Colorado Springs Taxiway A (A4-A7) Realignment

Keys to Success & Lessons Learned

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Introductions

Amanda Girten – Senior Aviation Engineer/PM, RS&H
Bud Geng – Manager of Design and Construction, COS
Mike Dierks – Senior Project Manager, Pyramid Construction
Brock Leger – Asphalt Manager, Pyramid Construction

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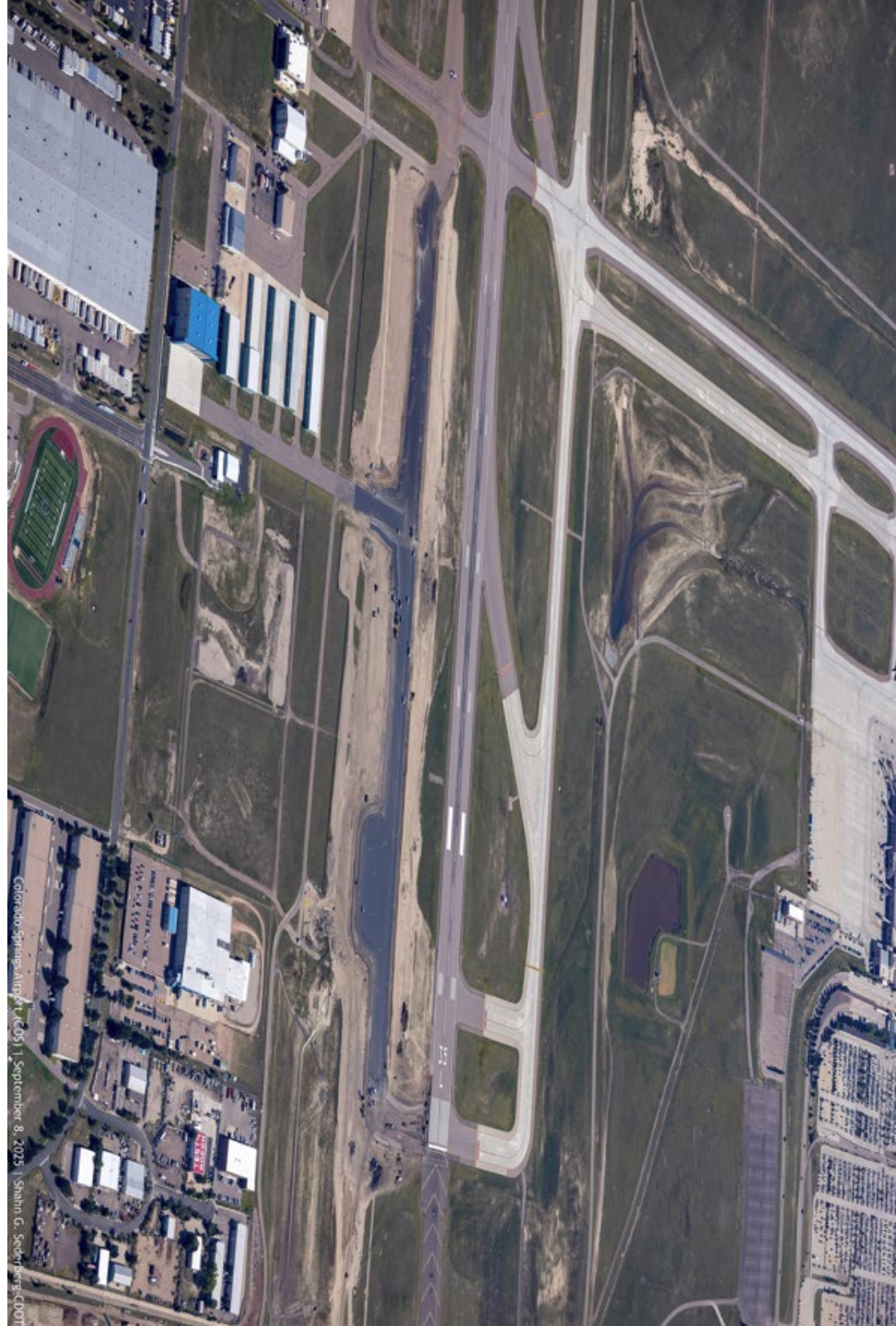
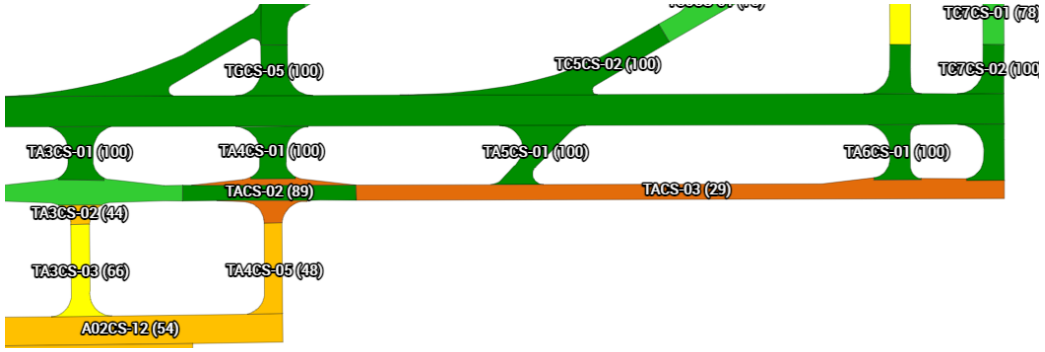
Project Overview

