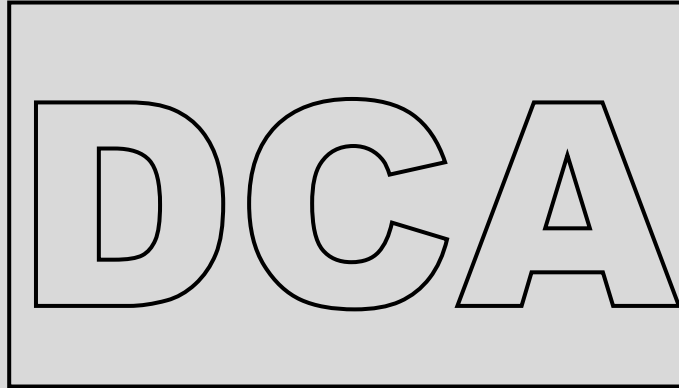


**REHABILITATE
RUNWAYS 1-19 & 15-33
AND ASSOCIATED
TAXIWAYS**



**REHABILITATE
RUNWAYS 1-19 & 15-33
AND ASSOCIATED
TAXIWAYS**



**METROPOLITAN
WASHINGTON
AIRPORTS AUTHORITY**



TODAY'S PRESENTERS

CHRIS DECKER, PE
RDM INTERNATIONAL, INC



TODAY'S PRESENTERS

RICH THUMA, PE
Crawford, Murphy & Tilly



TODAY'S PRESENTERS

DONALD BLOODWORTH, PE
LAGAN US, INC.



DCA

REHABILITATE RUNWAYS 1-19 & 15-33 AND ASSOCIATED TAXIWAYS



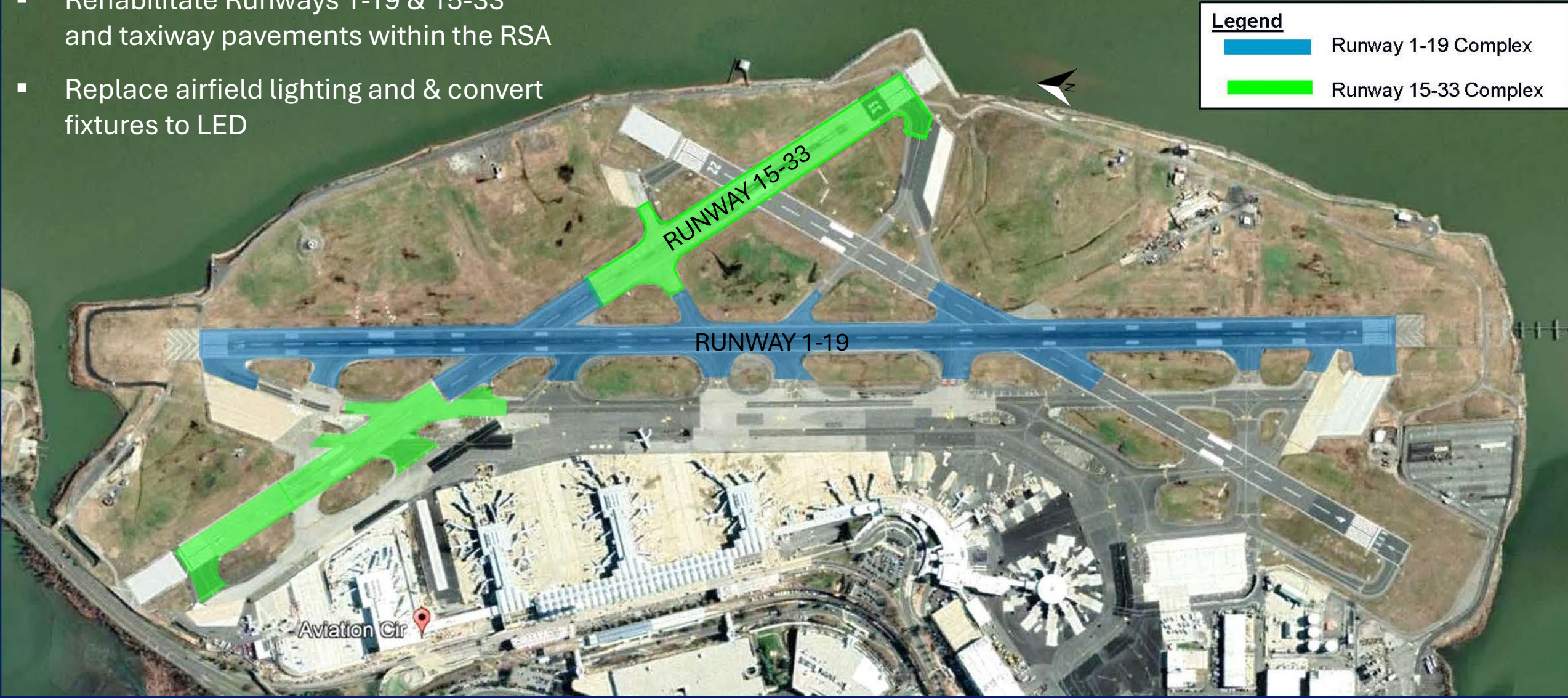


DCA RUNWAY 1-19

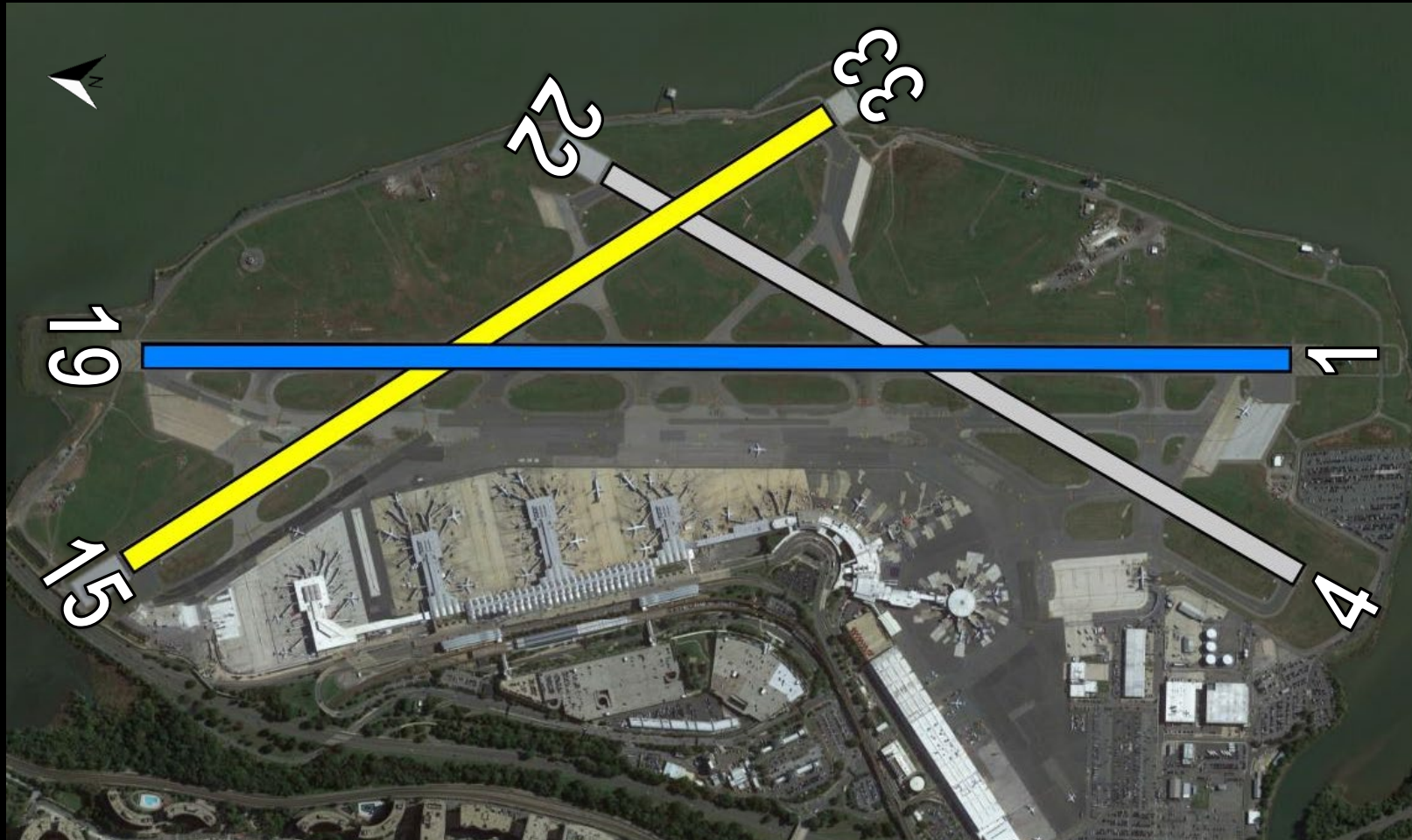
**BUSIEST IN US WITH 819 DAILY
SCHEDULED OPERATIONS (MARCH 2023)**

Project Overview

- Rehabilitate Runways 1-19 & 15-33 and taxiway pavements within the RSA
- Replace airfield lighting and & convert fixtures to LED



Ronald Reagan Washington National Airport



Scheduled flights: 5:10 am through 12:55 am

Runway 1-19 (Primary)

- 7,169' x 150'
- Instrument Approach
- 94% of all Operations
- 2011 – 3" Mill & Overlay

Runway 15-33 (Secondary)

- 5,204' x 150'
- Visual Approach
- 6% of all Operations
- 2009 – 3" Mill & Overlay

Runway 4-22 (Tertiary)

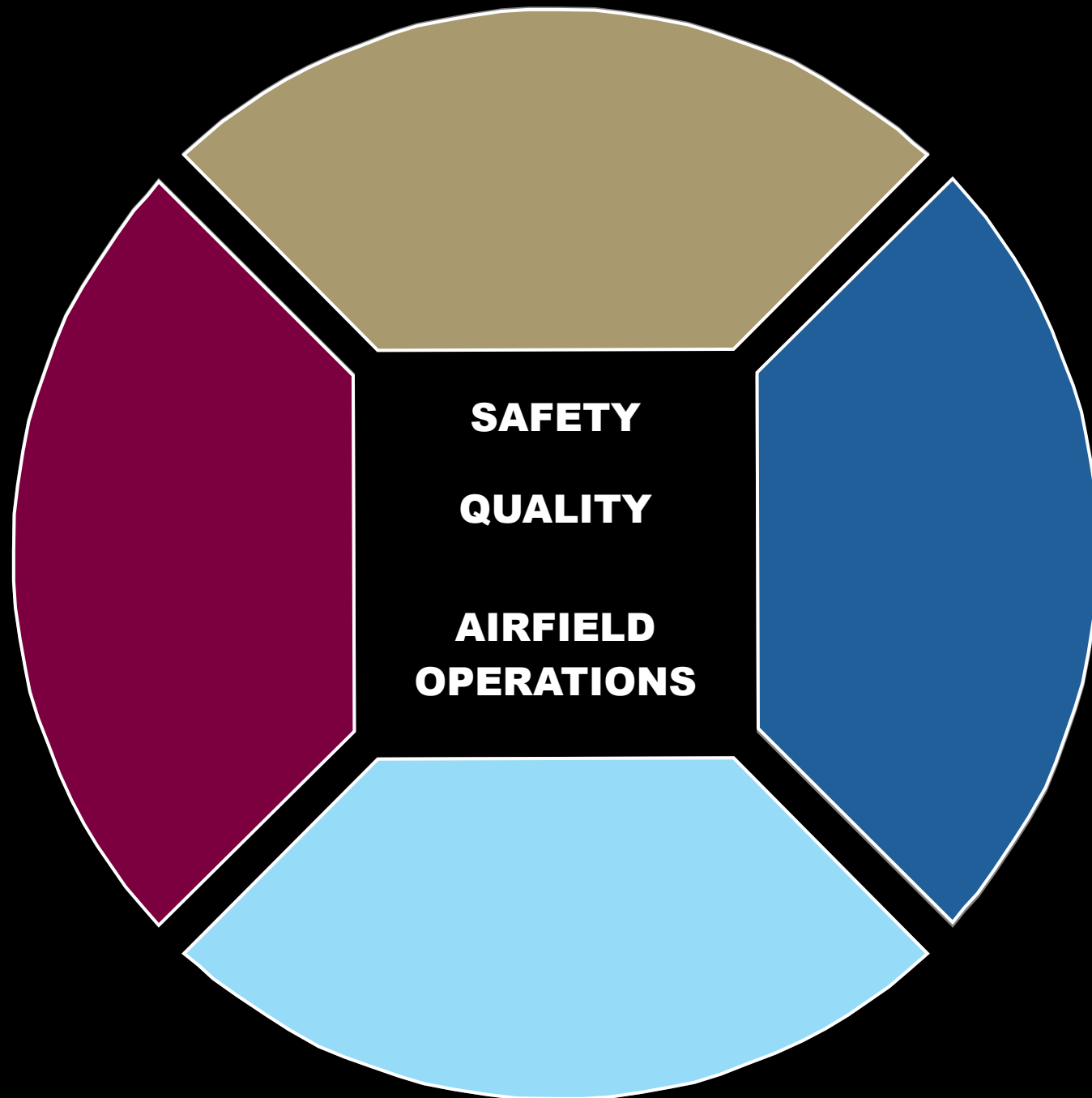
- 5,000' x 150'
- < 1% of all Operations

PROJECT DESCRIPTION



- Planned as multi-phase, multi-year construction effort.
- RW 1-19 and 15-33 originally constructed as part of the original airport layout in the early 1940s.
- Last major construction activity consisted of 3-inches mill and overlay taking place in 2010 on RWY 15-33 and in 2011 on RW-1-19, respectively.
- Since 2011, after an additional decade of aging and increased use from larger aircraft and higher load factors both runways have shown additional deterioration, expected with asphalt age ranging from 30 to 60 years old.
- In 2019, a pavement management study was performed by RDM which utilized a detailed visual inspection, non-destructive testing, and destructive testing evaluation.
- This task concluded that a deeper repair of the existing asphalt base / binder layers of each of the runway pavements to provide a long-term solution was required.

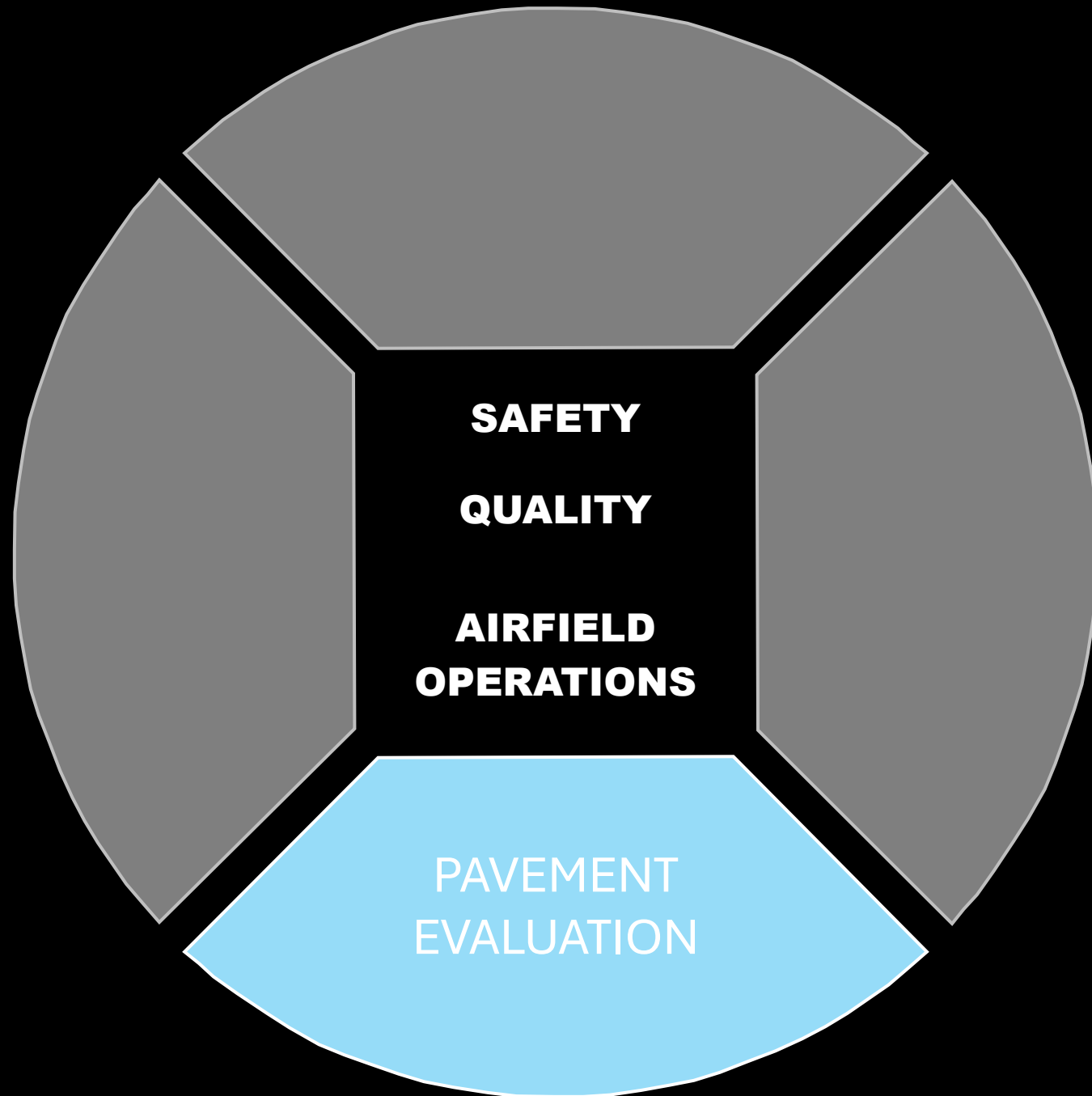
Lagan US



4 KEY STAGES of PROJECT DEVELOPMENT

- **PAVEMENT
EVALUATION**
- **DESIGN
SOLUTION**
- **PLANNING**
- **CONSTRUCTION**

**ALWAYS WITH A FOCUS ON
SAFETY, QUALITY & DCA
AIRFIELD OPERATIONS**



- ▶ Runway 1-19
 - ▶ 14 to 26" AC on 12 to 36" aggregate base
 - ▶ 3" AC mill and replace in 2010
 - ▶ Previous Rehabilitation in 1980's & early 1990's
- ▶ Runway 15-33
 - ▶ 8 to 13" AC on 10 to 40" aggregate base
 - ▶ 3" AC mill and replace in 2009
 - ▶ Previous Rehabilitation in 1980's
- ▶ Each Runway has provided >30 years of service

