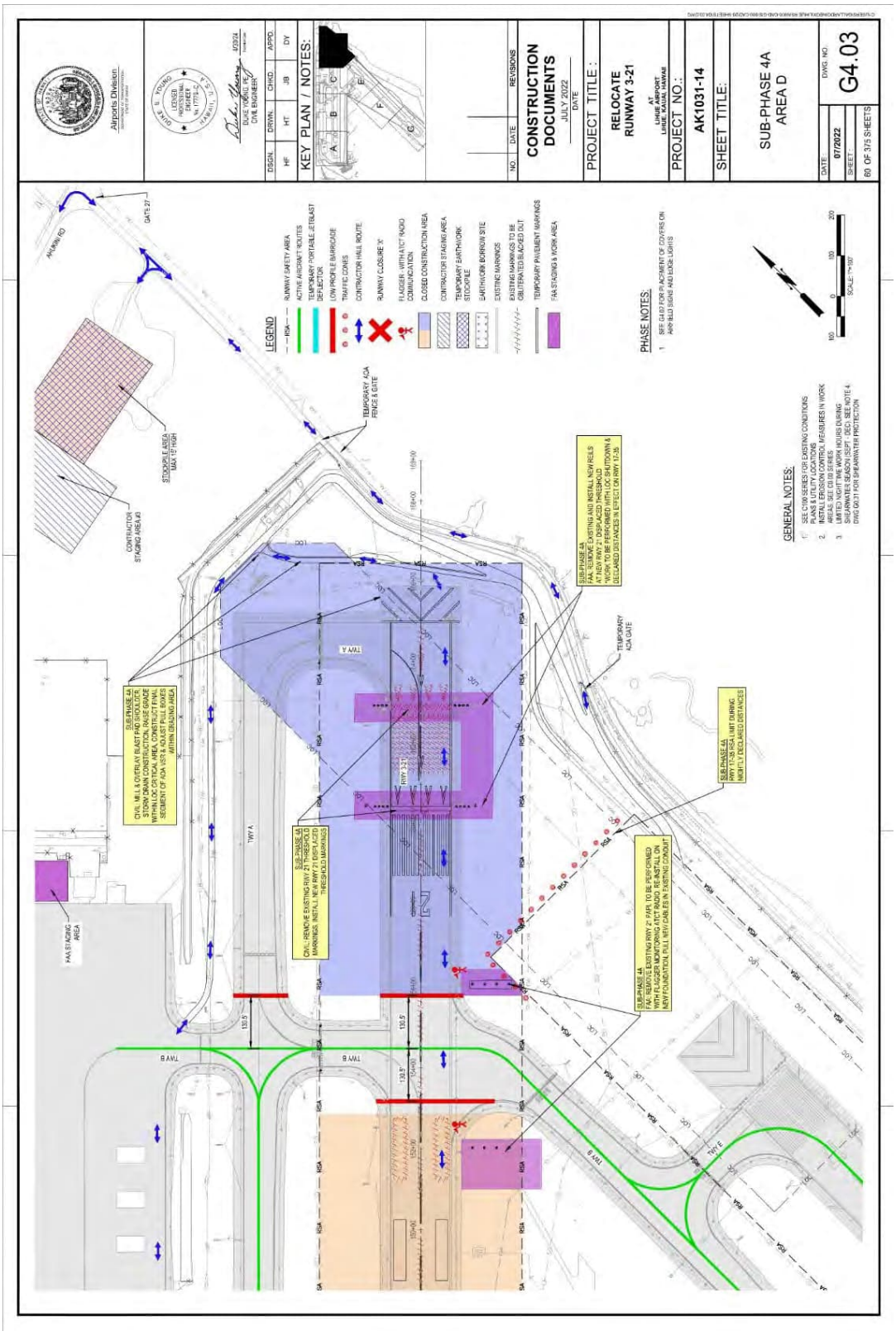

Figure 47: Sub-Phase 4A Area D

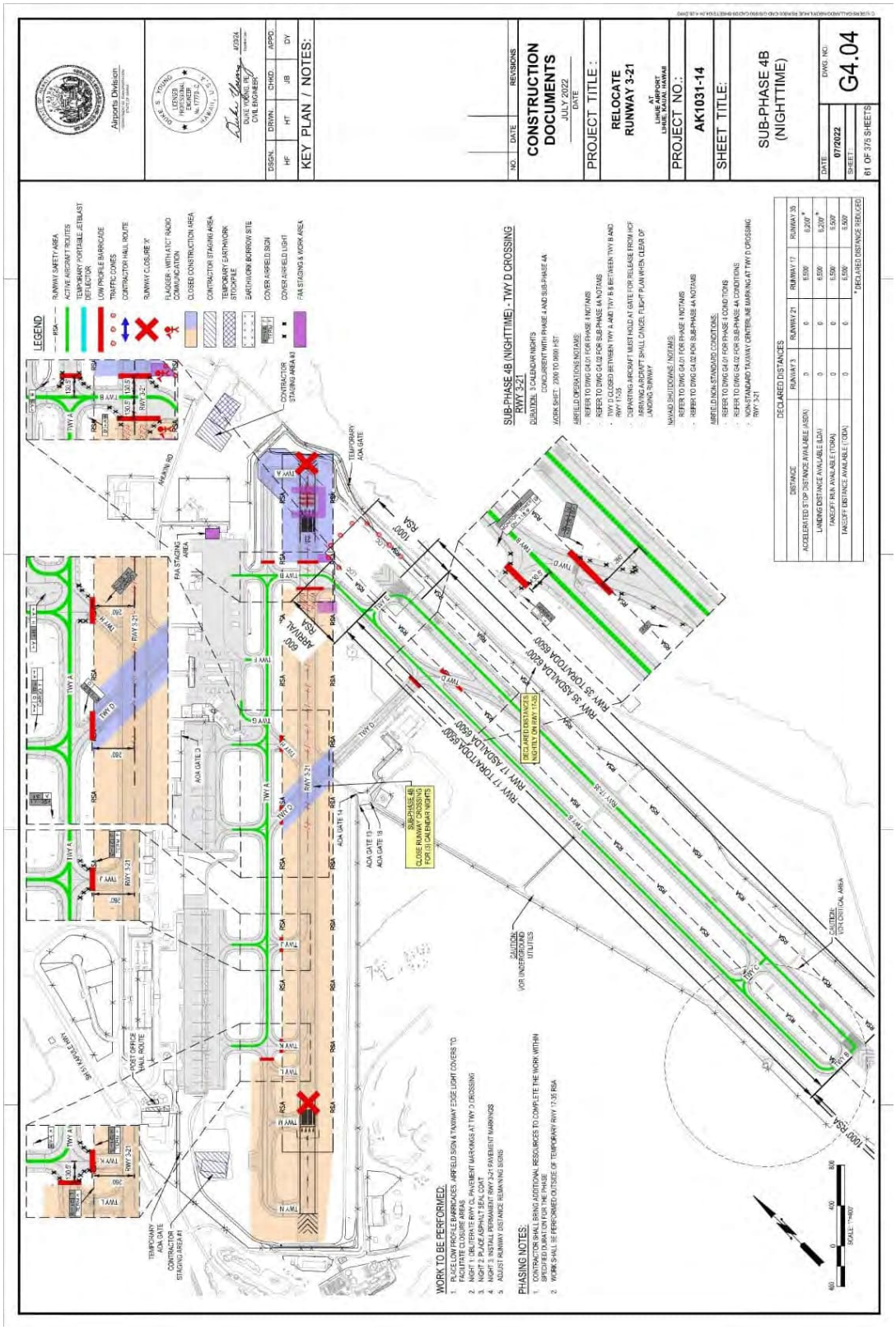

Figure 48: Sub-Phase 4B (Nighttime)

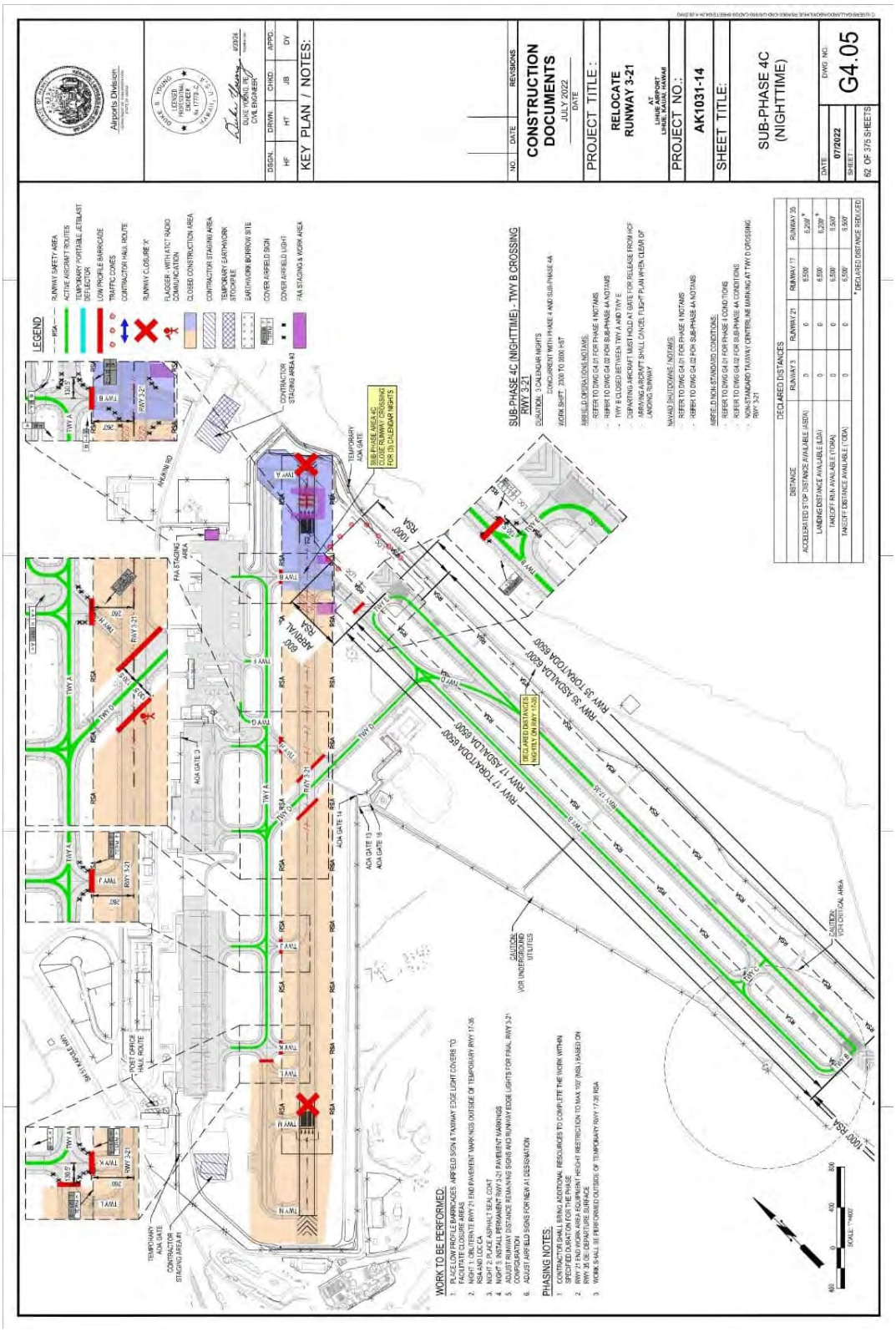

Figure 49: Sub-Phase 4C (Nighttime)

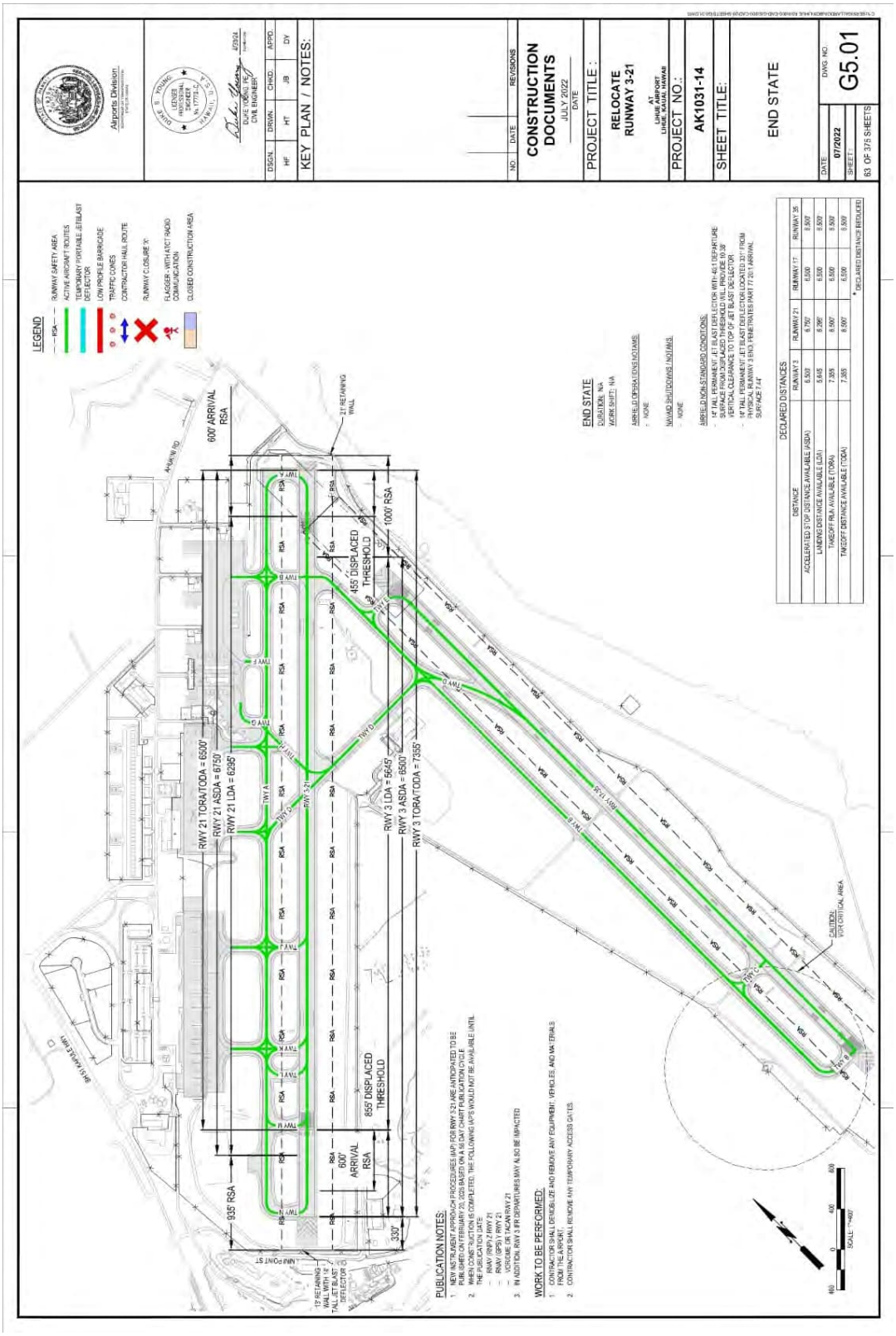

Figure 50: End State

Section 3 – Safety Risk Management Planning and Impacted Organizations

The Safety Risk Management Panel met on August 10, 2022, to assess the proposed change to the NAS and associated hazards. The facilitator worked with the HNL ADO Program Manager to identify SRMP members, Subject Matter Experts (SMEs), and obtain concurrence prior to sending out calendar invitations. All FAA Lines of Business and LIH stakeholders were included in the invitation. The Safety Risk Management Panel continued their meeting on August 22, 2022. See Tables 3, 4, and 5 below for the list of panel meeting participants for these panel meetings. The sign-in sheets can be found in Appendix E.

Table 3: 08/10-11/2022 SRM Panel Members, Subject Matter Experts, Meeting Attendees

Panel Member	Organization, Position/Title	E-mail
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Joe Santoro	FAA RSO	joe.santoro@faa.gov
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Table 4: 08/22/2022 SRM Panel Members, Subject Matter Experts, Meeting Attendees

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Neil Okuna	FAA HCF	neil.n.okuna@faa.gov
Joe Santoro	FAA RSO	joe.santoro@faa.gov
Scott Allen	FAA FSDO	scott.e.allen@faa.gov
Lynae Craig	Alaska Airlines	lynae.craig@alaskaair.com
Richard Silva	Hawaiian Airlines	richard.silva@hawaiianair.com
George Hodgson	Southwest Airlines	george.hodgson@wnco.com
Kevin Coon	United Airlines	kevin.coon@united.com

SME	Organization, Position/Title	E-mail
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Duke Young	AECOM	duke.e.young@aecom.com
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David Ibanez	AECOM	david.ibanez@aecom.com
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Jeff Tarpey	AvAir Pros	j.tarpey@avairpros.com
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Jasmine Morales	Transair	j.morales@transairhawaii.com

Facilitation Team	Organization, Position/Title	E-mail
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Tanya Dela Cruz	Base Management, Tech Writer	tanya@basesgrp.com
Dalyn DeMattos	Base Management, Tech Writer	dalyn@basesgrp.com

Table 5: 08/26/2022 SRM Panel Members, Subject Matter Experts, Meeting Attendees

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Scott Allen	FAA FSDO	scott.e.allen@faa.gov
Perfecto Delmendo	AvAir Pros	p.delmendo@avairpros.com
George Hodgson	Southwest Airlines	george.hodgson@wnco.com
Kevin Coon	United Airlines	kevin.coon@united.com

SME	Organization, Position/Title	E-mail
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Facilitation Team	Organization, Position/Title	E-mail
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Steve Wong	Base Management, Co-Facilitator	steve@basesgrp.com
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Tanya Dela Cruz	Base Management, Admin Support	tanya@basesgrp.com

Section 4 – Assumptions

1. All existing controls are in place.
2. Continuous incursion monitoring and outreach efforts will continue by the Airport and local FAA offices.
3. Possible increase anticipated in commercial service, cargo, general aviation, and military operations during construction period.
4. No planned equipment upgrades in NAVAIDs or communication by the FAA.
5. Radio personnel will be onsite during construction.
6. Work will not be allowed on the airfield unless an approved CSPP is on file.
7. Ongoing construction meetings will address operations during upcoming phases to ensure attendee awareness of impending construction work and associated operational impacts, including runway and taxiway section closures.
8. Briefings should emphasize work along an active RSA provide contractor awareness of the restricting limits.
9. Barricade phasing and schedules will be provided to affected parties including the airlines, LIH ATCT, HCF, contractor, CM, District Ops, USDA, and ARFF via periodic construction meetings, informational meetings, and email.
10. Construction vehicle routes, flaggers and barricades will be reviewed as indicated in the CSPP prior to the start of each construction phase.
11. Construction areas will be clearly marked with lighted low-profile barricades that will be weighted down.
12. Controllers and vehicle operators will be briefed on runway and taxiway changes, closures, and procedures.
13. FOD checks will be completed by construction and airport personnel when movement areas are used.
14. NOTAMs will be issued for each phase as indicated on the phasing sheets.
15. Specialized instructions for airlines to contact HCF and canceling flight plans shall be posted.
16. Minimize changes to CSPP/schedule.
17. Coordination with ongoing projects.
18. Cleaning of ASOS equipment lenses has an acceptable NWS training process reviewed by the contractor.
19. Coord between LIH FCT and HCF evening shift to start now for Phases 1C, 1D, 1E, 2C, 2D, 4B, 4C (one way in/out).
20. All Part 77 and TERPS surface penetrations will be mitigated per the OEAAA Determination letter.

These Mitigation Measures and Responsibilities from the PHA were added after determination of HAZ 1 – Pilot LOSA. It may also mitigate other Hazards in the PHA.

21. Extended Tower hours: LIH ATC & LIH (Kevin J and Bruce K) process already initiated.
22. Jeppesen 10-8 construction pages: AECOM (Designer) & Orion (CM) to provide information to Jeppesen. (Jeppesen email for construction updates: chartsupport@boeing.com).

23. Ops Alerts for flight crews: United, Alaska, Hawaiian, and Southwest have it as a common practice. (AvAirPros will be reaching out to the other carriers.)
24. Airport to provide updates to IATA/A4A to disseminate to their members: Already in process. NBAA, AOPA, GACH to be added for CM stakeholder coordination. Scott Allen to send to GACH and GACH will send to GA.
25. Airport ops on airport after Tower hours to deconflict confused/conflicting taxiing: Airport Ops will be on site and can assist with pilot awareness and deconfliction.
26. Direct outreach to Medivacs: CM will be reaching out to Medivacs.

Section 5 – Phase 1: System Description

The current system state is described in Section 1, Current System / Baseline.

The CSPP system conditions are described in Section 2, Proposed Change.

This project is anticipated to begin construction 09/01/2023, with a completion date of 02/2025.

Shown below are the current and near future projects and events anticipated to occur at LIH that were considered for potential cumulative impacts to the airfield operations.

- Wind cone project – NTP 08/2022 with construction 11/2022 – 02/2023.
  - RWY 21 Wind Cone: Remove and replace with new wind cone. Install new segmented circle.
  - RWY 35 Wind Cone: Remove and replace with new wind cone. Remove existing segmented circle.
  - RWY 17 Wind Cone: Replace existing Wind Cone with new in same location.

- Runway 35 MALSR – Construction 01/2023 – 03/2023.
  - Demolish and replace existing shelter, each light station, foundation, and select portion of the duct bank.

- RWY 3-21 and TWY "B" Rehabilitation – Pavement Issues (TBD).

The SRMP determined that these projects are not expected to have any significant impacts with the LIH Relocate RWY 3-21 project.

Section 6 – Phase 2: Identified Hazards

Identification of hazards in this step, considers all reasonably possible sources of hazards. According to Order 5200.11A, a hazard is any existing or potential condition that can lead to injury, illness, or death to people; damage or loss of a system, equipment, or property; or damage to the environment. A hazard is a condition that is a prerequisite of an accident or incident.

During this hazard identification stage, the facilitator began by providing the panel members with some ground rules listed in Appendix G and remined the group that, "the absence of an answer is understood as agreement." The SRM Panel Meeting is the venue to vet out all safety concerns related to this LIH Relocate RWY 3-21 project.

The SRMP listed seventeen (17) initial presumed hazards generated through the brainstorming session and documented in the Preliminary Hazard List (PHL). The SRMP then reviewed each preliminary hazard from the PHL and categorized each entry as a Cause, Hazard, or Effect (Appendix A). The PHL concluded nine (9) presumed hazards for further evaluation in the Preliminary Hazard Analysis (PHA) worksheet.

From the nine (9) presumed hazards, the SRMP determined four (4) hazards were credible and fully evaluated as shown in Table 6 below and is also derived from the PHA in Appendix B.

During the Panel's discussion, the panel members decided to remove several hazards taken from the Preliminary Hazard List based on thorough discussion and determined that they were documented in other columns within the PHA as a Cause, Effect or an Existing Control as shown in the table below:

Table 6: List of Hazards and the Associated System State

(1) Hazard ID	(2) Hazard Description	(4) System State	(7) Effects
XYZ-1	Condition, real or potential; can cause injury, illness, etc. Pre-requisite for accident or incident	Conditions, characterized by quantities or qualities, in which a system can exist; worst credible	Potential outcome or harm of the hazard if it occurs in the defined system state
LIH-RELOC.RWY3/21-1	LOSA for Pilots	All Phases	Runway Incursion
LIH-RELOC.RWY3/21-2	LOSA for Controllers	All Phases	Runway Incursion
LIH-RELOC.RWY3/21-3	LOSA for Vehicles and Pedestrians	All Phases	Runway Incursion
LIH-RELOC.RWY3/21-4	LOSA for Flaggers	Phases 1G, 1H, and 1I for a total of 10 calendar days	Surface Incident

(1) Hazard ID	(2) Hazard Description	(4) System State	(7) Effects
LIH-RELOC.RWY3/21-5 (REMOVED)	**Back-Taxi Coordination When Tower is Closed**	**N/A**	***Removed based on SRMP determination captured in Cause***
LIH-RELOC.RWY3/21-6 (REMOVED)	**Tower Having Trouble Finding Holding Spot for Aircraft Waiting for Gate**	**N/A**	***Removed based on SRMP determination captured in Effect***
LIH-RELOC.RWY3/21-7 (REMOVED)	**Rubber Buildup**	**N/A**	***Removed based on SRMP determination captured in Existing Controls***
LIH-RELOC.RWY3/21-8 (REMOVED)	**Non-Standard or No Pilot Communication on Location**	**N/A**	***Removed based on SRMP determination captured in Cause***
LIH-RELOC.RWY3/21-9 (REMOVED)	**Helicopters Taxiing for Takeoff and Arrivals in that Area Often**	**N/A**	***Removed based on SRMP determination captured in Cause***

This panel used the PHA tool/technique provided in the ARP Desk Reference for the airspace determinations for the proposed plan. The PHA provided the panel members with an initial overview of the hazards present in the overall flow of the operation in this proposed change.

Description of Hazards

This step focuses on the hazard identification, including further analysis of the hazards to assist Panel Members on analyzing the safety risks. The Facilitator cultivated discussions to ensure the panel considered all credible sources of system failure, including equipment, human factors, operational procedures, maintenance procedures, and external services.

The Facilitator initiated the functional brainstorming technique as a tool to systematically identify hazards as the panel developed the Preliminary Hazard List. During the brainstorming session, the group developed a list of potential hazards associated with the project and provided the bases for the Preliminary Hazard Analysis (PHA).

During the hazard identification stage, the panel identified potential safety issues, their possible causes and corresponding effects. The Technical Writer documented these discussions in the PHA. Following each portion, the Facilitator obtained concurrence from the Panel Members to ensure all documentation was correct.

The sections below provide an overview of each identified hazard, cause and effect, for the proposed project.

LIH-RELOC.RWY3/21-1: LOSA for Pilots

(All Phases)

The SRMP determined that LOSA for Pilots is a hazard which could be caused by one way taxi in/out, RWY 35 shortened non-standard edge lights, lighting inoperative, not reading NOTAMs, back-taxi when tower is closed, RWY/TWY INOP, back-taxi when tower is open, non-standard or no pilot communication, misunderstanding in communication, not listening to the ATIS when tower is closed and missing special instructions, runway incursion by contractor (unfamiliar contractor driving around the runway environment), and unfamiliar with the airport (LIH). This hazard exists in all stages of construction as the SRMP considered all existing controls that relate to the prevention or reduction of this hazard occurrence or to mitigate its effects.

Mitigations that exist to prevent or reduce this hazard occurrence or to mitigate its effects were listed under existing controls in the PHA as follows: AC 150/5200-18 Airport Safety Self Inspection, AC 150/5200-28 NOTAMs for Airport Operators, AC 150/5200-31 Airport Emergency Plan, AC 150/5210-24 Airport Foreign Object Debris Management, AC 150/5210-5 Painting, Marking, Lighting of Vehicles Used on Airport, AC 150/5300-13 Airport Design, AC 150/5340-1 Standards for Airport Markings, AC 150/5340-18 Standards for Airport Sign Systems, AC 150/5340-30 Design and Installation Details for Airport Visual Aids, AC 150/5345-44 Specifications for Runway and Taxiway Signs, AC 150/5345-46 Specifications for Runway and Taxiway Lighting Fixtures, AC 150/5345-55 Specification for L-893, Lighted Visual Aid to Indicate Temporary Runway Closure, AC 150/5345-56 Specification for L-890, Airport Lighting Control and Monitoring System (ALCMS), AC 150/5370-2 Operational Safety on Airports During Construction, FAR Part 139 Regulations/Airport, JO 7110.65 Air Traffic Control, JO 7210.3 Facility Operations and Administration, JO 6000.15 NAS Maintenance, MEARTS/STARS Micro En-Route Automated Radar Tracking System, ARSR, ASR-9, ASR-11 Surveillance Radar, Pilot Training, Controller Training, Airfield Driver Training, Pilot Intervention, Controller Intervention, ATC Scanning, Airfield Operations Monitoring, Operational Supervision, Radio Frequency Monitoring, NOTAM Notice to Airmen, Charts Aeronautical, Jeppesen Charts, AFD Airport/Facility Directory, AIM Aeronautical Information Manual, CRM Crew Resource Management, Daily Briefings/Notes, and CSPP Construction Safety and Phasing Plan.

The SRMP identified seven (7) possible effects and decided that the worst potential outcome or harm of the hazard if it occurs in the defined system state was a runway incursion. This hazard was analyzed by the SRMP, and the results are documented in Section 7.

LIH-RELOC.RWY3/21-2: LOSA for Controllers

(All Phases)

The SRMP determined that LOSA for Controllers is a hazard which could be caused by one way taxi in/out, RWY 35 shortened non-standard edge lights, not reading NOTAMs, RWY/TWY

INOP, non-standard or no pilot communication, misunderstanding in communication, incomplete Position Relief Briefing (PRB) or no PRB, incomplete status information review, incomplete status information area information, back-taxi when tower is open, and helicopters taxiing for take0off and arrivals in that area often. This hazard exists in all stages of construction as the SRMP considered all existing controls that relate to the prevention or reduction of this hazard occurrence or to mitigate its effects.

Mitigations that exist to prevent or reduce this hazard occurrence or to mitigate its effects were listed under existing controls in the PHA as follows: AC 150/5200-18 Airport Safety Self Inspection, AC 150/5200-28 NOTAMs for Airport Operators, AC 150/5200-31 Airport Emergency Plan, AC 150/5210-24 Airport Foreign Object Debris Management, AC 150/5210-5 Painting, Marking, Lighting of Vehicles Used on Airport, AC 150/5300-13 Airport Design, AC 150/5340-1 Standards for Airport Markings, AC 150/5340-18 Standards for Airport Sign Systems, AC 150/5340-30 Design and Installation Details for Airport Visual Aids, AC 150/5345-44 Specifications for Runway and Taxiway Signs, AC 150/5345-46 Specifications for Runway and Taxiway Lighting Fixtures, AC 150/5345-53 Airport Lighting Equipment Certification Program, AC 150/5345-55 Specification for L-893, Lighted Visual Aid to Indicate Temporary Runway Closure, AC 150/5345-56 Specification for L-890, Airport Lighting Control and Monitoring System (ALCMS), AC 150/5370-2 Operational Safety on Airports During Construction, FAR Part 139 Regulations/Airport, ACAC Checklist Airport Construction Advisory Council, JO 7110.65 Air Traffic Control, SOP Standard Operating Procedure, LOA Letter of Agreement, MEARTS/STARS Micro En-Route Automated Radar Tracking System, ARSR, ASR-9, ASR-11 Surveillance Radar, ATIS Automated Terminal Information System, Controller Training, Controller Intervention, ATC Scanning, Airfield Operations Monitoring, Operational Supervision, Radio Frequency Monitoring, NOTAM Notice to Airmen, CRM Crew Resource Management, Daily Briefings/Notes, TMI Traffic Management Initiative, and CSPP Construction Safety and Phasing Plan.

The SRMP identified five (5) possible effects and decided that the worst potential outcome or harm of the hazard if it occurs in the defined system state was a runway incursion. This hazard was analyzed by the SRMP, and the results are documented in Section 7.

LIH-RELOC.RWY3/21-3: LOSA for Vehicles and Pedestrians

(All Phases)

The SRMP determined that LOSA for Vehicles and Pedestrians is a hazard which could be caused by VPD, runway incursion, runway excursion, surface incident, expectation bias, unfamiliar with temporary routes, FOD, miscommunication, missed construction briefs, and radio failure. This hazard exists in all stages of construction as the SRMP considered all existing controls that relate to the prevention or reduction of this hazard occurrence or to mitigate its effects.

Mitigations that exist to prevent or reduce this hazard occurrence or to mitigate its effects were listed under existing controls in the PHA as follows: AC 150/5200-18 Airport Safety Self Inspection, AC 150/5200-28 NOTAMs for Airport Operators, AC 150/5200-31 Airport

Emergency Plan, AC 150/5210-20 Ground Vehicle Operations on Airport, AC 150/5210-24 Airport Foreign Object Debris Management, AC 150/5210-5 Painting, Marking, Lighting of Vehicles Used on Airport, AC 150/5300-13 Airport Design, AC 150/5340-1 Standards for Airport Markings, AC 150/5340-18 Standards for Airport Sign Systems, AC 150/5340-30 Design and Installation Details for Airport Visual Aids, AC 150/5345-44 Specifications for Runway and Taxiway Signs, AC 150/5345-46 Specifications for Runway and Taxiway Lighting Fixtures, AC 150/5345-55 Specification for L-893, Lighted Visual Aid to Indicate Temporary Runway Closure, AC 150/5370-2 Operational Safety on Airports During Construction, FAR Part 139 Regulations/Airport, JO 7210.3 Facility Operations and Administration, SOP Standard Operating Procedure, LOA Letter of Agreement, Controller Training, Airfield Driver Training, Access Control Training, Controller Intervention, ATC Scanning, Radio Frequency Monitoring, CRM Crew Resource Management, Daily Briefings/Notes, and CSPP Construction Safety and Phasing Plan.

The SRMP identified two (2) possible effects and decided that the worst potential outcome or harm of the hazard if it occurs in the defined system state was a runway incursion. This hazard was analyzed by the SRMP, and the results are documented in Section 7.

LIH-RELOC.RWY3/21-4: LOSA for Flaggers

(Phases 1G, 1H, and 1I for a total of 10 calendar days)

The SRMP determined that LOSA for Flaggers is a hazard which could be caused by inadequate training, misunderstanding helicopter performance, inability to identify arrival and departure of helicopters and/or project their operational intent/locations (relative to arriving and departing helicopters as opposed to taxiing), distraction or multitasking of flaggers, and distraction due to low activity levels. This hazard exists in all stages of construction as the SRMP considered all existing controls that relate to the prevention or reduction of this hazard occurrence or to mitigate its effects.

Mitigations that exist to prevent or reduce this hazard occurrence or to mitigate its effects were listed under existing controls in the PHA as follows: AC 150/5200-18 Airport Safety Self Inspection, AC 150/5200-28 NOTAMs for Airport Operators, AC 150/5200-31 Airport Emergency Plan, AC 150/5210-20 Ground Vehicle Operations on Airport, AC 150/5210-5 Painting, Marking, Lighting of Vehicles Used on Airport, AC 150/5300-13 Airport Design, AC 150/5340-1 Standards for Airport Markings, AC 150/5340-18 Standards for Airport Sign Systems, AC 150/5340-30 Design and Installation Details for Airport Visual Aids, AC 150/5345-44 Specifications for Runway and Taxiway Signs, AC 150/5345-46 Specifications for Runway and Taxiway Lighting Fixtures, AC 150/5345-55 Specification for L-893, Lighted Visual Aid to Indicate Temporary Runway Closure, AC 150/5370-2 Operational Safety on Airports During Construction, FAR Part 139 Regulations/Airport, JO 7110.65 Air Traffic Control, JO 7210.3 Facility Operations and Administration, SOP Standard Operating Procedure, LOA Letter of Agreement, Pilot Training, Controller Training, Airfield Driver Training, Access Control Training, Pilot Intervention, Controller Intervention, ATC Scanning, Airfield Operations Monitoring, Operational Supervision, Radio Frequency Monitoring, NOTAM Notice to Airmen,

CRM Crew Resource Management, Daily Briefings/Notes, and CSPP Construction Safety and Phasing Plan.

The SRMP identified two (2) possible effects and decided that the worst potential outcome or harm of the hazard if it occurs in the defined system state was a surface incident. This hazard was analyzed by the SRMP, and the results are documented in Section 7.

Section 7 – Phases 3 & 4: Hazard Analysis and Risks Assessed

To ensure a thorough examination of hazards, the SRMP's methodology for risk analysis was based on the Five-Step SRM process detailed in FAA Order 5200.11.

1. Describe the System
2. Identify Hazards
3. Analyze Risk
4. Assess Level of Risk
5. Mitigation Actions

Risk Analysis

The objective of this step is to determine the initial safety risk associated with the effects of each identified hazard. The safety risk associated with a hazard is the combination of predicted severity and the likelihood of the potential effect of a hazard in the worst credible system state. This is also accomplished in consideration of the existing controls which help to mitigate risks to an acceptable level.

The Effect is defined as the potential outcome or harm of the hazard if it occurs in the defined system state. The SRMP categorized a list of Effects due to each Hazard during the PHL process (Appendix A).

The Preliminary Hazard Assessment (PHA) worksheet was developed to record the hazards, causes, system states, existing controls, possible effects, severity and likelihood rationale, initial risk, mitigation, and predicted residual risk. The completed PHA is found in Appendix B.

Risk Assessment

The objective of this step is to determine the safety risk level acceptability. Risk Assessment is the process of combining the impacts of risk elements discovered in risk analysis and comparing them against some acceptability criteria. Risk Assessment can include consolidating risks into risk sets that can be jointly mitigated, combined, and then used in decision making. Order 5200.11 defines risk as the composite of predicted severity and likelihood of the potential effect of a hazard in the worst credible system state.

Each hazard was evaluated by two factors; first the severity was determined using Table 7, followed by a determination of likelihood using Table 8. The SRM Panel identified the severity and likelihood of each hazard, as described above. These documents were also provided as a complete SRMP Panel Packet, see Appendix C. The severity and likelihood ratings from each panel member can be found in Appendix D.

Severity is the potential consequence or impact of a hazard in terms of degree of loss or harm. It is a prediction of how bad the outcome of a hazard can be. There may be many outcomes associated with a given hazard, and the severity should be determined for each outcome.

Likelihood is the estimated probability or frequency, in quantitative or qualitative terms, of the outcome(s) associated with a hazard. It is an expression of how often an outcome of a hazard is predicted to occur in the future.

The SRMP plotted the severity and likelihood for each hazard's worst credible outcome on the FAA predictive risk matrix (Figure 35). The SRMP then observed where the hazards lie based on the three categories of risk (low, medium, high). This indicates the "initial" risk level for each hazard.

An initial Low Risk (green) is acceptable without restriction and requires the FAA Local Airport Division signature. Low Risk hazards do not need to be actively managed but must be recorded in the SRM documentation.

An initial Medium Risk (yellow) is acceptable within the ARP SMS and requires FAA Regional signatures. With a Medium Risk the proposal may be carried out if the risk is tracked and managed.

If the initial risk for any analyzed hazards falls in the high risk (red) region, this is unacceptable within the ARP SMS and the proposal cannot be carried out unless the hazard is further mitigated to a reduced medium or low level and the ARP Safety Review Board Recommends that ARP-1 approve the mitigations. An initial high risk with mitigations requires FAA Headquarter signature. Additionally, the ARP SMS requires tracking and management of initial high-risk hazards and controls.

The Risk Matrix provides a visual depiction of the safety risk and enables prioritization in the control of the hazards. The Risk Matrix shown in Figure 35 is referenced from FAA Order 8040.4B Safety Risk Management Policy.

Severity / Likelihood	Minimal 5	Minor 4	Major 3	Hazardous 2	Catastrophic 1
Frequent A					
Probable B					
Remote C		LIH-RELOC.RWY3/21-1			
Extremely Remote D	LIH-RELOC.RWY3/21-4	LIH-RELOC.RWY3/21-2 LIH-RELOC.RWY3/21-3			
Extremely Improbable E					

Figure 51: Risk Matrix

High Risk – Unacceptable
Medium Risk – Acceptable with Mitigation
Low Risk – Acceptable

LIH-RELOC.RWY3/21-1 LOSA for Pilots

Effect: Runway Incursion

The SRMP analyzed and assessed this hazard by discussing the identified Causes that contribute to potential outcomes if this hazard occurs in the defined system state. The SRMP continued their assessment based on the worst credible effect, which was identified as a runway incursion. The SRMP determined that in this case it is possible that minimal damage to aircraft and/or minor injury to passengers/workers, minimal unplanned disruption to airport operations, or minor incident involving the use of airport emergency procedures could take place. The SRMP concluded on a risk rating on severity of 4-Minor and the likelihood as C-Remote as it is expected to occur about once every year or 2.5 million departures, whichever occurs sooner. The SRMP evaluation resulted with an initial risk rating of 4-Minor in severity and C-Remote for its likelihood. This hazard resultant matrix determination is a 4C – Medium (Yellow) and is not considered as an acceptable level of risk without further mitigation.

The mitigations for this phase can be seen in Section 8, Phase 5: Treatment of Risk / Mitigation of Hazards.

LIH-RELOC.RWY3/21-1 LOSA for Controllers

Effect: Runway Incursion

The SRMP analyzed and assessed this hazard by discussing the identified Causes that contribute to potential outcomes if this hazard occurs in the defined system state. The SRMP continued their assessment based on the worst credible effect, which was identified as a runway incursion. The SRMP determined that in this case it is possible that minimal damage to aircraft and/or minor injury to passengers/workers, minimal unplanned disruption to airport operations, or minor incident involving the use of airport emergency procedures could take place. The SRMP concluded on a risk rating on severity of 4-Minor and the likelihood as D-Extremely Remote as it is expected to occur once every 10-100 years or 25 million departures, whichever occurs sooner. The SRMP evaluation resulted with an initial risk rating of 4-Minor in severity and D-Extremely Remote for its likelihood. This hazard resultant matrix determination is a 4D – Low (Green) and considered as an acceptable level of risk without further mitigation.

LIH-RELOC.RWY3/21-3 LOSA for Vehicles and Pedestrians

Effect: Runway Incursion

The SRMP analyzed and assessed this hazard by discussing the identified Causes that contribute to potential outcomes if this hazard occurs in the defined system state. The SRMP continued their assessment based on the worst credible effect, which was identified as a runway incursion. The SRMP determined that in this case it is possible that minimal damage to aircraft and/or minor

injury to passengers/workers, minimal unplanned disruption to airport operations, or minor incident involving the use of airport emergency procedures could take place. The SRMP concluded on a risk rating on severity of 4-Minor and the likelihood as D-Extremely Remote as it is expected to occur once every 10-100 years or 25 million departures, whichever occurs sooner. The SRMP evaluation resulted with an initial risk rating of 4-Minor in severity and D-Extremely Remote for its likelihood. This hazard resultant matrix determination is a 4D – Low (Green) and considered as an acceptable level of risk without further mitigation.

LIH-RELOC.RWY3/21-4 LOSA for Flaggers

Effect: Surface Incident

The SRMP analyzed and assessed this hazard by discussing the identified Causes that contribute to potential outcomes if this hazard occurs in the defined system state. The SRMP continued their assessment based on the worst credible effect, which was identified as a surface incident. The SRMP determined that in this case it is possible that no damage to aircraft but minimal injury or discomfort of little consequence to passenger(s) or worker(s) could take place. The SRMP concluded on a risk rating on severity of 5-Minimal and the likelihood as D-Extremely Remote as it is expected to occur once every 10-100 years or 25 million departures, whichever occurs sooner.

There was lengthy discussion on sectioning out LOSA for Flaggers from LOSA for Vehicles and Pedestrians because the uniqueness of the Flaggers physical positions during construction, therefore, the hazard identified as LOSA for Flaggers was fully evaluated and documented in the PHA.

The SRMP evaluation resulted with an initial risk rating of 5-Minimal in severity and D-Extremely Remote for its likelihood. This hazard resultant matrix determination is a 5D – Low (Green) and considered as an acceptable level of risk without further mitigation.

LIH-RELOC.RWY3/21-5 Back-Taxi Coordination When Tower Closed

The SRMP initially determined that Back-Taxi Coordination When Tower Closed was a hazard, however, through discussion, the SRMP decided that this hazard was documented as a cause of the other hazards listed above. This hazard was removed, and no further analysis was conducted.

LIH-RELOC.RWY3/21-6 Tower Having Trouble Finding Holding Spot for Aircraft Waiting for Gate

The SRMP initially determined that Tower Having Trouble Finding Holding Spot for Aircraft Waiting for Gate was a hazard, however, through discussion, the SRMP decided that this hazard

was documented as a effect of the other hazards listed above. This hazard was removed, and no further analysis was conducted.

LIH-RELOC.RWY3/21-7 Rubber Buildup

The SRMP initially determined that Rubber Buildup was a hazard, however, through discussion, the SRMP decided that this hazard was documented in the existing controls with the self-inspection program and annual rubber removal project. This hazard was removed, and no further analysis was conducted.

LIH-RELOC.RWY3/21-8 Non-Standard or No Pilot Communication on Location

The SRMP initially determined that Non-Standard or No Pilot Communication on Location was a hazard, however, through discussion, the SRMP decided that this hazard was documented as a cause of the other hazards listed above. This hazard was removed, and no further analysis was conducted.

LIH-RELOC.RWY3/21-9 Helicopters Taxiing for Takeoff and Arrivals in that Area Often

The SRMP initially determined that Helicopters Taxiing for Takeoff and Arrivals in that Area Often was a hazard, however, through discussion, the SRMP decided that this hazard was documented as a cause of the other hazards listed above. This hazard was removed, and no further analysis was conducted.

Table 7: Severity Definitions

Effect On:	Minimal 5	Minor 4	Major 3	Hazardous 2	Catastrophic 1
Airports	No damage to aircraft but minimal injury or discomfort of little consequence to passenger(s) or worker(s)	-Minimal damage to aircraft, or -Minor injury to passengers, or -Minimal unplanned airport operations limitations (i.e. taxiway closure), or -Minor incident involving the use of airport emergency procedures	-Major damage to aircraft and/or minor injury to passenger(s)/worker(s), or -Major unplanned disruption to airport operations, or -Serious incident, or -Deduction on the airport's ability to deal with adverse conditions	-Severe damage to aircraft and/or serious injury to passenger(s)/worker(s); or -Complete unplanned airport closure, or -Major unplanned operations limitations (i.e., runway closure), or -Major airport damage to equipment and facilities	-Complete loss of aircraft and/or facilities or fatal injury in passenger(s)/worker(s); or -Complete unplanned airport closure and destruction of critical facilities; or -Airport facilities and equipment destroyed
ATC Services	A minimal reduction in ATC services CAT D runway incursion[1] Proximity Event, Operational Deviation, or measure of compliance greater than or equal to 66 percent[2]	Low Risk Analysis Event severity,[3] two or fewer indicators fail CAT C runway incursion	Medium Risk Analysis Event severity, three indicators fail CAT B runway incursion	High Risk Analysis Event severity, four indicators fail CAT A runway incursion	Ground collision[5] Mid-air collision Controlled flight into terrain or obstacles
Flying Public	Minimal injury or discomfort to persons on board	Physical discomfort to passenger(s) (e.g., extreme braking action, clear air turbulence causing unexpected movement of aircraft resulting in injuries to one or two passengers out of their seats) Minor injury to less than or equal to 10 percent of person on board[6]	Physical distress to passengers (e.g., abrupt evasive action, severe turbulence causing unexpected aircraft movements) Minor injury to greater than 10 percent of persons on board	Serious injury to persons onboard[7]	Fatal injuries to persons onboard[8]
Flight Crew	Pilot is aware of traffic (identified by Traffic Collision Avoidance System traffic alert, issued by ATC, or observed by flight crew) in close enough proximity to require focused attention, but no action is required Pilot deviation[9] where loss of airborne separation falls within the same parameters of a Proximity Event or measure of compliance	Pilot deviation where loss of airborne separation falls within the same parameters of a low Risk Analysis Event severity Reduction of functional capability of aircraft, but overall safety not affected (e.g., normal procedures as per Airplane Flight Manuals) Circumstances requiring a flight crew to abort takeoff (rejected takeoff); however, the	Pilot deviation where loss of airborne separation falls within the same parameters of a medium Risk Analysis Event severity Reduction in safety margin or functional capability of the aircraft, requiring crew to follow abnormal procedures as per Airplane Flight Manuals Circumstances requiring a flight crew to reject landing (i.e., balked	Pilot deviation where loss of airborne separation falls within the same parameters of a high Risk Analysis Event severity Reduction in safety margin and functional capability of the aircraft requiring crew to follow emergency procedures as per Airplane Flight Manuals Near mid-air collision encounters with	Ground collision Mid-air collision Controlled flight into terrain or obstacles Hull loss to manned aircraft Failure conditions that would prevent continued safe flight and landing
	greater than or equal to 66 percent Circumstances requiring a flight crew to initiate a go-around	act of aborting takeoff does not degrade the aircraft performance capability Near mid-air collision encounters with separation greater than 500 feet[10]	landing) at or near the runway threshold Circumstances requiring a flight crew to abort takeoff (i.e., rejected takeoff); the act of aborting takeoff degrades the aircraft performance capability Near mid-air collision encounters with separation less than 500 feet[10]	separation less than 100 feet[10]	

Table 8: Likelihood Definitions

	Airport Specific	Quantitative (ATC/Flight Procedures/Systems Engineering)	Domain-wide: NAS-wide, Terminal, or En route
A Frequent	Expected to occur more than once per week or every 2500 departures, whichever occurs sooner	(Probability) ≥ 1 per 1000	Equal to or more than once per week
B Probable	Expected to occur about once every month or 250,000 departures, whichever occurs sooner	1 per 1000 > (Probability) ≥ 1 per 100,000	Less than once per week and equal to more than once per three months
C Remote	Expected to occur about once every year or 2.5 million departures, whichever occurs sooner	1 per 100,000 > (Probability) ≥ 1 per 10,000,000	Less than once per three months and equal to more than once per three years
D Extremely Remote	Expected to occur once every 10-100 years or 25 million departures, whichever occurs sooner	1 per 10,000,000 > (Probability) ≥ 1 per 1,000,000,000	Less than once per three years and equal to or more than once per 30 years.
E Extremely Improbable	Expected to occur less than every 100 years	1 per 1,000,000,000 > (Probability) ≥ 1 per 10^{14}	Less than once per 30 years

Section 8 – Phase 5: Treatment of Risk / Mitigation of Hazards

The SMRP agreed that the following Hazards and associated Effects which were rated with Low Initial Risk 5D, had existing controls in place to effectively manage these risks and no mitigation measures were needed.

- LIH-RELOC.RWY3/21-4, LOSA for Flaggers.

The SRMP agreed that the following Hazards and associated Effects which were rated with Low Initial Risk 4D, had existing controls in place to effectively manage these risks and no mitigation measures were needed.

- LIH-RELOC.RWY3/21-2, LOSA for Controllers.
- LIH-RELOC.RWY3/21-3, LOSA for Vehicles and Pedestrians.

The SRMP agreed that the following Hazard and associated Effects which was rated with Medium Initial Risk 4C, needed mitigation measures.

- LIH-RELOC.RWY3/21-1, LOSA for Pilots.
  - The first mitigation measure for this hazard is to extend tower hours. LIH ATC and LIH have already initiated the process.
  - The second mitigation measure is with the Jeppesen 10-8 construction pages. The State will get back to the group on allowing AECOM and Orion to provide the necessary information to Jeppesen.
  - The third mitigation measure is for operations alerts for flight crews. United Airlines, Alaska Airlines, Hawaiian Airlines, and Southwest Airlines have it as common practice. AvAirPros will reach out to the other carriers.
  - The fourth mitigation measure is to have the airport provide updates to IATA/A4A to disseminate to their members. This is already in process, NBAA, AOPA, and GACH will be added. FAA FSDO will send to GACH and GACH will send to General Aviation.
  - The fifth mitigation measure is to have airport operations on the airport after tower hours to deconflict confused/conflicting taxiing. Airport operations will be on site and will assist with pilot awareness and deconfliction.
  - The last mitigation measure is for direct outreach to Medivac. The CM will be required to reach out to Medivacs.

With mitigation measures listed above in place for the duration of this project, LIH-RELOC.RWY3/21-1, LOSA for Pilots will be effectively managed. As a result, the predicted residual risk assessed by the SRMP was rated with Low Initial Risk 4D and is considered as an acceptable level of risk.

During the SRMP PHA, there were instances that SRMP members were outside of the majority vote for either severity and likelihood while assessing for initial risks, which were recorded and shown below in Tables 9 and 10, and Appendix D – Dissenting Opinions. Those SRMP members with the indicated yellow highlights under each Hazard ID, were afforded an opportunity to provide their dissenting opinions in writing as required by FAA Office of airports Safety Management System (SMS) Implementation Guidance and Desk Reference, Section 5.3.e.2, SRMD documentation; however, there were no dissenting opinions provided by any of the Panel Members.

Table 9: Initial Risk Dissenting Opinion Summary (1 of 2)

	LIH-RELOC.RWY3/21-1 LOSA for Pilots		**LIH-RELOC.RWY3/21-2 LOSA for Controllers**		**LIH-RELOC.RWY3/21-3 LOSA for Vehicles and Pedestrians**	
Panel Member	Severity	Likelihood	Severity	Likelihood	Severity	Likelihood
Bruce Kaiwi	4	C	4	D	4	D
Kevin Johnson	4	C	4	D	4	D
Kandyce Watanabe	4	C	4	D	4	D
Neil Okuna	4	C	4	D	4	D
Joe Santoro	3	C	3	C	3	C
Scott Allen	3	C	3	D	3	D
Lynae Craig	4	C	5	D	5	D
Rich Silva	4	C	4	D	3	C
George Hodgson	4	C	4	D	4	C
Kevin Coon	4	C	5	D	5	D
Majority Rating	**4**	**C**	**4**	**D**	**4**	**D**
	4C – Medium		**4D – Low**		**4D – Low**	

Table 10: Initial Risk Dissenting Opinion Summary (2 of 2)

	LIH-RELOC.RWY3/21-4 LOSA for Flaggers		LIH-RELOC.RWY3/21-1R LOSA for Pilots (Residual Risk)	
Panel Member	Severity	Likelihood	Severity	Likelihood
Bruce Kaiwi	-	-	4	D
Kevin Johnson	-	-	4	D
Kandyce Watanabe	5	D	4	D
Neil Okuna	5	D	4	D
Joe Santoro	4	C	4	D
Scott Allen	4	D	4	D
Lynae Craig	-	-	4	D
Rich Silva	5	D	4	D
George Hodgson	-	-	4	D
Kevin Coon	5	D	4	D
Perfecto Delmendo	5	D		
Majority Rating	**5**	**D**	**4**	**D**
	5D – Low		**4D – Low**	

Section 9 – Tracking and Monitoring Hazards

Referencing the SRMP SMS Desk Reference, low risk hazards (green) do not need to be actively managed but must be recorded in the SRMD. Medium risk is acceptable within the ARP SMS. A medium risk is the minimum acceptable safety objective. With medium risk, the proposal may be carried out as long as the risk is tracked and managed.

These hazards will be monitored by HDOT-A as they move through the design and construction SRA phases and addressed as needed.

The SRMP incorporated safety performance targets for triggering a reconvened panel. The panel will reconvene to look at additional mitigation if there is one incident falling within the category of 4-Minor for the duration of the LIH Relocate RWY 3-21 project. The definitions are described below:

- ATC Services
  - Low Risk Analysis Event Severity with two or fewer indicators fail
  - A loss of separation resulting in a Category C, RI, or Operation Error (OE)

- Flight Crew
  - PD where loss of airborne separation falls within the same parameters of a low Risk Analysis Event severity
  - Reduction of functional capability of aircraft, but overall safety not effected (e.g., normal procedures as per Airplane Flight Manuals)
  - Circumstances requiring a flight crew to abort takeoff (rejected takeoff); however, the act of aborting takeoff does not degrade the aircraft performance capability
  - Near mid-air collision encounters with separation greater than 500 feet.

- Flying Public
  - Physical discomfort to passenger(s) (e.g. extreme braking action, clear air turbulence causing unexpected movement of aircraft causing injuries to one or two passengers out of their seats)
  - Minor injury to greater than zero or less than equal to 10% of passengers

- Airport
  - Minimal damage to aircraft
  - Minor injury to passengers
  - Minimal unplanned airport operations limitations (e.g. taxiway closure)
  - Minor incident involving the use of airport emergency procedures

This would effectively cover all incidents associated with all stakeholder groups.

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Preliminary Hazard List

Categorization:

[H] = **Hazard**– any real or potential condition that can result in injury, illness, or death to people; damage to or loss of a system, equipment or property; or damage to the environment.

[C] = **Cause**– events occurring independently or in combination that result in a hazard or failure.

[E] = **Effect**– real or potential outcome or harm that could be created if the hazard occurs in the defined system state

Panel Members (10):

Bruce Kaiwi, Kevin Johnson, Kandyce Watanabe, Neil Okuna, Joe Santoro, Scott Allen, Lynae Craig, Richard Silva, George Hodgson, Kevin Coon

August 11, 2022

1. KW/LC: LOSA for Pilots [H]
2. KW: LOSA for Controllers [H]
3. KW: LOSA for Vehicles [H]
4. JS: Runway Incursion [E]
5. JS: Surface Incident [E]
6. JS: Runway Excursion [E]
7. LC: LOSA pilot [H] during one way in/out taxi phases [C]
8. JS: Rwy 35 shortened edge lighting non-standard [C]
9. GH: Back taxi coordination when Tower closed [C/E/H]
10. NOE: Potential Hazard- We often have aircrafts waiting on the TWYs for a gate. Anywhere from 10min to an hour. With the RWY/TWY closures. Tower may have trouble finding a holding spot for these aircrafts when we have a 1 way in/out at a time. [H/C]
11. ~~JS: Random Miscellaneous runway and taxiway lights out of service~~ [C/H] after further clarification by the Designer, this was removed.
12. GH: Rubber buildup [H/E]
13. ~~JS: VPD pedestrians RI's from the public roadway~~ [E/H] after further clarification by the Designer, this was removed.
14. RS: non-standard or no pilot communication on location [C/H]

~~15. KC: Time out on field lighting~~

16. CB: During Sub-Phases 1G, 1H and 1J. Helicopters taxing for take-off and arrivals in that area often. ~~Would be good for flaggers to be able to talk to tower to let them know how long it would take to be able to get workers out of way.~~ [H/C]
17. BK: LOSA for Flaggers [H/C]

Preliminary Hazard Analysis (PHA) Worksheet

(1) Hazard ID	(2) Hazard Description	(3) Cause(s)	(4) System State(s)	(5) Existing Controls	(6) Justification / Supporting Data	(7) Effects	(8) Severity	(9) Severity Rationale	(10) Likelihood	(11) Likelihood Rationale	(12) Initial Risk	(13) Mitigation	(14) Mitigation Responsibility	(15) Predicted Residual Risk
XYZ-1	Condition, real or potential; can cause injury, illness, etc. Prerequisite for accident or incident	Events that result in a hazard or failure	Conditions, characterized by quantities or qualities, in which a system can exist	Mitigations that exist to prevent or reduce hazard occurrence or mitigate its effect	Explanation and additional detailing of Existing Controls (Need to cite specific paragraph and/or section number of FAA Orders, Program Guidance Letters, Advisory Circulars, Federal Aviation Regulations used)	Potential outcome or harm of the hazard if it occurs in the defined system state; worst credible	Resultant matrix determination	Particular effect of the identified hazard producing the worst credible outcome (likelihood is not considered)	Resultant matrix determination	Expression of how often a particular effect is expected to occur given existing controls and requirements (severity must be considered first)	Risk matrix ranking based on severity and likelihood of a hazard when it is first identified and assessed	Stated proposed mitigation for this hazard	Who has the responsibility to implement the mitigation	Risk status predicted to occur when recommended controls or requirements are verified
LIH-RELOC.RWY3/21-1	LOSA for Pilots	-One way taxi in/out -Rwy 35 shortened non-standard edge lights -Lighting inoperative -Not reading NOTAMs -Back taxi when Tower is closed -RWY/TWY INOP -Back taxi when Tower is open -Non-standard or no pilot communication -Misunderstanding in communication -Not listening to the ATIS when Tower is closed and missing the special instructions -Runway incursion by Contractor (Unfamiliar contractor driving around the rwy environment) -Unfamiliar with the airport (LIH)	All Phases	AC 150/5200-18: Airport Safety Self Inspection AC 150/5200-28: NOTAMs for Airport Operators AC 150/5200-31: Airport Emergency Plan AC 150/5210-24: Airport Foreign Object Debris Management AC 150/5210-5: Painting, Marking, Lighting of Vehicles Used on Airport AC 150/5300-13: Airport Design AC 150/5340-1: Standards for Airport Markings AC 150/5340-18: Standards for Airport Sign Systems AC 150/5340-30: Design and Installation Details for Airport Visual Aids AC 150/5345-44: Specifications for Runway and Taxiway Signs AC 150/5345-46: Specifications for Runway and Taxiway Lighting Fixtures AC 150/5345-55: Specification for L-893, Lighted Visual Aid to indicate Temporary Runway Closure AC 150/5345-56: Specification for L-890, Airport Lighting Control and Monitoring System (ALCMS) AC 150/5370-2: Operational Safety on Airports During Construction FAR Part 139 Regulations JO 7110.65: Air Traffic Control JO 7210.3: Facility Operations and Administration JO 6000.15: NAS Maintenance MEARTS/STARS: Micro Enroute Automated Radar System ARSR, ASR-9, ASR-11: Surveillance Radar Pilot Training Controller Training Airfield Driver Training Pilot Intervention Controller Intervention ATC Scanning Airfield Operations Monitoring Operational Supervision Radio Frequency Monitoring NOTAM: Notice to Airmen Charts: Aeronautical, Jeppesen charts AFD: Airport/Facility Directory AIM: Aeronautical Information Manual CRM: Crew Resource Management Daily Briefings/Notes CSPP: Construction Safety and Phasing Plan	AC 150/5200-18C: Sections 9, Para a-d; Section 10j, items 1-10; Section 13e, items 1-6 AC 150/5200-28D: Sections 1.6.1; 8; 10; 13a; 18 AC 5210-24: Sections 4.1b; 4.3.a.1; 4.3a.5; 6.2 AC 5210-5D: Section 4c; 5a AC 5300-13A: Sections 304; 401 AC 5340-1L: Ch. 2; Ch. 3; Ch. 4 AC 5340-18F: Ch. 1; Ch. 2 AC 5345-46E: Section 1.2.1 AC 5370-2G: Sections 1.2, items 1.2.1; 1.2.2; 1.2.3; 1.2.4; 2.13; 2.4.1.9.b; 2.4.1.14; 2.18.3.2; 2.20 FAR Part 139 Regulations: Section 139.327, para a-b; Section 139.329, para a-e; Section 139.339; Section 139.341, para a-b JO 7110.65X: 2-4-3; 2-9-3-g, h; 3-3-3-a; 3-6-2-a; 3-6-3-a; 3-7-2 a, b, h-2 JO 7210.3AA: 4-2-2b5d; 10-1-7; 10-3-12	-Diversion -Runway Incursion -Surface Indicent -Runway Excursion (35 shortened) -Aircraft Deviation -VPD -Nose to nose situation	4-Minor	Subject Matter Expertise	C-Remote	4C	4C-Medium	1. Extended Tower hours 2. Jeppesen 10-8 construction pages 3. Ops Alerts for flight crews (Jep 10-8) 4. Airport to provide updates to IATA/A4A to disseminate to their members 5. Airport ops on airport after Tower hours to deconflict confused/conflicting taxiing 6. Direct outreach to Medivacs	1. LIH ATC & LIH (Kevin J and Bruce K) process already initiated. 2. The State will get back to the group on allowing AECOM (Designer) & Orion (CM) to provide information to Jeppesen. (Jeppesen email for construction updates: chartsupport@boeing.com) 3. United, Alaska, Hawaiian, and Southwest have it as a common practice. (AvAirPros will be reaching out to the other carriers.) 4. Already in process. NBAA, AOPA, GACH to be added. Scott Allen to send to GACH and GACH will send to GA. 5. Airport Ops will be on site and can assist with pilot awareness and deconfliction. 6. CM will be reaching out to Medivacs.	4D-Low

Appendix B

(1) Hazard ID	(2) Hazard Description	(3) Cause(s)	(4) System State(s)	(5) Existing Controls	(6) Justification / Supporting Data	(7) Effects	(8) Severity	(9) Severity Rationale	(10) Likelihood	(11) Likelihood Rationale	(12) Initial Risk	(13) Mitigation	(14) Mitigation Responsibility	(15) Predicted Residual Risk
XYZ-1	Condition, real or potential; can cause injury, illness, etc. Prerequisite for accident or incident	Events that result in a hazard or failure	Conditions, characterized by quantities or qualities, in which a system can exist	Mitigations that exist to prevent or reduce hazard occurrence or mitigate its effect	Explanation and additional detailing of Existing Controls (Need to cite specific paragraph and/or section number of FAA Orders, Program Guidance Letters, Advisory Circulars, Federal Aviation Regulations used)	Potential outcome or harm of the hazard if it occurs in the defined system state; worst credible	Resultant matrix determination	Particular effect of the identified hazard producing the worst credible outcome (likelihood is not considered)	Resultant matrix determination	Expression of how often a particular effect is expected to occur given existing controls and requirements (severity must be considered first)	Risk matrix ranking based on severity and likelihood of a hazard when it is first identified and assessed	Stated proposed mitigation for this hazard	Who has the responsibility to implement the mitigation	Risk status predicted to occur when recommended controls or requirements are verified
LIH-RELOC.RWY3/21-2	LOSA for Controllers	-One way taxi in/out -Rwy 35 shortened non-standard edge lights -Not reading NOTAMs -RWY/TWY INOP -Non-standard or no pilot communication -Misunderstanding in communication -Incomplete Position Relief Briefing (PRB) or no PRB -Incomplete Status Information Review -Incomplete Status Information Area Information -Back taxi when Tower is open -Helicopters taxing for take-off and arrivals in that area often.	All Phases	AC 150/5200-18: Airport Safety Self Inspection AC 150/5200-28: NOTAMs for Airport Operators AC 150/5200-31: Airport Emergency Plan AC 150/5210-24: Airport Foreign Object Debris Management AC 150/5210-5: Painting, Marking, Lighting of Vehicles Used on Airport AC 150/5300-13: Airport Design AC 150/5340-1: Standards for Airport Markings AC 150/5340-18: Standards for Airport Sign Systems AC 150/5340-30: Design and Installation Details for Airport Visual Aids AC 150/5345-44: Specifications for Runway and Taxiway Signs AC 150/5345-46: Specifications for Runway and Taxiway Lighting Fixtures AC 150/5345-53: Airport Lighting Equipment Certification Program AC 150/5345-55: Specification for L-893, Lighted Visual Aid to indicate Temporary Runway Closure AC 150/5345-56: Specification for L-890, Airport Lighting Control and Monitoring System (ALCMS) AC 150/5370-2: Operational Safety on Airports During Construction FAR Part 139 Regulations ACAC Checklist: Airport Construction Advisory Council JO 7110.65: Air Traffic Control SOP: Standard Operating Procedure LOA: Letter of Agreement MEARTS/STARS: Micro Enroute Automated Radar System ARSR, ASR-9, ASR-11: Surveillance Radar ATIS: Automated Terminal Information System Controller Training Controller Intervention ATC Scanning Airfield Operations Monitoring Operational Supervision Radio Frequency Monitoring NOTAM: Notice to Airmen CRM: Crew Resource Management Daily Briefings/Notes TMI: Traffic Management Initiative CSPP: Construction Safety and Phasing Plan	AC 150/5200-28D: Sections 1.6.1; 8; 10; 13a; 18 AC 5210-5D, Section 4c; 5a AC 5370-2G: Sections 1.2, items 1.2.1; 1.2.2; 1.2.3; 1.2.4; 2.9.2.9; 2.13; 2.4.1.9.b; 2.4.1.14; 2.18.3.2; 2.20 FAR Part 139 Regulations: Section 139.327, para a-b; Section 139.329, para a-e; Section 139.339; Section 139.341, para a-b JO 7110.65X: 2-4-3; 2-9-2-d; 2-9-3-g, h; 3-3-3-a; 3-6-2-a; 3-6-3-a; 3-7-2 a, b, h-2	-Runway Incursion -Surface Incident -Runway Excursion -Nose to nose -Conflict with helicopters and ground movement/aircraft	4-Minor	Subject Matter Expertise	D-Extremely Remote	4D	4D-Low	N/A	N/A	N/A
LIH-RELOC.RWY3/21-3	LOSA for Vehicles and Pedestrians	-VPD -Runway Incursion -Runway Excursion -Surface Incident -Expectation bias -Unfamiliar with temporary routes -FOD -Miscommunication -Missed construction briefs -Radio failure -LOSA for flaggers	All Phases	AC 150/5200-18: Airport Safety Self Inspection AC 150/5200-28: NOTAMs for Airport Operators AC 150/5200-31: Airport Emergency Plan AC 150/5210-20: Ground Vehicle Operations on Airports AC 150/5210-24: Airport Foreign Object Debris Management AC 150/5210-5: Painting, Marking, Lighting of Vehicles Used on Airport AC 150/5300-13: Airport Design AC 150/5340-1: Standards for Airport Markings AC 150/5340-18: Standards for Airport Sign Systems AC 150/5340-30: Design and Installation Details for Airport Visual Aids AC 150/5345-44: Specifications for Runway and Taxiway Signs AC 150/5345-46: Specifications for Runway and Taxiway Lighting Fixtures AC 150/5345-53: Airport Lighting Equipment Certification Program AC 150/5345-55: Specification for L-893, Lighted Visual Aid to indicate Temporary Runway Closure AC 150/5370-2: Operational Safety on Airports During Construction FAR Part 139 Regulations JO 7210.3: Facility Operations and Administration SOP: Standard Operating Procedure LOA: Letter of Agreement Controller Training Airfield Driver Training Access Control Training Controller Intervention ATC Scanning Radio Frequency Monitoring CRM: Crew Resource Management Daily Briefings/Notes CSPP: Construction Safety and Phasing Plan	AC 150/5200-18C: Sections 9, Para a-d; Section 10j, items 1-10; Section 13e, items 1-6 AC 150/5200-28D: Sections 1.6.1; 8; 10; 13a; 18 AC 5210-20A: Sections 1.1; 1.3; 2.1; 2.2; 3.1.3; 3.4; 3.1.4.2; 3.4; 3.5 AC 5210-24: Sections 2.2.b.1; 3.2; 3.3.a.4; 4.1b; 4.3.a.1; 4.3a.5; 6.2 AC 5210-5D: Section 4c; 5a AC 5300-13A: Sections 304; 401 AC 5340-1L: Ch. 2; Ch. 3; Ch. 4 AC 5340-18F: Ch. 1; Ch. 2	-Runway Incursion -Surface Incident	4-Minor	Subject Matter Expertise	D-Extremely Remote	4D	4D-Low	N/A	N/A	N/A