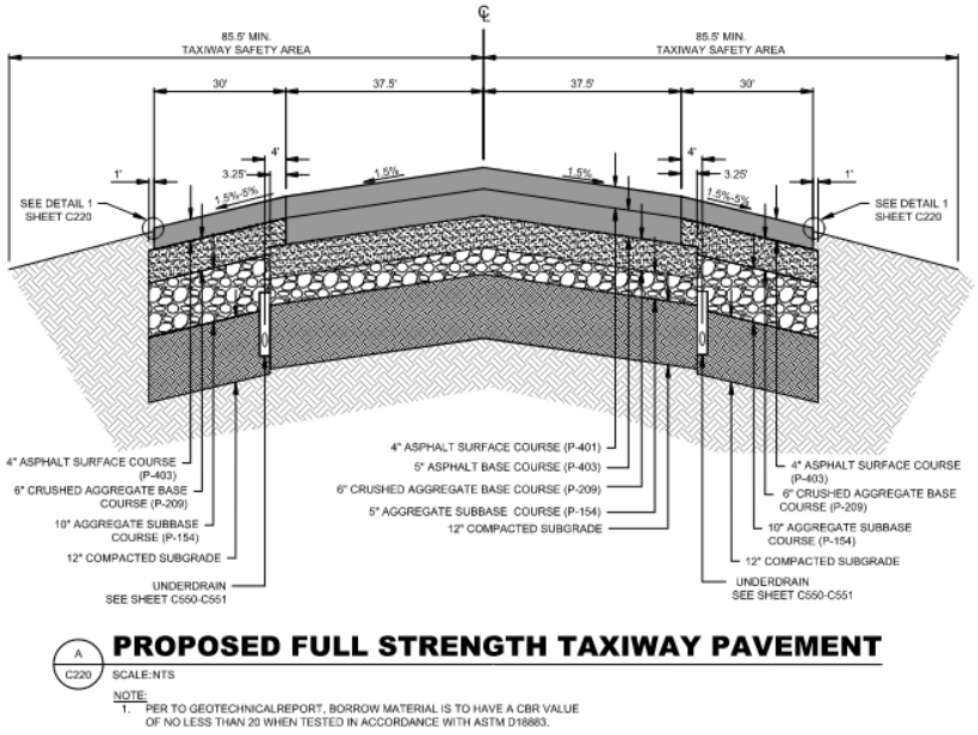
- Taxiway A realigned 100’ to the west. Runway to Taxiway CL-CL separation of 500’
- New holding bay / runup – minimum 3 ADG 1 aircraft
- 75’ wide Taxiway A with 30’ wide shoulders
- Existing Taxiway A5 and existing Taxiway A6 removed
- Existing Taxiway A7 removed and reconstructed – New Taxiway A6
- Mill and Overlay of South GA Taxilane
- Transition pavement to existing Taxiway A at Taxiway A4 south TSA
- All new underdrains, LED electrical, storm drain infrastructure, and striping



Design Key Participants

- RS&H Team
- Colorado Springs Airport
- Predesign Team
- West side tenants
- Federal Aviation Administration





A / C220 **PROPOSED FULL STRENGTH TAXIWAY PAVEMENT**

SCALE:NTS

NOTE:

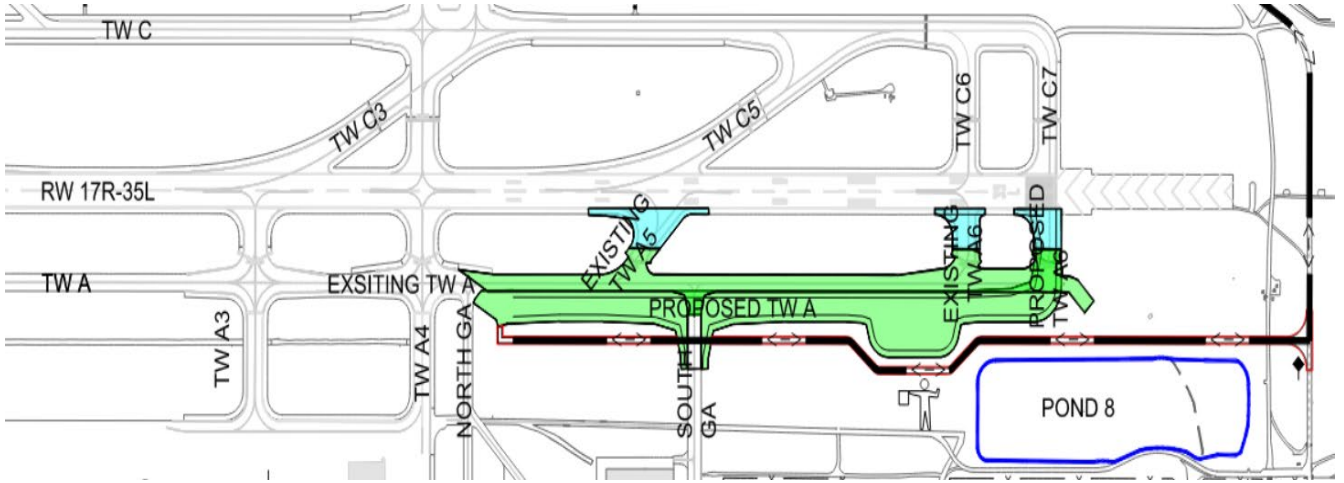
1. PER TO GEOTECHNICALREPORT, BORROW MATERIAL IS TO HAVE A CBR VALUE OF NO LESS THAN 20 WHEN TESTED IN ACCORDANCE WITH ASTM D18883.

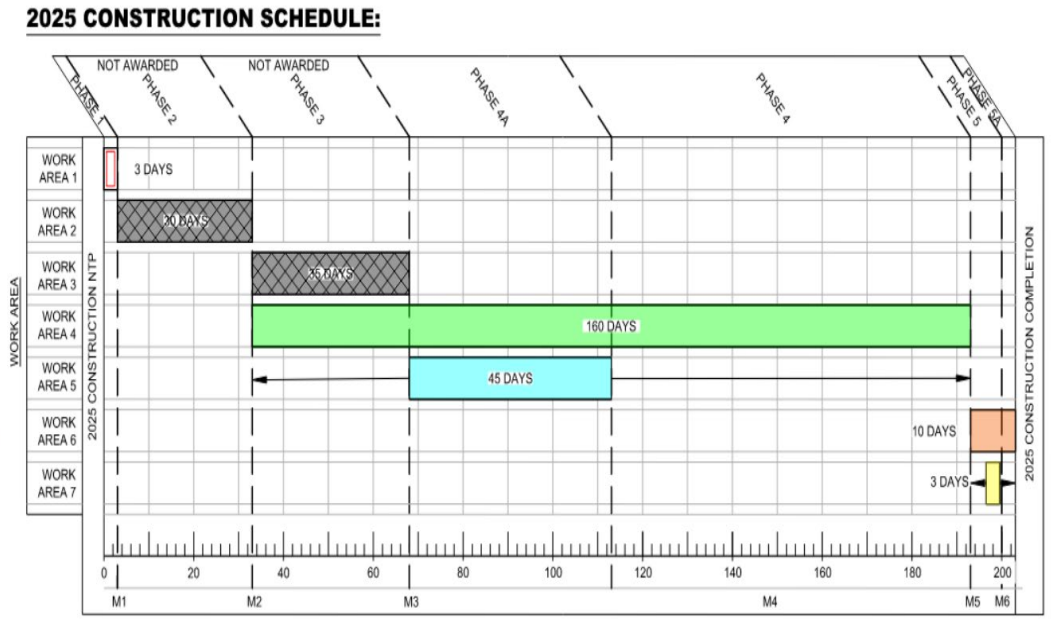
Design Development/Considerations

- Original Construction unknown
- 1974 Overlay Project
- History of Multiple Rehabilitation Projects
- Previous Engineer's Reports
- Current Pavement Condition Index and Distresses
- Geotechnical Investigation
- Design Aircraft / Fleet Mix
- FAA Design Criteria

