

Where is the Jet Noise over Bellevue? Runway 12-30 Reconstruction Project Offutt AFB, NE

SAME Omaha Post Meeting

12 August 2021



Runway 12-30 Reconstruction Story: 2015 - 2023

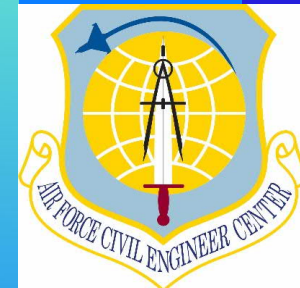


- History
- Mission
- Runway Conditions
- Goal and Alternatives
- Design
 - Offutt AFB
 - Lincoln Airport
- Bidding
- Construction



USAF Photo

Thank You. Offutt Runway Project Team



Runway 12-30 Reconstruction Story: 100 Years of Flying at Offutt

■ History

- 1896: Fort Crook
- 1921: First use as airfield
- 1942: Martin Bomber Plant
- 1948: Offutt AFB, Strategic Air Command HQ

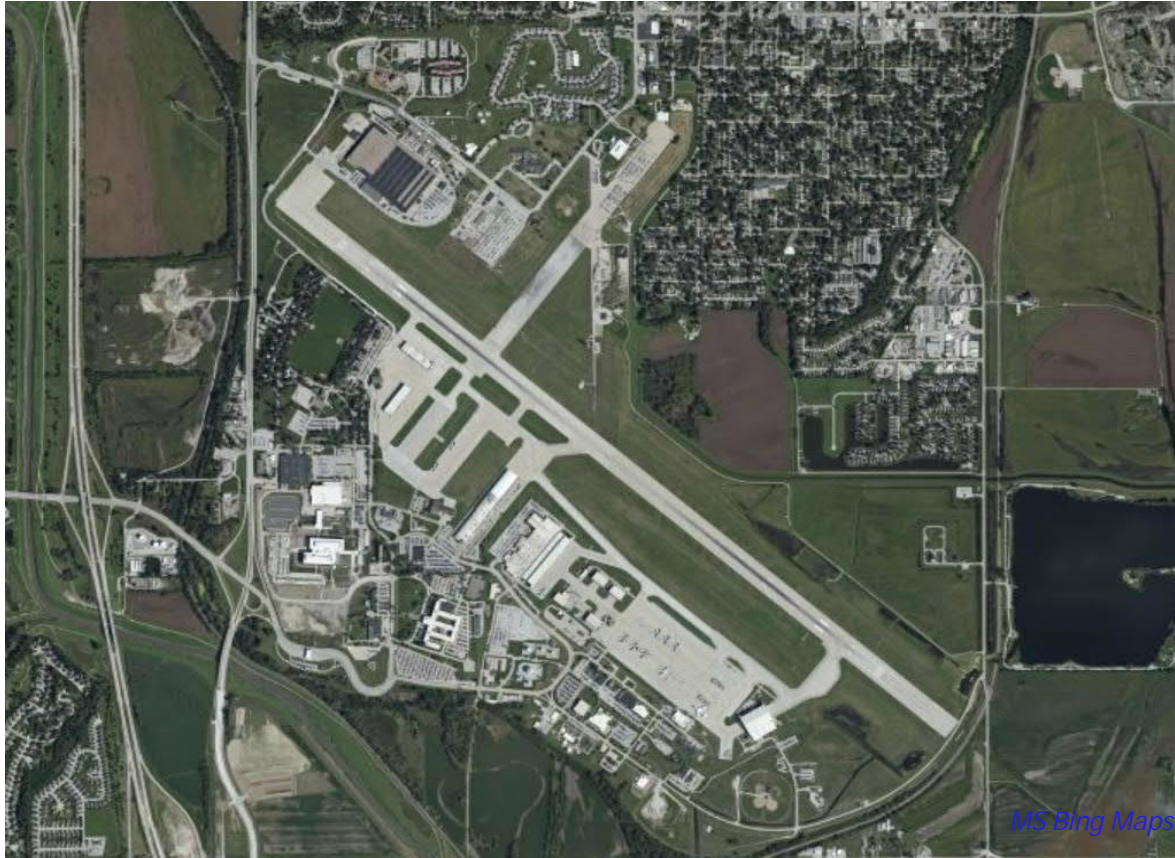


Fort
Crook
Airfield,
1930s



Offutt AFB, 1940s

Runway 12-30 Reconstruction: 2015



MS Bing Maps



RC-135 USAF Photo



E-6B USAF Photo

Runway 12-30 Reconstruction: Offutt AFB Strategic and Global Mission

- Mission

- 55th Wing

- RC-135, WC-135: Strategic Intelligence, Reconnaissance, and Nuclear Incident Monitoring Aircraft

- US Strategic Command (USSTRATCOM)

- E-4B: National Airborne Operations Center (NAOC)
 - E-6B: Airborne National Command Post (ABNCP)

- Alert Status

- E-6B: Constant alert posture for launch in minutes.

- E-4B: Always ready with launch status variable. Primary overseas travel for SECDEF.

- RC/WC-135: Limited number of aircraft with unique capabilities. Always on call for worldwide taskings

Runway 12-30 Reconstruction

- Runway Conditions
 - First constructed in 1940s
 - Extended in 1950s and 1970s to over 11,700 feet long.
 - Major Repairs in 1995. Temporary aircraft relocation to Lincoln
 - Major Repairs in 2006. Temporary aircraft relocation to Lincoln
 - 2014: PCI Rating of 67 "Fair". Below minimum acceptable jet rating of 70
 - Runway in a constant state of repair requiring closures during nights, weekends, & emergencies



Runway 12-30 Condition – 2014 PCI Map

LEGEND

TYPE OF SECTION

- R - RUNWAY
- T - TAXIWAY
- A - APRON
- O - OVERRUN
- S - SHOULDER

TYPE TRAFFIC AREA (SEE NOTE 2)