Appendix B

(1) Hazard ID	(2) Hazard Description	(3) Cause(s)	(4) System State(s)	(5) Existing Controls	(6) Justification / Supporting Data	(7) Effects	(8) Severity	(9) Severity Rationale	(10) Likelihood	(11) Likelihood Rationale	(12) Initial Risk	(13) Mitigation	(14) Mitigation Responsibility	(15) Predicted Residual Risk
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LIH-RELOC.RWY3/21-4	LOSA for Flaggers	-Inadequate training -Misunderstanding helicopter performance -Inability to identify arrival and departure of helicopters and/or project their operational intent/locations (relative to arriving and departing helicopters as opposed to taxiing) -Distraction or multitasking of flaggers -Distraction due to low activity levels	-Phase 1G -Phase 1H -Phase 1I -Total of 10 calendar days	AC 150/5200-18: Airport Safety Self Inspection AC 150/5200-28: NOTAMs for Airport Operators AC 150/5200-31: Airport Emergency Plan AC 150/5210-20: Ground Vehicle Operations on Airports AC 150/5210-5: Painting, Marking, Lighting of Vehicles Used on Airport AC 150/5300-13: Airport Design AC 150/5340-1: Standards for Airport Markings AC 150/5340-18: Standards for Airport Sign Systems AC 150/5340-30: Design and Installation Details for Airport Visual Aids AC 150/5345-44: Specifications for Runway and Taxiway Signs AC 150/5345-46: Specifications for Runway and Taxiway Lighting Fixtures AC 150/5345-55: Specification for L-893, Lighted Visual Aid to indicate Temporary Runway Closure AC 150/5370-2: Operational Safety on Airports During Construction FAR Part 139 Regulations JO 7110.65: Air Traffic Control JO 7210.3: Facility Operations and Administration SOP: Standard Operating Procedure LOA: Letter of Agreement ATIS: Automated Terminal Information System Pilot Training Controller Training Airfield Driver Training Access Control Training Pilot Intervention Controller Intervention ATC Scanning Airfield Operations Monitoring Operational Supervision Radio Frequency Monitoring NOTAM: Notice to Airmen CRM: Crew Resource Management Daily Briefings/Notes CSPP: Construction Safety and Phasing Plan	AC 150/5200-18C: Sections 9, Para a-d; Section 10j, items 1-10; Section 13e, items 1-6 AC 150/5200-28D: Sections 1.6.1; 8; 10; 13a; 18 AC 5210-20A: Sections 1.1; 1.3; 2.1; 2.2; 3.1.3; 3.4; 3.1.4.2; 3.4; 3.5 AC 5210-5D: Section 4c; 5a AC 5300-13A: Sections 304; 401 AC 5340-1L: Ch. 2; Ch. 3; Ch. 4 AC 5340-18F: Ch. 1; Ch. 2	~~-Runway Incursion~~ -Surface Incident/Incident -Evasive action taken on of helicopter pilots	5-Minimal	Subject Matter Expertise	D-Extremely Remote	5D	5D-Low	N/A	N/A	N/A
LIH-RELOC.RWY3/21-5	Back taxi coordination when Tower closed	Panel Members agreed to remove based on SRMP determination capture in CAUSE												
LIH-RELOC.RWY3/21-6	Tower having trouble finding holding spot for aircraft waiting for gate	Panel Members agreed to remove based on SRMP determination capture in EFFECT												
LIH-RELOC.RWY3/21-7	Rubber buildup	Panel Members agreed to remove based on SRMP determination capture in EXISTING CONTROLS (Self Inspections/Rubber Removal)												
LIH-RELOC.RWY3/21-8	Non-standard or no pilot communication on location	Panel Members agreed to remove based on SRMP determination capture in CAUSE												
LIH-RELOC.RWY3/21-9	Helicopters taxiing for take-off and arrivals in that area often	Panel Members agreed to remove based on SRMP determination capture in CAUSE												

Appendix C

Safety Risk Assessment (SRA) Panel

Handouts

Appendix C
Existing Controls List

#	CONTROL	TITLE/DESCRIPTION
Advisory Circulars		
1	AC 150/5070 – 7	Airport System Planning Process
2	AC 150/5200 –18	Airport Safety Self Inspection
3	AC 150/5200 – 28	NOTAMs for Airport Operators
4	AC 150/5200 – 31	Airport Emergency Plan
5	AC 150/5210 – 20	Ground Vehicle Operations on Airports
6	AC 150/5210 – 24	Airport Foreign Object Debris Management
7	AC 150/5210 – 5	Painting, Marking, Lighting of Vehicles Used on Airport
8	AC 150/5300 – 13	Airport Design
9	AC 150/5340 – 1	Standards for Airport Markings
10	AC 150/5340 – 18	Standards for Airport Sign Systems
11	AC 150/5340 – 30	Design and Installation Details for Airport Visual Aids
12	AC 150/5345 – 44	Specifications for Runway and Taxiway Signs
13	AC 150/5345 – 46	Specifications for Runway and Taxiway Lighting Fixtures
14	AC 150/5345 – 53	Airport Lighting Equipment Certification Program
15	AC 150/5345 – 55	Specification for L-893, Lighted Visual Aid to indicate Temporary Runway Closure
16	AC 150/5345 – 56	Specification for L-890, Airport Lighting Control and Monitoring System (ALCMS)
17	AC 150/5370 – 2	Operational Safety on Airports During Construction
18	FAR Part 139	Regulations/Airport
Directives - ATC		
19	ACAC Checklist	Airport Construction Advisory Council
20	JO 7110.65	Air Traffic Control
21	JO 7400.2	Handling Airspace Matters Procedures
22	JO 7210.3	Facility Operations and Administration
23	JO 6000.15	NAS Maintenance
24	SOP	Standard Operating Procedure
25	LOA	Letter of Agreement
Systems		
26	ARTS/STARS	Automated Radar System
27	ARSR, ASR-9, ASR-11	Surveillance Radar
28	ASDE, ASDE-X	Airport Surface Detection Equipment
29	ATIS	Automated Terminal Information System
30	TCAS	Traffic Alert & Collision Avoidance System
31	CA/MSAW	Conflict Alert/Minimum Safe Altitude Warning
32	AMASS	Airport Movement Area Safety System
33	ASOS	Automated Surface Observing System

Appendix C
Existing Controls List

#	CONTROL	TITLE/DESCRIPTION
Training		
34	Pilot Training	--
35	Controller Training	--
36	Airfield Driver Training	--
37	Access Control Training	--
Intervention		
38	Pilot Intervention	--
39	Controller Intervention	--
40	ATC Scanning	--
41	Airfield Operations Monitoring	--
42	Operational Supervision	--
43	Radio Frequency Monitoring	--
Publications		
44	NOTAM	Notice to Airmen
45	Charts	Aeronautical, Jeppesen charts
46	AFD	Airport/Facility Directory
47	AIM	Aeronautical Information Manual
Other		
48	CRM	Crew Resource Management
49	Daily Briefings/Notes	--
50	TMI	Traffic Management Initiative
51	CSPP	Construction Safety and Phasing Plan
52		
53		
54		
55		

Appendix C

Preliminary Hazard List with Risk Level

Source: FAA Office of Airports Safety Management Systems (SMS) Desk Reference

Hazard	Initial Risk
Foreign Object Damage / Debris (FOD)	3D
Loss of Situational Awareness by the Pilot: Change in Airport Geometry	2D
Loss of Situational Awareness by the Pilot: Continuation Bias / Complacency	2D
Loss of Situational Awareness by the Pilot: Construction Light Pollution	2E
Loss of Situational Awareness by the Pilot: Visual Cue Saturation	2D
Loss of Situational Awareness by the Pilot: Complex Taxiing Instructions	2D
Loss of Situational Awareness by the Pilot: Insufficient/Ineffective/Inaccurate Notification to Users/Stakeholders	2D
Loss of Situational Awareness by the Pilot: Interference or Loss of NAS Systems	3D
Loss of Situational Awareness by the Controllers: Complexity	3D
Loss of Situational Awareness by the Controllers: Interference or Loss of NAS Systems	4C
Loss of Situational Awareness by the Controllers: Line of Sight	5D
Loss of Situational Awareness by Vehicle Operators/Personnel: Visual Cue Saturation	3D
Increase/Changes in Wildlife Activity	4D
Penetration of Protected Surfaces (Airport Design, TERPS, and others)	5C

Appendix C. Safety Assessment Tables

Hazard Severity Classification

Effect On:	Minimal 5	Minor 4	Major 3	Hazardous 2	Catastrophic 1
Airports	No damage to aircraft but minimal injury or discomfort of little consequence to passenger(s) or worker(s)	-Minimal damage to aircraft, or -Minor injury to passengers, or -Minimal unplanned airport operations limitations (i.e. taxiway closure), or -Minor incident involving the use of airport emergency procedures	-Major damage to aircraft and/or minor injury to passenger(s)/worker(s), or -Major unplanned disruption to airport operations, or -Serious incident, or -Deduction on the airport's ability to deal with adverse conditions	-Severe damage to aircraft and/or serious injury to passenger(s)/worker(s); or -Complete unplanned airport closure, or -Major unplanned operations limitations (i.e., runway closure), or -Major airport damage to equipment and facilities	-Complete loss of aircraft and/or facilities or fatal injury in passenger(s)/worker(s); or -Complete unplanned airport closure and destruction of critical facilities; or -Airport facilities and equipment destroyed
ATC Services	A minimal reduction in ATC services CAT D runway incursion[1] Proximity Event, Operational Deviation, or measure of compliance greater than or equal to 66 percent[2]	Low Risk Analysis Event severity,[3] two or fewer indicators fail CAT C runway incursion	Medium Risk Analysis Event severity, three indicators fail CAT B runway incursion	High Risk Analysis Event severity, four indicators fail CAT A runway incursion	Ground collision[5] Mid-air collision Controlled flight into terrain or obstacles
Flying Public	Minimal injury or discomfort to persons on board	Physical discomfort to passenger(s) (e.g., extreme braking action, clear air turbulence causing unexpected movement of aircraft resulting in injuries to one or two passengers out of their seats) Minor injury to less than or equal to 10 percent of person on board[6]	Physical distress to passengers (e.g., abrupt evasive action, severe turbulence causing unexpected aircraft movements) Minor injury to greater than 10 percent of persons on board	Serious injury to persons onboard[7]	Fatal injuries to persons onboard[8]
Flight Crew	Pilot is aware of traffic (identified by Traffic Collision Avoidance System traffic alert, issued by ATC, or observed by flight crew) in close enough proximity to require focused attention, but no action is required Pilot deviation[9] where loss of airborne separation falls within the same parameters of a Proximity Event or measure of compliance	Pilot deviation where loss of airborne separation falls within the same parameters of a low Risk Analysis Event severity Reduction of functional capability of aircraft, but overall safety not affected (e.g., normal procedures as per Airplane Flight Manuals) Circumstances requiring a flight crew to abort takeoff (rejected takeoff); however, the	Pilot deviation where loss of airborne separation falls within the same parameters of a medium Risk Analysis Event severity Reduction in safety margin or functional capability of the aircraft, requiring crew to follow abnormal procedures as per Airplane Flight Manuals Circumstances requiring a flight crew to reject landing (i.e., balked	Pilot deviation where loss of airborne separation falls within the same parameters of a high Risk Analysis Event severity Reduction in safety margin and functional capability of the aircraft requiring crew to follow emergency procedures as per Airplane Flight Manuals Near mid-air collision encounters with	Ground collision Mid-air collision Controlled flight into terrain or obstacles Hull loss to manned aircraft Failure conditions that would prevent continued safe flight and landing

Effect On:	Minimal 5	Minor 4	Major 3	Hazardous 2	Catastrophic 1
	greater than or equal to 66 percent Circumstances requiring a flight crew to initiate a go-around	act of aborting takeoff does not degrade the aircraft performance capability Near mid-air collision encounters with separation greater than 500 feet[10]	landing) at or near the runway threshold Circumstances requiring a flight crew to abort takeoff (i.e., rejected takeoff); the act of aborting takeoff degrades the aircraft performance capability Near mid-air collision encounters with separation less than 500 feet[10]	separation less than 100 feet[10]	
Unmanned Aircraft Systems	Discomfort to those on the ground Loss of separation leading to a measure of compliance greater than or equal to 66 percent	Low Risk Analysis Event severity, two or fewer indicators fail Non-serious injury to three or fewer people on the ground	Medium Risk Analysis Event severity, three indicators fail Non-serious injury to more than three people on the ground A reduced ability of the crew to cope with adverse operating conditions to the extent that there would be a significant reduction in safety margins Manned aircraft making an evasive maneuver, but proximity from unmanned aircraft remains greater than 500 feet	High Risk Analysis Event severity, four indicators fail Incapacitation to unmanned aircraft system crew Proximity of less than 500 feet to a manned aircraft Serious injury to persons other than the unmanned aircraft System crew	A collision with a manned aircraft Fatality or fatal injury to persons other than the unmanned aircraft system crew

Notes:

1. Refer to the current version of FAA Order 7050.1, *Runway Safety Program*.
2. Proximity Events and Operational Deviations are no longer used to measure losses of separation, but they are applicable when validating old data. The minimal loss of standard separation is now represented as a measure of compliance of greater than or equal to 66 percent.
3. Risk Analysis Event severity indicators are as follows:
   a. **Proximity.** Failure transition point of 50 percent of required separation or less.
   b. **Rate of Closure.** Failure transition point greater than 205 knots or 2,000 feet per minute (consider both aspects and utilize the higher of the two if only one lies above the transition point).
   c. **ATC Mitigation.** ATC able to implement separation actions in a timely manner
   d. **Pilot Mitigation.** Pilot executed ATC mitigation in a timely manner.
4. An effect categorized as catastrophic is one that results in a fatality or fatal injury.
5. **Ground Collision.** An airplane on the ground collides with an object or person.
6. **Minor Injury.** Any injury that is neither fatal nor serious.
7. **Serious Injury.** Any injury that:
   a. Requires hospitalization for more than 48 hours, commencing within seven days from the date the injury was received;
   b. Results in a fracture of any bone (except simple fractures of fingers, toes, or nose);
   c. Causes severe hemorrhages, nerve, muscle, or tendon damage;
   d. Involves any internal organ; or
   e. Involves second- or third-degree burns, or any burns affecting more than five percent of the body's surface.

8. Fatal Injury. Any injury that results in death within 30 days of the accident.
9. Refer to FAA Order JO 8020.16, Air Traffic Organization Aircraft Accident and Incident Notification, Investigation, and Reporting, for more information about pilot deviations.
10. Near mid-air collision definitions are derived from FAA Order 8900.1, *Flight Standards Information Management System*, Volume 7, which defines the following categories: critical, potential, and low potential. Refer to Section 9 for the complete definitions of these categories.

Likelihood Definitions

	Airport Specific	Quantitative (ATC/Flight Procedures/Systems Engineering)	Domain-wide: NAS-wide, Terminal, or En route
A Frequent	Expected to occur more than once per week or every 2500 departures, whichever occurs sooner	(Probability) ≥ 1 per 1000	Equal to or more than once per week
B Probable	Expected to occur about once every month or 250,000 departures, whichever occurs sooner	1 per 1000 > (Probability) ≥ 1 per 100,000	Less than once per week and equal to more than once per three months
C Remote	Expected to occur about once every year or 2.5 million departures, whichever occurs sooner	1 per 100,000 > (Probability) ≥ 1 per 10,000,000	Less than once per three months and equal to more than once per three years
D Extremely Remote	Expected to occur once every 10-100 years or 25 million departures, whichever occurs sooner	1 per 10,000,000 > (Probability) ≥ 1 per 1,000,000,000	Less than once per three years and equal to or more than once per 30 years.
E Extremely Improbable	Expected to occur less than every 100 years	1 per 1,000,000,000 > (Probability) ≥ 1 per 10^{14}	Less than once per 30 years

Note: A cutoff point of 10^{-14} was established to define the boundaries of credible events for the purpose of calculating likelihood.

Severity and Likelihood Ratings

Hazard ID	LIH-RELOC.RWY3/21-1		LIH-RELOC.RWY3/21-1R		LIH-RELOC.RWY3/21-2	
Hazard - Effect	Pilot LOSA - Runway Incursion		predicted residual risk with mitigation		Controller LOSA - Runway Incursion	
Panel Member	Severity	Likelihood	Severity	Likelihood	Severity	Likelihood
Bruce Kaiwi	4	C	4	D	4	D
Kevin Johnson	4	C	4	D	4	D
Kandyce Watanabe	4	C	4	D	4	D
Neil Okuna	4	C	4	D	4	D
Joe Santoro	3	C	4	D	3	C
Scott Allen	3	C	4	D	3	D
Lynae Craig	4	C	4	D	5	D
Perfecto Delmendo						
Rich Silva	4	C	4	D	4	D
George Hodgson	4	C	4	D	4	D
Kevin Coon	4	C	4	D	5	D
Majority Rating	**4**	**C**	**4**	**D**	**4**	**D**
	MEDIUM		**LOW**		**LOW**	

Hazard ID	LIH-RELOC.RWY3/21-3		LIH-RELOC.RWY3/21-4	
Hazard - Effect	Vehicle/Ped LOSA - Runway Incursion		Flaggers LOSA - Surface Incident/Incident	
Panel Member	Severity	Likelihood	Severity	Likelihood
Bruce Kaiwi	4	D		
Kevin Johnson	4	D		
Kandyce Watanabe	4	D	5	D
Neil Okuna	4	D	5	D
Joe Santoro	3	C	4	C
Scott Allen	3	D	4	D
Lynae Craig	5	D		
Perfecto Delmendo			5	D
Rich Silva	3	C		
George Hodgson	4	C	5	D
Kevin Coon	5	D	5	D
Majority Rating	**4**	**D**	**5**	**D**
	LOW		**LOW**	

ATTENDANCE

Meeting Date: Wednesday, August 10, 2022
Meeting Time: 8:30am – 4:00pm
Location: Microsoft Teams link / call-in

	Name	Panel Member/SME	Company/Agency	Responses as of 8/9/22
☐	Davis, Craig	SME	HDOT-A LIH	None
☒	Kaiwi, Bruce	Panel Member	HDOT-A LIH	Accepted
☒	Dorn, Jeff	SME	HDOT-A LIH Engineer	Accepted
☒	Lucy, Daniel	SME	HDOT-A LIH SMS Mgr.	Accepted
☐	Watanabe, Byron	SME	HDOT-A LIH AOC Sup.	Tentative
☐	Rudolph, Amelia	SME	HDOT-A LIH AOC	None
☒	Ortiz, Noelani	SME	HDOT-A LIH AOC	Accepted
☐	Moniz, Sheldon	SME	HDOT-A LIH	None
☒	Brock, Christian	SME	HDOT-A LIH Electrician	Accepted
☐	Lemn, Kendall	SME	HDOT-A ARFF Chief	Accepted
☐	Tolentino, Adam	SME	HDOT-A AIR-EC	Declined
☒	Nishigata, Drew	SME	HDOT-A AIR-EC	Accepted
☒	Young, Duke	SME	AECOM	Accepted
☒	Hikiji, Jamie	SME	AECOM	Accepted
☒	Fletcher, Heather	SME	AECOM	Accepted
☐	Selch, Colin	SME	AECOM	None
☒	Campbell, Alan	SME	AECOM	Accepted
☒	Yvan, Ura	SME	Ricondo & Associates	Accepted
☒	Kalilikane, Ray	SME	Orion	Accepted
☐	Jacobs, Martinez	SME	HDOT-A AIR-LF	None
☐	Tuiolosega, Herman	SME	HDOT-A AIR-EP	None
☒	Kawaoka, Lynette	SME	HDOT-A AIR-EP	None
☒	Severn, Ray	SME	HDOT-A AIR-EP	Accepted
☐	Hays, Hannah	SME	HDOT-A AIR-EP	None
☒	Lum, Traci	SME	HDOT-A AIR-EP	None
☐	Wong, Gordon	SME	FAA HNL ADO	None
☐	Salas, Carlos	SME	FAA HNL ADO	None
☒	Watanabe, Kandyce	Panel Member	FAA HNL ADO	None
☐	Brown, Will	Panel Member	FAA HNL ADO	Accepted
☒	Evans, Kimberly	SME	FAA HNL ADO	None
☒	Smith, Herman	SME	FAA AWP SMS Specialist	None
☒	Johnson, Kevin	Panel Member	LIH ATCT Manager	Accepted
☐	Ambriz, Rick	Panel Member	FAA LIH SSC	Accepted

	Name	Panel Member/SME	Company/Agency	Responses as of 8/9/22
☐	Wennes, John	SME	FAA HCF ATO	Accepted
☐	Kamakahi, Jacob	SME	FAA HCF ATO	None
☐	Hamamoto, Liane	SME	FAA HCF ATO	None
☒	Okuna, Neil	Panel Member	FAA HCF	Accepted
☐	Poole, Dottie	SME	FAA HCF ATO	None
☐	Kato, Lance	SME	FAA Tech Ops	Tentative
☐	Clark, David	SME	FAA Flight Procedures	None
☒	Santoro, Joe	Panel Member	FAA RSO	Accepted
☐	Chitwood, Tiffany	Panel Member	FAA CMO	None
☐	Heenan, Michael	SME	FAA FSDO	None
☒	Allen, Scott	Panel Member	FAA FSDO	None
☒	Robertson, Matthew	SME	FAA WSC NPI	Accepted
☐	Ace-Galvan, Natalie	SME	FAA WSC NPI	Tentative
☒	Mixsell, Austin	SME	FAA NAVAIDs Lead Engr	None
☐	Sanchez, Ricardo	SME	FAA	None
☒	Delmendo, Perfecto	SME	AvAir Pros	None
☒	Tarpey, Jeff	SME	AvAir Pros	Accepted
☒	Craig, Lynae	Panel Member	Alaska Airlines	None
☐	Apuna, Paul	Panel Member	Aloha Air Cargo	Accepted
☐	Colbert, Travis	SME	Aloha Air Cargo	None
☐	Meyer, Steve	SME	Aloha Air Cargo	None
☐	Zitz, Kenneth	SME	Aloha Air Cargo	None
☐	Amen, Paul	Panel Member	American Airlines	None
☐	Horvath, LJ	SME	American Airlines	Declined
☐	Connell, Corey	Panel Member	Delta Airlines	None
☒	Silva, Richard	Panel Member	Hawaiian Airlines	None
☐	Lauritsen, Charles "CD"	Panel Member	Hawaiian Airlines	Declined
☐	Higa, Lance	SME	Hawaiian Airlines	None
☐	Hamada, Brandon	Panel Member	Hawaiian Air Cargo	Accepted
☐	Wilson, Toni	SME	Southwest Airlines	None
☐	Basalyous, Tony	SME	Southwest Airlines	Declined
☒	Hodgson, George	Panel Member	Southwest Airlines	Accepted
☐	Dagger, Chris	SME	Southwest Airlines	Declined
☐	Latimer, Tommy	SME	Southwest Airlines	Tentative
☐	Raihi, Teimour	SME	TransAir	None
☐	Reasoner, Tracy	SME	TransAir	None
☒	Morales, Jasmine	SME	TransAir	Accepted
☐	Litke, Paul	SME	United Airlines	Tentative
☒	Coon, Kevin	Panel Member	United Airlines	Tentative

	Name	Panel Member/SME	Company/Agency	Responses as of 8/9/22
☐	Pettit, Bill	SME	FedEx	None
☐	Shinno, Gene	Panel Member	FedEx	Declined
☐	Cudnik, Greg	SME	UPS	None
☐	Hettinger, Trey	Panel Member	UPS	Tentative
☐	Hamm, Thomas	SME	UPS	None
☐	Zimmerman, Christopher	SME	UPS	Tentative
☐	Kirk, K	SME	UPS	None
☐	Shaw, Craig	SME	West Jet	None
☐	Melohn, Bill	SME	GACH/AOPA	Tentative
☒	Mata, Debra	SME	Aloha Air Cargo	
☒	Ward, Dawn	Co-Facilitator	Base Management	Accepted
☒	Wong, Steve	Co-Facilitator	Base Management	Accepted
☒	DeMattos, Dalyn	Tech Writer	Base Management	Accepted
☐	Yamauchi, Sue	Tech Writer	Base Management	Accepted
☒	Rewick, Ken	Facilitation Support	Base Management	None
☒	Dela Cruz, Tanya	Admin Support	Base Management	None
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ATTENDANCE

Meeting Date: Thursday, August 11, 2022
Meeting Time: 8:30am – 11:00am
Location: Microsoft Teams link / call-in

	Name	Panel Member/SME	Company/Agency	Responses as of 8/9/22
☐	Davis, Craig	SME	HDOT-A LIH	None
☒	Kaiwi, Bruce	Panel Member	HDOT-A LIH	Accepted
☒	Dorn, Jeff	SME	HDOT-A LIH Engineer	Accepted
☒	Lucy, Daniel	SME	HDOT-A LIH SMS Mgr.	Accepted
☐	Watanabe, Byron	SME	HDOT-A LIH AOC Sup.	Tentative
☐	Rudolph, Amelia	SME	HDOT-A LIH AOC	None
☒	Ortiz, Noelani	SME	HDOT-A LIH AOC	Accepted
☐	Moniz, Sheldon	SME	HDOT-A LIH	None
☒	Brock, Christian	SME	HDOT-A LIH Electrician	Accepted
☒	Lemn, Kendall	SME	HDOT-A ARFF Chief	Accepted
☐	Tolentino, Adam	SME	HDOT-A AIR-EC	Declined
☒	Nishigata, Drew	SME	HDOT-A AIR-EC	Accepted
☒	Young, Duke	SME	AECOM	Accepted
☒	Hikiji, Jamie	SME	AECOM	Accepted
☒	Fletcher, Heather	SME	AECOM	Accepted
☐	Selch, Colin	SME	AECOM	None
☒	Campbell, Alan	SME	AECOM	Accepted
☒	Yvan, Ura	SME	Ricondo & Associates	Accepted
☒	Kalilikane, Ray	SME	Orion	Accepted
☐	Jacobs, Martinez	SME	HDOT-A AIR-LF	None
☐	Tuiolosega, Herman	SME	HDOT-A AIR-EP	None
☒	Kawaoka, Lynette	SME	HDOT-A AIR-EP	None
☒	Severn, Ray	SME	HDOT-A AIR-EP	Accepted
☐	Hays, Hannah	SME	HDOT-A AIR-EP	None
☒	Lum, Traci	SME	HDOT-A AIR-EP	None
☐	Wong, Gordon	SME	FAA HNL ADO	None
☐	Salas, Carlos	SME	FAA HNL ADO	None
☒	Watanabe, Kandyce	Panel Member	FAA HNL ADO	None
☐	Brown, Will	Panel Member	FAA HNL ADO	Accepted
☒	Evans, Kimberly	SME	FAA HNL ADO	None
☐	Smith, Herman	SME	FAA AWP SMS Specialist	None
☒	Johnson, Kevin	Panel Member	LIH ATCT Manager	Accepted
☐	Ambriz, Rick	Panel Member	FAA LIH SSC	Accepted

	Name	Panel Member/SME	Company/Agency	Responses as of 8/9/22
☐	Wennes, John	SME	FAA HCF ATO	Accepted
☐	Kamakahi, Jacob	SME	FAA HCF ATO	None
☐	Hamamoto, Liane	SME	FAA HCF ATO	None
☒	Okuna, Neil	Panel Member	FAA HCF	Accepted
☐	Poole, Dottie	SME	FAA HCF ATO	None
☐	Kato, Lance	SME	FAA Tech Ops	Tentative
☐	Clark, David	SME	FAA Flight Procedures	None
☒	Santoro, Joe	Panel Member	FAA RSO	Accepted
☐	Chitwood, Tiffany	Panel Member	FAA CMO	None
☐	Heenan, Michael	SME	FAA FSDO	None
☒	Allen, Scott	Panel Member	FAA FSDO	None
☒	Robertson, Matthew	SME	FAA WSC NPI	Accepted
☐	Ace-Galvan, Natalie	SME	FAA WSC NPI	Tentative
☐	Mixsell, Austin	SME	FAA NAVAIDs Lead Engr	None
☐	Sanchez, Ricardo	SME	FAA	None
☒	Delmendo, Perfecto	SME	AvAir Pros	None
☐	Tarpey, Jeff	SME	AvAir Pros	Accepted
☒	Craig, Lynae	Panel Member	Alaska Airlines	None
☐	Apuna, Paul	Panel Member	Aloha Air Cargo	Accepted
☐	Colbert, Travis	SME	Aloha Air Cargo	None
☐	Meyer, Steve	SME	Aloha Air Cargo	None
☐	Zitz, Kenneth	SME	Aloha Air Cargo	None
☐	Amen, Paul	Panel Member	American Airlines	None
☐	Horvath, LJ	SME	American Airlines	Declined
☐	Connell, Corey	Panel Member	Delta Airlines	None
☒	Silva, Richard	Panel Member	Hawaiian Airlines	None
☐	Lauritsen, Charles "CD"	Panel Member	Hawaiian Airlines	Declined
☐	Higa, Lance	SME	Hawaiian Airlines	None
☐	Hamada, Brandon	Panel Member	Hawaiian Air Cargo	Accepted
☐	Wilson, Toni	SME	Southwest Airlines	None
☐	Basalyous, Tony	SME	Southwest Airlines	Declined
☒	Hodgson, George	Panel Member	Southwest Airlines	Accepted
☐	Dagger, Chris	SME	Southwest Airlines	Declined
☐	Latimer, Tommy	SME	Southwest Airlines	Tentative
☐	Raihi, Teimour	SME	TransAir	None
☐	Reasoner, Tracy	SME	TransAir	None
☒	Morales, Jasmine	SME	TransAir	Accepted
☐	Litke, Paul	SME	United Airlines	Tentative
☒	Coon, Kevin	Panel Member	United Airlines	Tentative

	Name	Panel Member/SME	Company/Agency	Responses as of 8/9/22
☐	Pettit, Bill	SME	FedEx	None
☐	Shinno, Gene	Panel Member	FedEx	Declined
☐	Cudnik, Greg	SME	UPS	None
☐	Hettinger, Trey	Panel Member	UPS	Tentative
☐	Hamm, Thomas	SME	UPS	None
☐	Zimmerman, Christopher	SME	UPS	Tentative
☐	Kirk, K	SME	UPS	None
☐	Shaw, Craig	SME	West Jet	None
☐	Melohn, Bill	SME	GACH/AOPA	Tentative
☐	Mata, Debra	SME	Aloha Air Cargo	
☒	Ward, Dawn	Co-Facilitator	Base Management	Accepted
☒	Wong, Steve	Co-Facilitator	Base Management	Accepted
☒	DeMattos, Dalyn	Tech Writer	Base Management	Accepted
☐	Yamauchi, Sue	Tech Writer	Base Management	Accepted
☒	Rewick, Ken	Facilitation Support	Base Management	None
☒	Dela Cruz, Tanya	Admin Support	Base Management	None
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ATTENDANCE

Meeting Date: Monday, August 22, 2022
Meeting Time: 9:00am – 1:00pm
Location: Microsoft Teams link / call-in

	Name	Panel Member/SME	Company/Agency	Responses as of 8/9/22
☐	Davis, Craig	SME	HDOT-A LIH	None
☒	Kaiwi, Bruce	Panel Member	HDOT-A LIH	Accepted
☒	Dorn, Jeff	SME	HDOT-A LIH Engineer	Accepted
☒	Lucy, Daniel	SME	HDOT-A LIH SMS Mgr.	Accepted
☒	Watanabe, Byron	SME	HDOT-A LIH AOC Sup.	Tentative
☐	Rudolph, Amelia	SME	HDOT-A LIH AOC	None
☒	Ortiz, Noelani	SME	HDOT-A LIH AOC	Accepted
☐	Moniz, Sheldon	SME	HDOT-A LIH	None
☐	Brock, Christian	SME	HDOT-A LIH Electrician	Accepted
☒	Lemn, Kendall	SME	HDOT-A ARFF Chief	Accepted
☐	Tolentino, Adam	SME	HDOT-A AIR-EC	Declined
☐	Nishigata, Drew	SME	HDOT-A AIR-EC	Accepted
☒	Young, Duke	SME	AECOM	Accepted
☒	Hikiji, Jamie	SME	AECOM	Accepted
☐	Fletcher, Heather	SME	AECOM	Accepted
☐	Selch, Colin	SME	AECOM	None
☐	Campbell, Alan	SME	AECOM	Accepted
☒	Yvan, Ura	SME	Ricondo & Associates	Accepted
☐	Kalilikane, Ray	SME	Orion	Accepted
☐	Jacobs, Martinez	SME	HDOT-A AIR-LF	None
☐	Tuiolosega, Herman	SME	HDOT-A AIR-EP	None
☐	Kawaoka, Lynette	SME	HDOT-A AIR-EP	None
☒	Severn, Ray	SME	HDOT-A AIR-EP	Accepted
☒	Hays, Hannah	SME	HDOT-A AIR-EP	None
☐	Lum, Traci	SME	HDOT-A AIR-EP	None
☐	Wong, Gordon	SME	FAA HNL ADO	None
☐	Salas, Carlos	SME	FAA HNL ADO	None
☒	Watanabe, Kandyce	Panel Member	FAA HNL ADO	None
☐	Brown, Will	Panel Member	FAA HNL ADO	Accepted
☐	Evans, Kimberly	SME	FAA HNL ADO	None
☐	Smith, Herman	SME	FAA AWP SMS Specialist	None
☒	Johnson, Kevin	Panel Member	LIH ATCT Manager	Accepted
☐	Ambriz, Rick	Panel Member	FAA LIH SSC	Accepted

	Name	Panel Member/SME	Company/Agency	Responses as of 8/9/22
☒	Wennes, John	SME	FAA HCF ATO	Accepted
☐	Kamakahi, Jacob	SME	FAA HCF ATO	None
☐	Hamamoto, Liane	SME	FAA HCF ATO	None
☒	Okuna, Neil	Panel Member	FAA HCF	Accepted
☐	Poole, Dottie	SME	FAA HCF ATO	None
☐	Kato, Lance	SME	FAA Tech Ops	Tentative
☒	Clark, David	SME	FAA Flight Procedures	None
☒	Santoro, Joe	Panel Member	FAA RSO	Accepted
☐	Chitwood, Tiffany	Panel Member	FAA CMO	None
☐	Heenan, Michael	SME	FAA FSDO	None
☒	Allen, Scott	Panel Member	FAA FSDO	None
☒	Robertson, Matthew	SME	FAA WSC NPI	Accepted
☐	Ace-Galvan, Natalie	SME	FAA WSC NPI	Tentative
☐	Mixsell, Austin	SME	FAA NAVAIDs Lead Engr	None
☐	Sanchez, Ricardo	SME	FAA	None
☒	Delmendo, Perfecto	SME	AvAir Pros	None
☒	Tarpey, Jeff	SME	AvAir Pros	Accepted
☒	Craig, Lynae	Panel Member	Alaska Airlines	None
☐	Apuna, Paul	Panel Member	Aloha Air Cargo	Accepted
☐	Colbert, Travis	SME	Aloha Air Cargo	None
☐	Meyer, Steve	SME	Aloha Air Cargo	None
☐	Zitz, Kenneth	SME	Aloha Air Cargo	None
☐	Amen, Paul	Panel Member	American Airlines	None
☐	Horvath, LJ	SME	American Airlines	Declined
☐	Connell, Corey	Panel Member	Delta Airlines	None
☒	Silva, Richard	Panel Member	Hawaiian Airlines	None
☐	Lauritsen, Charles "CD"	Panel Member	Hawaiian Airlines	Declined
☐	Higa, Lance	SME	Hawaiian Airlines	None
☐	Hamada, Brandon	Panel Member	Hawaiian Air Cargo	Accepted
☐	Wilson, Toni	SME	Southwest Airlines	None
☐	Basalyous, Tony	SME	Southwest Airlines	Declined
☒	Hodgson, George	Panel Member	Southwest Airlines	Accepted
☐	Dagger, Chris	SME	Southwest Airlines	Declined
☒	Latimer, Tommy	SME	Southwest Airlines	Tentative
☐	Raihi, Teimour	SME	TransAir	None
☐	Reasoner, Tracy	SME	TransAir	None
☒	Morales, Jasmine	SME	TransAir	Accepted
☐	Litke, Paul	SME	United Airlines	Tentative
☒	Coon, Kevin	Panel Member	United Airlines	Tentative

	Name	Panel Member/SME	Company/Agency	Responses as of 8/9/22
☐	Pettit, Bill	SME	FedEx	None
☐	Shinno, Gene	Panel Member	FedEx	Declined
☐	Cudnik, Greg	SME	UPS	None
☐	Hettinger, Trey	Panel Member	UPS	Tentative
☐	Hamm, Thomas	SME	UPS	None
☐	Zimmerman, Christopher	SME	UPS	Tentative
☐	Kirk, K	SME	UPS	None
☐	Shaw, Craig	SME	West Jet	None
☐	Melohn, Bill	SME	GACH/AOPA	Tentative
☐	Mata, Debra	SME	Aloha Air Cargo	
☒	Ibanez, David	SME	AECOM	
☒	Ward, Dawn	Co-Facilitator	Base Management	Accepted
☒	Wong, Steve	Co-Facilitator	Base Management	Accepted
☒	DeMattos, Dalyn	Tech Writer	Base Management	Accepted
☐	Yamauchi, Sue	Tech Writer	Base Management	Accepted
☒	Rewick, Ken	Facilitation Support	Base Management	None
☒	Dela Cruz, Tanya	Admin Support	Base Management	None
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ATTENDANCE

Meeting Date: Friday, August 26, 2022
Meeting Time: 8:30am – 12:00pm
Location: Microsoft Teams link / call-in

	Name	Panel Member/SME	Company/Agency	Responses as of 8/24/22
☐	Davis, Craig	SME	HDOT-A LIH	None
☐	Kaiwi, Bruce (will defer to Kandyce W. ADO)	Panel Member	HDOT-A LIH	Declined
☒	Dorn, Jeff	SME	HDOT-A LIH Engineer	
☒	Lucy, Daniel	SME	HDOT-A LIH SMS Mgr.	
☐	Watanabe, Byron	SME	HDOT-A LIH AOC Sup.	
☐	Rudolph, Amelia	SME	HDOT-A LIH AOC	
☐	Ortiz, Noelani	SME	HDOT-A LIH AOC	
☐	Moniz, Sheldon	SME	HDOT-A LIH	
☐	Brock, Christian	SME	HDOT-A LIH Electrician	
☐	Lemn, Kendall	SME	HDOT-A ARFF Chief	
☐	Tolentino, Adam	SME	HDOT-A AIR-EC	
☐	Nishigata, Drew	SME	HDOT-A AIR-EC	None
☒	Young, Duke	SME	AECOM	Accepted
☒	Hikiji, Jamie	SME	AECOM	Accepted
☐	Fletcher, Heather	SME	AECOM	
☐	Selch, Colin	SME	AECOM	
☐	Campbell, Alan	SME	AECOM	
☒	Yvan, Ura	SME	Ricondo & Associates	Accepted
☒	Kalilikane, Ray	SME	Orion	Accepted
☐	Jacobs, Martinez	SME	HDOT-A AIR-LF	
☐	Tuiolosega, Herman	SME	HDOT-A AIR-EP	
☐	Kawaoka, Lynette	SME	HDOT-A AIR-EP	
☐	Severn, Ray	SME	HDOT-A AIR-EP	
☐	Hays, Hannah	SME	HDOT-A AIR-EP	
☐	Lum, Traci	SME	HDOT-A AIR-EP	
☐	Wong, Gordon	SME	FAA HNL ADO	
☐	Salas, Carlos	SME	FAA HNL ADO	
☒	Watanabe, Kandyce	Panel Member	FAA HNL ADO	None
☐	Brown, Will	Panel Member	FAA HNL ADO	
☐	Evans, Kimberly	SME	FAA HNL ADO	
☐	Smith, Herman	SME	FAA AWP SMS Specialist	
☐	Johnson, Kevin	Panel Member	LIH ATCT Manager	None
☐	Ambriz, Rick	Panel Member	FAA LIH SSC	

	Name	Panel Member/SME	Company/Agency	Responses as of 8/24/22
☐	Wennes, John	SME	FAA HCF ATO	
☐	Kamakahi, Jacob	SME	FAA HCF ATO	
☐	Hamamoto, Liane	SME	FAA HCF ATO	
☒	Okuna, Neil	Panel Member	FAA HCF	Accepted
☐	Poole, Dottie	SME	FAA HCF ATO	
☐	Kato, Lance	SME	FAA Tech Ops	
☐	Clark, David	SME	FAA Flight Procedures	
☒	Santoro, Joe	Panel Member	FAA RSO	None
☐	Chitwood, Tiffany	Panel Member	FAA CMO	
☐	Heenan, Michael	SME	FAA FSDO	
☒	Allen, Scott	Panel Member	FAA FSDO	
☐	Robertson, Matthew	SME	FAA WSC NPI	
☐	Ace-Galvan, Natalie	SME	FAA WSC NPI	
☐	Mixsell, Austin	SME	FAA NAVAIDs Lead Engr	
☐	Sanchez, Ricardo	SME	FAA	
☒	Delmendo, Perfecto	Panel Member	AvAir Pros	None
☐	Tarpey, Jeff	SME	AvAir Pros	Accepted
☐	Craig, Lynae	Panel Member	Alaska Airlines	None
☐	Apuna, Paul	Panel Member	Aloha Air Cargo	
☐	Colbert, Travis	SME	Aloha Air Cargo	
☐	Meyer, Steve	SME	Aloha Air Cargo	
☐	Zitz, Kenneth	SME	Aloha Air Cargo	
☐	Amen, Paul	Panel Member	American Airlines	
☐	Horvath, LJ	SME	American Airlines	
☐	Connell, Corey	Panel Member	Delta Airlines	
☐	Silva, Richard	Panel Member	Hawaiian Airlines	None
☐	Lauritsen, Charles "CD"	Panel Member	Hawaiian Airlines	
☐	Higa, Lance	SME	Hawaiian Airlines	
☐	Hamada, Brandon	Panel Member	Hawaiian Air Cargo	
☐	Wilson, Toni	SME	Southwest Airlines	
☐	Basalyous, Tony	SME	Southwest Airlines	
☒	Hodgson, George	Panel Member	Southwest Airlines	Accepted
☐	Dagger, Chris	SME	Southwest Airlines	
☐	Latimer, Tommy	SME	Southwest Airlines	
☐	Raihi, Teimour	SME	TransAir	
☐	Reasoner, Tracy	SME	TransAir	
☒	Morales, Jasmine	SME	TransAir	
☐	Litke, Paul	SME	United Airlines	
☒	Coon, Kevin	Panel Member	United Airlines	None

	Name	Panel Member/SME	Company/Agency	Responses as of 8/24/22
☐	Pettit, Bill	SME	FedEx	
☐	Shinno, Gene	Panel Member	FedEx	
☐	Cudnik, Greg	SME	UPS	
☐	Hettinger, Trey	Panel Member	UPS	
☐	Hamm, Thomas	SME	UPS	
☐	Zimmerman, Christopher	SME	UPS	
☐	Kirk, K	SME	UPS	
☐	Shaw, Craig	SME	West Jet	
☐	Melohn, Bill	SME	GACH/AOPA	
☐	Mata, Debra	SME	Aloha Air Cargo	
☐	Ibanez, David	SME	AECOM	
☒	Ward, Dawn	Co-Facilitator	Base Management	Accepted
☒	Wong, Steve	Co-Facilitator	Base Management	Accepted
☐	DeMattos, Dalyn	Tech Writer	Base Management	None
☐	Yamauchi, Sue	Tech Writer	Base Management	None
☒	Rewick, Ken	Facilitation Support	Base Management	None
☒	Dela Cruz, Tanya	Admin Support	Base Management	None
☐				
☐				
☐				
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☐				

Safety Assessment Screening for Projects (SAS-1) **Page 3**

SMS ID:

11. SRM Panel Members and Certification

We certify that we have reviewed the project documentation and have fully considered the potential hazards (and any proposed mitigation measures) before reaching this determination. Dissenting opinions concerning the determination are included in the report.

Name	Organization	Title	Date	Signature
Kandyce Watanabe	FAA - HNL ADO	Lead Engineer/Program Manager	9/27/22	Kandyce Watanabe

12. Airport Certification and Acceptance

As a duly authorized representative of the sponsor of the airport identified above, I hereby certify that I have reviewed and understand the hazards and mitigation measures identified in the attached documentation. I further certify that I understand it is our legal duty, as sponsor, to ensure that any and all airport-related mitigation measures are fulfilled and documented in a timely manner. Any such commitments on our part represent an obligation under our Federal grant assurances, regardless of whether the FAA participates in the funding of any part of the Proposed Action. Nothing in the FAA's review may be deemed as relieving the sponsor of its legal obligations as owner and operator of the airport.

Name and Title	Date	Signature

13. FAA SRM Approval

Hazards were identified and analyzed using standard procedures and processes in accordance with FAA Order 5200.11. Mitigation measures, including draft NOTAM requirements, if necessary, are attached and are included with the formal FAA project approval action. These measures will help ensure safety levels are maintained at acceptable levels both during and after the proposed construction and non-construction airport changes.

Name and Title	Date	Signature

Appendix F

LIH Relocate Runway 3-21 Project
SRA Panel Meeting
August 22 & 26, 2022

Safety Assessment Screening for Projects (SAS-1) **Page 3**

SMS ID:

11. SRM Panel Members and Certification

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Name	Organization	Title	Date	Signature
Neil Okuna	Honolulu Control Facility	Support Specialist	9/27/2022	NEIL N OKUNA Digitally signed by NEIL N OKUNA Date: 2022.09.27 13:37:23 -10'00'

12. Airport Certification and Acceptance

As a duly authorized representative of the sponsor of the airport identified above, I hereby certify that I have reviewed and understand the hazards and mitigation measures identified in the attached documentation. I further certify that I understand it is our legal duty, as sponsor, to ensure that any and all airport-related mitigation measures are fulfilled and documented in a timely manner. Any such commitments on our part represent an obligation under our Federal grant assurances, regardless of whether the FAA participates in the funding of any part of the Proposed Action. Nothing in the FAA's review may be deemed as relieving the sponsor of its legal obligations as owner and operator of the airport.

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Appendix F

LIH Relocate Runway 3-21 Project
SRA Panel Meeting
August 22 & 26, 2022

Safety Assessment Screening for Projects (SAS-1) **Page 3**

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Name	Organization	Title	Date	Signature
Perfecto Delmendo	AvAirPros HALO	Senior Director	09-28-22	Perfecto Delmendo Digitally signed by Perfecto Delmendo DN: C=US, E=p.delmendo@avairpros.com, O=AvAirPros, CN=Perfecto Delmendo Reason: I have reviewed this document Date: 2022.09.28 08:03:12-10'00'

12. Airport Certification and Acceptance

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SMS ID:

11. SRM Panel Members and Certification

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Name	Organization	Title	Date	Signature
Lynae Craig	Alaska Airlines	Mgr. ATC & Airfield Ops	9/28/22	Lynae Craig

12. Airport Certification and Acceptance

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Name	Organization	Title	Date	Signature
Scott Allen, HNL FSDO, FPM			SCOTT E ALLEN JR Digitally signed by SCOTT E ALLEN JR Date: 2022.10.14 12:13:44 -10'00'	

12. Airport Certification and Acceptance

As a duly authorized representative of the sponsor of the airport identified above, I hereby certify that I have reviewed and understand the hazards and mitigation measures identified in the attached documentation. I further certify that I understand it is our legal duty, as sponsor, to ensure that any and all airport-related mitigation measures are fulfilled and documented in a timely manner. Any such commitments on our part represent an obligation under our Federal grant assurances, regardless of whether the FAA participates in the funding of any part of the Proposed Action. Nothing in the FAA's review may be deemed as relieving the sponsor of its legal obligations as owner and operator of the airport.

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Name	Organization	Title	Date	Signature
Kevin L Coon	United Airlines	Air Traffic Mgr	10/17/2022	

2. Airport Certification and Acceptance

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ame and Title	Date	Signature

3. FAA SRM Approval

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ame and Title	Date	Signature

Safety Assessment Screening for Projects (SAS-1)

SMS ID:

11. SRM Panel Members and Certification

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Type text here

Name	Organization	Title	Date	Signature
Bruce Kaiwi	DOT-Airports	Asst Airport Supt	10/21/2022	

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Name and Title	Date	Signature

Appendix F

LIH Relocate Runway 3-21 Project
SRA Panel Meeting
August 22 & 26, 2022

Safety Assessment Screening for Projects (SAS-1) **Page 3**

SMS ID:

11. SRM Panel Members and Certification

We certify that we have reviewed the project documentation and have fully considered the potential hazards (and any proposed mitigation measures) before reaching this determination. Dissenting opinions concerning the determination are included in the report.

Name	Organization	Title	Date	Signature
Joe Santoro	AWP Runway Safety	Rwy Sfty Program Mgr		JOSEPH SANTORO Digitally signed by JOSEPH SANTORO Date: 2022.10.26 15:54:14 -07'00'

12. Airport Certification and Acceptance

As a duly authorized representative of the sponsor of the airport identified above, I hereby certify that I have reviewed and understand the hazards and mitigation measures identified in the attached documentation. I further certify that I understand it is our legal duty, as sponsor, to ensure that any and all airport-related mitigation measures are fulfilled and documented in a timely manner. Any such commitments on our part represent an obligation under our Federal grant assurances, regardless of whether the FAA participates in the funding of any part of the Proposed Action. Nothing in the FAA's review may be deemed as relieving the sponsor of its legal obligations as owner and operator of the airport.

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Name and Title	Date	Signature

Ground Rules

- Open, honest communications
- No electronic communications – if necessary, please step out of the room
- No sidebar conversations – respect the speaker
- All Panel Members input is important
- Please state your name before speaking
- Participants on the phone – please mute microphones when not speaking
- Participants in the room – please speak into microphone so those on the phone can hear
- Meeting will start and end on time – Breaks should occur periodically, depending on discussion
- Anyone can call an ELMO (Enough, Let's Move On)

****Absence of an answer is understood as agreement****

Definitions

Accident – an unplanned event or series of events that results in death, injury, occupational illness, damage to or loss of equipment or property, or damage to the environment.

Cause – events occurring independently or in combination that result in a hazard or failure

Credible – capable of being believed. Worthy of belief or confidence. Sound, rational, defendable, and data driven.

Effect – real or credible harmful outcome that could be created if the hazard occurs in the defined system state.

Hazard – any real or potential condition that can result in injury, illness, or death to people; damage to or loss of a system equipment, or property; or damage to the environment.

Likelihood – the estimated probability or frequency, in quantitative or qualitative terms, of an occurrence related to the hazard. *Likelihood is the estimated probability or frequency of a hazard's effect; often an expression of how often an effect is expected to occur.*

Residual Safety Risk – the remaining safety risk that exists after all control techniques have been implemented or exhausted, and all controls have been verified. *Only verified controls can be used for the assessment of residual safety risk.*

Risk Analysis – the process during which a hazard is characterized for its likelihood and the severity of its effect or harm. Risk analysis can be either quantitative or qualitative; however, the inability to quantify or the lack of historical data on a particular hazard does not preclude the need for analysis.

Risk Assessment- assessment of the system or component to compare the achieved risk level with the tolerable risk level.

Risk Matrix – tool that combines severity and likelihood to assess risks as unacceptable, acceptable with mitigation, and acceptable.

Safety Assessment – a systematic, comprehensive evaluation of an implemented system.

Safety Risk - the composite of the likelihood of the potential effect of a hazard and predicted severity of that effect.

Safety Risk Control (Risk Mitigation) – any action taken to eliminate hazards or to mitigate their effects by reducing the severity and/or likelihood of the risk associated with those hazards. Safety risk controls necessary to mitigate an unacceptable risk should be mandatory, measurable, and monitored for effectiveness.

Safety Risk Management (SRM) - a formal process within the SMS composed of describing the system, identifying the hazards, assessing the risk, analyzing the risk, and mitigating the risk.

Severity – the consequence or impact of a hazard in terms of degree or loss or harm. *Severity is the measure of how bad the results of an event are predicted to be; usually determined by the worst credible outcome.*

Roles

Facilitator – Responsible to follow the SMS process. Engages the panel to develop a thorough SRM Safety Assessment ensuring all relevant perspectives are considered, soliciting expert advice and building group consensus whenever possible. Cultivates discussion among panel members about potential hazards, risks, and mitigations. Manages conflicts that arise during the panel meeting, including biased observers and dissenting opinions. Facilitator does not make the final decision concerning findings of the panel. If the panel does reach a sound consensus, the FAA Project Manager has the final say on the findings of the panel.

Technical Writer – Documents discussions, PHL, PHA and consensus.

Panel Member – Invited as an SME to participate in discussions, share technical expertise, identify/analyze risks and reach consensus on level of risk. Panel Members are SME's in their own specialized field. They are expected to have the authority to represent and make decisions for their respective organization. Panel Members are required to sign the resulting SRMD or provide dissenting opinion and rationale.

Subject Matter Expert (SME) – Invited for technical expertise and operational responsibilities. If the panel of SME's already consists of someone with your knowledge and background, you do not need to be a panel member. An example of an SME not on a panel is a planning or design consultant who supports the panel through research and preparation of documents.

List of Reference Documents

ACRP Report 1, Volume 1 – SMS for Airports Overview, 2007

ACRP Report 1, Volume 2 – SMS for Airports Guidebook, 2009

ACRP 58 – Safety Reporting Systems at Airports, 2014

ACRP 131 – Guidebook for SRM, 2015

FAA AC 150/5200-37A – Introduction to Safety Management Systems (SMS) for Airport Operators

FAA Order 5200.11 Change 3 – FAA Airports (ARP) Safety Management System (SMS), August 2014

FAA Order 8000.369B, Safety Management System

FAA Order 8040.4B, Safety Risk Management Policy

FAA Office of Airports (ARP) SMS Desk Reference, June 2012

Standard Operating Procedure for Safety Risk Management under the FAA Office of Airports Safety Management System

Appendix K

LIHUE AIRPORT

HAWAIʻI DEPARTMENT OF TRANSPORTATION AIRPORTS DIVISION (DOT-A)

RELOCATE RUNWAY 3-21
AT LIHUE AIRPORT
STATE PROJECT NUMBER: AK1031-14
AIP PROJECT NUMBER: 3-15-0013-XX

CONSTRUCTION SAFETY AND PHASING PLAN (CSPP)

July 2022

Prepared by:

URS (AECOM)

Points of Contact

Contractors On-Site and Responsible Personnel Contacts:

Contractor Project Manager: XXXXXX	Office:	(808) XXX-XXX
	Cell:	(808) XXX-XXX
Contractor Superintendent (24 hours):	Cell:	(808) XXX-XXX
Contractor RMP: Cell:		(808) XXX-XXX
Contractor Alternate RMP:	Cell:	(808) XXX-XXX
Construction Manager (24 hours): XXXXX	Cell:	(808) XXX-XXX
Construction Inspector: XXXXX	Cell:	(808) XXX-XXX

Lihue Airport (LIH) Contacts:

Airport Emergency (24 hours) – Security Dispatch		(808) 274-3814
Airport Rescue and Fire Fighting		(808) 274-3803
LIH Airport Main Office (Mon-Fri 7:45am to 4:00pm)		(808) 274-3800
LIH Airport Manager: Craig Davis	Office:	(808) 274-3805
	Cell:	(808) 346-2568
Assistant Airport Superintendent V: Tracy Williams		(808) 274-3809
Assistant Airport Superintendent IV: Bruce Kaiwi	Office:	(808) 241-3901
	Cell:	(808) 651-6214
Airport Engineer: Jeff Dorn		(808) 241-3903
Airport Operations Control (AOC) Supervisor: Byron Watanabe		(808) 241-3919
Ramp Control – On Duty AOC Unit (5:00am to 12:00 midnight)	Cell:	(808) 651-6255
Airport Pass and ID Office (M-F 8:00am to noon; 12:30pm to 4:30pm)		(808) 241-3902
Airport Security Office, Securitas (Mon-Fri 8:00am to 4:30pm)		(808) 245-9054
Security Dispatch (24-hours)		(808) 274-3814
Airport Rescue and Fire Fighting (24-hours)		(808) 274-3803

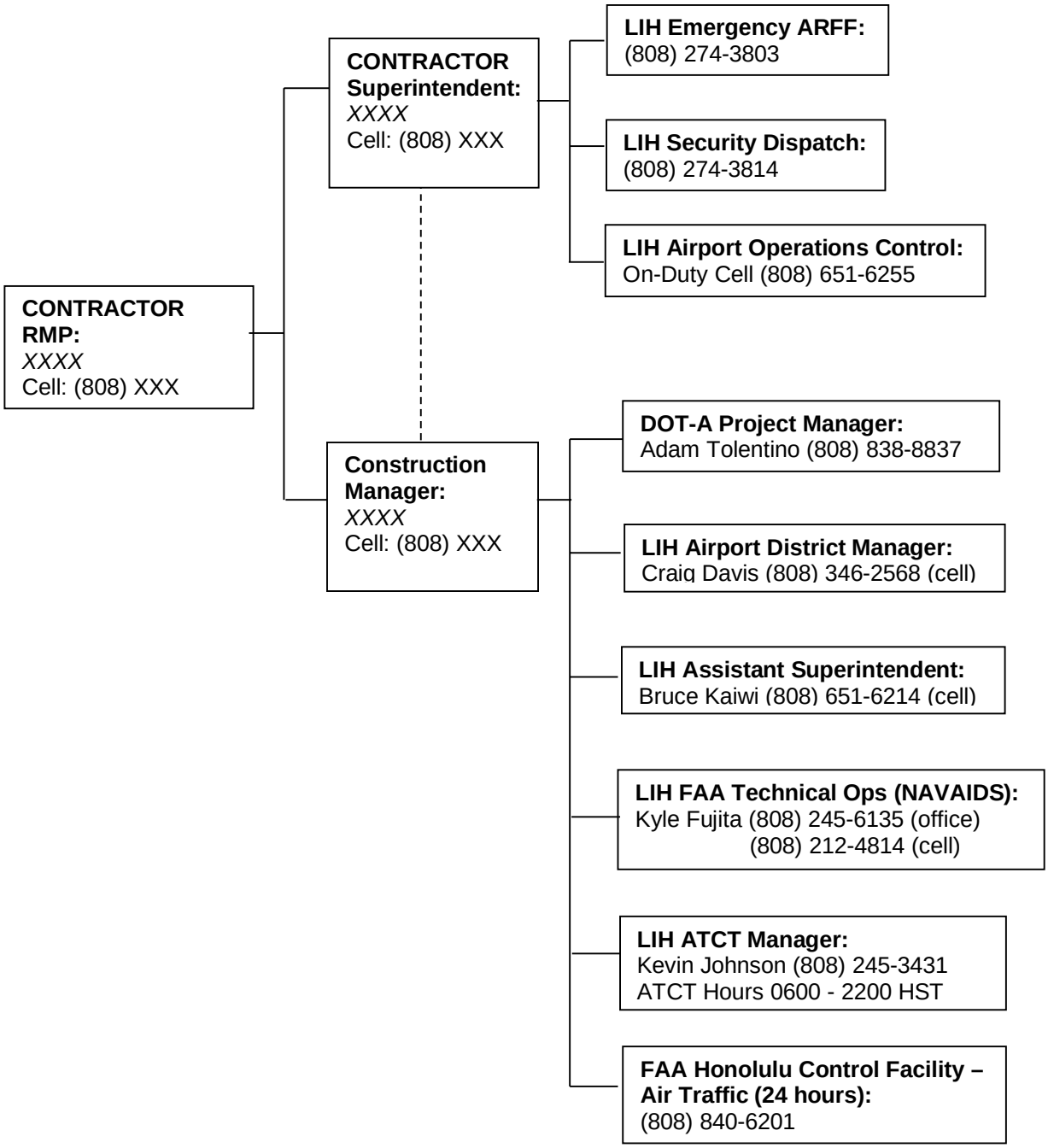
DOT-A/FAA Contacts:

DOT-A Project Manager: Adam Tolentino	Office	(808) 838-8837
Lihue FAA ATCT Manager: Kevin Johnson	Office	(808) 245-3431
	Cell	(702) 354-0629
Lihue FAA Technical Operations (LIH-Tech Ops): Kyle Fujita	Office	(808) 245-6135
	Cell	(808)212-4814
Lihue FAA ATCT (Daily 6:00am to 10:00pm) **Unpublished & Restricted**		(808) 245-3454
Lihue ATCT Tower Frequency (6:00am to 10:00pm)		118.90
Common Traffic Advisory Frequency (10:00pm to 6:00am)		118.90
Lihue ATCT Ground Frequency		121.90
FAA Honolulu Control Facility (HCF) Air Traffic (24-hours)		(808) 840-6201
FAA Honolulu Control Facility (HCF) - SOC (24-hours)		(808) 840-6511
FAA Program Manager: Kandyce Watanabe		(808) 312-6031

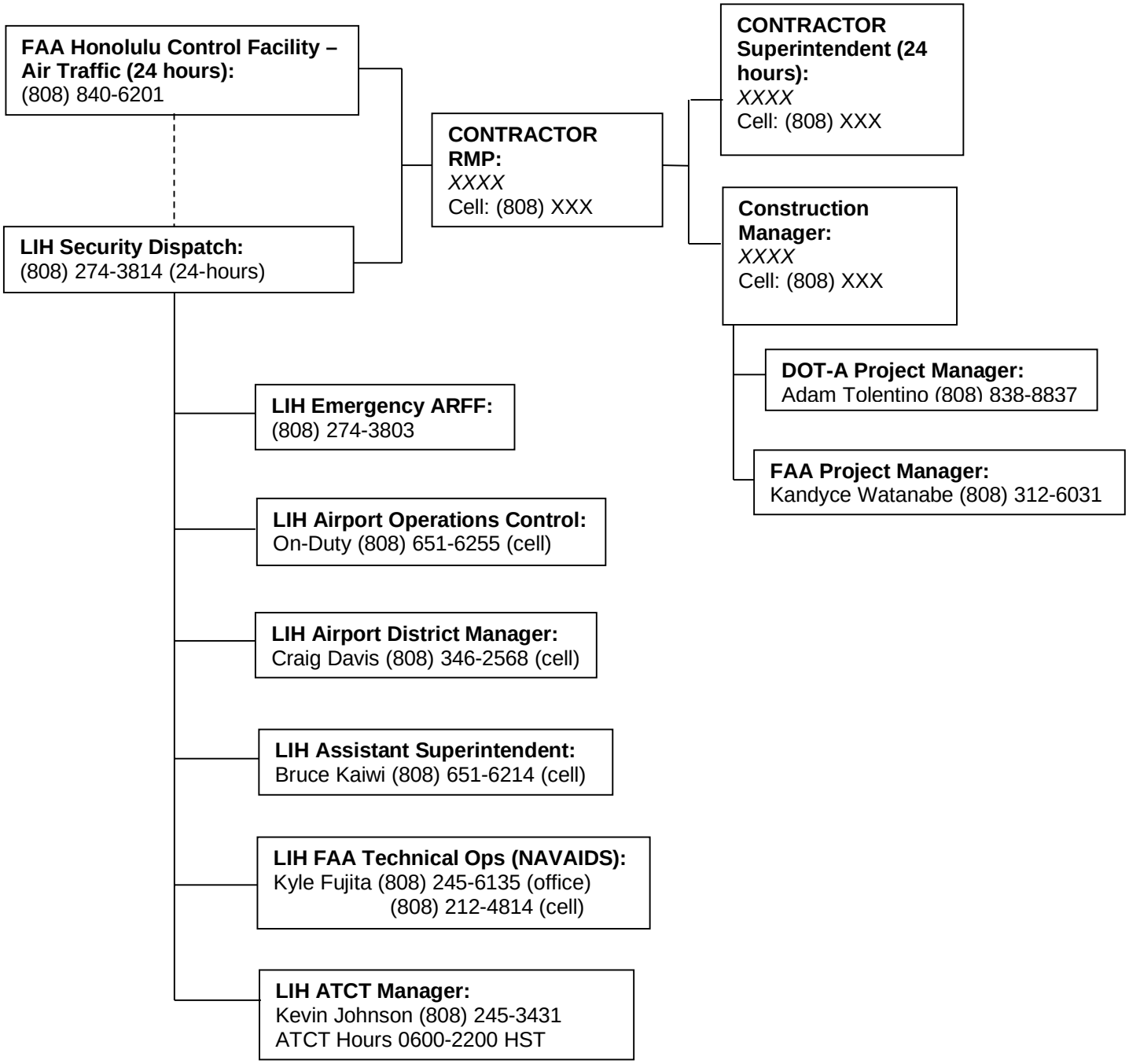
Other

Hawaii One Call Center	(866) 423-7287
Hawaii Poison Center	(800) 222-1222

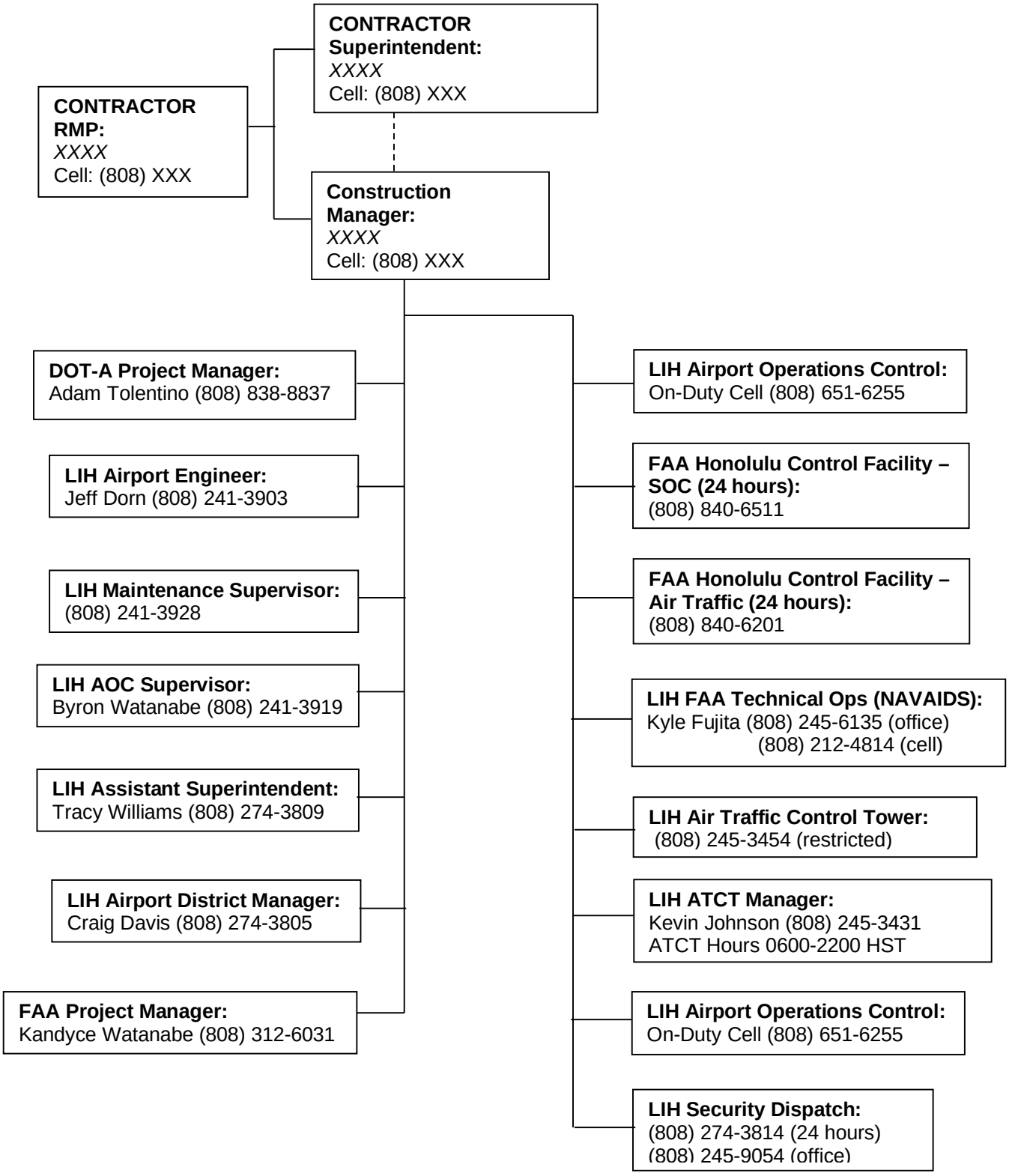
Emergency Protocol
Communication Flow Chart



Aircraft Emergency Protocol Communication Flow Chart



Non-Emergency Protocol
Communication Flow Chart



INTRODUCTION

The work included in this Construction Safety and Phasing Plan (CSPP) includes construction of new pavements for Runway 3 and Taxiway A including pavement grooving and markings, regrading of the RSA including construction of retaining walls, installation of a jet blast deflector, storm drain improvements, and airfield electrical improvements for the Runway 3-21 Relocation and airfield lighting replacement at Lihue Airport Project (State Project Number AK1031-14). Construction is expected to last for 776 calendar days. When necessary to minimize impacts to airport operations, work will be performed during off-peak, nighttime hours designated by the latest approved CSPP schedule and/or LIH Management. Weather conditions may also affect the times construction can begin or continue for the safe operation of aircraft and proper placement of pavement. Details of the work requirements and runway and taxiway closures are found in subsequent sections of this report.

The following are general safety objectives that shall be achieved to maximize safety and to minimize time and economic loss to the aviation community, and others directly or indirectly affected by the project. The Contractor shall be responsible for controlling his/her operations with the requirements of this section as listed below:

- Maximize safety of aircraft operations
- Keep the Airport operational for all users at all times per approved phasing plan
- Prevent any delays or conflicts to aircraft operations
- Prevent any delays or conflicts to other on-going construction operations
- Safely complete the rehabilitation

End of Section

SECTION 1 COORDINATION

The Contractor shall provide the final work plan and schedule for the work at least 2 weeks prior to beginning construction activities. The work plan and schedule will be provided to LIH Management, LIH Airport Operations Control (AOC), LIH Air Traffic Control Tower (ATCT), and Federal Aviation Administration (FAA) Honolulu Control Facility (HCF). Updates to the project schedule will be done on a weekly basis and provided to all parties.

Prior to beginning construction activities, a preconstruction planning meeting and preconstruction safety meeting will be held as described in sections 1.1 and 1.3 respectively. Weekly project coordination and progress meetings will be held at a location and time designated by the LIH Management. These meetings are critical and attendance by the Contractor is mandatory.

1.1 Planning Meetings

A preconstruction planning meeting shall be held no less than 3 weeks prior to the start of construction activities at a location and time as determined by LIH Management. Based on the outcome of this meeting, the Contractor shall notify the following parties of the planned construction activities by email and/or phone at least 2 weeks prior to beginning construction:

- Construction Manager (CM)
- Department of Transportation, Airports Division (DOT-A)
- Lihue Airport Management
- Lihue Airport Operations Control (AOC)
- Lihue Airport Rescue and Fire Fighting (ARFF)
- FAA ATCT
- FAA HCF (this includes enroute airspace control)

The notification shall include preferred access point(s); vehicle route(s); additional notification/communication requirements prior to entering each area; work area barricade requirements, lighting, backup equipment and materials; and emergency notification procedures and emergency contacts; temporary stockpile locations; procedures that must be followed should the Contractor be unable to open a phase at the end of scheduled night time work hours; and other topics as appropriate.

1.2 Coordination and Progress Meetings

Coordination of airfield activities is an important component of a safe operating environment. Attendance at weekly Project Coordination Meetings as described in this section is mandatory during project construction. The Contractor must be prepared to discuss in detail their work, schedule, requested closures, and effect on operations for the upcoming 3 weeks. It may be necessary for the Contractor to modify their work and schedule to accommodate other projects or special operational needs at the airport. During runway or taxiway closures, Airport Management may require simultaneous work operations by multiple Contractors or Agencies to minimize the effect on airport operations.

The Contractor shall conduct the meeting and record meeting minutes. A copy of the meeting minutes will be provided to LIH Management, CM, DOT-A, and any other meeting attendees. The purpose of the meeting is to review any safety issues that have been identified, arrange for any changes that require coordination with Airport operations, discuss changes in procedures and personnel, and resolve other problems that may develop.

If a closure is required in the movement and/or non-movement areas, the Contractor will notify ATCT of the closed areas no less than 2 weeks prior to the closure. Proposed language for NOTAMs and low profile barricade plans shall identify the date, time, and proposed closure area for construction work. The proposed closure plan shall be submitted for approval and/or

comments one week prior to the scheduled closure. LIH Management or designee will be responsible for the issuance of any NOTAM(s) for the project.

