NORTHERN COLORADO
REGIONAL AIRPORT COMMISSION

Dear Northern Colorado Regional Airport Stakeholders:

Thank you again for your participation in the stakeholder meeting held on October 24th. Your continued engagement and collaboration are appreciated as we work together to support the success of our airport initiatives.

Airport staff received requests for the following documents:

1. **SMS Report: Runway 06/24**

See attachment 1 (pg. 1-32)

2. **Runway 06/24 - Estimated cost to maintain pavement to FAA standards including capital efforts such as which includes FAA Deficiencies and Reconstruction efforts. Cost do not include capital items to bring the runway into the required minimum improvements.**

See Attachment 2 (pg. 33-38)

3. **Runway 15/33 SMS Report done for Runway 15/33 Widening project (Pending)**
4. **Winter Operations Presentation**

See Attachment 3 (pg. 37-54)

Thank you again for your partnership, participation and feedback to airport staff; it's valued and appreciated.

Best,

Airport Director

John Kinney

Western Service Center
Safety Risk Management Panel Workbook
Northern Colorado Regional Airport (FNL)
Fort Collins/Loveland, Colorado Runway 06/24 Closure

Workbook Prepared By:	Leslie Habig - ATM FNL
Workbook Due Date:	**08/23/2023**
WSC POC:	Garry.F.Brown@faa.gov Larry.Crowley@faa.gov Mathias.j-ctr.Csicsery@faa.gov

Pre-SRM Panel Checklist:

For ***All*** Safety Risk Management Panels (SRMPs), complete green table "All SRMP Action Items" 1-7. For construction related projects, complete green table plus blue table "For Airport Movement Area Projects" 1-3. For waivers to Affected Directives, complete green table plus red table "For Waivers to Affected Directives" 1-2.

	All SRMP Action Items
1.	Determine Date/Time/Location for panel.
2.	Determine availability of the following equipment at the meeting location: Audiovisual equipment including (overhead projector, LAN/Wi-Fi connectivity available, computer connection to overhead projector, extension cord, speaker phone, whiteboard or flip chart, etc.)
3.	Identify Panel Members, Subject Matter Experts (SMES) and Observers. Utilize **Appendix A** as a guideline and consult with your Service Center QCG point of contact in **Appendix B** for assistance.
4.	Depending on the situation, QCG or the Facility, will send out invitations to the panel attendees (see **Appendix C** for sample invite template.) Provide a short briefing on the specific purpose of the panel. (Attaching a completed copy of this workbook to the invitation will satisfy the briefing requirement.)
5.	If Voice conference is needed please use the On-Line request tool: (Hover, Ctrl + Click on link) FAA Administrative Voice Enterprise Services (FAVES)
6.	Identify who will provide the "Current State" and "Proposed Change" briefing during the panel (briefings can be accompanied with PowerPoint presentation, handouts, airport diagrams, etc…)
7.	Ensure you have access to the Safety Management Tracking System (SMTS): (Hover, Ctrl + Click on link) FAA SMTS Website

Describe Current System

	For Airport Movement Area Projects: *Complete action items 1-7 above plus the following:*
1.	ATMs complete Airport Construction Advisory Council (ACAC) checklist per JO 7210.3, 10-3-11 (a-f and note). (Hover, Ctrl + Click on link) ACAC Checklist
2.	Attach copy of 100% complete Construction Safety and Phasing Plan (CSPP) to this workbook. *Note: Obtain copy of CSPP from Airport Management or Contract Engineer*
3.	Obtain Runway Incursion data from your region's Office of Runway Safety (At least 24 months of data preferred): **AAL (907) 271-1591, ANM (425) 917-6737, AWP (310) 725-6681**, Western Service Area Runway Safety Program Manager **(425) 227-1959** Runway Safety Website: (Hover, Ctrl + Click on link) Runway Safety Home

	For Waivers to Affected Directives *Complete action items 1-7 above plus the following*
1.	Identify specific paragraph in the affected directive you are requesting to waive
2.	Contact WSC Operations Support Group (OSG) for assistance with waiver package: (Hover, Ctrl + Click on link) WSC OSG Home

The system description provides the information that serves as the basis for identifying all hazards and associated safety risks. The system/operation must be described in sufficient detail to allow safety analysis to proceed to the hazards identification stage.

Describe Current System	
What is the current system and how is it operated? (Provide detailed description of how the operation is conducted or applied today, particularly in relation to the proposed change.) Include relevant current data such as: • Runway usage • Approach, SID, STAR, Airway usage etc. • Weather • Traffic count • Other important operational data necessary to describe the current state	**Runway usage** – Runway 33/15 is the primary use runway, with runway 33 being the calm wind runway (5 knots or less). Runway 6/24 is primarily used as a taxiway, with only occasional use for helicopters and small aircraft. Runway usage is based on weather reported by the Automated Weather Observing System (AWOS) and controller observations. The primary Runway 15/33 is 8500 feet long by 100 feet wide and has a published field elevation of 5,020 feet MSL and an asphalt surface. Runway 33 has Precision Approach Path Indicators (PAPI) and Medium Approach Light System with Runway Alignment Indicator Lights (MALSR). Runway 15 has PAPIs and Runway End Identifier Lights (REIL). Runway 6/24 is 2273 feet long by 40 feet wide, asphalt surface, and has edge reflectors full length. IFR circling is not authorized at night to runway 6/24. Approach end Runway 6 ties into Taxiway A from the east while the opposite end exits to the south onto a taxi-lane. There is no official count of aircraft landing and departing runway 6/24. It is estimated that there are somewhere between 30-50 landings/takeoffs on runway 6/24 per year. The FNL MATCT is located near midfield, just north of taxiway charley and west of the commercial apron and only stands 15 feet tall. **Approach, SID, STAR, Airway usage etc.** - D01 is the overlying IFR facility and provides IFR services to the airport. There are nine published Standard Terminal Arrival (STAR) Charts, nine published Departure Procedures (DP), Two RNAV approaches (one to runway 33 and one to runway 15), one Instrument Landing System (ILS or LOC RWY 33), and one VOR-A Approach. **Traffic Count** - FNL conducted approximately 111,102 operations for the past 12 months (August 2022- July 2023); 6,682 IFR/SVFR Operations, 36,958 VFR itinerate aircraft, 66,713 local (touch and go) operations, and 749 IFR/VFR overflights (mostly VFR). FNL has three fixed wing flight schools (one community college and two private). The lowest traffic month was December 2023 with 6,970 operations. The busiest month was October 2022 with 11,708 operations.

What is the current safety baseline? (Safety baseline is a description of current system safety reflecting existing conditions.) Safety baseline description should include, as appropriate*: • Relevant MOR data • QC Reviews (OSAs, SSRs, TMRs, CERs) • Accident/Incident reports • Runway Incursion data • RAE, CEDAR, Daily Log, ATSAP or other known/reportable data * Available within the past 24 months. Attach if necessary.	The Mobile Air Traffic Control Tower (MATCT) is located just north of taxiway Charley and east of taxiway Alpha, next to the Air Carrier ramp. When the controllers are facing runway 15/33, they are facing west. In the current state all traffic patterns to all runways are published as "left traffic." The Airport is building a new terminal building, just north of the current terminal building. The construction activity is blocking the view of the east 300 feet of runway 6/24 from the Mobile Tower. The new terminal building, when erected, will block about the same amount of runway 6/24, but will also block taxiway Foxtrot entirely, from the Mobile Tower. The only MORs, within the past 24 months that are associated with runway 6/24 are 1 VPD (a pedestrian walking along the runway, without a clearance) and 2 PDs (both, aircraft crossing the runway at taxiway Alpha, without a clearance).

Describe the Proposed Change

A thorough, complete and correct description of the change proposal is necessary to conduct a safety analysis. The information provided will assist in the preparation of the SRM documents.

Describe Proposed Change	
What is the proposed change? Provide detailed description of what the specific NAS change is. Include, as appropriate: • The purpose/rationale for the change. • Who will be impacted or responsible? • The impacts during/after the change • What is the start/end or implementation date(s)? • What are the procedures/orders etc. that manage the change?	Because portions of runway 6/24 are not visable from the Mobile Tower, we propose to keep the runway closed (except for taxi) until the transition to the Remote Tower can be accomplished.

• What is the environment in which the change will operate?	
Are there potential or probable issues associated with this NAS change? Include, as appropriate: • Description of issue • Rationale • Empirical evidence • Supporting data • Potential mitigations	During high wind events, where the crosswind component to runway 15/33 is too high; runway 6/24 will not be available for landing/take-off. If pilots insist on using runway 6/24 during these times, controllers will be expected to follow FAA JO 7110.65AA, paragraph 3-3-2.

APPENDIX A

List of Proposed Panel Members

With assistance from your WSC QGC POC (see **Appendix B**), determine appropriate stakeholders. A stakeholder is considered an entity that could be affected by or responsible for a proposed NAS change.

From the list of stakeholders, determine what role (Panel Member, Subject Matter Expert (SME), or Observer) each will function in as follows:

Panel Member: SRM Panel Member:

An FAA employee or other representative (*as specified in an FAA Memorandum of Agreement) who objectively performs the SRM process. (*Federal contract tower (FCT) employees or other contractors given explicit authority to represent the FAA. Department of Defense (DoD) representatives as a panel member when DoD, Air Traffic Control (ATC) procedures/airspace are impacted).

- Evaluates the NAS change or existing safety issue objectively, thoroughly, and fairly
- Determines the safety risks to the NAS
- Does not debate the validity of the change
- Reviews and comments on the SRM documents

Subject Matter Expert (SME):

An FAA employee or third-party stakeholder who serves as a technical expert on the procedure, hardware/software, or proposed solution undergoing SRM. Subject matter experts are not SRM panel members and do not participate in the consensus-driven decisions regarding initial/predicted residual risk levels in analyzing or assessing the safety risks to the NAS.

- Shares data, detailed information, and experience about the subject
- Partakes in the technical dialogue with SRM panel members
- Reviews and comments on the aspects of the SRM document for which their expertise is applicable

Observer:

An individual present during the proceedings of the SRM panel but does not otherwise participate in the meeting.

Appendix A (Continued)

Waiver to JO 7110.65 SRMPs Choose from the following stakeholders as appropriate		
Air Traffic Personnel: (NATCA, Management, Support Specialists, Overlying or Secondary Air Traffic Facilities Personnel, District Office Representatives, TMU, Others?)	**Other Stakeholders:** (Tech Ops, Office of Runway Safety, Office of Airports (ARP), OSG, PRG, FSDO, OEAAA, AFTIL, Airport Operator Representatives, Others?)	**Pilots:** (Air Carrier, Air Taxi, General Aviation, Flight School, Military, Helicopter, Cargo, Corporate, AOPA, NBAA, IATA, Others?)

Airport Movement Area Project SRMPs: Choose from the following stakeholders as appropriate			
Air Traffic Personnel: (NATCA, Management, Support Specialists, Overlying or Secondary Air Traffic Facilities Personnel, District Office Representatives, Others?)	**Airport Representatives:** (Airport Authority, Airfield Maintenance, ARFF, Construction Contractor, Project Engineer, Military or other Airport Tenants, Others?)	**Pilots:** (Air Carrier, Air Taxi, General Aviation, Flight School, Military, Helicopter, Cargo, Corporate, AOPA, NBAA, IATA, Others?)	**Other Stakeholders:** (Tech Ops, Office of Runway Safety, Office of Airports (ARP),OSG, PRG, FSDO, OEAAA, AFTIL, Others?)

Airspace/Procedures SRMPs (Metroplex, Airspace Changes, SUA, LOAs, SOPs, etc…) Choose from the following stakeholders as appropriate			
Air Traffic Personnel: (NATCA, Management, Support Specialists, Overlying or Secondary Air Traffic Facilities Personnel, District Office Representatives, Others?)	**Metroplex Personnel:** (Metroplex Project Leads, ATAC Personnel, AFTIL, Traffic Management Units (TMUs) Others?)	**Pilots:** (Air Carrier, Air Taxi, General Aviation, Flight School, Military, Helicopter, Cargo, Corporate, AOPA, NBAA, IATA, Others?)	**Other Stakeholders:** FCT personnel, FCT/SERCO QC Representative, FSDO, OSG, PRG, ARP, Airport Management/Operator, Others?)