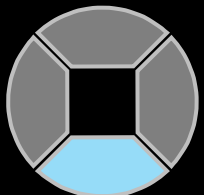
Table 1: Runway 1-19 Complex Core/Boring Data Summary

Core No.	Location PMS Section	ISM kip/in.	Thickness, in.			Remark
			AC	CTB	Aggregate	
C-1	RW01-19-A1	2,726	15		10	Poor AC separation at 3" depth; Aggregate base
C-2	RW01-19-C2	1,363	16			35" SM fill (N=27) then CL fill (N=5)
C-3	RW01-19-C2	1,471	19		8.5	Good AC core condition; Aggregate base
C-4	RW01-19-B2	2,287	24.5		8.5	Good AC core condition; Round stone subbase
C-5	RW01-19-A2	1,183	16			62" GW fill (N=32) then SW (N=21)
C-6	RW01-19-I1	1,060	16		28	Loose AC below top 3"; Round stone subbase
C-7	RW01-19-C3	1,559	18		12	Good AC core condition; Round stone subbase
C-8	RW01-19-C3	2,095	17			61" GW fill (N=43) then SW (N=10)

Table 2: Runway 15-33 Complex Core/Boring Data Summary

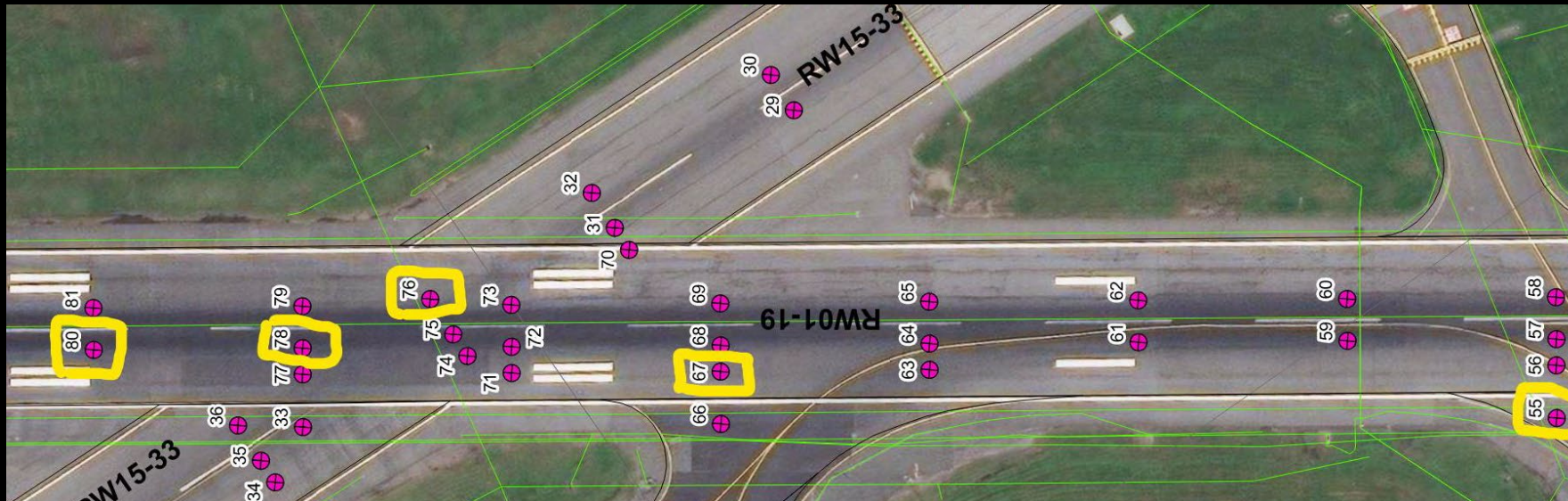
Core No.	Location PMS Section	ISM kip/in.	Thickness, in.			Remarks
			AC	CTB	Aggregate	
C-14	RW15-33-B8	2,931	14		10+	Good AC core condition; Aggregate base
C-15	RW15-33-C8	1,205	12			28" GW fill (N=28) then SC (N=10)
C-16	RW15-33-B7	2,037	13		12	Good AC core condition; Aggregate base
C-17	RW15-33-I2	1,301	10.5		14.5	Good AC core condition; Aggregate base
C-18	RW15-33-A6	1,404	12.5		10	Poor AC separation at 3" depth; Round stone subbase
C-19	RW15-33-B5	1,842	14			34" GM Fill (N=19) then GW
C-20	RW15-33-C5	1,616	11.5		14.75	Good AC core condition; Round stone subbase
C-21	RW15-33-I1	2,308	10.25		present	Good AC core condition; Round stone subbase

EXISTING PAVEMENT STRUCTURE

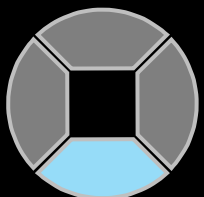


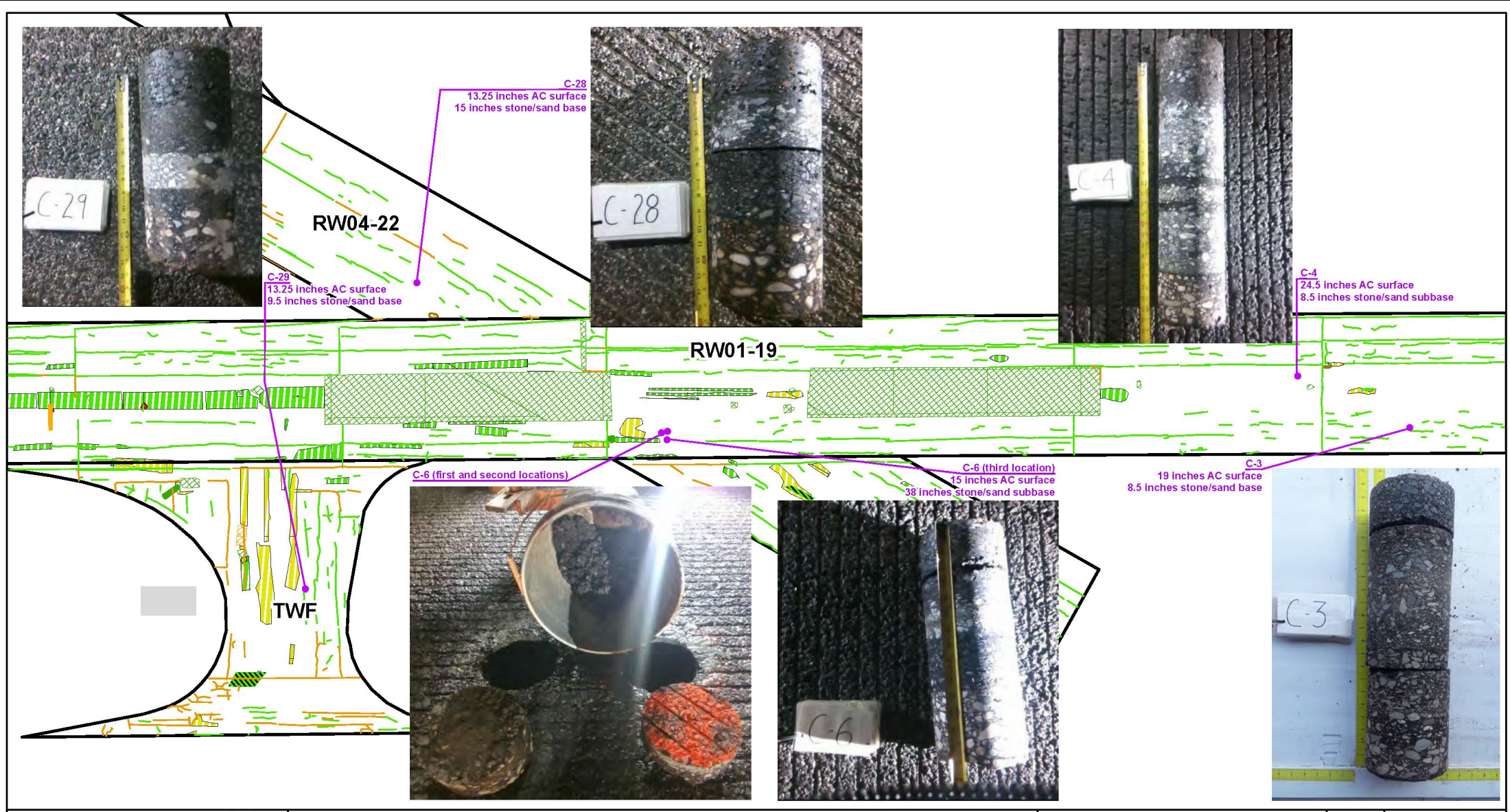
- ▶ HWD Testing – Low AC Modulus
- ▶ GPR Testing – Variable Thicknesses
- ▶ Coring – Stripping and Disintegrated Layers Identified
- ▶ Material Testing – Low Strengths Identified in Layers 3 and 4
- ▶ Conduit / Encasement Depths - Variable

		Layer 1	Layer 2	Layer 3	Layer 4	Layer 5	Layer 6	Layer 7	Layer 8	TOTAL	Core Intact?	Type of break	Break Depth (in)	Break Layer	Depth till bottom of break layer	Comments
1																
191	CORE-64	4.0	4.5	2.8	1.3	2.0	4.3			18.8	No	Delamination				
192	CORE-64											Deterioration	x 3.5	1	4.0	
193	CORE-64											Disintegration	x			
194	CORE-65	4.3	5.0	4.3						13.5	No	Delamination	x 3	1		
195	CORE-65											Deterioration				
196	CORE-65											Disintegration				
197	CORE-66	3.7		5.5	2.0					11.2	No	Delamination	x 3.7	1		second (mid) core in fragments, layer thickness cannot be discerned
198	CORE-66											Deterioration	x 3.7	1	3.7	
199	CORE-66											Disintegration	x			
200	CORE-67	4.7	1.1	5.7	3.0	2.3	4.0			20.8	No	Delamination	x 3.5	1		
201	CORE-67											Deterioration	11	4		
202	CORE-67											Disintegration				
203	CORE-68	5.0	1.3	2.0	3.5	1.8	1.8	2.5	4.0	21.8	No	Delamination				
204	CORE-68											Deterioration	x 4	1	5.0	
205	CORE-68											Disintegration				