1.3 Safety Meetings

All Contractor personnel working within or adjacent to the AOA shall receive a safety briefing prior to commencement of work. The safety briefing will cover (but is not limited to) the following:

- Aircraft jet blast
- Aircraft versus vehicles (aircraft right-of-way)
- Airfield layout including signs, marking, and lighting
- Airfield driving rules within movement (AOA) and non-movement areas
- Communicating with ATCT
- Maintaining Airport security
- Closed or prohibited areas
- Foreign object debris (FOD)
- Wildlife management procedures

Although attendance is not mandatory, the Contractor is encouraged to invite DOT-A, Airport Management, and FAA to this safety briefing. Any personnel without safety training will be required to be accompanied by Contractor personnel with the proper training and security escorting privileges.

Prior to starting any work shift (day or night work), a daily meeting will be held by the construction crew. The meeting shall be led by the Superintendent, Foreman, and/or On-Site Supervisor, and shall include discussion of the work to be performed during that shift, any potential safety issues, the approved barricade plan, closed AOA sections, AOA hauling routes, and construction goals. A weekly safety meeting will be held at the start of each week. As required by occupational safety and health administration (OSHA), the safety meetings shall be documented and recorded. As part of the weekly safety meeting, the construction crew will take time to share any experiences, safety issues experienced the previous week (lessons learned), related to the safety topic of the week.

1.4 Additional Coordination

Early coordination with FAA-ATO and LIH is required to schedule any airport/airfield closures (taxiway closures, runway closures, etc.) on this project. All closures shall be coordinated and approved at least two (2) weeks prior to the scheduled closure. The proposed closures shall be illustrated on the phasing and barricade plan. DOT-A, FAA Honolulu ADO, FAA HCF, LIH Management, AOC, and ARFF will be able to provide any comments or concerns regarding the proposed closure date and/or closure plan. The phasing/barricade plan will be approved by FAA-Honolulu ADO via email. If any change to the phasing/barricade plan is required, the Contractor will update and resubmit for approval prior to starting any work.

The Contractor shall conduct all operations in such a manner so as to maintain a smooth, safe, and uninterrupted flow of aircraft operations and vehicular traffic around the Airport. In addition, the Contractor shall coordinate with AOC to access the airfield; this also includes airfield driver training, airfield escorts, airfield ride-along(s), etc.

End of Section 1

SECTION 2 PHASING

2.1 General Description – Scope of Work

The project is composed of construction within the Aircraft Movement Area (AMA) which includes new AC pavements, regrading of the RSA, and construction of a retaining wall and jet blast deflector on Runway 3 end; regrading of the RSA and construction of a retaining wall at the Runway 21 end, and replacement of the entire airfield lighting system. The work will occur west of Taxiway B for earthwork borrow sites. Details of each phase of work are described below.

2.2 Phase Elements

The Contractor shall perform each phase of the work within the periods of time and/or duration specified. The Contractor shall provide all labor, material, and equipment, including standby equipment necessary to guarantee construction and completion of work within the constraints and timeframe(s) specified, and within the requirements of the contract documentation. The terms "work area", "zone", and "phase" may be used hereafter to describe either the period of time and/or the area in which certain work is to be done.

The completion of the work shall be 636 calendar days as listed in Table 2-1 – Construction Phase Duration, and does not include weather delays, airline delays, holiday moratoriums, etc.

Table 2-1 – Construction Phase Duration

Phase Name	Description	Work Hours	Phase Duration (Calendar Days)	Cumulative Calendar Days at End of Phase
Phase 0	Mobilization	0900-1800	120	120
Phase 0A	Install Temp JBD	2300-0800	4	-
Phase 1	Rwy 3 End and Rwy 21 End (Outside of Modified RSA)	0900-1800	210	330
Sub-Phase 1A	Electrical Replacement – Twy B Between Rwy 35 and Twy C	0800-1800	7	-
Sub-Phase 1B	Borrow Site Grading and Electrical Replacement – Twy B Between Twy C and Twy D	0800-1800	21	-
Sub-Phase 1C	Borrow Site Grading and Electrical Replacement – Twy B and Twy D Intersection	2300-0800	3	-
Sub-Phase 1D	Borrow Site Grading and Electrical Replacement – Twy B Between Twy D and Rwy 21	2300-0800	11	-
Sub-Phase 1E	Borrow Site Grading and Electrical Replacement – Twy D Between Rwy 3 and Twy B	2300-0800	17	-
Sub-Phase 1F	Electrical Replacement – Rwy 17-35	2300-0530	30	-
Sub-Phase 1G	Electrical Replacement – Homerun at GA Ramp	0800-1800	4	-
Sub-Phase 1H	Electrical Replacement – Homerun at GA Ramp; Twy A Between Twy H and Twy F; Twy G	0800-1800	2	-
Sub-Phase 1I	Electrical Replacement – Twy A Between Twy H and Twy F; Twy G	0800-1800	4	-

Phase Name	Description	Work Hours	Phase Duration (Calendar Days)	Cumulative Calendar Days at End of Phase
Sub-Phase 1J	Electrical Replacement – Twy A Between Twy G and Twy B; Twy F; GA Ramp	0800-1800	7	-
Sub-Phase 1K	Electrical Replacement – Twy A Between Twy D and Twy B; Twy H Between Rwy 21 and Cargo Ramp; Cargo Ramp	2300-0800	7	-
Sub-Phase 1L	Electrical Replacement – Twy A Between Twy J and Twy H; Twy D Between Rwy 3 and Cargo Ramp; Cargo Ramp	2300-0800	7	-
Sub-Phase 1M	Electrical Replacement – Twy A Between Twy K and Twy D; Twy J; Terminal Ramp	2300-0800	7	-
Phase 2	Runway 3-21 Improvements	24 hrs	75	405
Sub-Phase 2A	Electrical Replacement – Rwy 21 End	2200-0530	21	-
Sub-Phase 2B	Electrical Replacement – Twy A Between Twy L and Twy J; Twy K; Terminal Ramp	2300-0800	7	-
Sub-Phase 2C	Electrical Replacement – Twy D Between Twy A and Twy B	2300-0800	7	-
Sub-Phase 2D	Electrical Replacement – Twy B Between GA Ramp and Twy E; GA Ramp	2300-0800	10	-
Phase 3	Runway 3 End Retaining Wall (Outside of Modified RSA)	0800-1800	210	615
Sub-Phase 3A	Runway 21 End Retaining Wall	2200-0800	120	-
Phase 4	Runway 3-21 Final Preparation	24 hrs	21	636
Sub-Phase 4A	Rwy 21 End – FAA Equipment	2200-0530	21	-
Sub-Phase 4B	Rwy 3 and Twy D Intersection	2300-0800	3	-
Sub-Phase 4C	Rwy 21 and Twy B Intersection	2300-0800	3	-

Work in Sub-phases listed in Table 2-1 above may be done concurrently with advanced approval by LIH and that work is conducted within the designated work hours. All other phases are intended to be sequential with the previous phase being completed prior to beginning the next (i.e., Phase 2 must be complete prior to beginning Phase 3 etc).

2.3 Construction Safety Drawings (CSD's)

The limits of work for each construction phase are clearly shown on the Phasing and Barricade Plans included in Appendix A. For each phase, these lines show the limit of the work area in which the Contractor may have workers, equipment, and materials, and areas where work may be conducted for that phase.

No construction activity is permissible within runway safety area(s) (RSA) or taxiway/taxilane object free area(s) (TOFA) while the adjacent runway, taxiway, or taxilane is open to aircraft operations. Work within the RSA/TOFA shall only be accomplished during closure of the runway, taxiway, or taxilane during hours that have been previously coordinated and approved by LIH Management. Prior to any approved closure, the Contractor shall confirm NOTAM issuance. The Contractor shall place illuminated X's at both ends of each runway that is scheduled to be closed along with low-profile barricades at the locations designated on the approved barricade plan.

Prior to reopening a runway/taxiway/taxilane closed for construction for any period, all equipment and materials shall be moved outside of the RSA/TOFA. No stockpiles shall remain within RSA/TOFA, grading shall be covered in a manner to prevent dust and rock movement due to jet blast, or other objectionable movement of material onto the open runway or taxiway/taxilane, and the adjacent runway or taxiway pavement shall be swept and cleaned of all construction debris.
LIH Management shall retain the right to shut down Contractor operations in any work area if these conditions are not being met. Prior to re-opening of runways or taxiways the Contractor and AOC shall conduct a FOD inspection. Once the FOD inspection has been completed, the Contractor shall remove all barricades and illuminated X's. The Contractor shall then contact AOC to inform them that work is complete and the runway and/or taxiway may be reopened.

End of Section 2

SECTION 3 AREAS AND OPERATIONS AFFECTED BY CONSTRUCTION ACTIVITIES

3.1 General Description

The locations at LIH affected by the construction activities are described and shown in Tables with NOTAMS and associated airfield closures on the Drawings in Appendix A. Work activities associated with Runway 3-21 will necessitate the closure of the runway. All taxiways leading to a closed portion of the runway will be closed during this time. Closures will occur during working hours as designated by LIH Management and indicated on the Phasing and Barricade Plans.

3.2 Identification of Affected Areas

Work within the RSA for Runway 3-21 will require closure and implementation of declared distances. Please refer to required Declared Distance Tables on the Drawings in Appendix A.

3.3 Mitigations of Effects

As described in previous sections, the effects of geotechnical field exploration activities on the airfield operations will be mitigated whenever possible conducting work and requiring runway and taxiway closures during overnight, off-peak hours as designated LIH Management. Closed portions of the airfield will be marked by low profile barricades. Barricades will be spaced to allow ground vehicle access (including ARFF vehicles) to the closed portions of the airfield while blocking aircraft access.

End of Section 3

SECTION 4 PROTECTION OF NAVAIDS

4.1 Summary

Electronic NAVAIDs (ILS, LOC/DME, VORTAC, Glide Slope, VOR, etc.) and their critical areas shall be protected at all times during the construction work. Requests for NAVAIDs shutdown for all runway closures on this project shall be coordinated with FAA, HCF, and/or ATC. For work on Runway 3-21 or Runway 17-35, any electronic NAVAID(s) impacted by the work will be taken offline when the runway is closed, and reactivated when the runway is reopened. The Contractor shall contact FAA LIH Tech Ops to schedule deactivation of the VOR at least 2 days prior to scheduled shutdown. During Airport low visibility operations, the Contractor may be required to cease operations and vacate the NAVAID critical areas as directed by the ATCT.

The Contractor shall ensure that all runway lighting, taxiway lighting, and NAVAIDs are undamaged by construction operations. Parking of equipment or vehicles near electronic NAVAIDs will not be permitted. When possible, the Contractor shall remain clear from the electronic NAVAID critical areas, thus minimizing interference with signals essential to air navigation.

Soils grading will be performed near the vicinity of the ASOS (automated weather observation system). The Contractor shall provide measures to control dust, and clean the lenses during and after each shift to not affect the accuracy and reliability of the system.

End of Section 4

SECTION 5 AIRFIELD ACCESS

5.1 Site Security

The Airport is operated in strict compliance with FAA and Transportation Security Administration (TSA) regulations, which prohibit unauthorized persons or vehicles in the AOA. Equipment and personnel will be restricted to the work area as defined in Drawings in Appendix A. Any violation by the Contractor or subcontractors will be subjected to penalties imposed by FAA and/or TSA.

The Contractor shall conform to the FAA air carriers' Standard Security Program (SSP) (Title 49 CFR Part 1542, Airport Security) employee background check requirement as administered and enforced by the Airport director. Public law 106-528 requires that all new employees comply with the "criminal history record checks" by being fingerprinted.

The Contractor shall obtain LIH security badges for employees expected to work within the AOA. Workers shall abide by requirements dictated by the badging agreement. These include, but are not limited to, regulations for entering/exiting, operating vehicles on the AOA, escorting procedures, and visibility requirements.

Primary access to the Airport AOA will be through the gates as identified in Drawings in Appendix A. The gate will remain locked at all other times. Contractor locks shall not be placed on gates unless directed by LIH Management. The Contractor shall stop any unauthorized person entering the Airport through these gates. Gates shall be closed at all times when not in use. Airfield security shall be maintained at all times.

The Contractor is responsible for ensuring that:

- The gate shall be opened to allow authorized vehicular passage and closed and locked at all other times.
- All vehicles must have an approved logo or company name displayed on both sides of the vehicle.
- Unless a gate guard is performing guard duty, the gate must be secured and locked.
- No one is allowed to enter the AOA unless the preceding conditions are met.
- Airport security shall be notified when the Contractor suspects unauthorized entrance by persons or vehicles into the AOA.
- The security gate is closed when not actively being used to prevent security breaches.

5.2 Contractor Staging Area

Contractor staging areas, as depicted on Drawings in Appendix A, shall be used to store all idle equipment, supplies and construction materials. Storage shall not impact airport operational areas. When not in use during working hours, and at all other times, all material and equipment shall be stored at the storage site indicated unless prior approval is provided by HNL Management.

5.2.1 Equipment Storage Area

Storage of equipment and materials shall be in the Contractor's staging area as shown in Drawings in Appendix A. The Contractor shall be solely responsible for the security of the lay-down area and shall be liable for any damage caused to such premises. The Contractor shall restore the staging and storage areas and adjacent areas to their original condition prior to final acceptance of the work.

5.2.2 Location of Borrow Sites, Stockpiled or Construction Material

Borrow Sites, Stockpiling of new materials and asphalt pavement millings shall occur only in areas designated on the Drawings in Appendix A or as directed by LIH Management. The

Contractor shall be responsible for ensuring that the following conditions are met for all stockpiles.

- The stockpile and staging area(s) shall not be permitted within the RSA, obstacle free zone (OFZ), and if possible not permitted within the runway or taxiway object free areas (OFA). Stockpiling materials and/or parking equipment near electronic NAVAIDs or within five (5) feet of the AOA fence line shall not be permitted.
- The Contractor staging area shall be used to store all idle equipment, supplies, and construction materials. Storage shall not interfere with operational areas.
- The Contractor shall not store materials or equipment in areas in which the equipment or material will affect the operation of FAA electronics equipment.
- Any approved storage of equipment shall not present a line of sight problem with FAA ATCT, flagman operations, vehicle traffic, or aircraft.
- Stockpiling of material will only be allowed at the Contractor's staging area and designated stockpile locations. The Contractor shall be responsible for any blown debris or dust from stockpiles. The stockpile height is restricted to 10 feet near the ARFF station and 20 feet near the terminal area and shall remain below the Title 14 FAR Part 77 surface contours. However, barricades with red flashing lights shall be installed where potential conflicts with aircraft or ground vehicular traffic exists.

5.3 Haul Routes

1. Haul route shall use the gates and haul routes as shown on the plans. Drawings in Appendix A clearly delineate how the Contractor shall access the airfield including preferred haul and travel routes.
2. Roads designated as Contractor haul routes may be used by other Airport vehicles, contractors, and the general public (along public roads). The Contractor shall not interfere with other vehicle traffic and shall yield to emergency vehicles and aircraft along any of the Airport or public roads. The Contractor shall provide all flagging, signing, lighting, etc. required by the city, Airport, county, and state to provide all reasonable safety measures to protect all persons utilizing the AOA service road, the haul road, and all public roads used by the Contractor. The Contractor shall obey all vehicular weight and speed limits established as posted on Airport property and public streets.
3. All vehicles and equipment shall be kept within the work areas established for that work shift unless traveling to or from the site. Under no circumstances shall vehicles be parked or equipment stored outside of the work areas.
4. Any equipment temporarily parked at a work site for use during the current work shift shall be properly marked, parked outside all safety areas, and within the barricaded work site.
5. All airfield markings along haul routes and areas adjacent to the work area shall be maintained by the Contractor for the duration of the project.
6. Contractor's vehicles shall not deviate from approved haul routes specified on the plans. Crossover between construction sites is prohibited. To move from one construction site to another, a vehicle must exit the AOA via the approved haul route and access point and re-enter through the approved area. If vehicles are required to travel over any portion of that area, they shall be accompanied by an approved radio-equipped escort vehicle.
7. Contractor shall monitor and control FOD on the haul route at all times.
8. When driving from dirt areas to paved areas, the Contractor shall implement FOD check-points for vehicle operators to check and remove FOD on the tires to prevent tracking of FOD to aircraft operational areas.
9. Prior to reopening of any closed portion of the airfield, haul routes shall be swept and inspected for FOD.

5.4 Requirements and Regulations Relating to the Operation of Motor Vehicles

During the duration of the work, the Contractor shall recognize and abide by all rules, regulations, and controls, as modified by federal regulations.

In addition to the federal regulations, LIH Management, and DOT-A is empowered to issue such other instructions as may be deemed necessary for the safety and well-being of Airport users or otherwise in the best interest of the public.

Vehicles entering the AOA must comply with AC 150/5210-5, Painting, Marking, and Lighting of Vehicles Used on an Airport, (latest edition). Contractor vehicles and equipment, except those under escort, shall be marked with the company name on both sides in no less than 4-inch high letters of a contrasting color. Markings may be painted on the vehicle, or magnetic signs may be used. Construction vehicles under escort are the responsibility of the properly equipped lead vehicle and are required to have a flag or beacon.

All Contractor vehicles and equipment operating in the AOA must display orange and white checkered flags or flashing yellow beacons during daytime use and flashing yellow beacons during nighttime use. The flag shall be on a staff attached to the vehicle and shall be at least a 3-foot square having a checkered pattern of International Orange and White squares at least one (1) foot on each side. Flags and beacons must be mounted on the vehicle where they are visible from any direction.

Each Contractor, including each Contractor/subcontractor employee, who operates a ground vehicle on any portion of the AOA must be familiar with and comply with:

- Airport's AOA vehicle rules and regulations
- Airport's procedures for the operation of ground vehicles
- The consequences of noncompliance with Airport's rules and regulation and/or procedures for the operation of ground vehicles as shown on plans

5.4.1 Operation of Motor Vehicles within the AOA

Motor vehicle operations within the vicinity and on the Airport premises shall be governed by the provisions of the Hawai'i State motor vehicle codes and traffic direction procedures and signs and signals for turns. Lights and safe-driving precaution shall be in conformity therewith. In addition, motor vehicles shall conform to all special regulations prescribed by the Airport.

Traffic on perimeter roads, enplaning and deplaning areas (ramp areas), public thoroughfares, and parking areas of the Airport is limited to those vehicles properly licensed to operate on public streets and highways or as approved by LIH management and AOC.

Every person operating motorized equipment of any character on any area shall operate the same in a careful and prudent manner and at a speed posted or fixed by this section or the general provisions and at no time greater than is reasonable and proper under the conditions existing at the point of operating, taking into account weather, traffic and road conditions, view and obstructions, and shall be consistent with all conditions so as not to endanger the life, limb or property, or the rights of others entitled to the use thereof.

The Contractor shall be aware that operations of aircraft in an adjacent area will result in jet blast occurring in the work area. Contractor vehicles, equipment, and supplies must remain inside the work area established for the work shift unless in transit to or from the site. All vehicles and equipment must access the work area along designated access roads/haul routes as indicated on Drawings in Appendix A.

All motor vehicles that enter the AOA shall possess exhaust system that are protected with screens, mufflers, or other devices adequate to prevent the escape of sparks or the propagation of flame.

All vehicles within the AOA shall be equipped with reflectors or lights on both front and rear ends and on the sides.

All vehicles and equipment used on the AOA must display an orange and white checkered flag or a flashing yellow beacon during daytime work, and a yellow flashing beacon during nighttime work.

No person shall operate any motor vehicle or motorized equipment in the AOA of the Airport unless such motor vehicle or motorized equipment is in a safe and mechanically reliable condition for such operation.

Any person operating equipment within the AOA shall, in addition to this section, abide by all existing FAA and other governmental rules and regulations and shall at all times comply with any lawful signals or direction of Airport employees. All traffic signs, lights, and signals shall be obeyed.

No person shall operate any motor vehicle or motorized equipment on the aircraft movement area or non-movement area(s) of the Airport at a speed in excess of the posted (established) speed limit of 15 mph unless otherwise noted or when conditions require a reduction in speed. Designated motor vehicle drive lanes shall be utilized where provided unless specific direction is given by LIH Management or AOC.

No person operating a motor vehicle or motorized equipment within the AOA shall in any way hinder, stop, slow, or otherwise interfere with the operation of any aircraft. Aircraft shall have the right-of-way at all times.

All aircraft and emergency vehicles have priority over Contractor vehicles. Contractor vehicles shall yield right-of-way to aircraft and emergency vehicles. Contractor shall ensure that under no circumstances will any Contractor or other vehicle associated with the project pass beneath any part of an aircraft or loading bridge, or block the access to any parking gate or delay any aircraft movement.

Vehicles shall remain within established drive lanes. It is prohibited to use active runways or taxiways or adjacent field areas unless specifically allowed by ATCT. It is emphasized that the Contractor's authority to operate does not extend to active aircraft movement areas. The Contractor shall operate along established access roads/haul routes with prior approval of the LIH Management and AOC. At locations where designated haul routes cross active taxiways, the Contractor shall provide Radio Monitoring Personnel to act as flaggers to control construction vehicle traffic across the active taxiway. Flaggers shall coordinate all vehicle crossings with ATCT and shall yield to all aircraft.

All construction personnel (Contractor and Subcontractors) requiring access to the AOA shall obtain an AOA badge. Should individuals require a temporary pass to enter the AOA, Contractor will request Escort Required Temporary Badges (ERTB) from AOC. The individual possessing an ERTB must be escorted at all time while within the AOA by a badge holder who possesses an Escort privilege on his/her AOA badge. While in the closed construction area (barricaded area), the Escort must maintain full control of the ERTB personnel.

5.4.2 Parking

- No parking is permitted on the Airport roadway as the primary purpose of the Airport roadways is for motor vehicle traffic.

- No person shall park any motor vehicle, other equipment, or materials within the AOA, except in a neat and orderly manner and at such locations prescribed or as directed by LIH Management and DOT-A.
- No person shall park any motor vehicle or other equipment or place materials within the AOA or within 15 feet of any fire hydrant or standpipe.
- Parking of construction workers' private vehicles shall also be in a public parking or private parking facility outside the AOA.
- Under no circumstances shall vehicles or equipment be parked within five (5) feet of the Airport perimeter security fence line.

5.4.3 Vehicle Identification including Lighting and Markings

Each vehicle or unit of equipment that travels or operates on any part of the AOA shall have an approved decal or painted company name applied to both sides of the vehicles in a location opposite the driver's seat. The identification should be applied to the front door panels. Magnetic or temporary signs are acceptable.

All vehicles and equipment, except those under escort, must be marked with the company name on both sides. Per the *(Contractor's Training Guide July 2007, the lettering for the company name shall be in bold characters of a minimum 4" in height, and 1-1/2" in width, and the height of the logo shall be a minimum of 6")*. Escort vehicles must be marked with the company logo as stated above, and must be properly equipped with a two-way radio. Escort vehicles may be used to escort a maximum of two (2) vehicles onto the AOA. The vehicle(s) providing the escort must lead the convoy and is responsible for all trailing vehicle(s). This vehicle may escort unmarked vehicles onto the AOA. Vehicles being escorted shall be in radio or cell phone contact with the lead escort vehicle. Under no circumstances may an employee provide an escort from inside an unmarked vehicle. Drivers of escorted vehicles must display a delivery escort badge or a construction escort badge.

Use of logos or symbols in lieu of letters is subject to approval by the AOC.

Vehicles that appear at access gates without signs on both sides of the vehicle will be denied access. Vehicles found to be missing signs within the AOA will be escorted off the jobsite and not be permitted to re-enter until signs have been installed.

Any person operating equipment in the AOA shall, in addition to this section, abide by all existing FAA and other governmental rules and regulations.

It is emphasized that the Contractor's authority to operate does not extend to active aircraft movement area. The Contractor shall operate along established access roads/haul routes with prior approval of the DOT-A and LIH Management.

5.4.4 Load Limits

When using Airport roadways, the Contractor shall restrict the gross weight as required by local codes. For heavier vehicle loads, permits shall be obtained through the agency having jurisdiction. All vehicle weights are subject to verification.

5.4.5 Delivery and Parking of Construction Equipment and Vehicles

No equipment or construction vehicles shall be parked or left unattended outside the airfield access gates or on public roadways. When equipment or vehicles are to be delivered to the work site, the Contractor must be present to accept the equipment or vehicles and shall escort them inside the airfield fence and have them parked in the Contractor's staging area or other approved location on the airfield. Any construction equipment or vehicles left unattended outside the airfield gates or on public roadways shall be impounded by the City.

5.4.6 Requirements and Regulations Relating to Vehicle Drivers

All drivers operating vehicles on Airport property must carry a valid United States driver's license on his/her person, appropriately endorsed for the type of equipment being operated.

Drivers designated to operate vehicles within the AOA shall receive special drivers training as required in Section 6.4.7 and be approved by the Airport before being allowed to operate within the AOA or must be escorted by an approved escort.

Drivers operating outside the AOA may operate vehicles without attending the special drivers training.

Permission to apply for vehicle permits shall be made in writing to the LIH Pass and ID Office, and must list all vehicles requesting a permit. Construction equipment (cold planer, AC paver, AC rollers, backhoes, etc.) that remain at the jobsite do not require a vehicle permit (vehicle permit required for licensed vehicles only), and may be stored in the staging area or closed construction areas as approved by LIH Management and AOC. An orange and white checkered flag shall be displayed on all equipment while within the AOA during non-working hours.

Use of tall equipment (cranes, concrete pumps, etc.) will not be allowed unless the FAA Form 7460-1 determination letter is issued and approved for such equipment.

5.4.7 Vehicle Driver Training

Every driver who operates a vehicle on the AOA of the Airport must be familiar with the pertinent provisions of the state of Hawai‘i vehicle code and the traffic and licensing subsections of these rules and regulations. The driver must have been trained in the vehicle to be operated.

For employees working or driving inside the movement areas, a “Movement Area” stamp shall be placed on the AOA badge. In order to qualify for the movement area license, each operator must attend the movement area training class provided by LIH and pass the written examination which includes proper procedures for radio communications with Ground Control and the ATCT.

The applicant must attend a movement area training class and pass a written test administered by the AOC Supervisor. The test covers AOA safety rules and regulations, proper procedures and phraseology for communicating with Ground Control and ATCT, knowledge of Airport layout including all taxiway designations, and familiarity with Airport signing and pavement markings. Movement area qualification is good for a period of 1 year or until the expiration of the applicant’s driver license or ramp license. Requests for movement area training shall be made in writing to LIH Management at least 2 weeks in advance.

The preferred procedure for Contractors unfamiliar with the Airport who require movement area access is to be escorted by AOC until such time as they have proven competency in navigation and communication on the airfield as determined by the AOC Supervisor. The Contractor shall coordinate the need for escort with LIH Management and AOC at least one week prior.

5.4.8 Two-Way Radio Communications

VHF radio communications with the ATCT will be in accordance with the procedures specified by the most current memorandum of understanding between FAA control tower and LIH.

The Contractor shall provide Radio Monitoring Personnel (RMP) to coordinate travel within the Movement area with ATCT. The RMP will acquire the necessary training as directed by LIH Management. The RMP shall acquire the movement area certification at LIH, and be familiar with proper radio communication procedures and phraseology. The RMPs only responsibility during construction operations is to monitor radio communication. When construction occurs in multiple

work areas simultaneously, RMPs shall be required for each work area. The Contractor shall designate an alternate RMP for the project in the event that the primary RMP is unable to fulfill their duties. The Contractor shall have back-up radio equipment available at all times in the event that the primary RMP radio malfunctions or in any way become inoperative.

In addition to the RMP(s), the Contractor may use escorts, flagmen, signal lights, or other means as approved by LIH, DOT-A, and FAA. Contractor employees with valid Airport movement area certification and properly equipped and marked vehicles may escort up to two other vehicles onto the AOA. The vehicle providing the escort must lead and is responsible for the trailing vehicles. Communication with escorted vehicles is also required with use of a hand held radio or mobile phone. The RMP shall not instruct aircraft at any time.

5.4.9 Airport Security

The Contractor shall be responsible to provide and maintain LIH security-badged personnel in all areas of the work, obtain necessary training required to drive vehicles within the AOA and AMA areas as directed by LIH management, and obtain necessary vehicle ramp permits for all vehicles entering the AOA.

Primary access to the Airport AOA will be through the gates as identified in Drawings in Appendix A. The gate will remain locked at all other times. Contractor locks shall not be placed on gates unless directed by LIH Management. The Contractor shall stop any unauthorized person entering the Airport through these gates. Gates shall be closed at all times when not in use. Airfield security shall be maintained at all times.

End of Section 5

SECTION 6 WILDLIFE MANAGEMENT

6.1 Summary

This project will use the following protocols to mitigate any wildlife hazards created:

All project personnel working on the AOA will receive an airfield safety briefing that will include information on the dangers of wildlife and aircraft operations. Inspection of the construction area will be conducted on a daily basis by LIH Airport Operations personnel.

Personnel shall take immediate action to eliminate wildlife hazards whenever they are detected. Hazards include, but are not limited to: trash (food scraps and miscellaneous waste), standing water, or tall grass and seeds which may attract unwanted wildlife to the Airport. All personnel shall take immediate action to eliminate wildlife hazards and shall be promptly removed to prevent attracting birds and animals.

Poorly maintained or damaged security and wildlife fencing and gates, which may allow animals to enter the AOA and become a potential hazard should be immediately reported to the AOC.

Any unusual wildlife activity shall be noted on the airfield inspection checklist and notifications shall be made to the USDA Staff Wildlife Biologist and Airport Operation wildlife superintendent. The Contractor in consultation with AOC and the USDA Wildlife Biologist will develop and implement corrective measures to eliminate any wildlife threat.

6.2 Trash

All trash will be collected and contained in covered bins during construction activity, and disposed of properly off-site. All Contractor vehicles shall have trash receptacles for use by personnel while on the project site. Trash receptacles stored in open portions of vehicles must have tight fitting or latching covers to prevent trash from blowing out of the receptacle due to wind, jet blast, or normal vehicle operation. Receptacles may be plastic trash bags if stored in the vehicle cab or other closed space.

6.3 Standing Water

Contractor shall manage storm water drainage within the project site to eliminate areas of standing or ponding water. Following rainfall events, any area with standing water within or immediately adjacent to the project site shall be immediately modified to drain the standing water.

6.4 Tall Grass and Seeds

The Contractor shall be responsible for the proper maintenance of grass and other vegetated areas within the project site. Grass shall be trimmed and kept at less than 3-inches in height.

New grass shall be sod or grass plugs; the use of grass seed is prohibited.

6.5 Poorly Maintained Fencing and Gates

The Contractor shall be responsible for the maintenance of security at all locations affected by the Contractor's activities at all times. Unless approved by DOT-A and LIH Management, the integrity of the existing Airport security fence shall be maintained at all times. Gates will remain locked at all times except for entry and exit of Contractor vehicles.

Projects which require alteration of the existing Airport security fence shall require the Contractor to submit detailed phasing plans for fence construction showing how security will be maintained. Contractor fence phasing plans must be approved by DOT-A and LIH Management prior to construction. All changes to the Airport security fence shall be completed in a manner which

maintains the existing level or Airport security, as approved by LIH Management, by the end of each work day. Whenever possible, new security fence shall be constructed and approved by LIH Management prior to the removal of the existing fence.

6.6 Disruption of Existing Wildlife Habitat

Projects on runways, taxiways, aprons and other paved areas of the Airport are not expected to disrupt wildlife habitat. Work in non-paved areas of the Airport may encounter wildlife habitat. The Contractor shall report all wildlife sightings to AOC and LIH Management.

End of Section 6

SECTION 7 FOREIGN OBJECT DEBRIS (FOD) MANAGEMENT

7.1 Summary

Upon completion of each day's work, the Contractor shall clean and remove from the project area all FOD materials generated by the Contractor's activities. The Contractor shall perform FOD checks on all paved areas used for Contractor access and haul routes within the AOA. Once the FOD inspection has been completed and the pavement areas cleared for opening, the Contractor will coordinate reopening the closed portions of the airfield with AOC. HCF will be notified by AOC when the runways are reopened.

All aircraft movement areas will be under constant surveillance by all parties to ensure they are acceptable for aircraft operations.

The Contractor shall maintain FOD control of all haul routes to and from the construction site. All utilities within and passing through the work/area phase shall be kept operational at all times, unless otherwise specified.

No loose material or waste (FOD), capable of causing damage to aircraft or capable of being ingested into jet engines, may be left in the working area on or next to runways, taxiways, ramps, or aprons. The Contractor shall direct special attention to all areas that are operational to aircraft during construction. These shall be kept clean and clear of all materials or debris at all time.

Common sources of FOD during construction include trucking or hauling operations of construction materials to and from the construction site, demolition and removal of items (i.e. cold-milling or PCC demolition), and during placement and construction of improvements (i.e. placement of aggregate subbase).

Trucks and equipment shall have all accumulated dirt, mud, rocks, and debris removed before accessing the AOA, and when leaving the work area. Loads shall be struck flush and secured to prohibit loss of material. If spillage occurs, such roadways shall be swept clean immediately after such spillage to allow for safe operation of vehicles as determined by the Engineer. If the Contractor is negligent in cleanup and Airport resources are required to perform the work, the expense of said cleanup shall be paid by the Contractor.

The Contractor shall continuously sweep and wash down all access routes to the construction areas and existing adjacent paved areas and AOA pavements. These areas shall be kept free of debris at all times, at no additional cost to the owner.

The Contractor shall keep operational vacuum sweeper trucks and/or water trucks on site and operational at all times during working and nonworking hours and shall maintain the sites free from dust and objectionable debris. During the period of time that there is no construction activity (between work shifts), the vacuum sweeper trucks, and water trucks must be ready and on-site with Contractor's personnel available by phone to respond immediately to a dust or debris problem as identified by AOC. At no time shall there be more than a 10-minute response time to calls concerning dust/debris problems during work hours and a 60-minute response time at all other times on a 24-hour-per-day basis. The Contractor shall provide whatever means necessary to prevent FOD in aircraft movement areas and provide construction area generated dust control on a 24-hour basis.

The Contractor shall provide truck washes, rumble strips, shakers, or other means as necessary to prevent FOD in AOA. If the Contractor's method does not remove debris adequately to meet safety requirements, the Contractor may be shut down and will be required to utilize other methods at no additional cost to the Airport or DOT-A.

End of Section 7

SECTION 8 HAZARDOUS MATERIAL (HAZMAT) MANAGEMENT

8.1 Summary

The Contractor shall have an emergency spill cleanup kit on the project site at all times. The spill kit will include absorbent pads and one 5 gallon bucket with cover. In the unlikely event of fuel or hydraulic oil spills; the Contractor shall contain the spill and place the absorbent pads on the spill immediately, used pads shall be placed in the bucket and disposed of properly off-site at a later time.

All construction activity involved with the handling of hazardous materials must have a hazardous materials removal plan. The plan will include the name of the company used for removal of hazardous materials and the names and 24-hour telephone numbers of staff authorized to handle such removals.

No fuel, oil, grease, flammable liquids, or contaminants of any kind, including detergents, shall be allowed to flow into or be placed in any sewer system or open water areas without a separator or unless connected to an industrial waste system.

End of Section 8

SECTION 9 NOTIFICATION OF CONSTRUCTION ACTIVITIES

LIH Airport Operations will make notifications to Airport users using continuously updated web based distribution methodologies.

9.1 NOTAM Issuance

No ramp, apron, taxiway, or runway area shall be closed to aircraft without approval of LIH Management. This will enable NOTAMs, or other advisory communications, to be issued. A minimum of 72-hours' notice of requested closing shall be directed to LIH Management. All NOTAMs must be published 48-hours prior to closures. When changes to the NOTAMs are necessary, the AOC shall contact LIH ATCT (from 0600-2200) or HCF (from 2200-0600) to inform them of the changes.

9.2 ARFF Coordination

ARFF personnel, although involved in the planning and design phases, will receive a briefing prior to the start of construction along with periodic briefings on the status of the project. The Contractor shall provide uninterrupted ARFF access to all areas of the Airport. Additionally, ARFF personnel will be invited to weekly construction meetings when work is expected to directly affect ARFF operations. The Contractor shall advise ARFF personnel of the following occurrences:

- AOA fence relocations
- Waterline and fire hydrant deactivation and activation
- Re-routing, blocking and restoration of emergency access routes
- The use of hazardous materials on the airfield

9.3 DOT-A Coordination

Contractor is to work with DOT-A to maintain a list of the responsible representatives/points of contact for all parties and procedures for contacting them 24 hours a day, seven days a week. This list includes local FAA HCF, FAA Technical Operations personnel, and the Contractor including all subcontractors.

In the event of an aircraft emergency or cases of imminent danger that may affect construction activities or safety, the Contractor's personnel and/or equipment may be required to immediately vacate the area. LIH AOC and/or FAA shall contact the Contractor Superintendent (or 24 hour designee) to inform them of the aircraft emergency and to provide instructions for immediately vacating the work area. The Contractor shall immediately contact the RMP and Construction Manager to notify them of the emergency and provide instructions for immediately vacating the work area. The CM shall notify the DOT-A PM. The AOC shall be responsible for notifying airport emergency and security personnel. The AOC shall also contact LIH Management and staff; and local FAA personnel of the emergency and any instructions provided to the Contractor. All notifications are summarized in the Aircraft Emergency Protocol Communication Flow Chart.

9.4 FAA Coordination

9.4.1 Marking of Equipment and Restrictions on Cranes

For any construction or alteration located on a public use airport, the Contractor will be required to submit for approval a Notice of Proposed Construction or Alteration (FAA Form 7460-1). The submittal to the FAA will be made through the oeaaa.faa.gov website for review. FAA will not accept paper 7460-1 forms. Submission may not be necessary if there are no cranes or and if equipment is not large enough to pose and obstruction hazard.

Review and approval of submittals by the FAA could take up to 45 days. DOT-A has no control over the FAA's review and approval time. Contractor is encouraged to submit any required applications well in advance of the need for the use of the construction equipment.

Contractor to Submit (but not limited to):

- Latitude
- Longitude
- Existing ground elevation including vertical datum
- Height of crane, structure, stockpile, etc.
- Exhibit indicating operating area of the equipment or crane

FAA Form 7460-1 will be filed for this project along with all crane activity associated with construction.

End of Section 9

SECTION 10 INSPECTION REQUIREMENTS

10.1 Summary

DOT-A, LIH, CM, and Contractor personnel will conduct continual inspections of the construction site to ensure that areas surrounding the sites are safe for aircraft operations.

LIH and CM personnel will note any discrepancies on the daily inspection checklist.

Any aircraft movement surface or adjoining runway, taxiway, or taxilane safety area that does not pass inspection must remain closed until such time cleanup is performed and approved.

Frequent inspections may be made by AOC and the DOT-A or authorized representative during the critical phases of the work to ensure that the Contractor is following the recommended safety procedures. The inspector shall report any violations or potential safety hazards to the Contractor of the concern for immediate correction by the Contractor.

10.2 Daily (or More Frequent) Inspections

At the end of each work shift or work phase, the area will be cleaned to remove all FOD created by the construction activity from all runways, taxiways, and apron areas. The Contractor shall perform a FOD check of the work area and the haul route used for the shift or phase, and will not remove any low profile barricades and/or lighted X's until the area has been cleared. Prior to opening of a closed area, the AOC will also perform a FOD inspection The Contractor shall inspect and clean the haul route outside of the barricaded area, and ensure there is no FOD on the active Airport areas.

End of Section 10

SECTION 11 UNDERGROUND UTILITIES

11.1 Summary

All utilities within the project site shall be protected in place unless identified in the plans for removal or relocation. Significant utilities of concern include the following, but are not limited to:

- Storm drain pipes
- Airfield lighting electrical cables
- Airport communication cables
- NAVAID control cables

11.2 Procedures for Locating and Protecting Existing Underground Utilities/Facilities in Excavation Area

In accordance with State law, the Contractor shall contact the Hawaii One Call Center (866-423-7287) to locate any public utilities and the FAA HCF or FAA Technical Operations to locate any Airport utilities prior to excavation. All existing utilities within the construction areas or the staging area that are designated to remain in place shall be maintained, accessible, and protected at all times (i.e., waterlines, fire hydrants, valves, drainage structures, electrical and FAA cables/equipment, etc.).

The existence, location, and characteristics of underground utility information shown on these plans were obtained from available record data. No representation is made as to the accuracy or completeness of utility lines shown or any unknown utilities. Contractor shall make reasonable inferences as to existing underground utilities from observation of visible conditions and take appropriate measures to protect all utilities, including underground communication installation.

Contractor shall perform site investigation to verify location of all utilities. Contractor shall accurately record and mark the location of all utilities.

The Contractor shall be responsible for and repair, at Contractor's own expense, any damages resulting from failure to locate utilities as specified.

Exercise extreme care when using any equipment to prevent contact with any nearby power lines and power sources. Safe working clearances shall conform to the national electrical code.

All structures shall be designed to support aircraft loads specified unless otherwise noted. The Contractor may make certain temporary connections to the existing airfield lighting system only if it is associated with keeping the required lighting systems operational. The Contractor shall provide a separate power source for other construction related power needs.

When power and control cables for airfield lighting and navigational aids are located in the construction areas, the Contractor's personnel shall be familiar with these cable locations and keep vehicles and equipment clear of any cables at all times. Mark/delineate the surface for each utility in a manner acceptable to LIH. The Contractor shall locate all utilities (operational and abandoned) prior to starting any excavation, demolition, or earthwork. The Contractor shall contact FAA technical support unit to facilitate locating FAA facilities and cables.

All utilities encountered along the line of the work shall be maintained in service during all operations under the contract, unless other arrangements satisfactory to the utility owner, the affected agency, and LIH Management are made in advance. Utilities shall include, all above or below ground conduit, pipes, wet wells, ducts, cables, and appurtenances associated with oil, gas, water, steam, irrigation, storm drain, wastewater, air, electrical, power, instrumentation, communication, telephone, TV, and lighting systems, whether or not owned by LIH. All valves, switches, vaults, and meters shall be maintained readily accessible for emergency shutoff.

Any utility that is damaged by the Contractor shall be immediately reported to the LIH Management and AOC and immediately repaired to a condition equal to, or better than, the condition they were in prior to such damage. Repair work shall be continuous until the utility or improvement is placed back in service.

End of Section 11

SECTION 12 PENALTIES

12.1 Summary

Safety and security precautions are necessary at the Airport. Failure of the Contractor to adhere to prescribed requirements may have consequences that jeopardize the health, safety or lives of customers and employees at the Airport. Security violations of DOT-A, FAA or TSA rules or regulations; or safety violations of this CSPP or FAA requirements, may result in fines up to $10,000 per occurrence or individual, revocation of the AOA badge, or loss of AOA driving privileges, depending on the severity of the offense.

The Airport employs a contractual law enforcement firm to support the overall Security Program:

1 **Contract Law Enforcement:** Security personnel under contract to the State Airports Division and who are deputized under State law to engage in law enforcement activities prescribed under Federal Regulations Part 107.17. The current contract is performed by **Securitas USA**, which provides personnel to man security screening station law enforcement positions, access gates, traffic control, perimeter and ramp patrols and the Pass and ID office.
2 **Transportation Security Administration (TSA):** Federal Security personnel who perform pre-departure passenger screening.

Misuse of Airport security access privileges by any badge holder or any violation of Airport, State and/or Federal rules and regulations will subject violators to arrest or fine as prescribed by law and revocation of all further clearance and access into security areas.

The Operations Division has the option to issue warnings on the first offense based upon the circumstances of the incident. Individuals involved in noncompliance violations may be required to surrender their Airport ID badges pending investigation of the matter.

Penalties for violations related to (DOT-A, FAA, & TSA) procedures include the following:

1 Warning citation, Airport ID badge confiscation, retraining, and a letter from the employer stating what action if any has been taken to prevent this from happening again.
2 Project shutdown and/or removal of personnel involved from the AOA.
3 Class B Misdemeanor citation - Ordinance Title 19 Administrative Rules.

Project shutdown or misdemeanor citation may be issued on a first offense.

End of Section 12

SECTION 13 SPECIAL CONDITIONS

13.1 Summary

It is possible that unexpected emergencies may arise during the progress of the construction work. Construction emergencies may be caused by equipment breakdowns, accidents, or even damages to nearby existing structures, property, or light fixtures. Airport emergencies may arise during the progress of the work, such as in-flight emergencies that may develop. In the event of a construction or Airport emergency, AOC will be notified immediately, informing them of the situation. AOC will decide on the appropriate remedial actions that are needed to stabilize the situation.

In the event of work cancellation, whether cancelled by the Contractor, CM, FAA, LIH, or DOT-A, the Contractor shall make all required notifications as detailed in appropriate communication flow chart to inform all parties of the work cancellation, the reason for the cancellation, and anticipated duration of the work stoppage. In addition to the notifications identified in the communication flow chart, the Contractor shall contact the On-Duty AOC to inform them of any NOTAM changes required due to the work cancellation. The AOC shall be responsible for cancelling or modifying any published NOTAMs and contacting FAA HCF Air Traffic to inform them of the NOTAM changes.

Other special conditions that may affect the construction work are listed below:

Weather Conditions
In the event of adverse weather conditions, the Contractor may be required to reschedule the work and/or closures, and cancel active NOTAMs. Adverse weather conditions would include winds that dictate the use of Runways 3-21 for arriving aircraft (e.g. Kona Wind conditions). Historical data shows that these conditions occur less than 10 percent of the time.

IFR weather conditions when the ceiling is less than 1,000 feet and visibility is less than three (3) statute miles and continuing heavy rain showers. The Contractor shall obtain the current and forecasted weather conditions, and decide to proceed with the scheduled work. Once the “Go” / “No Go” call is made, work will continue until the runway has been restored to the original conditions (i.e. all paving work has been completed). The “Go” / “No Go” call for work will be made three (3) hours prior to the scheduled closure time.

Aircraft Emergency
During aircraft and life safety incidents, the Contractor may be required to temporarily stop and vacate the AOA to allow operations of aircraft and emergency personnel and vehicles. Contractor will be notified of emergencies by either AOC or FAA HCF. The Contractor and AOC will decide on the appropriate remedial actions that are needed to stabilize the situation. The Contractor will then notify the CM responsible for the project. In cases of aircraft medical or mechanical emergency the Contractor shall clear the movement area immediately.

Cancellation by AOC/ATCT
A minimum of 2 hours prior to beginning each work shift or LIH ATCT closure, the contractor shall coordinate with AOC to determine if work will be permitted during the upcoming shift. Due to adverse weather conditions, AOC and/or ATCT may cancel work shifts and require the reopening of the runway for aircraft use. Therefore the Contractor may not begin work in any area in which the asphalt pavement cannot be completed to finished grade by the end of the work shift. Weather conditions which would require cancellation of work typically occur during Kona Wind conditions with certain wind velocity thresholds. Historic data from the airport shows that these conditions occur less than 10 percent of the time.

End of Section 13

SECTION 14 RUNWAY AND TAXIWAY VISUAL AIDS – MARKING, LIGHTING, AND SIGNS

14.1 Marking Removal

All existing pavement markings requiring removal shall be obliterated in a manner that will not leave marking shadows at the direction of LIH. All permanent pavement markings shall be restored at project completion.

14.2 AOA Closures (Runways, Taxiways, Ramps)

All lights and equipment designated to remain within the work areas, safety areas, and on the AOA shall be protected at all times. The Contractor shall protect these lights and equipment from damage while working at the work site. When a runway, taxiway, or taxilane is closed, the lights shall be turned off or masked. The Contractor shall place barricades around any elevated lights and equipment that may be in the work area to delineate and protect them. Damage due to the Contractor's operations shall be repaired immediately at the Contractors' expense.

For temporary closures of taxiways or taxilanes, the Contractor shall turn off/mask centerline lights, edge lights, and signage around the work areas during the work shift. The Contractor shall protect these lights from damage at all times while working at the work sites. All centerline and edge lights designated to remain shall be operational at the end of the closure.

Whenever possible, taxiway and runway lights in the work area shall be turned off by deactivating the electrical circuit. If deactivation of the circuit turns off lights in active portions of the airfield, then the circuit shall remain on and lights within the closed portions of the airfield shall be masked or covered. Masking of airfield lighting shall be done in a manner that blocks all light from the fixture but does not pose a potential FOD hazard due to normal airport operation or weather.

14.3 Temporary Lighting

When existing edge lighting is rendered inoperable on an active runway or taxiway, the Contractor must install temporary edge lights as directed by the LIH and DOT-A.

Every effort possible shall be made to construct temporary taxiway lighting to conform to the runway or taxiway safety area frangibility and height restrictions as specified in the FAA Advisory Circular 150/5370-2, Operational Safety on Airports During Construction, (latest edition).

Temporary edge lights shall be securely fastened down and the electrical power cable shall not be driven across. Airfield lighting cables operate at high voltage; they have the potential of 5,000 volts and should be handled by qualified personnel only.

Temporary light plants used in conjunction with nighttime work shall not be located in such a manner as to be an obstruction or hazard. In addition, these light plants shall not be located where the glare of the light will cause visual or physical interference to operating aircraft and the FAA ATCT.

14.4 Permanent Signage

All permanent signs affected by construction shall be completely covered or replaced by temporary signs acceptable to LIH Management. The Contractor shall submit a sign relocation plan to LIH Management for approval prior to any relocation of any existing signs.

End of Section 14

SECTION 15 MARKING AND SIGNS FOR ACCESS ROUTES

15.1 Summary

Marking and signs for access routes will not be used on this project. As construction vehicles and/or equipment arrive to the project site, they shall enter the AOA through the designated AOA access gates. Construction vehicles and equipment shall wait in an area not affecting Airport Operations (or in the staging area) until all necessary notifications have been made and the lighted “X” and low profile barricades have been placed. All construction vehicles and equipment necessary to complete the work shall remain on the closed area for the duration of the work shift. At the end of the work shift, all construction vehicles and equipment shall be escorted back to the staging area or to the access gate if exiting the AOA. Please refer to Drawings in Appendix A regarding the proposed hauling routes.

End of Section 15

SECTION 16 HAZARD MARKING AND LIGHTING

16.1 Summary

Every excavation or hazard on or adjacent to the airfield or other areas shall be marked.

Continuous burning standing red barricade lights and/or other red lighted hazard devices stipulated on the phasing plans shall be operative at all times while in place. It shall be the Contractor's responsibility to immediately repair or replace any light or flasher that is not operating.

Barricades shall be in place prior to commencing construction operations and shall be maintained for the duration of the work.

Every excavation or hazard on or adjacent to runways, taxiways, ramps, or other areas on the airfield, shall be marked with barricades and red, solar-powered warning lights. Marking of excavations and hazards, including lighting, shall be approved by the AOC prior to the Contractor leaving the work site.

Beacons and flags required on all Contractor vehicles/equipment must be maintained in good working condition, and flags shall be replaced if they become faded, discolored, or ragged.

Limits of the various phases of work shall be clearly delineated with barricades and attached steady or flashing red lights to deter aircraft and vehicles from entering the construction areas.

Contractor shall continually inspect and maintain all construction barriers, fencing, and gates in good condition.

Portable lighting provided for any night work shall not interfere with air navigation. Lights shall be transported to the work areas pointed down and turned off to avoid affecting FAA ATCT Operations.

All excavations will be backfilled and all construction equipment will be removed from the airfield at the end of each work day.

16.2 Equipment

Low profile barricades, Type I-II barricades and/or traffic cones are anticipated to be used on this project:

1 Runway Lighted “X”:
Whenever work is required in the RSA, lighted “X”’s shall be placed at each end of the runway directly on or as near as practicable to the runway designation numbers. Lighted “X”’s shall face the approach surface for the respective runway end. The lighted “X”’s shall be removed at the end of each work shift and/or work phase.

2 Low Profile Barricades:
Low profile barricades shall be used to identify the closed areas due to construction activities. These low-profile barricades shall be orange or white, and shall have at least one (1) red 360 degree light mounted to each barricade. Low profile barricades shall be placed continuously with no gaps when installed in the movement area and shall provide a 15’ wide nested opening to allow ground vehicle access (including ARFF vehicles) to the closed portions of the airfield while blocking aircraft access. Barricades when installed in the non-movement area may be spaced approximately 15’-0” O.C. (maximum 20’-0” O.C.) apart. The orange and white barricades shall be placed in alternating colors (orange base and white base), and shall be located and secured to prevent displacement from jet blast or other surface wind conditions. Low profile barricades shall be FAA

approved. Please refer to Drawings in Appendix A regarding the proposed locations of the low-profile barricades. The barricades shall be filled with water to weigh them down, and prevent FOD or movement from jet blast and/or high wind conditions.

3 Reflective Cones and Type II Barricades:
If required, reflective cones and or Type II barricades shall be used to demarcate AOA travel route(s), and locations where vehicles shall yield to aircraft and shall be adequately anchored from jet blast.

4 Construction Lighting
For night working hours, temporary light towers shall be used to provide enough lighting to perform the scheduled work. The light towers shall be located away from any obstruction or hazard, and positioned and point away in such a manner that it does not cause visual or physical interference to operating aircraft and the FAA ATCT. Due to seabirds on and around Kauai, construction lights shall be fully shielded, and directed downward onto pavement surfaces at all times. The light towers shall be taken down at the end of the work shift, and stored at the equipment staging area. All Contractor personnel and subcontractors working on the AOA during hours of darkness shall wear high visibility vests with reflective markings and orange/visible hard hats.

End of Section 16

SECTION 17 PROTECTION OF RUNWAY AND TAXIWAY SAFETY AREAS AND SURFACES

17.1 Summary

The project work areas will require the nighttime, off-peak closure of runways and taxiways. During these times, some aircraft arrivals are anticipated. Contractor will be required to coordinate the construction work to accommodate clearance requirements on open portions of the airfield for arrival and departure of scheduled aircraft, and maintain compliance with AC 150/5370-2, Operational Safety on Airports During Construction, (current edition). The AC sets forth guidelines for maintaining desired levels of operational safety during construction.

Contractor shall require that project staff attend mandatory training sessions to reinforce the importance of Airport protocol. The intent of the presentations will be to highlight common threats such as safety area encroachments, improper ground vehicle operations, and unmarked or uncovered holes and trenches in the vicinity of aircraft operating surfaces. Airport staff will be invited to make presentations on topics of their choosing.

17.2 Runway Safety Area (RSA)

The RSA is the defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway. No construction may occur within the RSA while the runway is open for aircraft operations. Accordingly, Runway 3-21 will be closed during construction operations within the RSA. The Runway 3-21 and Runway 17-35 RSA is 500’ wide centered on the runway centerline. The RSAs extend 1,000 feet beyond the departure ends of the runways. (Runway Design Code C-IV-2400)

17.3 Runway Object Free Area (ROFA)

Construction, including excavations, may be permitted in the ROFA. Equipment must be removed from the ROFA when not in use, and material shall not be stockpiled in the ROFA if not necessary. The ROFA for Runways 3-21 and 17-35 is 800’ wide centered on the runway centerline. The ROFAs extend 1,000 feet beyond the departure ends of the runways. (Runway Design Code C-IV-2400)

17.4 Taxiway Safety Area

The Taxiway Safety Area is a defined surface alongside the taxiway prepared or suitable for reducing the risk of damage to an airplane unintentionally departing the taxiway. No construction may occur within the Taxiway Safety Area while the taxiway is open for aircraft operations. All work within the Taxiway Safety Area shall be coordinated with DOT-A, FAA, and LIH. (Taxiway Design Group 4)

17.5 Taxiway Object Free Area (TOFA)

The TOFA is regularly penetrated by aircraft wings during normal operations, thus the restrictions are more stringent. No construction may occur within the TOFA while the taxiway is open for aircraft operations.

17.6 Obstacle Free Zone (OFZ)

In general, personnel, material, and/or equipment may not penetrate the OFZ while the runway is open for aircraft operations. If penetrations to the OFZ are necessary, it may be possible to continue aircraft operations through operational restrictions. The ROFZ for Runways 3-21 and 17-35 is 400’ wide centered on the runway centerline. Runways will be closed during construction within the ROFZ. All work within the OFZ shall be coordinate with DOT-A, FAA, and LIH. (Runway Design Code C-IV-2400)

17.7 Runway Approach/Departure Surfaces

All personnel, materials, and/or equipment must remain clear of the applicable threshold siting surfaces, FAR Part 77 Approach Surfaces, Terminal Instrument Procedures (TERPs) surfaces, or One Engine Inoperative (OEI) surfaces. Objects that do not penetrate these surfaces may still be obstructions to air navigation and may affect standard instrument approach procedures. Should construction work occur within the runway approach and/or departure surfaces, a runway closure may be required. All work within or adjacent to the runway approach and/or departure surfaces shall be coordinated with DOT-A, FAA, and LIH. (See sections 2.4, 6.4.6, and 10.4.1)

17.8 Procedures and Equipment to Delineate Closed Construction Areas from Airport Operational Areas

No ramp, apron, taxiway, or runway area shall be closed to aircraft without approval of LIH Management.

Lighted X's will be placed at the ends of all closed runways.

The Contractor shall place solar powered standing red lights placed at all locations in which aircraft could inadvertently enter the construction area for limited duration closures or hard wired 18-inch-high standing red lights as approved by AOC for longer duration closures.

All pertinent airfield signage will be removed, covered, and de-energized where appropriate.

A painted yellow "X" may be placed on the taxiway centerline for longer duration closures. Removal of the taxiway markings will be determined on a case by case basis.

End of Section 17

SECTION 18 OTHER LIMITATIONS ON CONSTRUCTION

18.1 Additional Restrictions

1. Work hours will be restricted to the times designated on the Phasing and Barricade Plans (Drawings in Appendix A) for each phase of work. If necessary, work hours may be adjusted by DOT-A, LIH, and/or FAA. No work will occur outside of these hours without prior approval from LIH Management.

2. Runway and taxiway closures will be required for this project. Closures shall be as designated on the Phasing and Barricade Plans (Drawings in Appendix A) for each phase of work.

3. Jet blast considerations – Jet blast considerations were included as part of the planning process. The review included aircraft distance from construction and aircraft movement around the construction area. Equipment, small tools, construction material, stockpile material, and excavation trenches shall be constrained in a manner to prevent movement resulting from aircraft jet blast or high wind conditions. Equipment and materials will not be stored near areas susceptible to jet blast.

4. Contractor shall maintain a safe operating area, free of FOD, at all times. Vacuum sweepers, as outlined in these specifications and on the plans, shall be continuously utilized to maintain the work site and haul routes. Non-badged vehicle operators shall be escorted at all times while within the AOA between access gate and work site. Access gate guards shall be provided to register all Contractor personnel accessing the AOA subject to the requirements of Airport security, TSA and LIH Security Provider which may include vehicle searches for weapons, explosive devices or other prohibited items not allowed within the AOA. Only Contractor and DOT-A authorized personnel shall be allowed through Contractor gates.

5. The existing condition of the project may be altered due to construction currently being performed at the Airport. It is the Contractor's responsibility to work with the ultimate existing condition of the project at the time of construction.

6. Other contracts adjacent to the project may be ongoing at the time of construction. The Contractor shall coordinate his/her efforts with adjacent contracts to the satisfaction of DOT-A and at no additional cost to the owner.

7. The Contractor shall be solely responsible for the safely and security of the site, during working hours.

8. Secure the required permit for the construction of trenches or excavations that are five (5) feet or deeper or work that may jeopardize the workers.

9. The Contractor shall at all times maintain positive drainage away from existing buildings. The Contractor shall be responsible for installation, maintenance, and removal of temporary haul routes to support his/her operations within the work area. The Contractor shall maintain work area free of FOD at all times and dust control measures shall be implemented if necessary.

10. No lantern, flare pots, or open-flame welding or other devices shall be used. Blasting is not allowed.

11. Open flame welding or torch cutting operations are prohibited within the AOA unless adequate precautions have been taken and the written procedure approved by DOT-A, LIH, FAA, and/or ARFF. In addition, the Contractor will obtain an Airport “Burn Permit” from ARFF.

12. No smoking by employees while within the AOA.

13. Use of tall equipment (cranes, concrete pumps, etc.) will not be allowed unless the FAA Form 7460-1 determination letter is issued and approved for such equipment.

18.2 Police Coordination

In case of an emergency caused by an accident, fire, personal injury, or illness, Airport police are to be immediately notified. Police will coordinate with other emergency agencies as necessary. Contractor shall also notify the LIH Management and AOC so that any coordination or closures that may be required can be addressed immediately.

18.3 LIH Airport Operations

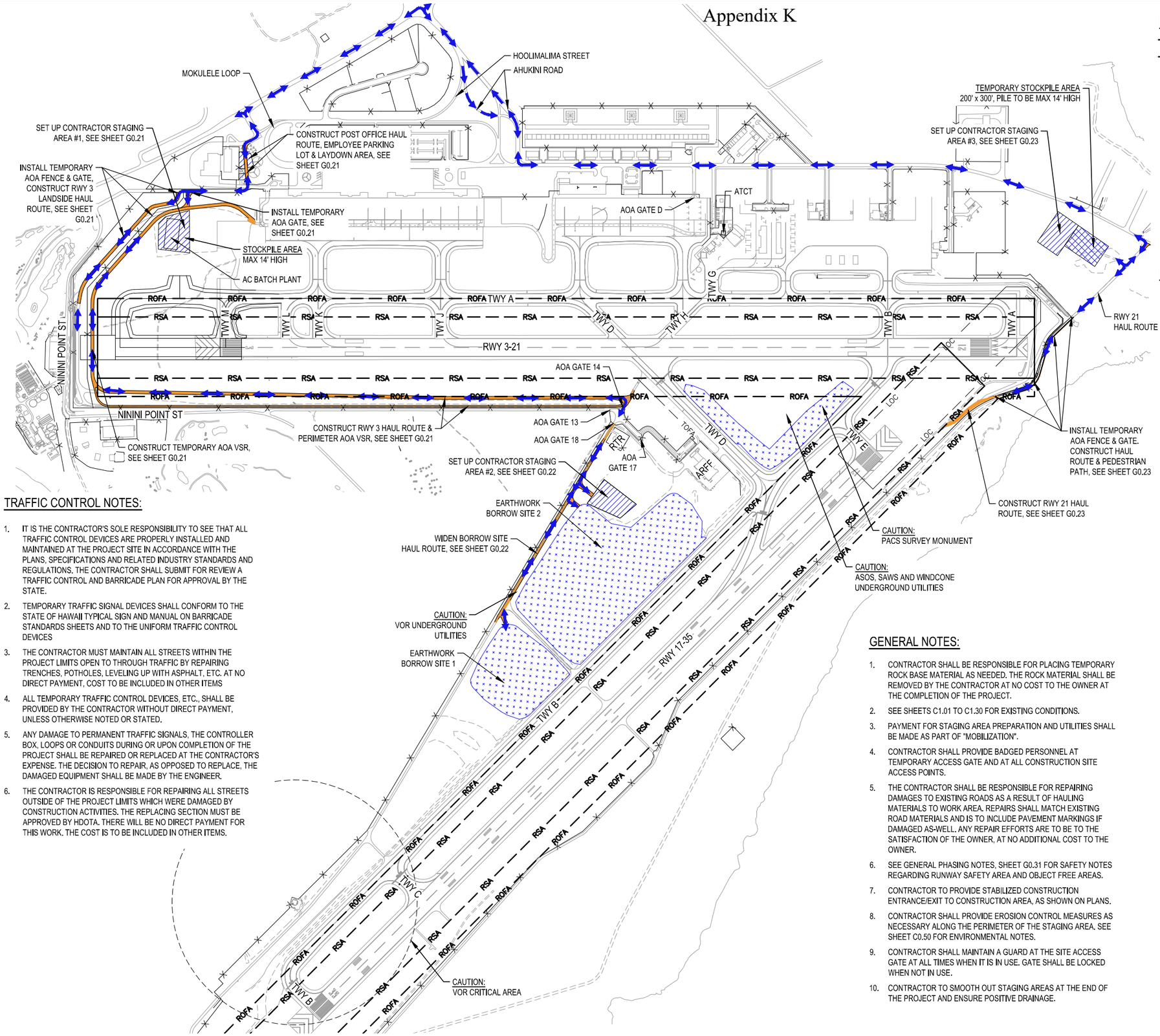
Construction may be stopped by LIH Management or AOC, any time he/she considers that the intent of the regulations regarding safety or security requirements is being violated or that a hazardous condition exists. This decision to suspend the operation will be final and will only be rescinded by LIH when satisfied that the Contractor has taken action to correct the condition and prevent recurrence.

Construction may also be stopped or suspended by LIH during periods of inclement weather, such as low visibility, or when it is necessary to provide an extra margin of safety to aircraft operations, or reduce other activities to keep the Airport operational.

A minimum of 3 hours prior to beginning each work shift, the contractor shall coordinate with AOC to determine if work will be permitted during the upcoming shift. Due to adverse weather conditions, AOC and/or ATCT may cancel work shifts and require the reopening of the runway for aircraft use. Therefore, the Contractor may not begin work in any area in which the asphalt pavement cannot be completed to finished grade by the end of the work shift. Weather conditions which would require cancellation of work typically occur during Kona Wind conditions with certain wind velocity thresholds. Historic data from the airport shows that these conditions occur less than 10 percent of the time.

End of Section 18

APPENDIX A – CONSTRUCTION SAFETY AND PHASING DRAWINGS



LEGEND

- ROFA — RUNWAY OBJECT FREE AREA
- RSA — RUNWAY SAFETY AREA
- CONTRACTOR HAUL ROUTE
- PROPOSED AIRFIELD IMPROVEMENTS
- PROPOSED AOA ROADWAY
- PROPOSED RETAINING WALL
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- CONSTRUCT GRAVEL HAUL ROUTE / VSR / PEDESTRIAN PATH
- ROCK CONSTRUCTION ENTRANCE, SEE DETAIL 1/G0.24

NOTES:

1. STABILIZED CONSTRUCTION ENTRANCES, ROADS AND HAUL ROUTES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT.
2. ADDITIONAL BMP MEASURES, SUCH AS WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
3. CONTRACTOR SHALL COMPLY WITH CONSTRUCTION SAFETY AND PHASING PLAN (CSPP) REQUIREMENTS.
4. CONTRACTOR IS REQUIRED TO PROVIDE RED OBSTRUCTION LIGHT (ILLUMINATED 24 HOURS PER DAY), LOCATED ON THE HIGHEST POINT OF THE BATCH PLANT
5. ALL CONTRACTOR'S ACCESS GATES IN USE SHALL BE MANNED BY BADGED ALLIED SECURITY PERSONNEL (HIRED BY CONTRACTOR) THAT WILL BE REQUIRED TO VERIFY THE IDENTITIES OF AUTHORIZED CONSTRUCTION WORKERS AND INSPECT VEHICLES IN ACCORDANCE WITH TSA AND AIRPORT REQUIREMENTS.
6. THE ENGINEER'S OFFICE FACILITY TO BE LOCATED WITHIN THE CONTRACTOR STAGING AREA.

TRAFFIC CONTROL NOTES:

1. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO SEE THAT ALL TRAFFIC CONTROL DEVICES ARE PROPERLY INSTALLED AND MAINTAINED AT THE PROJECT SITE IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS AND RELATED INDUSTRY STANDARDS AND REGULATIONS. THE CONTRACTOR SHALL SUBMIT FOR REVIEW A TRAFFIC CONTROL AND BARRICADE PLAN FOR APPROVAL BY THE STATE.
2. TEMPORARY TRAFFIC SIGNAL DEVICES SHALL CONFORM TO THE STATE OF HAWAII TYPICAL SIGN AND MANUAL ON BARRICADE STANDARDS SHEETS AND TO THE UNIFORM TRAFFIC CONTROL DEVICES
3. THE CONTRACTOR MUST MAINTAIN ALL STREETS WITHIN THE PROJECT LIMITS OPEN TO THROUGH TRAFFIC BY REPAIRING TRENCHES, POTHOLES, LEVELING UP WITH ASPHALT, ETC. AT NO DIRECT PAYMENT, COST TO BE INCLUDED IN OTHER ITEMS
4. ALL TEMPORARY TRAFFIC CONTROL DEVICES, ETC., SHALL BE PROVIDED BY THE CONTRACTOR WITHOUT DIRECT PAYMENT, UNLESS OTHERWISE NOTED OR STATED.
5. ANY DAMAGE TO PERMANENT TRAFFIC SIGNALS, THE CONTROLLER BOX, LOOPS OR CONDUITS DURING OR UPON COMPLETION OF THE PROJECT SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. THE DECISION TO REPAIR, AS OPPOSED TO REPLACE, THE DAMAGED EQUIPMENT SHALL BE MADE BY THE ENGINEER.
6. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ALL STREETS OUTSIDE OF THE PROJECT LIMITS WHICH WERE DAMAGED BY CONSTRUCTION ACTIVITIES. THE REPLACING SECTION MUST BE APPROVED BY HDOTA. THERE WILL BE NO DIRECT PAYMENT FOR THIS WORK. THE COST IS TO BE INCLUDED IN OTHER ITEMS.

GENERAL NOTES:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR PLACING TEMPORARY ROCK BASE MATERIAL AS NEEDED. THE ROCK MATERIAL SHALL BE REMOVED BY THE CONTRACTOR AT NO COST TO THE OWNER AT THE COMPLETION OF THE PROJECT.
2. SEE SHEETS C1.01 TO C1.30 FOR EXISTING CONDITIONS.
3. PAYMENT FOR STAGING AREA PREPARATION AND UTILITIES SHALL BE MADE AS PART OF "MOBILIZATION".
4. CONTRACTOR SHALL PROVIDE BADGED PERSONNEL AT TEMPORARY ACCESS GATE AND AT ALL CONSTRUCTION SITE ACCESS POINTS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING DAMAGES TO EXISTING ROADS AS A RESULT OF HAULING MATERIALS TO WORK AREA. REPAIRS SHALL MATCH EXISTING ROAD MATERIALS AND IS TO INCLUDE PAVEMENT MARKINGS IF DAMAGED AS-WELL. ANY REPAIR EFFORTS ARE TO BE TO THE SATISFACTION OF THE OWNER, AT NO ADDITIONAL COST TO THE OWNER.
6. SEE GENERAL PHASING NOTES, SHEET G0.31 FOR SAFETY NOTES REGARDING RUNWAY SAFETY AREA AND OBJECT FREE AREAS.
7. CONTRACTOR TO PROVIDE STABILIZED CONSTRUCTION ENTRANCE/EXIT TO CONSTRUCTION AREA, AS SHOWN ON PLANS.
8. CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES AS NECESSARY ALONG THE PERIMETER OF THE STAGING AREA. SEE SHEET C0.50 FOR ENVIRONMENTAL NOTES.
9. CONTRACTOR SHALL MAINTAIN A GUARD AT THE SITE ACCESS GATE AT ALL TIMES WHEN IT IS IN USE. GATE SHALL BE LOCKED WHEN NOT IN USE.
10. CONTRACTOR TO SMOOTH OUT STAGING AREAS AT THE END OF THE PROJECT AND ENSURE POSITIVE DRAINAGE.

400 0 400 800
SCALE = 1":400'

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DUKE S. YOUNG
LICENSED PROFESSIONAL ENGINEER
PE-17779
HAWAII, U.S.A.