Appendix A (Continued)

Equipment Related SRMPs (Deactivation, removal, or decommissioning of ATO equipment, procedures, systems, or services. New NAS systems used in ATC etc…)

Choose from the following stakeholders as appropriate

Air Traffic Personnel: (NATCA, Management, Support Specialists, Overlying or Secondary Air Traffic Facilities Personnel, District Office Representatives, Others?)	**Other Stakeholders:** (Tech Ops, Office of Airports (ARP), OSG, PRG, FSDO, OEAAA, AFTIL, Airport Operator Representatives, FCT Representatives, Others?)	**Pilots:** (Air Carrier, Air Taxi, General Aviation, Flight School, Military, Helicopter, Cargo, Corporate, AOPA, NBAA, IATA, Others?)

ATC Facility Changes (Tower siting or relocation, facility relocation, cab placement or redesign, consolidation or de-consolidation of facilities, facility split, temporary tower etc…)

Choose from the following stakeholders as appropriate

Air Traffic Personnel: (NATCA, Management, Support Specialists, Overlying or Secondary Air Traffic Facilities Personnel, District Office Representatives, Others?)	**Other Stakeholders:** (Tech Ops, Office of Airports (ARP), OSG, PRG, FSDO, OEAAA, AFTIL, Airport Operator Representatives, FCT Representatives, Others?)	**Pilots:** (Air Carrier, Air Taxi, General Aviation, Flight School, Military, Helicopter, Cargo, Corporate, AOPA, NBAA, IATA, Others?)

Appendix B

Western Service Center Points of Contact

WSC Point of Contact (Hover over name, then Ctrl + Click to Email)	**Office Phone**
Mindy Wright WSC QCG Operational Team Team Manager	(206) 231-2475
Garry Brown WSC SRM Facilitation Specialist	(206) 231-2317
Larry Crowley WSC SRM Facilitation Specialist	(206) 231-2320
Matt Csicsery WSC SRM Facilitation Specialist	(206) 231-2417
Steve Hedden WSC SRM Technical Writer	(206) 231-2324
Ken Legary WSC SRM Technical Writer	(206) 231-2319
Stephen Szehner WSC SRM Technical Writer	(206) 231-2325

Appendix C

Panel Invitation Example/Template (Update, copy and paste)

The QCG Facilitation Team will set up the Zoom invite and send out invitations via a Microsoft invite.

You are invited to participate in a Safety Risk Management Panel (SRMP) for the Magadan/Anchorage Route Structure re-design. The panel will be conducted (DATE/TIME) Via Zoom meeting.

The purpose of the SRM Panel will be to identify any hazards or risk associated with the Magadan/Anchorage Route Structure re-design
Requested participation as follows:

Panel Members: (Provides input and participation in Hazard Identification and Safety Analysis)

Lucas Barnlund	ZAN Management
David Chilson	TWAN Airspace and Procedures
Jessica Earp	NATCA
Brian Ralph	NATCA

Subject Matter Experts: (Provides data, information, experience etc… but do not participate in Hazard Identification or Safety Analysis)

Stephen Thornton	ZAN TMO
Tyler Blackwell	ZAN TMU
Todd Murray	TWAN Plans and Requirements

Observers: (Any additional attendees from the above categories but do not provide any input)

Kristine Kubitz	TWAN Air Traffic Support Manager
Monique Stowers	TWAN Plans and Requirements

The SRM panel will follow the process outlined in ATO SMS Manual July 2016 edition, and is being facilitated by the FAA Western Service Center.

Agenda:

- Orientation briefing on Safety Risk Management
- Briefing on the current state operation and proposed change
- Begin SRM process to include potential hazard identification
- Analyze, Assess, and Treat the risk as appropriate
-

Please RSVP by Close of Business (DATE)

Appendix D

Other Useful Links

(Hover, Ctrl + Click to bring up link)

ATO SMS Manual

ATO SMS Toolbox

ATO SMS Documents

ATO SMS Training

Runway Safety Home

SMS MOU FAA and NATCA

Safety Management Tracking System (SMTS)

WSC Organizations Evaluations (QCG) Home

WSC Operations Support Group (OSG) Home

WSC Planning and Requirements Group (PRG) Home

10/20/2023 Final

FNL Runway 06/24 Closure SRMD

EXECUTIVE SUMMARY

Title: FNL Runway 06/24 Closure
Change Proponent Organization: FNL FCT
Impacted Organizations: FNL FCT, D01, ZDV
Document Type: OPS

The Northern Colorado Regional Airport (FNL), at Fort Collins/Loveland, Colorado has two runways; Runway 15/33 is 8500 feet long by 100 feet wide, asphalt, Runway 15 has Precision Approach Path Indicators (PAPI) and Runway End Identifier Lights (REIL). Runway 33 has PAPIs and Medium Approach Light System with Runway Alignment Indicator Lights (MALSR). Runway 6/24 is 2273 feet long by 40 feet wide, asphalt, is used by helicopters or light aircraft when needed during windy conditions; otherwise, it is used as a taxiway. The approach end Runway 6 ties into Taxiway A from the east while the opposite end exits to the south onto a taxi-lane.

FNL proposes to keep Runway 6/24 closed (except for taxi) due to portions of Runway 6/24 not visible from the Mobile Air Traffic Control Tower (MATCT) until the transition to the Remote Tower can be accomplished. During high wind events, where the crosswind component to Runway 15/33 is too high; Runway 6/24 will not be available for landing/take-off. If pilots insist on using runway 6/24 during these times, controllers will be expected to follow FAA JO 7110.65AA, paragraph 3-3-2.

A Safety Risk Management (SRM) Panel met virtually and in person on 08/23/2023 to assess the change to the NAS and associated hazards. The SRM Panel was organized by the Serco and FNL FCT with support from the Western Service Center (WSC) Quality Control Group (QCG). The SRM Panel included attendees representing the Serco Management, FNL FCT, DEN ADO, WSC/OSG Airspace & Procedures, City of Loveland, Western Service Center (WSC) Operations Support Group (OSG), Runway Safety, Airport Authority, Aims College, the Fort Hill Group, FAA Flight Standards, and Serco.

The SRM Panel identified two hazards associated with loss of pilot and controller situational awareness. The SRM Panel found the hazard to have low initial and predicted residual risk. SRM Panel members determined the change can be introduced into the National Airspace System (NAS) with an acceptable level of risk as defined in the FAA Air Traffic Organization Safety Management System Manual.

Hazard Summary

Hazard ID	Hazard	Initial Risk	Predicted Residual Risk
1 FNL RWY 6-24	Loss of pilot situational awareness (Runway Excursion/Ground Loop (land on a runway with a high crosswind component))	4D: Low	4D: Low
1 FNL RWY 6-24	Loss of pilot situational awareness (Runway Incursion)	5B: Low	5B: Low
2 FNL RWY 6-24	Loss of controller situational awareness	5D: Low	5D: Low

Safety Requirements

Safety Requirement	Associated Hazard ID	Organization Responsible	POC Signature
None		N/A	

Monitoring Plan

Safety Performance Target	Associated Hazard ID
Less than one landing on a runway with a high crosswind component due to a loss of pilot situational awareness attributed to the runway closure.	1 FNL RWY 6-24
Less than thirty RIs per year for two years due to a loss of pilot situational awareness attributed to the Runway 6/24 closure.	1 FNL RWY 6-24
Less than one RI due to a loss of controller situational awareness attributed to the runway closure.	2 FNL RWY 6-24

SRMD SIGNATURES

Concurrence:

- Michael Valencia, Deputy Director of Operations, WSA Air Traffic Services (AJT-W) (North only: TWDV, TWSE, TWLC, TWAN)
- Tonya Patterson, Deputy Director of Operations (A), WSA Air Traffic Services (AJT-W) (South only: TWLA, TWHG, TWOA)
- Miles Magnuson, Senior Advisor (AJT-W)
- Sean Hopkins, Senior Advisor (AJT-W)
- Christopher Ramirez, Group Manager, QCG, WSC (AJV-W1)
- Byron Chew, Group Manager, OSG, WSC (AJV-W2)

Approval:

- James T. Farmer, Support Manager, D01 (TWDV1-D01)
- Les Habig, ATM, FNL MATCT, Serco

Risk Acceptance:

- Chad Hudgins (A), General Manager-Denver District (TWDV)

CURRENT SYSTEM

FNL has two runways; Runway 15/33 is 8500 feet long by 100 feet wide, asphalt, Runway 15 has PAPIs and REILs. Runway 33 has PAPIs and MALSRs. Runway 33/15 is the primary use runway, with runway 33 being the calm wind runway. It has been estimated that runway 33 is utilized 60% of the time when the Tower is open. Runway 6/24 is 2273 feet long by 40 feet wide, asphalt, is primarily used as a taxiway, with only occasional use for helicopters and small aircraft when needed during windy conditions. IFR circling is not authorized at night to runway 6/24. The approach end Runway 6 ties into Taxiway A from the east while the opposite end exits to the south onto a taxi-lane.

FNL operates in Class E airspace to the surface with a MATCT located near midfield, just north of taxiway charley and west of the commercial apron and only stands 15 feet tall. Runway usage is determined by the pilots and controller's observations usually based on Automated Weather Observing System (AWOS), with left traffic to all runways. Tower hours are 0800-1800 daily. D01 provides IFR services to the airport. IFR operations are one in one out (outside of tower hours). D01 relies on the pilots to cancel when on the ground or departing prior to void time. IFR clearances and releases are given through flight data/clearance delivery at D01 on frequency 120.25. In the last year there were 6,918 IFR operations into and out of the airport.

FNL conducted approximately 104,553 operations for November 2021- October 2022; 6,414 IFR/SVFR operations, 36,617 VFR itinerate aircraft, 60,857 local (touch and go) operations, and 665 IFR/VFR overflights. FNL has three fixed wing flight schools (one community college and two private). The lowest traffic month was January 2022 with 1,465 operations (due to extremely cold weather). The busiest month was October 2022 with 11,708 operations.

A NOTAM has been issued closing Runway 6/24 (except for taxi) due to portions of runway 6/24 not visible from the MATCT and outlining the limitations of the surface that before the closure was used mostly as a taxiway. The NOTAM is currently active.

DESCRIPTION OF CHANGE
FNL proposes to keep Runway 6/24 closed (except for taxi) due to portions of runway 6/24 not visible from the MATCT until the transition to the Remote Tower can be accomplished. During high wind events, where the crosswind component to Runway 15/33 is too high; Runway 6/24 will not be available for landing/take-off. If pilots insist on using runway 6/24 during these times, controllers will be expected to follow FAA JO 7110.65AA, paragraph 3-3-2.

3−3−2. CLOSED/UNSAFE RUNWAY INFORMATION
If an aircraft requests to takeoff, land, or touch-and-go on a closed or unsafe runway, inform the pilot the runway is closed or unsafe, and

a. If the pilot persists in his/her request, quote him/her the appropriate parts of the NOTAM applying to the runway and inform him/her that a clearance cannot be issued.
b. Then, if the pilot insists and, in your opinion, the intended operation would not adversely affect other traffic, inform him/her that the operation will be at his/her own risk.

PHRASEOLOGY−
RUNWAY (runway number) CLOSED/UNSAFE.
If appropriate, (quote NOTAM information),
UNABLE TO ISSUE DEPARTURE/LANDING/TOUCH−AND−GO CLEARANCE.
DEPARTURE/LANDING/TOUCH−AND−GO WILL BE AT YOUR OWN RISK.

c. Except as permitted by paragraph 4−8−7, Side-Step Maneuver, where parallel runways are served by separate ILS systems and one of the runways is closed, the ILS associated with the closed runway should not be used for approaches unless not using the ILS would have an adverse impact on the operational efficiency of the airport.