- A - A TYPE TRAFFIC
- B - B TYPE TRAFFIC
- C - C TYPE TRAFFIC
- D - D TYPE TRAFFIC

EQUIPMENT TYPE

- AC - ASPHALTIC CONCRETE
- PCC - PORTLAND CEMENT CONCRETE

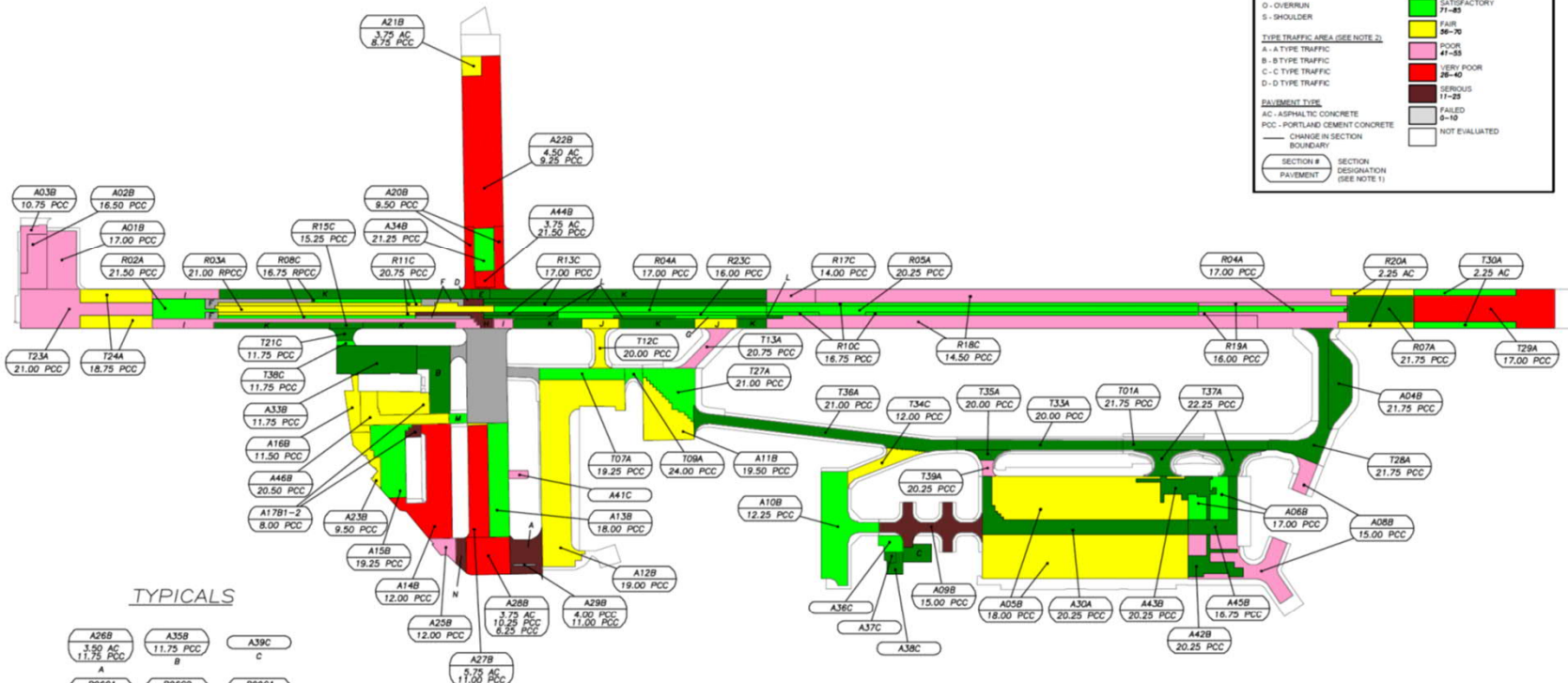
CHANGE IN SECTION
BOUNDARY

SECTION #
PAVEMENT

SECTION DESIGNATION
(SEE NOTE 1)

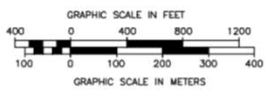
7-COLOR PAVEMENT CONDITION RATING

- GOOD 86-100
- SATISFACTORY 71-85
- FAIR 56-70
- POOR 41-55
- VERY POOR 26-40
- SERIOUS 11-25
- FAILED 0-10
- NOT EVALUATED



TYPICALS

A26B 3.50 AC 11.75 PCC A	A35B 11.75 PCC B	A39C C
R06C1 22.00 PCC D	R06C2 22.00 E	R09C1 16.75 PCC F
R09C2 16.75 PCC G	R12A 20.50 PCC H	R14A 9.75 PCC I
R16C 18.75 PCC J	R21C 10.00 PCC K	R22C 16.50 PCC L
T31C 20.50 PCC M	T32C 4.00 AC 11.75 PCC N	



- NOTES**
- SECTION DESIGNATION DENOTES TYPE OF SECTION, NUMBER OF SECTION FOR GIVEN SECTION TYPE, AND TYPE TRAFFIC AREA.
 - TRAFFIC DESIGNATIONS ARE BASED ON UFC 3-260-02.
 - SECTION DESIGNATIONS MAY NOT CORRESPOND WITH THOSE FROM PREVIOUS REPORTS AND DRAWINGS.