DUKE YOUNG, PE
CIVIL ENGINEER
4/30/24
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

CONTRACTOR ACCESS, STAGING AREAS AND HAUL ROUTES

DATE :
07/2022
SHEET :
16 OF 376 SHEETS

DWG. NO.
G0.20

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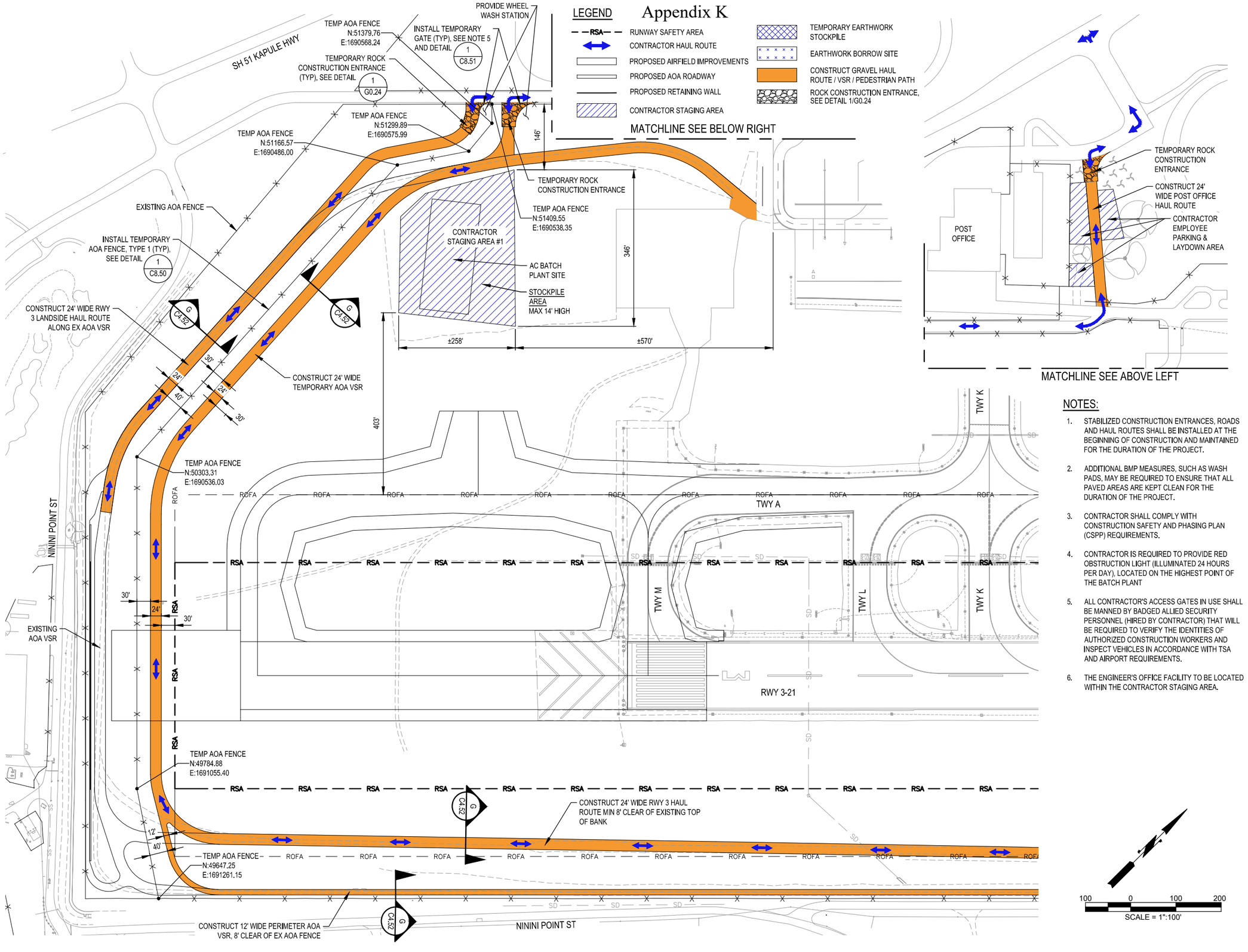
Appendix K



NOTES:

1. STABILIZED CONSTRUCTION ENTRANCES, ROADS AND HAUL ROUTES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT.
2. ADDITIONAL BMP MEASURES, SUCH AS WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
3. CONTRACTOR SHALL COMPLY WITH CONSTRUCTION SAFETY AND PHASING PLAN (CSPP) REQUIREMENTS.
4. CONTRACTOR IS REQUIRED TO PROVIDE RED OBSTRUCTION LIGHT (ILLUMINATED 24 HOURS PER DAY), LOCATED ON THE HIGHEST POINT OF THE BATCH PLANT
5. ALL CONTRACTOR'S ACCESS GATES IN USE SHALL BE MANNED BY BADGED ALLIED SECURITY PERSONNEL (HIRED BY CONTRACTOR) THAT WILL BE REQUIRED TO VERIFY THE IDENTITIES OF AUTHORIZED CONSTRUCTION WORKERS AND INSPECT VEHICLES IN ACCORDANCE WITH TSA AND AIRPORT REQUIREMENTS.
6. THE ENGINEER'S OFFICE FACILITY TO BE LOCATED WITHIN THE CONTRACTOR STAGING AREA.

Airports Division
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Expiration Date

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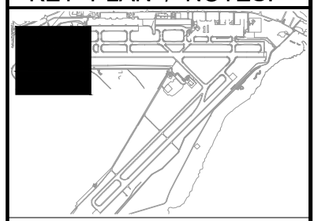
HF	HT	JB	DY

KEY PLAN / NOTES:



NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

CONTRACTOR STAGING AREA #1 & RWY 3 END TEMPORARY AOA FENCE

DATE :	DWG. NO.
07/2022	G0.21
SHEET :	
17 OF 376 SHEETS	

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LEGEND

- RSA — RUNWAY SAFETY AREA
- CONTRACTOR HAUL ROUTE
- PROPOSED AIRFIELD IMPROVEMENTS
- PROPOSED AOA ROADWAY
- PROPOSED RETAINING WALL
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- CONSTRUCT GRAVEL HAUL ROUTE / VSR / PEDESTRIAN PATH
- ROCK CONSTRUCTION ENTRANCE, SEE DETAIL 1/G0.24

NOTES:

1. STABILIZED CONSTRUCTION ENTRANCES, ROADS AND HAUL ROUTES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT.
2. ADDITIONAL BMP MEASURES, SUCH AS WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
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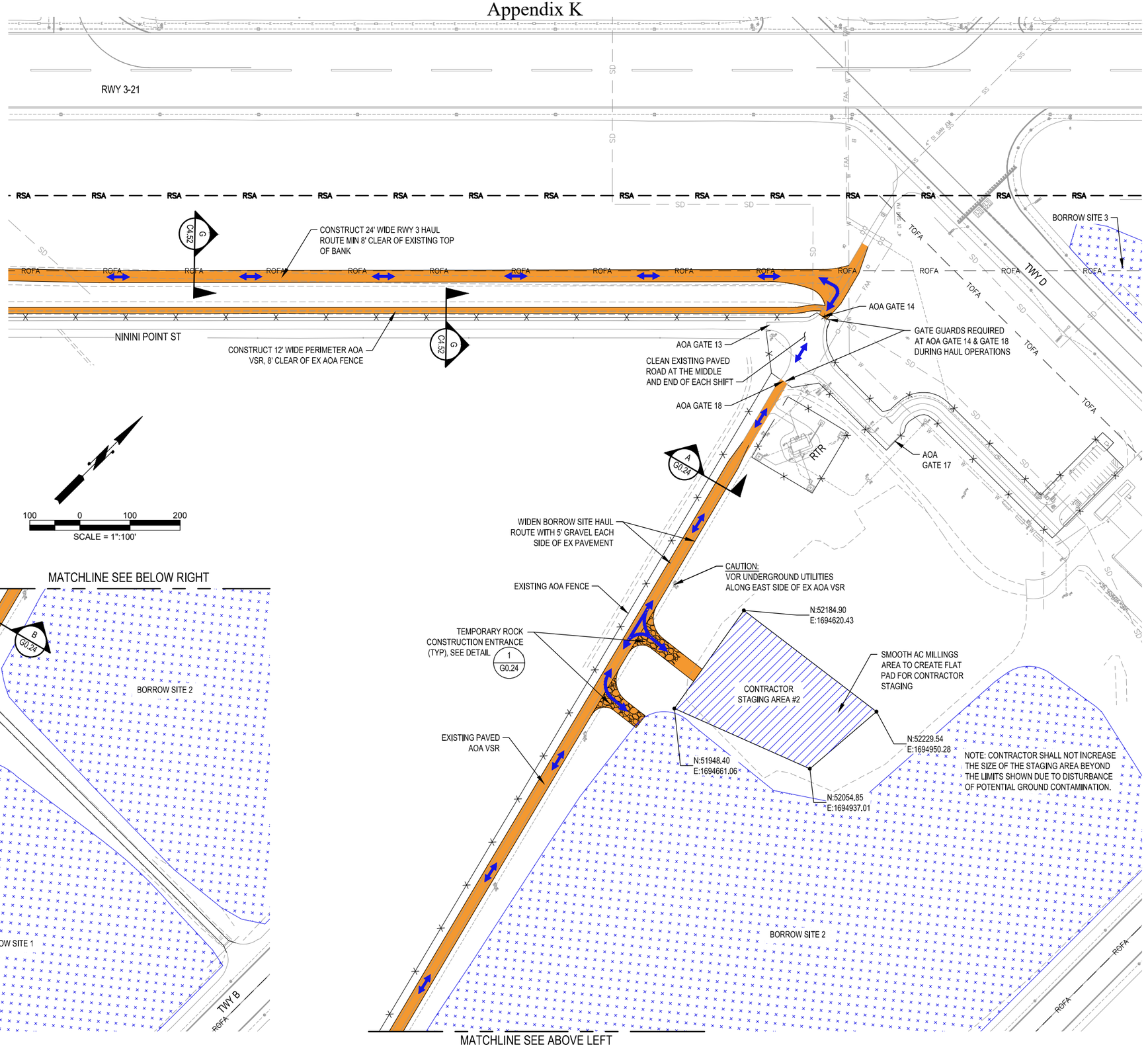
5. ALL CONTRACTOR'S ACCESS GATES IN USE SHALL BE MANNED BY BADGED ALLIED SECURITY PERSONNEL (HIRED BY CONTRACTOR) THAT WILL BE REQUIRED TO VERIFY THE IDENTITIES OF AUTHORIZED CONSTRUCTION WORKERS AND INSPECT VEHICLES IN ACCORDANCE WITH TSA AND AIRPORT REQUIREMENTS.
6. THE ENGINEER'S OFFICE FACILITY TO BE LOCATED WITHIN THE CONTRACTOR STAGING AREA.

100 0 100 200
SCALE = 1":100'



Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DUKE S. YOUNG
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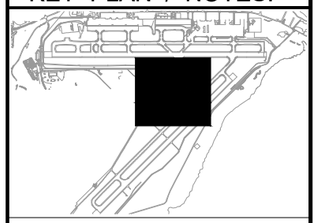
PE-17779
HAWAII, U.S.A.

DUKE YOUNG, PE
CIVIL ENGINEER
4/30/24
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:



NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

CONTRACTOR STAGING AREA #2

DATE :	DWG. NO.
07/2022	G0.22
SHEET :	
18 OF 376 SHEETS	

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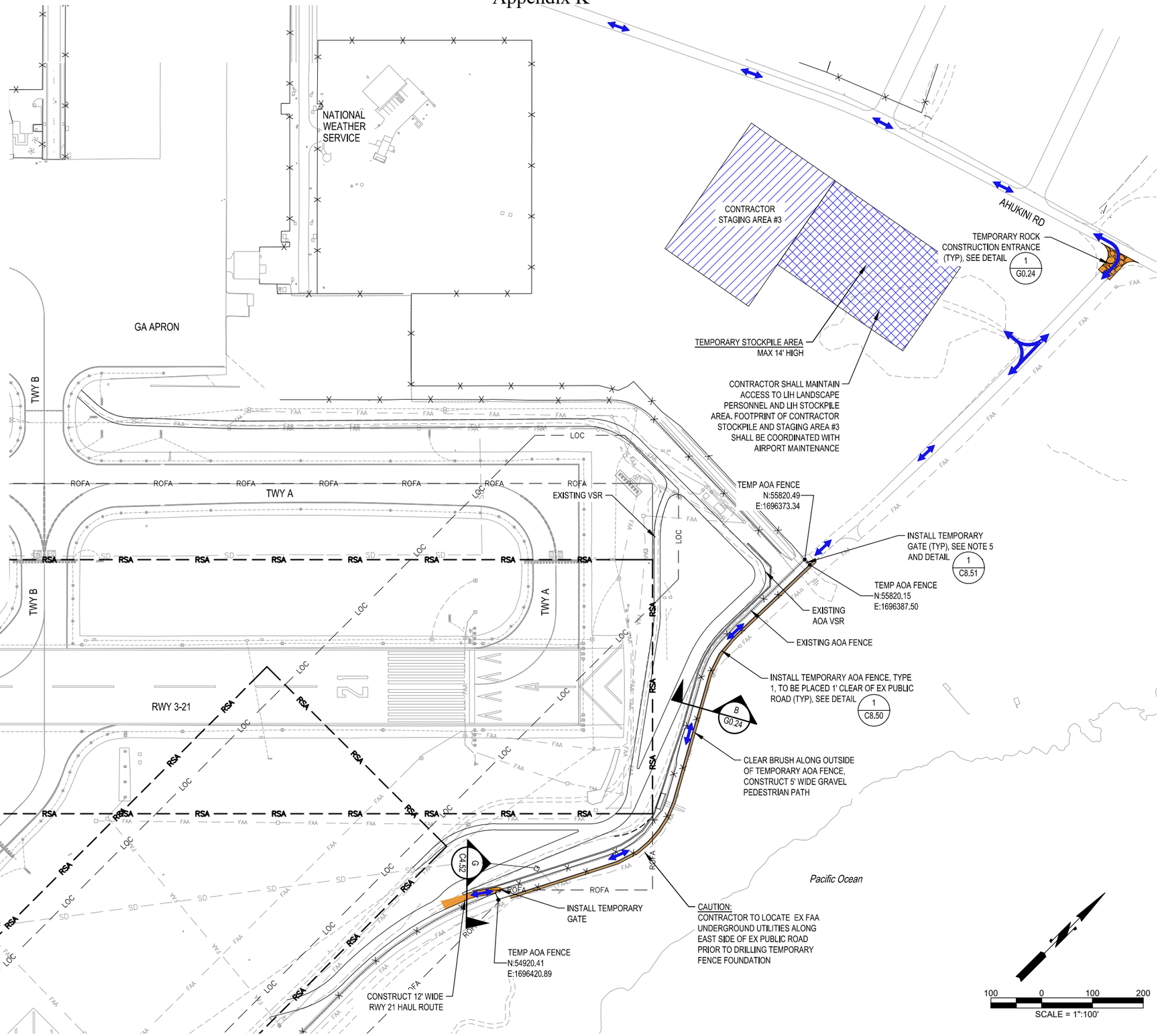
LEGEND

- RSA — RUNWAY SAFETY AREA
- CONTRACTOR HAUL ROUTE
- PROPOSED AIRFIELD IMPROVEMENTS
- PROPOSED AOA ROADWAY
- PROPOSED RETAINING WALL
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- CONSTRUCT GRAVEL HAUL ROUTE / VSR / PEDESTRIAN PATH
- ROCK CONSTRUCTION ENTRANCE, SEE DETAIL 1/G0.24

NOTES:

1. STABILIZED CONSTRUCTION ENTRANCES, ROADS AND HAUL ROUTES SHALL BE INSTALLED AT THE BEGINNING OF CONSTRUCTION AND MAINTAINED FOR THE DURATION OF THE PROJECT.
2. ADDITIONAL BMP MEASURES, SUCH AS WASH PADS, MAY BE REQUIRED TO ENSURE THAT ALL PAVED AREAS ARE KEPT CLEAN FOR THE DURATION OF THE PROJECT.
3. CONTRACTOR SHALL COMPLY WITH CONSTRUCTION SAFETY AND PHASING PLAN (CSPP) REQUIREMENTS.
4. CONTRACTOR IS REQUIRED TO PROVIDE RED OBSTRUCTION LIGHT (ILLUMINATED 24 HOURS PER DAY), LOCATED ON THE HIGHEST POINT OF THE BATCH PLANT
5. ALL CONTRACTOR'S ACCESS GATES IN USE SHALL BE MANNED BY BADGED ALLIED SECURITY PERSONNEL (HIRED BY CONTRACTOR) THAT WILL BE REQUIRED TO VERIFY THE IDENTITIES OF AUTHORIZED CONSTRUCTION WORKERS AND INSPECT VEHICLES IN ACCORDANCE WITH TSA AND AIRPORT REQUIREMENTS.
6. THE ENGINEER'S OFFICE FACILITY TO BE LOCATED WITHIN THE CONTRACTOR STAGING AREA.



Airports Division
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Duke Young 4/30/24
DUKE YOUNG, PE
CIVIL ENGINEER
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

CONTRACTOR STAGING AREA #3 & RWY 21 END TEMPORARY AOA FENCE

DATE :	DWG. NO.
07/2022	G0.23
SHEET :	
19 OF 376 SHEETS	

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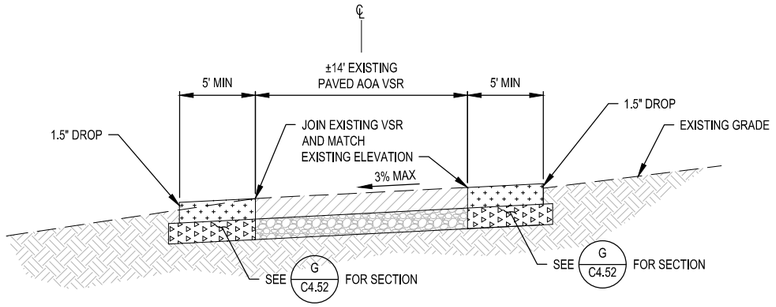
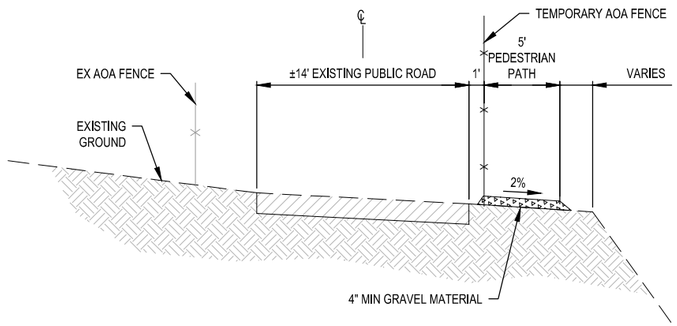
Appendix K



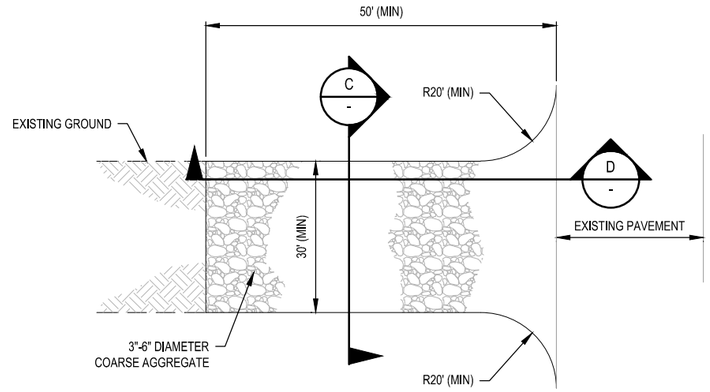
WIDEN EX AOA ROAD DETAIL — A -

SCALE: N.T.S.



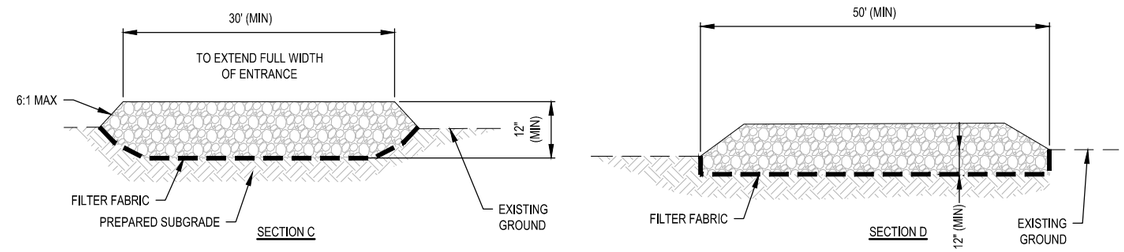
PEDESTRIAN PATH DETAIL — B -

SCALE: N.T.S.



NOTES:

1. GEOTEXTILE FILTER FABRIC SHALL BE PLACED OVER THE CLEARED AREA PRIOR TO PLACING COARSE AGGREGATE.
2. STABILIZED CONSTRUCTION ENTRANCE SHALL BE INSTALLED PRIOR TO ONSET OF CONSTRUCTION PHASE AND SHALL BE MAINTAINED THROUGHOUT CONSTRUCTION DURATION
3. CONSTRUCTION ENTRANCE SHALL BE REMOVED UPON COMPLETION OF PHASE AND ONLY WHEN DIRECTED BY THE ENGINEER.



ROCK CONSTRUCTION ENTRANCE — 1 -

SCALE: N.T.S.

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

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4/30/24
Expiration Date
DUKE YOUNG, PE
CIVIL ENGINEER

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

HAUL ROAD DETAILS

DATE : **07/2022**

SHEET : 20 OF 376 SHEETS

DWG. NO. **G0.24**

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PHASING SCHEDULE		05/23	06/23	07/23	08/23	09/23	10/23	11/23	12/23	01/24	02/24	03/24	04/24	05/24	06/24	07/24	08/24	09/24	10/24	11/24	12/24	01/25	02/25
	DURATION	M-4	M-3	M-2	M-1	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18
PHASE 0: MOBILIZATION	120 DAYS																						
SUB-PHASE 0A (NIGHTTIME): TEMPORARY PORTABLE JET BLAST DEFLECTOR	4 NIGHTS																						
PHASE 1: CONSTRUCTION AT RWY 3 & RWY 21 ENDS	210 DAYS																						
SUB-PHASE 1A (DAYTIME): ELECTRICAL & CIVIL - SOUTH END OF TWY B & TWY C	7 DAYS																						
SUB-PHASE 1B (DAYTIME): ELECTRICAL & CIVIL - TWY B BETWEEN TWY D & TWY C	21 DAYS																						
SUB-PHASE 1C (NIGHTTIME): ELECTRICAL & CIVIL - TWY B AT TWY D INTERSECTION	3 NIGHTS																						
SUB-PHASE 1D (NIGHTTIME): ELECTRICAL & CIVIL - TWY B BETWEEN TWY D & RWY 3-21	11 NIGHTS																						
SUB-PHASE 1E (NIGHTTIME): ELECTRICAL & CIVIL - TWY D BETWEEN RWY 3-21 AND TWY B	17 NIGHTS																						
SUB-PHASE 1F (NIGHTTIME): ELECTRICAL & CIVIL - RWY 17-35	30 NIGHTS																						
SUB-PHASE 1G (DAYTIME): ELECTRICAL - HOMERUN AND APRON EDGE WEST TWY F	4 DAYS																						
SUB-PHASE 1H (DAYTIME): ELECTRICAL - HOMERUN BETWEEN TWY F & TWY H	2 DAYS																						
SUB-PHASE 1I (DAYTIME): ELECTRICAL - TWY A BETWEEN TWY F & TWY H	4 DAYS																						
SUB-PHASE 1J (DAYTIME): ELECTRICAL - TWY A BETWEEN TWY B & TWY F	7 DAYS																						
SUB-PHASE 1K (NIGHTTIME): ELECTRICAL - TWY A BTWN TWY D & TWY G, TWY H & APRON	7 NIGHTS																						
SUB-PHASE 1L (NIGHTTIME): ELECTRICAL - TWY A & TWY D NORTH OF RWY 3-21 & APRON	7 NIGHTS																						
SUB-PHASE 1M (NIGHTTIME): ELECTRICAL - TWY A BTWN TWY K & TWY D, TWY J & APRON	7 NIGHTS																						
PHASE 2 (24 / 7): ELECTRICAL & CIVIL - RWY 3-21, TWY A, TWY M & RWY 21 RETAINING WALL	75 DAYS																						
SUB-PHASE 2A (NIGHTTIME): ELECTRICAL - WITHIN LOC CRITICAL AREA	21 NIGHTS																						
SUB-PHASE 2B (NIGHTTIME): ELECTRICAL - TWY A BTWN TWY K & TWY L, TWY J & APRON	7 NIGHTS																						
SUB-PHASE 2C (NIGHTTIME): ELECTRICAL - TWY D WITHIN RWY 3-21 RSA	7 NIGHTS																						
SUB-PHASE 2D (NIGHTTIME): ELECTRICAL - TWY B WITHIN RWY 3-21 RSA & TO GA APRON	10 NIGHTS																						
PHASE 3 (DAYTIME): RWY 3 END CONSTRUCTION	210 DAYS																						
SUB-PHASE 3A (NIGHTTIME): RWY 21 END RETAINING WALL CONSTRUCTION	120 NIGHTS																						
PHASE 4 (24 / 7): RELOCATE RWY 21 THRESHOLD, RWY 3 GROOVING, 3-21 FINAL MARKINGS	21 DAYS																						
SUB-PHASE 4A (NIGHTTIME): WORK WITHIN LOC CA	21 NIGHTS																						
SUB-PHASE 4B (NIGHTTIME): TWY D CROSSING RWY 3-21	3 NIGHTS																						
SUB-PHASE 4C (NIGHTTIME): TWY B CROSSING RWY 3-21	3 NIGHTS																						

PHASE 0 MILESTONE

PHASE 1 MILESTONE

PHASE 2 MILESTONE

PHASE 3 RWY PAVING MILESTONE

PHASE 3 MILESTONE

PHASE 3 RWY 21 RETAINING WALL MILESTONE

PHASE 4 MILESTONE

LEGEND

- DAYTIME WORK AREA
- ACCELERATED WORK SCHEDULE MINIMUM 2-10 HOUR SHIFTS (24/7)
- NIGHTTIME WORK AREA
- SHEARWATER SEASON: SEPTEMBER 15 THROUGH DECEMBER 15
- FAA MORATORIUM: MID-NOVEMBER THROUGH MID-JANUARY

SCHEDULE NOTES:

1. ALL DURATIONS ARE IN CALENDAR DAYS

PHASE 0 MILESTONE:

- INSTALL RWY 3 & RWY 21 TEMPORARY AOA FENCE AND TEMPORARY ACCESS GATES
- INSTALL EROSION CONTROL MEASURES
- CONSTRUCT HAUL ROUTES
- COMPLETE EARLY INVESTIGATIONS, UTILITY POTHOLES AND ESTABLISH SURVEY CONTROL

PHASE 0A MILESTONE:

- INSTALL TEMPORARY JET BLAST DEFLECTOR

PHASE 1 MILESTONE:

RWY 3 END:

- PRIORITY AREA : STORM DRAIN IMPROVEMENTS AND EARTHWORK EMBANKMENT FILL
- COMPLETE RETAINING WALL CONSTRUCTION

RWY 21 END:

- SOUTHERN 300' OF RETAINING WALL, BACKFILL AND UTILITY IMPROVEMENTS
- NORTHERN 200' OF RETAINING WALL AND BACKFILL
- CONSTRUCT ACCESS ROAD TO FUTURE RWY 21 PAPI

PHASE 2 MILESTONE:

- COMPLETE AIRFIELD ELECTRICAL REPLACEMENT
- DURING FINAL 4 DAYS OF PHASE 2: RE-INSTALL TEMPORARY PORTABLE JET BLAST DEFLECTOR

RWY 3 END:

- COMPLETE TWY M WIDENING AND PRIORITY AREA 300' OF RUNWAY AND TAXIWAY EXTENSION

RWY 21 END:

- COMPLETE 350' OF RETAINING WALL INSIDE RWY 3-21 RSA (FOR A TOTAL OF 850' COMPLETED), INSPECTION ROAD, VSR, AND PLATFORM FILL & GRADING OUTSIDE LOC CA

PHASE 3 MILESTONE:

- 30 DAYS PRIOR TO END OF PHASE 3: COMPLETE ALL RUNWAY PAVING (TO ALLOW FOR CURING PRIOR TO PHASE 4 RUNWAY GROOVING)

RWY 3 END:

- COMPLETE EARTHWORK EMBANKMENT FILL AND INSPECTION ROAD CONSTRUCTION
- INSTALL NEW AOA FENCE AND REMOVE TEMP AOA FENCE
- CONSTRUCT AOA VSR AND INSTALL PERMANENT JET BLAST DEFLECTOR
- COMPLETE CIVIL CONSTRUCTION AND NEW AIRFIELD ELECTRICAL

RWY 21 END:

- CONSTRUCT REMAINING 160' OF RWY 21 RETAINING WALL, DRAINAGE AND PLATFORM FILL PRIOR TO START OF SHEARWATER SEASON
- COMPLETE AOA VSR AND INSPECTION ROAD OUTSIDE LOC CA
- COMPLETE CIVIL CONSTRUCTION OUTSIDE LOC CA

PHASE 4 MILESTONE:

- RWY 3 END PAVEMENT GROOVING
- RWY 3-21 FINAL PAVEMENT MARKINGS, RELOCATE RWY 21 THRESHOLD, ADJUST AIRFIELD LIGHTING & SIGNS
- INSTALL RWY 21 REILS AND RELOCATE PAPI (FAA)
- RWY 21 GRADING, BLAST PAD MILL & OVERLAY, CONSTRUCT AOA VSR & FAA ACCESS ROAD INSIDE OF LOC CA
- FLIGHT CHECK:
  - NEW RWY 3 DISPLACED THRESHOLD, PAPI & REILS
  - NEW RWY 21 DISPLACED THRESHOLD, PAPI & REILS, AND NEW RWY 21 INSTRUMENT APPROACH PROCEDURE
  - RWY 35 LOCALIZER CRITICAL AREA GRADING

STATE OF HAWAII 1959

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

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DUKE YOUNG, PE
CIVIL ENGINEER

4/30/24
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS

JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

CONSTRUCTION SEQUENCING SCHEDULE

DATE :
07/2022

SHEET :
21 OF 376 SHEETS

DWG. NO.
G0.30

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Appendix K

GENERAL PHASING NOTES:

1. UNLESS OTHERWISE INDICATED, ALL WORK SHALL BE PERFORMED BETWEEN THE HOURS SHOWN ON THESE CONSTRUCTION PHASING DRAWINGS.
2. THE CONTRACTOR'S ATTENTION IS DIRECTED TO ADVISORY CIRCULAR 150/5370-2G OPERATIONAL SAFETY ON AIRPORTS DURING CONSTRUCTION AND THE CONSTRUCTION SAFETY AND PHASING PLAN (CSPP), TO WHICH THE CONTRACTOR SHALL ADHERE TO.
3. A MINIMUM OF 3 HOURS PRIOR TO THE BEGINNING OF EACH WORK SHIFT, THE CONTRACTOR SHALL COORDINATE WITH AOC FOR GO/NO GO DECISION TO DETERMINE IF WORK WILL BE PERMITTED DURING THE UPCOMING SHIFT. DUE TO CERTAIN WEATHER CONDITIONS, AOC AND/OR ATC MAY CANCEL WORK SHIFTS AND REQUIRE THE OPENING OF THE RUNWAY AND TAXIWAYS FOR AIRCRAFT USE. WEATHER CONDITIONS WHICH WOULD REQUIRE CANCELLATION OF WORK TYPICALLY OCCUR DURING KONA WIND CONDITIONS WITH CERTAIN WIND VELOCITY THRESHOLDS. HISTORIC DATA FROM THE AIRPORT SHOWS THAT THESE CONDITIONS OCCUR LESS THAN 10% OF THE TIME. NOTE THAT THE AIRPORT WILL NOT CLOSE RWY 3-21 OR RWY 17-35 NIGHTLY OR BEGIN A NEW PHASE WITH CONTINUOUS CLOSURE OF RWY 3-21 IF KONA WINDS ARE PREDICTED.
4. LIGHT TOWERS SHALL BE PROVIDED BY THE CONTRACTOR FOR ALL NIGHTTIME WORK SPACED AT NOT GREATER THAN 100 FEET. LIGHT TOWERS SHALL BE SHIELDED AND DOWN POINTING LIGHTS, NOT BE AIMED SUCH THAT THEY INTERFERE WITH PILOT VISIBILITY OR TOWER PERSONNEL VISIBILITY. FURTHER RESTRICTIONS MAY BE REQUIRED DURING SHEARWATER BIRD SEASON FROM SEPTEMBER TO DECEMBER IF NIGHTTIME WORK IS PERMITTED.
5. AT THE BEGINNING OF EACH SHIFT/NIGHT, CONTRACTOR SHALL COORDINATE THE LOCATION OF ALL TRAFFIC CONTROL DEVICES AND LOW-PROFILE BARRICADES WITH THE AIRPORT OPERATIONS.
6. NO OPEN TRENCHES SHALL BE PERMITTED WITHIN THE SAFETY AREAS OF ACTIVE RUNWAYS OR TAXIWAYS.
7. PRIOR TO REOPENING THE RUNWAYS AND TAXIWAYS AFTER CLOSURES, THE SAFETY AREAS SHALL BE:
   - A. CLEARED AND GRADED AND HAVE NO POTENTIALLY HAZARDOUS RUTS, HUMPS, DEPRESSIONS, OR OTHER SURFACE VARIATIONS.
   - B. NO ABRUPT CHANGES IN GRADE SUCH AS DROPS OR LIPS GREATER THAN 3-INCHES.
   - C. DRAINED BY GRADING TO PREVENT WATER ACCUMULATION.
   - D. CAPABLE, UNDER DRY CONDITIONS, OF SUPPORTING AIRCRAFT RESCUE AND FIRE FIGHTING EQUIPMENT, AND THE OCCASIONAL PASSAGE OF AIRCRAFT WITHOUT CAUSING STRUCTURAL DAMAGE TO THE AIRCRAFT.
   - E. FREE OF FOREIGN OBJECTS, WHICH CAN DAMAGE AIRCRAFT.
8. AN INSPECTION WILL BE PERFORMED BY THE CONSTRUCTION MANAGER AND AIRPORT OPERATIONS, 30 MINUTES PRIOR TO REOPENING THE RUNWAY/TAXIWAY TO DETERMINE IF THE ABOVE CRITERIA ARE MET.
9. AT THE END OF EACH SHIFT/NIGHT, THE WORK AREA SHALL BE RETURNED TO FULL OPERATIONAL CONDITIONS INCLUDING REMOVING BARRICADES AND RESTORING PAVEMENT MARKINGS, LIGHTING AND SIGNAGE TO ORIGINAL CONDITIONS AND CLARITY. FAILURE TO OPEN THE AIRFIELD ON-TIME OR TO RETURN ALL RUNWAY AND TAXIWAY LIGHTING TO FULL OPERATIONAL CONDITION WILL RESULT IN LIQUIDATED DAMAGES.
10. CONTRACTOR SHALL STOP WORK AND ALLOW AT LEAST 30 MINUTES FOR ELECTRICAL TROUBLESHOOTING PRIOR TO THE REOPENING OF THE RUNWAY/TAXIWAY. THE CONTRACTOR SHALL BE READY TO PROVIDE TEMPORARY JUMPER CABLES NECESSARY TO RE-ENERGIZE THE AIRFIELD ELECTRICAL SYSTEM IN CASE OF COLLAPSED CONDUITS OR OTHER UNFORESEEN ISSUES THAT PREVENT FULL RESTORATION AT THE END OF THE SHIFT. TEMPORARY JUMPER CABLES SHALL BE INSTALLED WITHIN ABOVE GROUND CONDUITS AND ANCHORED FROM JET BLAST.
11. CONTRACTOR SHALL PROVIDE FOD, DUST, AND SMOKE CONTROL AT ALL TIMES. HAUL ROUTES CROSSING ACTIVE AIRCRAFT PAVEMENTS (RUNWAYS, TAXIWAYS AND APRONS) AND PUBLIC ROADS SHALL BE CONTINUOUSLY CLEANED WITH A VACUUM SWEEPER.
12. WASTE MATERIAL OR DIRT STOCKPILES SHALL NOT BE TEMPORARILY STORED WITHIN THE RUNWAY OR TAXIWAY OBJECT FREE AREA. ALL MATERIALS SHALL BE REMOVED FROM THE AIRPORT AND PLACED IN DESIGNATED STOCKPILE LOCATION OR DISPOSED OF AT THE END OF EACH WORK SHIFT.
13. CONSTRUCTION TRAFFIC ON THE AIRPORT IS LIMITED TO HAUL AND ACCESS ROUTES AS SHOWN ON PLANS. HAUL ROUTES AND PAVEMENT, INCLUDING ADJACENT AFFECTED AREAS, SHALL BE KEPT IN VACUUM BROOM CLEAN CONDITION AT ALL TIMES.
14. HAUL ROUTES SHALL BE MAINTAINED BY THE CONTRACTOR AND SHALL BE RESTORED TO THEIR ORIGINAL CONDITION UPON COMPLETION OF THE PROJECT. THE BEFORE AND AFTER CONDITION OF THE ON-SITE HAUL ROUTES SHALL BE JOINTLY INSPECTED, PHOTOGRAPHED, AND AGREED UPON BY THE CONTRACTOR AND THE ENGINEER. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO THE HAUL ROUTES RESULTING FROM CONSTRUCTION ACTIVITY, INCLUDING REPAIR OF STRIPING.
15. CONTRACTOR SHALL PROVIDE SUFFICIENT FLAG PERSON TO ENSURE CONSTRUCTION VEHICLES USING THE CONSTRUCTION HAUL ROAD DO NOT INTERRUPT TRAVEL OF AIRCRAFT. FLAG PERSONS SHOWN ON THESE PLANS ARE THE MINIMUM THE CONTRACTOR MUST PROVIDE. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE WITH AIRPORT OPERATIONS IF FIELD CONDITIONS WARRANT ADDITIONAL FLAG PERSONS OR ESCORT VEHICLES ESPECIALLY DURING HEAVY CONSTRUCTION ACTIVITES WITH MATERIAL DELIVERIES AND EXCAVATIONS.
16. THE CONTRACTOR'S LAYDOWN & STORAGE AREA AS SHOWN ARE APPROXIMATE. CONTRACTOR SHALL SUBMIT A LAYOUT PLAN OF THE FINAL SIZE & LOCATION OF STAGING AREAS TO THE ENGINEER FOR REVIEW AND APPROVAL PRIOR TO MOBILIZATION. TEMPORARY FENCING, POWER AND UTILITY LINES, ARE THE RESPONSIBILITY OF THE CONTRACTOR.
17. THE CONTRACTOR SHALL PROVIDE AND APPLY DUST CONTROL AT ALL TIMES, AS REQUIRED, TO ABATE NUISANCE DUST WHICH IS A DIRECT RESULT OF CONSTRUCTION ACTIVITIES ON AND AROUND THE CONSTRUCTION AND STAGING AREAS. CONTRACTOR SHALL CLEAN THE LENSES OF THE ASOS AT THE MIDDLE AND END OF EACH WORK SHIFT.
18. ANY VEHICLE AND EQUIPMENT THAT MUST TRANSIENT THROUGH THE INSTRUMENT LANDING SYSTEM (ILS) CRITICAL AREA OR LOCALIZER (LOC) CRITICAL AREA, SHALL NOT BE PARKED OR STOPPED IN THIS AREA FOR ANY REASON. PROVIDE 72 HOUR NOTIFICATION TO THE AIRPORT PRIOR TO ACCESSING WORK THROUGH THIS AREA. A NOTICE TO AIRMEN (NOTAM) MUST BE FILED FOR WORK IN THE ILS & LOC CRITICAL AREAS. NO EQUIPMENT OR MATERIAL STORAGE/STOCKPILING WILL BE ALLOWED WITHIN THE ILS & LOC CRITICAL AREAS. ANY WORK OR TRAVERSING THROUGH THIS AREA COULD DEGRADE THE ILS SIGNAL AND IMPACT AIRPORT OPERATIONS DURING INSTRUMENT FLIGHT RULES (IFR) CONDITIONS. THE CONTRACTOR MAY BE REQUIRED TO RESCHEDULE WORK DURING INSTRUMENT WEATHER CONDITIONS.
19. CONTRACTOR SHALL REMAIN OUTSIDE OF VOR CRITICAL AREA AT ALL TIMES. ANY VEHICLE AND EQUIPMENT THAT MUST TRANSIENT THROUGH THE VOR CRITICAL AREA, SHALL NOT BE PARKED OR STOPPED IN THIS AREA FOR ANY REASON. PROVIDE 72 HOUR NOTIFICATION TO THE AIRPORT PRIOR TO ACCESSING WORK THROUGH THIS AREA.
20. THE CONTRACTOR SHALL EXERCISE CAUTION WHEN EXCAVATING IN AREAS OF EXISTING UTILITIES. EXISTING UTILITIES SHALL BE LOCATED AND MARKED IN ADVANCE OF EXCAVATION IN ALL AREAS. ANY DAMAGE DONE TO UTILITIES SHALL BE REPAIRED IMMEDIATELY BY THE CONTRACTOR AT HIS EXPENSE. THE LOCATION OF ANY UTILITIES SHOWN ON THE PLANS IS APPROXIMATE ONLY, AND DEPTHS MAY NOT BE KNOWN. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPLACING OR REPAIRING ALL DAMAGE TO UTILITIES AND AIRPORT PROPERTY.
21. FAA FORM 7460-1 SHALL BE FILED BY THE CONTRACTOR A MINIMUM OF 3 MONTHS IN ADVANCE OF CONSTRUCTION FOR THIS PROJECT AND FOR ALL CRANE ACTIVITY ASSOCIATED, AND OBTAIN APPROVAL FROM FAA PRIOR TO WORK BEING PERFORMED. CONTRACTOR SHALL COORDINATE WITH THE AIRPORT A MINIMUM OF 14 DAYS IN ADVANCE FOR ANY REQUIRED NOTAMS AND NAVAID SHUTDOWNS.
22. ONCE A PHASE HAS STARTED, THAT PHASE SHALL BE COMPLETED IN THE TOTAL NUMBER OF CONTINUOUS CALENDAR DAYS AS INDICATED.
23. CONTRACTOR HAUL ROUTE WILL BE USED BY OTHER AIRPORT VEHICLES. THE CONTRACTOR SHALL NOT INTERFERE WITH OTHER VEHICLE TRAFFIC, OBEY SPEED LIMITS, AND SHALL YIELD TO ALL EMERGENCY VEHICLES AND AIRCRAFT. ALL EXISTING GATES SHALL BE UNOBSTRUCTED AND OPERATIONAL AT ALL TIMES.
24. CONTRACTOR SHALL BE RESPONSIBLE TO ESTABLISH NEW HAUL ROUTES OR IMPROVE EXISTING ROADS AS SHOWN ON THE PLANS, OR AS HE/SHE DEEMS NECESSARY IN ORDER TO COMPLETE THE PROJECT SCOPE.
25. CONTRACTOR SHALL COORDINATE WITH THE AIRPORT FOR ANY NEW CONSTRUCTION ACCESS GATES, AND PROVIDE AIRPORT QUALIFIED SECURITY PERSONNEL TO PERFORM REQUIRED CHECKS AND INSPECTIONS TO MAINTAIN AIRPORT SECURITY.
26. LIH ATCT NORMAL OPERATIONAL HOURS ARE 0600 TO 2200.

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STATE OF HAWAII

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PE-17779
HAWAII, U.S.A.

DUKE YOUNG, PE
CIVIL ENGINEER
4/30/24
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

GENERAL PHASING NOTES

DATE :	DWG. NO.
07/2022	G0.31
SHEET :	
22 OF 376 SHEETS	

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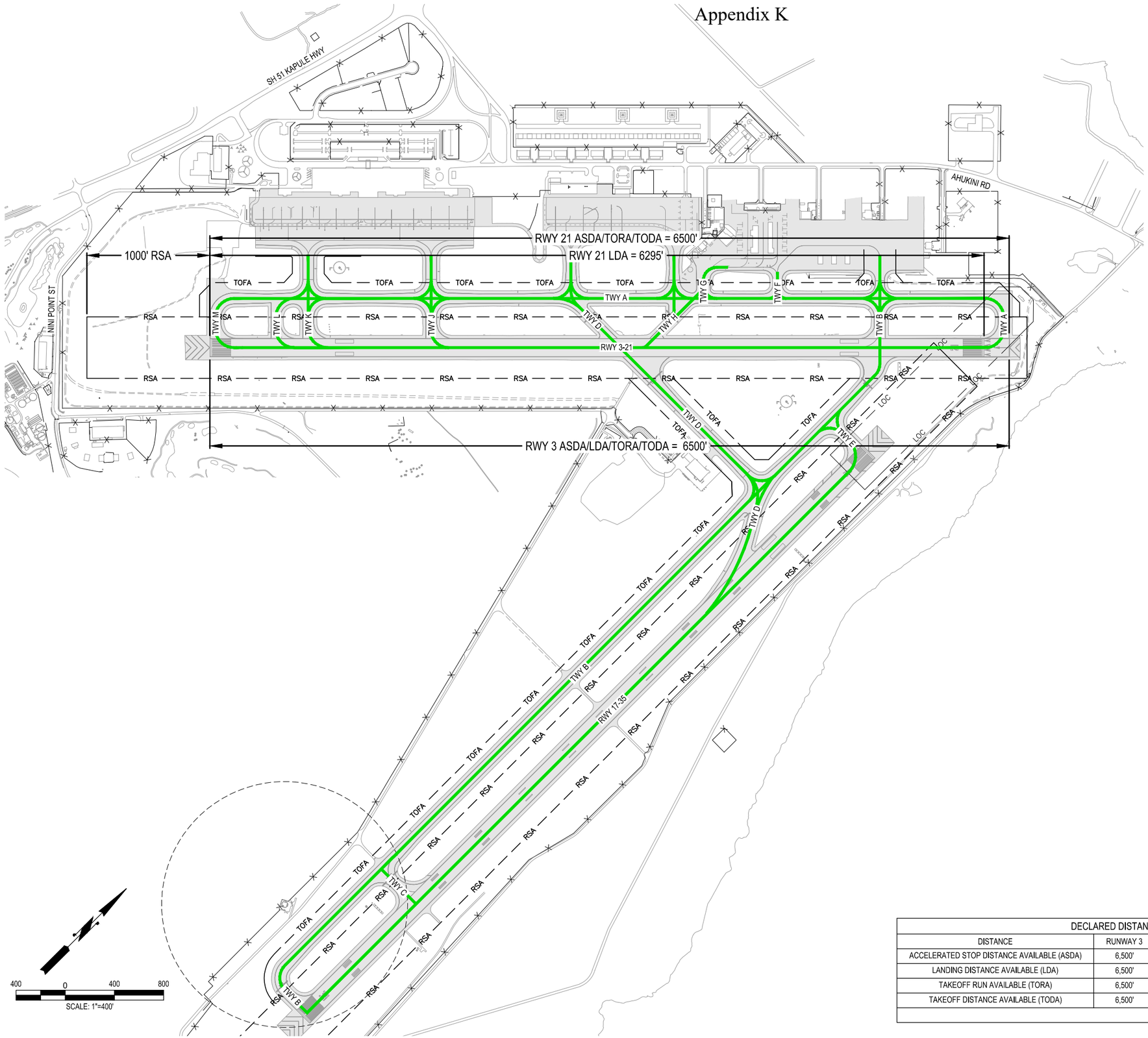
Appendix K



LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA

DECLARED DISTANCES				
DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	6,500'	6,500'	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	6,500'	6,295'	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	6,500'	6,500'	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	6,500'	6,500'	6,500'	6,500'
* DECLARED DISTANCE REDUCED				

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KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

EXISTING CONDITION

DATE : **07/2022**

SHEET : 23 OF 376 SHEETS

DWG. NO. **G0.32**

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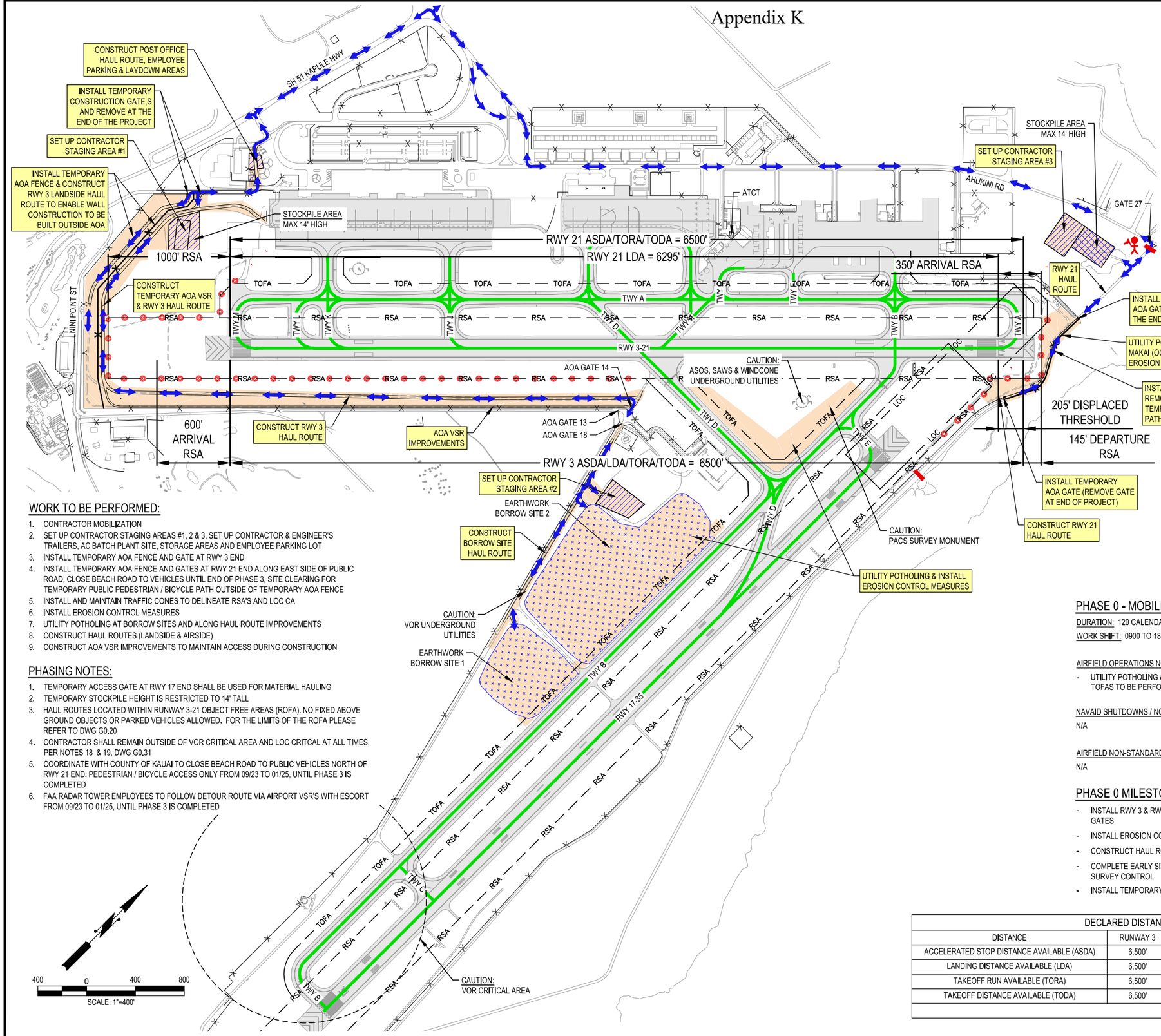
Appendix K



LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE

WORK TO BE PERFORMED:

1. CONTRACTOR MOBILIZATION
2. SET UP CONTRACTOR STAGING AREAS #1, 2 & 3. SET UP CONTRACTOR & ENGINEER'S TRAILERS, AC BATCH PLANT SITE, STORAGE AREAS AND EMPLOYEE PARKING LOT
3. INSTALL TEMPORARY AOA FENCE AND GATE AT RWY 3 END
4. INSTALL TEMPORARY AOA FENCE AND GATES AT RWY 21 END ALONG EAST SIDE OF PUBLIC ROAD, CLOSE BEACH ROAD TO VEHICLES UNTIL END OF PHASE 3, SITE CLEARING FOR TEMPORARY PUBLIC PEDESTRIAN / BICYCLE PATH OUTSIDE OF TEMPORARY AOA FENCE
5. INSTALL AND MAINTAIN TRAFFIC CONES TO DELINEATE RSA'S AND LOC CA
6. INSTALL EROSION CONTROL MEASURES
7. UTILITY POTHOLING AT BORROW SITES AND ALONG HAUL ROUTE IMPROVEMENTS
8. CONSTRUCT HAUL ROUTES (LANDSIDE & AIRSIDE)
9. CONSTRUCT AOA VSR IMPROVEMENTS TO MAINTAIN ACCESS DURING CONSTRUCTION

PHASING NOTES:

1. TEMPORARY ACCESS GATE AT RWY 17 END SHALL BE USED FOR MATERIAL HAULING
2. TEMPORARY STOCKPILE HEIGHT IS RESTRICTED TO 14' TALL
3. HAUL ROUTES LOCATED WITHIN RUNWAY 3-21 OBJECT FREE AREAS (ROFA). NO FIXED ABOVE GROUND OBJECTS OR PARKED VEHICLES ALLOWED. FOR THE LIMITS OF THE ROFA PLEASE REFER TO DWG G0.20
4. CONTRACTOR SHALL REMAIN OUTSIDE OF VOR CRITICAL AREA AND LOC CRITCAL AT ALL TIMES, PER NOTES 18 & 19, DWG G0.31
5. COORDINATE WITH COUNTY OF KAUAI TO CLOSE BEACH ROAD TO PUBLIC VEHICLES NORTH OF RWY 21 END. PEDESTRIAN / BICYCLE ACCESS ONLY FROM 09/23 TO 01/25, UNTIL PHASE 3 IS COMPLETED
6. FAA RADAR TOWER EMPLOYEES TO FOLLOW DETOUR ROUTE VIA AIRPORT VSR'S WITH ESCORT FROM 09/23 TO 01/25, UNTIL PHASE 3 IS COMPLETED

PHASE 0 - MOBILIZATION

DURATION: 120 CALENDAR DAYS

WORK SHIFT: 0900 TO 1800 HST

AIRFIELD OPERATIONS NOTAMS:

- UTILITY POTHOLING & EROSION CONTROL MEASURES ALONG TWY B & TWY D TOFAS TO BE PERFORMED AS WORK-IN-PROGRESS

NAVAID SHUTDOWNS / NOTAMS:

N/A

AIRFIELD NON-STANDARD CONDITIONS:

N/A

PHASE 0 MILESTONE:

- INSTALL RWY 3 & RWY 21 TEMPORARY AOA FENCE AND TEMPORARY ACCESS GATES
- INSTALL EROSION CONTROL MEASURES
- CONSTRUCT HAUL ROUTES
- COMPLETE EARLY SITE INVESTIGATIONS, UTILITY POTHOLES AND ESTABLISH SURVEY CONTROL
- INSTALL TEMPORARY JET BLAST DEFLECTOR (PHASE 0A)

DECLARED DISTANCES

DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	6,500'	6,500'	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	6,500'	6,295'	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	6,500'	6,500'	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	6,500'	6,500'	6,500'	6,500'

* DECLARED DISTANCE REDUCED

STATE OF HAWAII 1959

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DUKE S. YOUNG
LICENSED PROFESSIONAL ENGINEER
PE–17779
HAWAII, U.S.A.

DUKE YOUNG, PE
CIVIL ENGINEER
4/30/24
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

PHASE 0

DATE : 07/2022

SHEET : 24 OF 376 SHEETS

DWG. NO. G0.50

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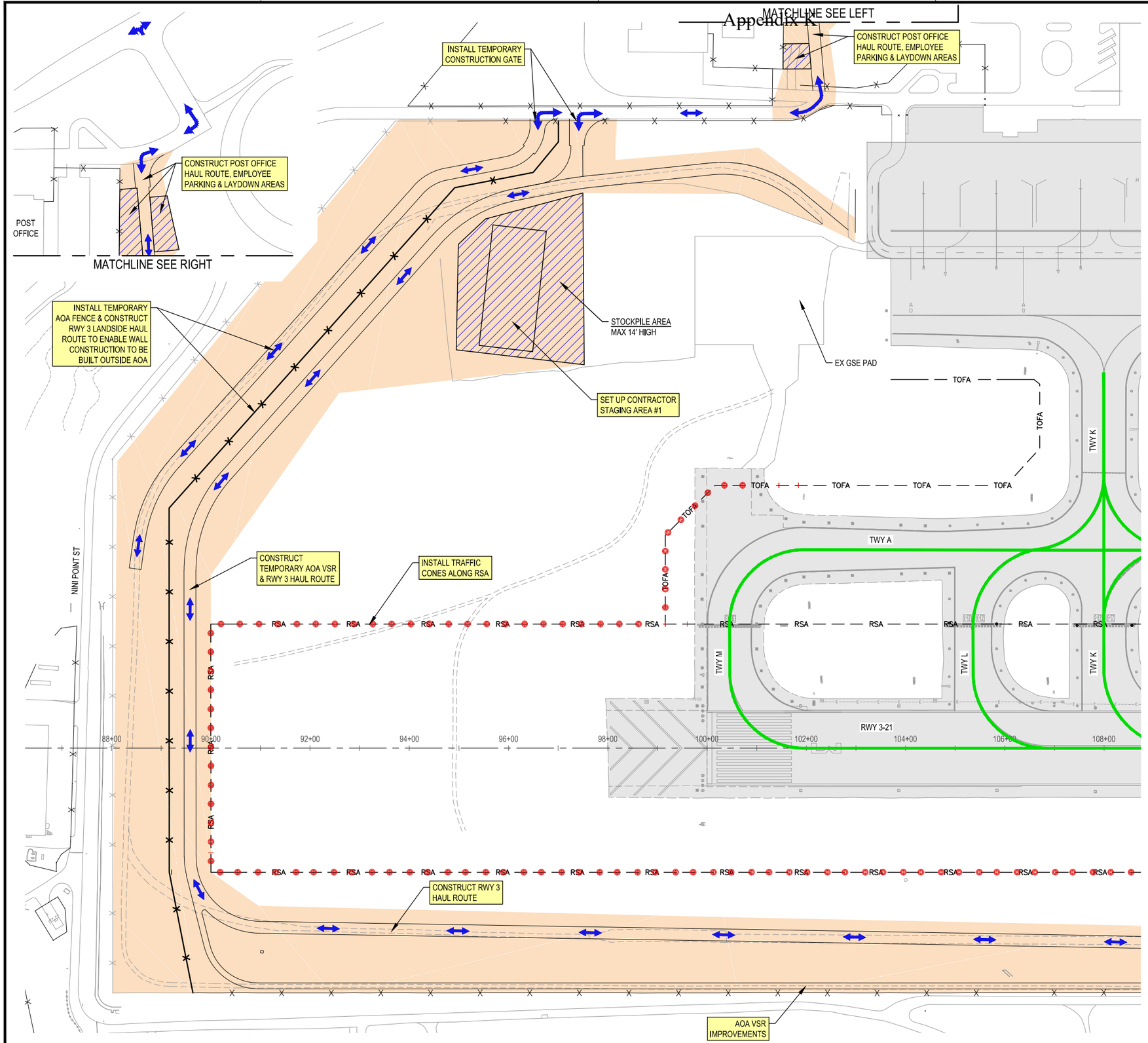

LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- EXISTING MARKINGS
- EXISTING MARKINGS TO BE OBLITERATED/BLACKED OUT
- TEMPORARY PAVEMENT MARKINGS

GENERAL NOTES:

1. SEE C100 SERIES FOR EXISTING CONDITIONS PLANS & UTILITY LOCATIONS
2. INSTALL EROSION CONTROL MEASURES IN WORK AREAS, SEE C0.00 SERIES
3. LIMITED NIGHTTIME WORK HOURS DURING SHEARWATER SEASON (SEPT - DEC). SEE NOTE 4, DWG G0.31 FOR SHEARWATER PROTECTION

100 0 100 200
SCALE: 1"=100'

Airports Division
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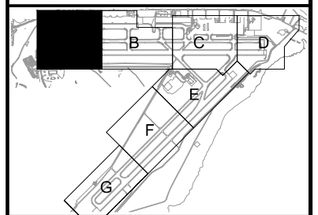
HF	HT	JB	DY

KEY PLAN / NOTES:



NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

PHASE 0
AREA A

DATE :	DWG. NO.
07/2022	G0.51
SHEET :	
25 OF 376 SHEETS	

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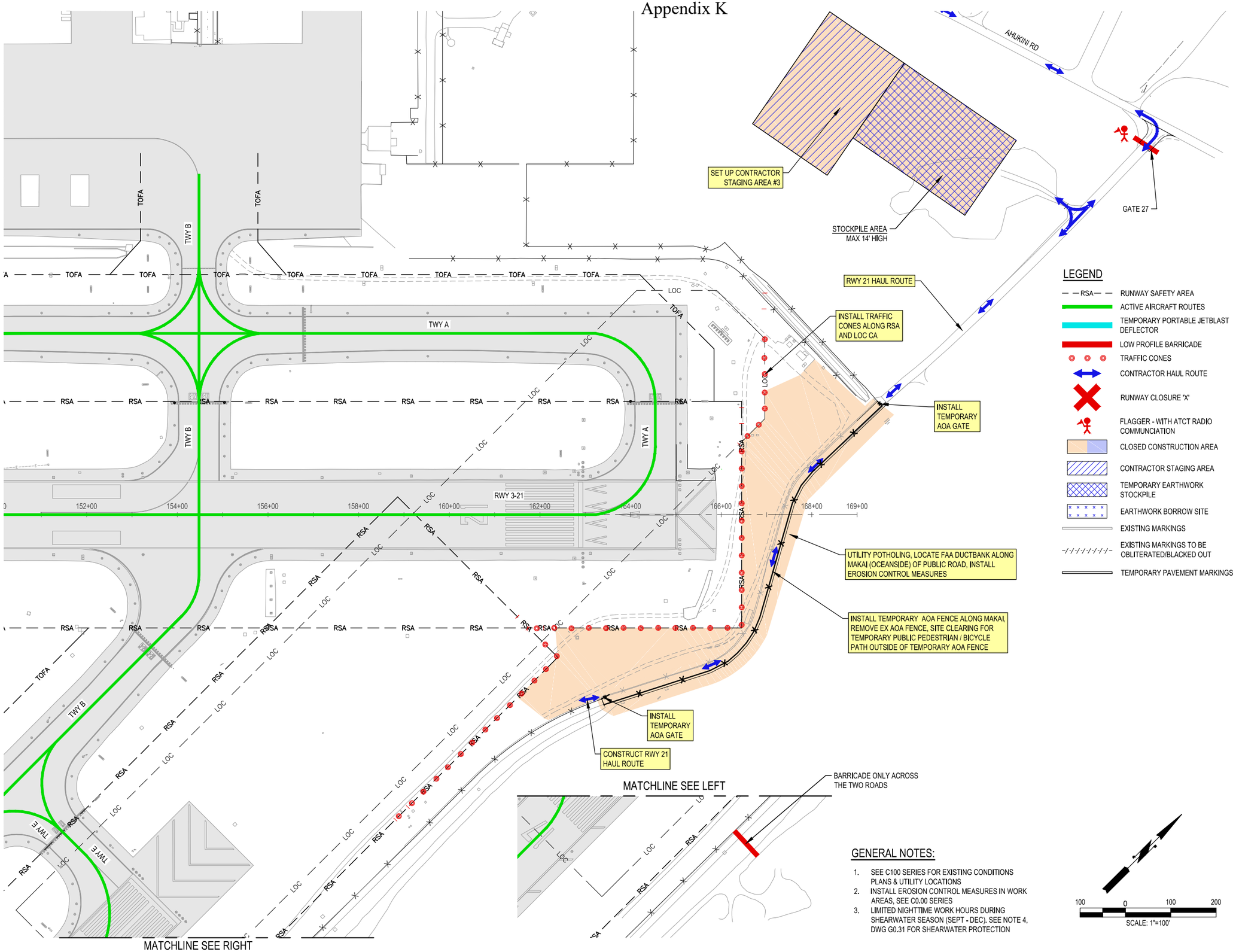
Appendix K



LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
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- CONTRACTOR STAGING AREA
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- EARTHWORK BORROW SITE
- EXISTING MARKINGS
- EXISTING MARKINGS TO BE OBLITERATED/BLACKED OUT
- TEMPORARY PAVEMENT MARKINGS

GENERAL NOTES:

1. SEE C100 SERIES FOR EXISTING CONDITIONS PLANS & UTILITY LOCATIONS
2. INSTALL EROSION CONTROL MEASURES IN WORK AREAS, SEE C0.00 SERIES
3. LIMITED NIGHTTIME WORK HOURS DURING SHEARWATER SEASON (SEPT - DEC). SEE NOTE 4, DWG G0.31 FOR SHEARWATER PROTECTION

100 0 100 200
SCALE: 1"=100'

STATE OF HAWAII 1959

Airports Division
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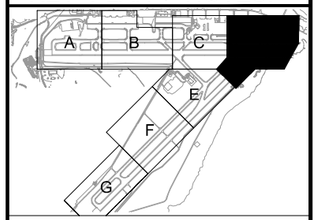
KEY PLAN / NOTES:



NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

PHASE 0
AREA D

DATE :	DWG. NO.
07/2022	G0.52
SHEET :	
26 OF 376 SHEETS	

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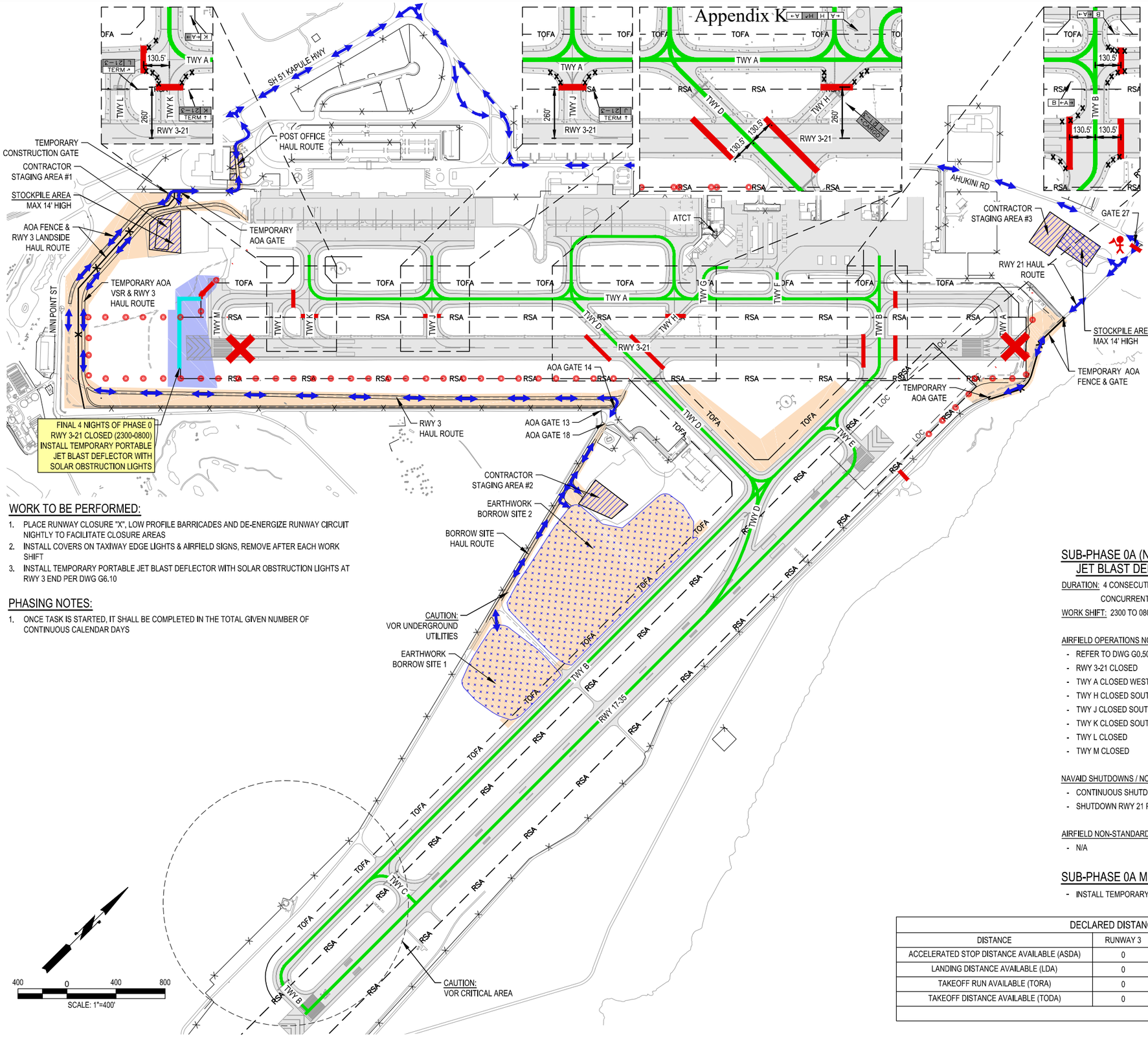

WORK TO BE PERFORMED:

1. PLACE RUNWAY CLOSURE "X", LOW PROFILE BARRICADES AND DE-ENERGIZE RUNWAY CIRCUIT NIGHTLY TO FACILITATE CLOSURE AREAS
2. INSTALL COVERS ON TAXIWAY EDGE LIGHTS & AIRFIELD SIGNS, REMOVE AFTER EACH WORK SHIFT
3. INSTALL TEMPORARY PORTABLE JET BLAST DEFLECTOR WITH SOLAR OBSTRUCTION LIGHTS AT RWY 3 END PER DWG G6.10

PHASING NOTES:

1. ONCE TASK IS STARTED, IT SHALL BE COMPLETED IN THE TOTAL GIVEN NUMBER OF CONTINUOUS CALENDAR DAYS

LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN
- COVER AIRFIELD LIGHT

SUB-PHASE 0A (NIGHTTIME) - TEMPORARY PORTABLE JET BLAST DEFLECTOR

DURATION: 4 CONSECUTIVE CALENDAR NIGHTS
CONCURRENT WITH FINAL 4 DAYS OF PHASE 0

WORK SHIFT: 2300 TO 0800 HST

AIRFIELD OPERATIONS NOTAMS:

- REFER TO DWG G0.50 FOR PHASE 0 AIRFIELD OPERATIONS NOTAMS
- RWY 3-21 CLOSED
- TWY A CLOSED WEST OF TWY K AND EAST OF TWY B
- TWY H CLOSED SOUTH OF TWY A
- TWY J CLOSED SOUTH OF TWY A
- TWY K CLOSED SOUTH OF TWY A
- TWY L CLOSED
- TWY M CLOSED

NAVAID SHUTDOWNS / NOTAMS:

- CONTINUOUS SHUTDOWN OF RWY 3 PAPI & REILS
- SHUTDOWN RWY 21 PAPI AND REILS, RESTORE EACH MORNING

AIRFIELD NON-STANDARD CONDITIONS:

- N/A

SUB-PHASE 0A MILESTONE:

- INSTALL TEMPORARY JET BLAST DEFLECTOR

DECLARED DISTANCES				
DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	0	0	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	0	0	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	0	0	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	0	0	6,500'	6,500'
* DECLARED DISTANCE REDUCED				

Airports Division
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STATE OF HAWAII

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CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 0A (NIGHTTIME)

DATE : 07/2022

SHEET : 27 OF 376 SHEETS

DWG. NO. G0.53

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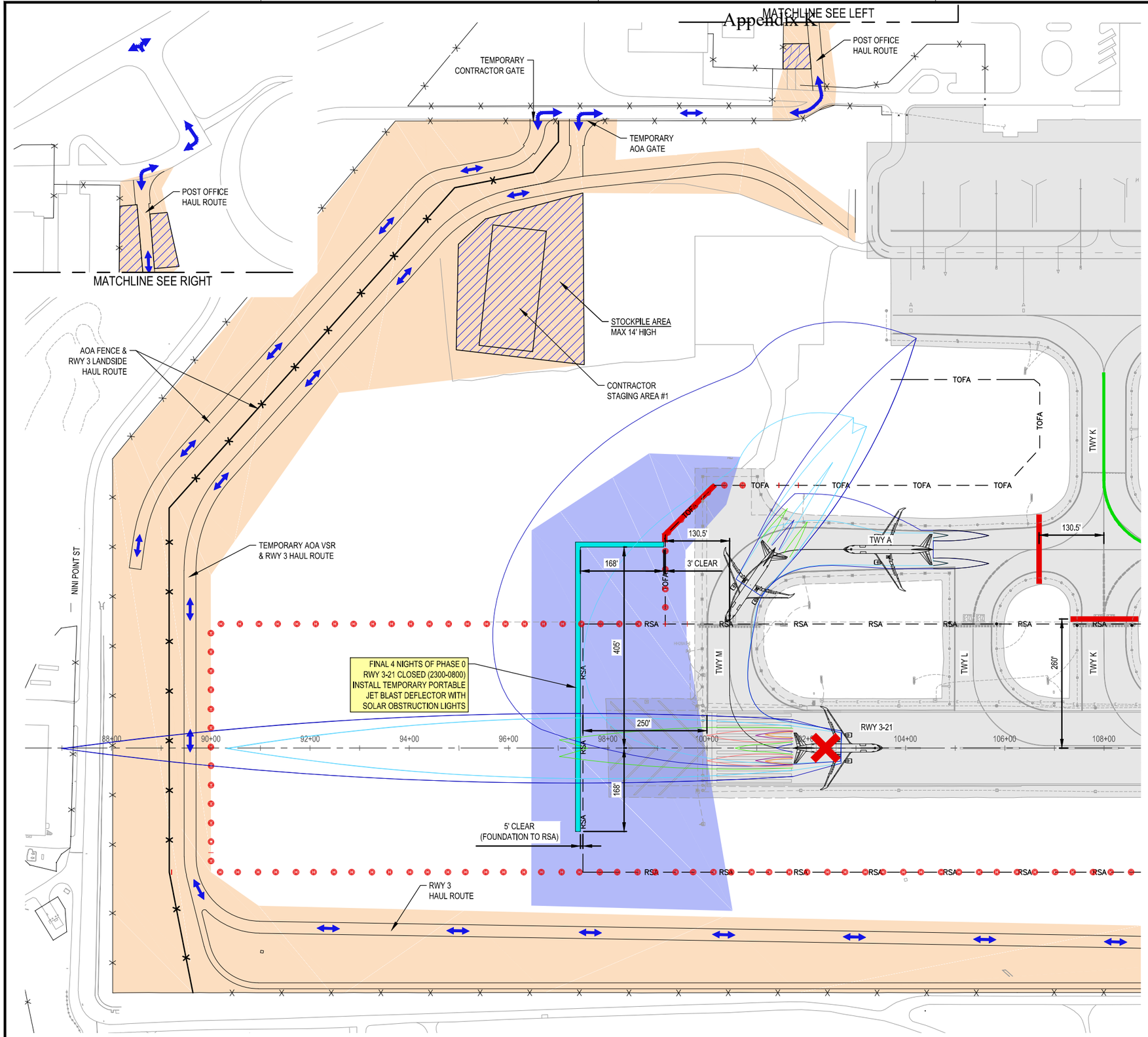


LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- EXISTING MARKINGS
- EXISTING MARKINGS TO BE OBLITERATED/BLACKED OUT
- TEMPORARY PAVEMENT MARKINGS

PHASE NOTES:

1. SEE G0.53 FOR PLACEMENT OF COVERS ON AIRFIELD SIGNS AND EDGE LIGHTS

GENERAL NOTES:

1. SEE C100 SERIES FOR EXISTING CONDITIONS PLANS & UTILITY LOCATIONS
2. INSTALL EROSION CONTROL MEASURES IN WORK AREAS, SEE C0.00 SERIES
3. LIMITED NIGHTTIME WORK HOURS DURING SHEARWATER SEASON (SEPT - DEC). SEE NOTE 4, DWG G0.31 FOR SHEARWATER PROTECTION

100 0 100 200
SCALE: 1"=100'

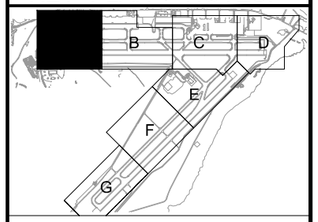
STATE OF HAWAII 1959
Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DUKE S. YOUNG
LICENSED PROFESSIONAL ENGINEER
PE-17779
HAWAII, U.S.A.