Construction Phasing and Schedule

- 2 phases with 2 subphases
- 4 work areas
- West side tenant impacts and outreach (South GA/SNC)
- Minimize overall Runway and Taxiway closure duration
- Safety Risk Management Panel





Construction Key Participants

- Colorado Springs Operations
- Colorado Springs Design & Construction Team
- RS&H PM and on-site full time RPR's
- Pyramid Construction
- QC Testing Team (Kiewit/Vine)
- QA Testing Team (Geocal)
- Millstone Weber (Prime)

Paving Facts

- 29,103 Tons Asphalt
- 3 Asphalt Mix Designs Paved
  - Taxiway Shoulders P-403 PG 64-28: 6187 TN
    - *6 days of paving (including test strip)*
  - Taxiway A and Runup stabilized base P-403 PG 64-22: 12,839 TN
    - *14 days of paving (including test strip)*
  - Taxiway A and Runup surface course P-401 PG 70-28: 10,077 TN
    - *12 days of paving (including test strip)*
- All asphalt placed received 100% payment for adherence to specs

Panel Discussion
Keys to Success

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What Lead to the Success of the project?

1. Strong design team and Quality Control Processes
2. Knowledge of FAA design standards
3. Familiarity with COS operations and security
4. Staff continuity from RS&H RPRs – close relationships with the airport and communication
5. Working together with Pyramid and approaching the paving as a team. Flexibility from both parties and wanting to do what is best for a quality product. Honesty and trust
6. Design engineers on site that can reference CAD files site on seen to answer questions (grading and triangulation)
7. Close quantity tracking daily and concurrence with Pyramid.
8. Updated daily paving plans – QA/QC communication

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Lessons Learned/ Areas of Improvement

1. Having larger areas of grade prepped for paving at one time. Better prime coordination with their subs
2. Better coordination among the different surveyors to make sure the grade is spot on before paving
3. Very clear and defined lines of communication between Contractor, owner's representative/RPR, and Airport to clearly document all construction activity/decisions/major events

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Tips and Recommendations for Future Projects

1. Pyramid having equipment on site to touch up the grade before paving was extremely beneficial
2. Same as the success of the project but working together, tracking quantities, being honest, and doing what it takes for quality pavement
3. Familiarity with FAA specifications and testing requirements and frequencies
4. Constant and effective communication is key! Documentation! Stay Organized!

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What Lead to the Success of the project?

1. Combination of strong planning, experienced leadership, and effective collaboration among all parties involved

2. Quality Design and Engineering Firm preparing plans that were practical, accurate, and responsive to field conditions

3. A Solid Design That Worked with Existing Elevations and Surrounding Conditions

4. Trust and communication between the engineering firm and the contractor were critical in order to work together on field design changes, problem-solving, and interpretation of specifications to keep the project moving forward without unnecessary delays

5. Selecting the proper contractor and team to create and execute a daily plan focused on efficiency, safety, and quality helped maintain production and minimize disruptions