AIR FORCE
CIVIL ENGINEER CENTER
TYNDALL AIR FORCE BASE, FLORIDA

**7-color PCI Summary
Map**

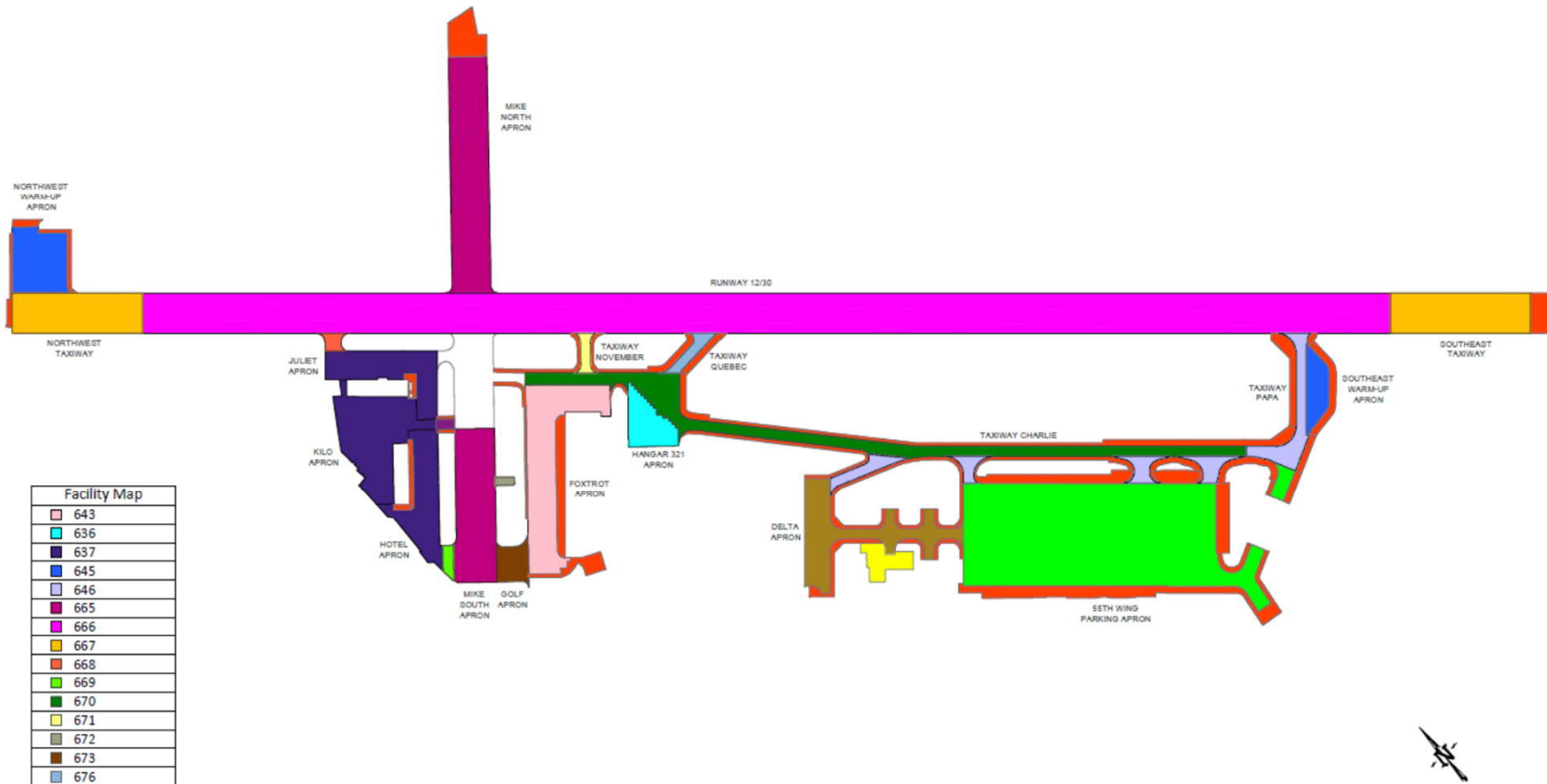
OFFUTT AFB, NEBRASKA

ENGINEER TOUBEN	DATE JULY 15	DRAWING NUMBER APPENDIX A
DRAWN MUNIZ	SCALE GRAPHIC	SHEET 3 OF 5

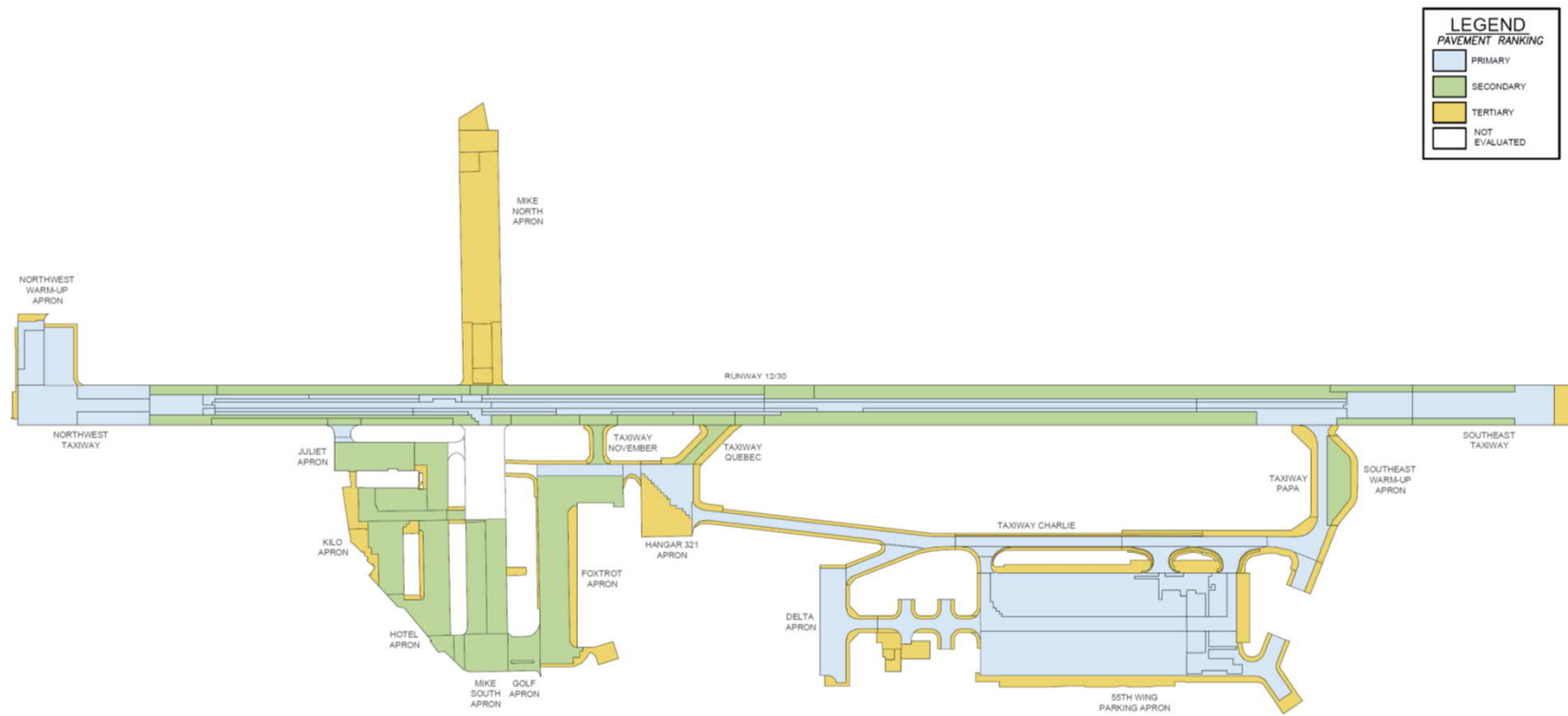
Runway 12-30 Repairs: 2006 – 2015 Weekends, Nights, & Holidays