Duke Young 4/30/24
DUKE YOUNG, PE
CIVIL ENGINEER
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:



NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 0A
AREA 1

DATE :	DWG. NO.
07/2022	G0.54
SHEET :	
28 OF 376 SHEETS	

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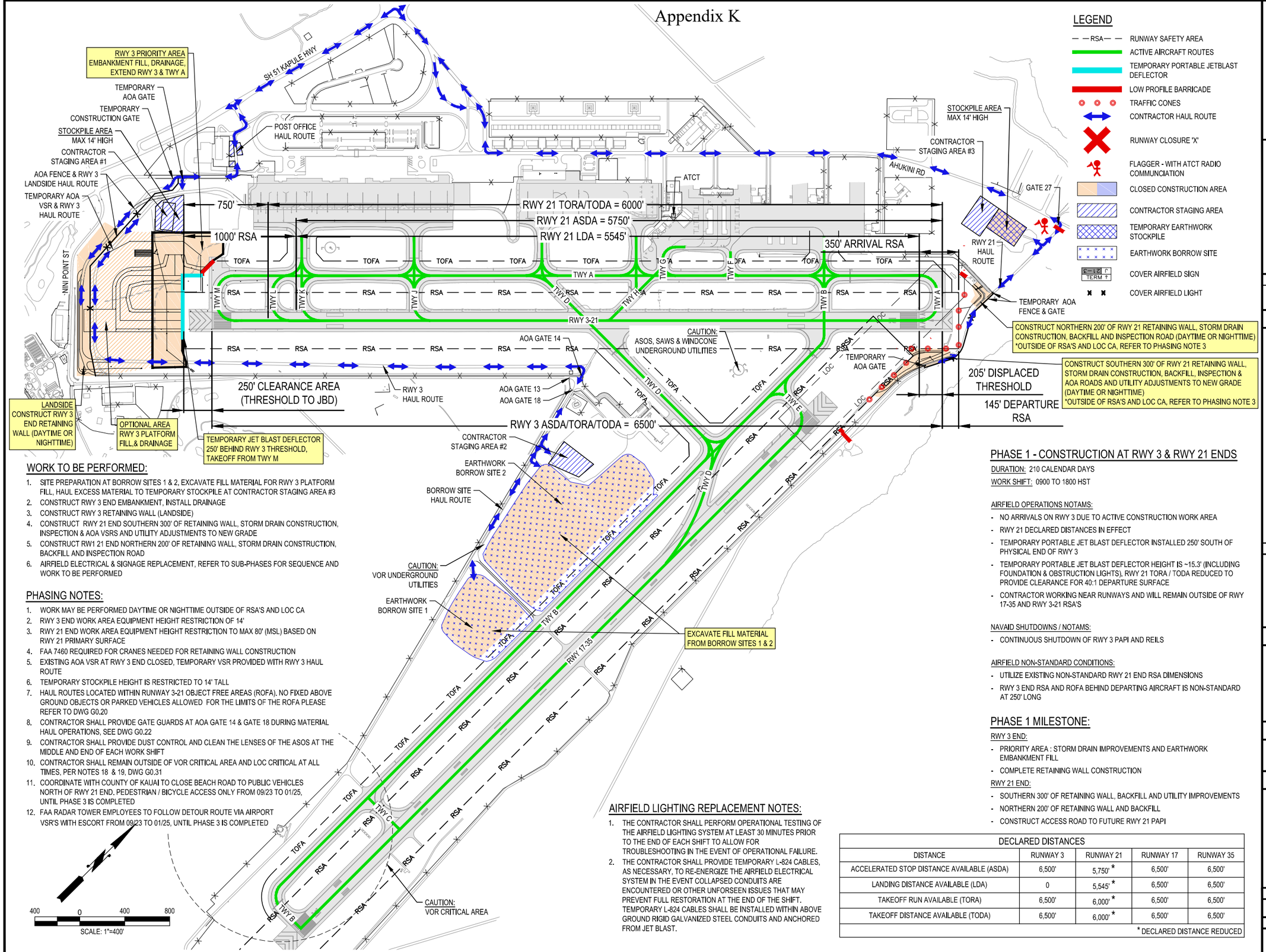
Appendix K



LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
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- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN (E–LZ ↑ TERM ↑)
- COVER AIRFIELD LIGHT

WORK TO BE PERFORMED:

1. SITE PREPARATION AT BORROW SITES 1 & 2, EXCAVATE FILL MATERIAL FOR RWY 3 PLATFORM FILL, HAUL EXCESS MATERIAL TO TEMPORARY STOCKPILE AT CONTRACTOR STAGING AREA #3
2. CONSTRUCT RWY 3 END EMBANKMENT, INSTALL DRAINAGE
3. CONSTRUCT RWY 3 RETAINING WALL (LANDSIDE)
4. CONSTRUCT RWY 21 END SOUTHERN 300' OF RETAINING WALL, STORM DRAIN CONSTRUCTION, INSPECTION & AOA VSRS AND UTILITY ADJUSTMENTS TO NEW GRADE
5. CONSTRUCT RW1 21 END NORTHERN 200' OF RETAINING WALL, STORM DRAIN CONSTRUCTION, BACKFILL AND INSPECTION ROAD
6. AIRFIELD ELECTRICAL & SIGNAGE REPLACEMENT, REFER TO SUB-PHASES FOR SEQUENCE AND WORK TO BE PERFORMED

PHASING NOTES:

1. WORK MAY BE PERFORMED DAYTIME OR NIGHTTIME OUTSIDE OF RSA'S AND LOC CA
2. RWY 3 END WORK AREA EQUIPMENT HEIGHT RESTRICTION OF 14'
3. RWY 21 END WORK AREA EQUIPMENT HEIGHT RESTRICTION TO MAX 80' (MSL) BASED ON RWY 21 PRIMARY SURFACE
4. FAA 7460 REQUIRED FOR CRANES NEEDED FOR RETAINING WALL CONSTRUCTION
5. EXISTING AOA VSR AT RWY 3 END CLOSED, TEMPORARY VSR PROVIDED WITH RWY 3 HAUL ROUTE
6. TEMPORARY STOCKPILE HEIGHT IS RESTRICTED TO 14' TALL
7. HAUL ROUTES LOCATED WITHIN RUNWAY 3-21 OBJECT FREE AREAS (ROFA). NO FIXED ABOVE GROUND OBJECTS OR PARKED VEHICLES ALLOWED FOR THE LIMITS OF THE ROFA PLEASE REFER TO DWG G0.20
8. CONTRACTOR SHALL PROVIDE GATE GUARDS AT AOA GATE 14 & GATE 18 DURING MATERIAL HAUL OPERATIONS, SEE DWG G0.22
9. CONTRACTOR SHALL PROVIDE DUST CONTROL AND CLEAN THE LENSES OF THE ASOS AT THE MIDDLE AND END OF EACH WORK SHIFT
10. CONTRACTOR SHALL REMAIN OUTSIDE OF VOR CRITICAL AREA AND LOC CRITICAL AT ALL TIMES, PER NOTES 18 & 19, DWG G0.31
11. COORDINATE WITH COUNTY OF KAUAI TO CLOSE BEACH ROAD TO PUBLIC VEHICLES NORTH OF RWY 21 END. PEDESTRIAN / BICYCLE ACCESS ONLY FROM 09/23 TO 01/25, UNTIL PHASE 3 IS COMPLETED
12. FAA RADAR TOWER EMPLOYEES TO FOLLOW DETOUR ROUTE VIA AIRPORT VSR'S WITH ESCORT FROM 09/23 TO 01/25, UNTIL PHASE 3 IS COMPLETED

AIRFIELD LIGHTING REPLACEMENT NOTES:

1. THE CONTRACTOR SHALL PERFORM OPERATIONAL TESTING OF THE AIRFIELD LIGHTING SYSTEM AT LEAST 30 MINUTES PRIOR TO THE END OF EACH SHIFT TO ALLOW FOR TROUBLESHOOTING IN THE EVENT OF OPERATIONAL FAILURE.
2. THE CONTRACTOR SHALL PROVIDE TEMPORARY L-824 CABLES, AS NECESSARY, TO RE-ENERGIZE THE AIRFIELD ELECTRICAL SYSTEM IN THE EVENT COLLAPSED CONDUITS ARE ENCOUNTERED OR OTHER UNFORSEEN ISSUES THAT MAY PREVENT FULL RESTORATION AT THE END OF THE SHIFT. TEMPORARY L-824 CABLES SHALL BE INSTALLED WITHIN ABOVE GROUND RIGID GALVANIZED STEEL CONDUITS AND ANCHORED FROM JET BLAST.

PHASE 1 - CONSTRUCTION AT RWY 3 & RWY 21 ENDS

DURATION: 210 CALENDAR DAYS

WORK SHIFT: 0900 TO 1800 HST

AIRFIELD OPERATIONS NOTAMS:

- NO ARRIVALS ON RWY 3 DUE TO ACTIVE CONSTRUCTION WORK AREA
- RWY 21 DECLARED DISTANCES IN EFFECT
- TEMPORARY PORTABLE JET BLAST DEFLECTOR INSTALLED 250' SOUTH OF PHYSICAL END OF RWY 3
- TEMPORARY PORTABLE JET BLAST DEFLECTOR HEIGHT IS ~15.3' (INCLUDING FOUNDATION & OBSTRUCTION LIGHTS), RWY 21 TORA / TODA REDUCED TO PROVIDE CLEARANCE FOR 40:1 DEPARTURE SURFACE
- CONTRACTOR WORKING NEAR RUNWAYS AND WILL REMAIN OUTSIDE OF RWY 17-35 AND RWY 3-21 RSA'S

NAVAID SHUTDOWNS / NOTAMS:

- CONTINUOUS SHUTDOWN OF RWY 3 PAPI AND REILS

AIRFIELD NON-STANDARD CONDITIONS:

- UTILIZE EXISTING NON-STANDARD RWY 21 END RSA DIMENSIONS
- RWY 3 END RSA AND ROFA BEHIND DEPARTING AIRCRAFT IS NON-STANDARD AT 250' LONG

PHASE 1 MILESTONE:

RWY 3 END:

- PRIORITY AREA : STORM DRAIN IMPROVEMENTS AND EARTHWORK EMBANKMENT FILL
- COMPLETE RETAINING WALL CONSTRUCTION

RWY 21 END:

- SOUTHERN 300' OF RETAINING WALL, BACKFILL AND UTILITY IMPROVEMENTS
- NORTHERN 200' OF RETAINING WALL AND BACKFILL
- CONSTRUCT ACCESS ROAD TO FUTURE RWY 21 PAPI

DECLARED DISTANCES

DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	6,500'	5,750' *	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	0	5,545' *	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	6,500'	6,000' *	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	6,500'	6,000' *	6,500'	6,500'

* DECLARED DISTANCE REDUCED

STATE OF HAWAII 1959

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HAWAII, U.S.A.

DUKE YOUNG, PE
CIVIL ENGINEER
4/30/24
Expiration Date

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HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

PHASE 1

DATE :
07/2022
SHEET :
29 OF 376 SHEETS

DWG. NO.
G1.01

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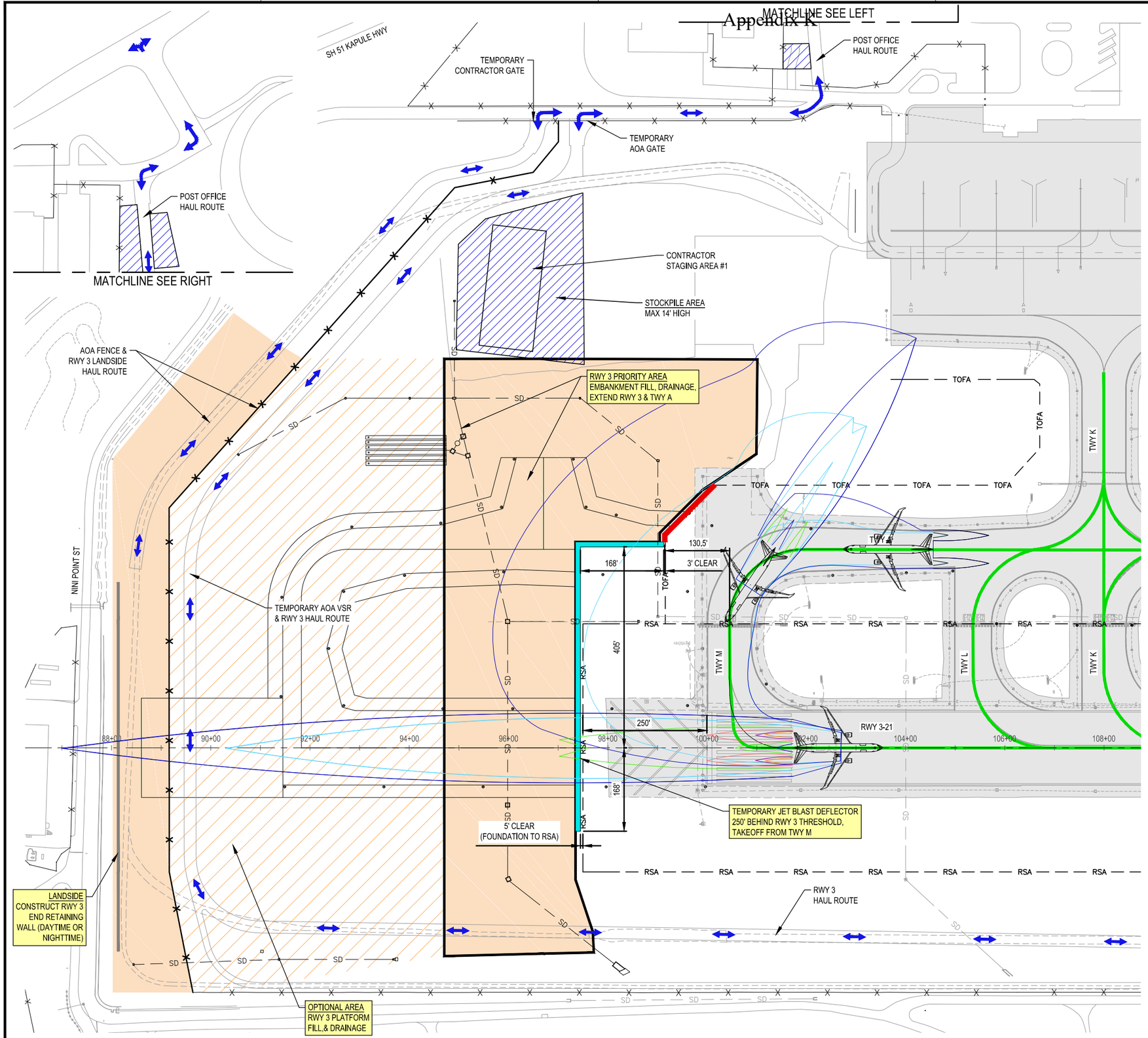

LEGEND

- RSA — RUNWAY SAFETY AREA
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- EARTHWORK BORROW SITE
- EXISTING MARKINGS
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PHASE NOTES:

1. SEE G1.01 FOR PLACEMENT OF COVERS ON AIRFIELD SIGNS AND EDGE LIGHTS

Jet blast colors

35 mph	Color 174
50 mph	Color 141
99 mph	Color 80
149 mph	Color 11
199 mph	Color 214
249 mph	Color 30
300 mph	Color 41
400 mph	Color 20

GENERAL NOTES:

1. SEE C100 SERIES FOR EXISTING CONDITIONS PLANS & UTILITY LOCATIONS
2. INSTALL EROSION CONTROL MEASURES IN WORK AREAS, SEE C0.00 SERIES
3. LIMITED NIGHTTIME WORK HOURS DURING SHEARWATER SEASON (SEPT - DEC). SEE NOTE 4, DWG G0.31 FOR SHEARWATER PROTECTION

100 0 100 200
SCALE: 1"=100'

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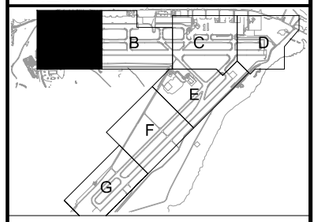
KEY PLAN / NOTES:



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CONSTRUCTION DOCUMENTS
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PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

PHASE 1
AREA A

DATE : 07/2022

SHEET : 30 OF 376 SHEETS

DWG. NO. G1.02

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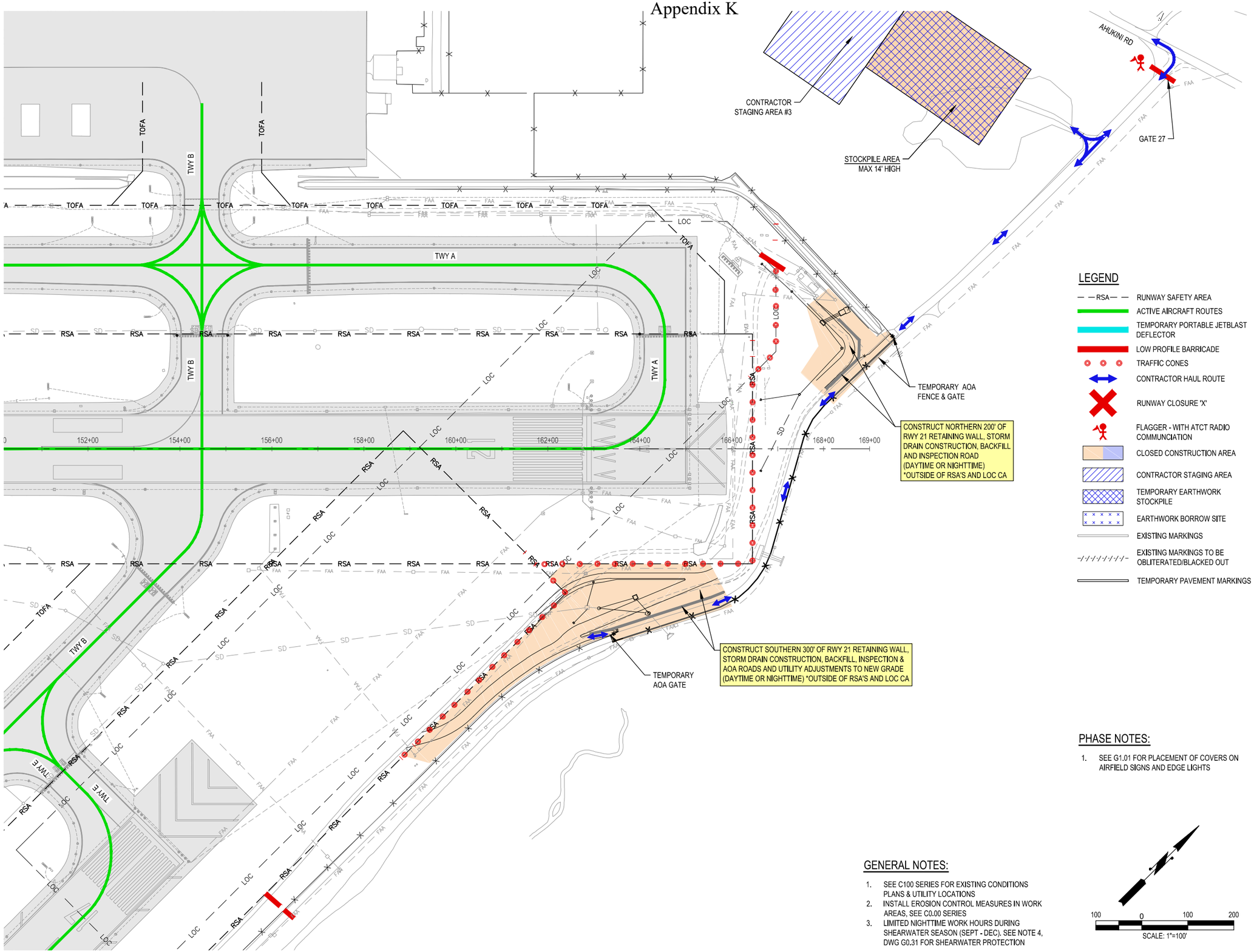
Appendix K



LEGEND

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PHASE NOTES:

1. SEE G1.01 FOR PLACEMENT OF COVERS ON AIRFIELD SIGNS AND EDGE LIGHTS

GENERAL NOTES:

1. SEE C100 SERIES FOR EXISTING CONDITIONS PLANS & UTILITY LOCATIONS
2. INSTALL EROSION CONTROL MEASURES IN WORK AREAS, SEE C0.00 SERIES
3. LIMITED NIGHTTIME WORK HOURS DURING SHEARWATER SEASON (SEPT - DEC). SEE NOTE 4, DWG G0.31 FOR SHEARWATER PROTECTION

100 0 100 200
SCALE: 1"=100'

STATE OF HAWAII 1959

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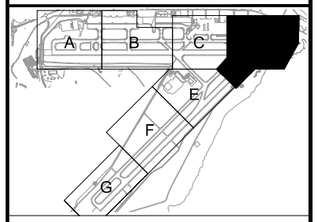

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

PHASE 1
AREA D

DATE :	DWG. NO.
07/2022	G1.03
SHEET :	
31 OF 376 SHEETS	

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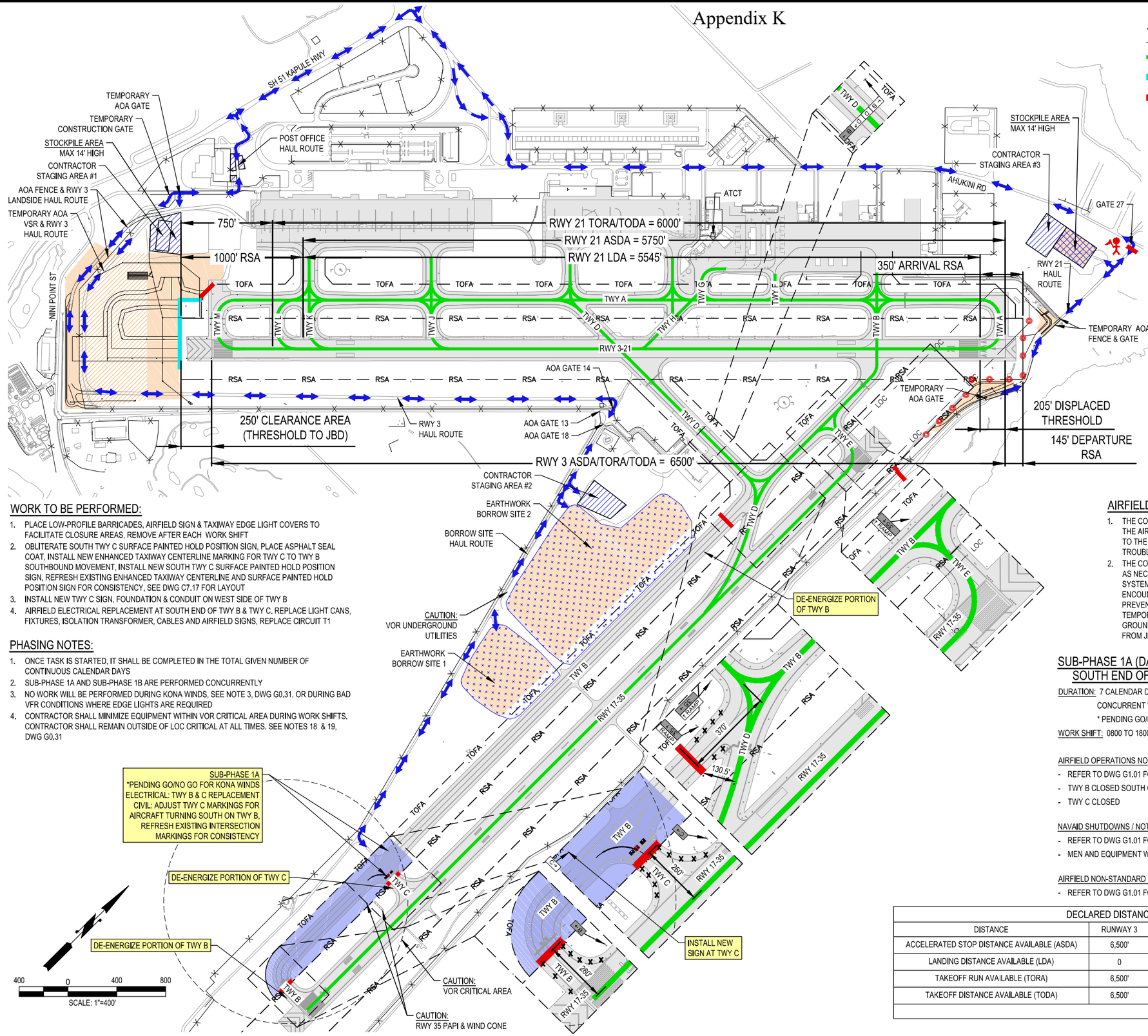
Appendix K



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- RSA — RUNWAY SAFETY AREA
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- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN (6–LZ / TERM 7)
- COVER AIRFIELD LIGHT

WORK TO BE PERFORMED:

1. PLACE LOW-PROFILE BARRICADES, AIRFIELD SIGN & TAXIWAY EDGE LIGHT COVERS TO FACILITATE CLOSURE AREAS, REMOVE AFTER EACH WORK SHIFT
2. OBLITERATE SOUTH TWY C SURFACE PAINTED HOLD POSITION SIGN, PLACE ASPHALT SEAL COAT, INSTALL NEW ENHANCED TAXIWAY CENTERLINE MARKING FOR TWY C TO TWY B SOUTHBOUND MOVEMENT, INSTALL NEW SOUTH TWY C SURFACE PAINTED HOLD POSITION SIGN, REFRESH EXISTING ENHANCED TAXIWAY CENTERLINE AND SURFACE PAINTED HOLD POSITION SIGN FOR CONSISTENCY, SEE DWG C7.17 FOR LAYOUT
3. INSTALL NEW TWY C SIGN, FOUNDATION & CONDUIT ON WEST SIDE OF TWY B
4. AIRFIELD ELECTRICAL REPLACEMENT AT SOUTH END OF TWY B & TWY C. REPLACE LIGHT CANS, FIXTURES, ISOLATION TRANSFORMER, CABLES AND AIRFIELD SIGNS, REPLACE CIRCUIT T1

PHASING NOTES:

1. ONCE TASK IS STARTED, IT SHALL BE COMPLETED IN THE TOTAL GIVEN NUMBER OF CONTINUOUS CALENDAR DAYS
2. SUB-PHASE 1A AND SUB-PHASE 1B ARE PERFORMED CONCURRENTLY
3. NO WORK WILL BE PERFORMED DURING KONA WINDS, SEE NOTE 3, DWG G0.31, OR DURING BAD VFR CONDITIONS WHERE EDGE LIGHTS ARE REQUIRED
4. CONTRACTOR SHALL MINIMIZE EQUIPMENT WITHIN VOR CRITICAL AREA DURING WORK SHIFTS. CONTRACTOR SHALL REMAIN OUTSIDE OF LOC CRITICAL AT ALL TIMES. SEE NOTES 18 & 19, DWG G0.31

AIRFIELD LIGHTING REPLACEMENT NOTES:

1. THE CONTRACTOR SHALL PERFORM OPERATIONAL TESTING OF THE AIRFIELD LIGHTING SYSTEM AT LEAST 30 MINUTES PRIOR TO THE END OF EACH SHIFT TO ALLOW FOR TROUBLESHOOTING IN THE EVENT OF OPERATIONAL FAILURE.
2. THE CONTRACTOR SHALL PROVIDE TEMPORARY L-824 CABLES, AS NECESSARY, TO RE-ENERGIZE THE AIRFIELD ELECTRICAL SYSTEM IN THE EVENT COLLAPSED CONDUITS ARE ENCOUNTERED OR OTHER UNFORSEEN ISSUES THAT MAY PREVENT FULL RESTORATION AT THE END OF THE SHIFT. TEMPORARY L-824 CABLES SHALL BE INSTALLED WITHIN ABOVE GROUND RIGID GALVANIZED STEEL CONDUITS AND ANCHORED FROM JET BLAST.

SUB-PHASE 1A (DAYTIME) - ELECTRICAL & CIVIL - SOUTH END OF TWY B & TWY C

DURATION: 7 CALENDAR DAYS
CONCURRENT WITH PHASE 1 AND SUB-PHASE 1B DURATION
* PENDING GO/NO GO WITH KONA WINDS AND GOOD VFR CONDITIONS

WORK SHIFT: 0800 TO 1800 HST

AIRFIELD OPERATIONS NOTAMS:
- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS
- TWY B CLOSED SOUTH OF TWY D TO RWY 35 END
- TWY C CLOSED

NAVAID SHUTDOWNS / NOTAMS:
- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS
- MEN AND EQUIPMENT WORKING INSIDE VOR CRITICAL AREA

AIRFIELD NON-STANDARD CONDITIONS:
- REFER TO DWG G1.01 FOR PHASE 1 CONDITIONS

DECLARED DISTANCES

DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	6,500'	5,750' *	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	0	5,545' *	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	6,500'	6,000' *	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	6,500'	6,000' *	6,500'	6,500'

* DECLARED DISTANCE REDUCED

Airports Division
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RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 1A (DAYTIME)

DATE : 07/2022

SHEET : 32 OF 376 SHEETS

DWG. NO. G1.04

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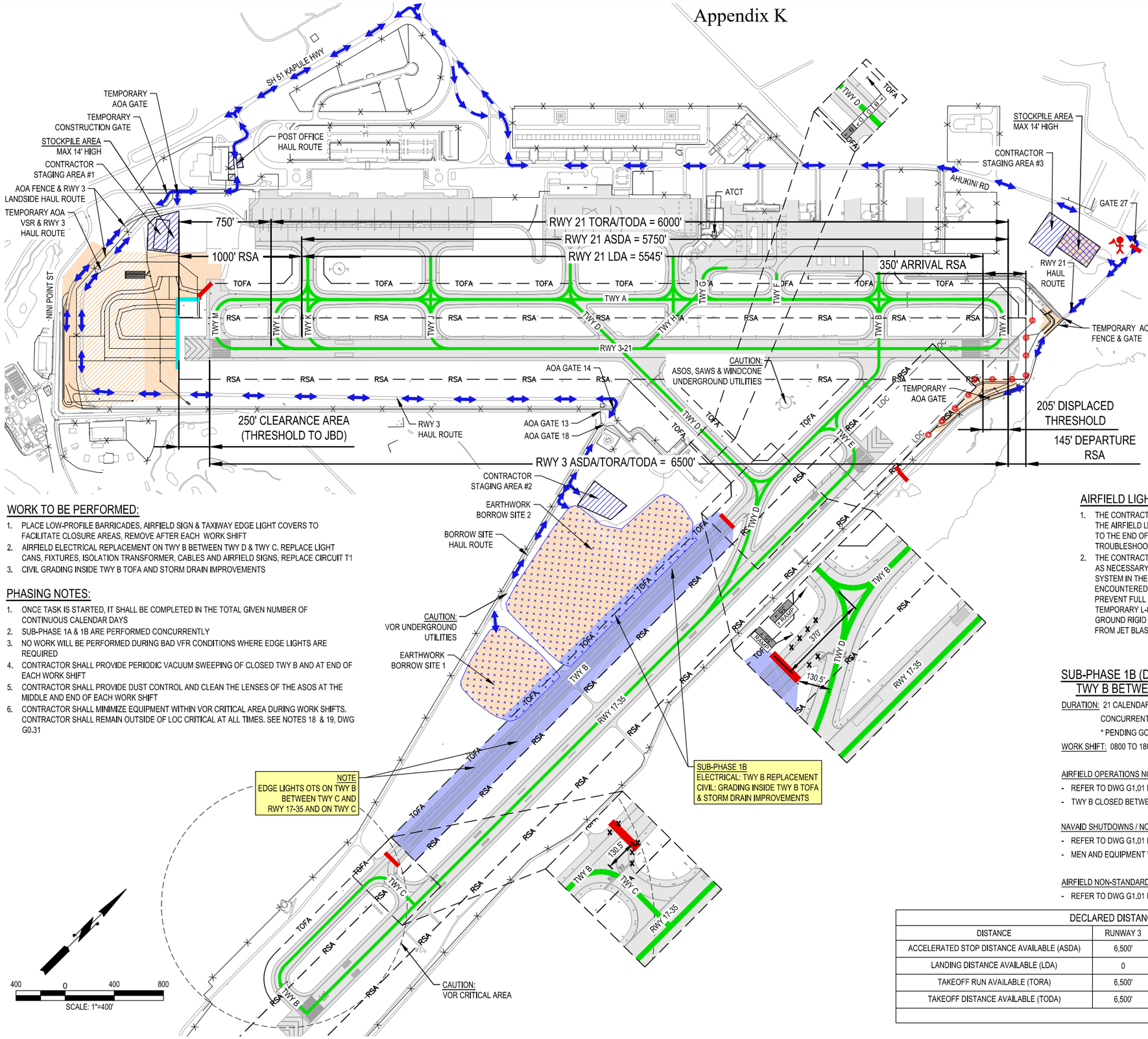

LEGEND

- RSA — RUNWAY SAFETY AREA
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- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
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- CONTRACTOR STAGING AREA
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- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN
- COVER AIRFIELD LIGHT

WORK TO BE PERFORMED:

1. PLACE LOW-PROFILE BARRICADES, AIRFIELD SIGN & TAXIWAY EDGE LIGHT COVERS TO FACILITATE CLOSURE AREAS, REMOVE AFTER EACH WORK SHIFT
2. AIRFIELD ELECTRICAL REPLACEMENT ON TWY B BETWEEN TWY D & TWY C. REPLACE LIGHT CANS, FIXTURES, ISOLATION TRANSFORMER, CABLES AND AIRFIELD SIGNS, REPLACE CIRCUIT T1
3. CIVIL GRADING INSIDE TWY B TOFA AND STORM DRAIN IMPROVEMENTS

PHASING NOTES:

1. ONCE TASK IS STARTED, IT SHALL BE COMPLETED IN THE TOTAL GIVEN NUMBER OF CONTINUOUS CALENDAR DAYS
2. SUB-PHASE 1A & 1B ARE PERFORMED CONCURRENTLY
3. NO WORK WILL BE PERFORMED DURING BAD VFR CONDITIONS WHERE EDGE LIGHTS ARE REQUIRED
4. CONTRACTOR SHALL PROVIDE PERIODIC VACUUM SWEEPING OF CLOSED TWY B AND AT END OF EACH WORK SHIFT
5. CONTRACTOR SHALL PROVIDE DUST CONTROL AND CLEAN THE LENSES OF THE ASOS AT THE MIDDLE AND END OF EACH WORK SHIFT
6. CONTRACTOR SHALL MINIMIZE EQUIPMENT WITHIN VOR CRITICAL AREA DURING WORK SHIFTS. CONTRACTOR SHALL REMAIN OUTSIDE OF LOC CRITICAL AT ALL TIMES. SEE NOTES 18 & 19, DWG G0.31

AIRFIELD LIGHTING REPLACEMENT NOTES:

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SUB-PHASE 1B (DAYTIME) - ELECTRICAL & CIVIL - TWY B BETWEEN TWY D & TWY C

DURATION: 21 CALENDAR DAYS
CONCURRENT WITH PHASE 1 AND SUB-PHASE 1A DURATION
* PENDING GO/NO GO FOR KONA WINDS AND GOOD VFR CONDITIONS

WORK SHIFT: 0800 TO 1800 HST

AIRFIELD OPERATIONS NOTAMS:
- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS
- TWY B CLOSED BETWEEN TWY D AND TWY C

NAVAID SHUTDOWNS / NOTAMS:
- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS
- MEN AND EQUIPMENT WORKING INSIDE VOR CRITICAL AREA

AIRFIELD NON-STANDARD CONDITIONS:
- REFER TO DWG G1.01 FOR PHASE 1 CONDITIONS

DECLARED DISTANCES				
DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	6,500'	5,750' *	6,500'	6,500'
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TAKEOFF RUN AVAILABLE (TORA)	6,500'	6,000' *	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	6,500'	6,000' *	6,500'	6,500'
* DECLARED DISTANCE REDUCED				

STATE OF HAWAII 1959
Airports Division
DEPARTMENT OF TRANSPORTATION STATE OF HAWAII

DUKE S. YOUNG
LICENSED PROFESSIONAL ENGINEER
PE-17779
HAWAII, U.S.A.

Duke Young 4/30/24
DUKE YOUNG, PE
CIVIL ENGINEER
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 1B (DAYTIME)

DATE : 07/2022

SHEET : 33 OF 376 SHEETS

DWG. NO. G1.05

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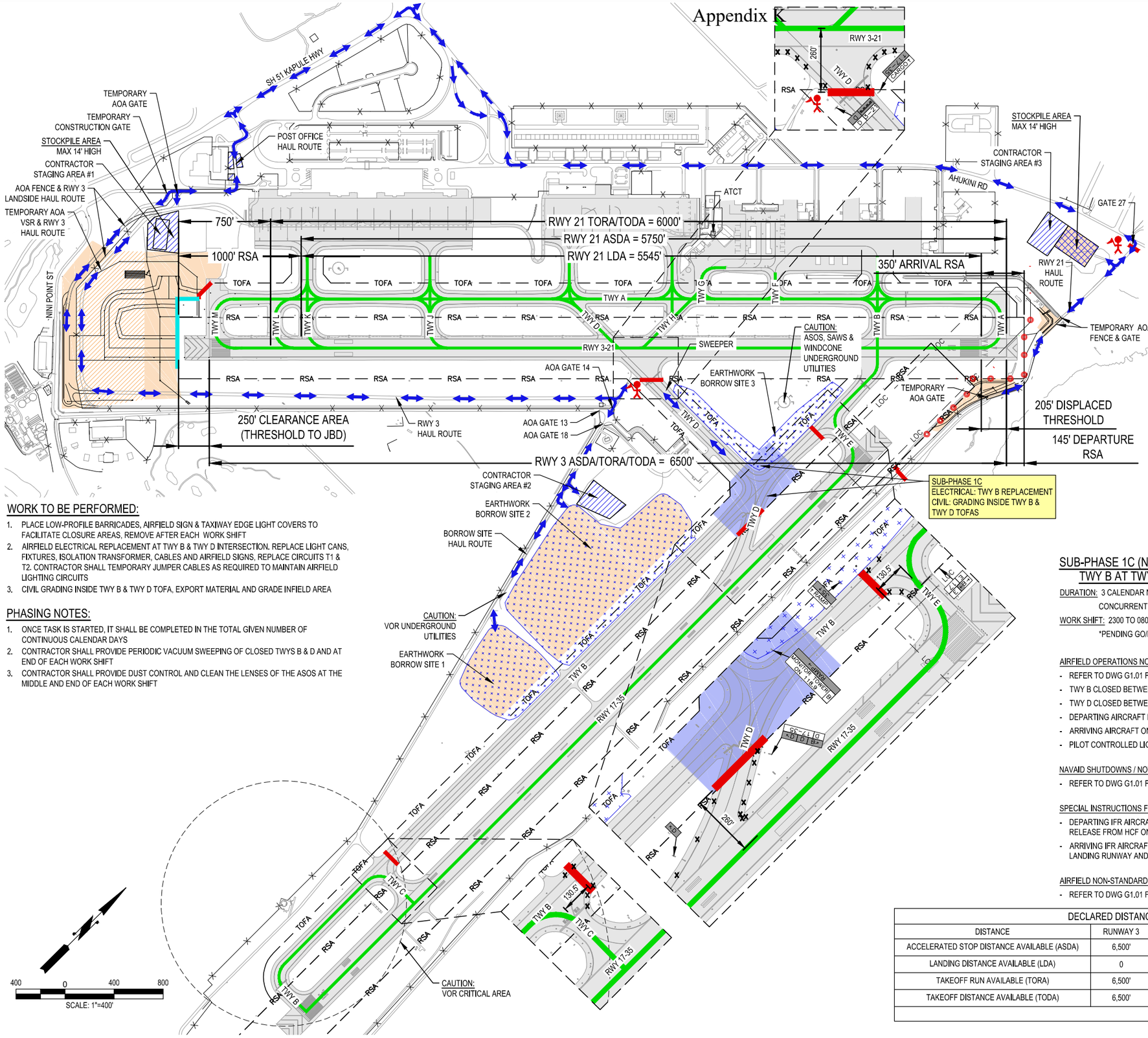
Appendix K



LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN
- COVER AIRFIELD LIGHT

WORK TO BE PERFORMED:

1. PLACE LOW-PROFILE BARRICADES, AIRFIELD SIGN & TAXIWAY EDGE LIGHT COVERS TO FACILITATE CLOSURE AREAS, REMOVE AFTER EACH WORK SHIFT
2. AIRFIELD ELECTRICAL REPLACEMENT AT TWY B & TWY D INTERSECTION. REPLACE LIGHT CANS, FIXTURES, ISOLATION TRANSFORMER, CABLES AND AIRFIELD SIGNS, REPLACE CIRCUITS T1 & T2. CONTRACTOR SHALL TEMPORARY JUMPER CABLES AS REQUIRED TO MAINTAIN AIRFIELD LIGHTING CIRCUITS
3. CIVIL GRADING INSIDE TWY B & TWY D TOFA, EXPORT MATERIAL AND GRADE INFIELD AREA

PHASING NOTES:

1. ONCE TASK IS STARTED, IT SHALL BE COMPLETED IN THE TOTAL GIVEN NUMBER OF CONTINUOUS CALENDAR DAYS
2. CONTRACTOR SHALL PROVIDE PERIODIC VACUUM SWEEPING OF CLOSED TWYS B & D AND AT END OF EACH WORK SHIFT
3. CONTRACTOR SHALL PROVIDE DUST CONTROL AND CLEAN THE LENSES OF THE ASOS AT THE MIDDLE AND END OF EACH WORK SHIFT

SUB-PHASE 1C (NIGHTTIME) - ELECTRICAL & CIVIL - TWY B AT TWY D INTERSECTION

DURATION: 3 CALENDAR NIGHTS
CONCURRENT WITH PHASE 1
WORK SHIFT: 2300 TO 0800 HST
*PENDING GO/NO GO FOR KONA WINDS AND GOOD VFR CONDITIONS

AIRFIELD OPERATIONS NOTAMS:
- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS
- TWY B CLOSED BETWEEN TWY E AND TWY C
- TWY D CLOSED BETWEEN RWY 17-35 AND RWY 3-21
- DEPARTING AIRCRAFT FOR RWY 35 MUST BACK-TAXI ON THE RUNWAY
- ARRIVING AIRCRAFT ON RWY 17 MUST BACK-TAXI TO TWY E
- PILOT CONTROLLED LIGHTING IS SET TO TURN-ON FOR 15 MINUTES

NAVAID SHUTDOWNS / NOTAMS:
- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS

SPECIAL INSTRUCTIONS FOR ATIS:
- DEPARTING IFR AIRCRAFT FOR RWY 17-35 MUST HOLD AT GATE FOR RELEASE FROM HCF ON 134.0/319.2, 126.5/269.4 OR CALL HCF AT 808-840-6201
- ARRIVING IFR AIRCRAFT SHALL CANCEL FLIGHT PLAN WHEN CLEAR OF LANDING RUNWAY AND ALL TAXIWAYS

AIRFIELD NON-STANDARD CONDITIONS:
- REFER TO DWG G1.01 FOR PHASE 1 CONDITIONS

DECLARED DISTANCES

DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	6,500'	5,750' *	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	0	5,545' *	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	6,500'	6,000' *	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	6,500'	6,000' *	6,500'	6,500'

* DECLARED DISTANCE REDUCED

STATE OF HAWAII 1959
Airports Division
DEPARTMENT OF TRANSPORTATION STATE OF HAWAII

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4/30/24
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 1C (NIGHTTIME)

DATE : 07/2022
SHEET : 34 OF 376 SHEETS

DWG. NO. G1.06

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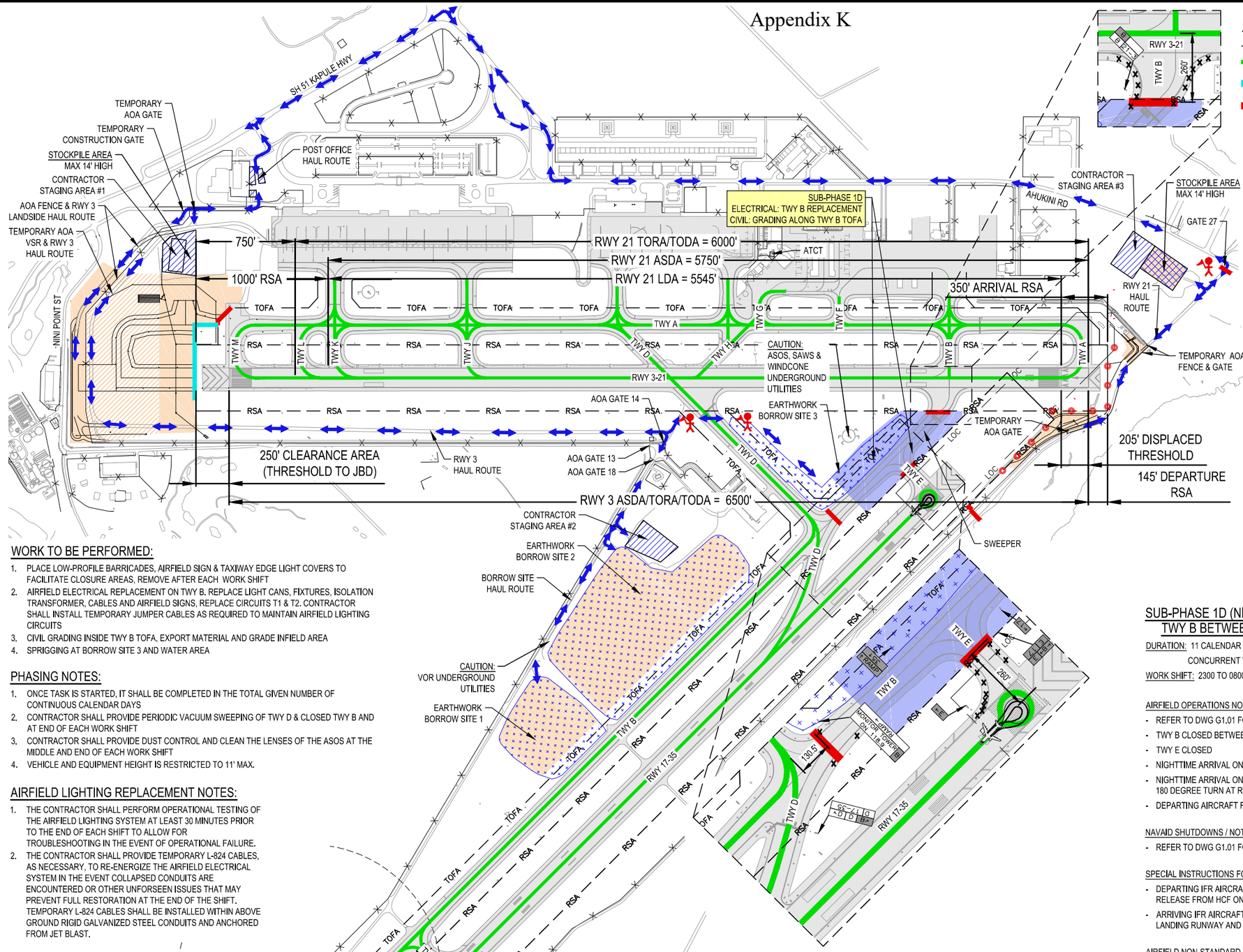
Appendix K



LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN
- COVER AIRFIELD LIGHT

WORK TO BE PERFORMED:

1. PLACE LOW-PROFILE BARRICADES, AIRFIELD SIGN & TAXIWAY EDGE LIGHT COVERS TO FACILITATE CLOSURE AREAS, REMOVE AFTER EACH WORK SHIFT
2. AIRFIELD ELECTRICAL REPLACEMENT ON TWY B. REPLACE LIGHT CANS, FIXTURES, ISOLATION TRANSFORMER, CABLES AND AIRFIELD SIGNS, REPLACE CIRCUITS T1 & T2. CONTRACTOR SHALL INSTALL TEMPORARY JUMPER CABLES AS REQUIRED TO MAINTAIN AIRFIELD LIGHTING CIRCUITS
3. CIVIL GRADING INSIDE TWY B TOFA, EXPORT MATERIAL AND GRADE INFIELD AREA
4. SPRIGGING AT BORROW SITE 3 AND WATER AREA

PHASING NOTES:

1. ONCE TASK IS STARTED, IT SHALL BE COMPLETED IN THE TOTAL GIVEN NUMBER OF CONTINUOUS CALENDAR DAYS
2. CONTRACTOR SHALL PROVIDE PERIODIC VACUUM SWEEPING OF TWY D & CLOSED TWY B AND AT END OF EACH WORK SHIFT
3. CONTRACTOR SHALL PROVIDE DUST CONTROL AND CLEAN THE LENSES OF THE ASOS AT THE MIDDLE AND END OF EACH WORK SHIFT
4. VEHICLE AND EQUIPMENT HEIGHT IS RESTRICTED TO 11' MAX.

AIRFIELD LIGHTING REPLACEMENT NOTES:

1. THE CONTRACTOR SHALL PERFORM OPERATIONAL TESTING OF THE AIRFIELD LIGHTING SYSTEM AT LEAST 30 MINUTES PRIOR TO THE END OF EACH SHIFT TO ALLOW FOR TROUBLESHOOTING IN THE EVENT OF OPERATIONAL FAILURE.
2. THE CONTRACTOR SHALL PROVIDE TEMPORARY L-824 CABLES, AS NECESSARY, TO RE-ENERGIZE THE AIRFIELD ELECTRICAL SYSTEM IN THE EVENT COLLAPSED CONDUITS ARE ENCOUNTERED OR OTHER UNFORSEEN ISSUES THAT MAY PREVENT FULL RESTORATION AT THE END OF THE SHIFT. TEMPORARY L-824 CABLES SHALL BE INSTALLED WITHIN ABOVE GROUND RIGID GALVANIZED STEEL CONDUITS AND ANCHORED FROM JET BLAST.

400 0 400 800
SCALE: 1"=400'

SUB-PHASE 1D (NIGHTTIME) - ELECTRICAL & CIVIL - TWY B BETWEEN TWY D & RWY 3-21

DURATION: 11 CALENDAR NIGHTS
CONCURRENT WITH PHASE 1

WORK SHIFT: 2300 TO 0800 HST

AIRFIELD OPERATIONS NOTAMS:

- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS
- TWY B CLOSED BETWEEN TWY D AND RWY 3-21
- TWY E CLOSED
- NIGHTTIME ARRIVAL ON RWY 35 LAST AVAILABLE EXIT AT TWY D
- NIGHTTIME ARRIVAL ON RWY 35 LANDING LONG WILL REQUIRE AIRCRAFT TO 180 DEGREE TURN AT RWY 17 END AND BACK-TAXI TO TWY D
- DEPARTING AIRCRAFT FOR RWY 17 MUST BACK-TAXI ON THE RUNWAY

NAVAID SHUTDOWNS / NOTAMS:

- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS

SPECIAL INSTRUCTIONS FOR ATIS:

- DEPARTING IFR AIRCRAFT FOR RWY 17-35 MUST HOLD AT GATE FOR RELEASE FROM HCF ON 134.0/319.2, 126.5/269.4 OR CALL HCF AT 808-840-6201
- ARRIVING IFR AIRCRAFT SHALL CANCEL FLIGHT PLAN WHEN CLEAR OF LANDING RUNWAY AND ALL TAXIWAYS

AIRFIELD NON-STANDARD CONDITIONS:

- REFER TO DWG G1.01 FOR PHASE 1 CONDITIONS

DECLARED DISTANCES

DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	6,500'	5,750' *	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	0	5,545' *	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	6,500'	6,000' *	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	6,500'	6,000' *	6,500'	6,500'

* DECLARED DISTANCE REDUCED

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DEPARTMENT OF TRANSPORTATION STATE OF HAWAII

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CIVIL ENGINEER
4/30/24
Expiration Date

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HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 1D (NIGHTTIME)

DATE : 07/2022

SHEET : 35 OF 376 SHEETS

DWG. NO. G1.07

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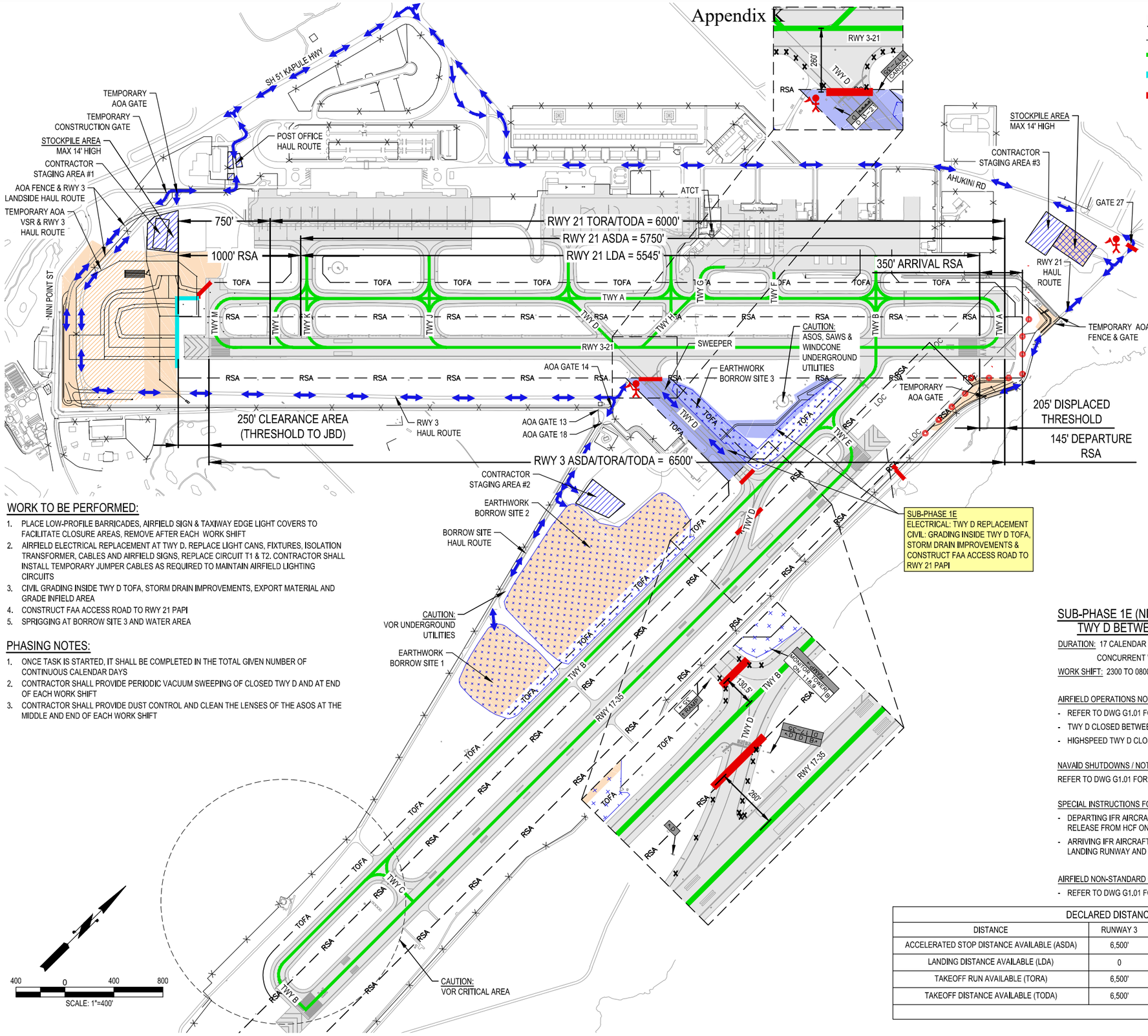

LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN
- COVER AIRFIELD LIGHT

WORK TO BE PERFORMED:

1. PLACE LOW-PROFILE BARRICADES, AIRFIELD SIGN & TAXIWAY EDGE LIGHT COVERS TO FACILITATE CLOSURE AREAS, REMOVE AFTER EACH WORK SHIFT
2. AIRFIELD ELECTRICAL REPLACEMENT AT TWY D. REPLACE LIGHT CANS, FIXTURES, ISOLATION TRANSFORMER, CABLES AND AIRFIELD SIGNS. REPLACE CIRCUIT T1 & T2. CONTRACTOR SHALL INSTALL TEMPORARY JUMPER CABLES AS REQUIRED TO MAINTAIN AIRFIELD LIGHTING CIRCUITS
3. CIVIL GRADING INSIDE TWY D TOFA, STORM DRAIN IMPROVEMENTS, EXPORT MATERIAL AND GRADE INFIELD AREA
4. CONSTRUCT FAA ACCESS ROAD TO RWY 21 PAPI
5. SPRIGGING AT BORROW SITE 3 AND WATER AREA

PHASING NOTES:

1. ONCE TASK IS STARTED, IT SHALL BE COMPLETED IN THE TOTAL GIVEN NUMBER OF CONTINUOUS CALENDAR DAYS
2. CONTRACTOR SHALL PROVIDE PERIODIC VACUUM SWEEPING OF CLOSED TWY D AND AT END OF EACH WORK SHIFT
3. CONTRACTOR SHALL PROVIDE DUST CONTROL AND CLEAN THE LENSES OF THE ASOS AT THE MIDDLE AND END OF EACH WORK SHIFT

SUB-PHASE 1E (NIGHTTIME) - ELECTRICAL & CIVIL - TWY D BETWEEN RWY 3-21 AND TWY B

DURATION: 17 CALENDAR NIGHTS
CONCURRENT WITH PHASE 1

WORK SHIFT: 2300 TO 0800 HST

AIRFIELD OPERATIONS NOTAMS:

- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS
- TWY D CLOSED BETWEEN RWY 3-21 AND TWY B
- HIGHSPEED TWY D CLOSED BETWEEN RWY 17-35 AND TWY B

NAVAID SHUTDOWNS / NOTAMS:

REFER TO DWG G1.01 FOR PHASE 1 NOTAMS

SPECIAL INSTRUCTIONS FOR ATIS:

- DEPARTING IFR AIRCRAFT FOR RWY 17-35 MUST HOLD AT GATE FOR RELEASE FROM HCF ON 134.0/319.2, 126.5/269.4 OR CALL HCF AT 808-840-6201
- ARRIVING IFR AIRCRAFT SHALL CANCEL FLIGHT PLAN WHEN CLEAR OF LANDING RUNWAY AND ALL TAXIWAYS

AIRFIELD NON-STANDARD CONDITIONS:

- REFER TO DWG G1.01 FOR PHASE 1 CONDITIONS

DECLARED DISTANCES				
DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	6,500'	5,750' *	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	0	5,545' *	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	6,500'	6,000' *	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	6,500'	6,000' *	6,500'	6,500'
* DECLARED DISTANCE REDUCED				

STATE OF HAWAII 1959

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DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

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KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 1E (NIGHTTIME)

DATE : 07/2022

SHEET : 36 OF 376 SHEETS

DWG. NO. G1.08

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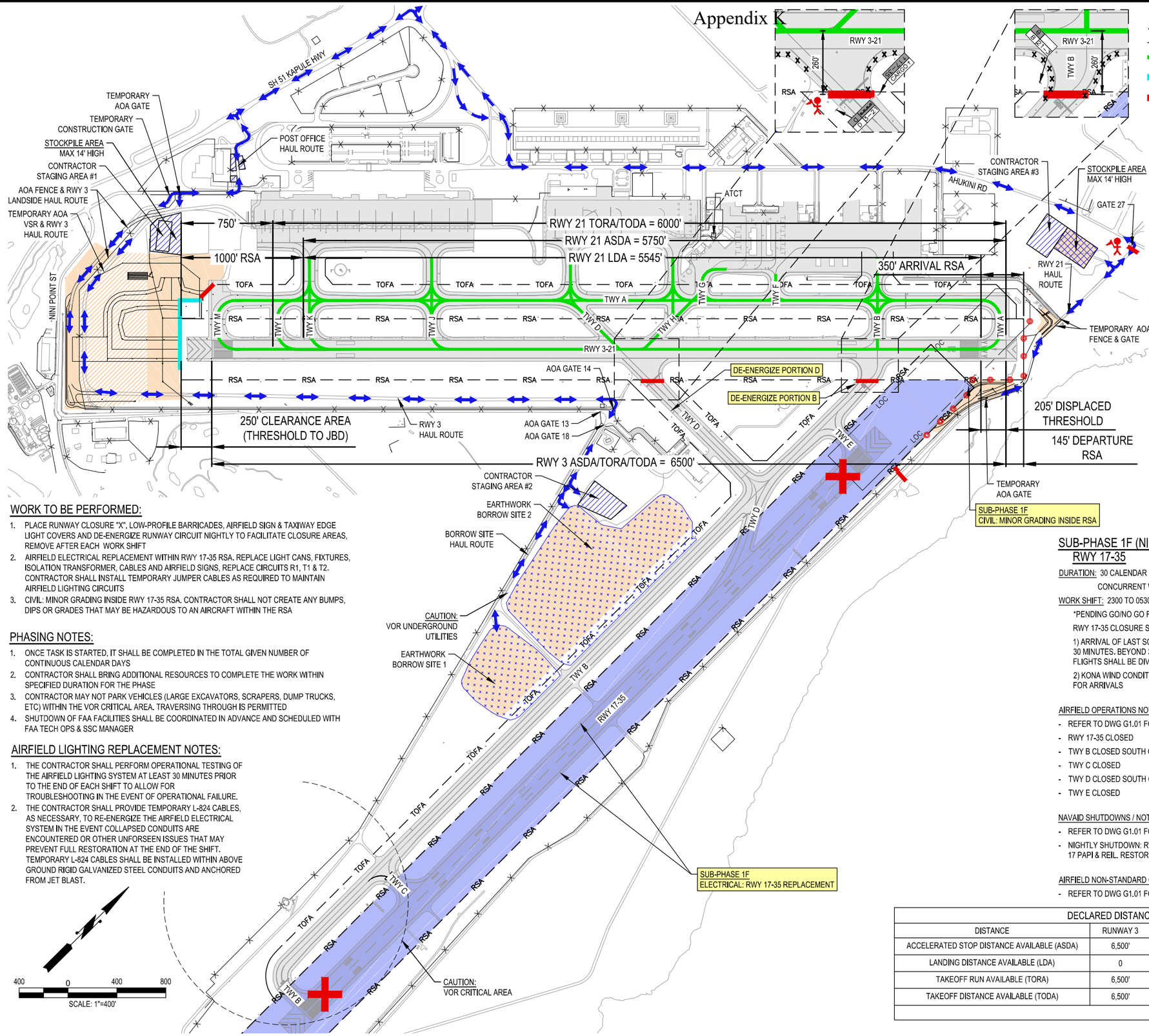
Appendix K



LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN (6–LZ / TERM ↑)
- COVER AIRFIELD LIGHT

WORK TO BE PERFORMED:

1. PLACE RUNWAY CLOSURE "X", LOW-PROFILE BARRICADES, AIRFIELD SIGN & TAXIWAY EDGE LIGHT COVERS AND DE-ENERGIZE RUNWAY CIRCUIT NIGHTLY TO FACILITATE CLOSURE AREAS, REMOVE AFTER EACH WORK SHIFT
2. AIRFIELD ELECTRICAL REPLACEMENT WITHIN RWY 17-35 RSA. REPLACE LIGHT CANS, FIXTURES, ISOLATION TRANSFORMER, CABLES AND AIRFIELD SIGNS, REPLACE CIRCUITS R1, T1 & T2. CONTRACTOR SHALL INSTALL TEMPORARY JUMPER CABLES AS REQUIRED TO MAINTAIN AIRFIELD LIGHTING CIRCUITS
3. CIVIL: MINOR GRADING INSIDE RWY 17-35 RSA. CONTRACTOR SHALL NOT CREATE ANY BUMPS, DIPS OR GRADES THAT MAY BE HAZARDOUS TO AN AIRCRAFT WITHIN THE RSA

PHASING NOTES:

1. ONCE TASK IS STARTED, IT SHALL BE COMPLETED IN THE TOTAL GIVEN NUMBER OF CONTINUOUS CALENDAR DAYS
2. CONTRACTOR SHALL BRING ADDITIONAL RESOURCES TO COMPLETE THE WORK WITHIN SPECIFIED DURATION FOR THE PHASE
3. CONTRACTOR MAY NOT PARK VEHICLES (LARGE EXCAVATORS, SCRAPERS, DUMP TRUCKS, ETC) WITHIN THE VOR CRITICAL AREA. TRAVERSING THROUGH IS PERMITTED
4. SHUTDOWN OF FAA FACILITIES SHALL BE COORDINATED IN ADVANCE AND SCHEDULED WITH FAA TECH OPS & SSC MANAGER

AIRFIELD LIGHTING REPLACEMENT NOTES:

1. THE CONTRACTOR SHALL PERFORM OPERATIONAL TESTING OF THE AIRFIELD LIGHTING SYSTEM AT LEAST 30 MINUTES PRIOR TO THE END OF EACH SHIFT TO ALLOW FOR TROUBLESHOOTING IN THE EVENT OF OPERATIONAL FAILURE.
2. THE CONTRACTOR SHALL PROVIDE TEMPORARY L-824 CABLES, AS NECESSARY, TO RE-ENERGIZE THE AIRFIELD ELECTRICAL SYSTEM IN THE EVENT COLLAPSED CONDUITS ARE ENCOUNTERED OR OTHER UNFORSEEN ISSUES THAT MAY PREVENT FULL RESTORATION AT THE END OF THE SHIFT. TEMPORARY L-824 CABLES SHALL BE INSTALLED WITHIN ABOVE GROUND RIGID GALVANIZED STEEL CONDUITS AND ANCHORED FROM JET BLAST.