Assumption:
1. Current NOTAM for closure of Runway 6/24 will be reviewed by OSG (currently waiting for input from HQ) to determine if NOTAM will be required in the future.
2. The airport will update the directory stating current Runway 6/24 status (based on the response from assumption 1).

HAZARD IDENTIFICATION and RISK DETERMINATION
The SRM Panel conducted an in-depth analysis of the FNL Runway 06/24 Closure with a focus on LOS issues that impact airfield movement areas and air traffic operations. The SRM Panel applied the ATO SRM process, beginning with a Preliminary Hazard List (PHL). Using the PHL as a foundation for completing the Hazard Analysis Worksheet (HAW), SRM Panel attendees analyzed each hazard to determine cause, system state, controls, and effects. SRM Panel members determined severity, likelihood, and initial/predicted residual risk; and attendees had the opportunity to identify Safety Requirements and determined Safety Performance Targets.

10/20/2023 Final
FNL Runway 06/24 Closure SRMD

SRM Panel attendees reviewed the airport diagram, google maps pictures, and discussed operations with the current NOTAM in place, closure impacts, controls, potential hazards, and data. Attendees talked about runway use and the type aircraft at FNL including traffic count and hours of operations. Attendees added that back taxi and runway crossings are not used normally. They pointed out that there are no Hot Spots on the airport and described the taxi routes that are used during normal operations and the closure of Runway 6/24.

SRM Panel attendees said that the Line of Sight (LOS) from the MATCT to the approach end of Runway 24 and Taxiway F has been affected by various pieces of equipment, mounds of dirt, and vehicles used for the construction project near the terminal ramp, this includes a work trailer. They said that LOS will also be affected by the future position of the new terminal (see the attachment). Attendees talked about the procedures that are in place in case an emergency aircraft needed to use Runway 6/24 and taxi instructions used for aircraft not visible from the MATCT. They mentioned that Runway 6/24 is normally used 30 to 50 times a year and mostly as a taxiway.

1x a week

SRM Panel attendees discussed the possibility of a adding an LTA (advising for an area of non-visibility) to the NOTAM already in place. Attendees said that various combinations of an LTA and/or NOTAM has been used at other locations to alert pilots on runway closures that may be used under certain situations. Controller attendees talked about memory aides used in the MATCT that include a Traffic Management Board (TMB) and use of marked or colored chips to indicate occupied or closed surfaces. Attendees mentioned that the MATCT will add any known NOTAMS to pre-duty briefings and outreach to users. Controls will be in place, as they are today, for opening and closing movement areas during the closure of Runway 6/24.

SRMP Panel attendees said the closure of Runway 6/24 as per the NOTAM will not significantly change operations at FNL. SRMP members talked about controls that assist and alert operators, pilots, and controllers to the runway(s) configuration changes. They estimated that 99 percent of the time air traffic instructions should be unchanged, and pilots will be aware of the surface conditions as they are today.

HAZARD ANALYSIS WORKSHEET (HAW)

1.	2.	3.	4.	5.	6.
Hazard ID	**Hazard Description**	**Cause**	**System State**	**Controls**	**Control Justification**
1 FNL RWY 6-24	Loss of pilot situational awareness	• Pilot unaware that Runway 6/24 is available for landing/departing at their own risk when the tower is open and air traffic control cannot visually ensure that the runway is clear for use. • Pilot unaware that Runway 6/24 is a usable surface however air traffic control cannot visually ensure that the runway is clear for use. • Pilot unaware that a portion of Runway 6/24 is not visible from the tower and air traffic control cannot visually ensure that the runway is clear for use. • Pilot unaware that they can continue to ask to use Runway 6/24 after the tower states unavailable. • NOTAM is creating uncertainty with the usability of Runway 6/24	0800-1800L All flows VFR/IFR	JO 7110.65, JO 7210.3, SOP, LOAs, ATIS, ASOS, surface memory aid, ACAC checklist, AC 150/5210-20, AC 150/5210-24, AC 150/5340-1, AC 150/5340-18, AC 150/5370-2, FAR Part 139, CSPP, controller/ pilot/driver training, controller/pilot intervention, ATC scanning, frequency monitoring, TMB, operational supervision, NOTAM, charts, AIM, outreach, CRM, daily briefings/notes	JO 7110.65: Chap. 2, Sec. 1, 2-1-1, 2-1-2, 2-1-4, 2-1-26; Sec. 4, 6; 9, 10; Chap. 3, Sec. 1, 2, 3, 4, 5, 7, 8, 9, 10, 11; Chap. 4, 5; JO 7110.65 - Class E airspace; Chap. 10, 11; JO 7210.3: Part 1, Chap. 2, Sec. 1, 2-1-2, Sec. 2, 2-2-3, 2-2-11, Sec. 6, 2-6-1, 2-6-2, 2-6-3; Chap. 3, 4 Sec. 3; Part 3, Chap.10, Sec. 1, 10-1-2, 10-2-1, 10.3-12; Sec. 6, Part 5, Chap. 18, Outreach: Ops briefs to community, 10-8

7.	8.	9.	10.	11.	12.
Effect	**Severity**	**Severity Rationale**	**Likelihood**	**Likelihood Rationale**	**Initial Risk**
Runway Excursion/Ground Loop (land on a runway with a high crosswind component)	4: Minor	Based on the Table definition, no more than two indicators, data, controls in place, no other aircraft should be involved, pilots will be able to land	D: Extremely Remote	Data, controls in place location of the work, numbers from Table 3.6, probability should low, usage of that surface is not high	4D: Low
Runway Incursion (RI)	5: Minimal	Based on the Table definition, data, controls in place, pilots will be able to land if needed	B: Probable	Data, controls in place location of the work, numbers from Table 3.6, not many chances of happening	5B: Low

13a.	13b.	14a.	14b.
Safety Requirement Description	**Planned for Implementation ?**	**Organization Responsible for Implementing Safety Requirement**	**POC**
None		N/A	
None		N/A	

15a.	15b.
Predicted Residual Risk	**Predicted Residual Risk Rationale**
4D: Low	No Safety Requirements were identified so the Predicted Residual Risk is 4D: Low
5B: Low	No Safety Requirements were identified so the Predicted Residual Risk is 5B: Low

16.
Safety Performance Target
Less than one landing on a runway with a high crosswind component due to a loss of pilot situational awareness attributed to the runway closure.
Less than thirty RIs per year for two years due to a loss of pilot situational awareness attributed to the Runway 6/24 closure.

Safety Performance Target Monitoring Plan				
Monitoring Activity	**Monitoring Start Date**	**Reporting Frequency**	**Reporting Duration**	**Monitoring POC**
Review MORs	today	Every month	2 years	Les Habig

1.	2.	3.	4.	5.	6.
Hazard ID	**Hazard Description**	**Cause**	**System State**	**Controls**	**Control Justification**
2 FNL RWY 6-24	Loss of controller situational awareness	Air traffic controllers cannot verify the position of aircraft in areas of non-visibility	0800-1800L All flows VFR/IFR	JO 7110.65, JO 7210.3, SOP, LOAs, ATIS, TMB, ASOS, surface memory aid, ACAC checklist, AC 150/5210-20, AC 150/5210-24, AC 150/5340-1, AC 150/5340-18, AC 150/5370-2, FAR Part 139, CSPP, controller/ pilot/driver training, controller/pilot intervention, ATC scanning, frequency monitoring, operational supervision, NOTAM, charts, AIM, outreach, CRM, daily briefings/notes	JO 7110.65: Chap. 2, Sec. 1, 2-1-1, 2-1-2, 2-1-4, 2-1-26; Sec. 4, 6; 9, 10; Chap. 3, Sec. 1, 2, 3, 4, 5, 7, 8, 9, 10, 11; Chap. 4, 5; JO 7110.65 - Class E airspace; Chap. 10, 11; JO 7210.3: Part 1, Chap. 2, Sec. 1, 2-1-2, Sec. 2, 2-2-3, 2-2-11, Sec. 6, 2-6-1, 2-6-2, 2-6-3; Chap. 3, 4 Sec. 3; Part 3, Chap.10, Sec. 1, 10-1-2, 10-2-1, 10.3-12; Sec. 6, Part 5, Chap. 18, Outreach: Ops briefs to community, 10-8

7.	8.	9.	10.	11.	12.
Effect	**Severity**	**Severity Rationale**	**Likelihood**	**Likelihood Rationale**	**Initial Risk**
RI	5: Minimal	Based on the Table definition, data, controls in place, could happen, crosswind component, could divert	D: Extremely Remote	Data, controls in place location of the work, numbers from Table 3.6, crosswind component	5D: Low

13a.	13b.	14a.	14b.
Safety Requirement Description	**Planned for Implementation ?**	**Organization Responsible for Implementing Safety Requirement**	**POC**
None		N/A	

15a.	15b.
Predicted Residual Risk	**Predicted Residual Risk Rationale**
5D: Low	No Safety Requirements were identified so the Predicted Residual Risk is 5B: Low

16.
Safety Performance Target
Less than one RI due to a loss of controller situational awareness attributed to the runway closure.

Safety Performance Target Monitoring Plan				
Monitoring Activity	**Monitoring Start Date**	**Reporting Frequency**	**Reporting Duration**	**Monitoring POC**
Review MORs	today	Every month	2 years	Les Habig

MONITORING PLANS

1	**Safety Performance Target**	Less than one landing on a runway with a high crosswind component due to a loss of pilot situational awareness attributed to the runway closure.
2	**Hazard ID**	1 FNL RWY 6-24
3	**Initial Risk**	4D: Low
4	**Safety Requirement**	None
5	**Organization Responsible for Implementing Safety Requirement**	N/A
6	**Predicted Residual Risk**	4D: Low
7	**Monitoring POC**	Les Habig, ATM, FNL FCT (TWDV1-FNL)
8	**Monitoring Activities**	Review MORs
9	**Monitoring Start Date**	today
10	**Reporting Frequency**	Every month
11	**Reporting Duration**	Two years

1	**Safety Performance Target**	Less than thirty RIs per year for two years due to a loss of pilot situational awareness attributed to the Runway 6/24 closure.
2	**Hazard ID**	1 FNL RWY 6-24
3	**Initial Risk**	4D: Low
4	**Safety Requirement**	None
5	**Organization Responsible for Implementing Safety Requirement**	N/A
6	**Predicted Residual Risk**	4D: Low
7	**Monitoring POC**	Les Habig, ATM, FNL FCT (TWDV1-FNL)
8	**Monitoring Activities**	Review MORs
9	**Monitoring Start Date**	today
10	**Reporting Frequency**	Every month
11	**Reporting Duration**	Two years

1	**Safety Performance Target**	Less than one RI due to a loss of controller situational awareness attributed to the runway closure.
2	**Hazard ID**	2 FNL RWY 6-24
3	**Initial Risk**	5B: Low
4	**Safety Requirement**	None
5	**Organization Responsible for Implementing Safety Requirement**	N/A
6	**Predicted Residual Risk**	5B: Low
7	**Monitoring POC**	Les Habig, ATM, FNL FCT (TWDV1-FNL)
8	**Monitoring Activities**	Review MORs
9	**Monitoring Start Date**	today
10	**Reporting Frequency**	Every month
11	**Reporting Duration**	Two years

SRM PANEL ATTENDEES

The SRM Panel convened on 08/23/2023 to perform an in-depth safety analysis of the proposed NAS change. SRM Panel members and SMEs leveraged their operational experience and experts in the SRM process maintained its integrity. The following table lists SRM Panel attendees.