Runway 12-30 Asset Management Policies: Over 10 Different Pavement “Facilities” are Required to Access the Utilize the Runway



Runway 12-30 Asset Management: Not All the Runway Pavement is Designated as a Priority



Runway 12-30 Reconstruction: 2016 Design Start

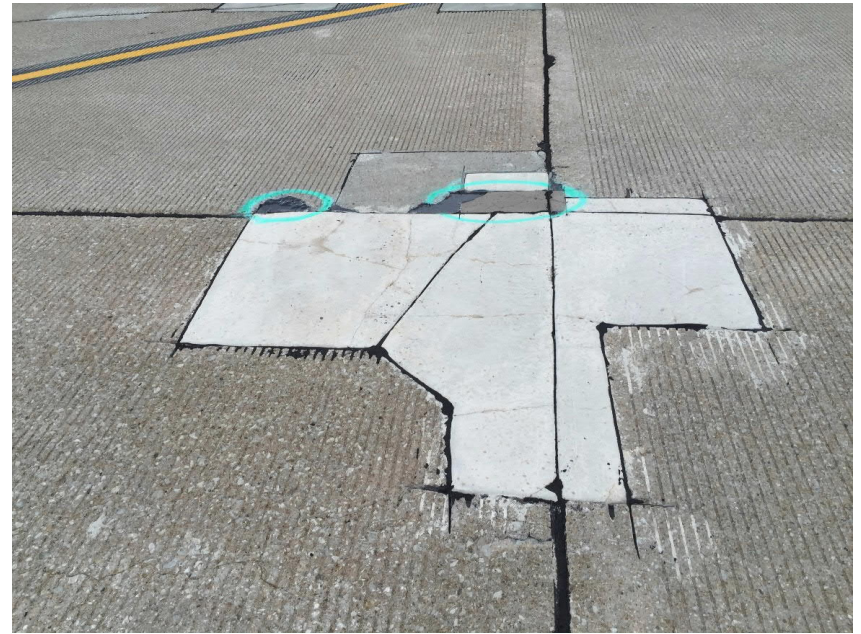
- Runway Repair Goal – Design Challenge
 - Offutt Staff: “20+ Years of service without an operational relocation”
 - AFCEC: 20 Year runway repair to a 90 PCI (Pavement Condition Index) rating for 20 years
 - Budget: \$25 Million Runway Repair, \$45 Million overall, \$7 Million for Lincoln Airport
- The goal and budget did not align
 - Program budget did not have a back up estimate
 - AFCEC PCI report recommended full reconstruction but was not programmed
- Repair
 - Design investigation kick off in October 2016.
 - 15% Report in November 2016
 - 35% Report in February 2017
 - Execute in 2018

Runway 12-30 Reconstruction: 2016

- Investigation: Preliminary Design – 15%
 - October 2016. Evaluate and rate every slab and runway infrastructure

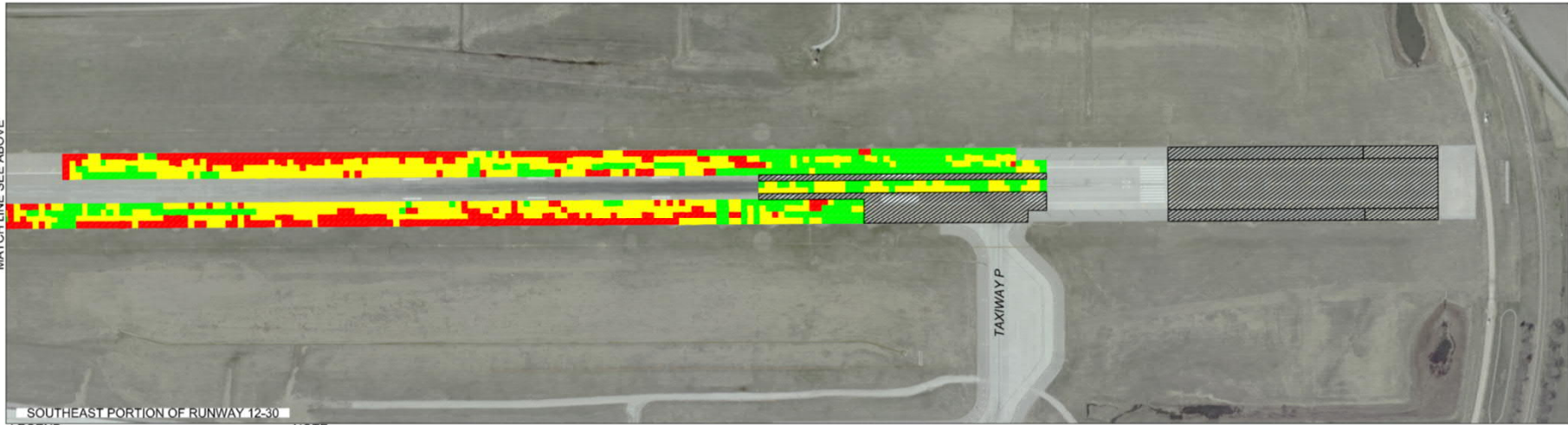
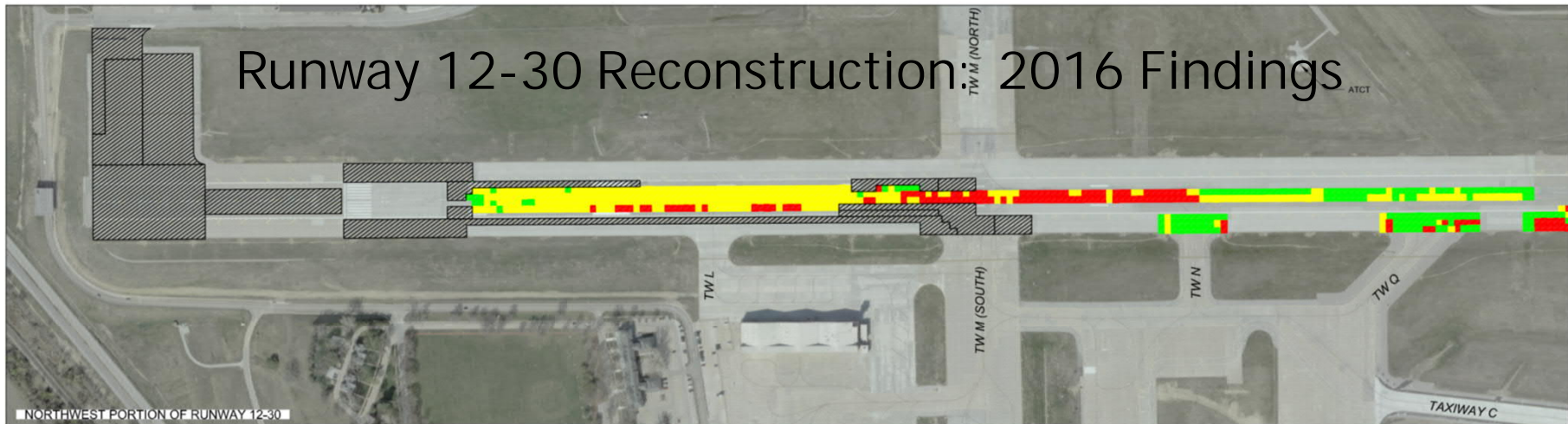