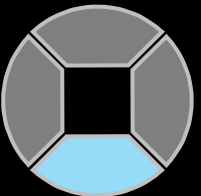


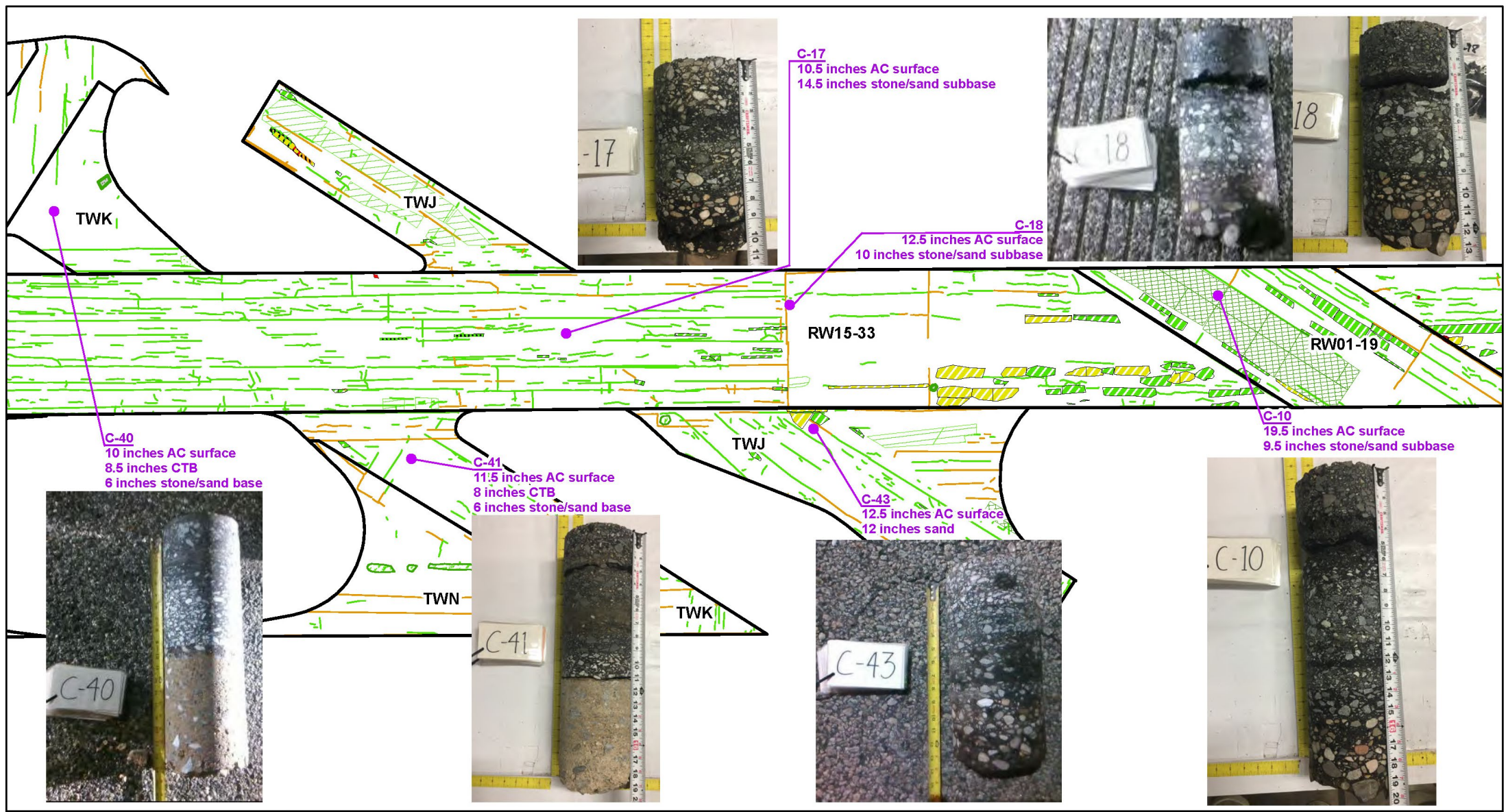
PAVEMENT EVALUATION



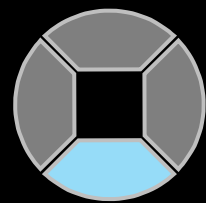


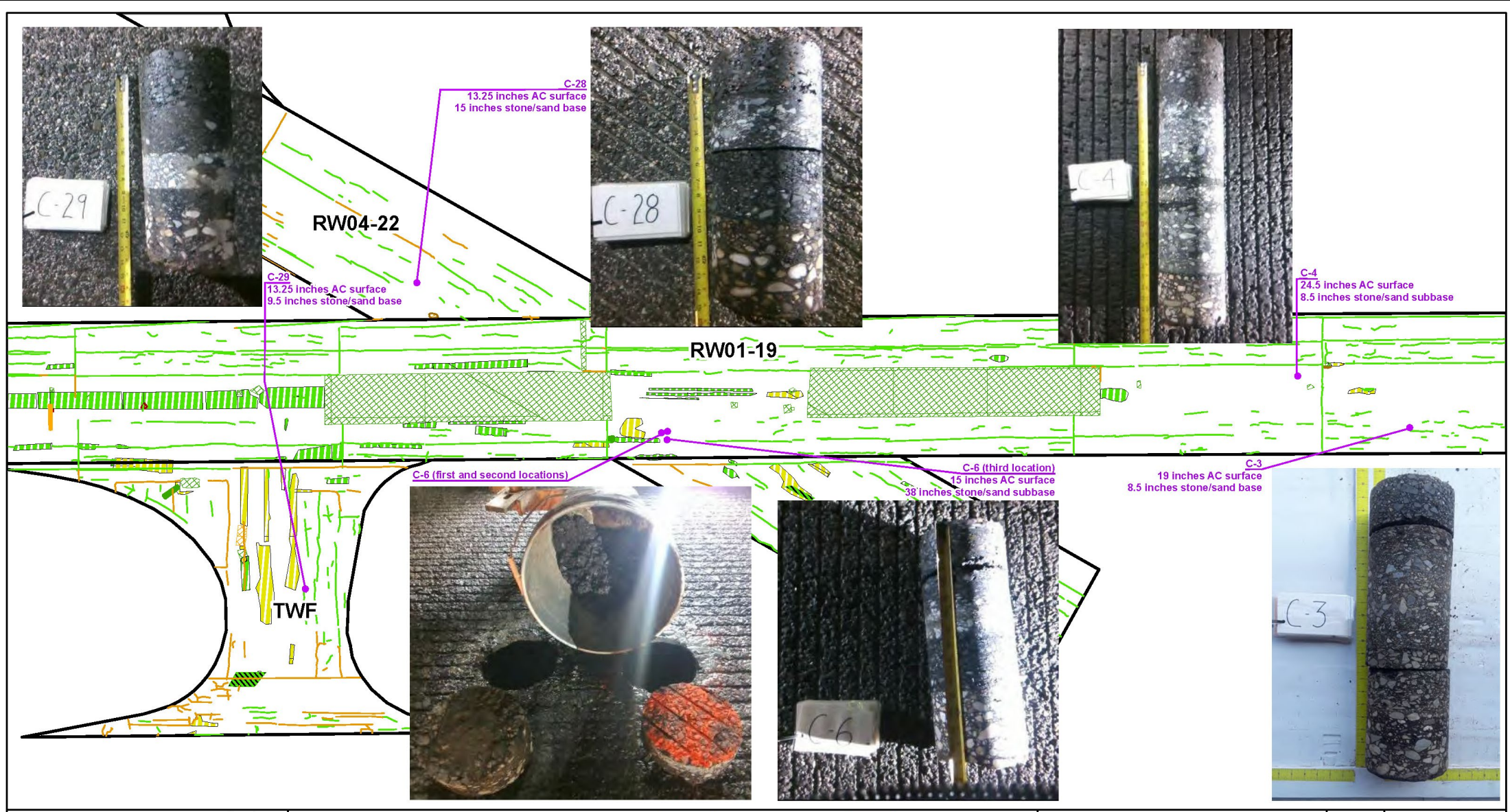
PAVEMENT EVALUATION



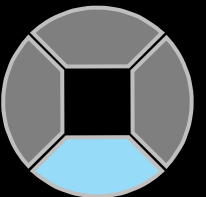


PAVEMENT EVALUATION

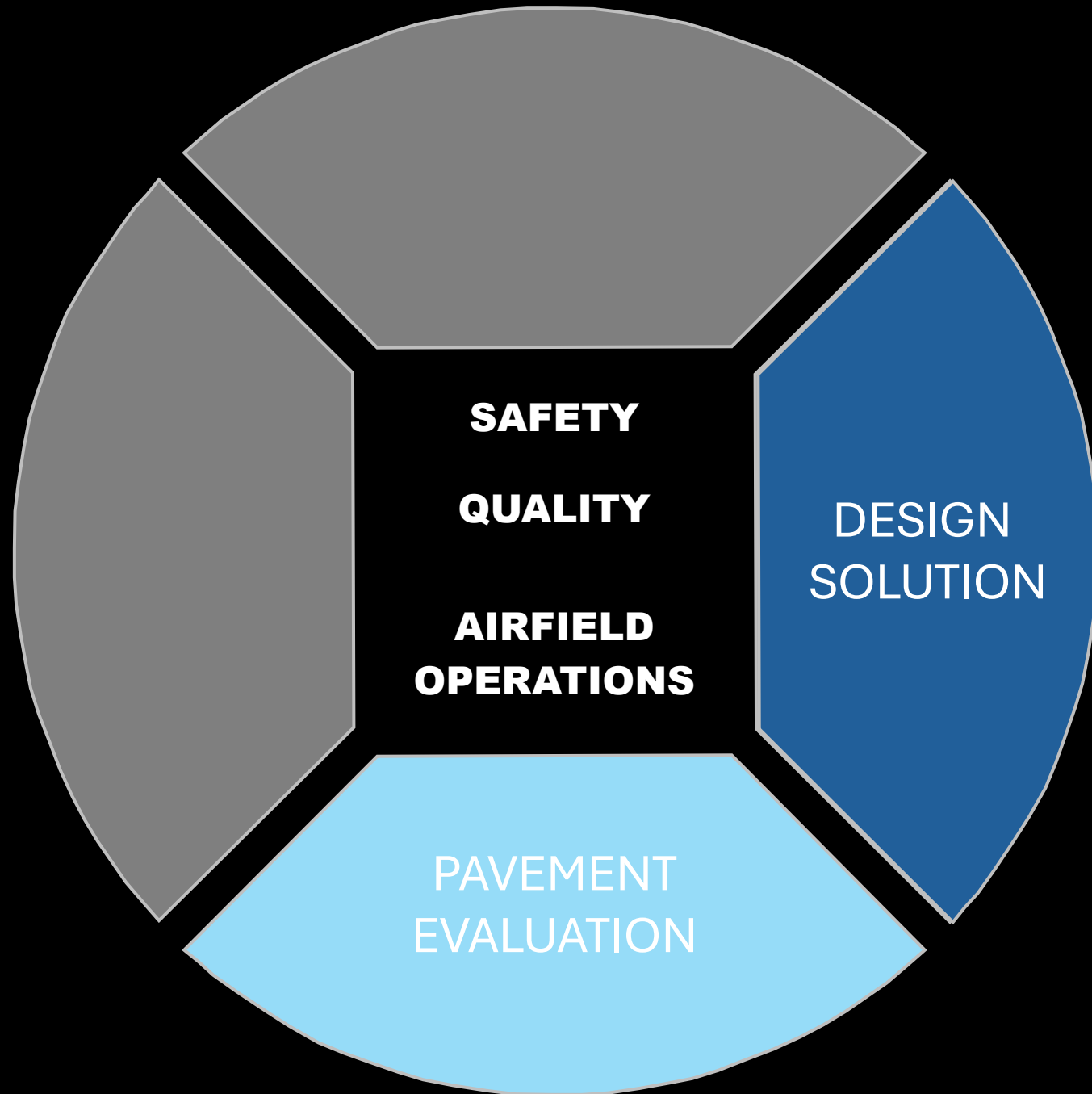




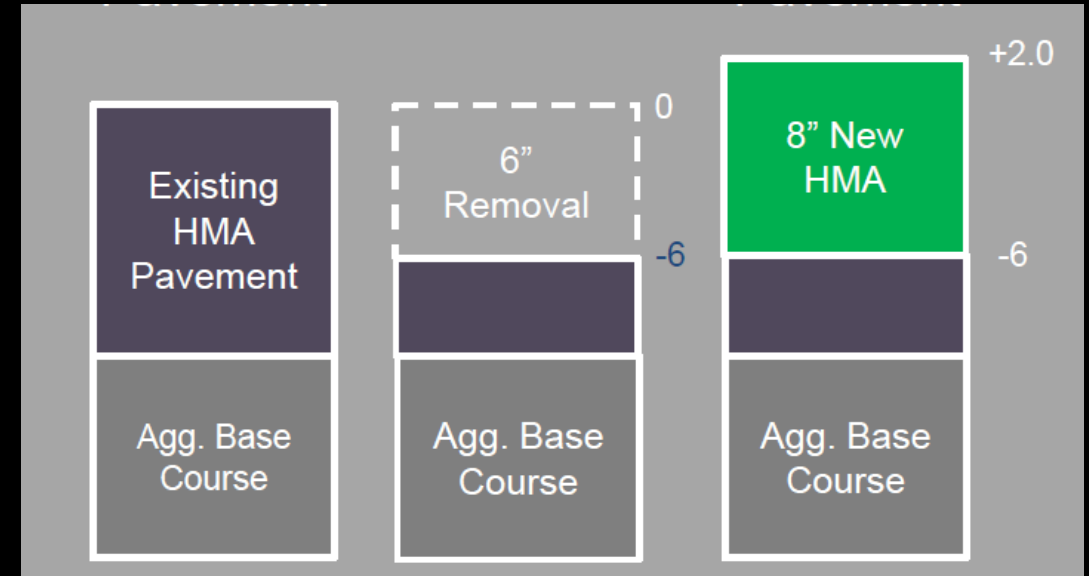
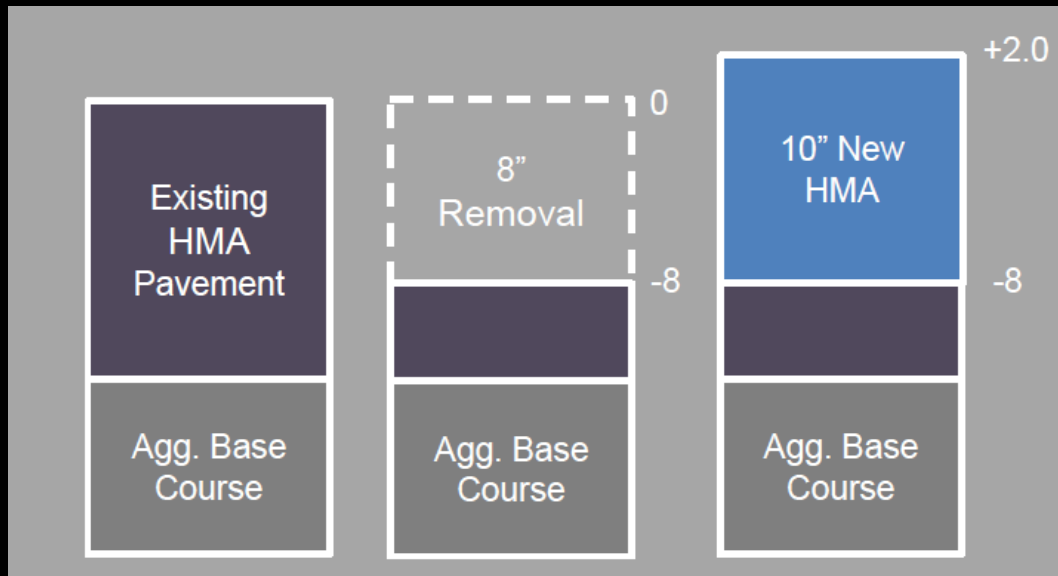
PAVEMENT EVALUATION



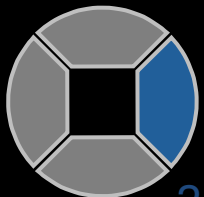




- Minimum 8-in Removal and Replacement on Runway 1-19
- Minimum 6-in Removal and Replacement on Runway 15-33
- Increase Total Pavement Thickness 2 inches

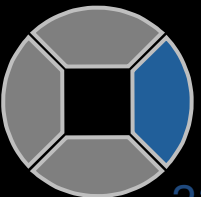


REQUIRED PAVEMENT STRUCTURES





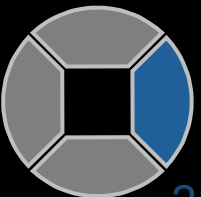
PAVEMENT REHABILITATION DEPTHS

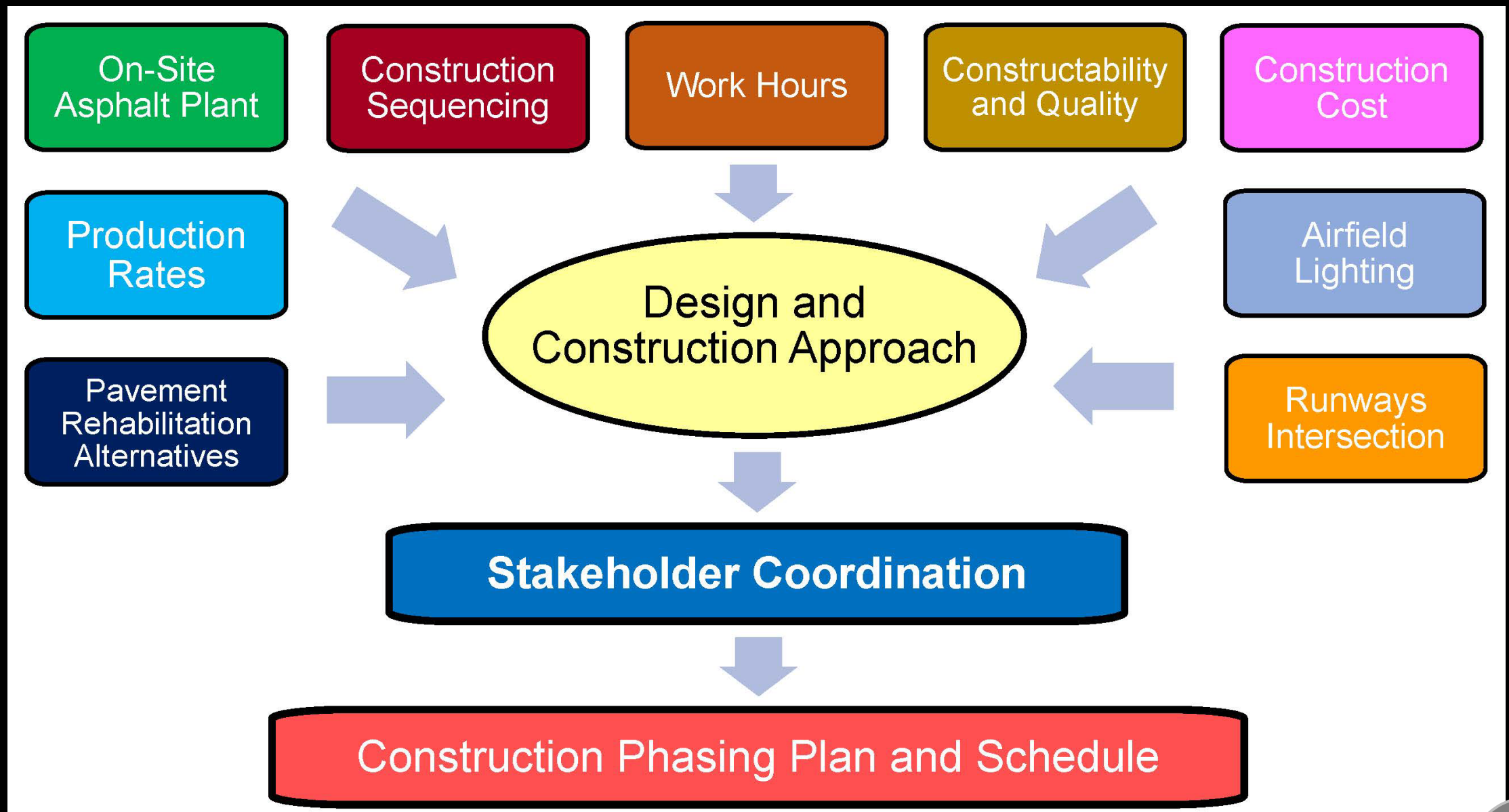


- Runway 1-19:
 - Replace Centerline Light Cans & Conduit
 - Replace TDZ Top Cans & Conduit
 - Add sub-surface drainage
 - Convert all Runway Lighting to LED
 - Upgrade Electrical Vault Equipment
- Runway 15-33:
 - Convert all Runway Lighting to LED



AIRFIELD LIGHTING IMPROVEMENTS





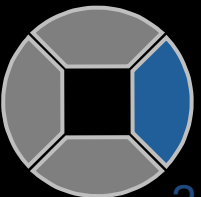
DESIGN DEVELOPMENT



- 1) How will pavements be constructed with runways re-opened daily?
- 2) How long will construction take each night (and minimize impacts)?
- 3) How long will it take to complete the project?
- 4) How will lighting requirements be integrated with paving?
- 5) How will asphalt be delivered to the site, consistently?

- ➔ **Develop a pavement / lighting approach to reopen daily**
- ➔ **Develop a Phasing Plan to complete in 2 years or less**
- ➔ **Evaluate feasibility of on-site asphalt plant**

DESIGN CHALLENGES



Selected Alternative

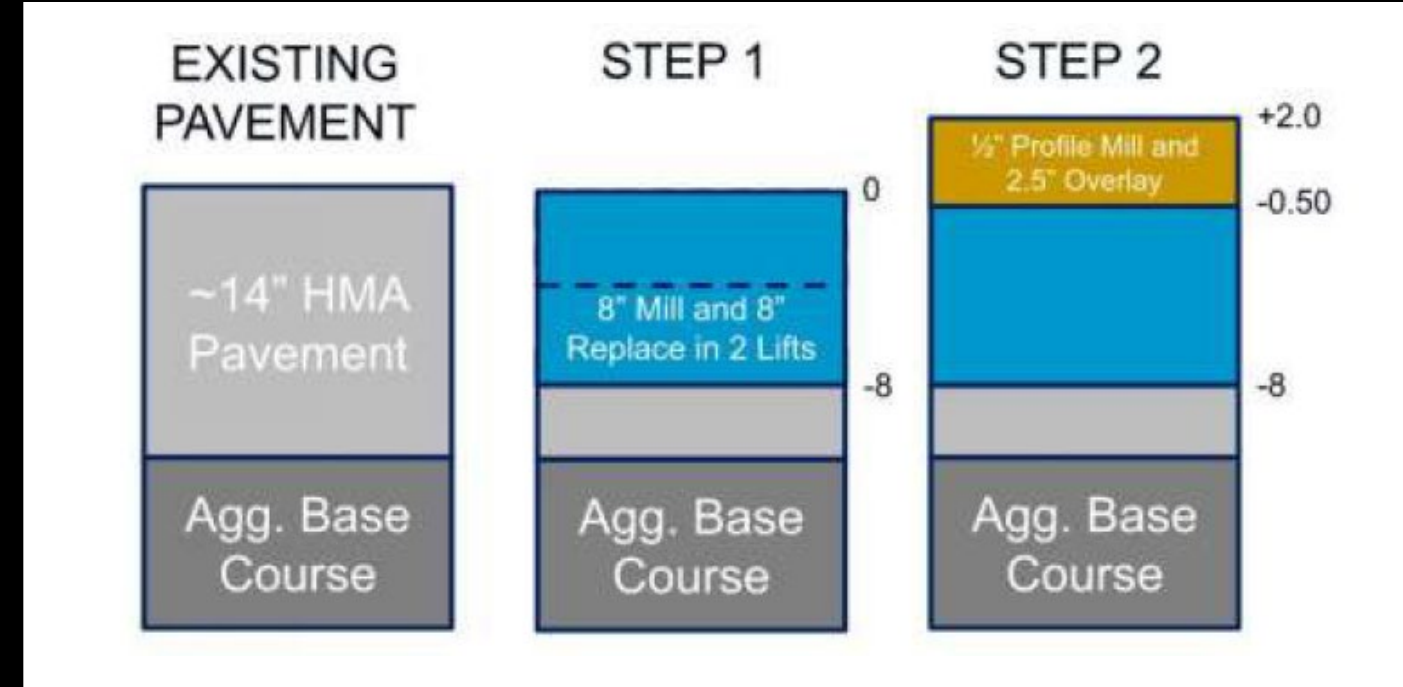
- Step 1 – Mill 8” and Place (2) 4” lifts
 - FAA P-401 Base, PG: 76-22, 1” Agg.
- Step 2 – ½” Mill and Place 2.5” lift
 - FAA P-401 Surface, PG: 82-22, ¾” Agg