Name	**Title/Organization**	**E-Mail**	**Phone**
Change Proponent			
Les Habig	ATM, FNL FCT (TWDV1-FNL)	leslie.habig@serco-na.com	720-891-1639

SRM Panel Members			
Jerry Alvarado	Area Manager, Serco	galvarado@serco-na.com	--
Les Habig	ATM, FNL FCT (TWDV1-FNL)	leslie.habig@serco-na.com	720-891-1639
Mike Rauchle	ASI (AFS-420)	michael.j.rauchle@faa.gov	206-231-3719

Subject Matter Experts			
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Traver Farmer	Support Manager (TWDV1-D01)	james.t.farmer@faa.gov	303-342-1581

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SRM Panel Facilitation Team			
Garry Brown	Safety Risk Management Specialist/ Facilitator, QCG, WSC (AJV-W14)	garry.f.brown@faa.gov	206-231-2317
Larry Crowley	Safety Risk Management Specialist/ Facilitator, QCG, WSC (AJV-W14)	larry.crowley@faa.gov	206-231-2320
Ken Legary	Technical Writer, QCG, WSC (AJV-W14)	kenneth.ctr.legary@faa.gov	206-231-2319

ATTACHMENTS

- FNL Airport Diagram
- FNL Mobile Tower LOS-current
- FNL Mobile Tower LOS-current proposed

10/12/2023 Panel Review Draft

FNL Runway 06/24 Closure SRMD

EXECUTIVE SUMMARY

Title: FNL Runway 06/24 Closure
Change Proponent Organization: FNL FCT
Impacted Organizations: FNL FCT, D01, ZDV
Document Type: OPS

The Northern Colorado Regional Airport (FNL), at Fort Collins/Loveland, Colorado has two runways; Runway 15/33 is 8500 feet long by 100 feet wide, asphalt, Runway 15 has Precision Approach Path Indicators (PAPI) and Runway End Identifier Lights (REIL). Runway 33 has PAPIs and Medium Approach Light System with Runway Alignment Indicator Lights (MALSR). Runway 6/24 is 2273 feet long by 40 feet wide, asphalt, is used by helicopters or light aircraft when needed during windy conditions; otherwise, it is used as a taxiway. The approach end Runway 6 ties into Taxiway A from the east while the opposite end exits to the south onto a taxi-lane.

FNL proposes to keep Runway 6/24 closed (except for taxi) due to portions of Runway 6/24 not visible from the Mobile Air Traffic Control Tower (MATCT) until the transition to the Remote Tower can be accomplished. During high wind events, where the crosswind component to Runway 15/33 is too high; Runway 6/24 will not be available for landing/take-off. If pilots insist on using runway 6/24 during these times, controllers will be expected to follow FAA JO 7110.65AA, paragraph 3-3-2.

A Safety Risk Management (SRM) Panel met virtually and in person on 08/23/2023 to assess the change to the NAS and associated hazards. The SRM Panel was organized by the Serco and FNL FCT with support from the Western Service Center (WSC) Quality Control Group (QCG). The SRM Panel included attendees representing the Serco Management, FNL FCT, DEN ADO, WSC/OSG Airspace & Procedures, City of Loveland, Western Service Center (WSC) Operations Support Group (OSG), Runway Safety, Airport Authority, Aims College, the Fort Hill Group, FAA Flight Standards, and Serco.

The SRM Panel identified two hazards associated with loss of pilot and controller situational awareness. The SRM Panel found the hazard to have low initial and predicted residual risk. SRM Panel members determined the change can be introduced into the National Airspace System (NAS) with an acceptable level of risk as defined in the FAA Air Traffic Organization Safety Management System Manual.

Hazard Summary

Hazard ID	Hazard	Initial Risk	Predicted Residual Risk
1 FNL RWY 6-24	Loss of pilot situational awareness (Runway Excursion/Ground Loop (land on a runway with a high crosswind component))	4D: Low	4D: Low
1 FNL RWY 6-24	Loss of pilot situational awareness (Runway Incursion)	5B: Low	5B: Low
2 FNL RWY 6-24	Loss of controller situational awareness	5D: Low	5D: Low

Safety Requirements

Safety Requirement	Associated Hazard ID	Organization Responsible	POC Signature
None		N/A	

Monitoring Plan

Safety Performance Target	Associated Hazard ID
Less than one landing on a runway with a high crosswind component due to a loss of pilot situational awareness attributed to the runway closure.	1 FNL RWY 6-24
Less than thirty RIs per year for two years due to a loss of pilot situational awareness attributed to the Runway 6/24 closure.	1 FNL RWY 6-24
Less than one RI due to a loss of controller situational awareness attributed to the runway closure.	2 FNL RWY 6-24

SRMD SIGNATURES

Concurrence:

- Michael Valencia, Deputy Director of Operations, WSA Air Traffic Services (AJT-W) (North only: TWDV, TWSE, TWLC, TWAN)
- Tonya Patterson, Deputy Director of Operations (A), WSA Air Traffic Services (AJT-W) (South only: TWLA, TWHG, TWOA)
- Miles Magnuson, Senior Advisor (AJT-W)
- Sean Hopkins, Senior Advisor (AJT-W)
- Christopher Ramirez, Group Manager, QCG, WSC (AJV-W1)
- Byron Chew, Group Manager, OSG, WSC (AJV-W2)

Approval:

- Traver T. Farmer, Support Manager, D01 (TWDV1-D01)
- Les Habig, ATM, FNL MATCT, Serco

Risk Acceptance:

- Chad Hudgins (A), General Manager-Denver District (TWDV)

CURRENT SYSTEM

FNL has two runways; Runway 15/33 is 8500 feet long by 100 feet wide, asphalt, Runway 15 has PAPIs and REILs. Runway 33 has PAPIs and MALSRs. Runway 33/15 is the primary use runway, with runway 33 being the calm wind runway. It has been estimated that runway 33 is utilized 60% of the time when the Tower is open. Runway 6/24 is 2273 feet long by 40 feet wide, asphalt, is primarily used as a taxiway, with only occasional use for helicopters and small aircraft when needed during windy conditions. IFR circling is not authorized at night to runway 6/24. The approach end Runway 6 ties into Taxiway A from the east while the opposite end exits to the south onto a taxi-lane.

FNL operates in Class E airspace to the surface with a MATCT located near midfield, just north of taxiway charley and west of the commercial apron and only stands 15 feet tall. Runway usage is determined by the pilots and controller's observations usually based on Automated Weather Observing System (AWOS), with left traffic to all runways. Tower hours are 0800-1800 daily. D01 provides IFR services to the airport. IFR operations are one in one out (outside of tower hours). D01 relies on the pilots to cancel when on the ground or departing prior to void time. IFR clearances and releases are given through flight data/clearance delivery at D01 on frequency 120.25. In the last year there were 6,918 IFR operations into and out of the airport.

FNL conducted approximately 104,553 operations for November 2021- October 2022; 6,414 IFR/SVFR operations, 36,617 VFR itinerate aircraft, 60,857 local (touch and go) operations, and 665 IFR/VFR overflights. FNL has three fixed wing flight schools (one community college and two private). The lowest traffic month was January 2022 with 1,465 operations (due to extremely cold weather). The busiest month was October 2022 with 11,708 operations.

A NOTAM has been issued closing Runway 6/24 (except for taxi) due to portions of runway 6/24 not visible from the MATCT and outlining the limitations of the surface that before the closure was used mostly as a taxiway. The NOTAM is currently active.

DESCRIPTION OF CHANGE
FNL proposes to keep Runway 6/24 closed (except for taxi) due to portions of runway 6/24 not visible from the MATCT until the transition to the Remote Tower can be accomplished. During high wind events, where the crosswind component to Runway 15/33 is too high; Runway 6/24 will not be available for landing/take-off. If pilots insist on using runway 6/24 during these times, controllers will be expected to follow FAA JO 7110.65AA, paragraph 3-3-2.

3−3−2. CLOSED/UNSAFE RUNWAY INFORMATION
If an aircraft requests to takeoff, land, or touch-and-go on a closed or unsafe runway, inform the pilot the runway is closed or unsafe, and

a. If the pilot persists in his/her request, quote him/her the appropriate parts of the NOTAM applying to the runway and inform him/her that a clearance cannot be issued.
b. Then, if the pilot insists and, in your opinion, the intended operation would not adversely affect other traffic, inform him/her that the operation will be at his/her own risk.

PHRASEOLOGY−
RUNWAY (runway number) CLOSED/UNSAFE.
If appropriate, (quote NOTAM information),
UNABLE TO ISSUE DEPARTURE/LANDING/TOUCH−AND−GO CLEARANCE.
DEPARTURE/LANDING/TOUCH−AND−GO WILL BE AT YOUR OWN RISK.

c. Except as permitted by paragraph 4−8−7, Side-Step Maneuver, where parallel runways are served by separate ILS systems and one of the runways is closed, the ILS associated with the closed runway should not be used for approaches unless not using the ILS would have an adverse impact on the operational efficiency of the airport.

Assumption:
1. Current NOTAM for closure of Runway 6/24 will be reviewed by OSG (currently waiting for input from HQ) to determine if NOTAM will be required in the future.
2. The airport will update the directory stating current Runway 6/24 status (based on the response from assumption 1).

HAZARD IDENTIFICATION and RISK DETERMINATION
The SRM Panel conducted an in-depth analysis of the FNL Runway 06/24 Closure with a focus on LOS issues that impact airfield movement areas and air traffic operations. The SRM Panel applied the ATO SRM process, beginning with a Preliminary Hazard List (PHL). Using the PHL as a foundation for completing the Hazard Analysis Worksheet (HAW), SRM Panel attendees analyzed each hazard to determine cause, system state, controls, and effects. SRM Panel members determined severity, likelihood, and initial/predicted residual risk; and attendees had the opportunity to identify Safety Requirements and determined Safety Performance Targets.

SRM Panel attendees reviewed the airport diagram, google maps pictures, and discussed operations with the current NOTAM in place, closure impacts, controls, potential hazards, and data. Attendees talked about runway use and the type aircraft at FNL including traffic count and hours of operations. Attendees added that back taxi and runway crossings are not used normally. They pointed out that there are no Hot Spots on the airport and described the taxi routes that are used during normal operations and the closure of Runway 6/24.

SRM Panel attendees said that the Line of Sight (LOS) from the MATCT to the approach end of Runway 24 and Taxiway F has been affected by various pieces of equipment, mounds of dirt, and vehicles used for the construction project near the terminal ramp, this includes a work trailer. They said that LOS will also be affected by the future position of the new terminal (see the attachment). Attendees talked about the procedures that are in place in case an emergency aircraft needed to use Runway 6/24 and taxi instructions used for aircraft not visible from the MATCT. They mentioned that Runway 6/24 is normally used 30 to 50 times a year and mostly as a taxiway.

SRM Panel attendees discussed the possibility of a adding an LTA (advising for an area of non-visibility) to the NOTAM already in place. Attendees said that various combinations of an LTA and/or NOTAM has been used at other locations to alert pilots on runway closures that may be used under certain situations. Controller attendees talked about memory aides used in the MATCT that include a Traffic Management Board (TMB) and use of marked or colored chips to indicate occupied or closed surfaces. Attendees mentioned that the MATCT will add any known NOTAMS to pre-duty briefings and outreach to users. Controls will be in place, as they are today, for opening and closing movement areas during the closure of Runway 6/24.

SRMP Panel attendees said the closure of Runway 6/24 as per the NOTAM will not significantly change operations at FNL. SRMP members talked about controls that assist and alert operators, pilots, and controllers to the runway(s) configuration changes. They estimated that 99 percent of the time air traffic instructions should be unchanged, and pilots will be aware of the surface conditions as they are today.