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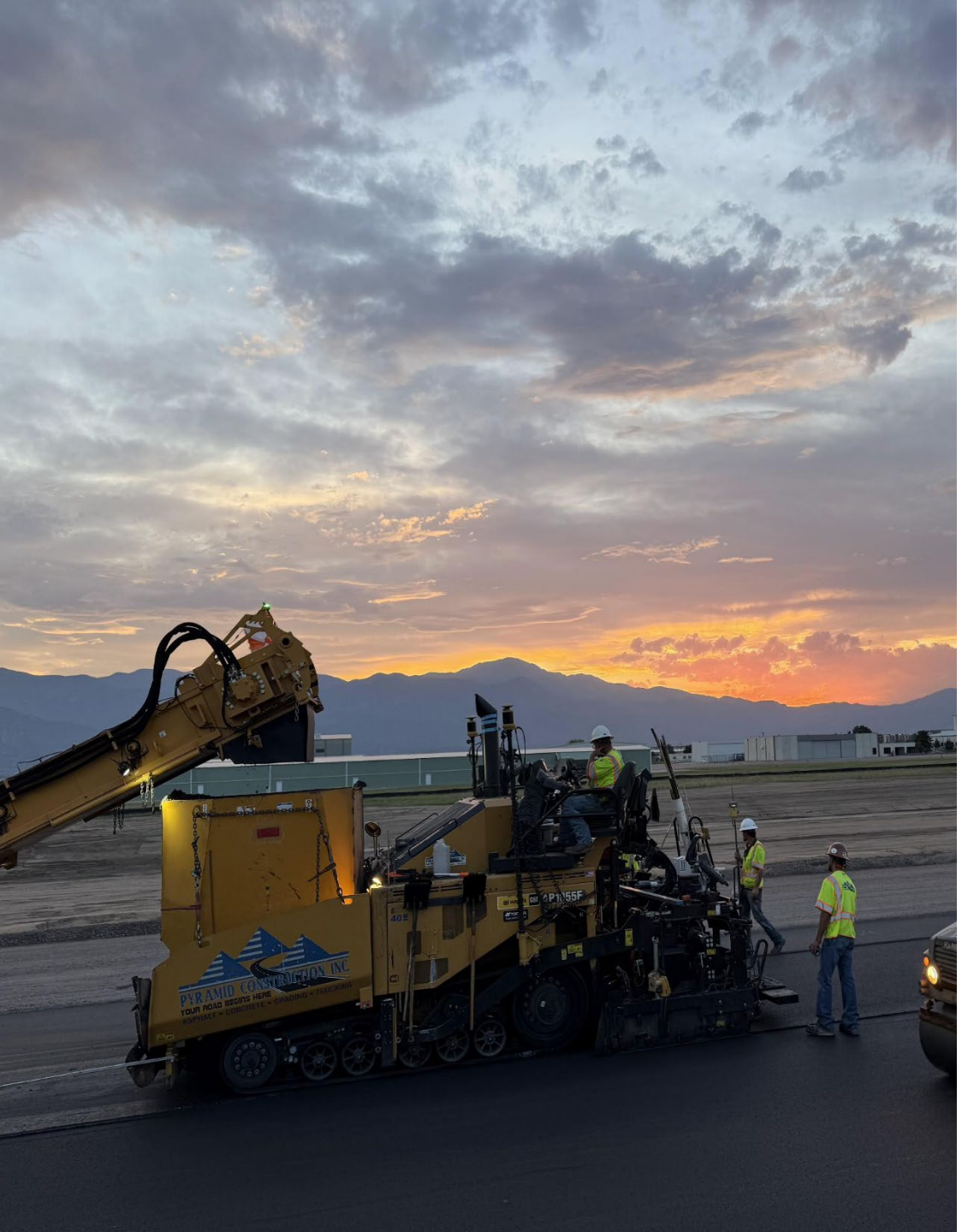

Lessons Learned/ Areas of Improvement

1. Phasing areas and stopping points. More attention should be given during preconstruction planning to where each phase begins and ends, how traffic or airport operations will be maintained, and how those stopping points will affect the next phase of work

2. Avoid existing hard surfaces to prevent unnecessary damage. Preventing such damage saves time, reduces repair costs, and protects the overall quality and appearance of the project.

3. Staggering cold Joints at the end of phase lines to improve the integrity of the finished pavement and help distribute stress more effectively

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Tips and Recommendations for Future Projects

1. Put the right leaders and team members in the right positions who understand and are qualified for airfield work.

2. Develop and implement a successful daily plan. Clearly communicated and carried out consistently.

3. Use quality testing firms that understand unique requirements of airport paving. Work effectively with the contractor and owner's representatives