Pros

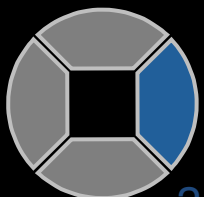
- No ramps required for base course
- Minimizes waste & uses least asphalt
- Operating on full pavement structure

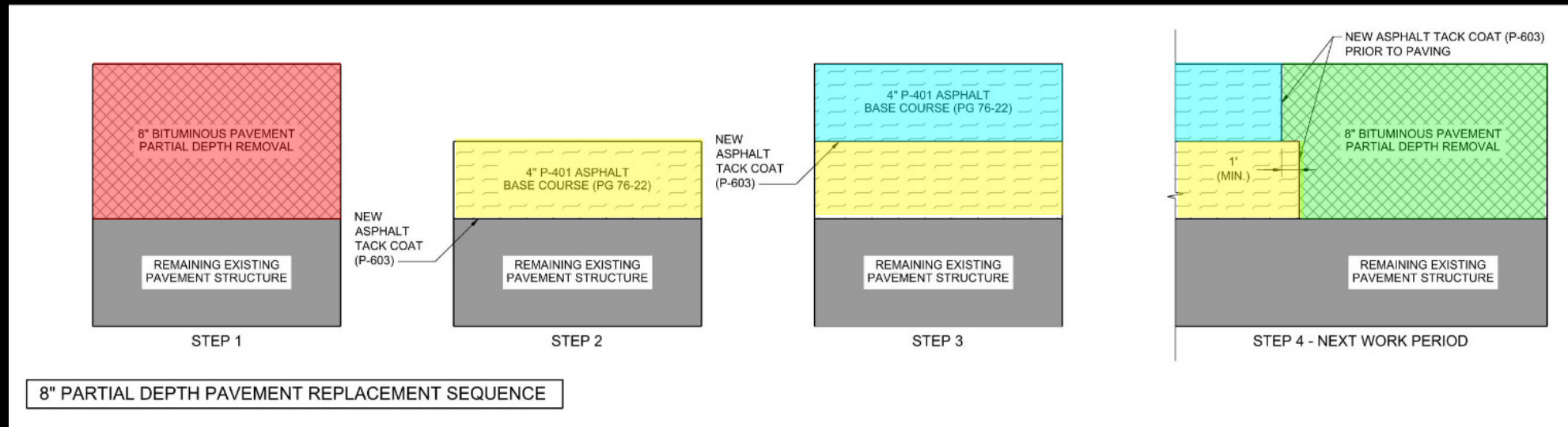
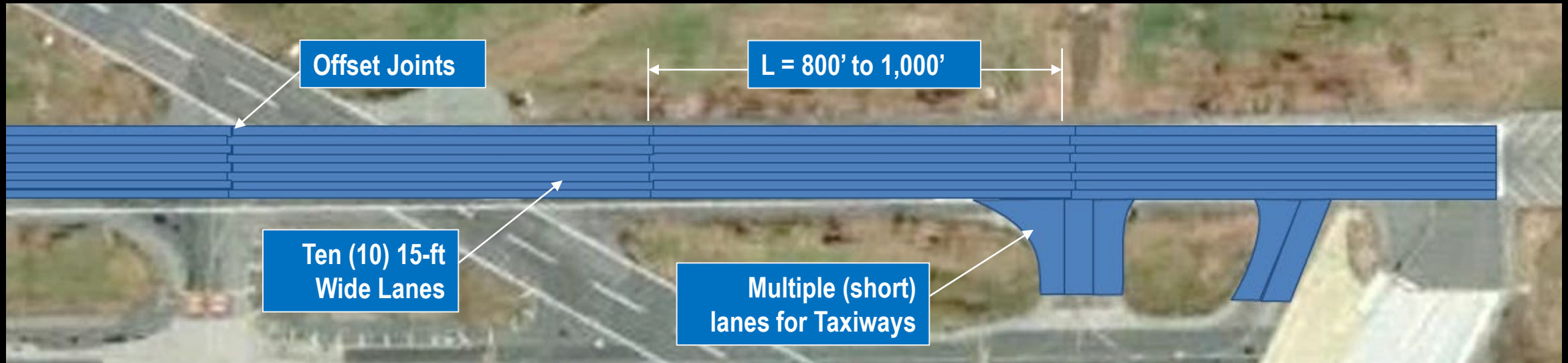
Cons

- More longitudinal joints in base layers
- Smoothness between Steps 1 and 2
- Potential repairs after Step 1

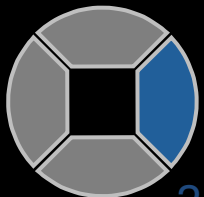


PAVEMENT REHAB APPROACH

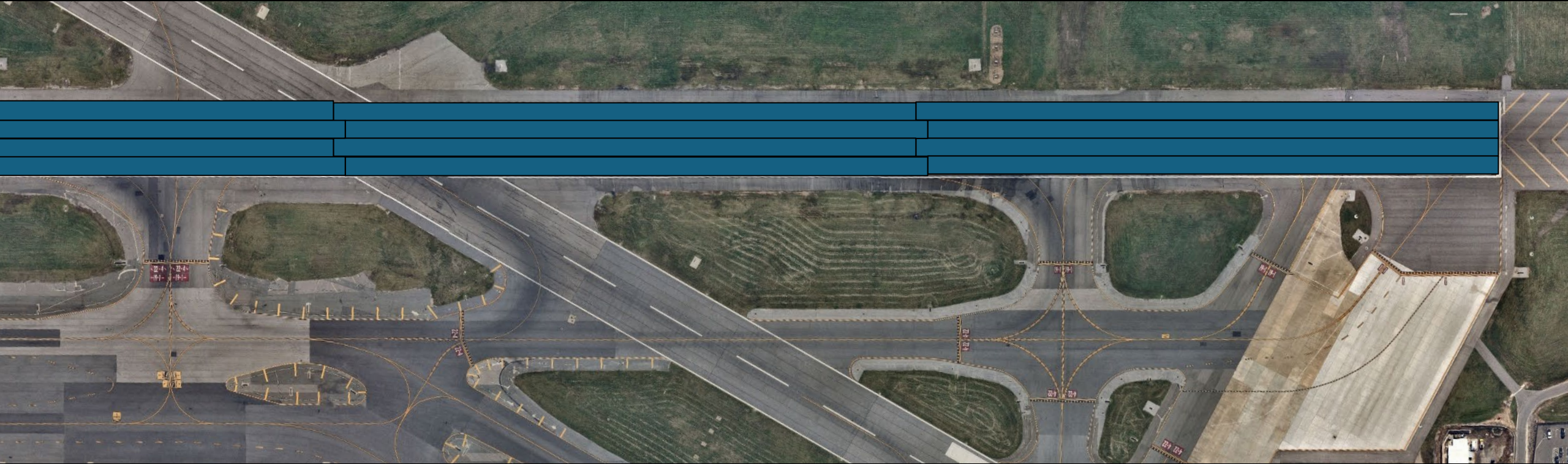




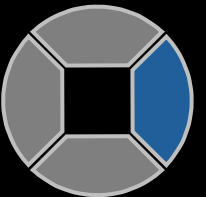
8" BASE REMOVAL & REPLACEMENT

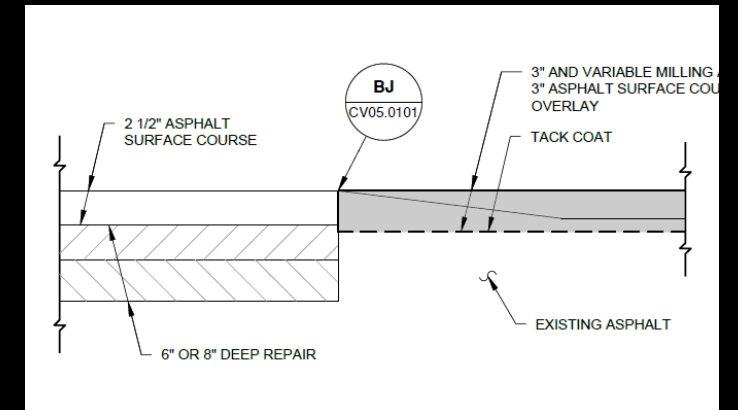
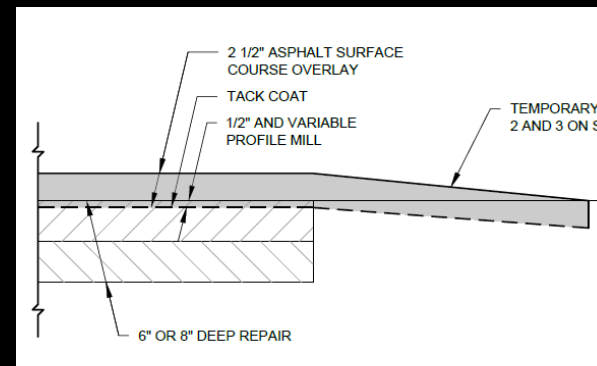
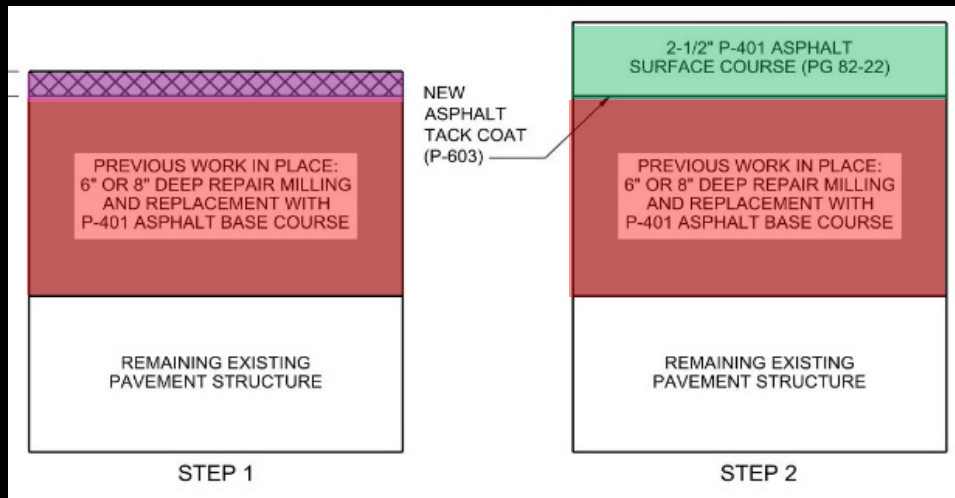


8-in Base Removal and Replacement Sequence



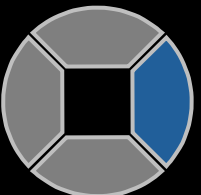
DESIGN SOLUTION





Temporary Transition Ramps Required (Nightly)

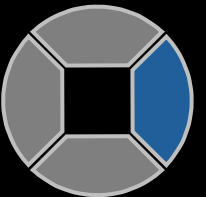
2.5" SURFACE COURSE OVERLAY



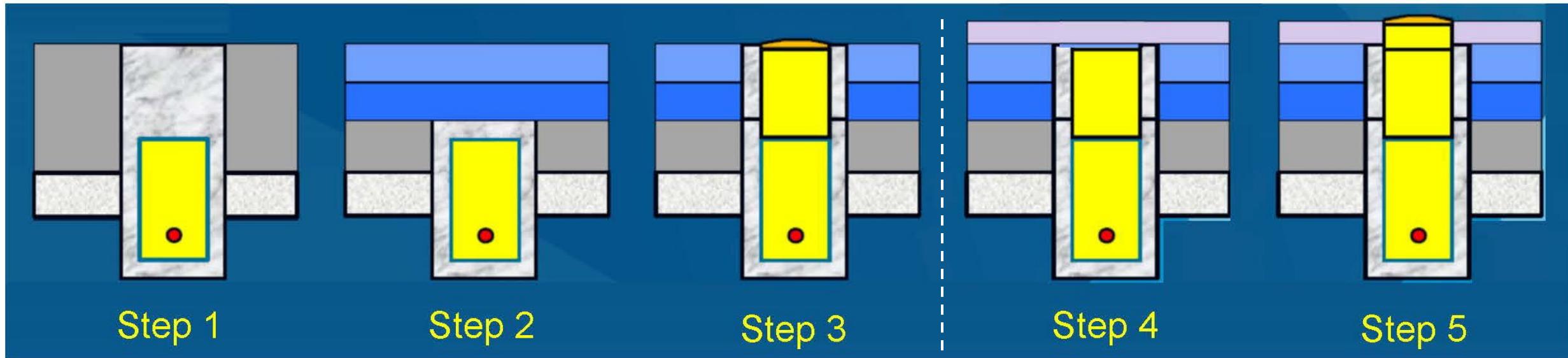
2.5-in AC Surface Course Sequence



DESIGN SOLUTION



- Multi-Step Process:
- Concurrent with Paving Operations
- Coordinated with Paving Operations

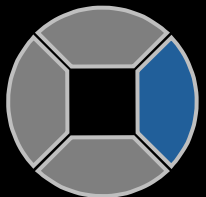


Year 1

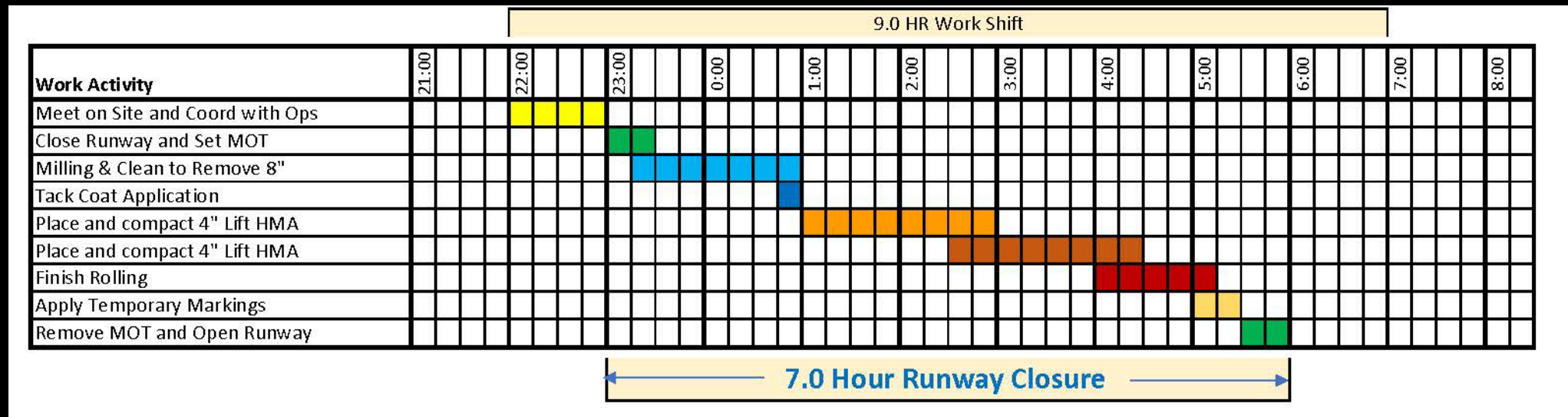
Year 2

31

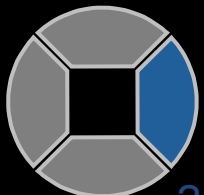
IN-PAVEMENT LIGHTING REPLACEMENT



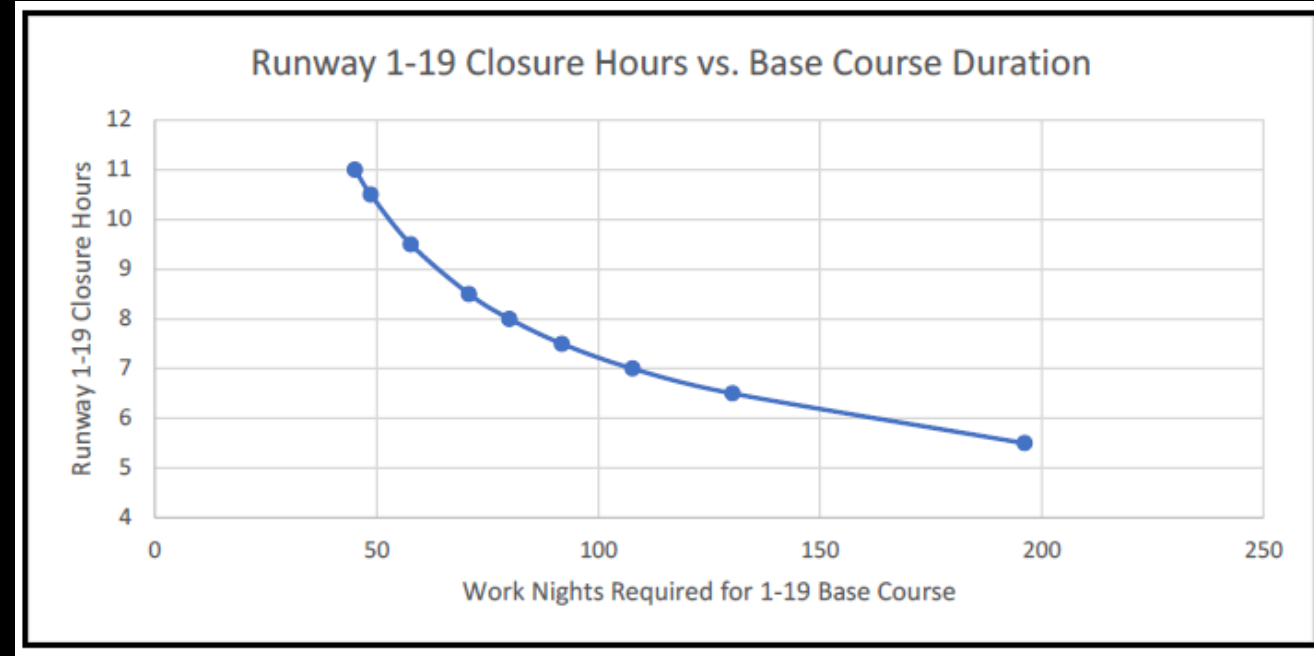
- Evaluated multiple closure durations for each component of work to determine nightly production versus work hours.
 - 8” Base Removal and Replacement determined to be critical activity
 - Hourly production rates considered at 15-minute intervals
 - PG76-22 bitumen used as tack coat to save time
 - Allow for cooling between asphalt lifts and prior to opening
 - Temporary Markings applied each night after paving