HAZARD ANALYSIS WORKSHEET (HAW)

1.	2.	3.	4.	5.	6.
Hazard ID	**Hazard Description**	**Cause**	**System State**	**Controls**	**Control Justification**
1 FNL RWY 6-24	Loss of pilot situational awareness	• Pilot unaware that Runway 6/24 is available for landing/departing at their own risk when the tower is open and air traffic control cannot visually ensure that the runway is clear for use. • Pilot unaware that Runway 6/24 is a usable surface however air traffic control cannot visually ensure that the runway is clear for use. • Pilot unaware that a portion of Runway 6/24 is not visible from the tower and air traffic control cannot visually ensure that the runway is clear for use. • Pilot unaware that they can continue to ask to use Runway 6/24 after the tower states unavailable. • NOTAM is creating uncertainty with the usability of Runway 6/24	0800-1800L All flows VFR/IFR	JO 7110.65, JO 7210.3, SOP, LOAs, ATIS, ASOS, surface memory aid, ACAC checklist, AC 150/5210-20, AC 150/5210-24, AC 150/5340-1, AC 150/5340-18, AC 150/5370-2, FAR Part 139, CSPP, controller/ pilot/driver training, controller/pilot intervention, ATC scanning, frequency monitoring, TMB, operational supervision, NOTAM, charts, AIM, outreach, CRM, daily briefings/notes	JO 7110.65: Chap. 2, Sec. 1, 2-1-1, 2-1-2, 2-1-4, 2-1-26; Sec. 4, 6; 9, 10; Chap. 3, Sec. 1, 2, 3, 4, 5, 7, 8, 9, 10, 11; Chap. 4, 5; JO 7110.65 - Class E airspace; Chap. 10, 11; JO 7210.3: Part 1, Chap. 2, Sec. 1, 2-1-2, Sec. 2, 2-2-3, 2-2-11, Sec. 6, 2-6-1, 2-6-2, 2-6-3; Chap. 3, 4 Sec. 3; Part 3, Chap.10, Sec. 1, 10-1-2, 10-2-1, 10.3-12; Sec. 6, Part 5, Chap. 18, Outreach: Ops briefs to community, 10-8

7.	8.	9.	10.	11.	12.
Effect	**Severity**	**Severity Rationale**	**Likelihood**	**Likelihood Rationale**	**Initial Risk**
Runway Excursion/Ground Loop (land on a runway with a high crosswind component)	4: Minor	Based on the Table definition, no more than two indicators, data, controls in place, no other aircraft should be involved, pilots will be able to land	D: Extremely Remote	Data, controls in place location of the work, numbers from Table 3.6, probability should low, usage of that surface is not high	4D: Low
Runway Incursion (RI)	5: Minimal	Based on the Table definition, data, controls in place, pilots will be able to land if needed	B: Probable	Data, controls in place location of the work, numbers from Table 3.6, not many chances of happening	5B: Low

13a.	13b.	14a.	14b.
Safety Requirement Description	**Planned for Implementation ?**	**Organization Responsible for Implementing Safety Requirement**	**POC**
None		N/A	
None		N/A	

15a.	15b.
Predicted Residual Risk	**Predicted Residual Risk Rationale**
4D: Low	No Safety Requirements were identified so the Predicted Residual Risk is 4D: Low
5B: Low	No Safety Requirements were identified so the Predicted Residual Risk is 5B: Low

16.
Safety Performance Target
Less than one landing on a runway with a high crosswind component due to a loss of pilot situational awareness attributed to the runway closure.
Less than thirty RIs per year for two years due to a loss of pilot situational awareness attributed to the Runway 6/24 closure.

Safety Performance Target Monitoring Plan				
Monitoring Activity	**Monitoring Start Date**	**Reporting Frequency**	**Reporting Duration**	**Monitoring POC**
Review MORs	today	Every month	2 years	Les Habig

1.	2.	3.	4.	5.	6.
Hazard ID	**Hazard Description**	**Cause**	**System State**	**Controls**	**Control Justification**
2 FNL RWY 6-24	Loss of controller situational awareness	Air traffic controllers cannot verify the position of aircraft in areas of non-visibility	0800-1800L All flows VFR/IFR	JO 7110.65, JO 7210.3, SOP, LOAs, ATIS, TMB, ASOS, surface memory aid, ACAC checklist, AC 150/5210-20, AC 150/5210-24, AC 150/5340-1, AC 150/5340-18, AC 150/5370-2, FAR Part 139, CSPP, controller/ pilot/driver training, controller/pilot intervention, ATC scanning, frequency monitoring, operational supervision, NOTAM, charts, AIM, outreach, CRM, daily briefings/notes	JO 7110.65: Chap. 2, Sec. 1, 2-1-1, 2-1-2, 2-1-4, 2-1-26; Sec. 4, 6; 9, 10; Chap. 3, Sec. 1, 2, 3, 4, 5, 7, 8, 9, 10, 11; Chap. 4, 5; JO 7110.65 - Class E airspace; Chap. 10, 11; JO 7210.3: Part 1, Chap. 2, Sec. 1, 2-1-2, Sec. 2, 2-2-3, 2-2-11, Sec. 6, 2-6-1, 2-6-2, 2-6-3; Chap. 3, 4 Sec. 3; Part 3, Chap.10, Sec. 1, 10-1-2, 10-2-1, 10.3-12; Sec. 6, Part 5, Chap. 18, Outreach: Ops briefs to community, 10-8

7.	8.	9.	10.	11.	12.
Effect	**Severity**	**Severity Rationale**	**Likelihood**	**Likelihood Rationale**	**Initial Risk**
RI	5: Minimal	Based on the Table definition, data, controls in place, could happen, crosswind component, could divert	D: Extremely Remote	Data, controls in place location of the work, numbers from Table 3.6, crosswind component	5D: Low

13a.	13b.	14a.	14b.
Safety Requirement Description	**Planned for Implementation ?**	**Organization Responsible for Implementing Safety Requirement**	**POC**
None		N/A	

15a.	15b.
Predicted Residual Risk	**Predicted Residual Risk Rationale**
5D: Low	No Safety Requirements were identified so the Predicted Residual Risk is 5B: Low

16.
Safety Performance Target
Less than one RI due to a loss of controller situational awareness attributed to the runway closure.

Safety Performance Target Monitoring Plan				
Monitoring Activity	**Monitoring Start Date**	**Reporting Frequency**	**Reporting Duration**	**Monitoring POC**
Review MORs	today	Every month	2 years	Les Habig

MONITORING PLANS

1	**Safety Performance Target**	Less than one landing on a runway with a high crosswind component due to a loss of pilot situational awareness attributed to the runway closure.
2	**Hazard ID**	1 FNL RWY 6-24
3	**Initial Risk**	4D: Low
4	**Safety Requirement**	None
5	**Organization Responsible for Implementing Safety Requirement**	N/A
6	**Predicted Residual Risk**	4D: Low
7	**Monitoring POC**	Les Habig, ATM, FNL FCT (TWDV1-FNL)
8	**Monitoring Activities**	Review MORs
9	**Monitoring Start Date**	today
10	**Reporting Frequency**	Every month
11	**Reporting Duration**	Two years

1	**Safety Performance Target**	Less than thirty RIs per year for two years due to a loss of pilot situational awareness attributed to the Runway 6/24 closure.
2	**Hazard ID**	1 FNL RWY 6-24
3	**Initial Risk**	4D: Low
4	**Safety Requirement**	None
5	**Organization Responsible for Implementing Safety Requirement**	N/A
6	**Predicted Residual Risk**	4D: Low
7	**Monitoring POC**	Les Habig, ATM, FNL FCT (TWDV1-FNL)
8	**Monitoring Activities**	Review MORs
9	**Monitoring Start Date**	today
10	**Reporting Frequency**	Every month
11	**Reporting Duration**	Two years

1	**Safety Performance Target**	Less than one RI due to a loss of controller situational awareness attributed to the runway closure.
2	**Hazard ID**	2 FNL RWY 6-24
3	**Initial Risk**	5B: Low
4	**Safety Requirement**	None
5	**Organization Responsible for Implementing Safety Requirement**	N/A
6	**Predicted Residual Risk**	5B: Low
7	**Monitoring POC**	Les Habig, ATM, FNL FCT (TWDV1-FNL)
8	**Monitoring Activities**	Review MORs
9	**Monitoring Start Date**	today
10	**Reporting Frequency**	Every month
11	**Reporting Duration**	Two years

SRM PANEL ATTENDEES

The SRM Panel convened on 08/23/2023 to perform an in-depth safety analysis of the proposed NAS change. SRM Panel members and SMEs leveraged their operational experience and experts in the SRM process maintained its integrity. The following table lists SRM Panel attendees.

Name	**Title/Organization**	**E-Mail**	**Phone**
Change Proponent			
Les Habig	ATM, FNL FCT (TWDV1-FNL)	leslie.habig@serco-na.com	720-891-1639
SRM Panel Members			
Jerry Alvarado	Area Manager, Serco	galvarado@serco-na.com	--
Les Habig	ATM, FNL FCT (TWDV1-FNL)	leslie.habig@serco-na.com	720-891-1639
Mike Rauchle	ASI (AFS-420)	michael.j.rauchle@faa.gov	206-231-3719
Subject Matter Experts			
Matthew Eckman	Runway Safety (AJI-144)	matthew.a.eckman@faa.gov	206-231-2288
Traver Farmer	Support Manager (TWDV1-D01)	james.t.farmer@faa.gov	303-342-1581

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Gus Ramirez	Flight Instructor, Aims College	alexander.wernsman@aims.edu	--
Francis Robbins	Manager, Airport Maintenance	francis.robbins@cityoflovelend.org	--
Sara Rose	ATC Specialist (AJV-W29)	sara.rose@faa.gov	206-231-2253
David Ruppel	Airport Director, FNL	david.ruppel@cityoflovelend.org	970-962-2850
John Sweeney	Comm. Planner (ANM-DEN-ADO)	john.sweeney@faa.gov	303-342-1263
Susan Wolber	Pilot, FNL	susan.wolber@gmail.com	970-691-5933

Observers			
Katie Berry	Fort Hill Group	katie.berry@forthillgroup.com	--
Rebecca Collins	Fort Hill Group	rebecca.collins@forthillgroup.com	--
Matt Csicsery	Safety Specialist (AJV-W14)	mathias.j-ctr.csicsery@faa.gov	206-231-2417
Michael Cutino	(AJT-2210)	michael.j.cutino@faa.gov	--
Steve Hedden	Tech Writer, QCG, WSC (AJV-W14)	stephen.hedden@faa.gov	206-231-2324
Lori Smith	Fort Hill Group	lori.smith@forthillgroup.com	--

SRM Panel Facilitation Team			
Garry Brown	Safety Risk Management Specialist/ Facilitator, QCG, WSC (AJV-W14)	garry.f.brown@faa.gov	206-231-2317
Larry Crowley	Safety Risk Management Specialist/ Facilitator, QCG, WSC (AJV-W14)	larry.crowley@faa.gov	206-231-2320
Ken Legary	Technical Writer, QCG, WSC (AJV-W14)	kenneth.ctr.legary@faa.gov	206-231-2319

ATTACHMENTS

- FNL Airport Diagram
- FNL Mobile Tower LOS-current
- FNL Mobile Tower LOS-current proposed

Attachment 2

From: Jared Bass
Sent: Tuesday, August 19, 2025 2:14 PM
To: Kelly Pride <kelly.pride@cityofloveland.org>
Cc: aaron.ehle@cityofloveland.org; John Kinney <john.kinney@cityofloveland.org>; Dylan Swanson <dylan.swanson@cityofloveland.org>
Subject: RW 6-24 Pavement Maintenance Costs

FNL Runway 6-24 Pavement Maintenance Plan		
Year	**Recommendation**	**Cost**
2025	Reconstruction	$2.6M
2030	Crack Seal & Seal Coat	$650k
2035	Crack Seal & Seal Coat	$775K
2040	Mill and Overlay	$3.1M
2045	Crack Seal & Seal Coat	$1.1M

Best Regards,

Jared Bass, P.E. (AZ, CA, CO, ID, UT, WY)
Vice President
Airport Development – Group Leader

p 303.872.5756 | m 805.815.2160
2696 South Colorado Blvd. Suite 330 | Denver, CO 80222

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From:	Minnich, Todd E (FAA)
To:	John Kinney
Cc:	Aaron Ehle; Kelly Pride; Troy Bliss; "Jared Bass"; Keith, Kevin A (FAA); Lyman, Jesse A (FAA)
Subject:	[External] FNL Runway 6-24
Date:	Thursday, August 28, 2025 9:32:02 AM

Hi John,

After review of Runway 6-24 we have found that it does not meet the eligibility requirements for Reauthorization Program Guidance Letter (R-PGL) 25-01: Runway Projects / Bill Section 702(2)(G), Legacy Crosswind Runways. There is no finding that Runway 6-24 has received federal funding for construction, rehabilitation, or reconstruction as a crosswind runway.