Chain Drag



"Texas" Patch

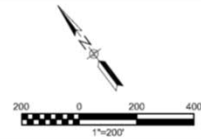
Runway 12-30 Reconstruction: 2016 Findings



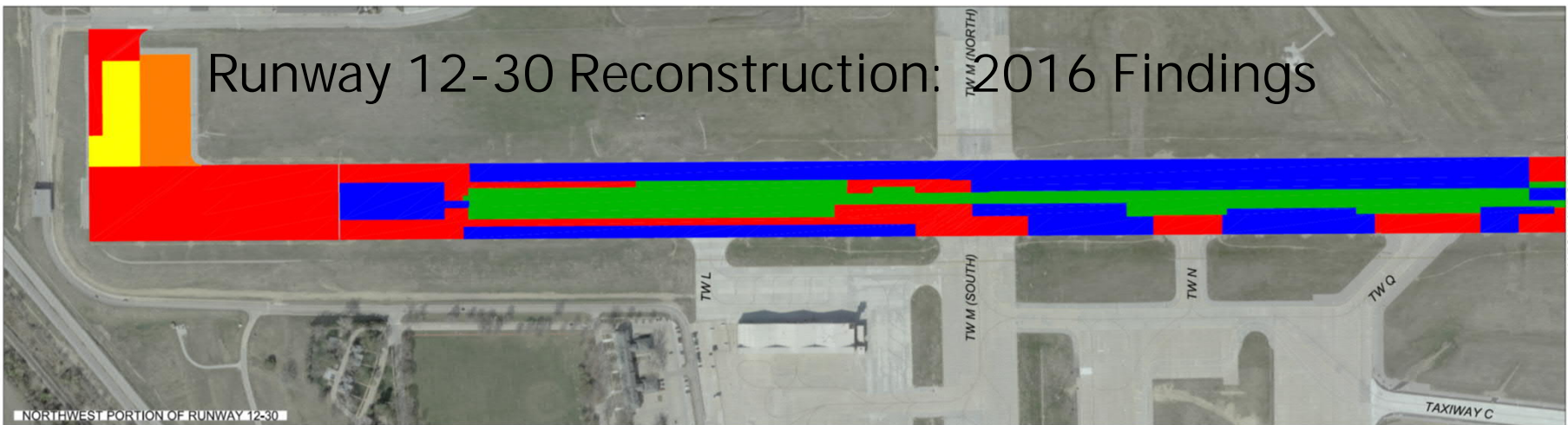
- LEGEND**
-  FULL DEPTH SLAB REPLACEMENT AREA
 -  SLAB RATING OF 1
 -  SLAB RATING OF 2
 -  SLAB RATING OF 3

NOTE
REFER TO THE CONCEPT DESIGN REPORT FOR MORE DETAILED INFORMATION REGARDING THE PAVEMENT CONDITION SURVEY OF SELECTIVE SLAB REPLACEMENT AREAS

PAVEMENT CONDITION SURVEY OF SELECTIVE SLAB REPLACEMENT AREAS



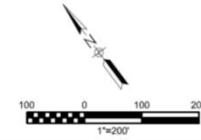
Runway 12-30 Reconstruction: 2016 Findings



LEGEND

1944 - 1959	2000 - 2014
1960 - 1974	
1975 - 1989	
1990 - 1999	

AIRFIELD PAVEMENT HISTORY PLAN 1



ch2m

©Jacobs 2020

Runway 12-30 Reconstruction: 2016 Existing Conditions



Exposed Airfield Wiring

Deteriorated NAVAIDs



Broken Drainage Infrastructure

Runway 12-30 Reconstruction: 2017 - 2018

- Preliminary Design: 15% Report and 35% Report
- Report of Reality
 - Runway is not practically repairable
 - Cost to meet repair goal will exceed \$80 mil. Repair leaves 40+ year pavement in place
 - Cost of reconstruction will exceed \$100 mil. This was not programmed
 - Repair work required at Lincoln Airport. Will need a year and exceed \$20 mil
 - Urgent need. Offutt and Lincoln pavement conditions deteriorating rapidly
- Alternatives
 - Status quo: Continue repairs and wait
 - Temporary major repairs: \$25 to \$30 million. Extend 5 to 10 years to buy time
 - Full reconstruction. \$150 mil, 12-18 month duration
- Hold and Wait for a Decision. Late 2018 – Full Reconstruction Order Issued

Runway 12-30 Reconstruction: 2019 Severe Freeze and Flood

- Full Reconstruction Design Investigations Underway
- 15-18 March 2019: Flood
- South 1/3 of runway submerged
- Entire Mass Parking Apron (MPA) submerged



Runway 12-30 Reconstruction: Offutt AFB 2019 - 2020

- Design: Offutt AFB
 - Flood not to impact the design schedule
 - Added Main Parking Apron (MPA) repair design
 - Both project designs completed in August 2019
 - Bid planned for Fall 2019 and start work in 2020
 - Proposed 12 month runway closure: November 2020 – November 2021
- Offutt AFB Operations 2018-2021
 - Nights, weekends, and emergency runway pavement repairs continue by 55 CES