NIGHTLY SEQUENCE & PRODUCTION



- Evaluated multiple closure durations for each runway and for each year
 - 4.5 hours to 10 hours evaluated at 30-minute intervals
 - Determine total durations for each major component of work
 - Impact on total project duration
 - Minimum requirements for Year 1
 - Consider weather days



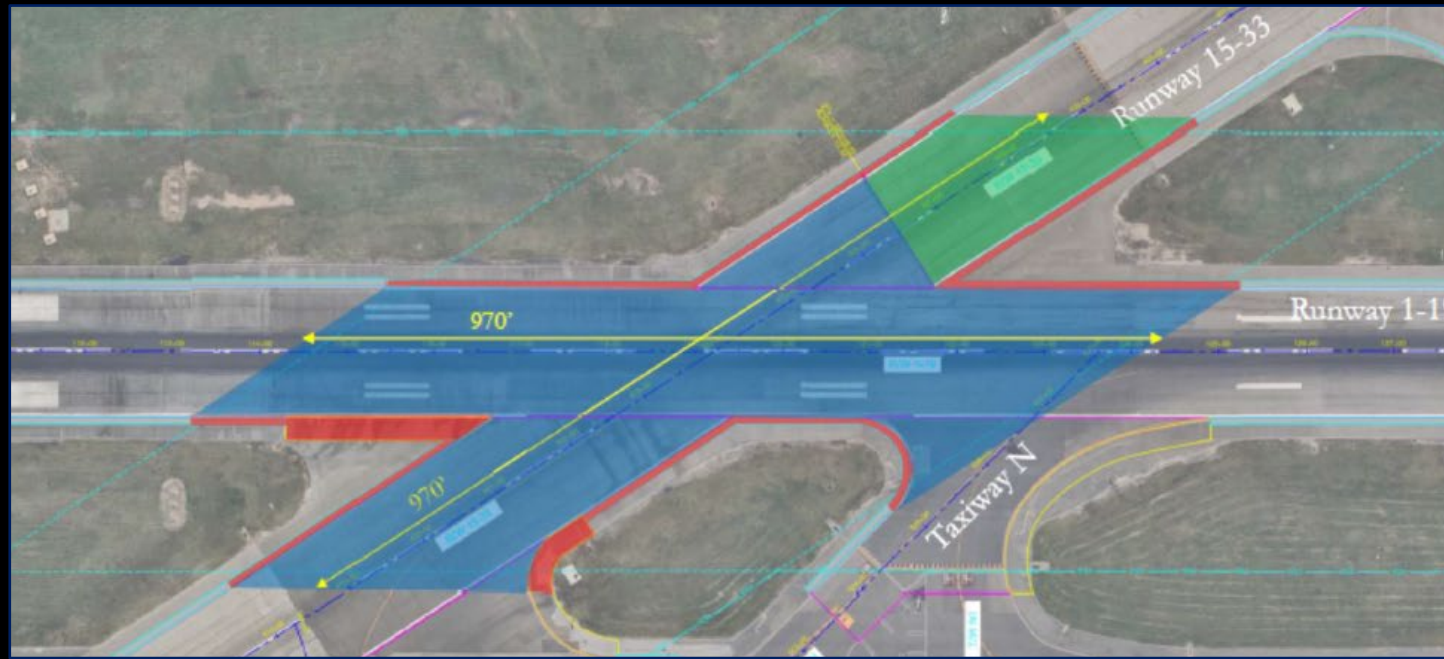
8-in Base Course Replacement

- *7 Hour Closure = ~108 shifts*
- *5.5 Hour Closure = ~196 shifts*

WORK HOURS / TOTAL DURATION

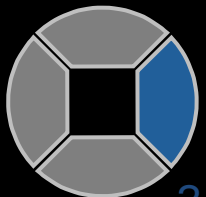


- Any work within 250-ft of a runway centerline requires full closure of DCA Airfield
- Intersection area (31,000 SY)
 - Base Replacement: 13,750 Tons
 - Surface Course: 5,870 Tons
 - 25 In-pavement Lights, Conduit, Cabling
- Multiple closures for Base / Surface
- Multiple closure scenarios evaluated
- Schedule work in June/July months



- Year 1 (Base): 44 Days
 - (12-Jun-2023 thru 24-Jul-2023)
- Year 2 (Surface): 18 Days
 - (28-May-2024 thru 14-Jun-2024)

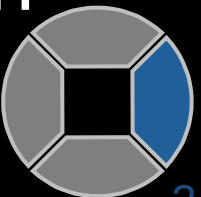
RUNWAYS INTERSECTION



Stakeholder Coordination & Operational Impacts

- Numerous Meetings with Ops and Airlines
- “Hard” Runway Closures
 - Construction Starts on Time – no adjustments for Late Arrivals
 - Airlines Adjusted Schedule and Aircraft Types
 - Runways Re-open on Time Each Morning
- No Centerline and TDZ Lights Until Winter Shutdown
- No Grooved Pavement until Winter Shutdown
- Restore Pavement Surface Sensors for Winter Shutdown

DESIGN SOLUTION



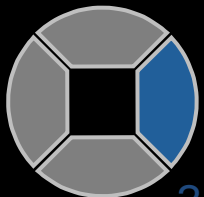
- Multiple closure scenarios for each Runway and Intersection

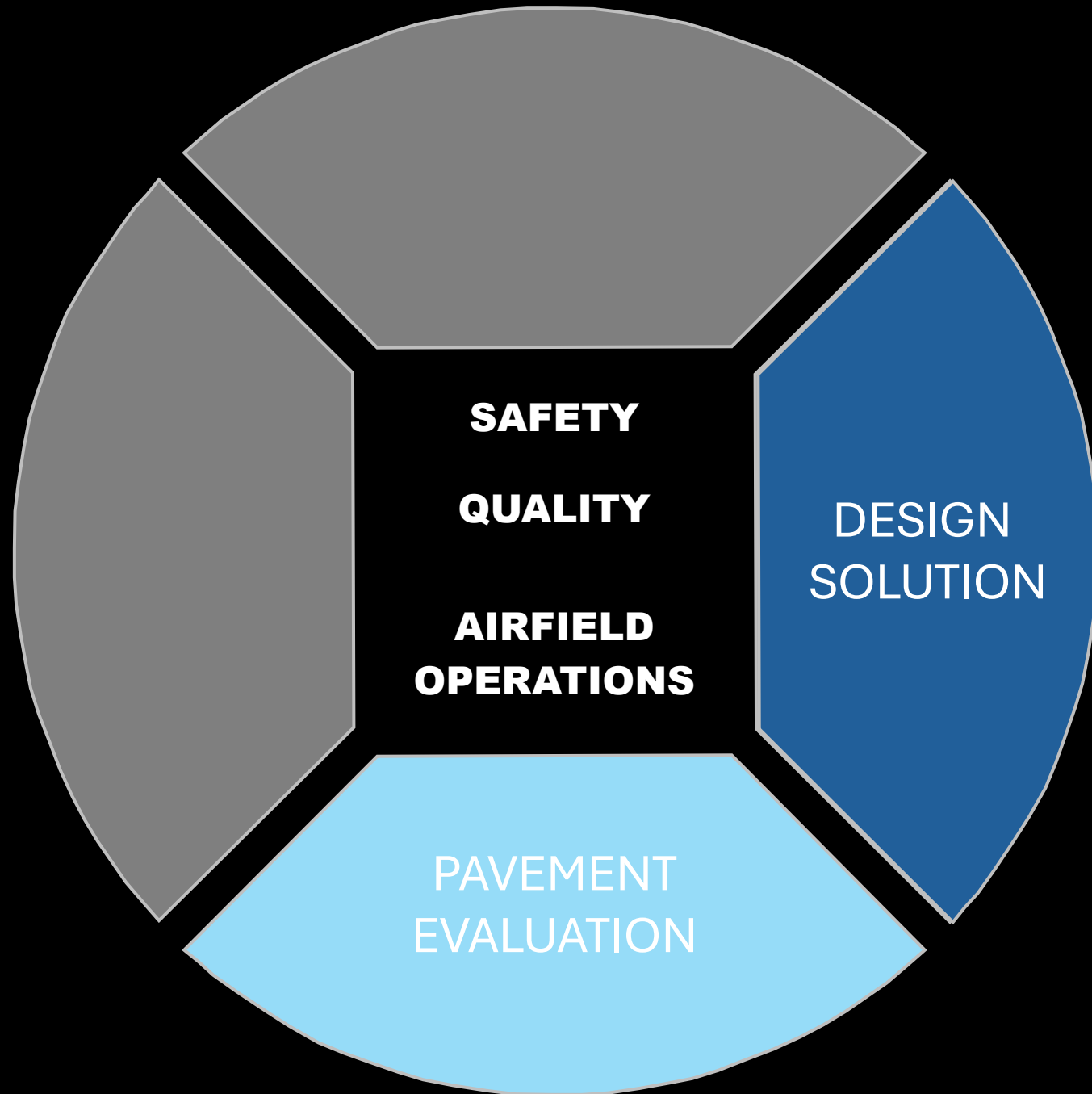
Runway	Duration	Hours	Years
Runway 1-19	7 hours	11pm to 6am	1 & 2
Runway 15-33	10 hours	8pm to 6am	1 & 2
Intersection	5.5 hours	12am to 5:30am	1 & 2

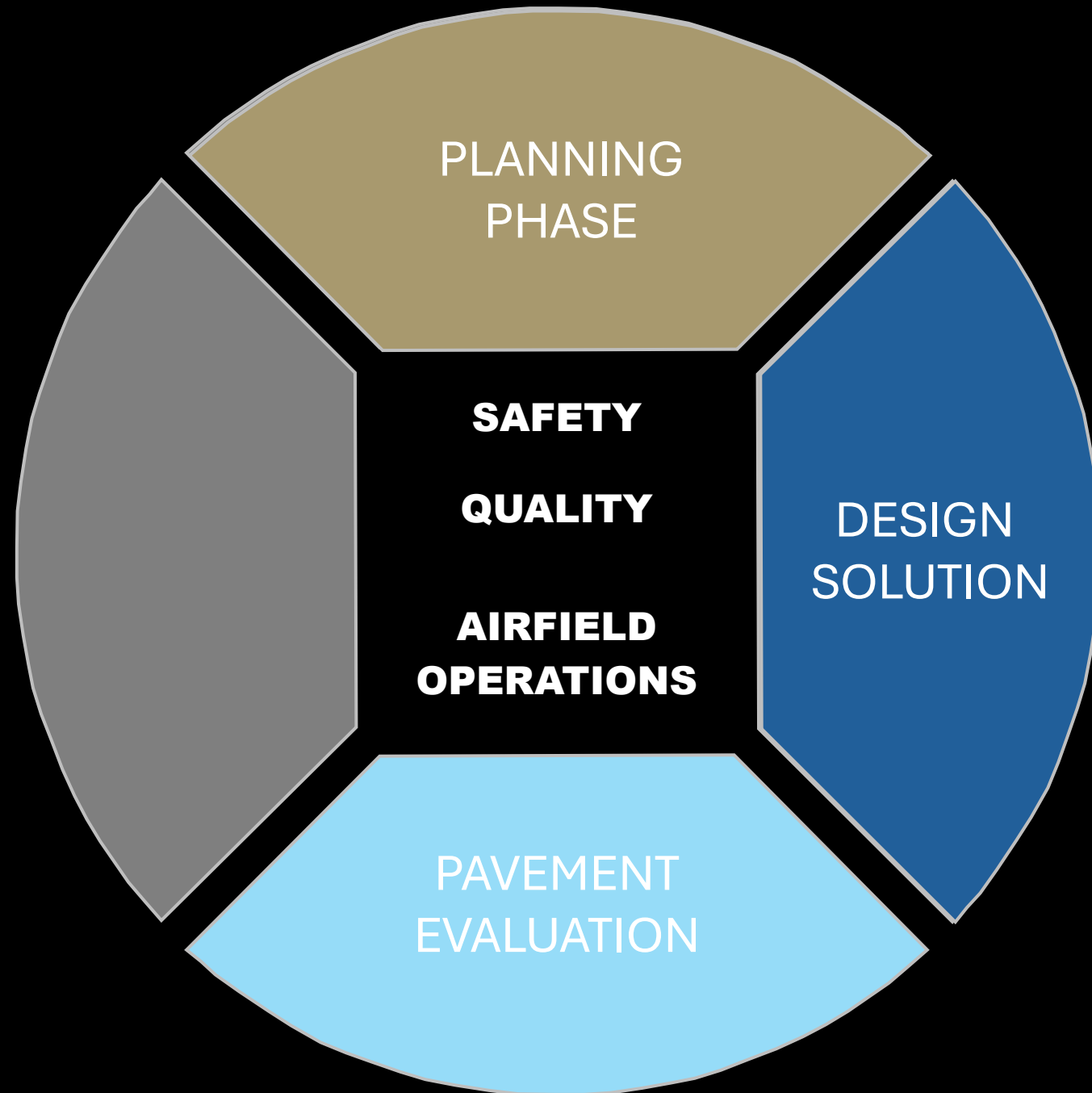
- Project Objectives

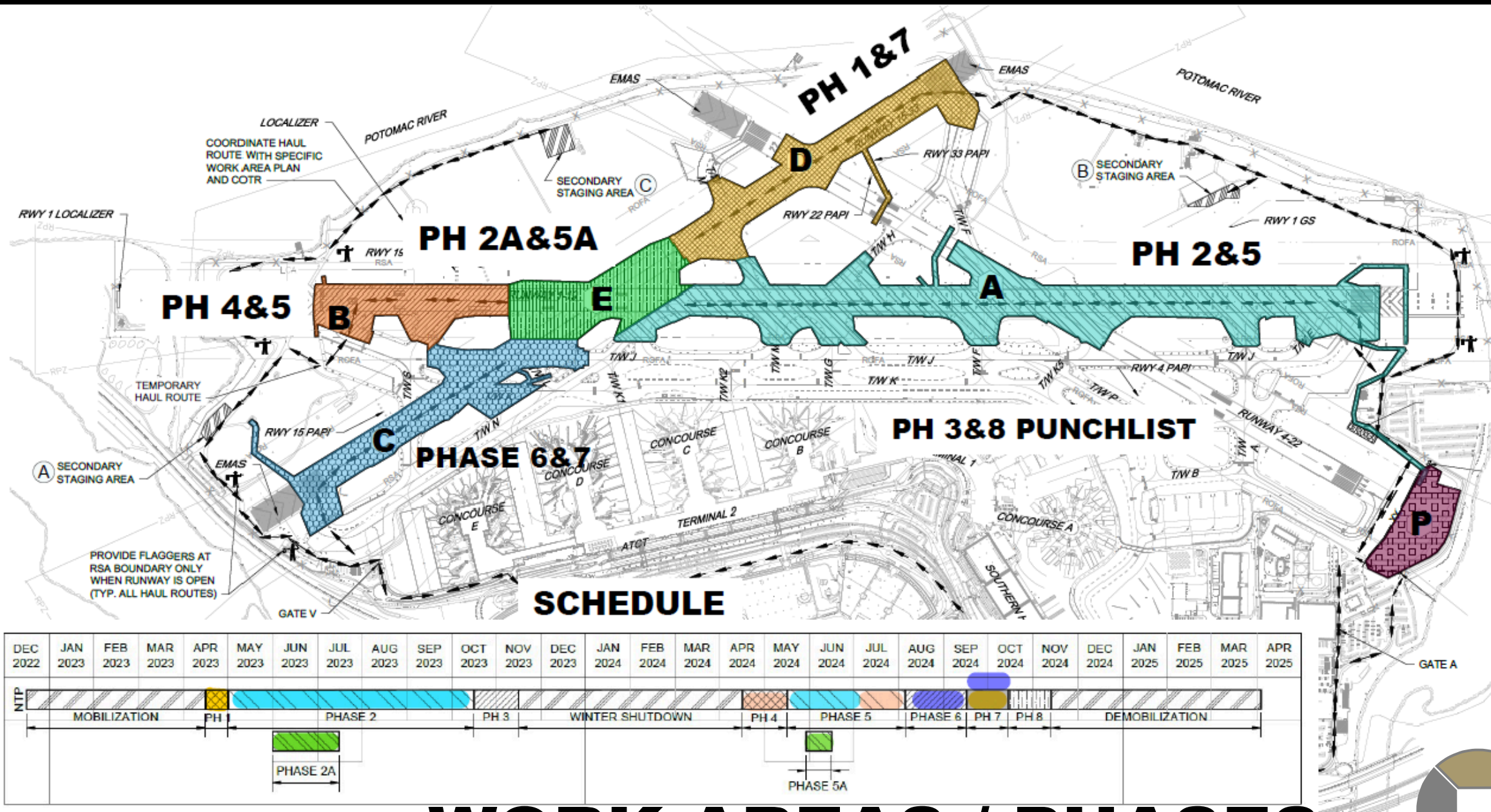
- Address operational impacts & open daily ✓
- Complete the construction within 2 Years ✓
- Complete R/W 1-19 Base Course in Year 1 ✓
- Restore runway lights for winter shutdown ✓