400 0 400 800
SCALE: 1"=400'

SUB-PHASE 1F (NIGHTTIME) - ELECTRICAL & CIVIL - RWY 17-35

DURATION: 30 CALENDAR NIGHTS
CONCURRENT WITH PHASE 1

WORK SHIFT: 2300 TO 0530 HST

*PENDING GO/NO GO FOR KONA WIND CONDITIONS

RWY 17-35 CLOSURE START TIME IS DEPENDENT ON:

1) ARRIVAL OF LAST SCHEDULED FLIGHT, WHICH MAY BE DELAYED UP TO 30 MINUTES. BEYOND 30 MINUTE DELAY, RUNWAY WILL BE CLOSED & FLIGHTS SHALL BE DIVERTED

2) KONA WIND CONDITIONS WITH AIRCRAFT NEEDING THE LONGER RWY 17 FOR ARRIVALS

AIRFIELD OPERATIONS NOTAMS:

- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS
- RWY 17-35 CLOSED
- TWY B CLOSED SOUTH OF RWY 3-21
- TWY C CLOSED
- TWY D CLOSED SOUTH OF RWY 3-21
- TWY E CLOSED

NAVAID SHUTDOWNS / NOTAMS:

- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS
- NIGHTLY SHUTDOWN: RWY 35 ILS, RWY 35 MALSR, RWY 35 PAPI & REIL, RWY 17 PAPI & REIL. RESTORE AT THE END OF EACH WORK SHIFT

AIRFIELD NON-STANDARD CONDITIONS:

- REFER TO DWG G1.01 FOR PHASE 1 CONDITIONS

DECLARED DISTANCES

DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	6,500'	5,750' *	0	0
LANDING DISTANCE AVAILABLE (LDA)	0	5,545' *	0	0
TAKEOFF RUN AVAILABLE (TORA)	6,500'	6,000' *	0	0
TAKEOFF DISTANCE AVAILABLE (TODA)	6,500'	6,000' *	0	0

* DECLARED DISTANCE REDUCED

STATE OF HAWAII 1959
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Expiration Date

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KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 1F (NIGHTTIME)

DATE : 07/2022

SHEET : 37 OF 376 SHEETS

DWG. NO. G1.09

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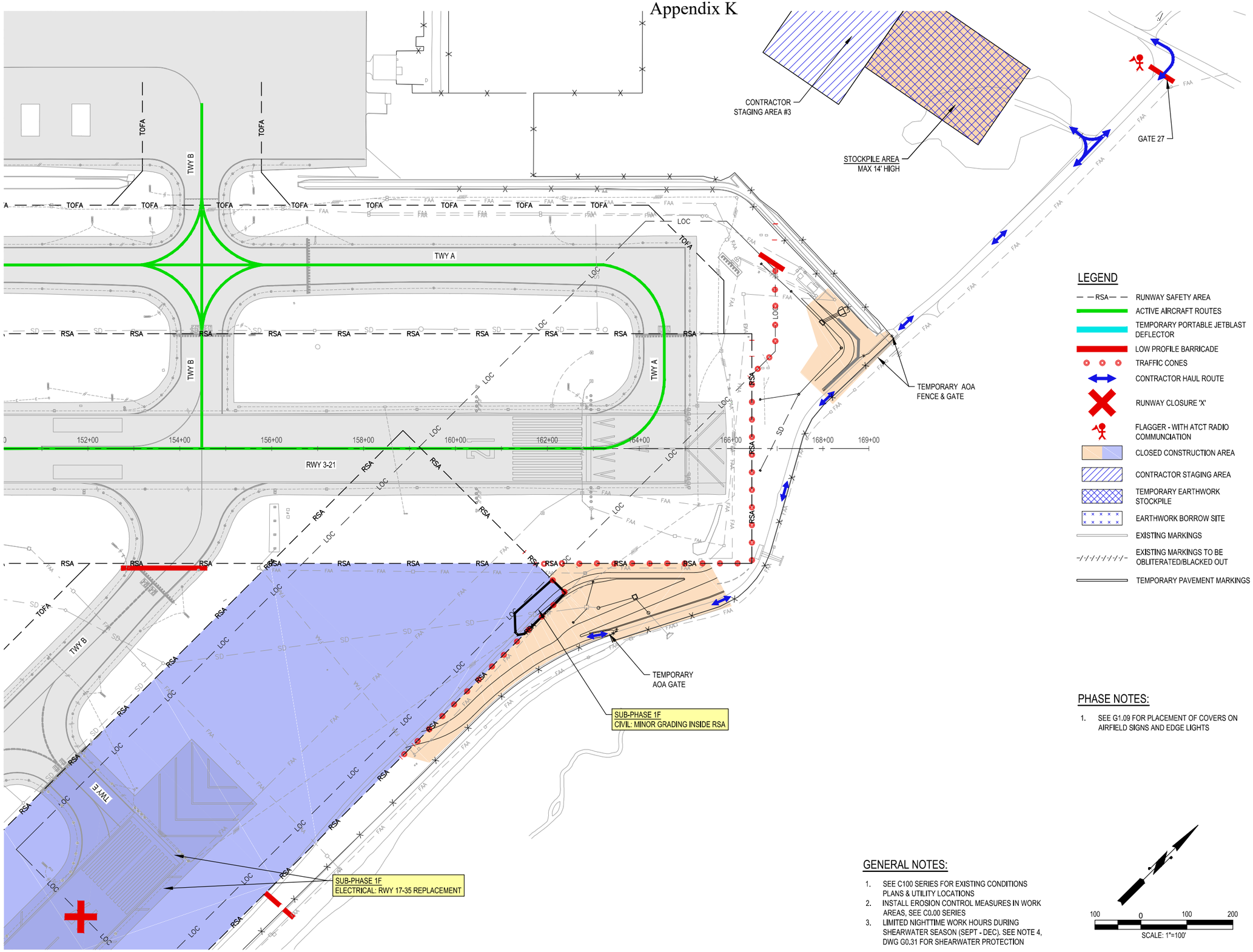
Appendix K



LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- EXISTING MARKINGS
- EXISTING MARKINGS TO BE OBLITERATED/BLACKED OUT
- TEMPORARY PAVEMENT MARKINGS

PHASE NOTES:

1. SEE G1.09 FOR PLACEMENT OF COVERS ON AIRFIELD SIGNS AND EDGE LIGHTS

GENERAL NOTES:

1. SEE C100 SERIES FOR EXISTING CONDITIONS PLANS & UTILITY LOCATIONS
2. INSTALL EROSION CONTROL MEASURES IN WORK AREAS, SEE C0.00 SERIES
3. LIMITED NIGHTTIME WORK HOURS DURING SHEARWATER SEASON (SEPT - DEC). SEE NOTE 4, DWG G0.31 FOR SHEARWATER PROTECTION

100 0 100 200
SCALE: 1"=100'

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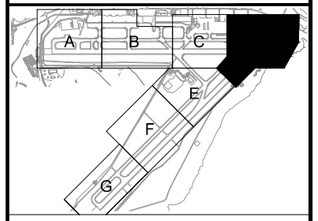

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 1F
AREA D

DATE :	DWG. NO.
07/2022	G1.10
SHEET :	
38 OF 376 SHEETS	

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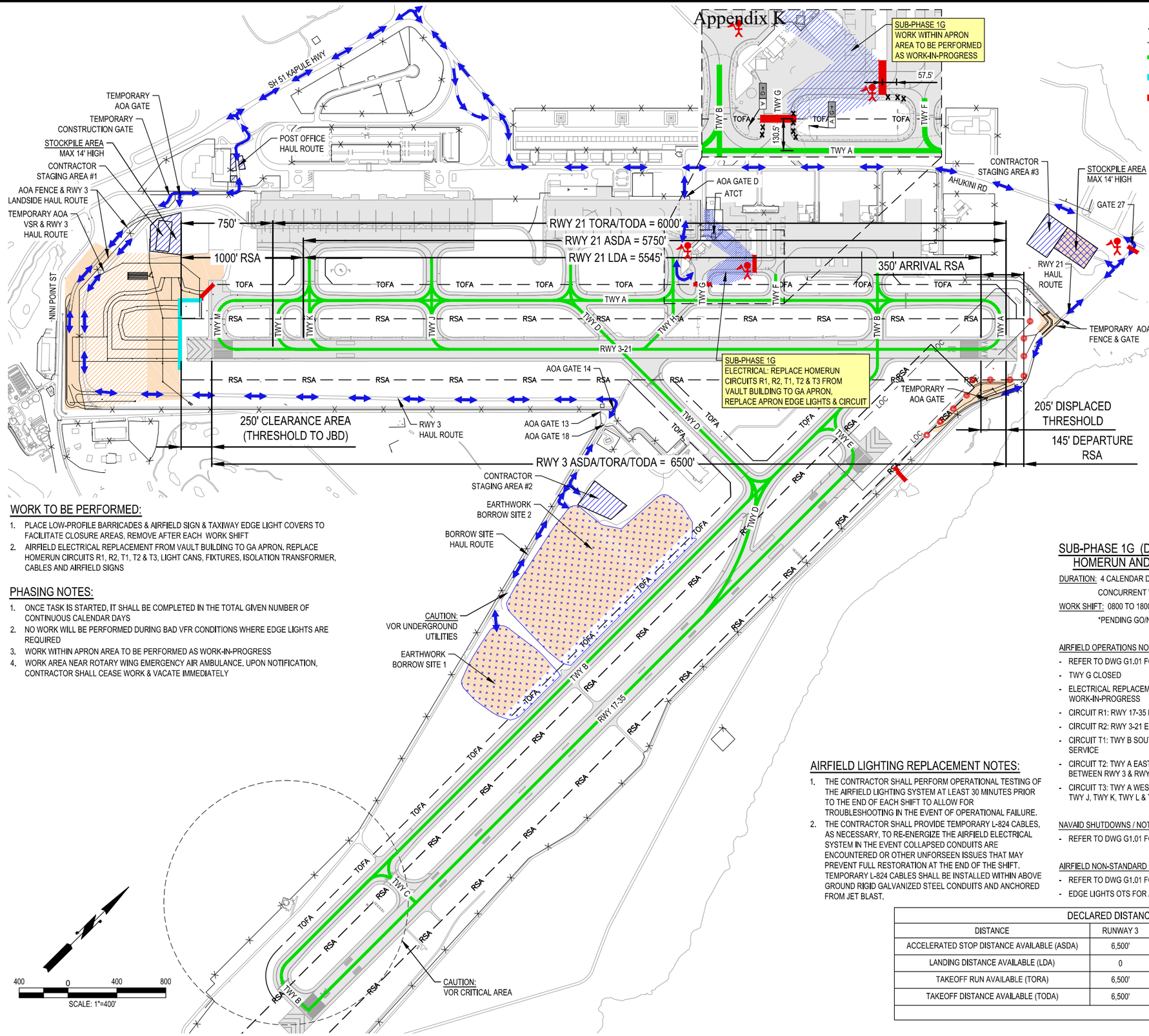

WORK TO BE PERFORMED:

1. PLACE LOW-PROFILE BARRICADES & AIRFIELD SIGN & TAXIWAY EDGE LIGHT COVERS TO FACILITATE CLOSURE AREAS, REMOVE AFTER EACH WORK SHIFT
2. AIRFIELD ELECTRICAL REPLACEMENT FROM VAULT BUILDING TO GA APRON. REPLACE HOMERUN CIRCUITS R1, R2, T1, T2 & T3, LIGHT CANS, FIXTURES, ISOLATION TRANSFORMER, CABLES AND AIRFIELD SIGNS

PHASING NOTES:

1. ONCE TASK IS STARTED, IT SHALL BE COMPLETED IN THE TOTAL GIVEN NUMBER OF CONTINUOUS CALENDAR DAYS
2. NO WORK WILL BE PERFORMED DURING BAD VFR CONDITIONS WHERE EDGE LIGHTS ARE REQUIRED
3. WORK WITHIN APRON AREA TO BE PERFORMED AS WORK-IN-PROGRESS
4. WORK AREA NEAR ROTARY WING EMERGENCY AIR AMBULANCE. UPON NOTIFICATION, CONTRACTOR SHALL CEASE WORK & VACATE IMMEDIATELY

AIRFIELD LIGHTING REPLACEMENT NOTES:

1. THE CONTRACTOR SHALL PERFORM OPERATIONAL TESTING OF THE AIRFIELD LIGHTING SYSTEM AT LEAST 30 MINUTES PRIOR TO THE END OF EACH SHIFT TO ALLOW FOR TROUBLESHOOTING IN THE EVENT OF OPERATIONAL FAILURE.
2. THE CONTRACTOR SHALL PROVIDE TEMPORARY L-824 CABLES, AS NECESSARY, TO RE-ENERGIZE THE AIRFIELD ELECTRICAL SYSTEM IN THE EVENT COLLAPSED CONDUITS ARE ENCOUNTERED OR OTHER UNFORSEEN ISSUES THAT MAY PREVENT FULL RESTORATION AT THE END OF THE SHIFT. TEMPORARY L-824 CABLES SHALL BE INSTALLED WITHIN ABOVE GROUND RIGID GALVANIZED STEEL CONDUITS AND ANCHORED FROM JET BLAST.

SUB-PHASE 1G (DAYTIME) - ELECTRICAL - HOMERUN AND APRON EDGE WEST OF TWY F

DURATION: 4 CALENDAR DAYS
CONCURRENT WITH PHASE 1

WORK SHIFT: 0800 TO 1800 HST
*PENDING GO/NO GO DECISION FOR GOOD VFR CONDITIONS

AIRFIELD OPERATIONS NOTAMS:

- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS
- TWY G CLOSED
- ELECTRICAL REPLACEMENT WITHIN APRON TO BE PERFORMED AS WORK-IN-PROGRESS
- CIRCUIT R1: RWY 17-35 EDGE LIGHTS OUT OF SERVICE
- CIRCUIT R2: RWY 3-21 EDGE LIGHTS OUT OF SERVICE
- CIRCUIT T1: TWY B SOUTH OF TWY D & TWY C EDGE LIGHTS OUT OF SERVICE
- CIRCUIT T2: TWY A EAST OF TWY G, TWY B NORTH OF TWY D, TWY D BETWEEN RWY 3 & RWY 17 EDGE LIGHTS OUT OF SERVICE
- CIRCUIT T3: TWY A WEST OF TWY F, TWY D NORTH OF RWY 3-21, TWY H, TWY J, TWY K, TWY L & TWY M EDGE LIGHTS OUT OF SERVICE

NAVAID SHUTDOWNS / NOTAMS:

- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS

AIRFIELD NON-STANDARD CONDITIONS:

- REFER TO DWG G1.01 FOR PHASE 1 CONDITIONS
- EDGE LIGHTS OTS FOR ACTIVE RUNWAYS & TAXIWAYS

DECLARED DISTANCES

DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	6,500'	5,750' *	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	0	5,545' *	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	6,500'	6,000' *	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	6,500'	6,000' *	6,500'	6,500'

* DECLARED DISTANCE REDUCED

LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN
- COVER AIRFIELD LIGHT

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DUKE S. YOUNG
LICENSED PROFESSIONAL ENGINEER
PE–17779
HAWAII, U.S.A.

DUKE YOUNG, PE
CIVIL ENGINEER
4/30/24
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 1G (DAYTIME)

DATE : 07/2022

SHEET : 39 OF 376 SHEETS

DWG. NO. G1.11

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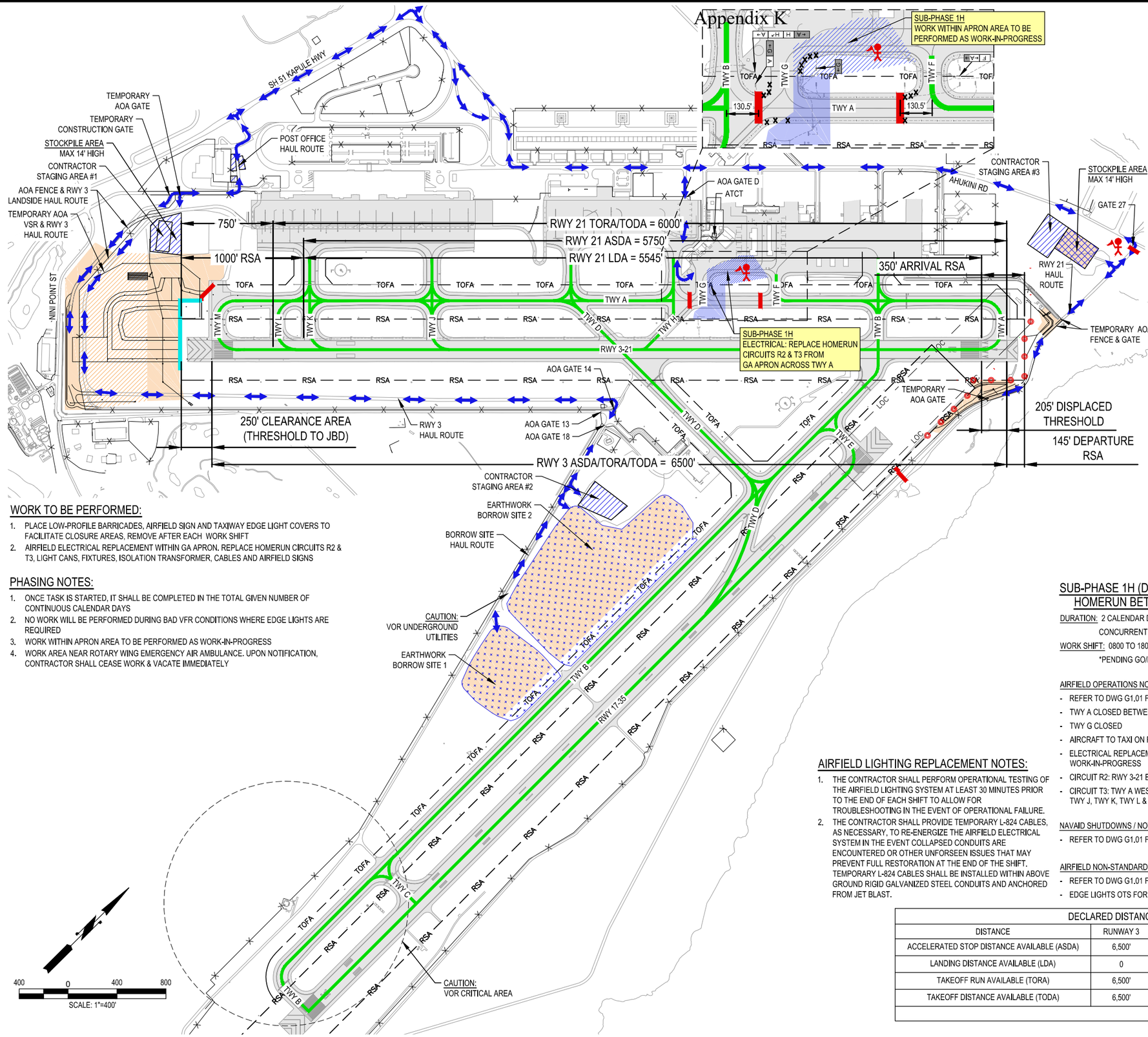

LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN
- COVER AIRFIELD LIGHT

WORK TO BE PERFORMED:

1. PLACE LOW-PROFILE BARRICADES, AIRFIELD SIGN AND TAXIWAY EDGE LIGHT COVERS TO FACILITATE CLOSURE AREAS, REMOVE AFTER EACH WORK SHIFT
2. AIRFIELD ELECTRICAL REPLACEMENT WITHIN GA APRON. REPLACE HOMERUN CIRCUITS R2 & T3, LIGHT CANS, FIXTURES, ISOLATION TRANSFORMER, CABLES AND AIRFIELD SIGNS

PHASING NOTES:

1. ONCE TASK IS STARTED, IT SHALL BE COMPLETED IN THE TOTAL GIVEN NUMBER OF CONTINUOUS CALENDAR DAYS
2. NO WORK WILL BE PERFORMED DURING BAD VFR CONDITIONS WHERE EDGE LIGHTS ARE REQUIRED
3. WORK WITHIN APRON AREA TO BE PERFORMED AS WORK-IN-PROGRESS
4. WORK AREA NEAR ROTARY WING EMERGENCY AIR AMBULANCE. UPON NOTIFICATION, CONTRACTOR SHALL CEASE WORK & VACATE IMMEDIATELY

SUB-PHASE 1H (DAYTIME) - ELECTRICAL - HOMERUN BETWEEN TWY F & TWY H

DURATION: 2 CALENDAR DAYS
CONCURRENT WITH PHASE 1
WORK SHIFT: 0800 TO 1800 HST
*PENDING GO/NO GO DECISION FOR GOOD VFR CONDITIONS

AIRFIELD OPERATIONS NOTAMS:
- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS
- TWY A CLOSED BETWEEN TWY F AND TWY H
- TWY G CLOSED
- AIRCRAFT TO TAXI ON RWY 3-21 TO BYPASS CONSTRUCTION
- ELECTRICAL REPLACEMENT WITHIN APRON TO BE PERFORMED AS WORK-IN-PROGRESS
- CIRCUIT R2: RWY 3-21 EDGE LIGHTS OUT OF SERVICE
- CIRCUIT T3: TWY A WEST OF TWY F, TWY D NORTH OF RWY 3-21, TWY H, TWY J, TWY K, TWY L & TWY M EDGE LIGHTS OUT OF SERVICE

NAVAID SHUTDOWNS / NOTAMS:
- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS

AIRFIELD NON-STANDARD CONDITIONS:
- REFER TO DWG G1.01 FOR PHASE 1 CONDITIONS
- EDGE LIGHTS OTS FOR ACTIVE RUNWAYS & TAXIWAYS

AIRFIELD LIGHTING REPLACEMENT NOTES:

1. THE CONTRACTOR SHALL PERFORM OPERATIONAL TESTING OF THE AIRFIELD LIGHTING SYSTEM AT LEAST 30 MINUTES PRIOR TO THE END OF EACH SHIFT TO ALLOW FOR TROUBLESHOOTING IN THE EVENT OF OPERATIONAL FAILURE.
2. THE CONTRACTOR SHALL PROVIDE TEMPORARY L-824 CABLES, AS NECESSARY, TO RE-ENERGIZE THE AIRFIELD ELECTRICAL SYSTEM IN THE EVENT COLLAPSED CONDUITS ARE ENCOUNTERED OR OTHER UNFORSEEN ISSUES THAT MAY PREVENT FULL RESTORATION AT THE END OF THE SHIFT. TEMPORARY L-824 CABLES SHALL BE INSTALLED WITHIN ABOVE GROUND RIGID GALVANIZED STEEL CONDUITS AND ANCHORED FROM JET BLAST.

DECLARED DISTANCES

DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	6,500'	5,750' *	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	0	5,545' *	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	6,500'	6,000' *	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	6,500'	6,000' *	6,500'	6,500'

* DECLARED DISTANCE REDUCED

STATE OF HAWAII 1959
Airports Division
DEPARTMENT OF TRANSPORTATION STATE OF HAWAII

DUKE S. YOUNG
LICENSED PROFESSIONAL ENGINEER
PE-17779
HAWAII, U.S.A.

DUKE YOUNG, PE
CIVIL ENGINEER
4/30/24
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 1H (DAYTIME)

DATE : 07/2022

SHEET : 40 OF 376 SHEETS

DWG. NO. G1.12

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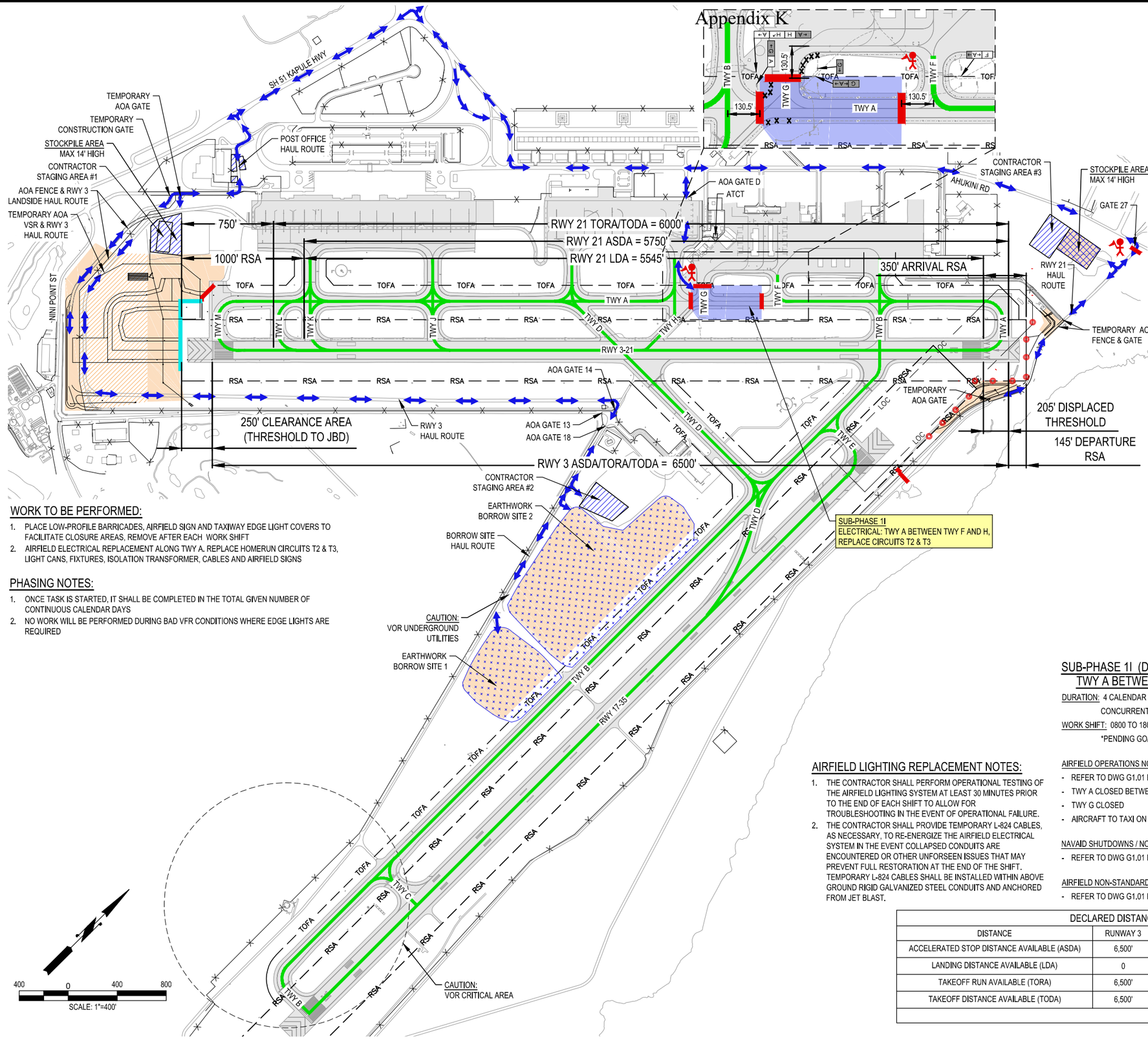

LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN
- COVER AIRFIELD LIGHT

WORK TO BE PERFORMED:

1. PLACE LOW-PROFILE BARRICADES, AIRFIELD SIGN AND TAXIWAY EDGE LIGHT COVERS TO FACILITATE CLOSURE AREAS, REMOVE AFTER EACH WORK SHIFT
2. AIRFIELD ELECTRICAL REPLACEMENT ALONG TWY A. REPLACE HOMERUN CIRCUITS T2 & T3, LIGHT CANS, FIXTURES, ISOLATION TRANSFORMER, CABLES AND AIRFIELD SIGNS

PHASING NOTES:

1. ONCE TASK IS STARTED, IT SHALL BE COMPLETED IN THE TOTAL GIVEN NUMBER OF CONTINUOUS CALENDAR DAYS
2. NO WORK WILL BE PERFORMED DURING BAD VFR CONDITIONS WHERE EDGE LIGHTS ARE REQUIRED

SUB-PHASE 1I (DAYTIME) - ELECTRICAL - TWY A BETWEEN TWY F & TWY H

DURATION: 4 CALENDAR DAYS
CONCURRENT WITH PHASE 1

WORK SHIFT: 0800 TO 1800 HST
*PENDING GO/NO GO DECISION FOR GOOD VFR CONDITIONS

AIRFIELD LIGHTING REPLACEMENT NOTES:

1. THE CONTRACTOR SHALL PERFORM OPERATIONAL TESTING OF THE AIRFIELD LIGHTING SYSTEM AT LEAST 30 MINUTES PRIOR TO THE END OF EACH SHIFT TO ALLOW FOR TROUBLESHOOTING IN THE EVENT OF OPERATIONAL FAILURE.
2. THE CONTRACTOR SHALL PROVIDE TEMPORARY L-824 CABLES, AS NECESSARY, TO RE-ENERGIZE THE AIRFIELD ELECTRICAL SYSTEM IN THE EVENT COLLAPSED CONDUITS ARE ENCOUNTERED OR OTHER UNFORSEEN ISSUES THAT MAY PREVENT FULL RESTORATION AT THE END OF THE SHIFT. TEMPORARY L-824 CABLES SHALL BE INSTALLED WITHIN ABOVE GROUND RIGID GALVANIZED STEEL CONDUITS AND ANCHORED FROM JET BLAST.

AIRFIELD OPERATIONS NOTAMS:
- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS
- TWY A CLOSED BETWEEN TWY F AND TWY H
- TWY G CLOSED
- AIRCRAFT TO TAXI ON RWY 3-21 TO BYPASS CONSTRUCTION

NAVAID SHUTDOWNS / NOTAMS:
- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS

AIRFIELD NON-STANDARD CONDITIONS:
- REFER TO DWG G1.01 FOR PHASE 1 CONDITIONS

DECLARED DISTANCES

DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	6,500'	5,750' *	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	0	5,545' *	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	6,500'	6,000' *	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	6,500'	6,000' *	6,500'	6,500'

* DECLARED DISTANCE REDUCED

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DUKE S. YOUNG
LICENSED PROFESSIONAL ENGINEER
PE-17779
HAWAII, U.S.A.

DUKE YOUNG, PE
CIVIL ENGINEER
4/30/24
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 1I (DAYTIME)

DATE : 07/2022

SHEET : 41 OF 376 SHEETS

DWG. NO. G1.13

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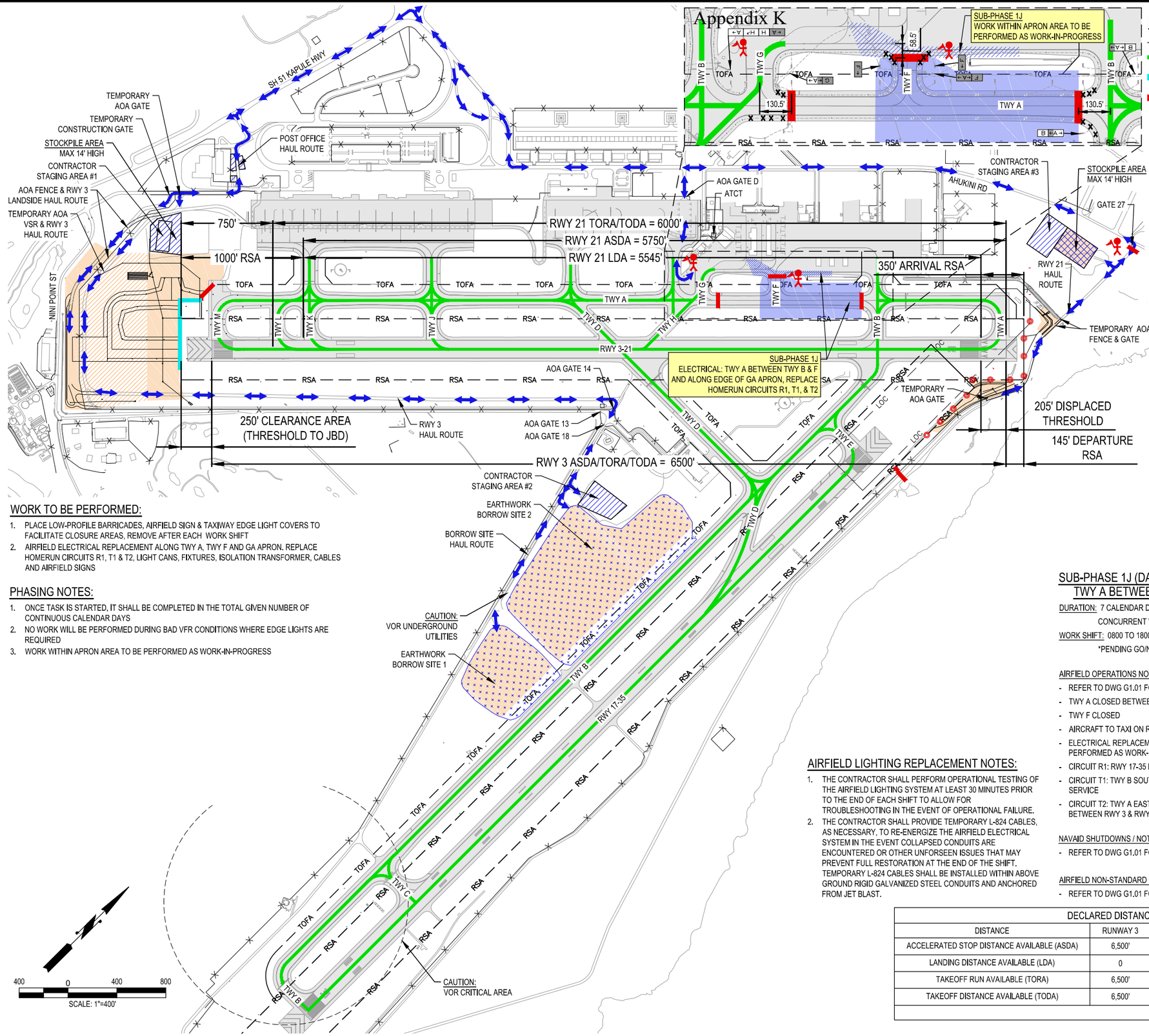
Appendix K



WORK TO BE PERFORMED:

1. PLACE LOW-PROFILE BARRICADES, AIRFIELD SIGN & TAXIWAY EDGE LIGHT COVERS TO FACILITATE CLOSURE AREAS, REMOVE AFTER EACH WORK SHIFT
2. AIRFIELD ELECTRICAL REPLACEMENT ALONG TWY A, TWY F AND GA APRON. REPLACE HOMERUN CIRCUITS R1, T1 & T2, LIGHT CANS, FIXTURES, ISOLATION TRANSFORMER, CABLES AND AIRFIELD SIGNS

PHASING NOTES:

1. ONCE TASK IS STARTED, IT SHALL BE COMPLETED IN THE TOTAL GIVEN NUMBER OF CONTINUOUS CALENDAR DAYS
2. NO WORK WILL BE PERFORMED DURING BAD VFR CONDITIONS WHERE EDGE LIGHTS ARE REQUIRED
3. WORK WITHIN APRON AREA TO BE PERFORMED AS WORK-IN-PROGRESS

AIRFIELD LIGHTING REPLACEMENT NOTES:

1. THE CONTRACTOR SHALL PERFORM OPERATIONAL TESTING OF THE AIRFIELD LIGHTING SYSTEM AT LEAST 30 MINUTES PRIOR TO THE END OF EACH SHIFT TO ALLOW FOR TROUBLESHOOTING IN THE EVENT OF OPERATIONAL FAILURE.
2. THE CONTRACTOR SHALL PROVIDE TEMPORARY L-824 CABLES, AS NECESSARY, TO RE-ENERGIZE THE AIRFIELD ELECTRICAL SYSTEM IN THE EVENT COLLAPSED CONDUITS ARE ENCOUNTERED OR OTHER UNFORSEEN ISSUES THAT MAY PREVENT FULL RESTORATION AT THE END OF THE SHIFT. TEMPORARY L-824 CABLES SHALL BE INSTALLED WITHIN ABOVE GROUND RIGID GALVANIZED STEEL CONDUITS AND ANCHORED FROM JET BLAST.

SUB-PHASE 1J (DAYTIME) - ELECTRICAL - TWY A BETWEEN TWY B & TWY F

DURATION: 7 CALENDAR DAYS
CONCURRENT WITH PHASE 1

WORK SHIFT: 0800 TO 1800 HST
*PENDING GO/NO GO DECISION FOR GOOD VFR CONDITIONS

AIRFIELD OPERATIONS NOTAMS:

- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS
- TWY A CLOSED BETWEEN TWY B AND TWY G
- TWY F CLOSED
- AIRCRAFT TO TAXI ON RWY 3-21 TO BYPASS CONSTRUCTION
- ELECTRICAL REPLACEMENT ALONG EDGE OF APRON TO BE PERFORMED AS WORK-IN-PROGRESS
- CIRCUIT R1: RWY 17-35 EDGE LIGHTS OUT OF SERVICE
- CIRCUIT T1: TWY B SOUTH OF TWY D & TWY C EDGE LIGHTS OUT OF SERVICE
- CIRCUIT T2: TWY A EAST OF TWY G, TWY B NORTH OF TWY D, TWY D BETWEEN RWY 3 & RWY 17 EDGE LIGHTS OUT OF SERVICE

NAVAID SHUTDOWNS / NOTAMS:

- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS

AIRFIELD NON-STANDARD CONDITIONS:

- REFER TO DWG G1.01 FOR PHASE 1 CONDITIONS

DECLARED DISTANCES

DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	6,500'	5,750' *	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	0	5,545' *	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	6,500'	6,000' *	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	6,500'	6,000' *	6,500'	6,500'

* DECLARED DISTANCE REDUCED

LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN
- COVER AIRFIELD LIGHT

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DUKE S. YOUNG
LICENSED PROFESSIONAL ENGINEER
PE-17779
HAWAII, U.S.A.

DUKE YOUNG, PE
CIVIL ENGINEER
4/30/24
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 1J (DAYTIME)

DATE : 07/2022

SHEET : 42 OF 376 SHEETS

DWG. NO. G1.14

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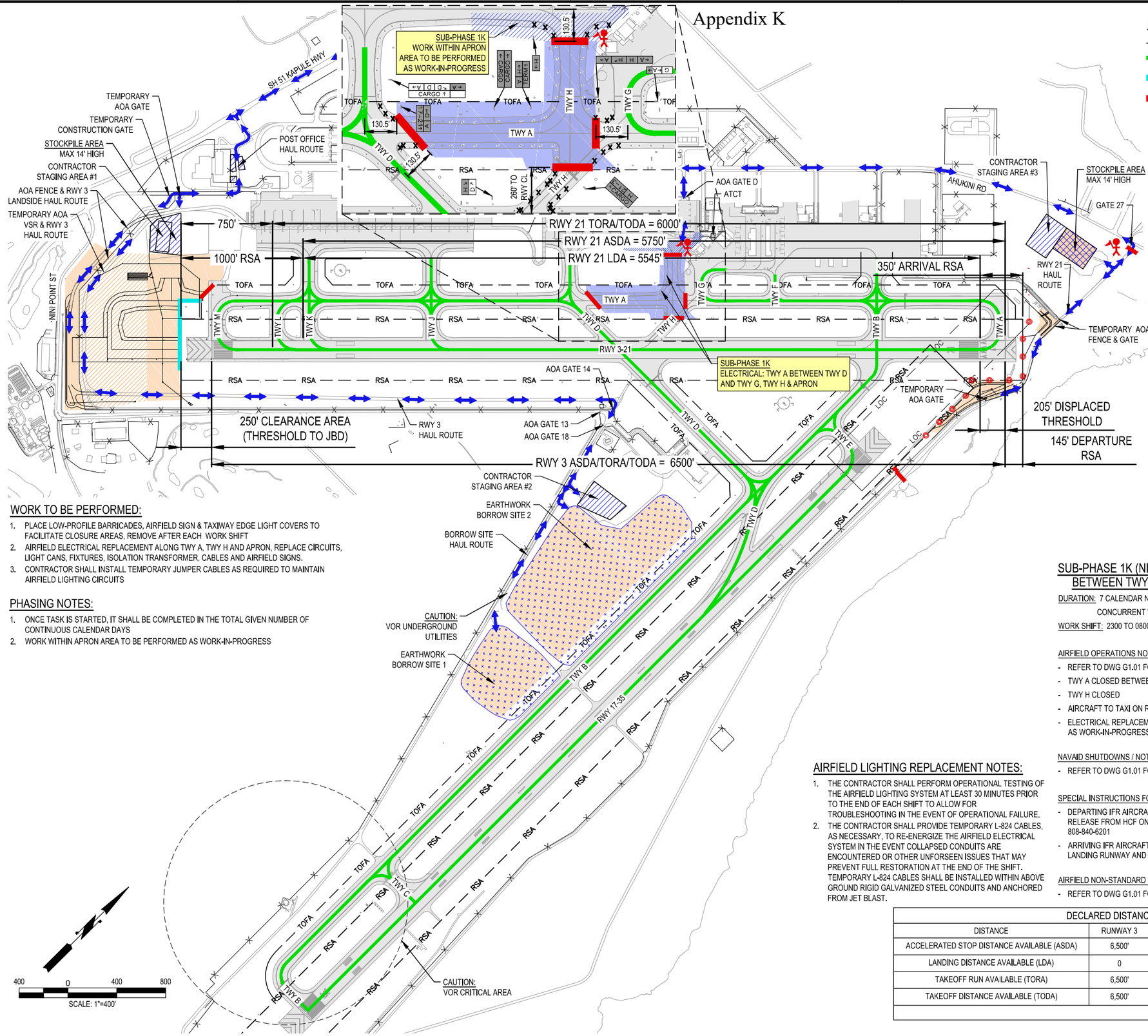
Appendix K



WORK TO BE PERFORMED:

1. PLACE LOW-PROFILE BARRICADES, AIRFIELD SIGN & TAXIWAY EDGE LIGHT COVERS TO FACILITATE CLOSURE AREAS, REMOVE AFTER EACH WORK SHIFT
2. AIRFIELD ELECTRICAL REPLACEMENT ALONG TWY A, TWY H AND APRON, REPLACE CIRCUITS, LIGHT CANS, FIXTURES, ISOLATION TRANSFORMER, CABLES AND AIRFIELD SIGNS.
3. CONTRACTOR SHALL INSTALL TEMPORARY JUMPER CABLES AS REQUIRED TO MAINTAIN AIRFIELD LIGHTING CIRCUITS

PHASING NOTES:

1. ONCE TASK IS STARTED, IT SHALL BE COMPLETED IN THE TOTAL GIVEN NUMBER OF CONTINUOUS CALENDAR DAYS
2. WORK WITHIN APRON AREA TO BE PERFORMED AS WORK-IN-PROGRESS

LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN
- COVER AIRFIELD LIGHT

SUB-PHASE 1K (NIGHTTIME) - ELECTRICAL - TWY A BETWEEN TWY D AND TWY G, TWY H & APRON

DURATION: 7 CALENDAR NIGHTS
CONCURRENT WITH PHASE 1

WORK SHIFT: 2300 TO 0800 HST

AIRFIELD OPERATIONS NOTAMS:
- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS
- TWY A CLOSED BETWEEN TWY D AND TWY G
- TWY H CLOSED
- AIRCRAFT TO TAXI ON RWY 3-21 TO BYPASS CONSTRUCTION
- ELECTRICAL REPLACEMENT ALONG EDGE OF APRON TO BE PERFORMED AS WORK-IN-PROGRESS

NAVAID SHUTDOWNS / NOTAMS:
- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS

SPECIAL INSTRUCTIONS FOR ATIS:
- DEPARTING IFR AIRCRAFT FOR RWY 17-35 MUST HOLD AT GATE FOR RELEASE FROM HCF ON 134.0/319.2, 126.5/269.4 OR CALL HCF AT 808-840-6201
- ARRIVING IFR AIRCRAFT SHALL CANCEL FLIGHT PLAN WHEN CLEAR OF LANDING RUNWAY AND ALL TAXIWAYS

AIRFIELD NON-STANDARD CONDITIONS:
- REFER TO DWG G1.01 FOR PHASE 1 CONDITIONS

AIRFIELD LIGHTING REPLACEMENT NOTES:

1. THE CONTRACTOR SHALL PERFORM OPERATIONAL TESTING OF THE AIRFIELD LIGHTING SYSTEM AT LEAST 30 MINUTES PRIOR TO THE END OF EACH SHIFT TO ALLOW FOR TROUBLESHOOTING IN THE EVENT OF OPERATIONAL FAILURE.
2. THE CONTRACTOR SHALL PROVIDE TEMPORARY L-824 CABLES, AS NECESSARY, TO RE-ENERGIZE THE AIRFIELD ELECTRICAL SYSTEM IN THE EVENT COLLAPSED CONDUITS ARE ENCOUNTERED OR OTHER UNFORSEEN ISSUES THAT MAY PREVENT FULL RESTORATION AT THE END OF THE SHIFT. TEMPORARY L-824 CABLES SHALL BE INSTALLED WITHIN ABOVE GROUND RIGID GALVANIZED STEEL CONDUITS AND ANCHORED FROM JET BLAST.

DECLARED DISTANCES

DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	6,500'	5,750' *	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	0	5,545' *	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	6,500'	6,000' *	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	6,500'	6,000' *	6,500'	6,500'

* DECLARED DISTANCE REDUCED

STATE OF HAWAII 1959
Airports Division
DEPARTMENT OF TRANSPORTATION STATE OF HAWAII

DUKE S. YOUNG
LICENSED PROFESSIONAL ENGINEER
PE–17779
HAWAII, U.S.A.

DUKE YOUNG, PE
CIVIL ENGINEER
4/30/24
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 1K (NIGHTTIME)

DATE : 07/2022

SHEET : 43 OF 376 SHEETS

DWG. NO. G1.15

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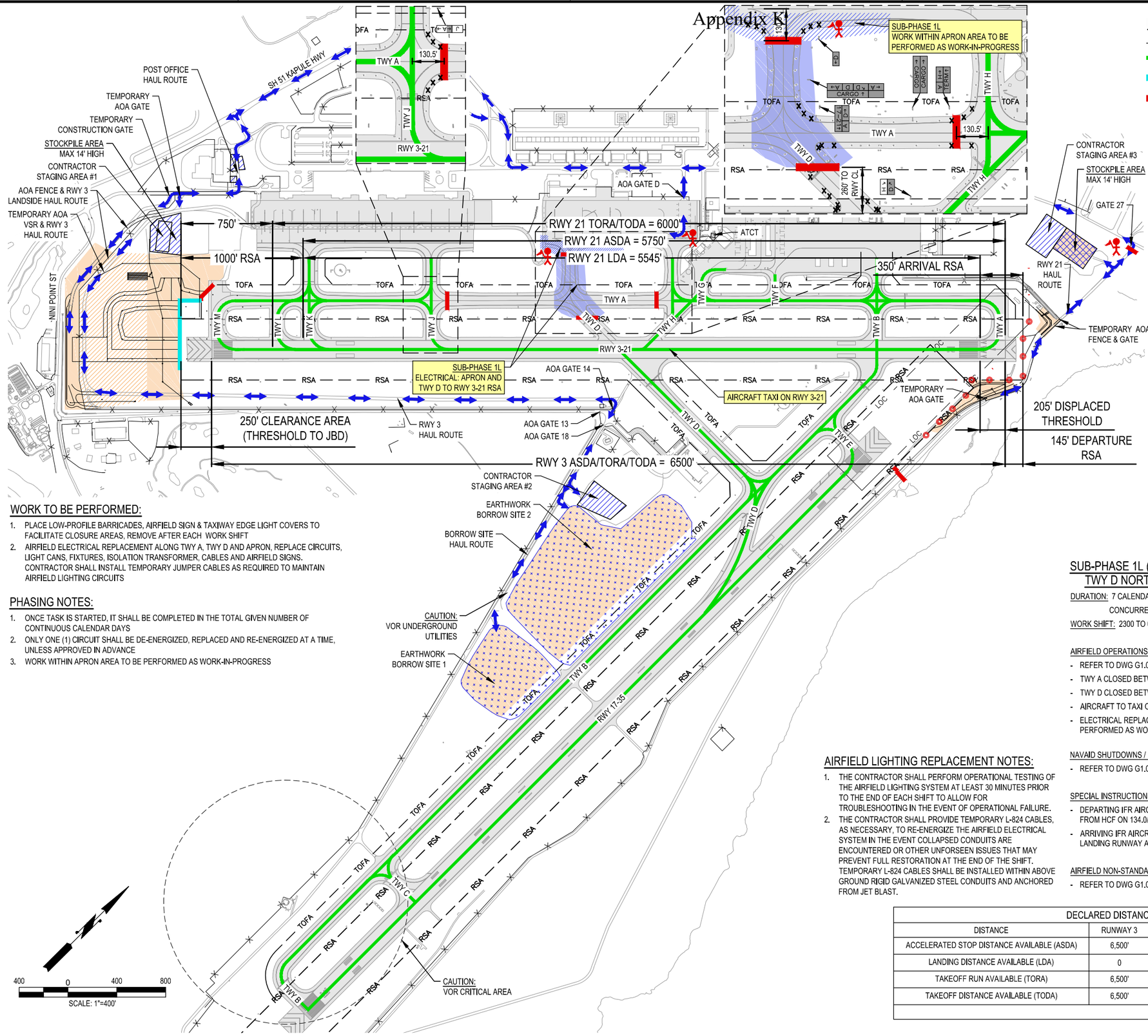

LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN
- COVER AIRFIELD LIGHT

WORK TO BE PERFORMED:

1. PLACE LOW-PROFILE BARRICADES, AIRFIELD SIGN & TAXIWAY EDGE LIGHT COVERS TO FACILITATE CLOSURE AREAS, REMOVE AFTER EACH WORK SHIFT
2. AIRFIELD ELECTRICAL REPLACEMENT ALONG TWY A, TWY D AND APRON, REPLACE CIRCUITS, LIGHT CANS, FIXTURES, ISOLATION TRANSFORMER, CABLES AND AIRFIELD SIGNS. CONTRACTOR SHALL INSTALL TEMPORARY JUMPER CABLES AS REQUIRED TO MAINTAIN AIRFIELD LIGHTING CIRCUITS

PHASING NOTES:

1. ONCE TASK IS STARTED, IT SHALL BE COMPLETED IN THE TOTAL GIVEN NUMBER OF CONTINUOUS CALENDAR DAYS
2. ONLY ONE (1) CIRCUIT SHALL BE DE-ENERGIZED, REPLACED AND RE-ENERGIZED AT A TIME, UNLESS APPROVED IN ADVANCE
3. WORK WITHIN APRON AREA TO BE PERFORMED AS WORK-IN-PROGRESS

SUB-PHASE 1L (NIGHTTIME) - ELECTRICAL - TWY A & TWY D NORTH OF RWY 3-21 & APRON

DURATION: 7 CALENDAR NIGHTS
CONCURRENT WITH PHASE 1

WORK SHIFT: 2300 TO 0800 HST

AIRFIELD OPERATIONS NOTAMS:
- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS
- TWY A CLOSED BETWEEN TWY H AND TWY J
- TWY D CLOSED BETWEEN APRON AND RWY 3-21
- AIRCRAFT TO TAXI ON RWY 3-21 TO BYPASS CONSTRUCTION
- ELECTRICAL REPLACEMENT ALONG EDGE OF TERMINAL APRON TO BE PERFORMED AS WORK-IN-PROGRESS

NAVAID SHUTDOWNS / NOTAMS:
- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS

SPECIAL INSTRUCTIONS FOR ATIS:
- DEPARTING IFR AIRCRAFT FOR RWY 17-35 MUST HOLD AT GATE FOR RELEASE FROM HCF ON 134.0/319.2, 126.5/269.4 OR CALL HCF AT 808-840-6201
- ARRIVING IFR AIRCRAFT SHALL CANCEL FLIGHT PLAN WHEN CLEAR OF LANDING RUNWAY AND ALL TAXIWAYS

AIRFIELD NON-STANDARD CONDITIONS:
- REFER TO DWG G1.01 FOR PHASE 1 CONDITIONS

AIRFIELD LIGHTING REPLACEMENT NOTES:

1. THE CONTRACTOR SHALL PERFORM OPERATIONAL TESTING OF THE AIRFIELD LIGHTING SYSTEM AT LEAST 30 MINUTES PRIOR TO THE END OF EACH SHIFT TO ALLOW FOR TROUBLESHOOTING IN THE EVENT OF OPERATIONAL FAILURE.
2. THE CONTRACTOR SHALL PROVIDE TEMPORARY L-824 CABLES, AS NECESSARY, TO RE-ENERGIZE THE AIRFIELD ELECTRICAL SYSTEM IN THE EVENT COLLAPSED CONDUITS ARE ENCOUNTERED OR OTHER UNFORSEEN ISSUES THAT MAY PREVENT FULL RESTORATION AT THE END OF THE SHIFT. TEMPORARY L-824 CABLES SHALL BE INSTALLED WITHIN ABOVE GROUND RIGID GALVANIZED STEEL CONDUITS AND ANCHORED FROM JET BLAST.

DECLARED DISTANCES

DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	6,500'	5,750' *	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	0	5,545' *	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	6,500'	6,000' *	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	6,500'	6,000' *	6,500'	6,500'

* DECLARED DISTANCE REDUCED

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DUKE S. YOUNG
LICENSED PROFESSIONAL ENGINEER
PE–17779
HAWAII, U.S.A.

DUKE YOUNG, PE
CIVIL ENGINEER
4/30/24
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 1L (NIGHTTIME)

DATE : 07/2022

SHEET : 44 OF 376 SHEETS

DWG. NO. G1.16

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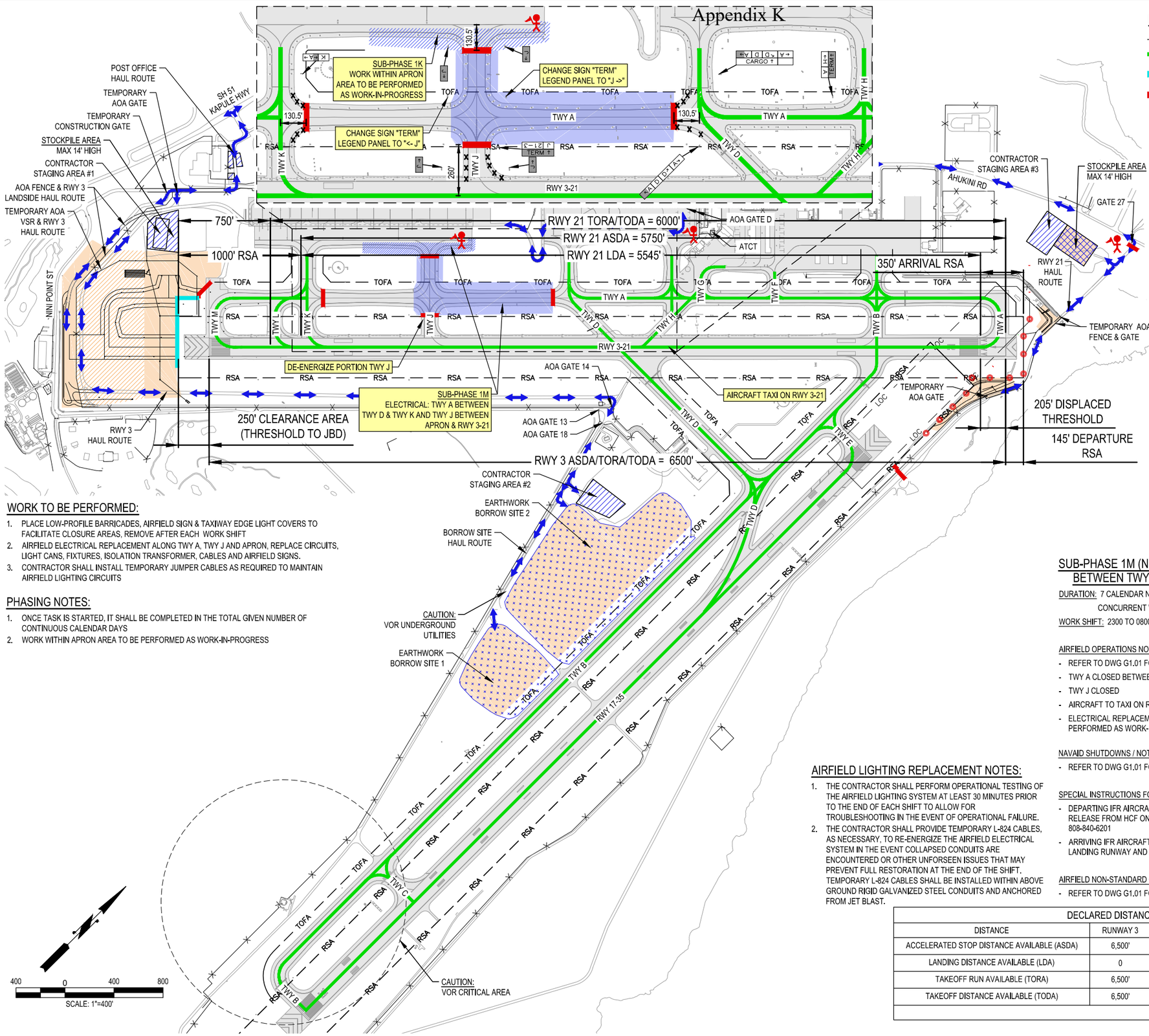

WORK TO BE PERFORMED:

1. PLACE LOW-PROFILE BARRICADES, AIRFIELD SIGN & TAXIWAY EDGE LIGHT COVERS TO FACILITATE CLOSURE AREAS, REMOVE AFTER EACH WORK SHIFT
2. AIRFIELD ELECTRICAL REPLACEMENT ALONG TWY A, TWY J AND APRON, REPLACE CIRCUITS, LIGHT CANS, FIXTURES, ISOLATION TRANSFORMER, CABLES AND AIRFIELD SIGNS.
3. CONTRACTOR SHALL INSTALL TEMPORARY JUMPER CABLES AS REQUIRED TO MAINTAIN AIRFIELD LIGHTING CIRCUITS

PHASING NOTES:

1. ONCE TASK IS STARTED, IT SHALL BE COMPLETED IN THE TOTAL GIVEN NUMBER OF CONTINUOUS CALENDAR DAYS
2. WORK WITHIN APRON AREA TO BE PERFORMED AS WORK-IN-PROGRESS

LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN
- COVER AIRFIELD LIGHT

SUB-PHASE 1M (NIGHTTIME) - ELECTRICAL - TWY A BETWEEN TWY K & TWY D, TWY J & APRON

DURATION: 7 CALENDAR NIGHTS
CONCURRENT WITH PHASE 1

WORK SHIFT: 2300 TO 0800 HST

AIRFIELD OPERATIONS NOTAMS:

- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS
- TWY A CLOSED BETWEEN TWY K AND TWY D
- TWY J CLOSED
- AIRCRAFT TO TAXI ON RWY 3-21 TO BYPASS CONSTRUCTION
- ELECTRICAL REPLACEMENT ALONG EDGE OF TERMINAL APRON TO BE PERFORMED AS WORK-IN-PROGRESS

NAVAID SHUTDOWNS / NOTAMS:

- REFER TO DWG G1.01 FOR PHASE 1 NOTAMS

SPECIAL INSTRUCTIONS FOR ATIS:

- DEPARTING IFR AIRCRAFT FOR RWY 17-35 MUST HOLD AT GATE FOR RELEASE FROM HCF ON 134.0/319.2, 126.5/269.4 OR CALL HCF AT 808-840-6201
- ARRIVING IFR AIRCRAFT SHALL CANCEL FLIGHT PLAN WHEN CLEAR OF LANDING RUNWAY AND ALL TAXIWAYS

AIRFIELD NON-STANDARD CONDITIONS:

- REFER TO DWG G1.01 FOR PHASE 1 CONDITIONS

AIRFIELD LIGHTING REPLACEMENT NOTES:

1. THE CONTRACTOR SHALL PERFORM OPERATIONAL TESTING OF THE AIRFIELD LIGHTING SYSTEM AT LEAST 30 MINUTES PRIOR TO THE END OF EACH SHIFT TO ALLOW FOR TROUBLESHOOTING IN THE EVENT OF OPERATIONAL FAILURE.
2. THE CONTRACTOR SHALL PROVIDE TEMPORARY L-824 CABLES, AS NECESSARY, TO RE-ENERGIZE THE AIRFIELD ELECTRICAL SYSTEM IN THE EVENT COLLAPSED CONDUITS ARE ENCOUNTERED OR OTHER UNFORSEEN ISSUES THAT MAY PREVENT FULL RESTORATION AT THE END OF THE SHIFT. TEMPORARY L-824 CABLES SHALL BE INSTALLED WITHIN ABOVE GROUND RIGID GALVANIZED STEEL CONDUITS AND ANCHORED FROM JET BLAST.

DECLARED DISTANCES

DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	6,500'	5,750' *	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	0	5,545' *	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	6,500'	6,000' *	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	6,500'	6,000' *	6,500'	6,500'

* DECLARED DISTANCE REDUCED

STATE OF HAWAII 1959
Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

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KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 1M (NIGHTTIME)

DATE : 07/2022

SHEET : 45 OF 376 SHEETS

DWG. NO. G1.17

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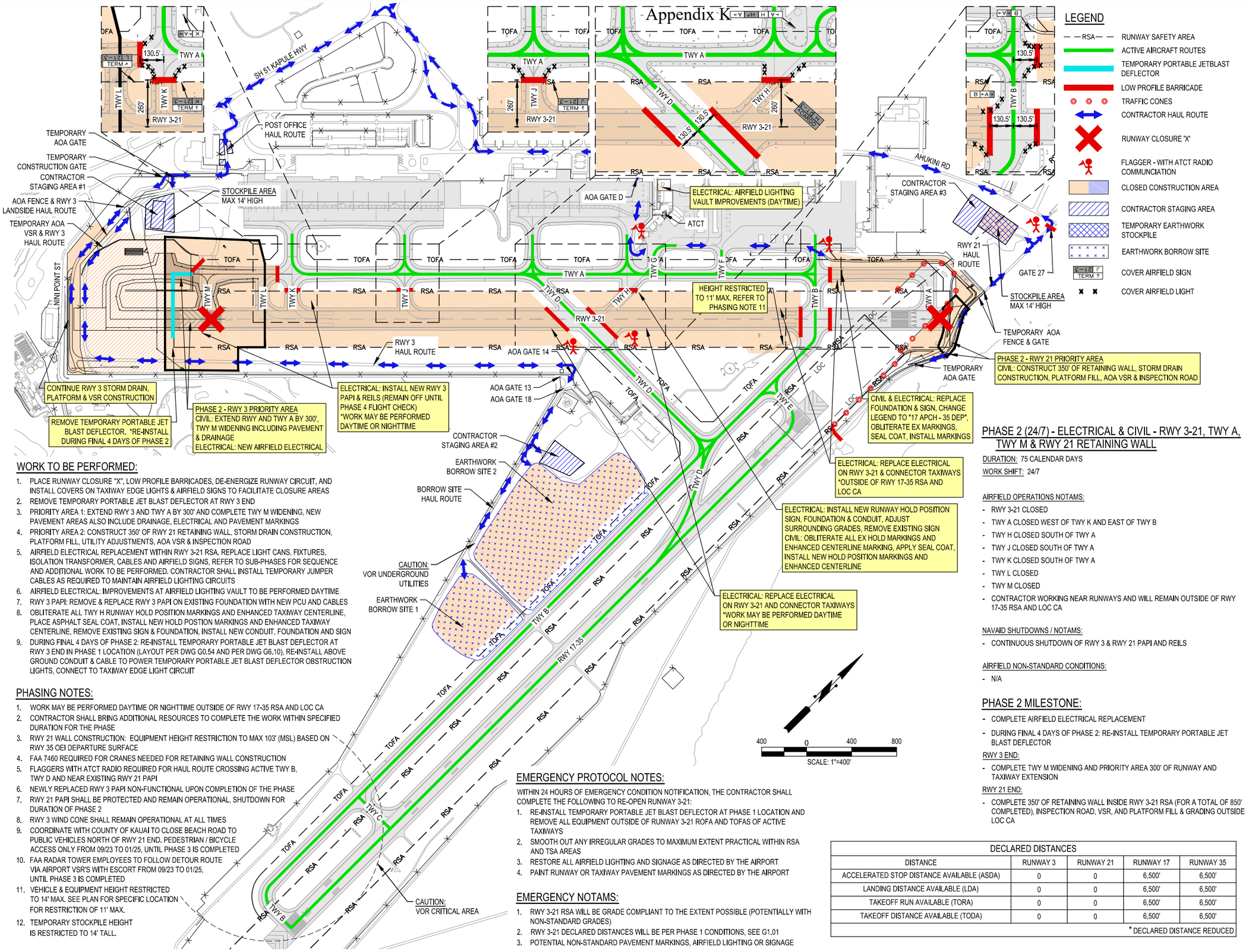
Appendix K



WORK TO BE PERFORMED:

1. PLACE RUNWAY CLOSURE "X", LOW PROFILE BARRICADES, DE-ENERGIZE RUNWAY CIRCUIT, AND INSTALL COVERS ON TAXIWAY EDGE LIGHTS & AIRFIELD SIGNS TO FACILITATE CLOSURE AREAS
2. REMOVE TEMPORARY PORTABLE JET BLAST DEFLECTOR AT RWY 3 END
3. PRIORITY AREA 1: EXTEND RWY 3 AND TWY A BY 300' AND COMPLETE TWY M WIDENING, NEW PAVEMENT AREAS ALSO INCLUDE DRAINAGE, ELECTRICAL AND PAVEMENT MARKINGS
4. PRIORITY AREA 2: CONSTRUCT 350' OF RWY 21 RETAINING WALL, STORM DRAIN CONSTRUCTION, PLATFORM FILL, UTILITY ADJUSTMENTS, AOA VSR & INSPECTION ROAD
5. AIRFIELD ELECTRICAL REPLACEMENT WITHIN RWY 3-21 RSA, REPLACE LIGHT CANS, FIXTURES, ISOLATION TRANSFORMER, CABLES AND AIRFIELD SIGNS, REFER TO SUB-PHASES FOR SEQUENCE AND ADDITIONAL WORK TO BE PERFORMED. CONTRACTOR SHALL INSTALL TEMPORARY JUMPER CABLES AS REQUIRED TO MAINTAIN AIRFIELD LIGHTING CIRCUITS
6. AIRFIELD ELECTRICAL: IMPROVEMENTS AT AIRFIELD LIGHTING VAULT TO BE PERFORMED DAYTIME
7. RWY 3 PAPI: REMOVE & REPLACE RWY 3 PAPI ON EXISTING FOUNDATION WITH NEW PCU AND CABLES
8. OBLITERATE ALL TWY H RUNWAY HOLD POSITION MARKINGS AND ENHANCED TAXIWAY CENTERLINE, PLACE ASPHALT SEAL COAT, INSTALL NEW HOLD POSTION MARKINGS AND ENHANCED TAXIWAY CENTERLINE, REMOVE EXISTING SIGN & FOUNDATION, INSTALL NEW CONDUIT, FOUNDATION AND SIGN
9. DURING FINAL 4 DAYS OF PHASE 2: RE-INSTALL TEMPORARY PORTABLE JET BLAST DEFLECTOR AT RWY 3 END IN PHASE 1 LOCATION (LAYOUT PER DWG G0.54 AND PER DWG G6.10), RE-INSTALL ABOVE GROUND CONDUIT & CABLE TO POWER TEMPORARY PORTABLE JET BLAST DEFLECTOR OBSTRUCTION LIGHTS, CONNECT TO TAXIWAY EDGE LIGHT CIRCUIT

PHASING NOTES:

1. WORK MAY BE PERFORMED DAYTIME OR NIGHTTIME OUTSIDE OF RWY 17-35 RSA AND LOC CA
2. CONTRACTOR SHALL BRING ADDITIONAL RESOURCES TO COMPLETE THE WORK WITHIN SPECIFIED DURATION FOR THE PHASE
3. RWY 21 WALL CONSTRUCTION: EQUIPMENT HEIGHT RESTRICTION TO MAX 103' (MSL) BASED ON RWY 35 OEI DEPARTURE SURFACE
4. FAA 7460 REQUIRED FOR CRANES NEEDED FOR RETAINING WALL CONSTRUCTION
5. FLAGGERS WITH ATCT RADIO REQUIRED FOR HAUL ROUTE CROSSING ACTIVE TWY B, TWY D AND NEAR EXISTING RWY 21 PAPI
6. NEWLY REPLACED RWY 3 PAPI NON-FUNCTIONAL UPON COMPLETION OF THE PHASE
7. RWY 21 PAPI SHALL BE PROTECTED AND REMAIN OPERATIONAL, SHUTDOWN FOR DURATION OF PHASE 2
8. RWY 3 WIND CONE SHALL REMAIN OPERATIONAL AT ALL TIMES
9. COORDINATE WITH COUNTY OF KAUAI TO CLOSE BEACH ROAD TO PUBLIC VEHICLES NORTH OF RWY 21 END. PEDESTRIAN / BICYCLE ACCESS ONLY FROM 09/23 TO 01/25, UNTIL PHASE 3 IS COMPLETED
10. FAA RADAR TOWER EMPLOYEES TO FOLLOW DETOUR ROUTE VIA AIRPORT VSR'S WITH ESCORT FROM 09/23 TO 01/25, UNTIL PHASE 3 IS COMPLETED
11. VEHICLE & EQUIPMENT HEIGHT RESTRICTED TO 14' MAX. SEE PLAN FOR SPECIFIC LOCATION FOR RESTRICTION OF 11' MAX.
12. TEMPORARY STOCKPILE HEIGHT IS RESTRICTED TO 14' TALL.