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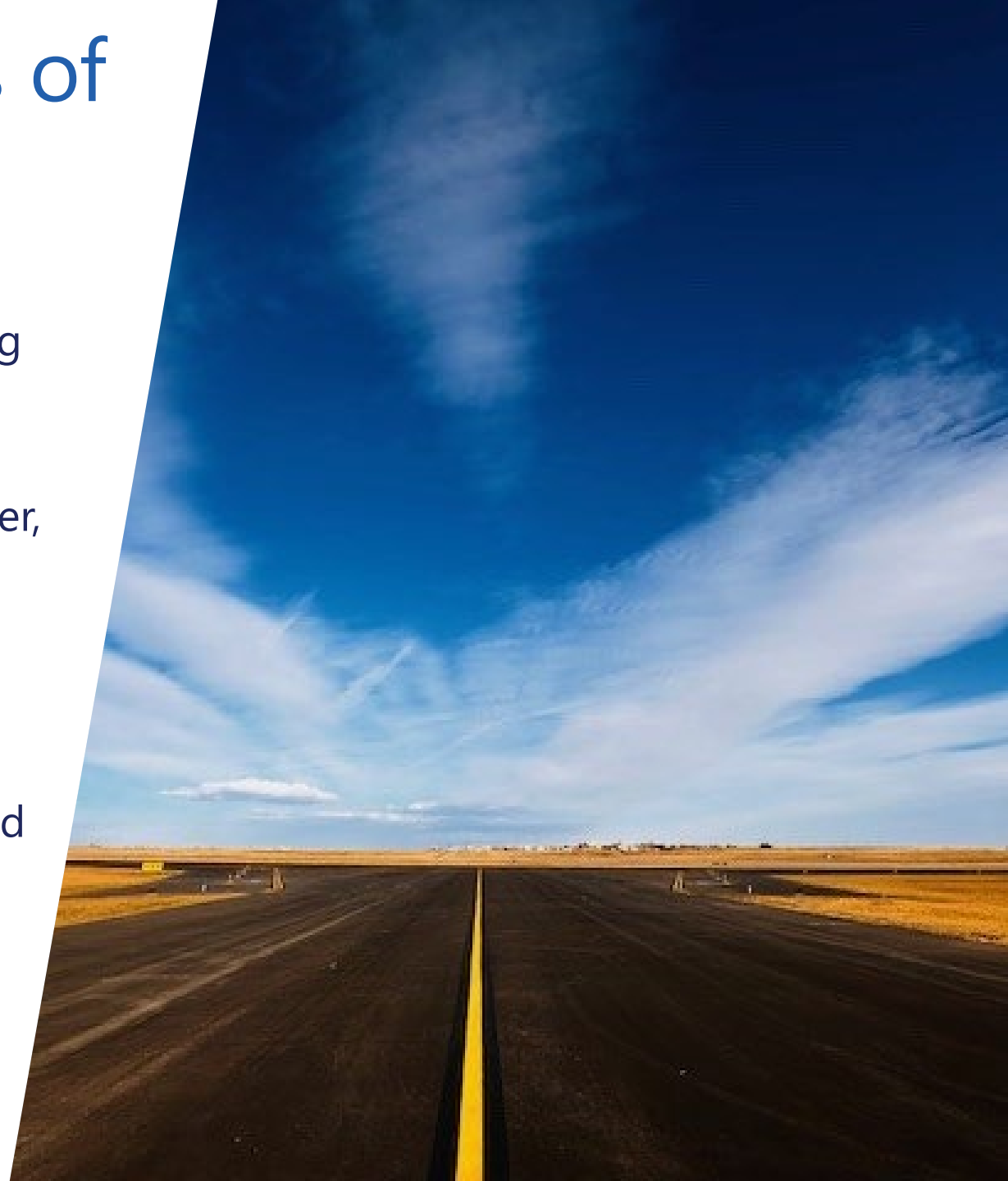
What Lead to the Success of the project?

1. Unified commitment to quality and safety, ensuring compliance with FAA standards throughout construction.
2. Strong collaboration across the project team (owner, consultant, contractor, and stakeholders).
3. Proactive coordination with airport operations to manage closures, access, and safety while maintaining airfield functionality.
4. Timely decision-making and responsiveness to field issues, RFIs, and unforeseen conditions.



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Lessons Learned/ Areas of Improvement

1. Early verification of existing conditions & through pre-planning verifications.
2. Additional stakeholder engagement to outline realistic phasing limits respective to user impacts.
3. Refinement of communication pathways - clearer escalation channels for streamlined decision making.
4. Early procurement planning for electrical and lighting components (ALCMS regulator).

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Tips and Recommendations for Future Projects

1. Invest time early in detailed, stakeholder-vetted phasing—this is foundational for airfield project success.
2. Prioritize and maintain strict safety, security, and operational awareness on every phase of the project.
3. Establish collaborative problem-solving habits from day one to promote transparency and shared ownership.
4. Use real-time field communication tools to maintain alignment and reduce schedule delays.

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Thank You!

Question & Answer