RUNWAY CLOSURE SCENARIOS







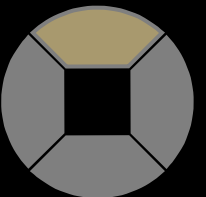


WORK AREAS / PHASES










- RUNWAY 1-19:
 - 11 pm to 6 am (7 hours)
- RUNWAY 15-33:
 - 8 pm to 6 am (10 hours)
- RUNWAY 1-19 & 15-33 INTERSECTION:
 - Sun – Fri Nights: 12:30 am to 6 am (5.5 hours)
 - Saturday Night: 11 pm to 6 am (7 hours)
- Confirm Preferred Start/Stop Times

NIGHTLY WORK HOURS



Construction Year 1 - 2023

Phase	Work Areas	Activity	Duration (days)	Jan-23	Feb-23	Mar-23	Apr-23	May-23	Jun-23	Jul-23	Aug-23	Sep-23	Oct-23	Nov-23	Dec-23	Est. Start	Est. Finish
M	-	Mobilization & Batch Plant	105													1-Nov-22	15-Apr-23
1	D	Runway 15-33 Base Course	15													16-Apr-23	30-Apr-23
2	A, B	Runway 1-19 Base Course	165													1-May-23	15-Oct-23
2A	A, B, E	Runway 1-19/15-33 Intersection Base Course	45													1-Jun-23	15-Jul-23
3	A, B, D	Prep for Winter Shutdown (Markings, Grooving, CL Light Fixtures)	30													16-Oct-23	15-Nov-23
WS	-	Winter Shutdown	45				<div>Intersection Closure 5.5 Hrs Sun - Fri Nights 7.0 Hrs Sat Night</div>									16-Nov-23	31-Dec-23
Runway 1-19				Open									Closed Nightly No CL or TDZ Lights		Open No TDZ Lights	7.0 Hour Nightly Closures (11:00 pm to 6:00 am)	
Runway 15-33				Open			<div>Closed Nightly</div>	Open	<div>Closed Nightly</div>			Open		Open		10 Hour Nightly Closures (8:00 pm to 6:00 am)	
Runway 4-22				Closed Nightly, Open for Rwy 4 Daytime Departures Only												1-Jan-23	31-Dec-23

Intersection Closure
5.5 Hrs Sun - Fri Nights
7.0 Hrs Sat Night

Closed Nightly

Closed Nightly

Closed Nightly
No CL or TDZ Lights

2023 SCHEDULE

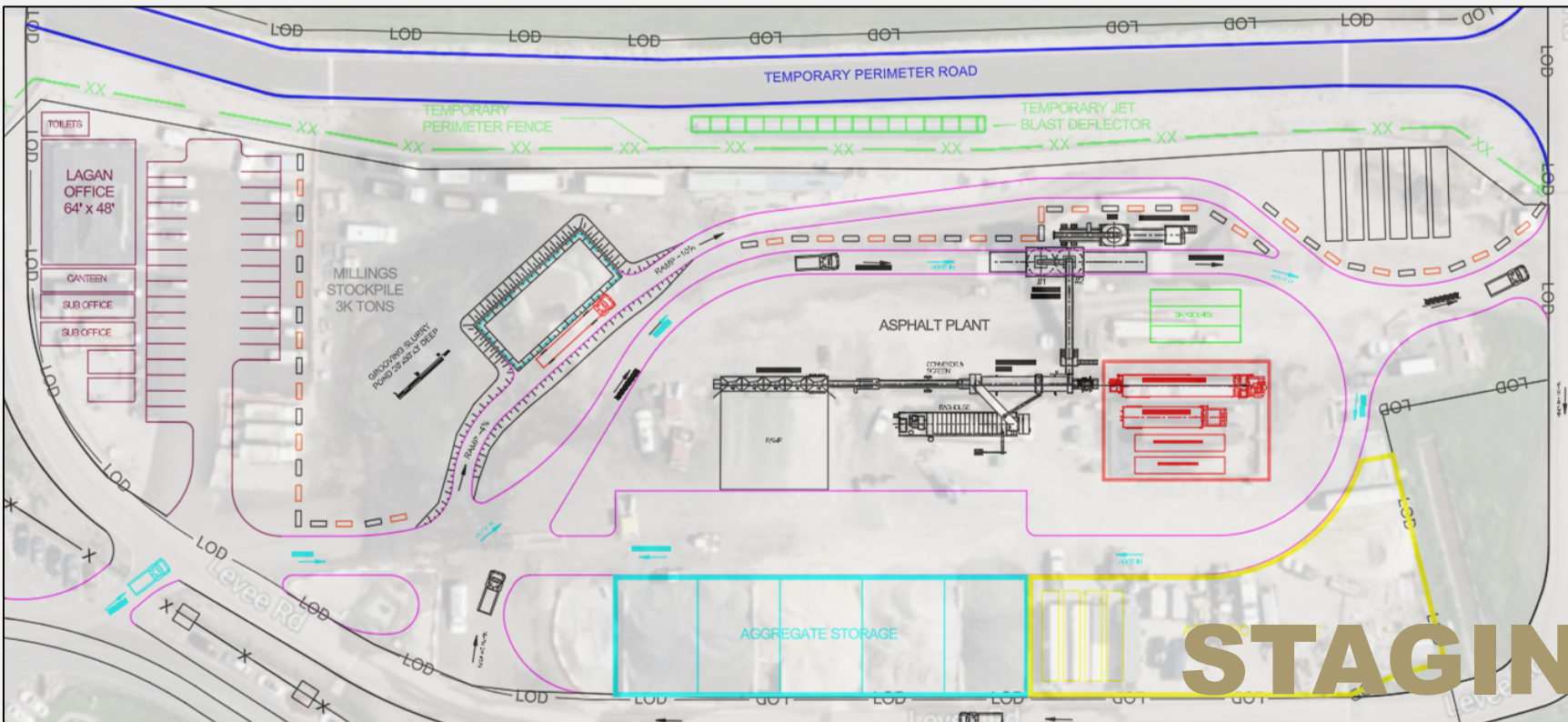
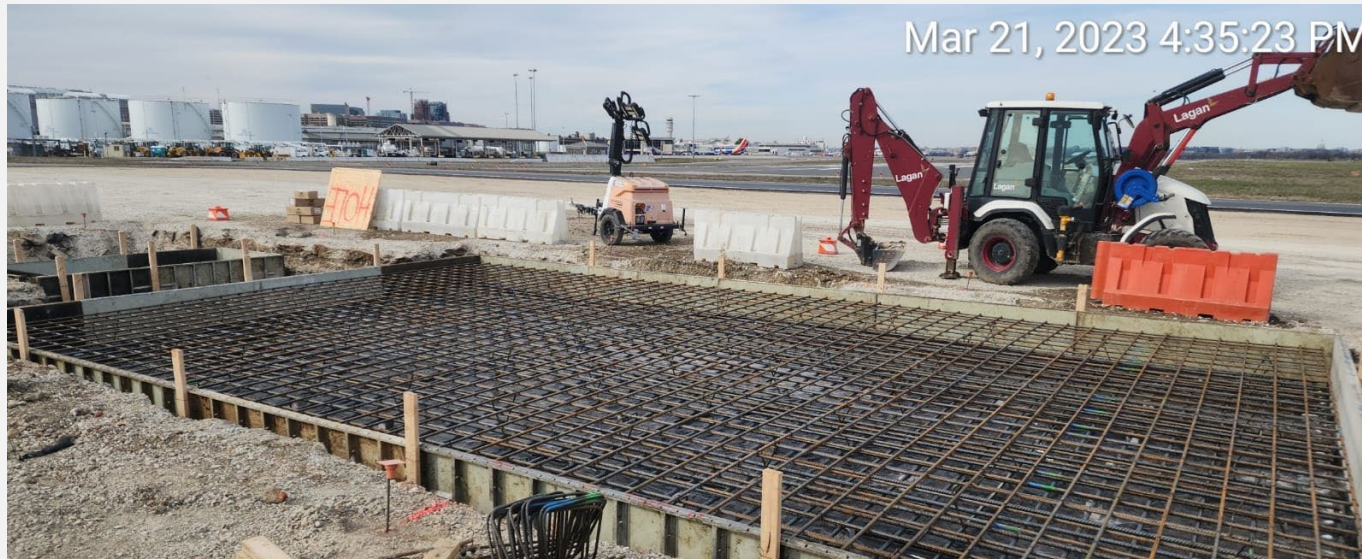


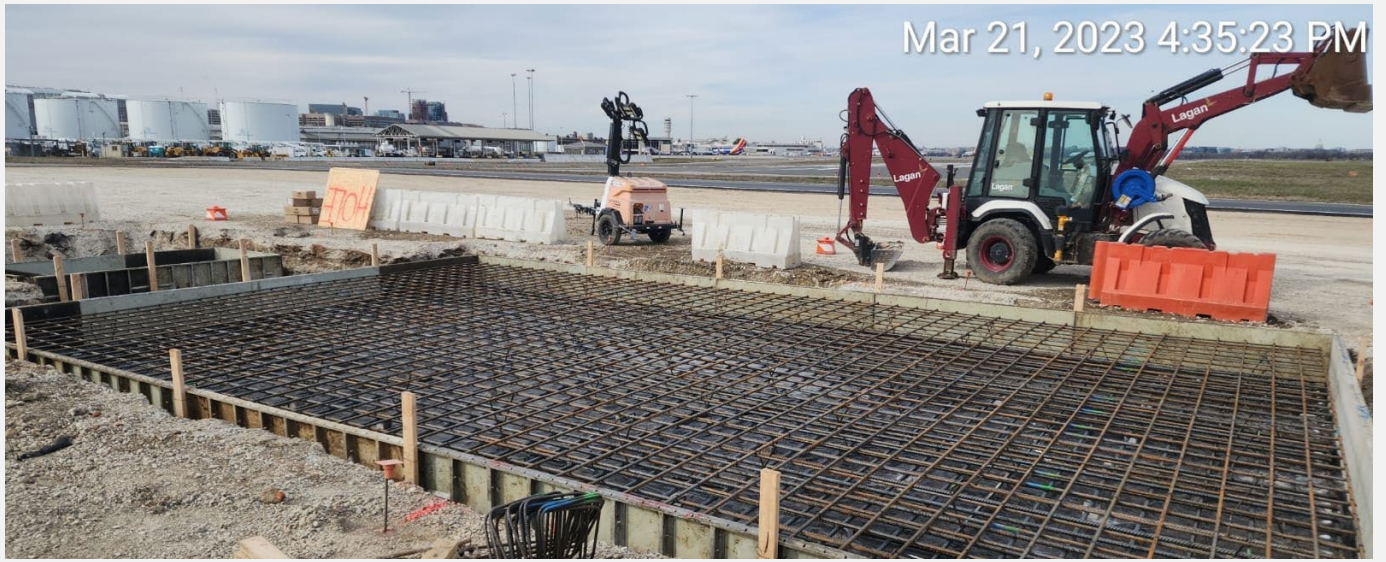
Construction Year 2 - 2024

Phase	Work Areas	Activity	Duration (days)	Jan-24	Feb-24	Mar-24	Apr-24	May-24	Jun-24	Jul-24	Aug-24	Sep-24	Oct-24	Nov-24	Dec-24	Est. Start	Est. Finish
WS	-	Winter Shutdown	105													1-Jan-24	15-Apr-24
4	A, B	Runway 1-19 Base Course	53													16-Apr-24	8-Jun-24
5	A, B	Runway 1-19 Surface Course	68													9-Jun-24	15-Aug-24
5A	A, B, E	Runway 1-19/15-33 Intersection Surface Course	15													1-Jul-24	15-Jul-24
6	C	Runway 15-33 Base Course	30													16-Aug-24	15-Sep-24
7	C,D	Runway 15-33 Surface Course	30													16-Sep-24	15-Oct-24
8	A,B, C, D	Final Actions (Grooving, Marking, CL and TDZ Light Fixtures)	30													16-Oct-24	15-Nov-24
Runway 1-19				<div>Open TDZ Lights out of service</div> <div>Closed Nightly No CL or TDZ Lights</div> <div>Open</div>												7.0 Hour Nightly Closures (11:00 pm to 6:00 am)	
Runway 15-33				<div>Open</div> <div>Closed Nightly</div> <div>Open</div> <div>Closed Nightly</div> <div>Open</div>												10 Hour Nightly Closures (8:00 pm to 6:00 am)	
Runway 4-22				Closed Nightly, Open for Rwy 4 Daytime Departures Only												1-Jan-24	31-Dec-24