EMERGENCY PROTOCOL NOTES:

WITHIN 24 HOURS OF EMERGENCY CONDITION NOTIFICATION, THE CONTRACTOR SHALL COMPLETE THE FOLLOWING TO RE-OPEN RUNWAY 3-21:

1. RE-INSTALL TEMPORARY PORTABLE JET BLAST DEFLECTOR AT PHASE 1 LOCATION AND REMOVE ALL EQUIPMENT OUTSIDE OF RUNWAY 3-21 ROFA AND TOFAS OF ACTIVE TAXIWAYS
2. SMOOTH OUT ANY IRREGULAR GRADES TO MAXIMUM EXTENT PRACTICAL WITHIN RSA AND TSA AREAS
3. RESTORE ALL AIRFIELD LIGHTING AND SIGNAGE AS DIRECTED BY THE AIRPORT
4. PAINT RUNWAY OR TAXIWAY PAVEMENT MARKINGS AS DIRECTED BY THE AIRPORT

EMERGENCY NOTAMS:

1. RWY 3-21 RSA WILL BE GRADE COMPLIANT TO THE EXTENT POSSIBLE (POTENTIALLY WITH NON-STANDARD GRADES)
2. RWY 3-21 DECLARED DISTANCES WILL BE PER PHASE 1 CONDITIONS, SEE G1.01
3. POTENTIAL NON-STANDARD PAVEMENT MARKINGS, AIRFIELD LIGHTING OR SIGNAGE

LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN
- COVER AIRFIELD LIGHT

PHASE 2 (24/7) - ELECTRICAL & CIVIL - RWY 3-21, TWY A, TWY M & RWY 21 RETAINING WALL

DURATION: 75 CALENDAR DAYS

WORK SHIFT: 24/7

AIRFIELD OPERATIONS NOTAMS:

- RWY 3-21 CLOSED
- TWY A CLOSED WEST OF TWY K AND EAST OF TWY B
- TWY H CLOSED SOUTH OF TWY A
- TWY J CLOSED SOUTH OF TWY A
- TWY K CLOSED SOUTH OF TWY A
- TWY L CLOSED
- TWY M CLOSED
- CONTRACTOR WORKING NEAR RUNWAYS AND WILL REMAIN OUTSIDE OF RWY 17-35 RSA AND LOC CA

NAVAID SHUTDOWNS / NOTAMS:

- CONTINUOUS SHUTDOWN OF RWY 3 & RWY 21 PAPI AND REILS

AIRFIELD NON-STANDARD CONDITIONS:

- N/A

PHASE 2 MILESTONE:

- COMPLETE AIRFIELD ELECTRICAL REPLACEMENT
- DURING FINAL 4 DAYS OF PHASE 2: RE-INSTALL TEMPORARY PORTABLE JET BLAST DEFLECTOR

RWY 3 END:

- COMPLETE TWY M WIDENING AND PRIORITY AREA 300' OF RUNWAY AND TAXIWAY EXTENSION

RWY 21 END:

- COMPLETE 350' OF RETAINING WALL INSIDE RWY 3-21 RSA (FOR A TOTAL OF 850' COMPLETED), INSPECTION ROAD, VSR, AND PLATFORM FILL & GRADING OUTSIDE LOC CA

DECLARED DISTANCES				
DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	0	0	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	0	0	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	0	0	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	0	0	6,500'	6,500'
				* DECLARED DISTANCE REDUCED

Airports Division
DEPARTMENT OF TRANSPORTATION
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Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

PHASE 2

DATE : 07/2022

SHEET : 46 OF 376 SHEETS

DWG. NO. G2.01

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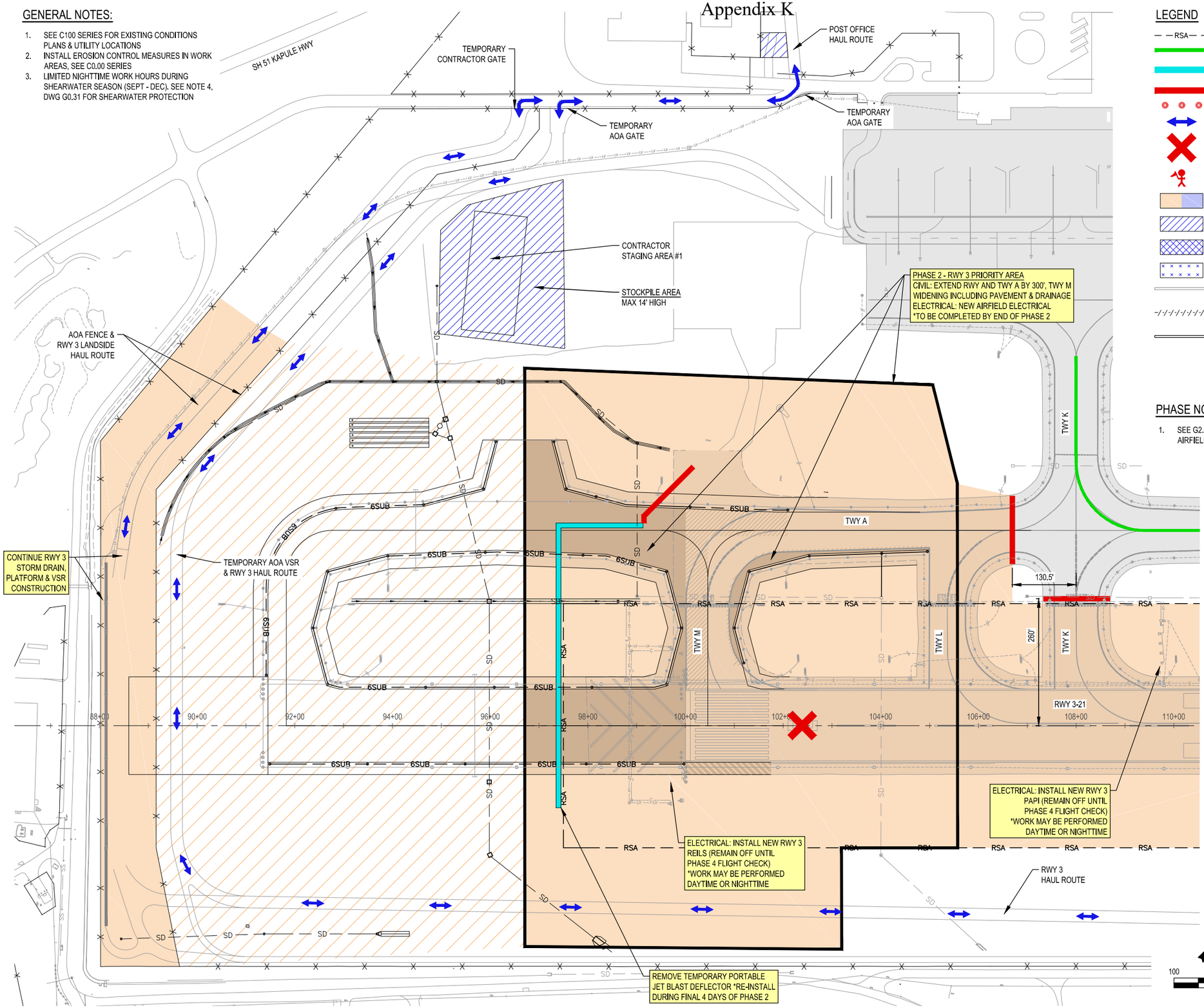
GENERAL NOTES:

1. SEE C100 SERIES FOR EXISTING CONDITIONS PLANS & UTILITY LOCATIONS
2. INSTALL EROSION CONTROL MEASURES IN WORK AREAS, SEE C0.00 SERIES
3. LIMITED NIGHTTIME WORK HOURS DURING SHEARWATER SEASON (SEPT - DEC). SEE NOTE 4, DWG G0.31 FOR SHEARWATER PROTECTION



LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- EXISTING MARKINGS
- EXISTING MARKINGS TO BE OBLITERATED/BLACKED OUT
- TEMPORARY PAVEMENT MARKINGS

PHASE NOTES:

1. SEE G2.01 FOR PLACEMENT OF COVERS ON AIRFIELD SIGNS AND EDGE LIGHTS

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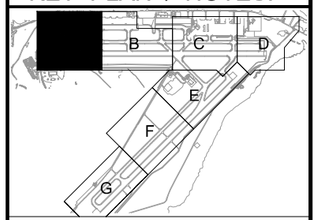

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

PHASE 2
AREA A

DATE :
07/2022

SHEET :
47 OF 376 SHEETS

DWG. NO.
G2.02

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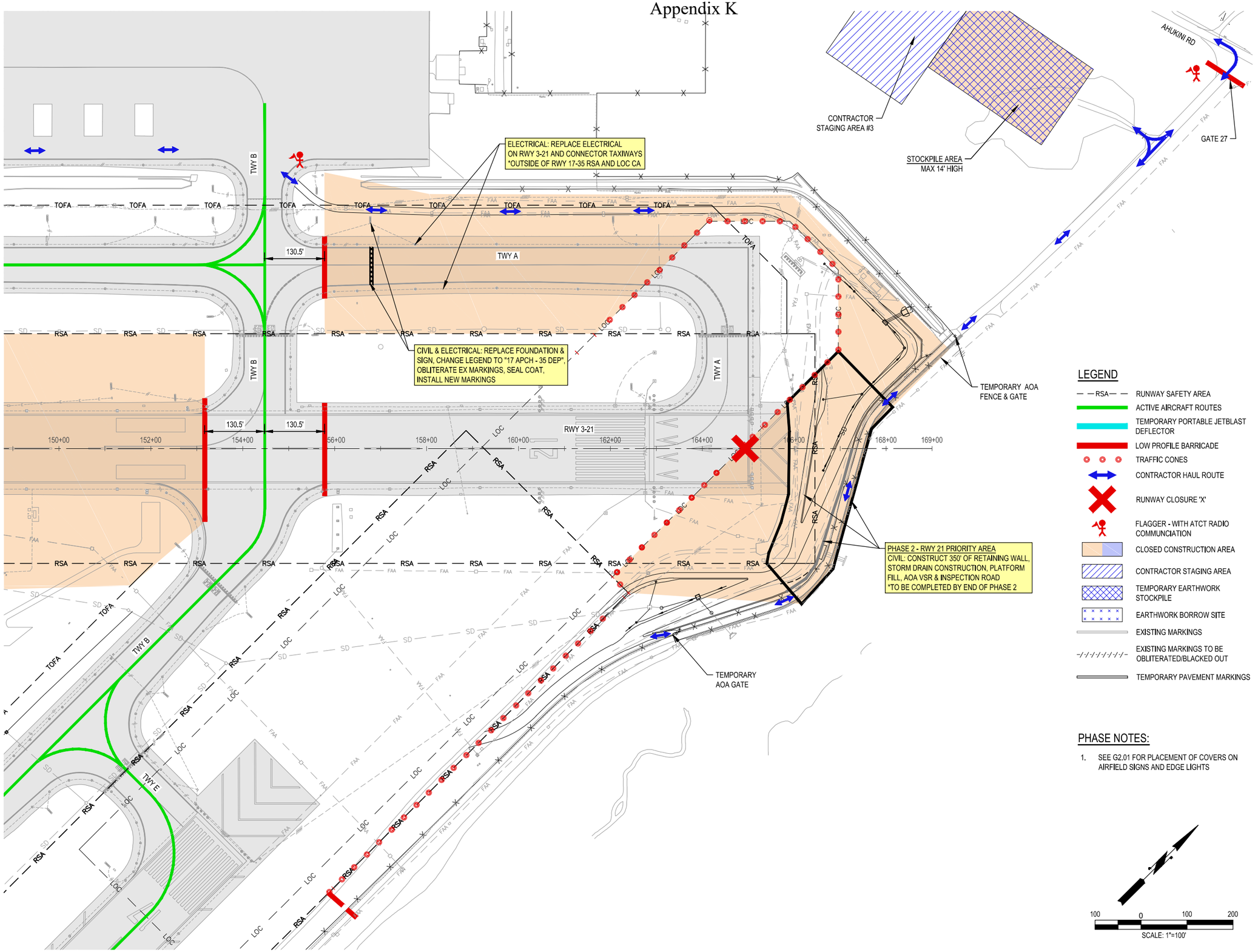

LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
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- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- EXISTING MARKINGS
- EXISTING MARKINGS TO BE OBLITERATED/BLACKED OUT
- TEMPORARY PAVEMENT MARKINGS

PHASE NOTES:

1. SEE G2.01 FOR PLACEMENT OF COVERS ON AIRFIELD SIGNS AND EDGE LIGHTS

100 0 100 200
SCALE: 1"=100'

STATE OF HAWAII 1959

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Duke Young 4/30/24
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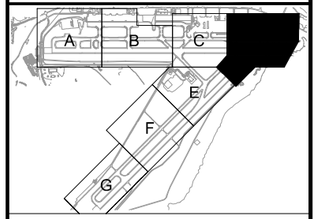

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

PHASE 2
AREA D

DATE :	DWG. NO.
07/2022	G2.03
SHEET :	
48 OF 376 SHEETS	

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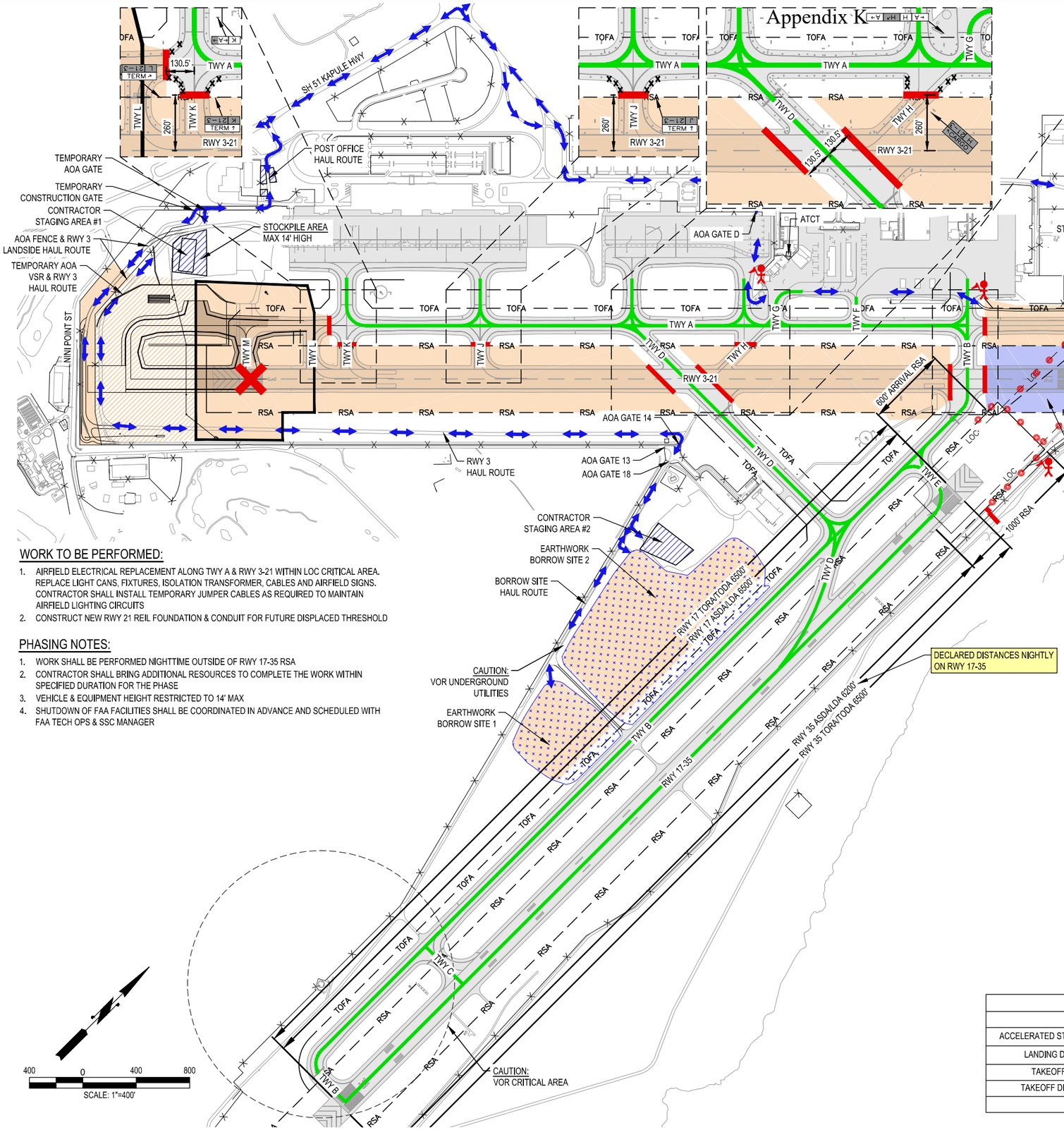

WORK TO BE PERFORMED:

1. AIRFIELD ELECTRICAL REPLACEMENT ALONG TWY A & RWY 3-21 WITHIN LOC CRITICAL AREA. REPLACE LIGHT CANS, FIXTURES, ISOLATION TRANSFORMER, CABLES AND AIRFIELD SIGNS. CONTRACTOR SHALL INSTALL TEMPORARY JUMPER CABLES AS REQUIRED TO MAINTAIN AIRFIELD LIGHTING CIRCUITS
2. CONSTRUCT NEW RWY 21 REIL FOUNDATION & CONDUIT FOR FUTURE DISPLACED THRESHOLD

PHASING NOTES:

1. WORK SHALL BE PERFORMED NIGHTTIME OUTSIDE OF RWY 17-35 RSA
2. CONTRACTOR SHALL BRING ADDITIONAL RESOURCES TO COMPLETE THE WORK WITHIN SPECIFIED DURATION FOR THE PHASE
3. VEHICLE & EQUIPMENT HEIGHT RESTRICTED TO 14' MAX
4. SHUTDOWN OF FAA FACILITIES SHALL BE COORDINATED IN ADVANCE AND SCHEDULED WITH FAA TECH OPS & SSC MANAGER

LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
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- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN
- COVER AIRFIELD LIGHT

SUB-PHASE 2A (NIGHTTIME) - WORK WITHIN LOC CRITICAL AREA

DURATION: 21 CALENDAR NIGHTS
CONCURRENT WITH PHASE 2

WORK SHIFT: 2200 TO 0530 HST

AIRFIELD OPERATIONS NOTAMS:
- REFER TO DWG G2.01 FOR PHASE 2 NOTAMS
- DECLARED DISTANCES IMPLEMENTED ON RWY 17-35

NAVAID SHUTDOWNS / NOTAMS:
- REFER TO DWG G2.01 FOR PHASE 2 NOTAMS
- RWY 35 ILS AND LOC SHUTDOWN NIGHTLY

AIRFIELD NON-STANDARD CONDITIONS & NOTES:
- REFER TO DWG G2.01 FOR PHASE 2 CONDITIONS
- RWY 35 MALSR OPERATIONAL

DECLARED DISTANCES

DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	0	0	6,500'	6,200' *
LANDING DISTANCE AVAILABLE (LDA)	0	0	6,500'	6,200' *
TAKEOFF RUN AVAILABLE (TORA)	0	0	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	0	0	6,500'	6,500'

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AK1031-14

SHEET TITLE:

SUB-PHASE 2A (NIGHTTIME)

DATE : 07/2022

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DWG. NO. G2.04

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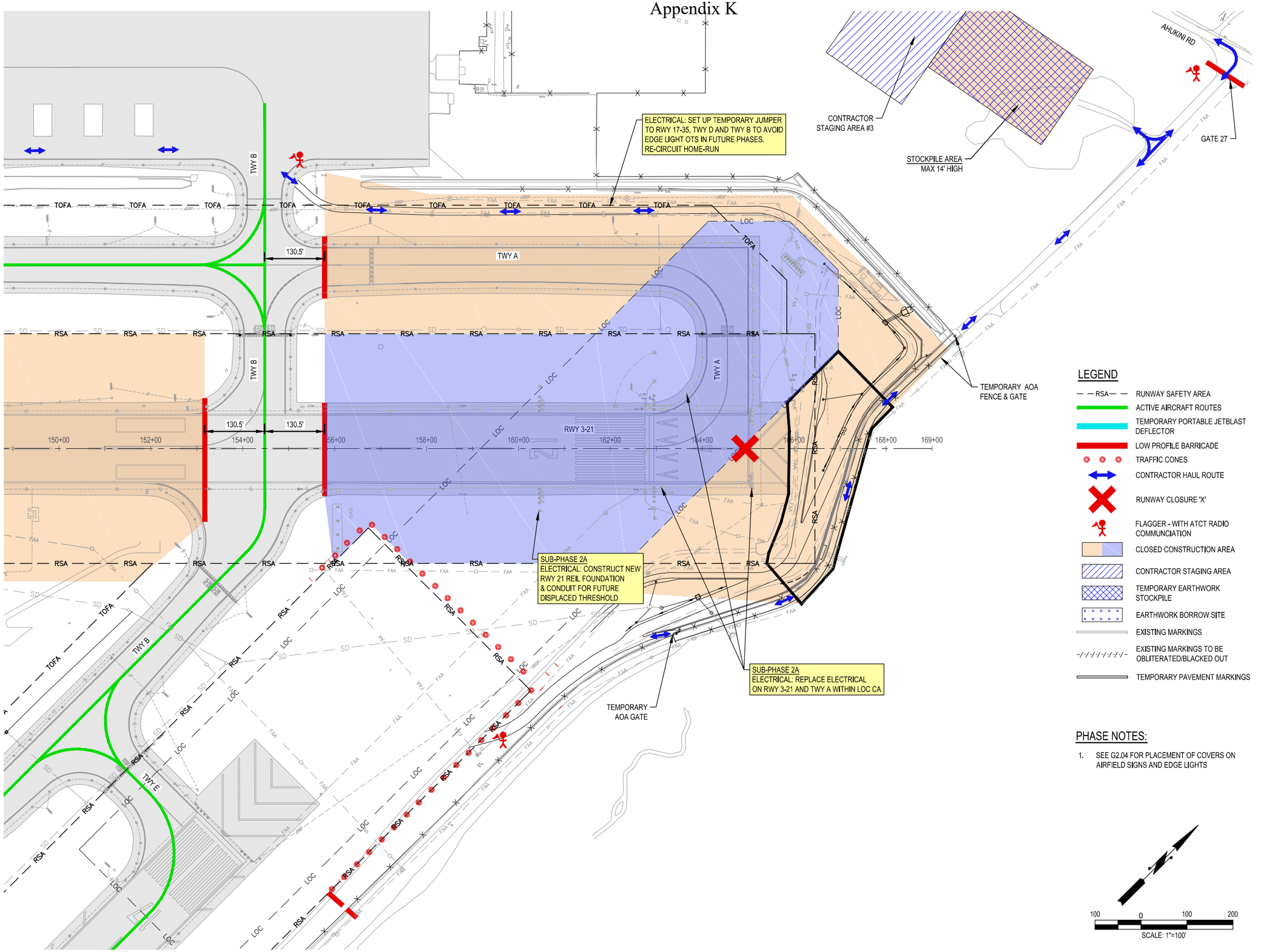

LEGEND

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- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- EXISTING MARKINGS
- EXISTING MARKINGS TO BE OBLITERATED/BLACKED OUT
- TEMPORARY PAVEMENT MARKINGS

PHASE NOTES:

1. SEE G2.04 FOR PLACEMENT OF COVERS ON AIRFIELD SIGNS AND EDGE LIGHTS

100 0 100 200
SCALE: 1"=100'

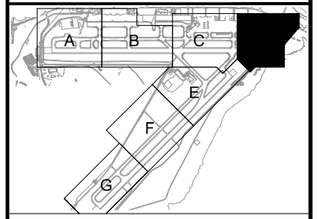
Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DUKE S. YOUNG
LICENSED PROFESSIONAL ENGINEER
PE-17779
HAWAII, U.S.A.

DUKE YOUNG, PE
CIVIL ENGINEER
4/30/24
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:



NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 2A
AREA D

DATE :	DWG. NO.
07/2022	G2.05
SHEET :	
50 OF 376 SHEETS	

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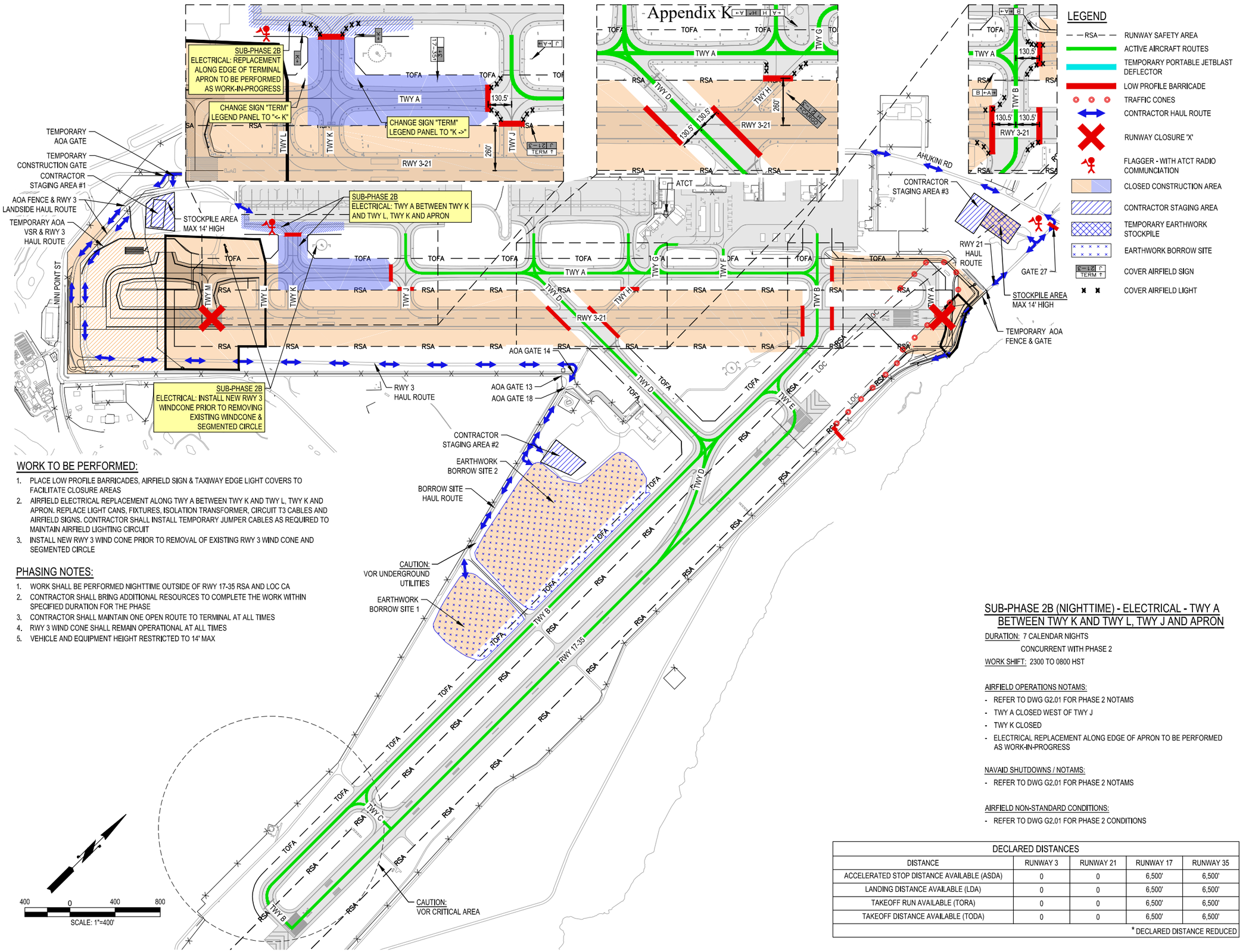

WORK TO BE PERFORMED:

1. PLACE LOW PROFILE BARRICADES, AIRFIELD SIGN & TAXIWAY EDGE LIGHT COVERS TO FACILITATE CLOSURE AREAS
2. AIRFIELD ELECTRICAL REPLACEMENT ALONG TWY A BETWEEN TWY K AND TWY L, TWY K AND APRON. REPLACE LIGHT CANS, FIXTURES, ISOLATION TRANSFORMER, CIRCUIT T3 CABLES AND AIRFIELD SIGNS. CONTRACTOR SHALL INSTALL TEMPORARY JUMPER CABLES AS REQUIRED TO MAINTAIN AIRFIELD LIGHTING CIRCUIT
3. INSTALL NEW RWY 3 WIND CONE PRIOR TO REMOVAL OF EXISTING RWY 3 WIND CONE AND SEGMENTED CIRCLE

PHASING NOTES:

1. WORK SHALL BE PERFORMED NIGHTTIME OUTSIDE OF RWY 17-35 RSA AND LOC CA
2. CONTRACTOR SHALL BRING ADDITIONAL RESOURCES TO COMPLETE THE WORK WITHIN SPECIFIED DURATION FOR THE PHASE
3. CONTRACTOR SHALL MAINTAIN ONE OPEN ROUTE TO TERMINAL AT ALL TIMES
4. RWY 3 WIND CONE SHALL REMAIN OPERATIONAL AT ALL TIMES
5. VEHICLE AND EQUIPMENT HEIGHT RESTRICTED TO 14' MAX

LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN (L2 TERM)
- COVER AIRFIELD LIGHT

SUB-PHASE 2B (NIGHTTIME) - ELECTRICAL - TWY A BETWEEN TWY K AND TWY L, TWY J AND APRON

DURATION: 7 CALENDAR NIGHTS
CONCURRENT WITH PHASE 2

WORK SHIFT: 2300 TO 0800 HST

AIRFIELD OPERATIONS NOTAMS:
- REFER TO DWG G2.01 FOR PHASE 2 NOTAMS
- TWY A CLOSED WEST OF TWY J
- TWY K CLOSED
- ELECTRICAL REPLACEMENT ALONG EDGE OF APRON TO BE PERFORMED AS WORK-IN-PROGRESS

NAVAID SHUTDOWNS / NOTAMS:
- REFER TO DWG G2.01 FOR PHASE 2 NOTAMS

AIRFIELD NON-STANDARD CONDITIONS:
- REFER TO DWG G2.01 FOR PHASE 2 CONDITIONS

DECLARED DISTANCES				
DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	0	0	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	0	0	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	0	0	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	0	0	6,500'	6,500'
* DECLARED DISTANCE REDUCED				

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DUKE S. YOUNG
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PE-17779
HAWAII, U.S.A.

DUKE YOUNG, PE
CIVIL ENGINEER
4/30/24
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 2B (NIGHTTIME)

DATE : 07/2022

SHEET : 51 OF 376 SHEETS

DWG. NO. G2.06

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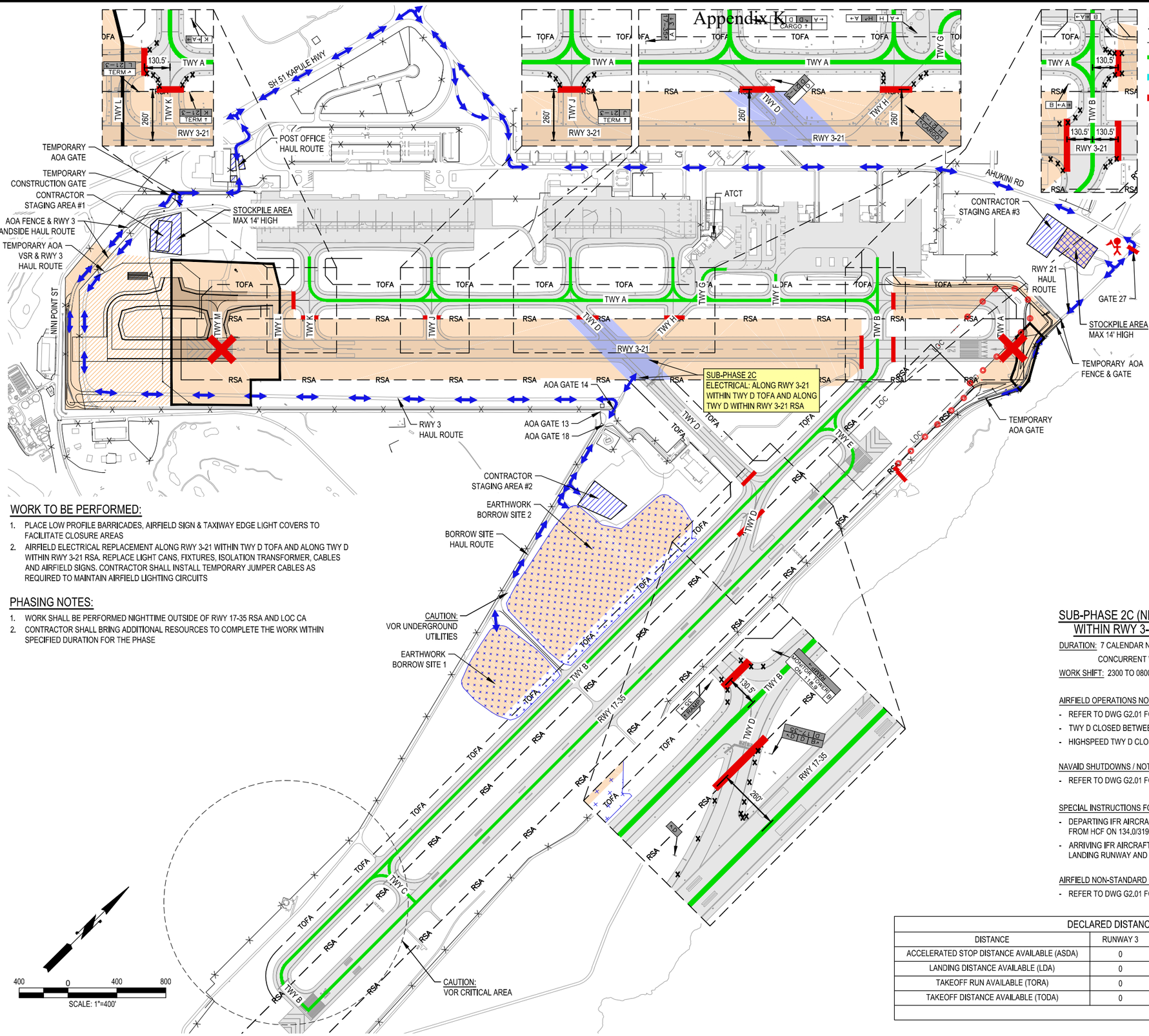

WORK TO BE PERFORMED:

1. PLACE LOW PROFILE BARRICADES, AIRFIELD SIGN & TAXIWAY EDGE LIGHT COVERS TO FACILITATE CLOSURE AREAS
2. AIRFIELD ELECTRICAL REPLACEMENT ALONG RWY 3-21 WITHIN TWY D TOFA AND ALONG TWY D WITHIN RWY 3-21 RSA. REPLACE LIGHT CANS, FIXTURES, ISOLATION TRANSFORMER, CABLES AND AIRFIELD SIGNS. CONTRACTOR SHALL INSTALL TEMPORARY JUMPER CABLES AS REQUIRED TO MAINTAIN AIRFIELD LIGHTING CIRCUITS

PHASING NOTES:

1. WORK SHALL BE PERFORMED NIGHTTIME OUTSIDE OF RWY 17-35 RSA AND LOC CA
2. CONTRACTOR SHALL BRING ADDITIONAL RESOURCES TO COMPLETE THE WORK WITHIN SPECIFIED DURATION FOR THE PHASE

LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN
- COVER AIRFIELD LIGHT

SUB-PHASE 2C (NIGHTTIME) - ELECTRICAL - TWY D WITHIN RWY 3-21 RSA

DURATION: 7 CALENDAR NIGHTS
CONCURRENT WITH PHASE 2

WORK SHIFT: 2300 TO 0800 HST

AIRFIELD OPERATIONS NOTAMS:

- REFER TO DWG G2.01 FOR PHASE 2 NOTAMS
- TWY D CLOSED BETWEEN TWY A AND TWY B
- HIGHSPEED TWY D CLOSED BETWEEN RWY 17-35 AND TWY B

NAVAID SHUTDOWNS / NOTAMS:

- REFER TO DWG G2.01 FOR PHASE 2 NOTAMS

SPECIAL INSTRUCTIONS FOR ATIS:

- DEPARTING IFR AIRCRAFT FOR RWY 17-35 MUST HOLD AT GATE FOR RELEASE FROM HCF ON 134.0/319.2, 126.5/269.4 OR CALL HCF AT 808-840-6201
- ARRIVING IFR AIRCRAFT SHALL CANCEL FLIGHT PLAN WHEN CLEAR OF LANDING RUNWAY AND ALL TAXIWAYS

AIRFIELD NON-STANDARD CONDITIONS:

- REFER TO DWG G2.01 FOR PHASE 2 CONDITIONS

DECLARED DISTANCES				
DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	0	0	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	0	0	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	0	0	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	0	0	6,500'	6,500'
* DECLARED DISTANCE REDUCED				

STATE OF HAWAII 1959
Airports Division
DEPARTMENT OF TRANSPORTATION STATE OF HAWAII

DUKE S. YOUNG
LICENSED PROFESSIONAL ENGINEER
PE-17779
HAWAII, U.S.A.

Duke Young 4/30/24
DUKE YOUNG, PE
CIVIL ENGINEER
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 2C (NIGHTTIME)

DATE : 07/2022

SHEET : 52 OF 376 SHEETS

DWG. NO. G2.07

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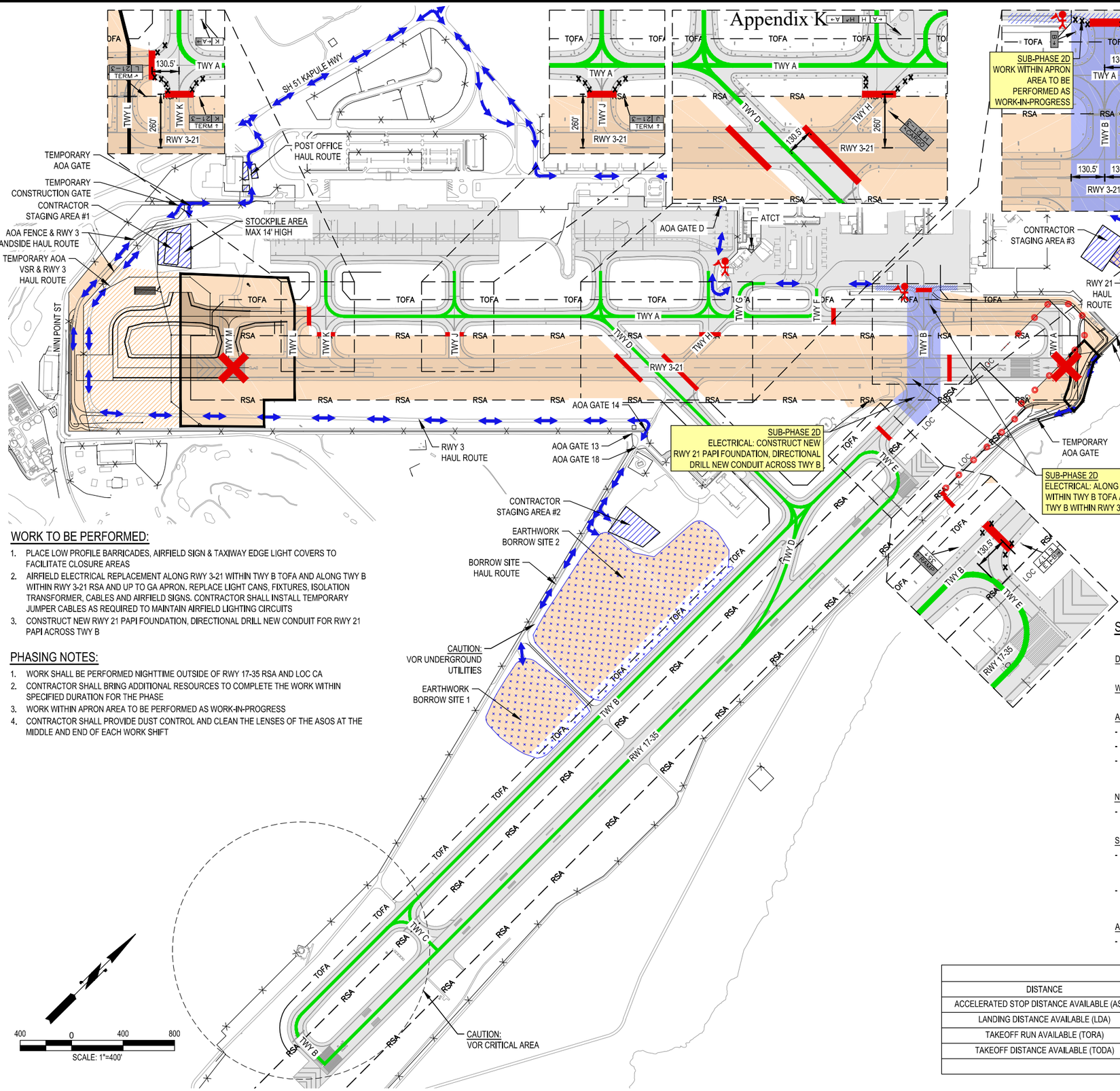

WORK TO BE PERFORMED:

1. PLACE LOW PROFILE BARRICADES, AIRFIELD SIGN & TAXIWAY EDGE LIGHT COVERS TO FACILITATE CLOSURE AREAS
2. AIRFIELD ELECTRICAL REPLACEMENT ALONG RWY 3-21 WITHIN TWY B TOFA AND ALONG TWY B WITHIN RWY 3-21 RSA AND UP TO GA APRON. REPLACE LIGHT CANS, FIXTURES, ISOLATION TRANSFORMER, CABLES AND AIRFIELD SIGNS. CONTRACTOR SHALL INSTALL TEMPORARY JUMPER CABLES AS REQUIRED TO MAINTAIN AIRFIELD LIGHTING CIRCUITS
3. CONSTRUCT NEW RWY 21 PAPI FOUNDATION, DIRECTIONAL DRILL NEW CONDUIT FOR RWY 21 PAPI ACROSS TWY B

PHASING NOTES:

1. WORK SHALL BE PERFORMED NIGHTTIME OUTSIDE OF RWY 17-35 RSA AND LOC CA
2. CONTRACTOR SHALL BRING ADDITIONAL RESOURCES TO COMPLETE THE WORK WITHIN SPECIFIED DURATION FOR THE PHASE
3. WORK WITHIN APRON AREA TO BE PERFORMED AS WORK-IN-PROGRESS
4. CONTRACTOR SHALL PROVIDE DUST CONTROL AND CLEAN THE LENSES OF THE ASOS AT THE MIDDLE AND END OF EACH WORK SHIFT

LEGEND

- RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN
- COVER AIRFIELD LIGHT

SUB-PHASE 2D (NIGHTTIME) - ELECTRICAL - TWY B WITHIN RWY 3-21 RSA AND TO GA APRON

DURATION: 10 CALENDAR NIGHTS
CONCURRENT WITH PHASE 2

WORK SHIFT: 2300 TO 0800 HST

AIRFIELD OPERATIONS NOTAMS:
- REFER TO DWG G2.01 FOR PHASE 2 NOTAMS
- TWY B CLOSED NORTH OF TWY E
- ELECTRICAL REPLACEMENT ALONG EDGE OF APRON TO BE PERFORMED AS WORK-IN-PROGRESS

NAVAID SHUTDOWNS / NOTAMS:
- REFER TO DWG G2.01 FOR PHASE 2 NOTAMS

SPECIAL INSTRUCTIONS FOR ATIS:
- DEPARTING IFR AIRCRAFT FOR RWY 17-35 MUST HOLD AT GATE FOR RELEASE FROM HCF ON 134.0/319.2, 126.5/269.4 OR CALL HCF AT 808-840-6201
- ARRIVING IFR AIRCRAFT SHALL CANCEL FLIGHT PLAN WHEN CLEAR OF LANDING RUNWAY AND ALL TAXIWAYS

AIRFIELD NON-STANDARD CONDITIONS:
- REFER TO DWG G2.01 FOR PHASE 2 CONDITIONS

DECLARED DISTANCES				
DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	0	0	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	0	0	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	0	0	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	0	0	6,500'	6,500'
* DECLARED DISTANCE REDUCED				

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DUKE S. YOUNG
LICENSED PROFESSIONAL ENGINEER
PE-17779
HAWAII, U.S.A.

DUKE YOUNG, PE
CIVIL ENGINEER
4/30/24
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 2D (NIGHTTIME)

DATE : 07/2022

SHEET : 53 OF 376 SHEETS

DWG. NO. G2.08

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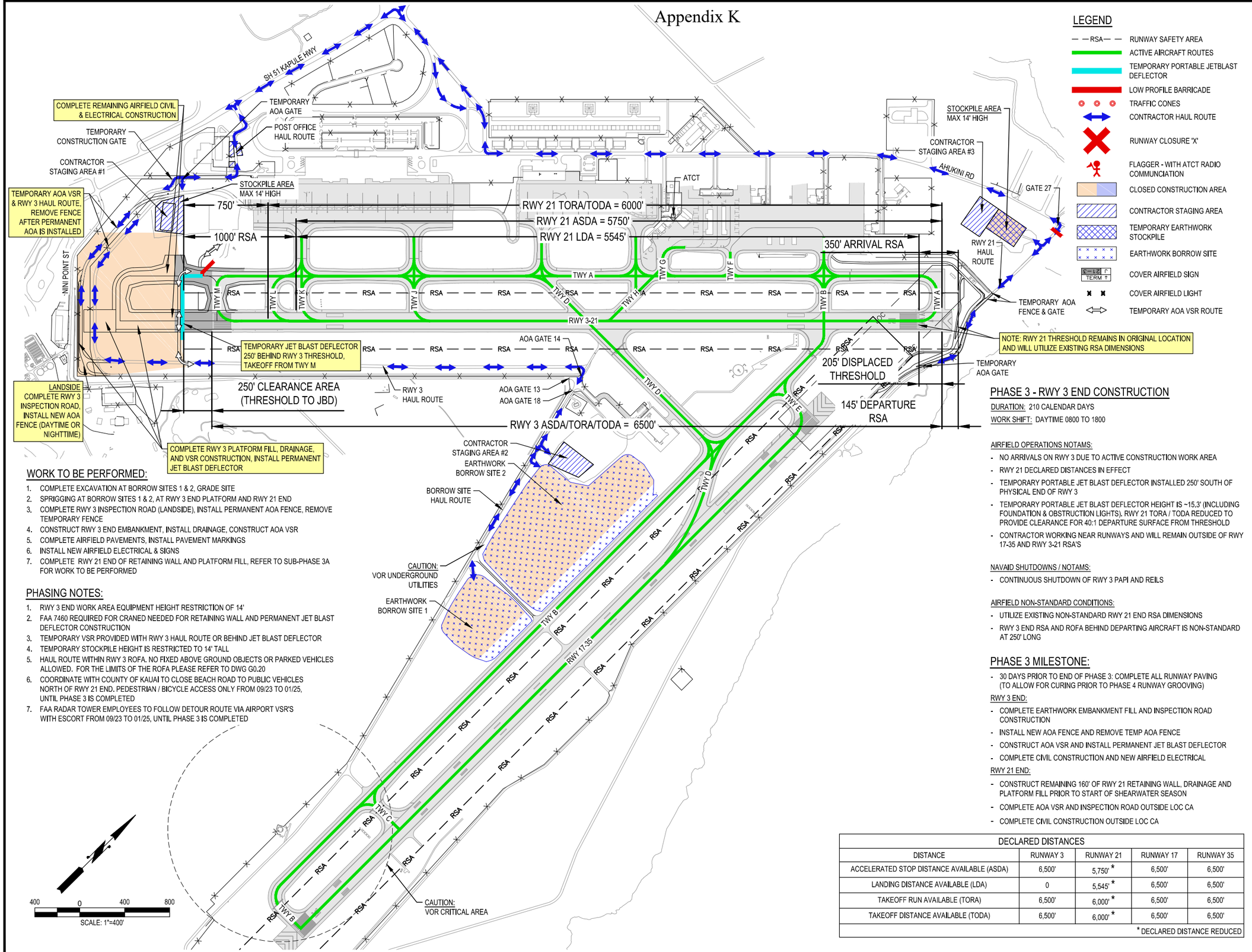

WORK TO BE PERFORMED:

1. COMPLETE EXCAVATION AT BORROW SITES 1 & 2, GRADE SITE
2. SPRIGGING AT BORROW SITES 1 & 2, AT RWY 3 END PLATFORM AND RWY 21 END
3. COMPLETE RWY 3 INSPECTION ROAD (LANDSIDE), INSTALL PERMANENT AOA FENCE, REMOVE TEMPORARY FENCE
4. CONSTRUCT RWY 3 END EMBANKMENT, INSTALL DRAINAGE, CONSTRUCT AOA VSR
5. COMPLETE AIRFIELD PAVEMENTS, INSTALL PAVEMENT MARKINGS
6. INSTALL NEW AIRFIELD ELECTRICAL & SIGNS
7. COMPLETE RWY 21 END OF RETAINING WALL AND PLATFORM FILL, REFER TO SUB-PHASE 3A FOR WORK TO BE PERFORMED

PHASING NOTES:

1. RWY 3 END WORK AREA EQUIPMENT HEIGHT RESTRICTION OF 14'
2. FAA 7460 REQUIRED FOR CRANED NEEDED FOR RETAINING WALL AND PERMANENT JET BLAST DEFLECTOR CONSTRUCTION
3. TEMPORARY VSR PROVIDED WITH RWY 3 HAUL ROUTE OR BEHIND JET BLAST DEFLECTOR
4. TEMPORARY STOCKPILE HEIGHT IS RESTRICTED TO 14' TALL
5. HAUL ROUTE WITHIN RWY 3 ROFA. NO FIXED ABOVE GROUND OBJECTS OR PARKED VEHICLES ALLOWED. FOR THE LIMITS OF THE ROFA PLEASE REFER TO DWG G0.20
6. COORDINATE WITH COUNTY OF KAUAI TO CLOSE BEACH ROAD TO PUBLIC VEHICLES NORTH OF RWY 21 END. PEDESTRIAN / BICYCLE ACCESS ONLY FROM 09/23 TO 01/25, UNTIL PHASE 3 IS COMPLETED
7. FAA RADAR TOWER EMPLOYEES TO FOLLOW DETOUR ROUTE VIA AIRPORT VSR'S WITH ESCORT FROM 09/23 TO 01/25, UNTIL PHASE 3 IS COMPLETED

LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN (6–LZ / TERM ↑)
- COVER AIRFIELD LIGHT
- TEMPORARY AOA VSR ROUTE

PHASE 3 - RWY 3 END CONSTRUCTION

DURATION: 210 CALENDAR DAYS

WORK SHIFT: DAYTIME 0800 TO 1800

AIRFIELD OPERATIONS NOTAMS:

- NO ARRIVALS ON RWY 3 DUE TO ACTIVE CONSTRUCTION WORK AREA
- RWY 21 DECLARED DISTANCES IN EFFECT
- TEMPORARY PORTABLE JET BLAST DEFLECTOR INSTALLED 250' SOUTH OF PHYSICAL END OF RWY 3
- TEMPORARY PORTABLE JET BLAST DEFLECTOR HEIGHT IS ~15.3' (INCLUDING FOUNDATION & OBSTRUCTION LIGHTS). RWY 21 TORA / TODA REDUCED TO PROVIDE CLEARANCE FOR 40:1 DEPARTURE SURFACE FROM THRESHOLD
- CONTRACTOR WORKING NEAR RUNWAYS AND WILL REMAIN OUTSIDE OF RWY 17-35 AND RWY 3-21 RSA'S

NAVAID SHUTDOWNS / NOTAMS:

- CONTINUOUS SHUTDOWN OF RWY 3 PAPI AND REILS

AIRFIELD NON-STANDARD CONDITIONS:

- UTILIZE EXISTING NON-STANDARD RWY 21 END RSA DIMENSIONS
- RWY 3 END RSA AND ROFA BEHIND DEPARTING AIRCRAFT IS NON-STANDARD AT 250' LONG

PHASE 3 MILESTONE:

- 30 DAYS PRIOR TO END OF PHASE 3: COMPLETE ALL RUNWAY PAVING (TO ALLOW FOR CURING PRIOR TO PHASE 4 RUNWAY GROOVING)

RWY 3 END:

- COMPLETE EARTHWORK EMBANKMENT FILL AND INSPECTION ROAD CONSTRUCTION
- INSTALL NEW AOA FENCE AND REMOVE TEMP AOA FENCE
- CONSTRUCT AOA VSR AND INSTALL PERMANENT JET BLAST DEFLECTOR
- COMPLETE CIVIL CONSTRUCTION AND NEW AIRFIELD ELECTRICAL

RWY 21 END:

- CONSTRUCT REMAINING 160' OF RWY 21 RETAINING WALL, DRAINAGE AND PLATFORM FILL PRIOR TO START OF SHEARWATER SEASON
- COMPLETE AOA VSR AND INSPECTION ROAD OUTSIDE LOC CA
- COMPLETE CIVIL CONSTRUCTION OUTSIDE LOC CA

DECLARED DISTANCES

DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	6,500'	5,750' *	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	0	5,545' *	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	6,500'	6,000' *	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	6,500'	6,000' *	6,500'	6,500'

* DECLARED DISTANCE REDUCED

STATE OF HAWAII 1959

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DUKE S. YOUNG
LICENSED PROFESSIONAL ENGINEER
PE–17779
HAWAII, U.S.A.

DUKE YOUNG, PE
CIVIL ENGINEER
4/30/24
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

PHASE 3

DATE : 07/2022

SHEET : 54 OF 376 SHEETS

DWG. NO. G3.01

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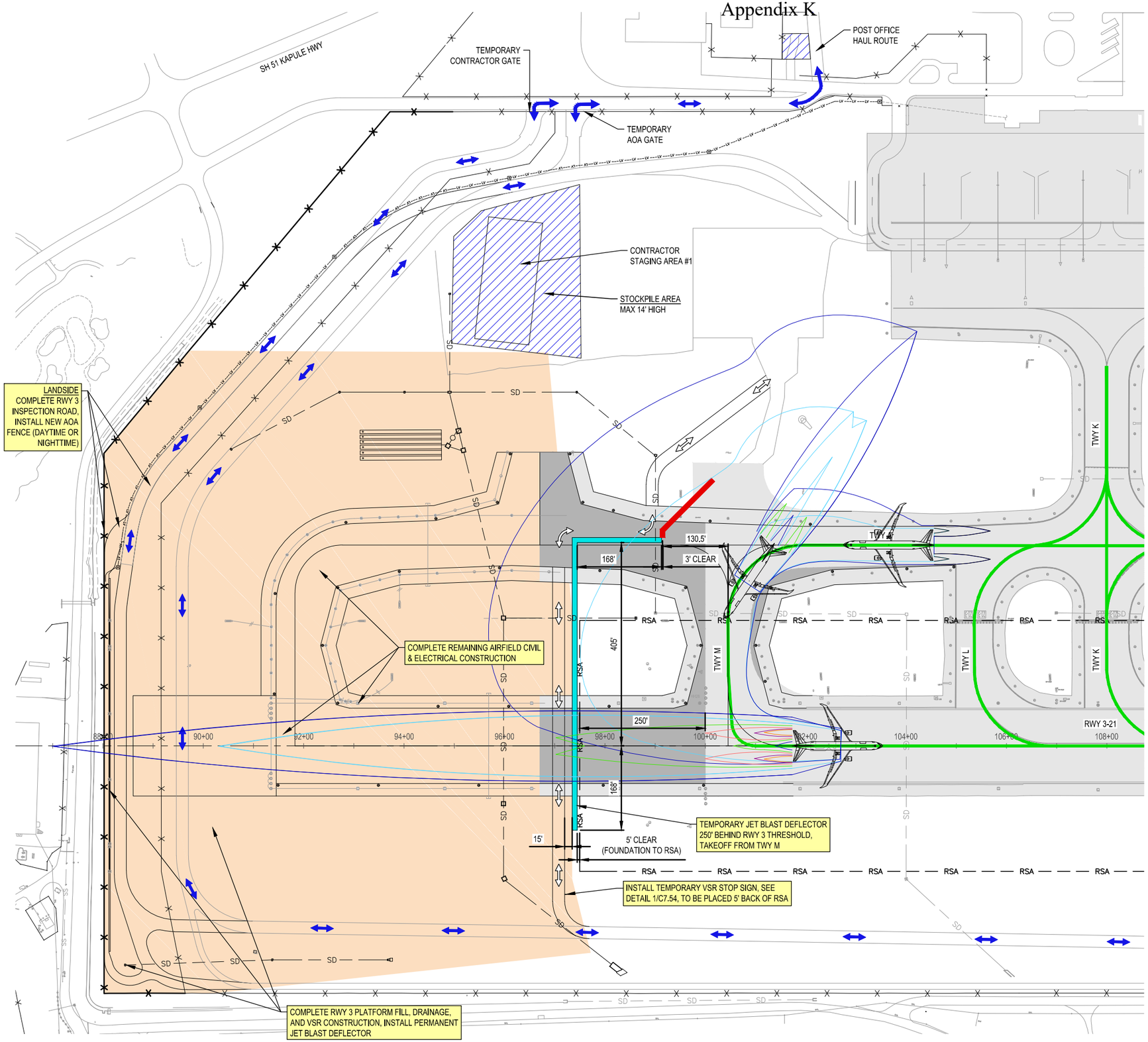
Appendix K



LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- EXISTING MARKINGS
- EXISTING MARKINGS TO BE OBLITERATED/BLACKED OUT
- TEMPORARY PAVEMENT MARKINGS
- TEMPORARY AOA VSR ROUTE

PHASE NOTES:

1. SEE G3.01 FOR PLACEMENT OF COVERS ON AIRFIELD SIGNS AND EDGE LIGHTS

Jet blast colors

35 mph	Color 174
50 mph	Color 141
99 mph	Color 80
149 mph	Color 11
199 mph	Color 214
249 mph	Color 30
300 mph	Color 41
400 mph	Color 20

GENERAL NOTES:

1. SEE C100 SERIES FOR EXISTING CONDITIONS PLANS & UTILITY LOCATIONS
2. INSTALL EROSION CONTROL MEASURES IN WORK AREAS, SEE C0.00 SERIES
3. LIMITED NIGHTTIME WORK HOURS DURING SHEARWATER SEASON (SEPT - DEC). SEE NOTE 4, DWG G0.31 FOR SHEARWATER PROTECTION

100 0 100 200
SCALE: 1"=100'

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

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Duke Young 4/30/24
DUKE YOUNG, PE
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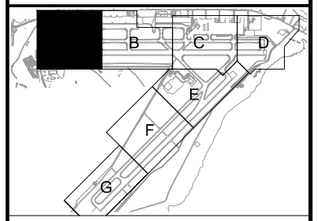
KEY PLAN / NOTES:



NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

PHASE 3
AREA A

DATE :
07/2022
SHEET :
55 OF 376 SHEETS

DWG. NO.
G3.02

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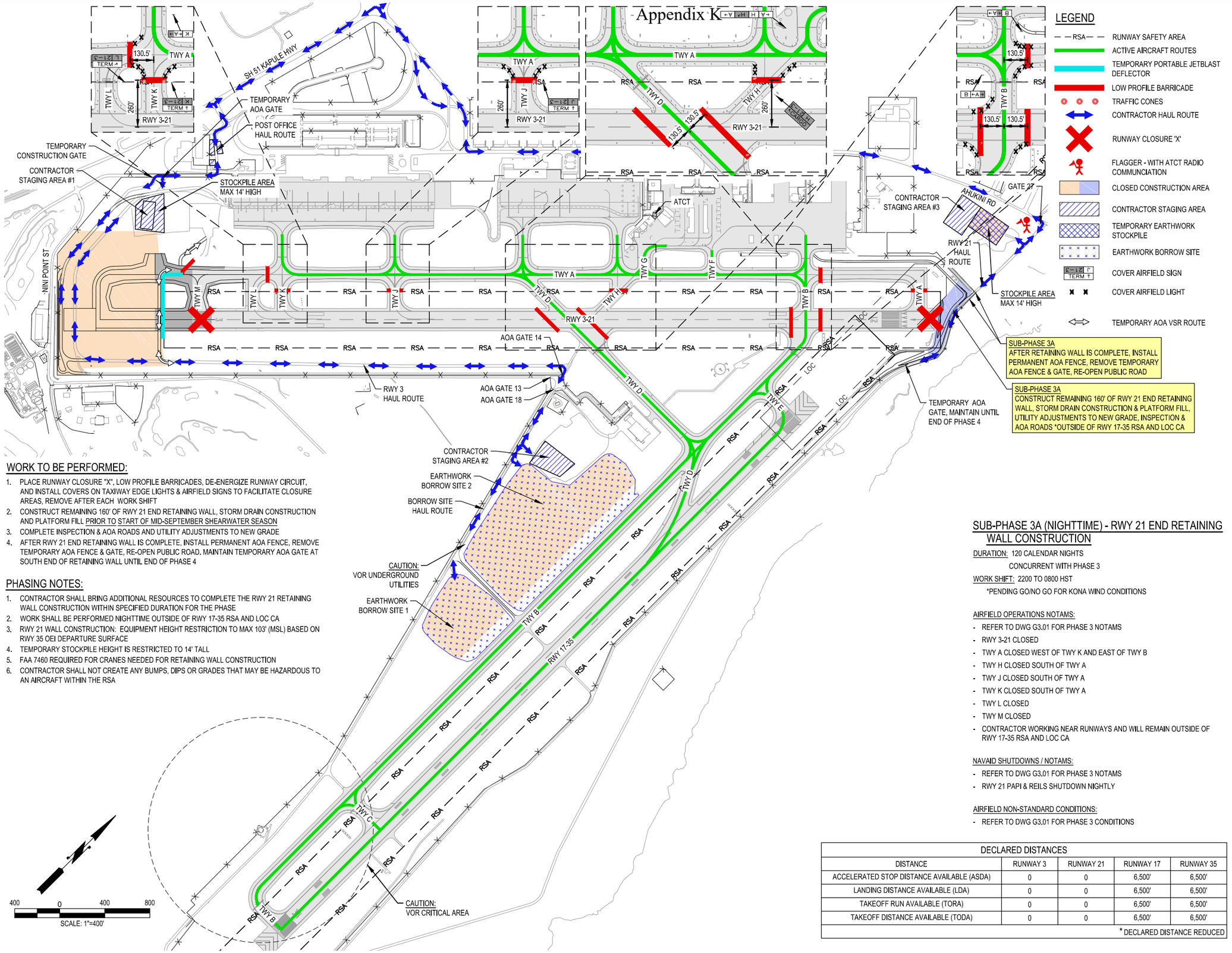
Appendix K



WORK TO BE PERFORMED:

1. PLACE RUNWAY CLOSURE "X", LOW PROFILE BARRICADES, DE-ENERGIZE RUNWAY CIRCUIT, AND INSTALL COVERS ON TAXIWAY EDGE LIGHTS & AIRFIELD SIGNS TO FACILITATE CLOSURE AREAS, REMOVE AFTER EACH WORK SHIFT
2. CONSTRUCT REMAINING 160' OF RWY 21 END RETAINING WALL, STORM DRAIN CONSTRUCTION AND PLATFORM FILL PRIOR TO START OF MID-SEPTEMBER SHEARWATER SEASON
3. COMPLETE INSPECTION & AOA ROADS AND UTILITY ADJUSTMENTS TO NEW GRADE
4. AFTER RWY 21 END RETAINING WALL IS COMPLETE, INSTALL PERMANENT AOA FENCE, REMOVE TEMPORARY AOA FENCE & GATE, RE-OPEN PUBLIC ROAD. MAINTAIN TEMPORARY AOA GATE AT SOUTH END OF RETAINING WALL UNTIL END OF PHASE 4

PHASING NOTES:

1. CONTRACTOR SHALL BRING ADDITIONAL RESOURCES TO COMPLETE THE RWY 21 RETAINING WALL CONSTRUCTION WITHIN SPECIFIED DURATION FOR THE PHASE
2. WORK SHALL BE PERFORMED NIGHTTIME OUTSIDE OF RWY 17-35 RSA AND LOC CA
3. RWY 21 WALL CONSTRUCTION: EQUIPMENT HEIGHT RESTRICTION TO MAX 103' (MSL) BASED ON RWY 35 OEI DEPARTURE SURFACE
4. TEMPORARY STOCKPILE HEIGHT IS RESTRICTED TO 14' TALL
5. FAA 7460 REQUIRED FOR CRANES NEEDED FOR RETAINING WALL CONSTRUCTION
6. CONTRACTOR SHALL NOT CREATE ANY BUMPS, DIPS OR GRADES THAT MAY BE HAZARDOUS TO AN AIRCRAFT WITHIN THE RSA

LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN
- COVER AIRFIELD LIGHT
- TEMPORARY AOA VSR ROUTE

SUB-PHASE 3A (NIGHTTIME) - RWY 21 END RETAINING WALL CONSTRUCTION

DURATION: 120 CALENDAR NIGHTS
CONCURRENT WITH PHASE 3

WORK SHIFT: 2200 TO 0800 HST
*PENDING GO/NO GO FOR KONA WIND CONDITIONS

AIRFIELD OPERATIONS NOTAMS:
- REFER TO DWG G3.01 FOR PHASE 3 NOTAMS
- RWY 3-21 CLOSED
- TWY A CLOSED WEST OF TWY K AND EAST OF TWY B
- TWY H CLOSED SOUTH OF TWY A
- TWY J CLOSED SOUTH OF TWY A
- TWY K CLOSED SOUTH OF TWY A
- TWY L CLOSED
- TWY M CLOSED
- CONTRACTOR WORKING NEAR RUNWAYS AND WILL REMAIN OUTSIDE OF RWY 17-35 RSA AND LOC CA

NAVAID SHUTDOWNS / NOTAMS:
- REFER TO DWG G3.01 FOR PHASE 3 NOTAMS
- RWY 21 PAPI & REILS SHUTDOWN NIGHTLY

AIRFIELD NON-STANDARD CONDITIONS:
- REFER TO DWG G3.01 FOR PHASE 3 CONDITIONS

DECLARED DISTANCES				
DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	0	0	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	0	0	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	0	0	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	0	0	6,500'	6,500'
* DECLARED DISTANCE REDUCED				

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DUKE S. YOUNG
LICENSED PROFESSIONAL ENGINEER
PE-17779
HAWAII, U.S.A.