Further, Runway 6-24 does not currently meet the requirements to be eligible as a crosswind runway as Runway 15-33 has wind coverage on the primary runway of more than 95%.

Regards,

Todd E Minnich
Civil Engineer
FAA Denver Airports District Office
26805 E. 68th Ave., Suite 224
Denver, CO 80249
(303) 342-1279

From: Jared Bass
Sent: Wednesday, August 20, 2025 10:04 AM
To: John Kinney <john.kinney@cityofloveland.org>
Cc: Dylan Swanson <dylan.swanson@cityofloveland.org>; aaron.ehle@cityofloveland.org
Subject: FNL RW 6-24 Non-Standard Items

John,

Please see list of non-conforming items to reference at Thursday's meeting. This was a quick review so it may not include everything.

- Runway Length / End Points
  - Remove non-standard aligned taxiway condition on the Runway 6 end
  - Create displaced threshold, usable runway
  - Effectively lengthens the runway by 83' to 2,272' total
- Runway Width
  - Grade & widen from 40' to 60'
- Runway Safety Area (RSA)
  - Widen to 120' from approx. 90'
  - Requires grading approx. 15 feet on either side
  - Improve/extend culvert for major airport drainage ditch
- Runway Lighting
  - Relocate edge reflectors and/or replace with LIRL
  - Remove Taxiway A light x1 and add runway end reflectors/lights on Runway 6 end
  - Relocate + add one runway end reflectors/lights on Runway 24 end
- Runway Markings
  - Update runway markings to reflect runway widening
  - Update runway markings to reflect displaced threshold on Runway 6 End
- Taxiway A & Taxilane F Geometry
  - Sawcut and remove excess pavement to standard ADG II - TDG 2A geometry
  - Grade Taxiway Safety Area (TSA)
- Taxiway Markings
  - Update & set back runway hold position markings to 125' from centerline
  - Update taxiway centerline markings
- Runway/Taxiway Signage
  - Set back runway hold position signs to 125' from centerline
- Part 77 Approach Surface
  - ALP Sheet 11 has identified Obstruction No. 47 as penetrating the Part 77. I'm not sure what that is, it just says pole. Could be a RVR or a wind cone. I don't think this needs mitigation since we're not moving the TSS, but I thought I'd mention it.

Thanks,

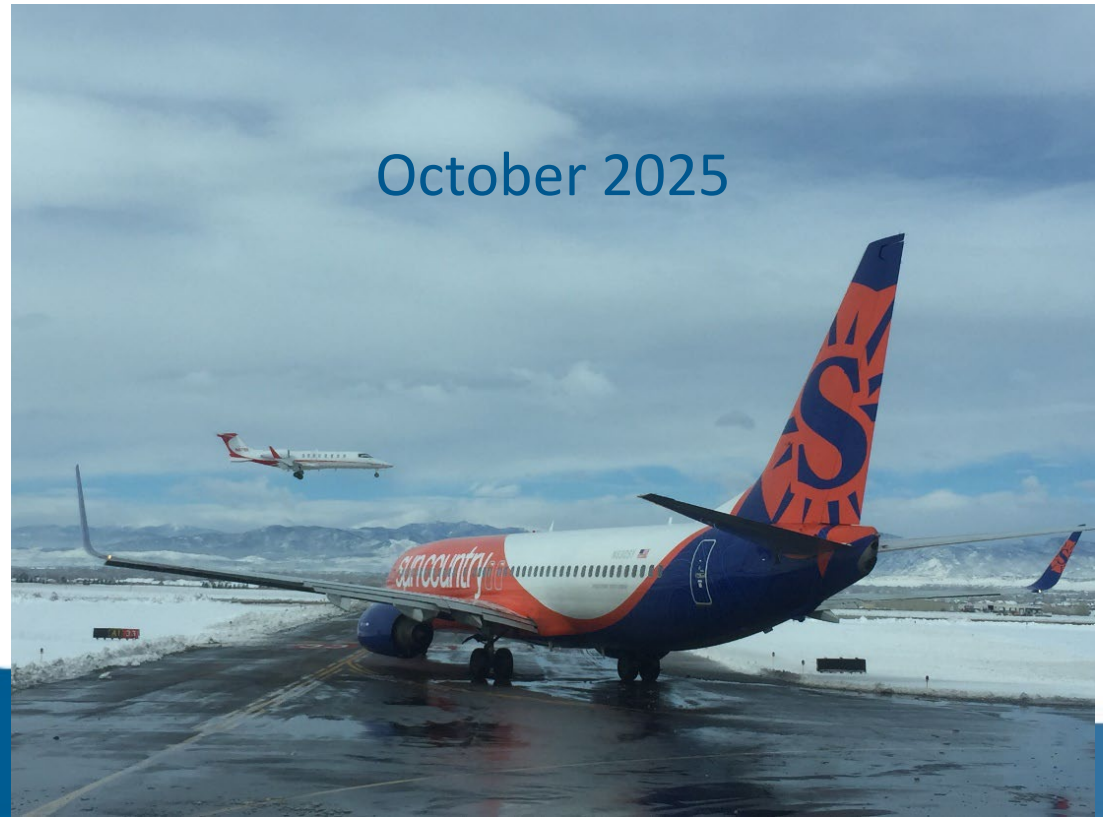
Jared Bass, P.E. (AZ, CA, CO, ID, UT, WY)
Vice President
Airport Development – Group Leader

p 303.872.5756 | m 805.815.2160
dibblecorp.com

NORTHERN COLORADO
REGIONAL AIRPORT

FNL Winter Operations
Annual Stakeholder Meeting

October 2025



Introduction

NORTHERN COLORADO REGIONAL AIRPORT

- Purpose: Provide information needed to maintain safe operations and understand Airport procedures during winter conditions.
  - Safety is the number 1 priority

Agenda

NORTHERN COLORADO REGIONAL AIRPORT

- Introduction
- Winter Operations
  - What's New?
  - FAA Requirements
  - Winter Weather Event Planning
  - Pavement Prioritization
  - Equipment and Tactics
  - Runway Condition Code (RwyCC) and Runway Condition Assessment Matrix (RCAM) Communication
- Equipment Familiarization
- Open to additional questions and comments -

2025 Updates and Communication

NORTHERN COLORADO REGIONAL AIRPORT

- Mobile ATC Tower 0800-1800 Local
  - TOWER/CTAF 118.400 MHz GROUND 121.650 MHz
- Aircraft De-Ice
  - JetCenter 130.575 MHz *ICEMAN*
  - Type I: Cryotech Polar Plus LT, Mixed 60/40, Hot
  - Type IV: Cryotech Polar Guard Xtend, Cold
  - Jet Center Deicing Waiver and Procedures
- FNL Snow Bosses: **24 hr EMERGENCY On-Call 970-614-4040**
  - Dylan Swanson - Manager
  - Office: 970.962.2853
  - Mobile: 970.699.2893
  - Dylan.Swanson@cityofloveland.org

  Simeon Anderson - Lead Ops Tech
  Office: 970.962.2860
  Mobile: 970.702.3092
  Simeon.Anderson@cityofloveland.org

FAA Regulatory Requirements

NORTHERN COLORADO REGIONAL AIRPORT

- FNL is classified as a certificated airport under Title 14 of the Code of Federal Regulations (CFR/FAR) Part 139
  - Requires the highest levels of safety and security practices to include a FAA approved Snow and Ice Control Plan.
- Regulations guide our standards and priorities.
  - Prioritization of pavements
  - Emergency access
  - Adapt plan based on operations and conditions in the storm
  - **NOTAMs: PRIMARY source for Closures & RCAM (Runway Condition Assessment Matrix)**

Snow Event Planning

NORTHERN COLORADO REGIONAL AIRPORT

- Snow Boss
  - Designated prior to the start of the snow event
  - Has authority to:
    - Close and/or open any surface (Runway or Taxiway),
    - Assign personnel to duties (Equipment, Location)
    - Call for De-ice chemical
    - Primary contact point for pilots
- Communication
  - Use CTAF only during hours that the tower is not operating (118.4) and Cell Phones
  - Email communications from the airport will be sent before, during, and after the event, contingent upon operational capacity and conditions

Pre-Planning Snow Event

NORTHERN COLORADO REGIONAL AIRPORT

- Determine scope of snow event
  - Overnight vs multi day
  - 12 hr continuous shift limit: 5 total Operators
- Check scheduled flights
  - Based Operators: Please email scheduled flights to airport@CityofLoveland.org
  - Coordinate with FBO
- Determine initial plan
  - Start Time (Immediate vs Overnight Runway Closure)
- Communicate plan with stakeholders
  - Direct contact (phone and email)
  - NOTAMS (In advanced where possible)

Pavement Priorities

NORTHERN COLORADO REGIONAL AIRPORT

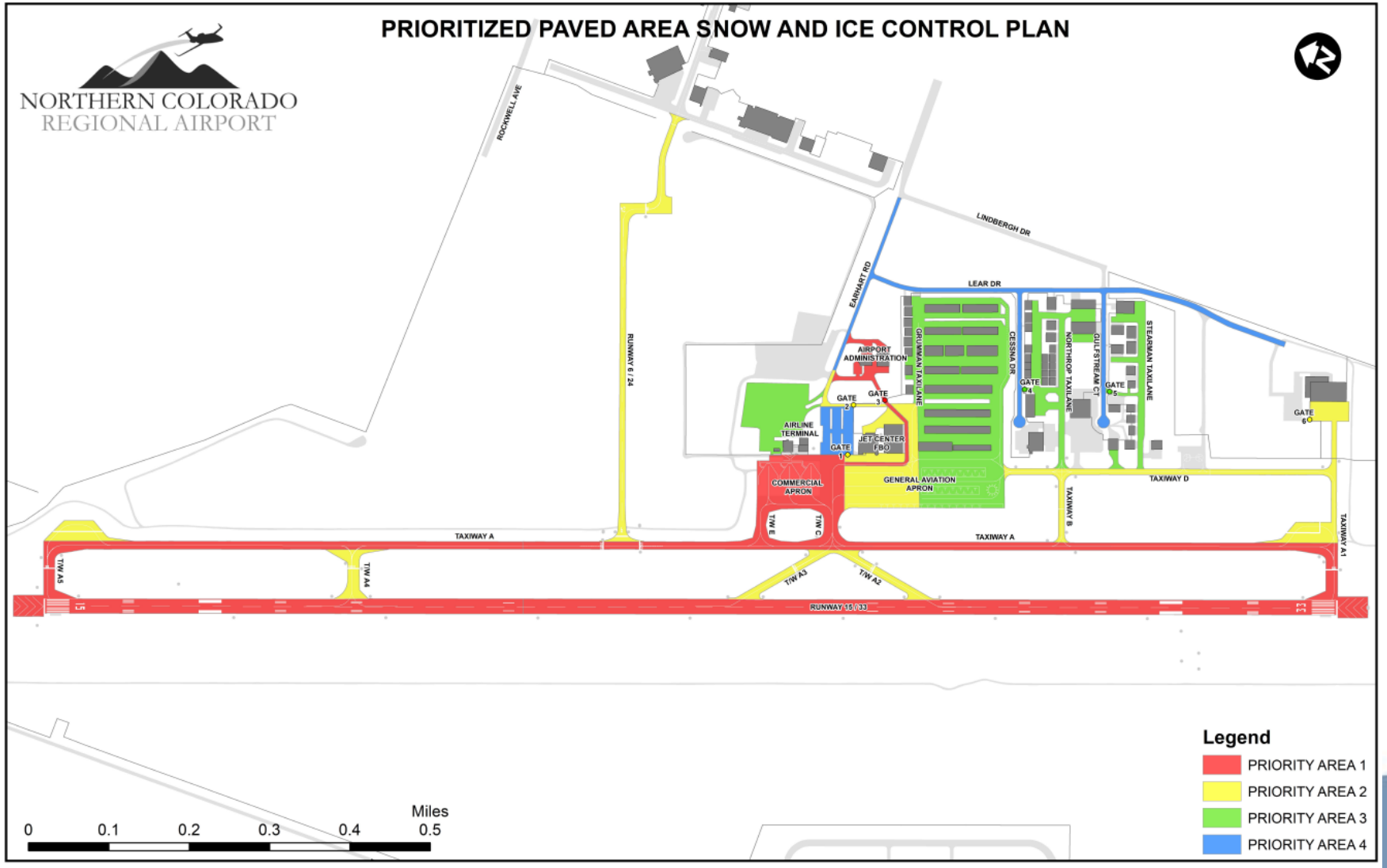
Aircraft safety is our top priority.