2024 SCHEDULE



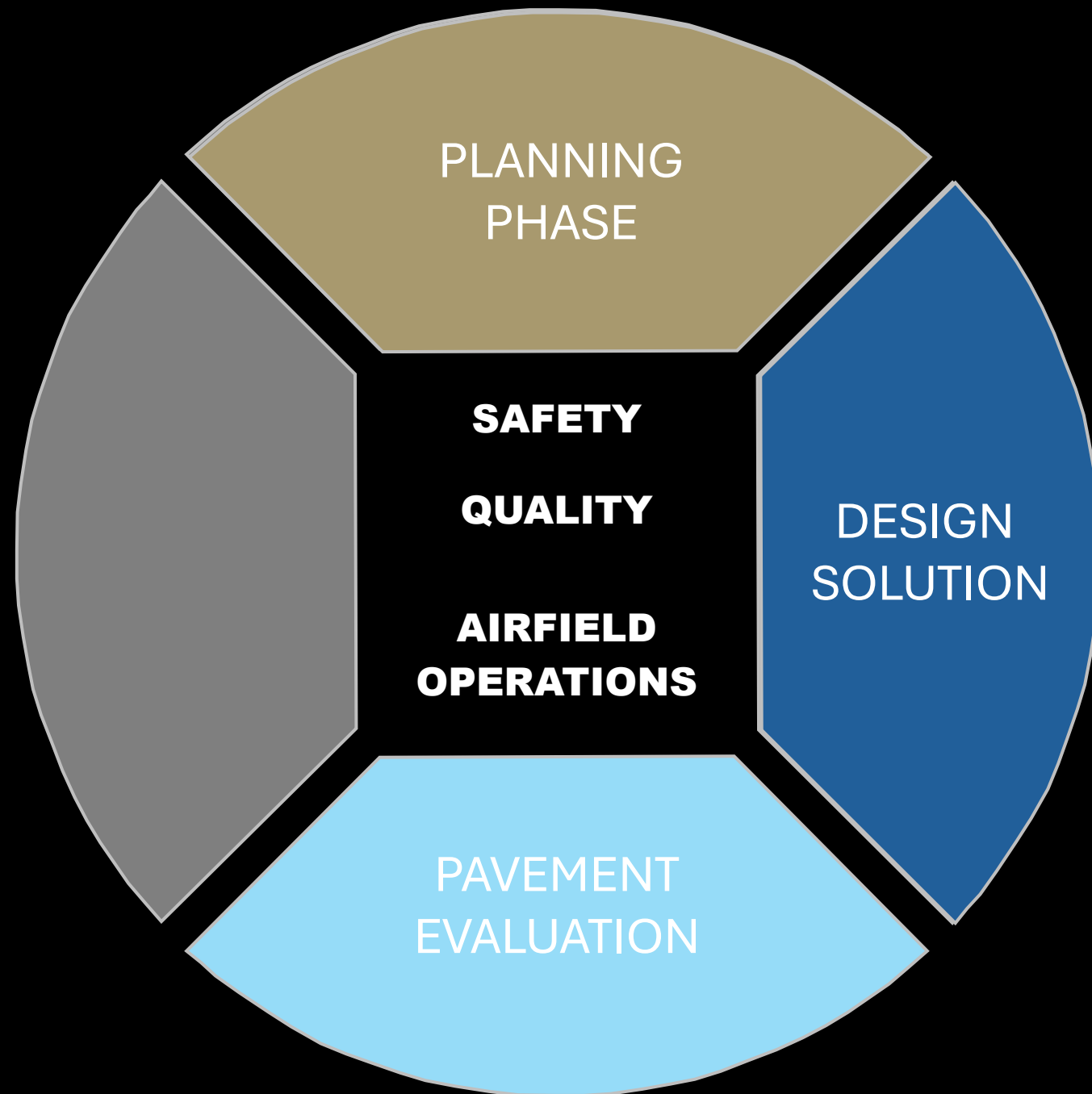


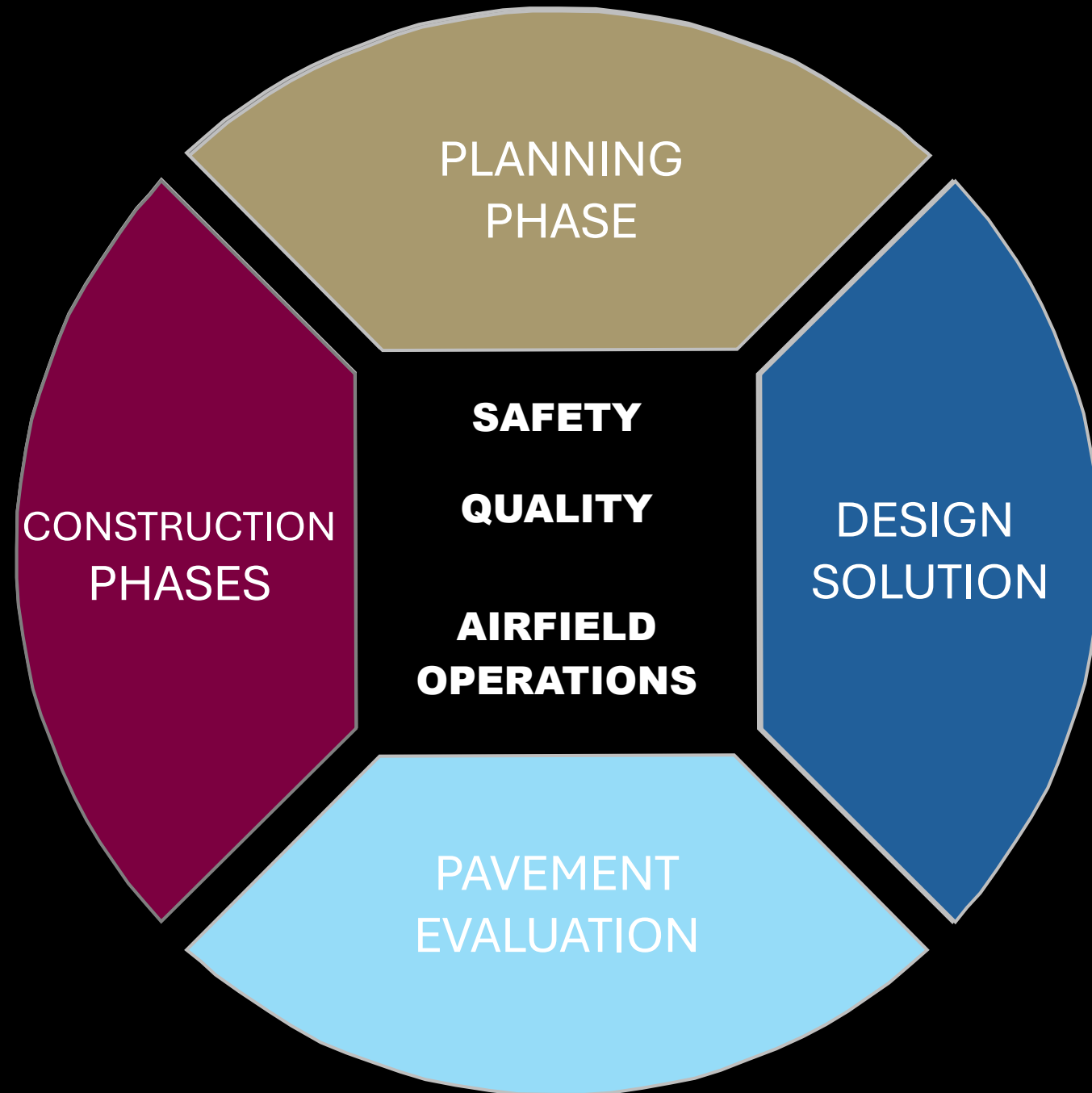




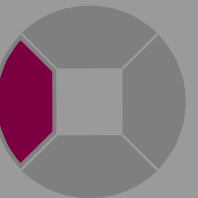
ON-SITE BATCH PLANT





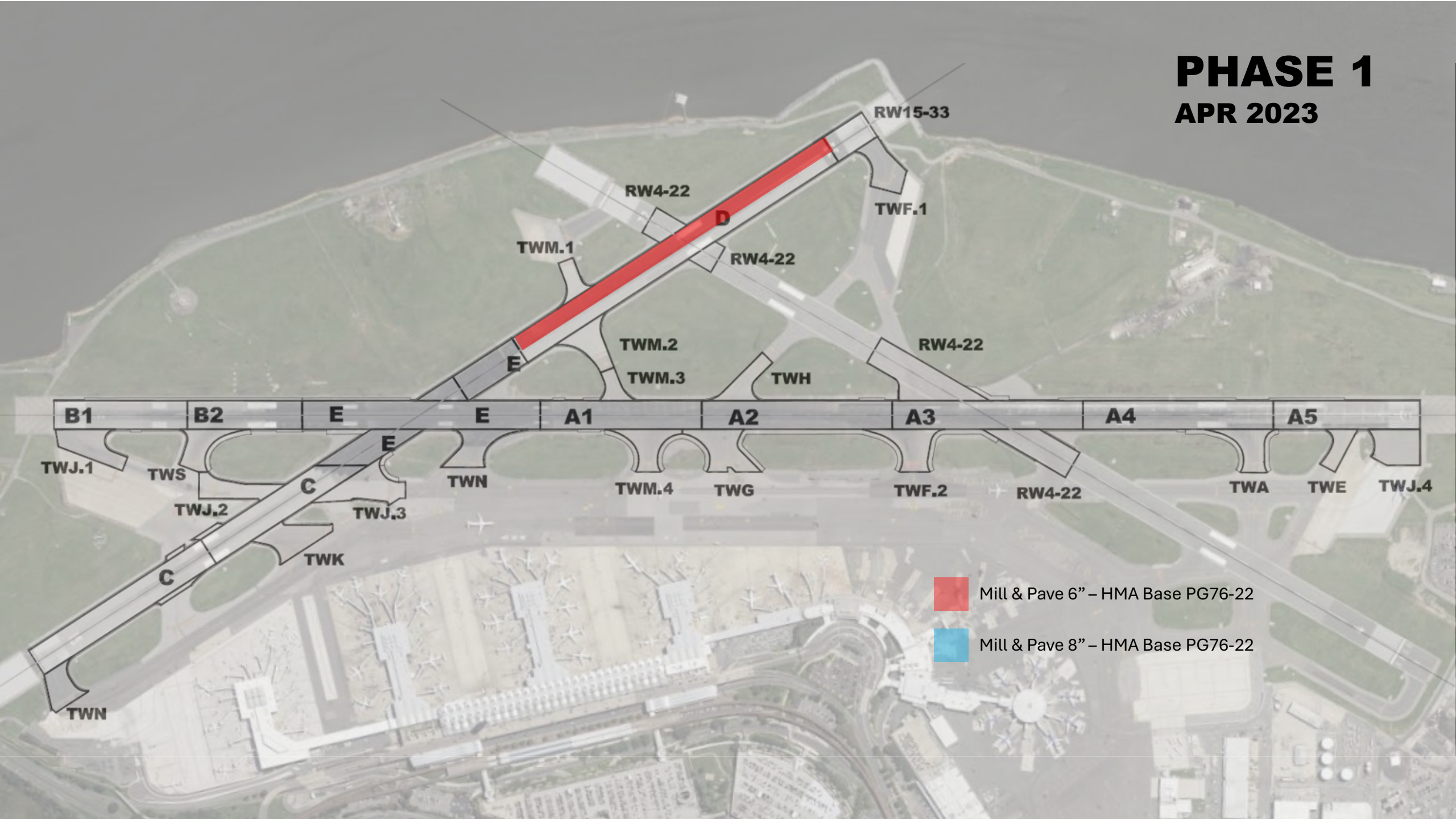


CONSTRUCTION 2023



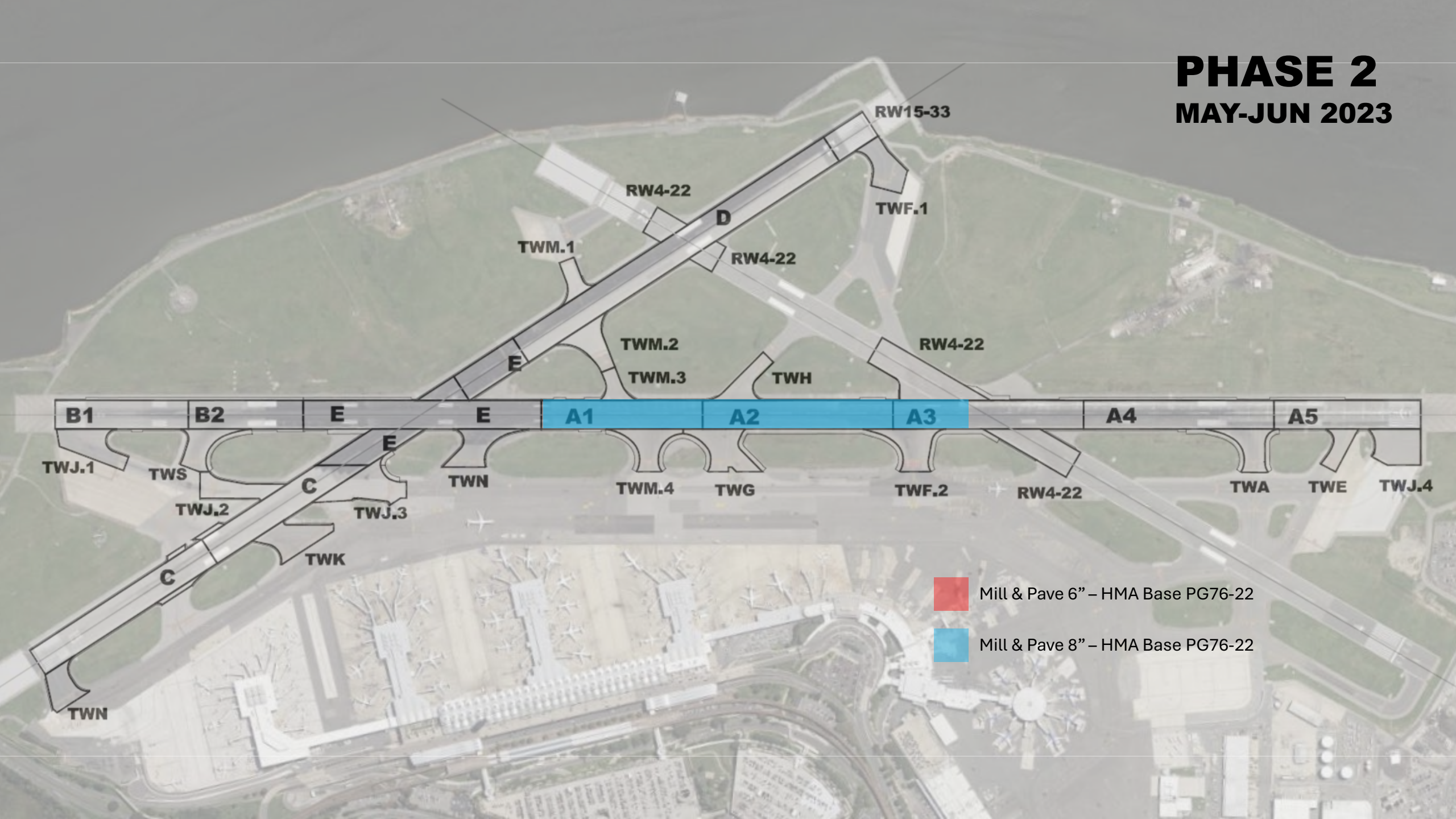
PHASE 1

APR 2023



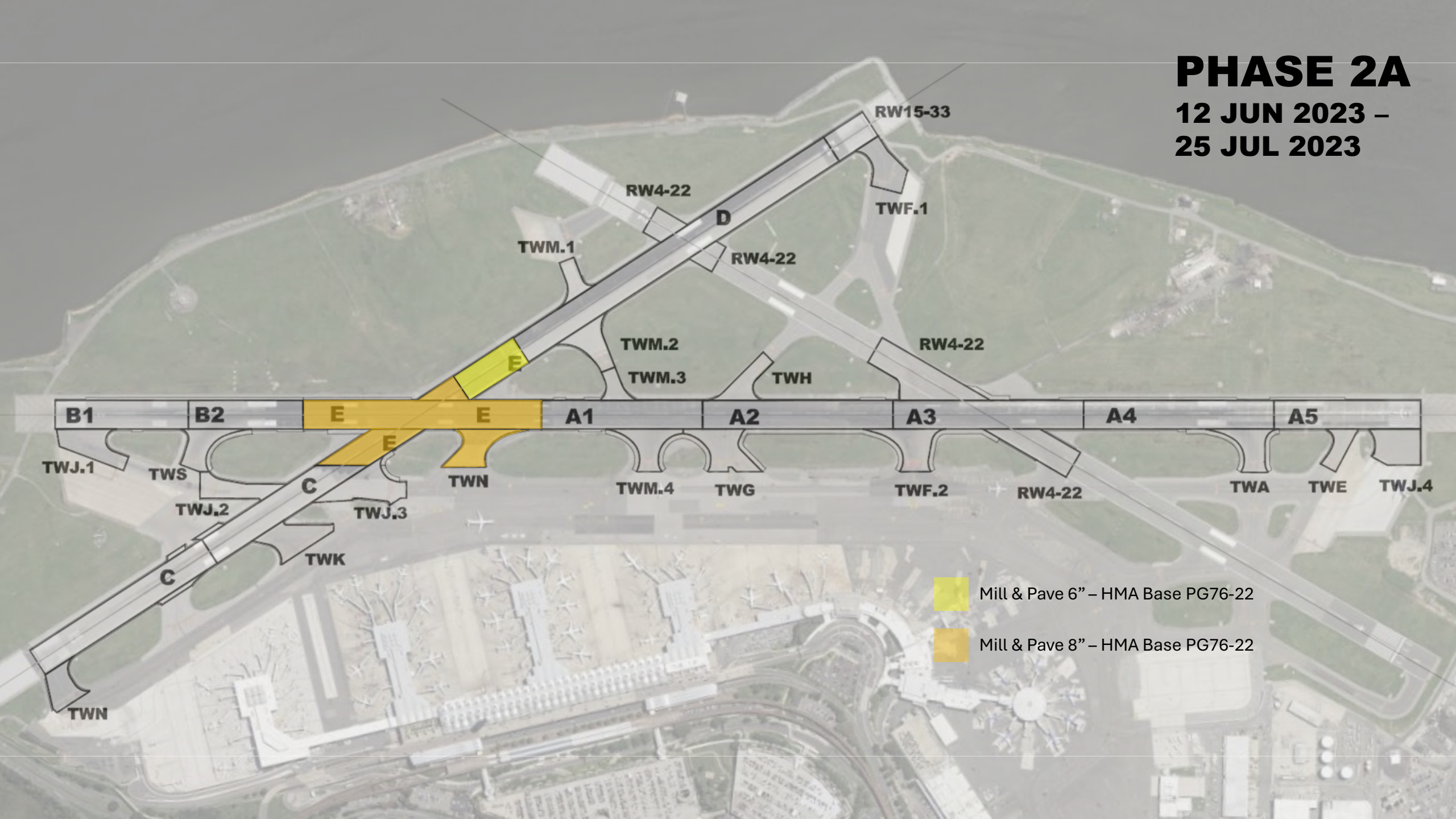
PHASE 2

MAY-JUN 2023



- Mill & Pave 6" – HMA Base PG76-22
- Mill & Pave 8" – HMA Base PG76-22

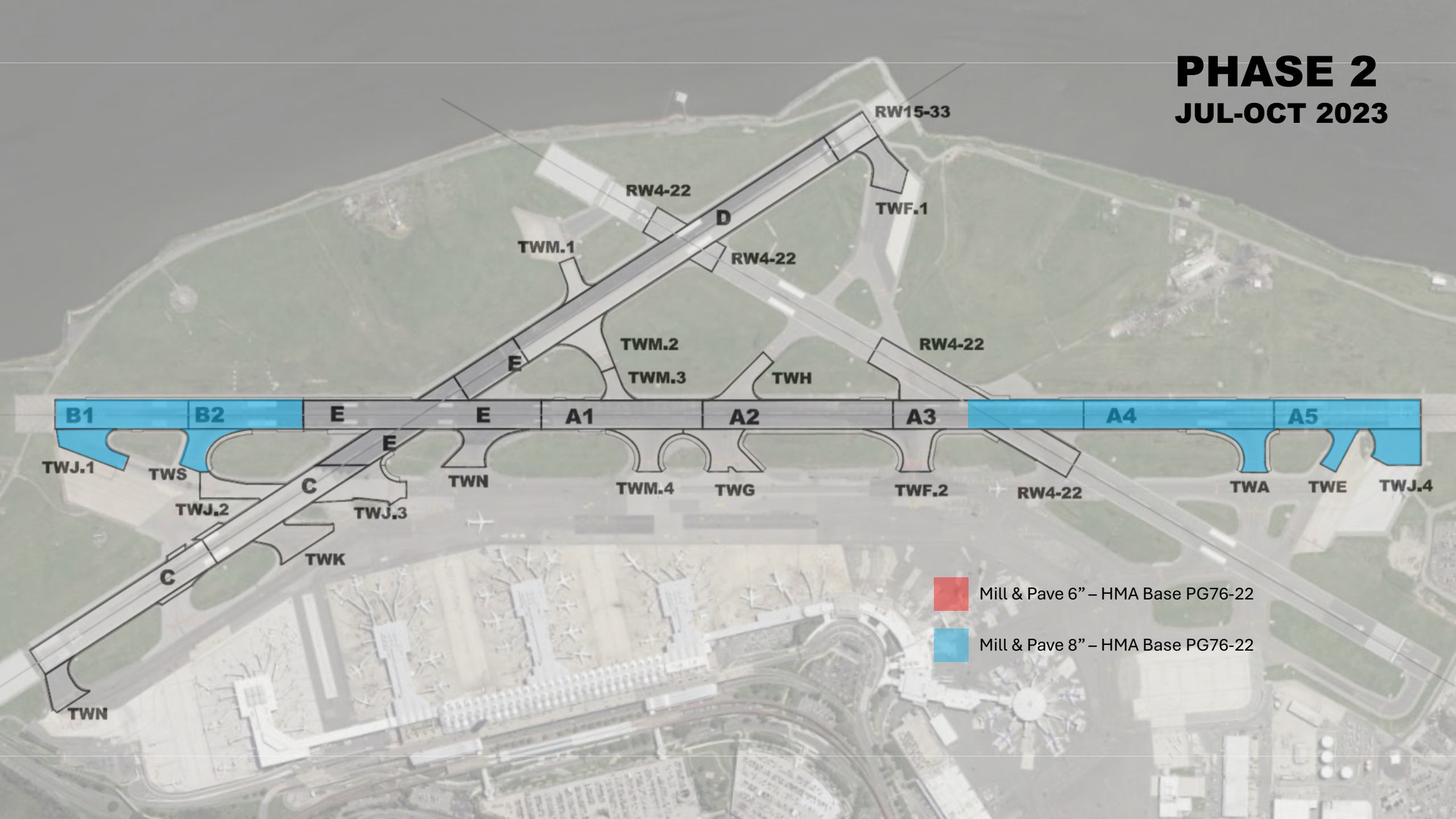
PHASE 2A
12 JUN 2023 –
25 JUL 2023



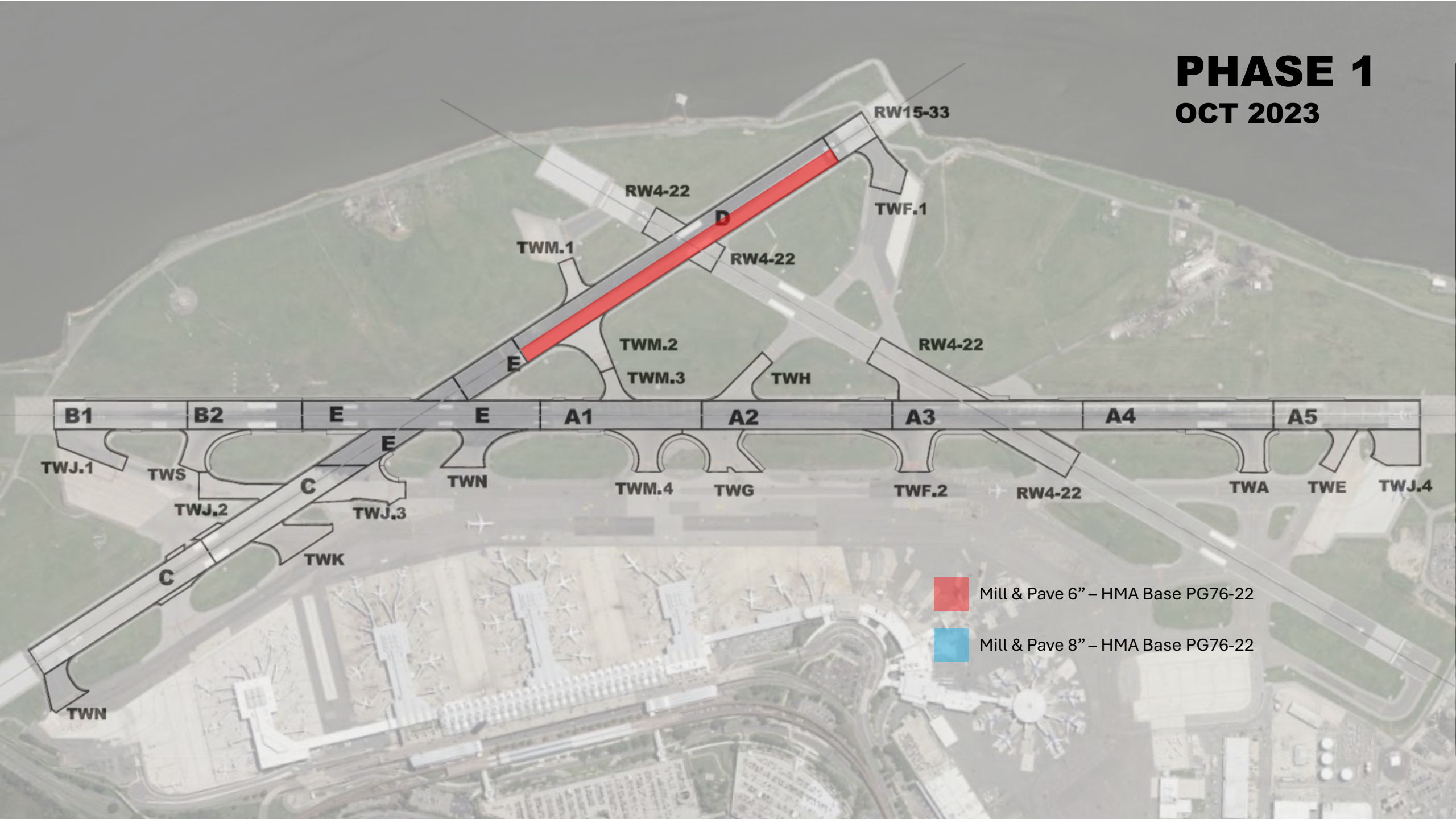
- Mill & Pave 6" – HMA Base PG76-22
- Mill & Pave 8" – HMA Base PG76-22