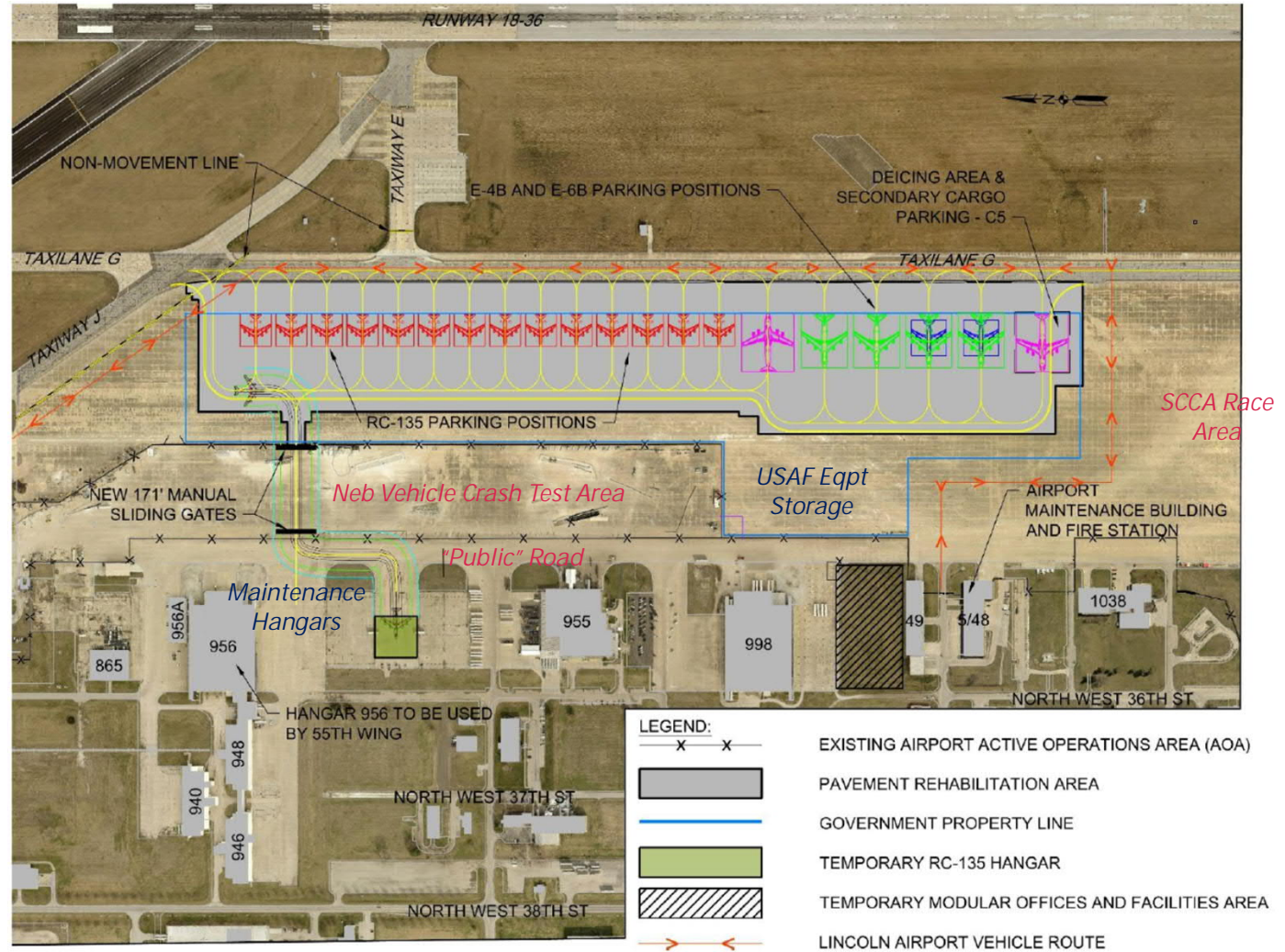
Runway 12-30 Reconstruction: Lincoln Airport 2019 - 2020

- Design: Lincoln Airport
 - Environmental Assessment completed
 - Beddown Plan to include SCCA racing weekends
 - Prepared aircraft parking repair design for bidding
 - Project executed by Lincoln Airport Authority (LAA)
 - Hangar and Facility Repairs: Design-Build project executed by LAA
 - Temporary hangar installation
 - Lease agreement required to be executed prior to work being awarded and started by LAA at least 9 months prior to beddown.
 - Facilities needed to be ready for AF occupancy by Summer 2020

Runway 12-30 Reconstruction:

Lincoln Airport Beddown Plan

- 20 aircraft
- Maintenance hangars
- Secured areas



Runway 12-30 Reconstruction: 2019-2020

■ Bidding

- Issued through Air Force Worldwide Engineering and Construction MATOC (WEC)
 - June 2019: Contractor site visit at 65% design. No pre-bid meeting.
 - Fall 2019: Issued for bids. No public notice of project
 - No bids received
 - Prime contractors to bid 12 month closure period.
- Reissued for bids in February 2020 to WEC
 - Revised to maximum 24 month runway closure
 - Pre-Bid meeting and site visit. Public notices issued
 - Two bids received in April 2020

■ Award

- Project awarded to Gilbane Construction in June 2020 for \$143.9 mil.
 - Subsequent award of MPA repair for approximately \$25 mil.



Runway 12-30 Reconstruction Pre-Bid Meeting

Runway 12-30 Reconstruction: 2020 Awarded Construction Team

Gilbane 150



Runway 12-30 Reconstruction: Fall 2020

- Pre-Runway Closure Work
 - Start of airfield work in September 2020
 - Work while runway open
 - Utilities
 - Temporary fencing
 - Haul routes
 - Staging areas
 - Submittals and Plant set up: Concrete mix designs is a 6+ month process
- Lincoln Airport
 - Prepare for occupancy: Maintenance hangar, offices, security
 - Temporary hangar installation
- COVID
 - Worked through it