Priority 1 -Primary runway, taxiway, parking, and Emergency Access.

Priority 2 - Secondary runway and taxiways.

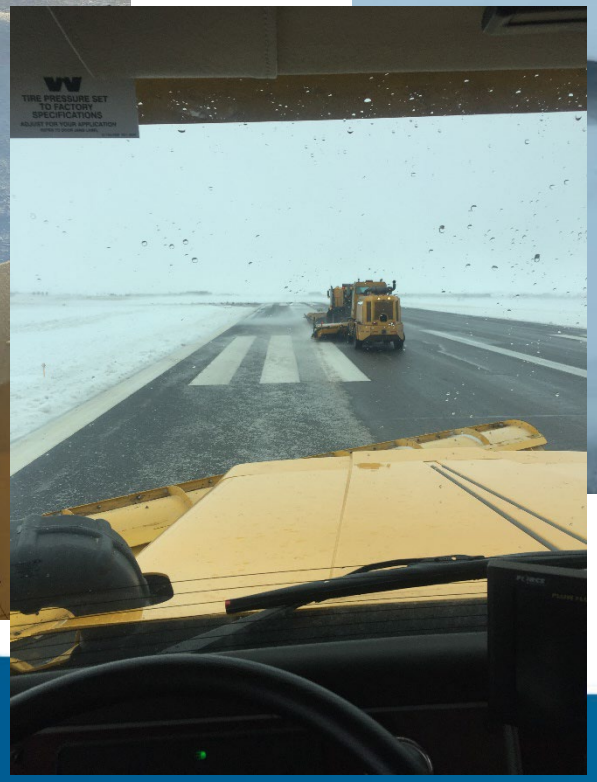
Priority 3 -Remaining ramp and between hangars.

Earhart Rd off airport property is plowed by the City of Loveland Snow Plows



Snow Removal Equipment

NORTHERN COLORADO REGIONAL AIRPORT



Airfield Snow Removal Equipment

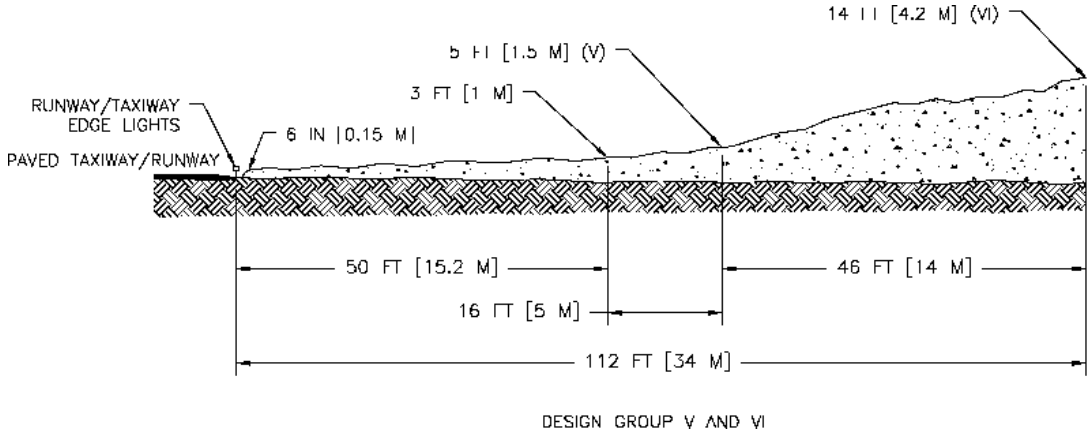
NORTHERN COLORADO REGIONAL AIRPORT

- Broom Trucks QTY: 2
  - Best removing up to ½ inch snow
- Runway Plows QTY: 3
  - Best removing over ½ inch snow
- High Speed Blower QTY: 1
  - Best removing piled snow
- Articulating Plow QTY: 1
  - Best removing snow on apron and hangars
- De-Ice Equipment QTY: 2
  - 1 Granular and 1 Liquid

Committed to Safe Snow Placement

NORTHERN COLORADO REGIONAL AIRPORT

Safe Snow Piles



Unsafe Snow Piles

Runway Condition Reporting Changes

NORTHERN COLORADO REGIONAL AIRPORT

- Advisory Circular 150/5200-30D issued 2016
  - **Does Away with reporting Mu values**
  - Runway condition based on contaminant type and depth
  - Evaluate surface with Runway Condition Assessment Matrix (RCAM)
    - Evaluate each third of the runway based on contaminate
    - FNL Touchdown, Midpoint, Rollout
  - NOTAMs will include Runway Condition Codes (RwyCC)
    - RwyCC 6 = Clear Dry Pavement
    - RwyCC Publishable Range 5-1
    - RwyCC 0 = Nil Breaking Action **RUNWAY REQUIRED TO BE CLOSED**
      - TRACON Notification

R

C

A

M

NORTHERN COLORADO REGIONAL AIRPORT

Assessment Criteria		Downgrade Assessment Criteria		
Runway Condition Description	**Code**	**Mu (μ) [1]**	**Vehicle Deceleration or Directional Control Observation**	**Pilot Reported Braking Action**
• Dry	6	40 or Higher	---	---
• Frost • Wet (Includes Damp and 1/8 inch depth or less of water) ***1/8 inch (3mm) depth or less of:*** • Slush • Dry Snow • Wet Snow	5	40 or Higher	Braking deceleration is normal for the wheel braking effort applied AND directional control is normal.	Good
5° F (-15°C) and Colder outside air temperature: • Compacted Snow	4	39 to 30	Braking deceleration OR directional control is between Good and Medium.	Good to Medium
• Slippery When Wet (wet runway) • Dry Snow or Wet Snow (Any depth) over Compacted Snow ***Greater than 1/8 inch (3mm) depth of:*** • Dry Snow • Wet Snow ***Warmer than 5° F (-15°C) outside air temperature:*** • Compacted Snow	3	39 to 30	Braking deceleration is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.	Medium
Greater than 1/8 (3mm) inch depth of: • Water • Slush	2	29 to 21	Braking deceleration OR directional control is between Medium and Poor.	Medium to Poor
• Ice [2]	1	29 to 21	Braking deceleration is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.	Poor
• Wet Ice [2] • Slush over Ice • Water over Compacted Snow [2] • Dry Snow or Wet Snow over Ice [2]	0	20 or Lower	Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain.	Nil

NOTAM Distribution List

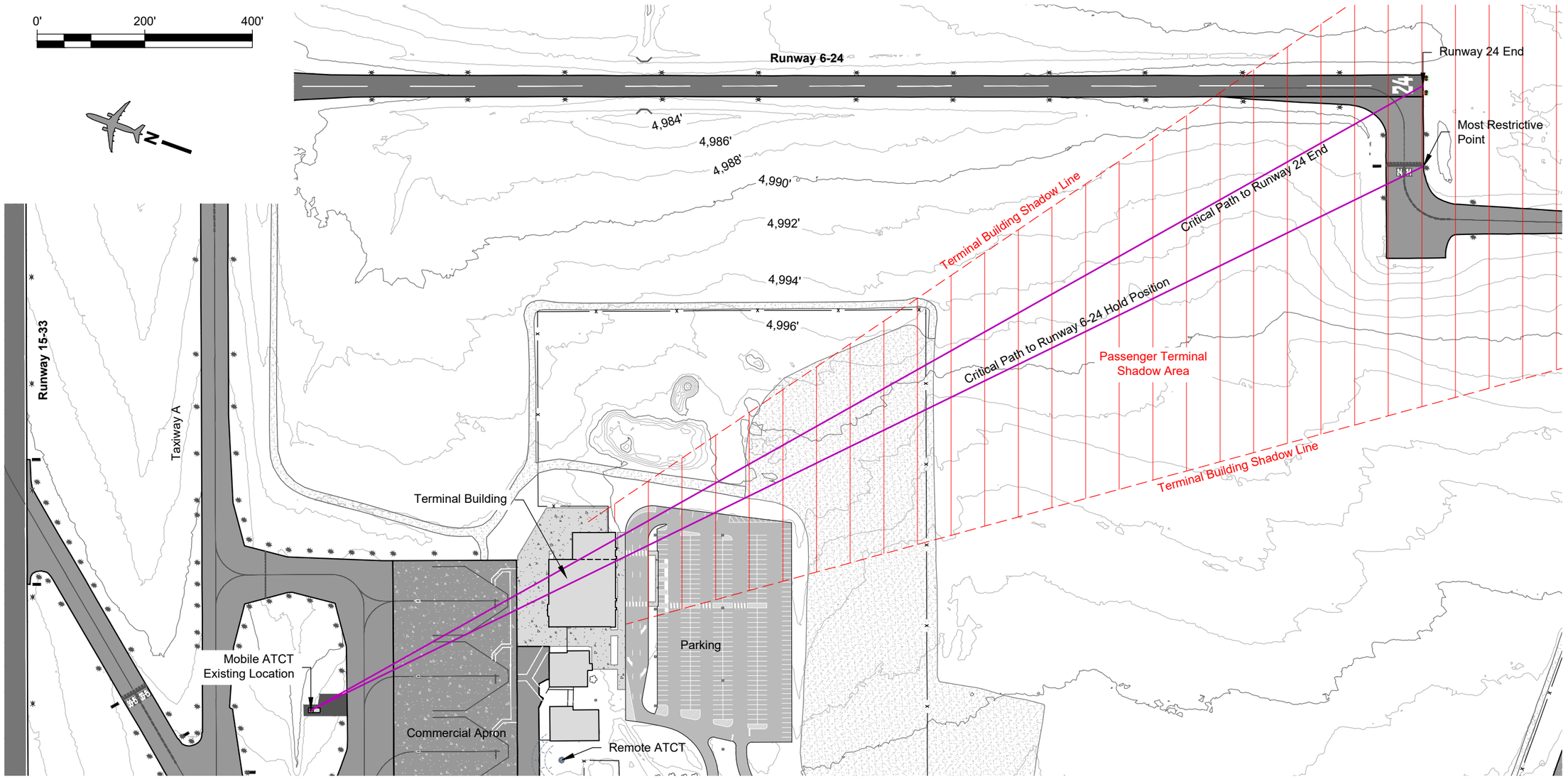
NORTHERN COLORADO REGIONAL AIRPORT

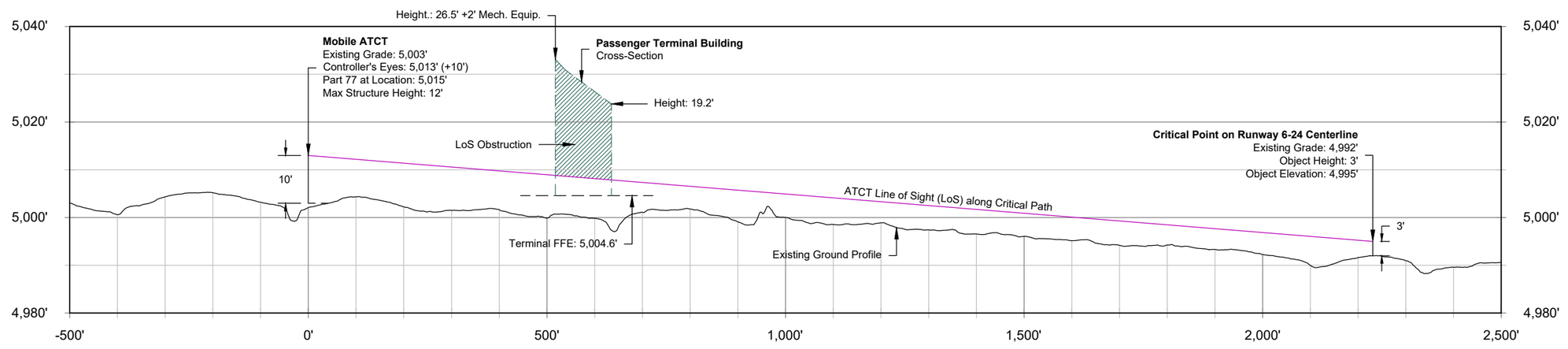
- Again, Primary source for Airport closures and conditions

- If you'd like to receive NOTAM alerts from FNL
- Please email Simeon.Anderson@cityofloveland.org:
  - Name, email, phone number, company

Additional Questions?