DUKE YOUNG, PE
CIVIL ENGINEER
4/30/24
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 3A (NIGHTTIME)

DATE : 07/2022

SHEET : 56 OF 376 SHEETS

DWG. NO. G3.03

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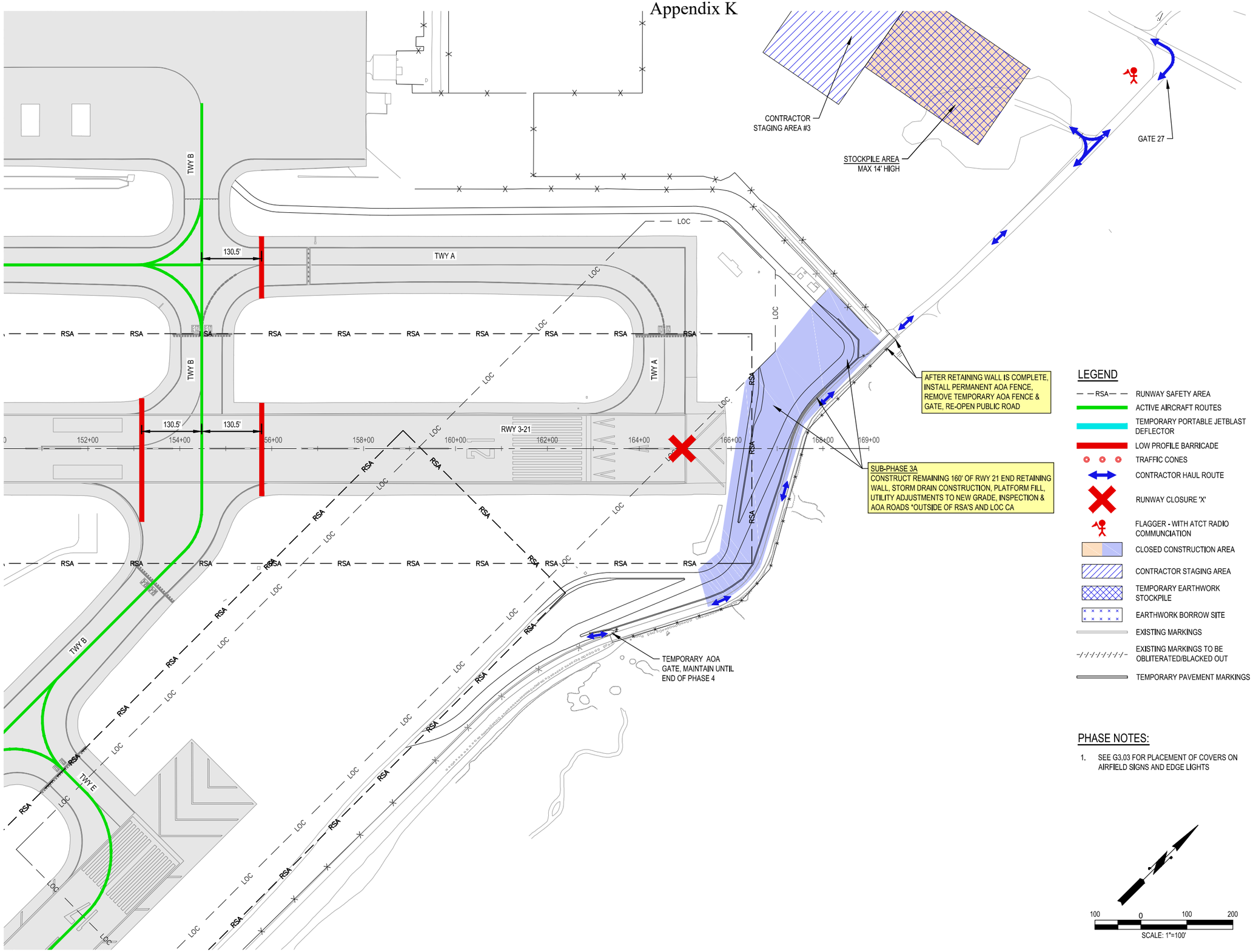
Appendix K



LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- EXISTING MARKINGS
- EXISTING MARKINGS TO BE OBLITERATED/BLACKED OUT
- TEMPORARY PAVEMENT MARKINGS

PHASE NOTES:

1. SEE G3.03 FOR PLACEMENT OF COVERS ON AIRFIELD SIGNS AND EDGE LIGHTS

100 0 100 200
SCALE: 1"=100'

STATE OF HAWAII 1959

Airports Division
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Expiration Date

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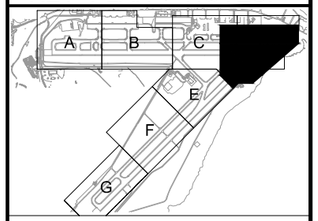
HF	HT	JB	DY

KEY PLAN / NOTES:



NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT LIHUE AIRPORT LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 3A AREA D

DATE : 07/2022

SHEET : 57 OF 376 SHEETS

DWG. NO. G3.04

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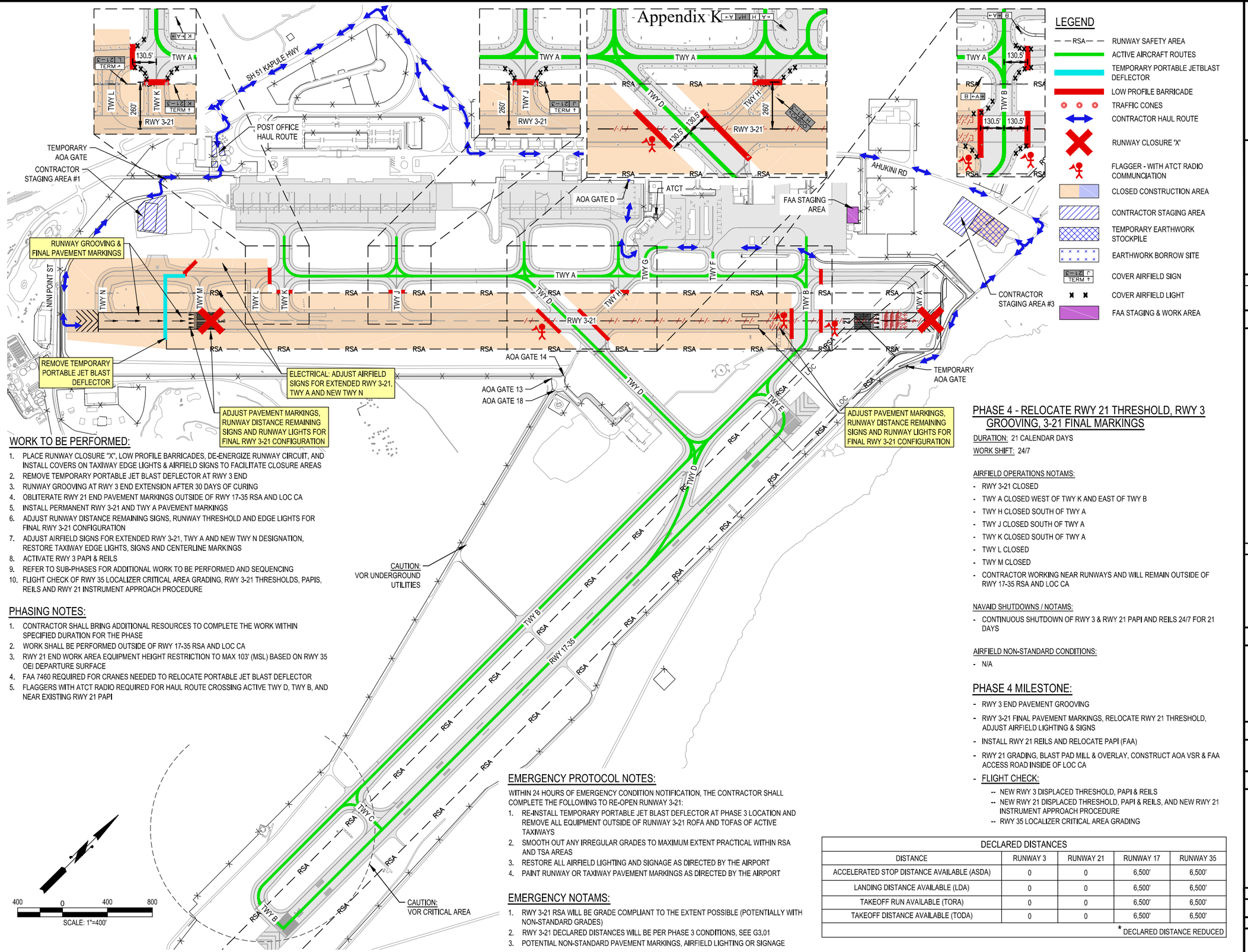

WORK TO BE PERFORMED:

1. PLACE RUNWAY CLOSURE "X", LOW PROFILE BARRICADES, DE-ENERGIZE RUNWAY CIRCUIT, AND INSTALL COVERS ON TAXIWAY EDGE LIGHTS & AIRFIELD SIGNS TO FACILITATE CLOSURE AREAS
2. REMOVE TEMPORARY PORTABLE JET BLAST DEFLECTOR AT RWY 3 END
3. RUNWAY GROOVING AT RWY 3 END EXTENSION AFTER 30 DAYS OF CURING
4. OBLITERATE RWY 21 END PAVEMENT MARKINGS OUTSIDE OF RWY 17-35 RSA AND LOC CA
5. INSTALL PERMANENT RWY 3-21 AND TWY A PAVEMENT MARKINGS
6. ADJUST RUNWAY DISTANCE REMAINING SIGNS, RUNWAY THRESHOLD AND EDGE LIGHTS FOR FINAL RWY 3-21 CONFIGURATION
7. ADJUST AIRFIELD SIGNS FOR EXTENDED RWY 3-21, TWY A AND NEW TWY N DESIGNATION, RESTORE TAXIWAY EDGE LIGHTS, SIGNS AND CENTERLINE MARKINGS
8. ACTIVATE RWY 3 PAPI & REILS
9. REFER TO SUB-PHASES FOR ADDITIONAL WORK TO BE PERFORMED AND SEQUENCING
10. FLIGHT CHECK OF RWY 35 LOCALIZER CRITICAL AREA GRADING, RWY 3-21 THRESHOLDS, PAPIS, REILS AND RWY 21 INSTRUMENT APPROACH PROCEDURE

PHASING NOTES:

1. CONTRACTOR SHALL BRING ADDITIONAL RESOURCES TO COMPLETE THE WORK WITHIN SPECIFIED DURATION FOR THE PHASE
2. WORK SHALL BE PERFORMED OUTSIDE OF RWY 17-35 RSA AND LOC CA
3. RWY 21 END WORK AREA EQUIPMENT HEIGHT RESTRICTION TO MAX 103' (MSL) BASED ON RWY 35 OEI DEPARTURE SURFACE
4. FAA 7460 REQUIRED FOR CRANES NEEDED TO RELOCATE PORTABLE JET BLAST DEFLECTOR
5. FLAGGERS WITH ATCT RADIO REQUIRED FOR HAUL ROUTE CROSSING ACTIVE TWY D, TWY B, AND NEAR EXISTING RWY 21 PAPI

EMERGENCY PROTOCOL NOTES:

WITHIN 24 HOURS OF EMERGENCY CONDITION NOTIFICATION, THE CONTRACTOR SHALL COMPLETE THE FOLLOWING TO RE-OPEN RUNWAY 3-21:

1. RE-INSTALL TEMPORARY PORTABLE JET BLAST DEFLECTOR AT PHASE 3 LOCATION AND REMOVE ALL EQUIPMENT OUTSIDE OF RUNWAY 3-21 ROFA AND TOFAS OF ACTIVE TAXIWAYS
2. SMOOTH OUT ANY IRREGULAR GRADES TO MAXIMUM EXTENT PRACTICAL WITHIN RSA AND TSA AREAS
3. RESTORE ALL AIRFIELD LIGHTING AND SIGNAGE AS DIRECTED BY THE AIRPORT
4. PAINT RUNWAY OR TAXIWAY PAVEMENT MARKINGS AS DIRECTED BY THE AIRPORT

EMERGENCY NOTAMS:

1. RWY 3-21 RSA WILL BE GRADE COMPLIANT TO THE EXTENT POSSIBLE (POTENTIALLY WITH NON-STANDARD GRADES)
2. RWY 3-21 DECLARED DISTANCES WILL BE PER PHASE 3 CONDITIONS, SEE G3.01
3. POTENTIAL NON-STANDARD PAVEMENT MARKINGS, AIRFIELD LIGHTING OR SIGNAGE

LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN
- COVER AIRFIELD LIGHT
- FAA STAGING & WORK AREA

PHASE 4 - RELOCATE RWY 21 THRESHOLD, RWY 3 GROOVING, 3-21 FINAL MARKINGS

DURATION: 21 CALENDAR DAYS

WORK SHIFT: 24/7

AIRFIELD OPERATIONS NOTAMS:

- RWY 3-21 CLOSED
- TWY A CLOSED WEST OF TWY K AND EAST OF TWY B
- TWY H CLOSED SOUTH OF TWY A
- TWY J CLOSED SOUTH OF TWY A
- TWY K CLOSED SOUTH OF TWY A
- TWY L CLOSED
- TWY M CLOSED
- CONTRACTOR WORKING NEAR RUNWAYS AND WILL REMAIN OUTSIDE OF RWY 17-35 RSA AND LOC CA

NAVAID SHUTDOWNS / NOTAMS:

- CONTINUOUS SHUTDOWN OF RWY 3 & RWY 21 PAPI AND REILS 24/7 FOR 21 DAYS

AIRFIELD NON-STANDARD CONDITIONS:

- N/A

PHASE 4 MILESTONE:

- RWY 3 END PAVEMENT GROOVING
- RWY 3-21 FINAL PAVEMENT MARKINGS, RELOCATE RWY 21 THRESHOLD, ADJUST AIRFIELD LIGHTING & SIGNS
- INSTALL RWY 21 REILS AND RELOCATE PAPI (FAA)
- RWY 21 GRADING, BLAST PAD MILL & OVERLAY, CONSTRUCT AOA VSR & FAA ACCESS ROAD INSIDE OF LOC CA
- FLIGHT CHECK:
  - -- NEW RWY 3 DISPLACED THRESHOLD, PAPI & REILS
  - -- NEW RWY 21 DISPLACED THRESHOLD, PAPI & REILS, AND NEW RWY 21 INSTRUMENT APPROACH PROCEDURE
  - -- RWY 35 LOCALIZER CRITICAL AREA GRADING

DECLARED DISTANCES				
DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	0	0	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	0	0	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	0	0	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	0	0	6,500'	6,500'
* DECLARED DISTANCE REDUCED				

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

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CIVIL ENGINEER
4/30/24
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS

JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

PHASE 4

DATE : 07/2022

SHEET : 58 OF 376 SHEETS

DWG. NO. G4.01

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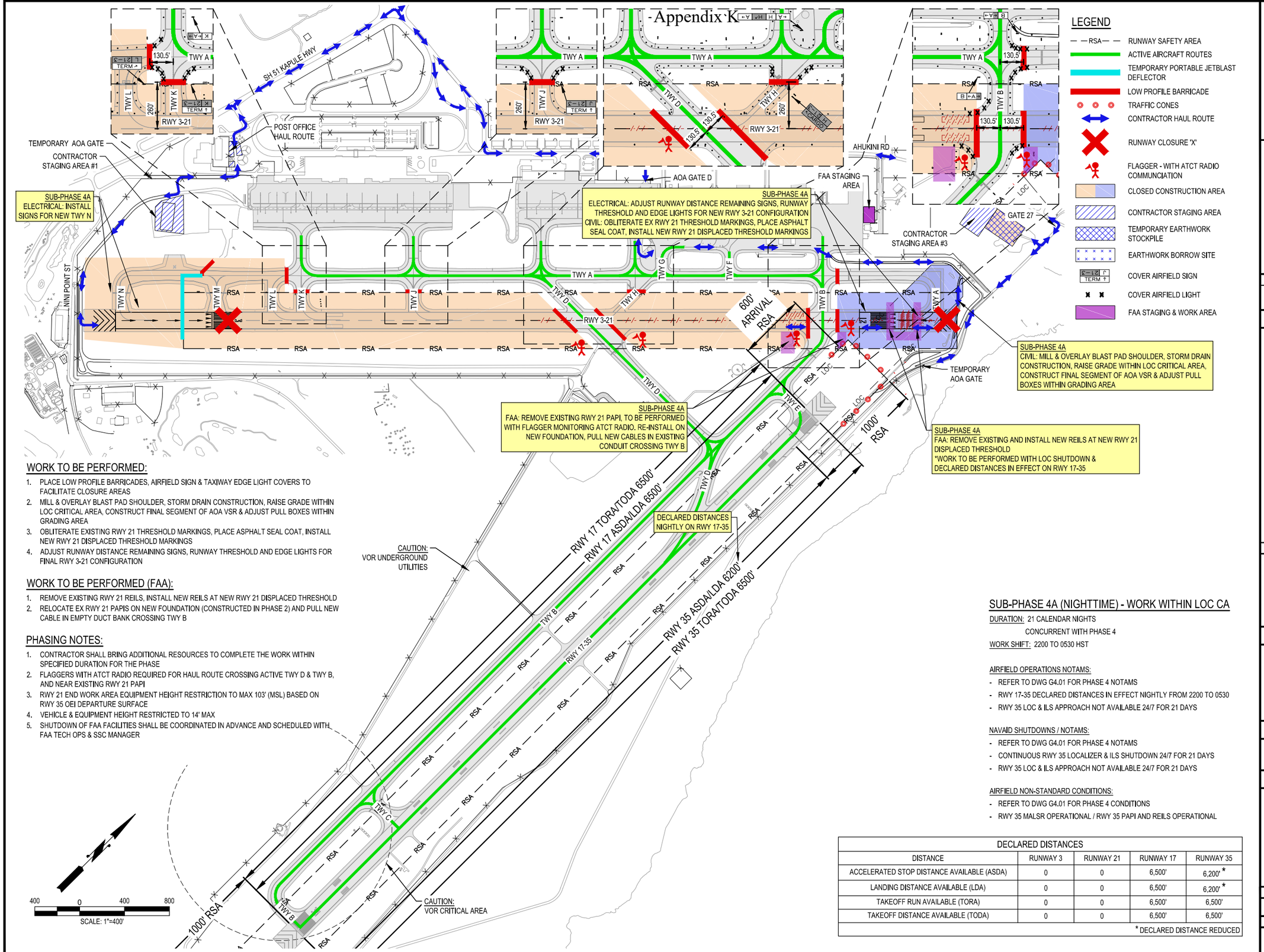

WORK TO BE PERFORMED:

1. PLACE LOW PROFILE BARRICADES, AIRFIELD SIGN & TAXIWAY EDGE LIGHT COVERS TO FACILITATE CLOSURE AREAS
2. MILL & OVERLAY BLAST PAD SHOULDER, STORM DRAIN CONSTRUCTION, RAISE GRADE WITHIN LOC CRITICAL AREA, CONSTRUCT FINAL SEGMENT OF AOA VSR & ADJUST PULL BOXES WITHIN GRADING AREA
3. OBLITERATE EXISTING RWY 21 THRESHOLD MARKINGS, PLACE ASPHALT SEAL COAT, INSTALL NEW RWY 21 DISPLACED THRESHOLD MARKINGS
4. ADJUST RUNWAY DISTANCE REMAINING SIGNS, RUNWAY THRESHOLD AND EDGE LIGHTS FOR FINAL RWY 3-21 CONFIGURATION

WORK TO BE PERFORMED (FAA):

1. REMOVE EXISTING RWY 21 REILS, INSTALL NEW REILS AT NEW RWY 21 DISPLACED THRESHOLD
2. RELOCATE EX RWY 21 PAPIS ON NEW FOUNDATION (CONSTRUCTED IN PHASE 2) AND PULL NEW CABLE IN EMPTY DUCT BANK CROSSING TWY B

PHASING NOTES:

1. CONTRACTOR SHALL BRING ADDITIONAL RESOURCES TO COMPLETE THE WORK WITHIN SPECIFIED DURATION FOR THE PHASE
2. FLAGGERS WITH ATCT RADIO REQUIRED FOR HAUL ROUTE CROSSING ACTIVE TWY D & TWY B, AND NEAR EXISTING RWY 21 PAPI
3. RWY 21 END WORK AREA EQUIPMENT HEIGHT RESTRICTION TO MAX 103' (MSL) BASED ON RWY 35 OEI DEPARTURE SURFACE
4. VEHICLE & EQUIPMENT HEIGHT RESTRICTED TO 14' MAX
5. SHUTDOWN OF FAA FACILITIES SHALL BE COORDINATED IN ADVANCE AND SCHEDULED WITH FAA TECH OPS & SSC MANAGER

SUB-PHASE 4A (NIGHTTIME) - WORK WITHIN LOC CA

DURATION: 21 CALENDAR NIGHTS
CONCURRENT WITH PHASE 4
WORK SHIFT: 2200 TO 0530 HST

AIRFIELD OPERATIONS NOTAMS:
- REFER TO DWG G4.01 FOR PHASE 4 NOTAMS
- RWY 17-35 DECLARED DISTANCES IN EFFECT NIGHTLY FROM 2200 TO 0530
- RWY 35 LOC & ILS APPROACH NOT AVAILABLE 24/7 FOR 21 DAYS

NAVAID SHUTDOWNS / NOTAMS:
- REFER TO DWG G4.01 FOR PHASE 4 NOTAMS
- CONTINUOUS RWY 35 LOCALIZER & ILS SHUTDOWN 24/7 FOR 21 DAYS
- RWY 35 LOC & ILS APPROACH NOT AVAILABLE 24/7 FOR 21 DAYS

AIRFIELD NON-STANDARD CONDITIONS:
- REFER TO DWG G4.01 FOR PHASE 4 CONDITIONS
- RWY 35 MALSR OPERATIONAL / RWY 35 PAPI AND REILS OPERATIONAL

DECLARED DISTANCES

DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	0	0	6,500'	6,200' *
LANDING DISTANCE AVAILABLE (LDA)	0	0	6,500'	6,200' *
TAKEOFF RUN AVAILABLE (TORA)	0	0	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	0	0	6,500'	6,500'

* DECLARED DISTANCE REDUCED

STATE OF HAWAII 1959
Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DUKE S. YOUNG
LICENSED PROFESSIONAL ENGINEER
PE-17779
HAWAII, U.S.A.

Duke Young 4/30/24
DUKE YOUNG, PE
CIVIL ENGINEER
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 4A (NIGHTTIME)

DATE :
07/2022

SHEET :
59 OF 376 SHEETS

DWG. NO.
G4.02

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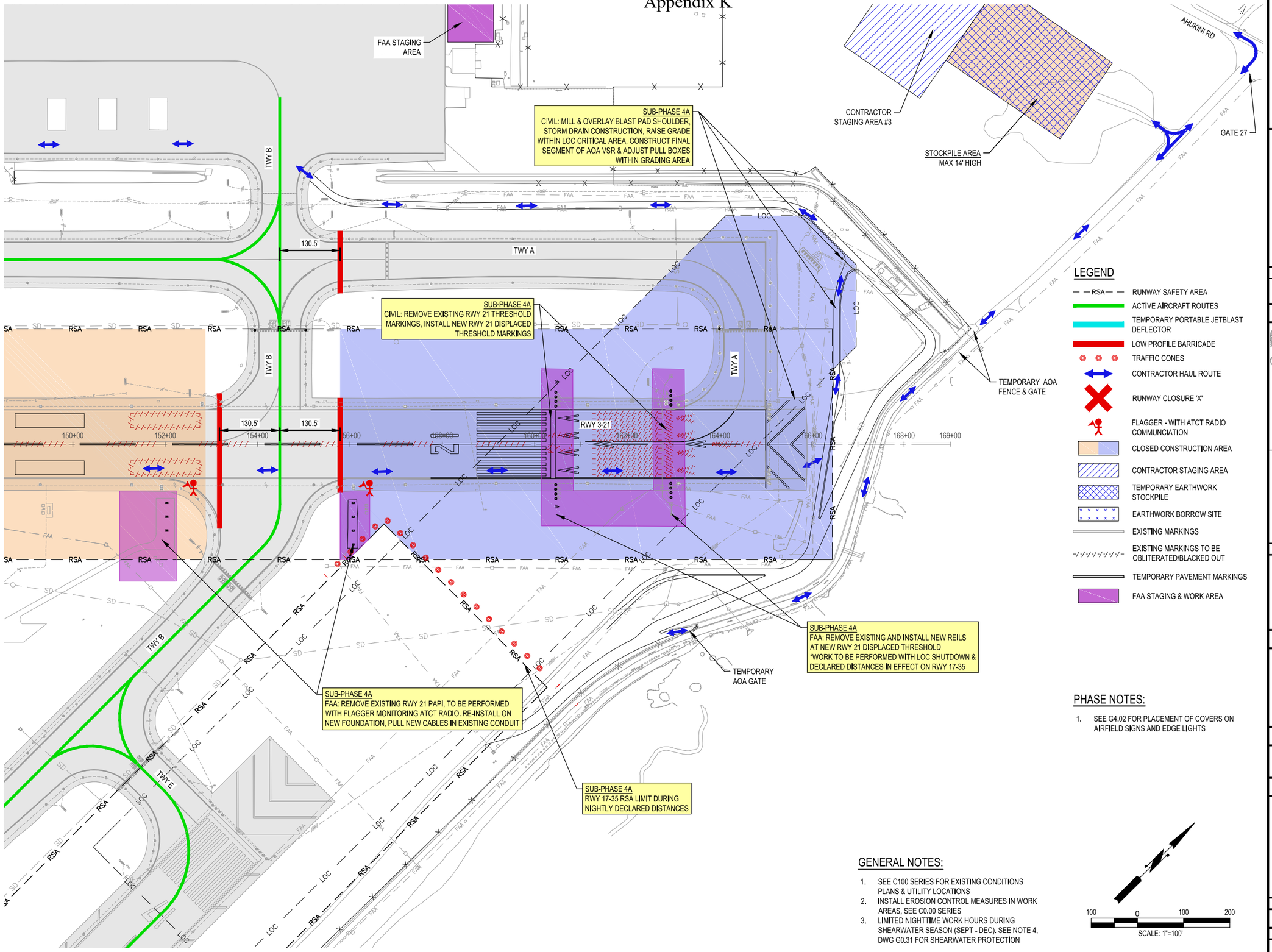

LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- EXISTING MARKINGS
- EXISTING MARKINGS TO BE OBLITERATED/BLACKED OUT
- TEMPORARY PAVEMENT MARKINGS
- FAA STAGING & WORK AREA

PHASE NOTES:

1. SEE G4.02 FOR PLACEMENT OF COVERS ON AIRFIELD SIGNS AND EDGE LIGHTS

GENERAL NOTES:

1. SEE C100 SERIES FOR EXISTING CONDITIONS PLANS & UTILITY LOCATIONS
2. INSTALL EROSION CONTROL MEASURES IN WORK AREAS, SEE C0.00 SERIES
3. LIMITED NIGHTTIME WORK HOURS DURING SHEARWATER SEASON (SEPT - DEC). SEE NOTE 4, DWG G0.31 FOR SHEARWATER PROTECTION

100 0 100 200
SCALE: 1"=100'

STATE OF HAWAII 1959

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

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HAWAII, U.S.A.

Duke Young 4/30/24
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Expiration Date

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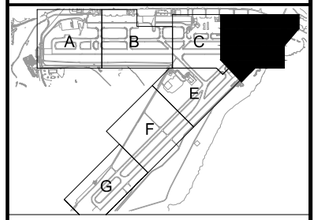
KEY PLAN / NOTES:



NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 4A
AREA D

DATE : 07/2022

SHEET : 60 OF 376 SHEETS

DWG. NO. G4.03

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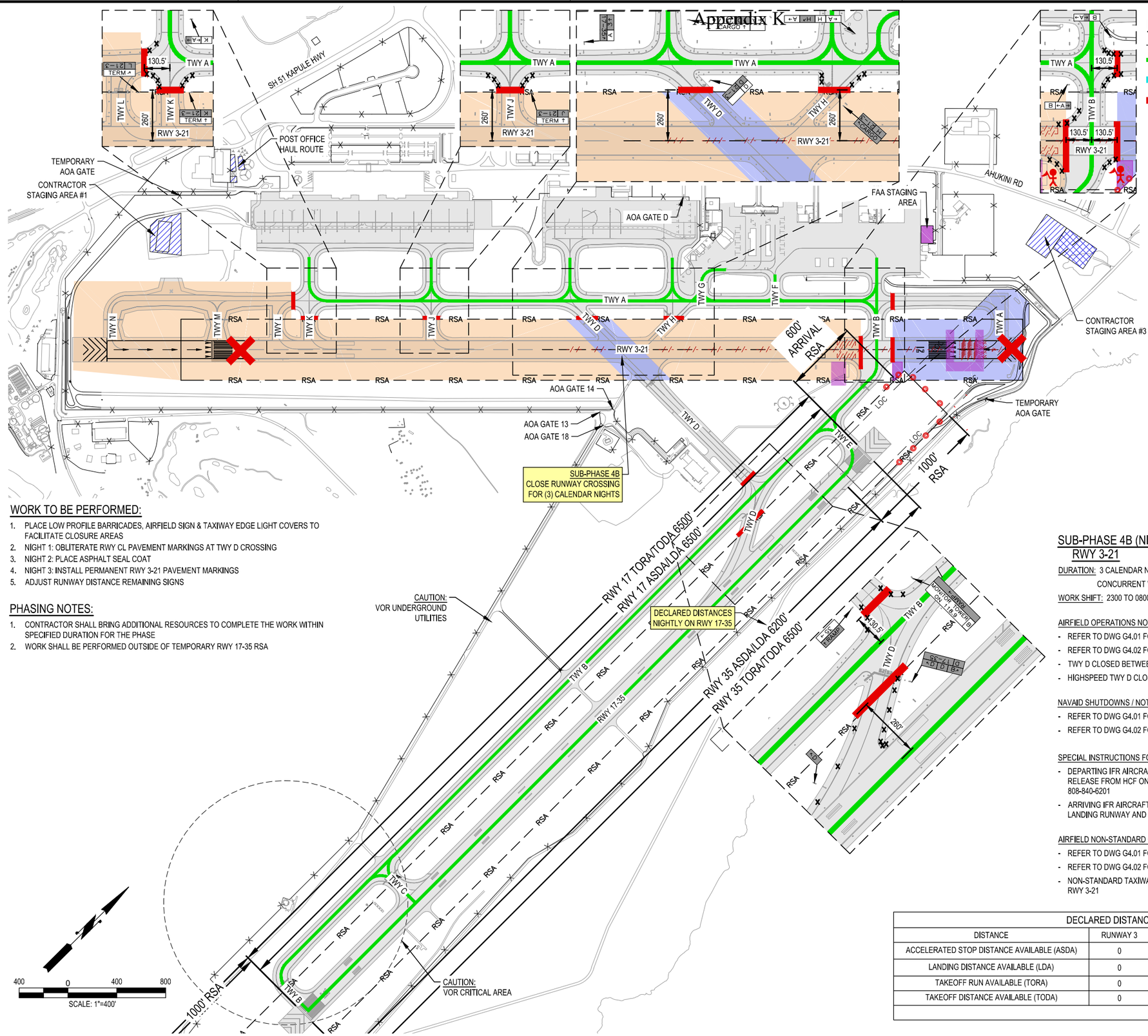

WORK TO BE PERFORMED:

1. PLACE LOW PROFILE BARRICADES, AIRFIELD SIGN & TAXIWAY EDGE LIGHT COVERS TO FACILITATE CLOSURE AREAS
2. NIGHT 1: OBLITERATE RWY CL PAVEMENT MARKINGS AT TWY D CROSSING
3. NIGHT 2: PLACE ASPHALT SEAL COAT
4. NIGHT 3: INSTALL PERMANENT RWY 3-21 PAVEMENT MARKINGS
5. ADJUST RUNWAY DISTANCE REMAINING SIGNS

PHASING NOTES:

1. CONTRACTOR SHALL BRING ADDITIONAL RESOURCES TO COMPLETE THE WORK WITHIN SPECIFIED DURATION FOR THE PHASE
2. WORK SHALL BE PERFORMED OUTSIDE OF TEMPORARY RWY 17-35 RSA

LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN
- COVER AIRFIELD LIGHT
- FAA STAGING & WORK AREA

SUB-PHASE 4B (NIGHTTIME) - TWY D CROSSING RWY 3-21

DURATION: 3 CALENDAR NIGHTS
CONCURRENT WITH PHASE 4 AND SUB-PHASE 4A

WORK SHIFT: 2300 TO 0800 HST

AIRFIELD OPERATIONS NOTAMS:
- REFER TO DWG G4.01 FOR PHASE 4 NOTAMS
- REFER TO DWG G4.02 FOR SUB-PHASE 4A NOTAMS
- TWY D CLOSED BETWEEN TWY A AND TWY B
- HIGHSPEED TWY D CLOSED BETWEEN RWY 17-35 AND TWY B

NAVAID SHUTDOWNS / NOTAMS:
- REFER TO DWG G4.01 FOR PHASE 4 NOTAMS
- REFER TO DWG G4.02 FOR SUB-PHASE 4A NOTAMS

SPECIAL INSTRUCTIONS FOR ATIS:
- DEPARTING IFR AIRCRAFT FOR RWY 17-35 MUST HOLD AT GATE FOR RELEASE FROM HCF ON 134.0/319.2, 126.5/269.4 OR CALL HCF AT 808-840-6201
- ARRIVING IFR AIRCRAFT SHALL CANCEL FLIGHT PLAN WHEN CLEAR OF LANDING RUNWAY AND ALL TAXIWAYS

AIRFIELD NON-STANDARD CONDITIONS:
- REFER TO DWG G4.01 FOR PHASE 4 CONDITIONS
- REFER TO DWG G4.02 FOR SUB-PHASE 4A CONDITIONS
- NON-STANDARD TAXIWAY CENTERLINE MARKING AT TWY D CROSSING RWY 3-21

DECLARED DISTANCES

DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	0	0	6,500'	6,200' *
LANDING DISTANCE AVAILABLE (LDA)	0	0	6,500'	6,200' *
TAKEOFF RUN AVAILABLE (TORA)	0	0	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	0	0	6,500'	6,500'

* DECLARED DISTANCE REDUCED

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

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HAWAII, U.S.A.

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Expiration Date

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HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 4B (NIGHTTIME)

DATE : 07/2022

SHEET : 61 OF 376 SHEETS

DWG. NO. G4.04

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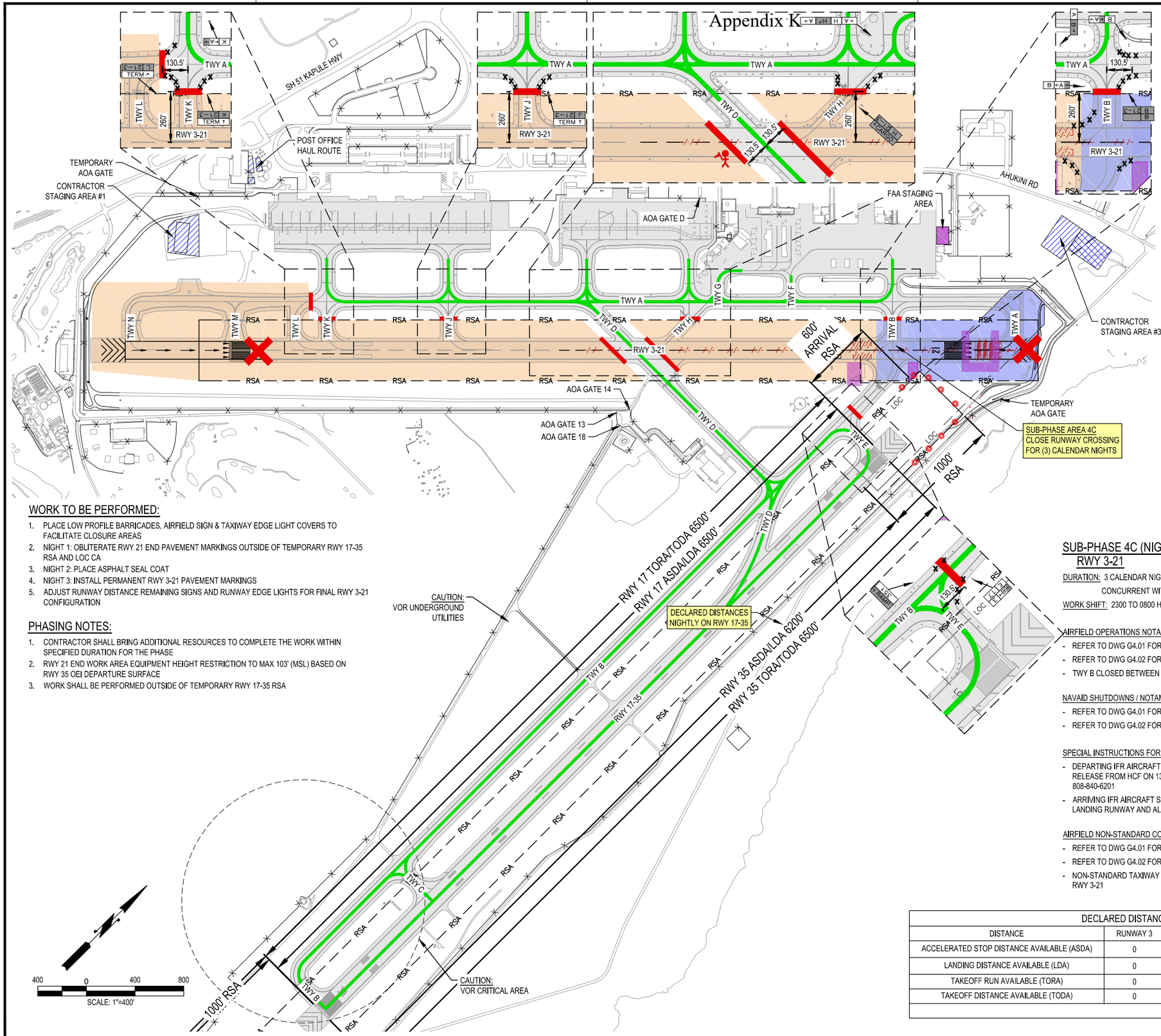

WORK TO BE PERFORMED:

1. PLACE LOW PROFILE BARRICADES, AIRFIELD SIGN & TAXIWAY EDGE LIGHT COVERS TO FACILITATE CLOSURE AREAS
2. NIGHT 1: OBLITERATE RWY 21 END PAVEMENT MARKINGS OUTSIDE OF TEMPORARY RWY 17-35 RSA AND LOC CA
3. NIGHT 2: PLACE ASPHALT SEAL COAT
4. NIGHT 3: INSTALL PERMANENT RWY 3-21 PAVEMENT MARKINGS
5. ADJUST RUNWAY DISTANCE REMAINING SIGNS AND RUNWAY EDGE LIGHTS FOR FINAL RWY 3-21 CONFIGURATION

PHASING NOTES:

1. CONTRACTOR SHALL BRING ADDITIONAL RESOURCES TO COMPLETE THE WORK WITHIN SPECIFIED DURATION FOR THE PHASE
2. RWY 21 END WORK AREA EQUIPMENT HEIGHT RESTRICTION TO MAX 103' (MSL) BASED ON RWY 35 OEI DEPARTURE SURFACE
3. WORK SHALL BE PERFORMED OUTSIDE OF TEMPORARY RWY 17-35 RSA

LEGEND

- RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA
- CONTRACTOR STAGING AREA
- TEMPORARY EARTHWORK STOCKPILE
- EARTHWORK BORROW SITE
- COVER AIRFIELD SIGN
- COVER AIRFIELD LIGHT
- FAA STAGING & WORK AREA

SUB-PHASE 4C (NIGHTTIME) - TWY B CROSSING RWY 3-21

DURATION: 3 CALENDAR NIGHTS
CONCURRENT WITH PHASE 4 AND SUB-PHASE 4A

WORK SHIFT: 2300 TO 0800 HST

AIRFIELD OPERATIONS NOTAMS:
- REFER TO DWG G4.01 FOR PHASE 4 NOTAMS
- REFER TO DWG G4.02 FOR SUB-PHASE 4A NOTAMS
- TWY B CLOSED BETWEEN TWY A AND TWY E

NAVAID SHUTDOWNS / NOTAMS:
- REFER TO DWG G4.01 FOR PHASE 4 NOTAMS
- REFER TO DWG G4.02 FOR SUB-PHASE 4A NOTAMS

SPECIAL INSTRUCTIONS FOR ATIS:
- DEPARTING IFR AIRCRAFT FOR RWY 17-35 MUST HOLD AT GATE FOR RELEASE FROM HCF ON 134.0/319.2, 126.5/269.4 OR CALL HCF AT 808-840-6201
- ARRIVING IFR AIRCRAFT SHALL CANCEL FLIGHT PLAN WHEN CLEAR OF LANDING RUNWAY AND ALL TAXIWAYS

AIRFIELD NON-STANDARD CONDITIONS:
- REFER TO DWG G4.01 FOR PHASE 4 CONDITIONS
- REFER TO DWG G4.02 FOR SUB-PHASE 4A CONDITIONS
- NON-STANDARD TAXIWAY CENTERLINE MARKING AT TWY B CROSSING RWY 3-21

DECLARED DISTANCES				
DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	0	0	6,500'	6,200' *
LANDING DISTANCE AVAILABLE (LDA)	0	0	6,500'	6,200' *
TAKEOFF RUN AVAILABLE (TORA)	0	0	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	0	0	6,500'	6,500'
				* DECLARED DISTANCE REDUCED

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DUKE S. YOUNG
LICENSED PROFESSIONAL ENGINEER
PE-17779
HAWAII, U.S.A.

DUKE YOUNG, PE
CIVIL ENGINEER
4/30/24
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

SUB-PHASE 4C (NIGHTTIME)

DATE :
07/2022

SHEET :
62 OF 376 SHEETS

DWG. NO.
G4.05

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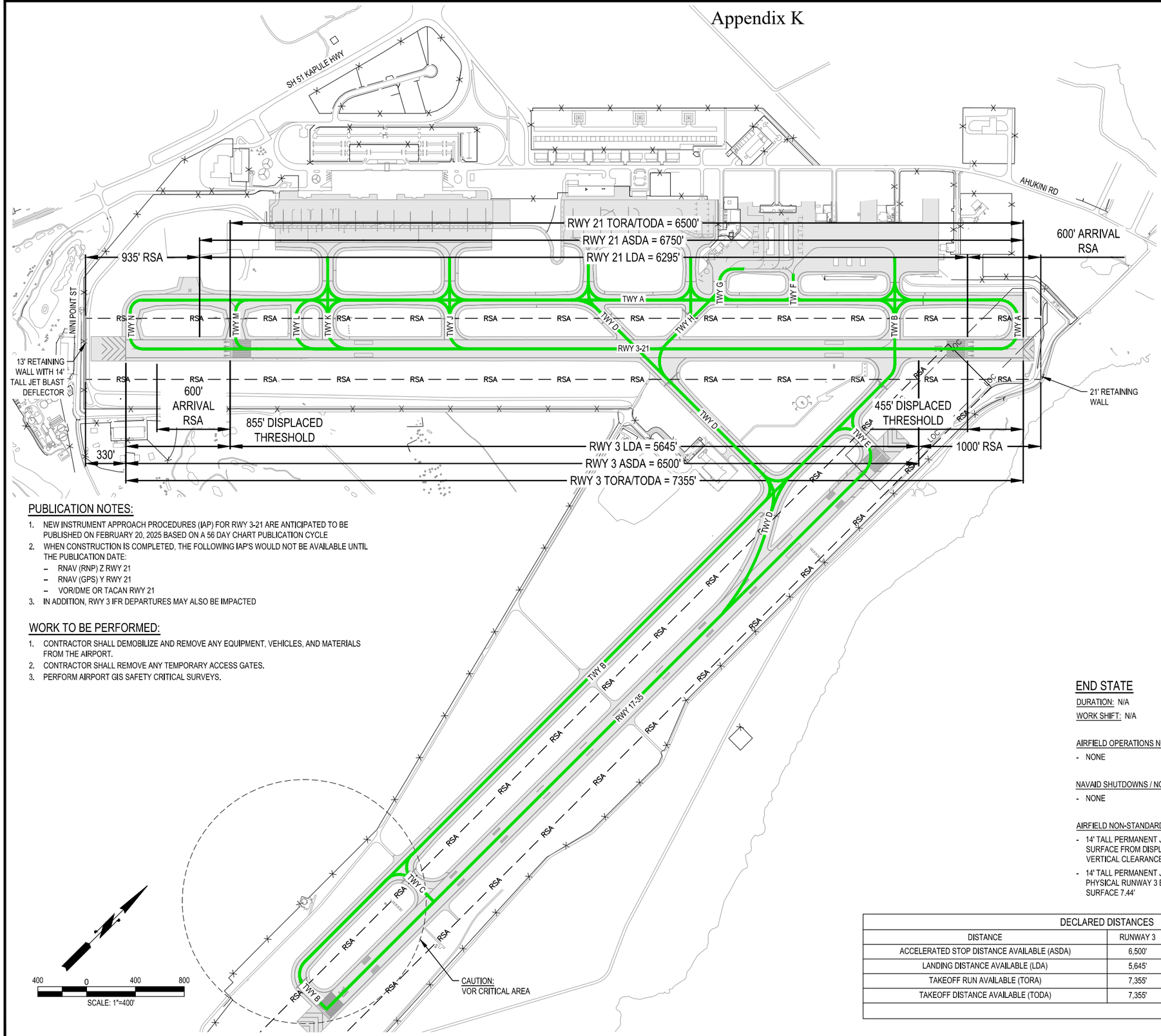

PUBLICATION NOTES:

1. NEW INSTRUMENT APPROACH PROCEDURES (IAP) FOR RWY 3-21 ARE ANTICIPATED TO BE PUBLISHED ON FEBRUARY 20, 2025 BASED ON A 56 DAY CHART PUBLICATION CYCLE
2. WHEN CONSTRUCTION IS COMPLETED, THE FOLLOWING IAP'S WOULD NOT BE AVAILABLE UNTIL THE PUBLICATION DATE:
   - RNAV (RNP) Z RWY 21
   - RNAV (GPS) Y RWY 21
   - VOR/DME OR TACAN RWY 21
3. IN ADDITION, RWY 3 IFR DEPARTURES MAY ALSO BE IMPACTED

WORK TO BE PERFORMED:

1. CONTRACTOR SHALL DEMOBILIZE AND REMOVE ANY EQUIPMENT, VEHICLES, AND MATERIALS FROM THE AIRPORT.
2. CONTRACTOR SHALL REMOVE ANY TEMPORARY ACCESS GATES.
3. PERFORM AIRPORT GIS SAFETY CRITICAL SURVEYS.

LEGEND

- RSA — RUNWAY SAFETY AREA
- ACTIVE AIRCRAFT ROUTES
- TEMPORARY PORTABLE JETBLAST DEFLECTOR
- LOW PROFILE BARRICADE
- TRAFFIC CONES
- CONTRACTOR HAUL ROUTE
- RUNWAY CLOSURE 'X'
- FLAGGER - WITH ATCT RADIO COMMUNCIATION
- CLOSED CONSTRUCTION AREA

END STATE

DURATION: N/A

WORK SHIFT: N/A

AIRFIELD OPERATIONS NOTAMS:

- NONE

NAVAID SHUTDOWNS / NOTAMS:

- NONE

AIRFIELD NON-STANDARD CONDITIONS:

- 14' TALL PERMANENT JET BLAST DEFLECTOR WITH 40:1 DEPARTURE SURFACE FROM DISPLACED THRESHOLD WILL PROVIDE 10,38' VERTICAL CLEARANCE TO TOP OF JET BLAST DEFLECTOR
- 14' TALL PERMANENT JET BLAST DEFLECTOR LOCATED 331' FROM PHYSICAL RUNWAY 3 END, PENETRATES PART 77 20:1 ARRIVAL SURFACE 7.44'

DECLARED DISTANCES				
DISTANCE	RUNWAY 3	RUNWAY 21	RUNWAY 17	RUNWAY 35
ACCELERATED STOP DISTANCE AVAILABLE (ASDA)	6,500'	6,750'	6,500'	6,500'
LANDING DISTANCE AVAILABLE (LDA)	5,645'	6,295'	6,500'	6,500'
TAKEOFF RUN AVAILABLE (TORA)	7,355'	6,500'	6,500'	6,500'
TAKEOFF DISTANCE AVAILABLE (TODA)	7,355'	6,500'	6,500'	6,500'
* DECLARED DISTANCE REDUCED				

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Duke Young 4/30/24
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HF	HT	JB	DY

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RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

END STATE

DATE : 07/2022

SHEET : 63 OF 376 SHEETS

DWG. NO. G5.01

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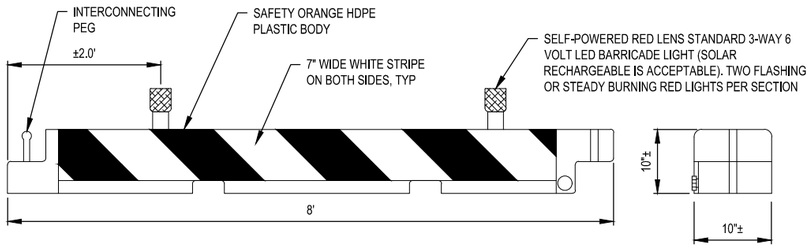
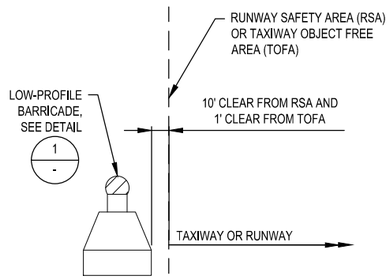


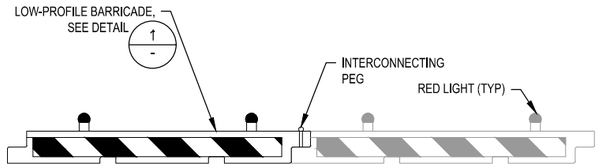
NOTES:

1. BARRICADES SHALL BE PLACED PER DETAIL 2, UNLESS NOTED OTHERWISE.
2. SPACE BARRICADES PER DETAIL 3 THIS SHEET, UNLESS OTHERWISE NOTED ON PLANS.
3. BARRICADES SHALL BE CONSTRUCTED OF HIGH DENSITY POLYETHYLENE PLASTIC COLLAPSIBLE. (ORANGE BACKGROUND HDPE BARRICADE).
4. BARRICADES SHALL BE SECURED IN A MANNER TO PREVENT POSSIBLE DAMAGE, MOVEMENT OR INJURY DUE TO JET BLAST.
5. MAINTAIN BARRICADES AND LIGHTS THROUGHOUT THE DURATION OF PROJECT. REPLACE AS REQUIRED DUE TO LEAKAGE, DAMAGE OR BY ANY OTHER REASON. CONTRACTOR SHALL PROVIDE A MINIMUM OF 20 FULLY OPERATIONAL SPARE BARRICADES WITH LIGHTS AT ALL TIMES FOR ANY UNEXPECTED CLOSURES.

LOW-PROFILE BARRICADE DETAIL — 1 / -
SCALE: N.T.S.



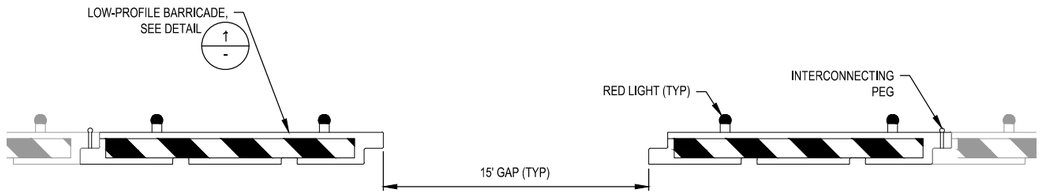
LOW-PROFILE BARRICADE LOCATION DETAIL — 2 / -
SCALE: N.T.S.



NOTES:

1. UNLESS OTHERWISE NOTED BARRICADES SHALL BE INTERLOCKED CREATING A CONTINUOUS LINE.
2. BARRICADES ACROSS RUNWAYS AND TAXIWAYS SHALL HAVE ONE 15' GAP TO ALLOW FOR ARFF TRUCKS AND EMERGENCY VEHICLES, SEE DETAIL 4 THIS SHEET.
3. FOR RUNWAY AND TAXIWAY CLOSURES, BARRICADES SHALL BE PLACED ACROSS ENTIRE WIDTH OF PAVEMENT.
4. FOR ADDITIONAL NOTES, SEE DETAIL 1 THIS SHEET.

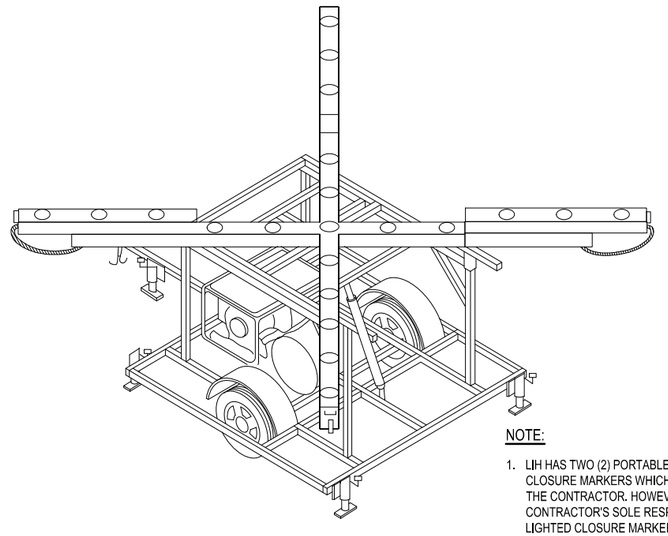
LOW-PROFILE BARRICADE CONNECTION DETAIL — 3 / -
SCALE: N.T.S.



NOTES:

1. BARRICADES ACROSS RUNWAYS AND TAXIWAYS SHALL HAVE ONE 15' GAP TO ALLOW FOR ARFF TRUCKS AND EMERGENCY VEHICLES.
2. BEYOND THE 15' EMERGENCY VEHICLE GAP BARRICADES SHALL BE INTERLOCKED CREATING A CONTINUOUS LINE.
3. FOR RUNWAY AND TAXIWAY CLOSURES, BARRICADES SHALL BE PLACED ACROSS ENTIRE WIDTH OF PAVEMENT.
4. FOR ADDITIONAL NOTES, SEE DETAIL 1 THIS SHEET.

LOW-PROFILE BARRICADE AT RUNWAY AND TAXIWAY CROSSINGS — 4 / -
SCALE: N.T.S.



NOTE:

1. LIH HAS TWO (2) PORTABLE LIGHTED RUNWAY CLOSURE MARKERS WHICH MAY BE LOANED TO THE CONTRACTOR. HOWEVER, IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROVIDE LIGHTED CLOSURE MARKER FOR THE PROJECT, EVEN IF LIH IS NOT ABLE TO LOAN THE EQUIPMENT TO THE CONTRACTOR.
2. CONTRACTOR SHALL INSTALL, MAINTAIN, FUEL AND REMOVE THE LIGHTED CLOSURE X EACH NIGHT OR AS REQUIRED PER THE CONSTRUCTION PHASING PLANS FOR THE DURATION OF THE PROJECT. IF THE CONTRACTOR UTILIZES LIH'S LIGHTED X MARKER, IT SHALL BE RETURNED TO THE LIH STORAGE YARD AT THE END OF EACH USE, AND THE CONTRACTOR IS ADDITIONALLY RESPONSIBLE TO PERFORM REGULAR MAINTENANCE, REPLACE ANY BULBS, AND REPLENISH USAGE OF ANY LIH SPARE PARTS.

PORTABLE LIGHTED RUNWAY CLOSURE MARKER — 5 / -
SCALE: N.T.S.

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HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

PHASING DETAILS 1

DATE : **07/2022**

SHEET : 64 OF 376 SHEETS

DWG. NO. **G6.01**

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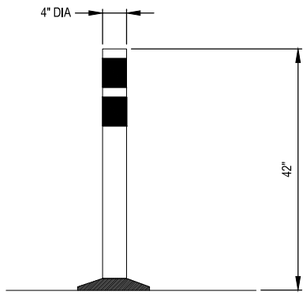
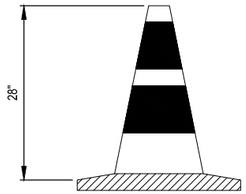


NOTES:

1. CHANNELIZING DEVICE SHALL CONFORM TO THE AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA), QUALITY STANDARDS FOR WORK ZONE TRAFFIC CONTROL DEVICES AND MUTCD.
2. UNLESS OTHERWISE NOTED, USE CHANNELIZING DEVICES FOR ACCESS ROUTES CROSSING TAXIWAYS, TAXILANES, APRON AREAS OR INFIELD RUNWAY SAFETY AREAS.
3. UNLESS OTHERWISE NOTED, SPACING SHALL NOT EXCEED 50' ON CENTERS.

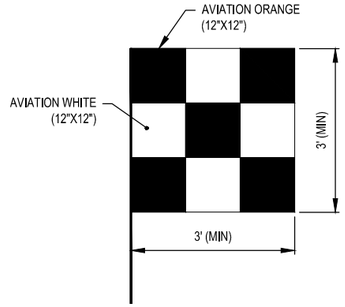
CHANNELIZING DEVICE — 6 / -
SCALE: N.T.S.



NOTES:

1. TRAFFIC CONE SHALL CONFORM TO THE AMERICAN TRAFFIC SAFETY SERVICES ASSOCIATION (ATSSA), QUALITY STANDARDS FOR WORK ZONE TRAFFIC CONTROL DEVICES AND MUTCD.
2. UNLESS OTHERWISE NOTED, USE TRAFFIC CONES FOR TRAFFIC CONTROL AND AS REQUIRED BY AIRPORT OPERATIONS.
3. UNLESS OTHERWISE NOTED, SPACING SHALL NOT EXCEED 25' ON CENTERS.

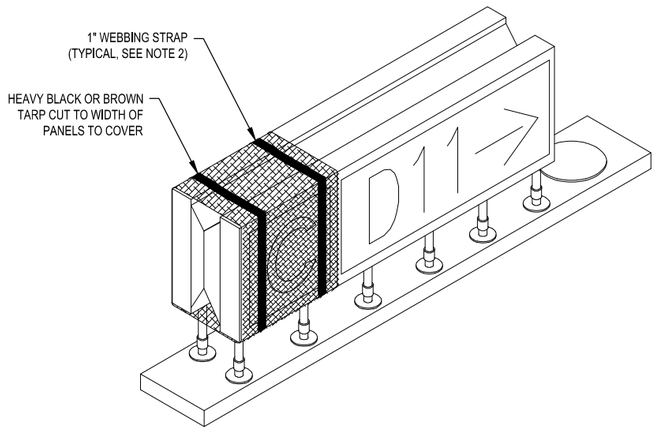
TRAFFIC CONE — 7 / -
SCALE: N.T.S.



NOTES:

1. CONSTRUCTION SAFETY FLAG SHALL BE PROMINENTLY DISPLAYED ON ALL CONSTRUCTION EQUIPMENT WITHIN THE AOA.

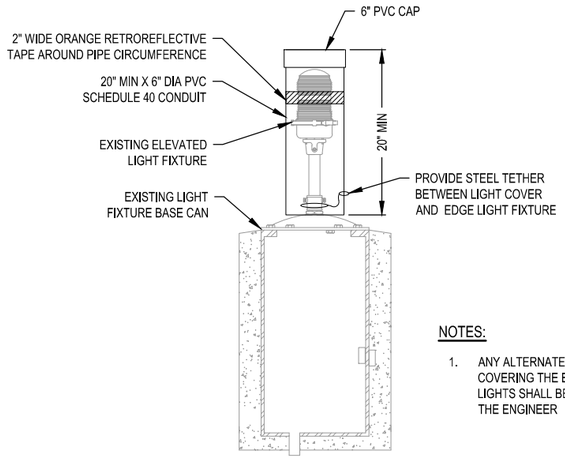
CONSTRUCTION SAFETY FLAG — 8 / -
SCALE: N.T.S.



NOTES:

1. DO NOT USE TAPE TO SECURE COVER TO SIGN.
2. MINIMUM TWO (2) 1" WEBBING STRAPS TO COVER A SINGLE MODULE. MINIMUM THREE (3) 1" WEBBING STRAPS TO COVER TWO MODULES.

TEMPORARY SIGN COVER DETAIL — 9 / -
SCALE: N.T.S.



NOTES:

1. ANY ALTERNATE METHODS FOR COVERING THE ELEVATED EDGE LIGHTS SHALL BE APPROVED BY THE ENGINEER

TEMPORARY COVER ON
ELEVATED EDGE LIGHT DETAIL — 10 / -
SCALE: N.T.S.

STATE OF HAWAII 1959
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4/30/24
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HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

PHASING DETAILS 2

DATE : **07/2022**

SHEET : 65 OF 376 SHEETS

DWG. NO. **G6.02**

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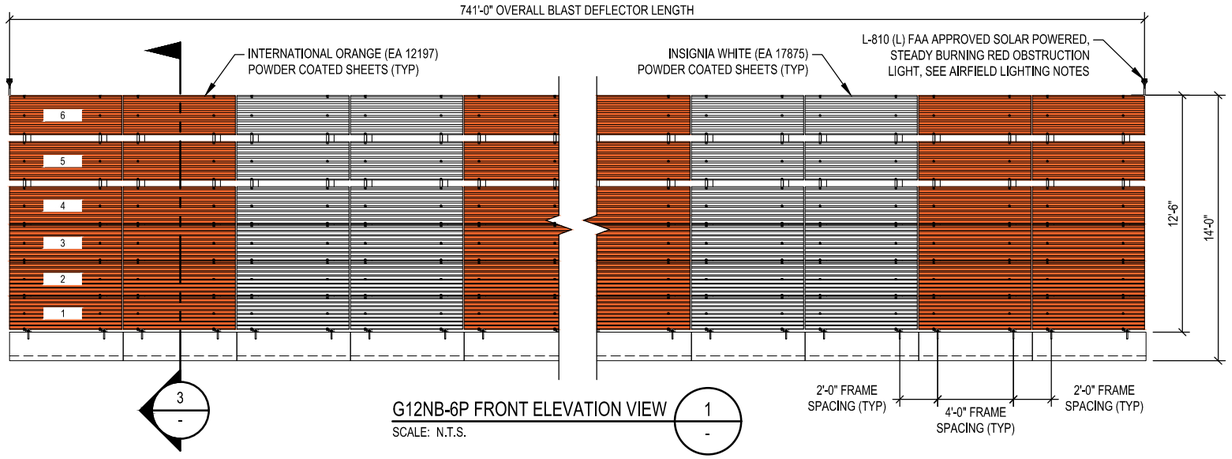
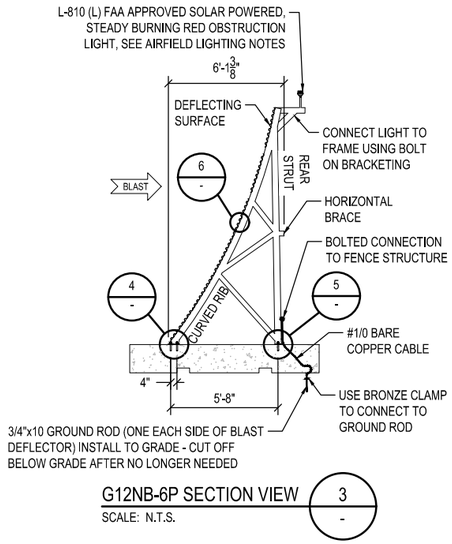
Appendix K



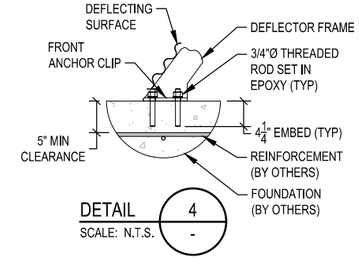
G12NB-6P FRONT ELEVATION VIEW 1

SCALE: N.T.S.



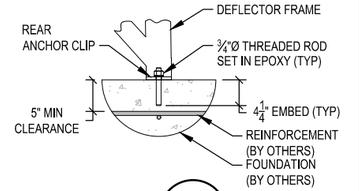
G12NB-6P SECTION VIEW 3

SCALE: N.T.S.



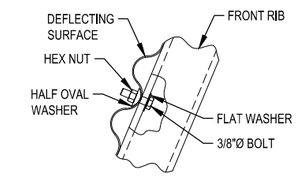
DETAIL 4

SCALE: N.T.S.



DETAIL 5

SCALE: N.T.S.

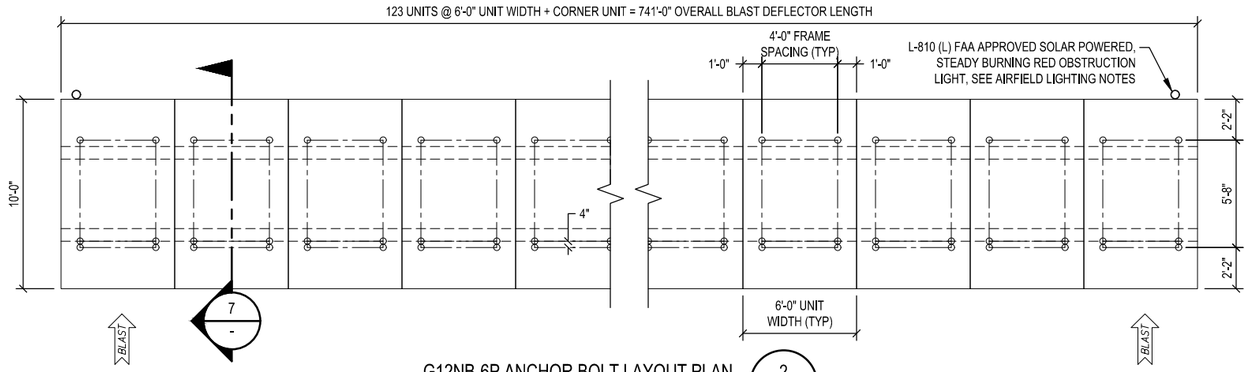


DETAIL 6

SCALE: N.T.S.

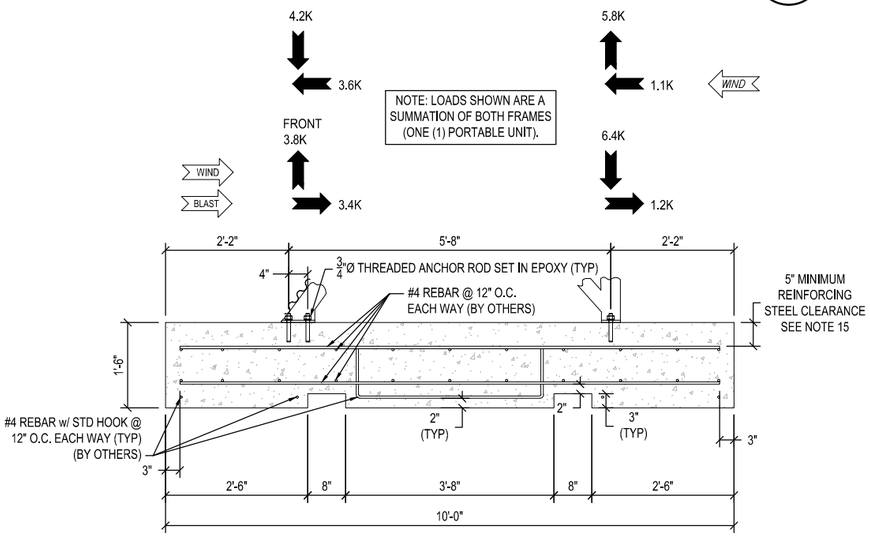
AIRFIELD LIGHTING NOTES

1. OBSTRUCTION LIGHTS SHALL BE L-810 (L) LED FAA APPROVED SOLAR POWERED, STEADY BURNING RED OBSTRUCTION LIGHT, INSTALLED AT EACH END OF THE PORTABLE JET BLAST DEFLECTOR, WITH ADDITIONAL LIGHTS SPACED EVERY 132', NOT TO EXCEED 150' (TYP.). LIGHTS SHALL BE NO TALLER THAN 14" FROM TOP OF BLAST DEFLECTOR AS MEASURED TO TOP OF OBSTRUCTION LIGHT.
2. EVERY RUNWAY CLOSURE, CONTRACTOR SHALL INSPECT AND MAINTAIN THE LIGHTS TO MAKE SURE THEY ARE NOT BROKEN OR LOOSENED. CONTRACTOR SHALL BE RESPONSIBLE TO MAINTAIN FULLY FUNCTIONAL OBSTRUCTION LIGHTS AT ALL TIMES.
3. CONTRACTOR SHALL DISCONNECT, MOVE, AND RECONNECT GROUNDING TO BLAST FENCE AS REQUIRED TO MOVE DEFLECTOR FOR PAVING OPERATIONS AND/OR PHASING.



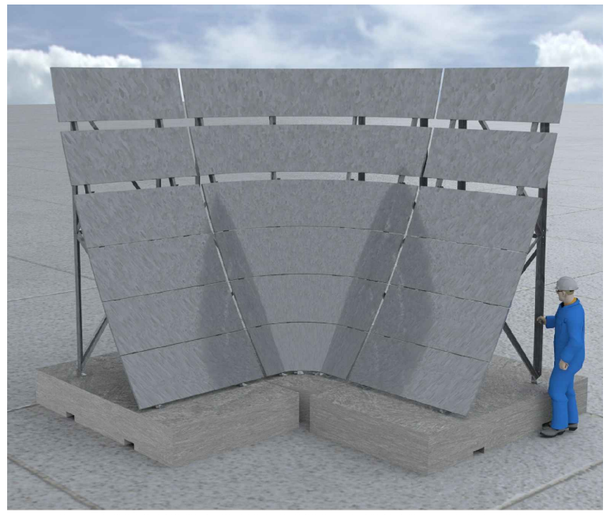
G12NB-6P ANCHOR BOLT LAYOUT PLAN 2

SCALE: N.T.S.



G12NB-6P SUGGESTED FOUNDATION SECTION VIEW 7

SCALE: N.T.S.



NOTE: RENDERING SHOWN IS INDICATIVE ONLY. CORNER SECTION SHALL BE PROVIDED BY THE JET BLAST DEFLECTOR DESIGNER/SUPPLIER, AND SHALL DESIGNED AND FABRICATED FOR THE PURPOSE OF PREVENTING JET BLAST FROM PASSING THROUGH AT CORNER LOCATIONS.

G12NB-6P PORTABLE CORNER DETAIL 8

SCALE: N.T.S.

TEMPORARY PORTABLE JET BLAST DEFLECTOR NOTES

1. BLAST DEFLECTOR SHALL WITHSTAND TAXI/BREAKAWAY EXHAUST VELOCITIES OF COMMERCIAL AND MILITARY AIRCRAFT. BLAST DEFLECTOR SHALL ALSO WITHSTAND TAKEOFF EXHAUST VELOCITIES OF B767-300 AIRCRAFT AS PER THE CONDITIONS STIPULATED IN NOTE 2. DESIGN LOADS ARE:
   140 MPH JET BLAST PER FAA GUIDELINES 50 PSF (NOM.)
   140 MPH (ULT.) WIND PER HI BUILDING CODE / ASCE 7-16 102 PSF (ULT.) / 61.2 PSF (NOM.) 0 TO 5, CORNER
2. FOR TAXI/BREAKAWAY POWER SETTINGS, NO AIRCRAFT SHALL BE OPERATED WITH ENGINE NOZZLE CLOSER THAN 60' AND NO TAIL CLOSER THAN 35' TO THE LEADING EDGE OF THE BLAST DEFLECTOR. FOR B767-300 (AND SMALLER) AIRCRAFT OPERATING AT TAKEOFF POWER SETTINGS, NO AIRCRAFT SHALL BE OPERATED WITH TAIL CLOSER THAN 250' TO THE LEADING EDGE OF THE BLAST DEFLECTOR.
3. THE BLAST DEFLECTOR HAS A NOMINAL HEIGHT OF 14' WITH A GREATER EFFECTIVE HEIGHT.
4. FRAME MEMBERS SHALL BE ASTM A36 STEEL AND HOT-DIP GALVANIZED TO 2 OZ/FT² PER ASTM A123.
5. DEFLECTING SURFACES SHALL BE CORRUGATED STEEL SHEETS DESIGNED TO SUPPORT LOADS IN A SINGLE-SPAN CONDITION. SHEET THICKNESS SHALL BE 16 GA WITH A MINIMUM 2.10 OZ/FT² (G210) HOT-DIP GALVANIZED FINISH PER ASTM A653, SHEET SECTION MODULUS SHALL BE A MINIMUM OF 0.196 IN³/FT.
6. ALL FIELD CONNECTIONS SHALL BE BOLTED (NO FIELD WELDING PERMITTED). SHEET FASTENERS SHALL BE SAE J429 GRADE 5, ASTM A449, OR ASTM F593 (ALLOY GROUP 2) WITH HOT-DIP GALVANIZED FINISH AND STAINLESS STEEL (WHERE APPLICABLE). ADEQUATE LOCKING PROPERTIES SHALL BE PROVIDED TO PREVENT FASTENERS FROM WORKING LOOSE DURING NORMAL OPERATION (SUBJECT TO MANUFACTURER MAINTENANCE GUIDELINES).
7. ALL ANCHORAGE SHALL BE SUPPLIED BY THE BLAST DEFLECTOR MANUFACTURER AND SHALL BE INSTALLED INTO THE COMPLETED CONCRETE BASES DURING THE ERECTION OF THE BLAST DEFLECTOR.
8. BLAST DEFLECTOR MANUFACTURER ONSITE SUPERVISION IS REQUIRED DURING INSTALLATION FOR PRODUCT GUARANTEE.
9. ELECTRICAL, LIGHTING, SECURITY ATTACHMENTS, ETC. (IF REQUIRED) SHALL BE BY OTHERS.

FOUNDATION NOTES:

10. CONCRETE BASE DESIGN SHOWN IS SUGGESTED ONLY. FINAL CONCRETE BASE DESIGN AND APPROVALS ARE BY OTHERS AND SHALL BE BASED ON SERVICE ANCHOR LOADS SHOWN, SITE CONDITIONS, AND GOVERNING CODES. THE SUGGESTED DESIGN SHOWN IS BASED ON A STATIC FRICTION COEFFICIENT OF 0.60 (CONCRETE-TO-CONCRETE INTERFACE).
11. PROJECT DESIGNER SHALL VERIFY CONCRETE BASE SUITABILITY AND DESIGN.
12. GENERAL CONTRACTOR SHALL VERIFY CORRECT LOCATION AND ELEVATION OF CONCRETE BASES.
13. EACH CONCRETE BASE FINISHED SURFACE SHALL BE A SINGLE PLANE AND MAY SLOPE UP TO 2% IN ANY SINGLE DIRECTION TO ACCOMMODATE DRAINAGE. THE FOLLOWING TOLERANCES SHALL APPLY:
    FINISHED FOUNDATION ELEVATIONS ±1/4"
    FOUNDATION DIMENSIONS ±1/2"
14. PORTLAND CEMENT CONCRETE SHALL DEVELOP A MINIMUM COMPRESSIVE STRENGTH OF 4000 PSI IN 28 DAYS (SUBJECT TO CHANGE BASED ON LOCAL REQUIREMENTS).
15. REINFORCING STEEL, OR ANY OTHER EMBEDDED COMPONENTS, SHALL NOT BE PLACED WITHIN THE TOP 5" OF EACH CONCRETE BASE FINISHED SURFACE FOR ANCHOR BOLT CLEARANCE.
16. BLAST DEFLECTOR MANUFACTURER SHALL FURNISH, LOCATE, AND SUPERVISE THE INSTALLATION OF ALL ANCHORAGE AFTER CONCRETE BASE CONSTRUCTION HAS BEEN COMPLETED.
17. CONCRETE BASE CONSTRUCTION, ASSOCIATED CIVIL WORKS, GROUNDING, AND ELECTRICAL (IF REQUIRED) ARE BY OTHERS.
18. APPROVED BLAST DEFLECTOR MANUFACTURER:

    BLAST DEFLECTORS, INC.
    8620 TECHNOLOGY WAY
    RENO, NV 89521 USA

    TEL: +1 775.856.1928
    WEB: WWW.BDI.AERO
    EMAIL: CONTACTBDI@BDI.AERO

TEMPORARY BLAST DEFLECTOR NOTES:

1. SEE G1.02 & G3.02, FOR TEMPORARY INSTALLATION LOCATION.
2. CONTRACTOR SHALL PROVIDE NEW HARDWARE FOR THE TEMPORARY INSTALLATIONS.
3. TO THE EXTENT POSSIBLE, THE CONTRACTOR SHALL PRE-ASSEMBLE THE BLAST DEFLECTOR TO ALLOW FOR RAPID INSTALLATION.
4. BASE OF DEFLECTOR INSTALLED CENTERED ON RUNWAY CENTERLINE.
5. AT CONCLUSION OF PHASE 1, CONTRACTOR SHALL RELOCATE BLAST DEFLECTOR UNITS TO THE STAGING AREA FOR STORAGE. THE BLAST DEFLECTOR UNITS WILL BE RE-INSTALLED DURING FINAL 4 DAYS OF PHASE 2. UPON COMPLETION OF PHASE 3, CONTRACTOR SHALL RELOCATE BLAST DEFLECTOR AND TRANSPORT TO THE PERMANENT LOCATION, AT THAT TIME, THE PORTABLE BLAST DEFLECTOR UNITS SHALL BECOME THE PROPERTY OF HDOT-A.

Airports Division
DEPARTMENT OF TRANSPORTATION
STATE OF HAWAII

DUKE S. YOUNG
LICENSED PROFESSIONAL ENGINEER
PE-17779
HAWAII, U.S.A.

DUKE YOUNG, PE
CIVIL ENGINEER
4/30/24
Expiration Date

DSGN.	DRWN.	CHKD.	APPD.
HF	HT	JB	DY

KEY PLAN / NOTES:

NO.	DATE	REVISIONS

CONSTRUCTION DOCUMENTS
JULY 2022
DATE

PROJECT TITLE :

RELOCATE RUNWAY 3-21

AT
LIHUE AIRPORT
LIHUE, KAUAI, HAWAII

PROJECT NO.:

AK1031-14

SHEET TITLE:

PORTABLE JET BLAST DEFLECTOR DETAILS

DATE :
07/2022
SHEET :
66 OF 376 SHEETS

DWG. NO.
G6.10

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