Runway 12-30 Reconstruction: 2021 Temporary Beddown at Lincoln



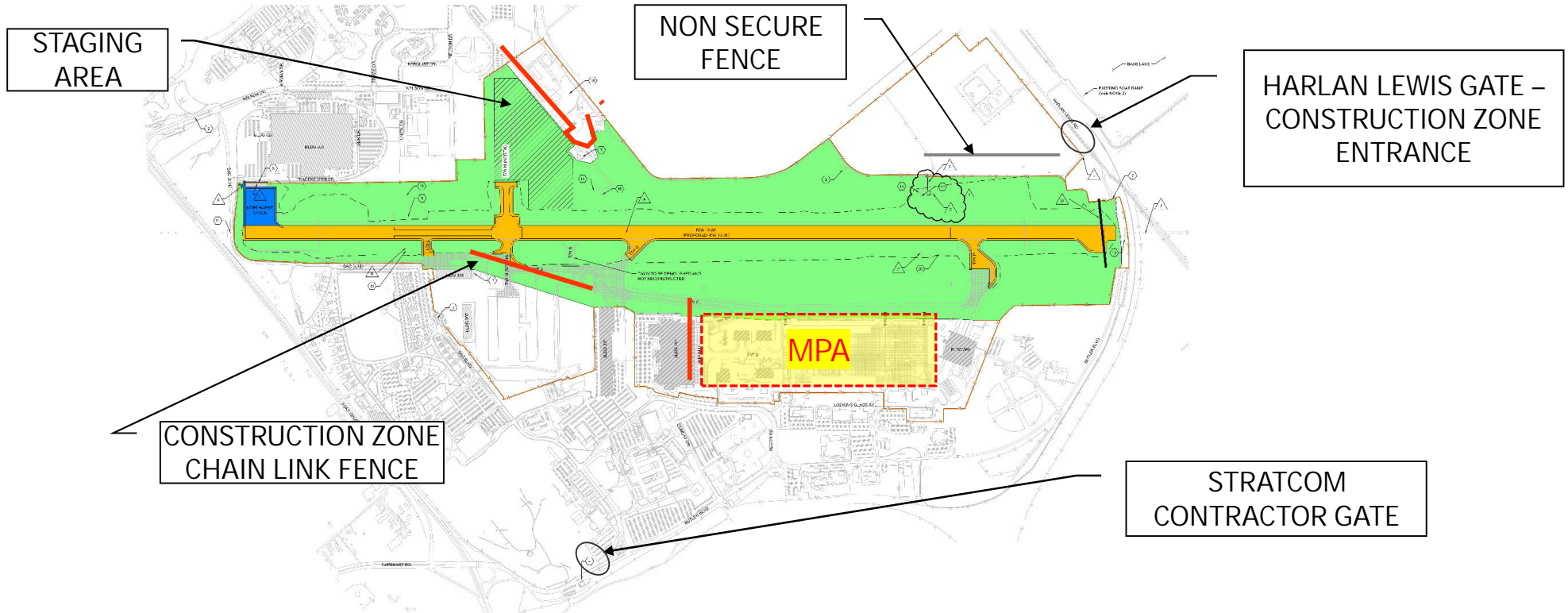
Runway 12-30 Reconstruction: Ops and Maintenance Town at Lincoln



Runway 12-30 Reconstruction: Temporary Fuel Maintenance Hangar



Offutt Project Layout Plan: March 2021 – September 2022



- R/W 12-30 - CLIN 0001AA Project No. 1047438
(Repair RW 666/667)
- Northwest Apron - CLIN 0001AB Project No. 1046560
(Repair NW Apron)