NORTHERN COLORADO
REGIONAL AIRPORT





Profile View along Critical Path

Profile View NTS

NORTHERN COLORADO REGIONAL AIRPORT

DIBBLE

Legend:

- Existing Facilities
- Paths from Existing
- Terminal Shadow

Notes:

- ATCT: Air Traffic Control Tower
- FFE: Finished Floor Elevation
- LoS: Line of Sight
- Any object on movement area surfaces taken to be 3 feet above ground per FAA Order 6480.4A, *Airport Traffic Control Tower Siting Process.*

Not For Construction

D R A F T

Scale based on a 11"x17" sheet.

Northern Colorado Rgnl'

Exiting Mobile Tower
Line of Sight to Runway 6-24

Date: 06.09.25

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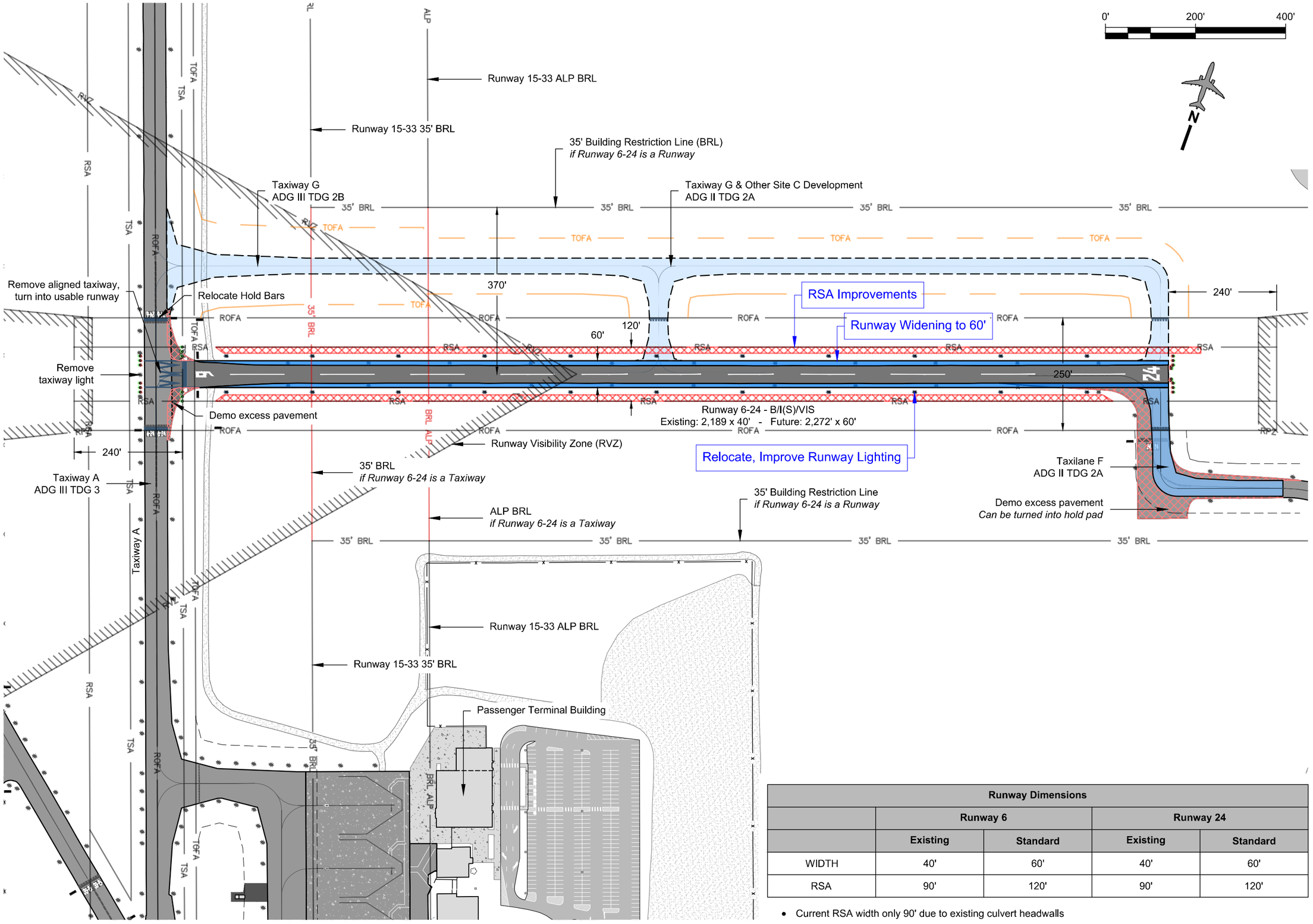

Runway Dimensions				
	Runway 6		Runway 24	
	Existing	Standard	Existing	Standard
WIDTH	40'	60'	40'	60'
RSA	90'	120'	90'	120'

- Current RSA width only 90' due to existing culvert headwalls

NORTHERN COLORADO REGIONAL AIRPORT

DIBBLE

Legend:

- Existing Facilities
- Future Development
- Other Development

Notes:

- RDC for Runway 6-24 is B-I(S)/VIS per current FAA-Approved ALP
- (S) denotes an Utility Runway, i.e. runways designed for aircraft with gross weights under 12,500 lbs
- Taxiway F designed using ADG II and TDG 2A, per current FAA-Approved ALP
- Mitigation of the aligned taxiway to the Runway 6 End generates additional runway available for takeoff for Runway 6 only.
- Runway longitudinal gradients are suitable for an AAC A/B runway.

Abbreviations:

- AAC: Aircraft Approach Category
- ADG: Airplane Design Group
- ASDA: Accelerate-Stop Distance Available
- BRL: Building Restriction Line
- LDA: Landing Distance Available
- RDC: Runway Design Code
- TDG: Taxiway Design Group
- TORA: Take Off Run Available
- TODA: Take Off Distance Available

Not For Construction

D R A F T

Scale based on a 11"x17" sheet.

Northern Colorado Rgnl'
Runway 6-24
Standard Runway Geometry
Date: 06.09.25

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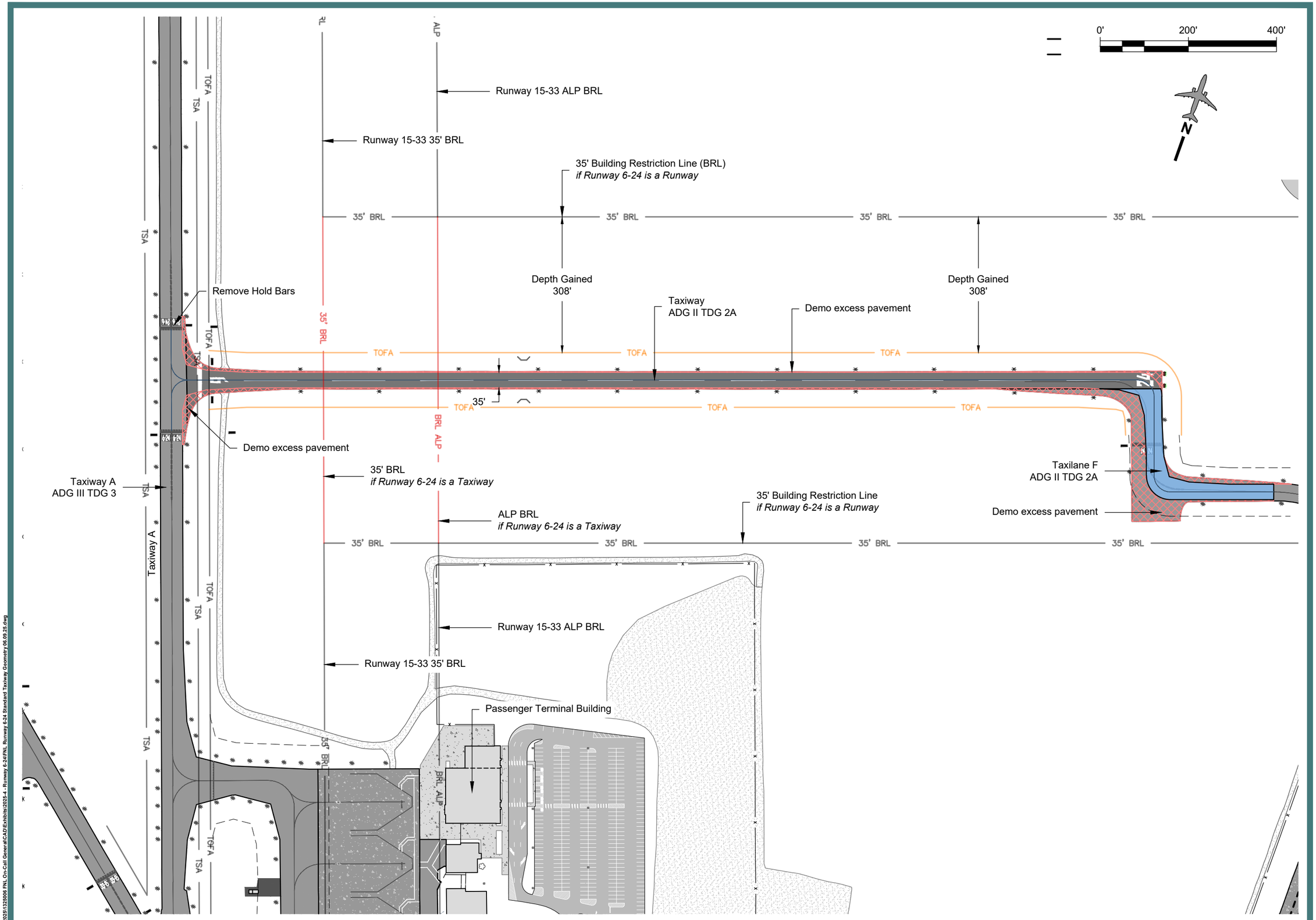

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NORTHERN COLORADO REGIONAL AIRPORT

DIBBLE

Legend:

- Existing Facilities
- Future Development

Notes:

- More suitable alternate alignments for this taxiway may exist. Recommend a comprehensive master development plan if Runway 6-24 is decommissioned.

Abbreviations:

- AAC: Aircraft Approach Category
- ADG: Airplane Design Group
- BRL: Building Restriction Line
- TDG: Taxiway Design Group

Not For Construction

D R A F T

Scale based on a 11"x17" sheet.

Northern Colorado Rgnl'
Runway 6-24
Standard Taxiway Geometry
Date: 06.09.25