Runway 12-30 Reconstruction: Spring 2021 Closure and Demolition

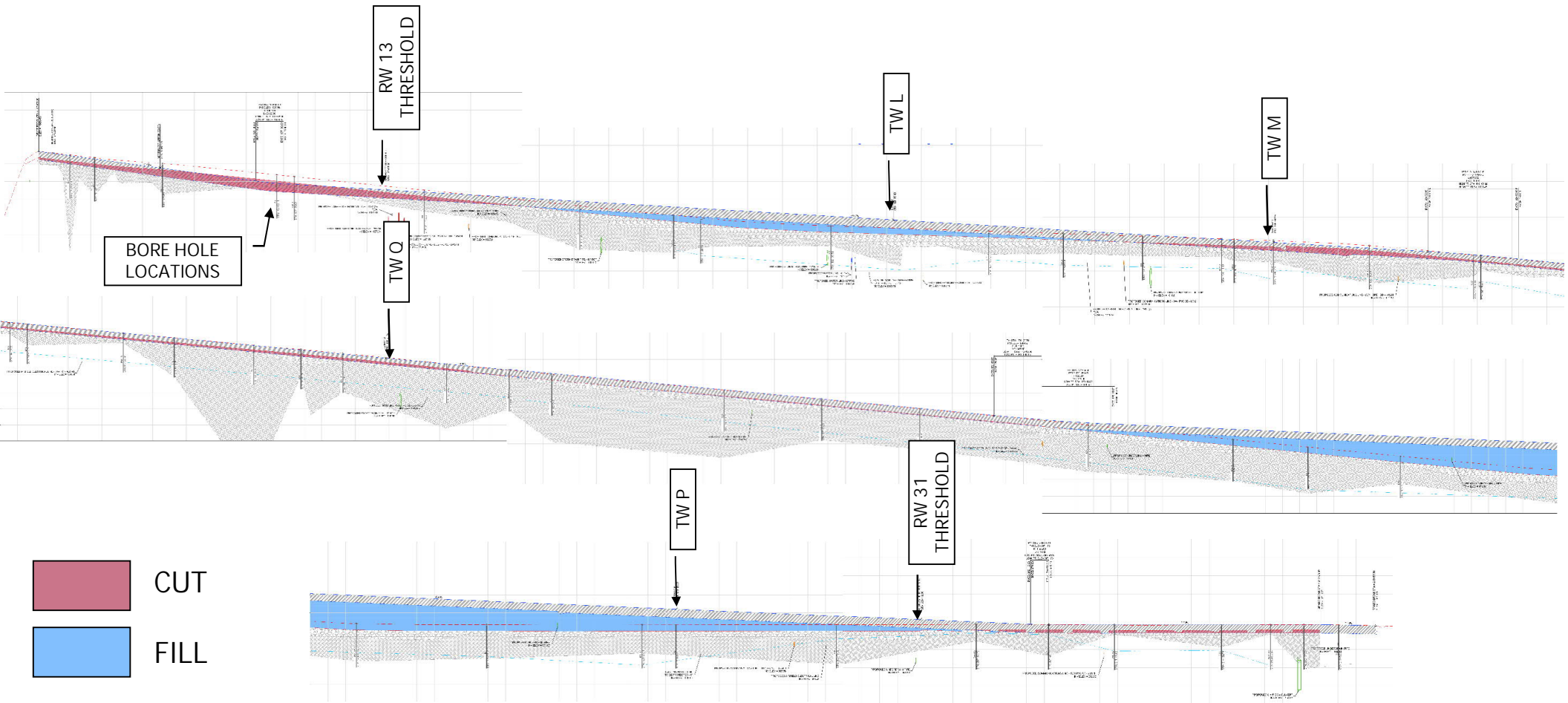


Runway 12-30 Reconstruction Story: 2021

- Spring 2021: Demolition and Grading




Runway 12-30 Profile Modifications



Runway 12-30 Earthwork

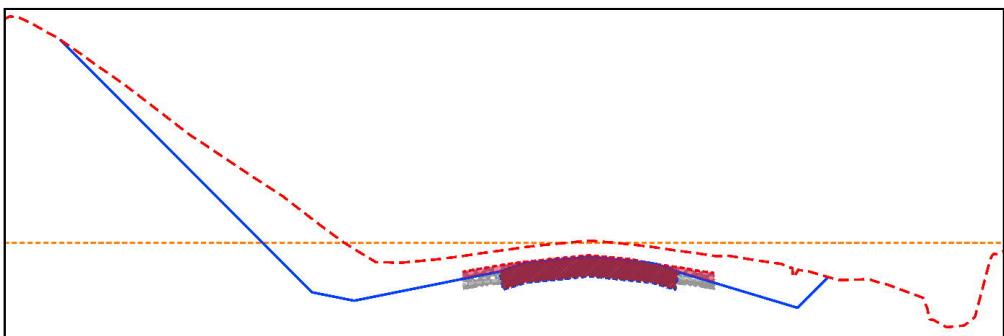
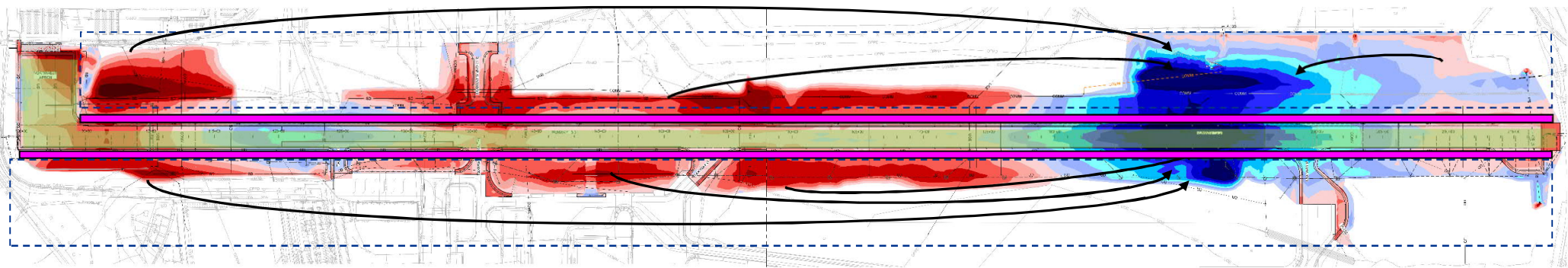
ROM Quantity – Outside Existing Pavements

 350K CY Cut / 250K CY Fill

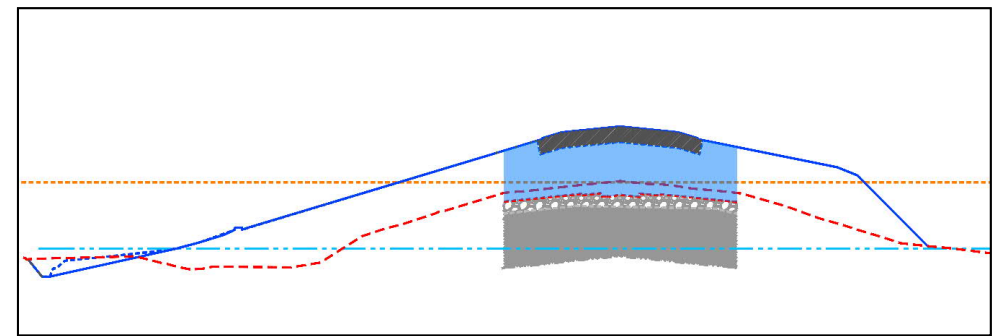
ROM Quantity – New Pavements

Un-Paved Areas: +30K CY Fill

  Paved Areas: 100K CY Cut / 125K CY Fill



Cut Section



Fill Section

Runway 12-30 Reconstruction: Spring 2021

- Grading and Drainage



Runway 12-30 Reconstruction: Summer 2021

- Mix designs and test strips for all pavement layers: Water, cement, aggregate, equipment



Runway 12-30 Reconstruction: Summer 2021

- Portland Cement Concrete (PCC) Test Strips



Runway 12-30 Reconstruction: Fall 2021 to Winter 2022

- Fall 2021
 - Paving through October 2021
 - Winter paving shutdown anticipated: November 2021 to March 2022
- 55th Wing Winter Operations at Lincoln Airport
 - Hoping for a mild winter
 - Weather contingency operations. More frequent temporary repositioning
 - USSTRATCOM E-4B and E-6B aircraft routinely deployed to maintain operational response status

Runway 12-30 Reconstruction: 2022 - 2023

- Scheduled Project Completion
 - Paving resumes in Spring 2022
 - Complete paving in Summer 2022
 - Runway Lighting and Equipment Installation Complete: 25 July 2022
 - Equipment Commissioning and Flight Checks: August – September
 - Grooving and Final Marking after Pavement Curing
 - Runway Reopening: 17 September 2022
 - 55th Wing Returns to Offutt

 - Final Completion and Acceptance: 26 April 2023

Runway 12-30 Reconstruction: 2015 – 2023 Conclusion

- Team Offutt is working to overcome the challenges and rebuild Runway 12-30 to serve for the next 30 to 40 years.
- Manned and/or unmanned aircraft will continue to fly from Offutt to meet our strategic command and national defense requirements for for at least the next 30 or more years.
- The Offutt runway reconstruction story is not a unique situation. Most US military airfield infrastructure has similar conditions with core infrastructure over 50 years old and at or near the end of useful life.
- We have estimated the military airfield infrastructure recapitalization need at over \$5 Bil per year. The current spending is less than 30% of that amount. More Offutts are coming.
- What was unique to Offutt was the dedication and perseverance of the Offutt staff to press through challenges to achieve the right but not easy solution.

Thank You



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