PHASE 2

JUL-OCT 2023



PHASE 1
OCT 2023

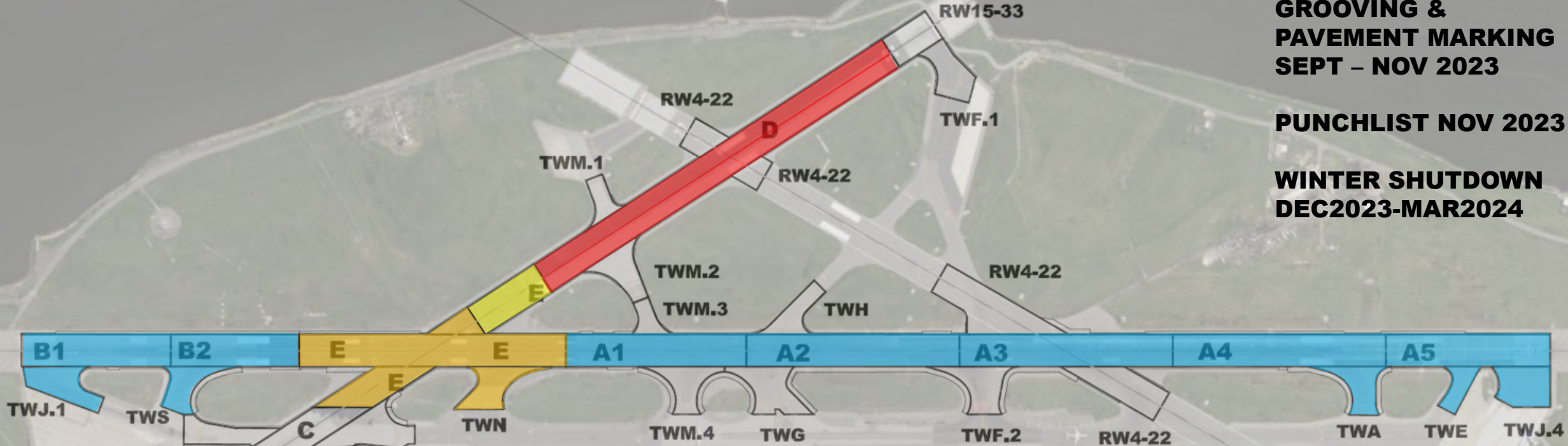






PHASE 3

**GROOVING &
PAVEMENT MARKING
SEPT – NOV 2023**

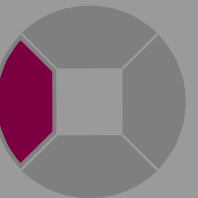
PUNCHLIST NOV 2023

**WINTER SHUTDOWN
DEC2023-MAR2024**



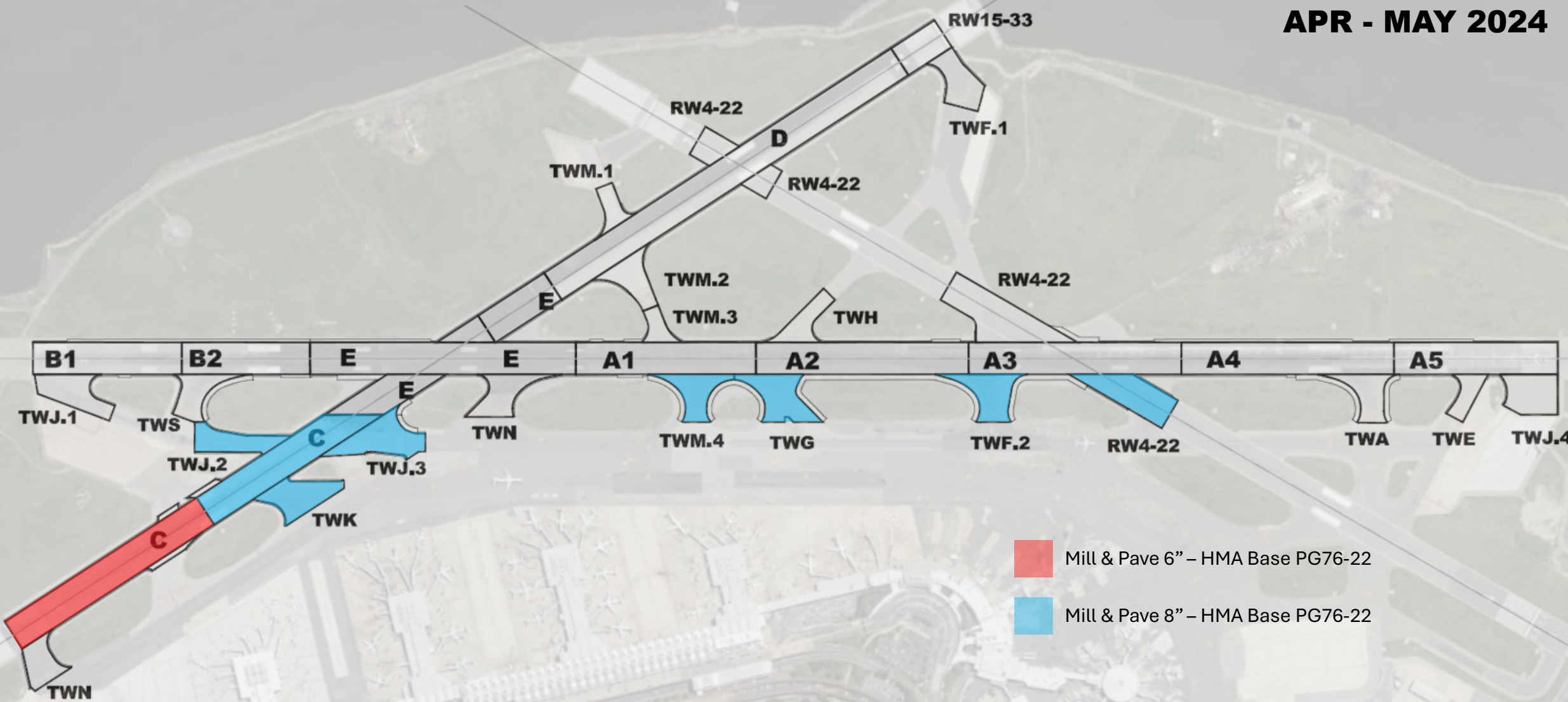
-  Mill & Pave 6" – HMA Base PG76-22
-  Mill & Pave 6" – HMA Base PG76-22
-  Mill & Pave 8" – HMA Base PG76-22
-  Mill & Pave 8" – HMA Base PG76-22

CONSTRUCTION 2024



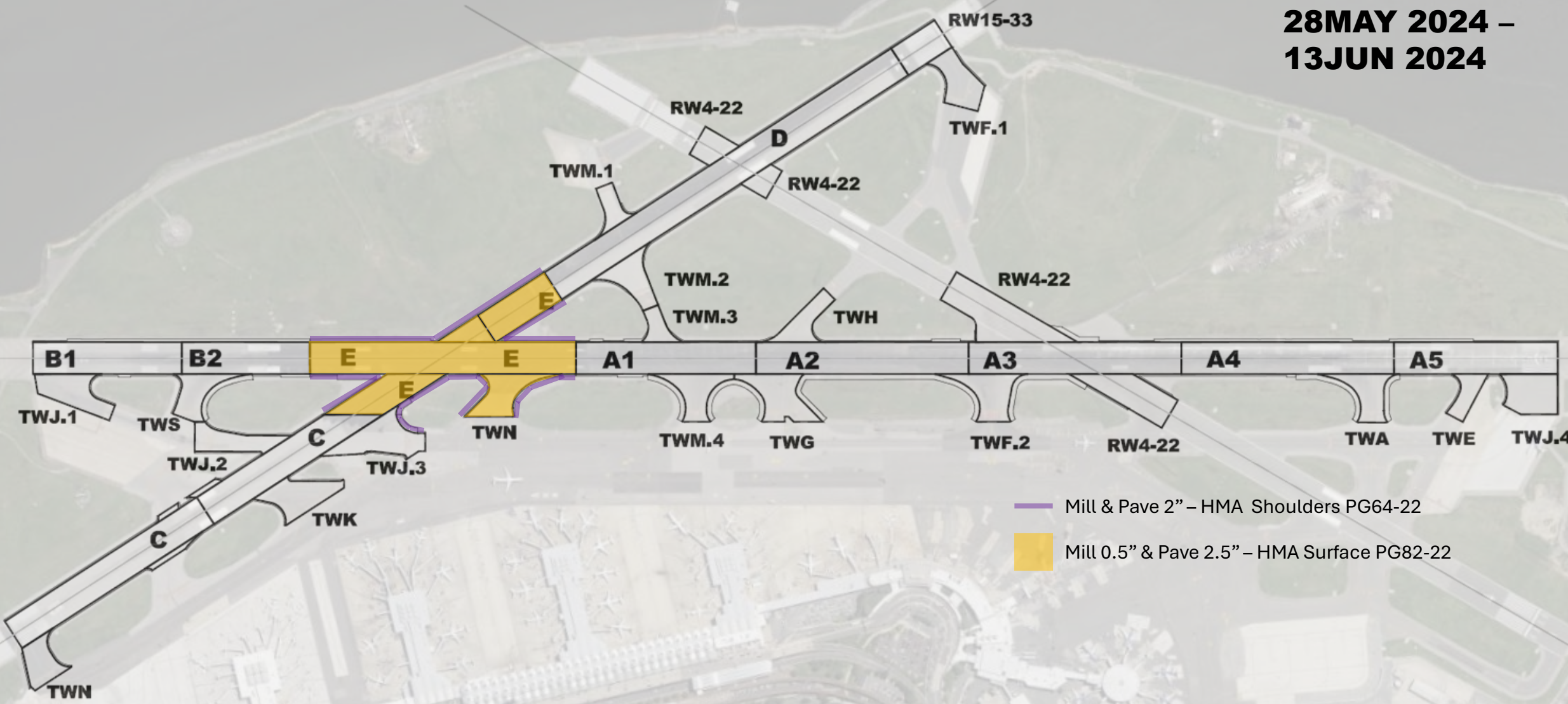
PHASE 4

APR - MAY 2024



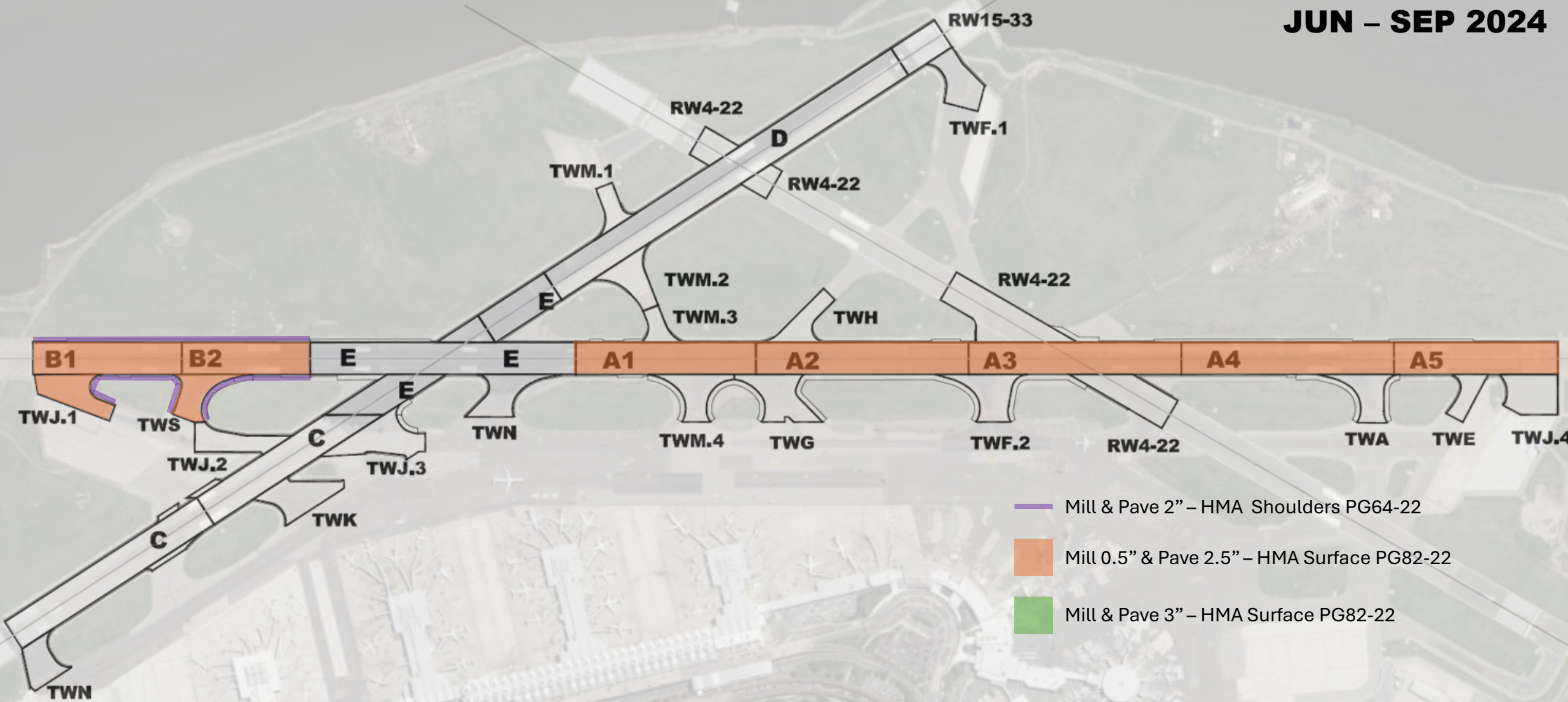
PHASE 5A

28MAY 2024 –
13JUN 2024



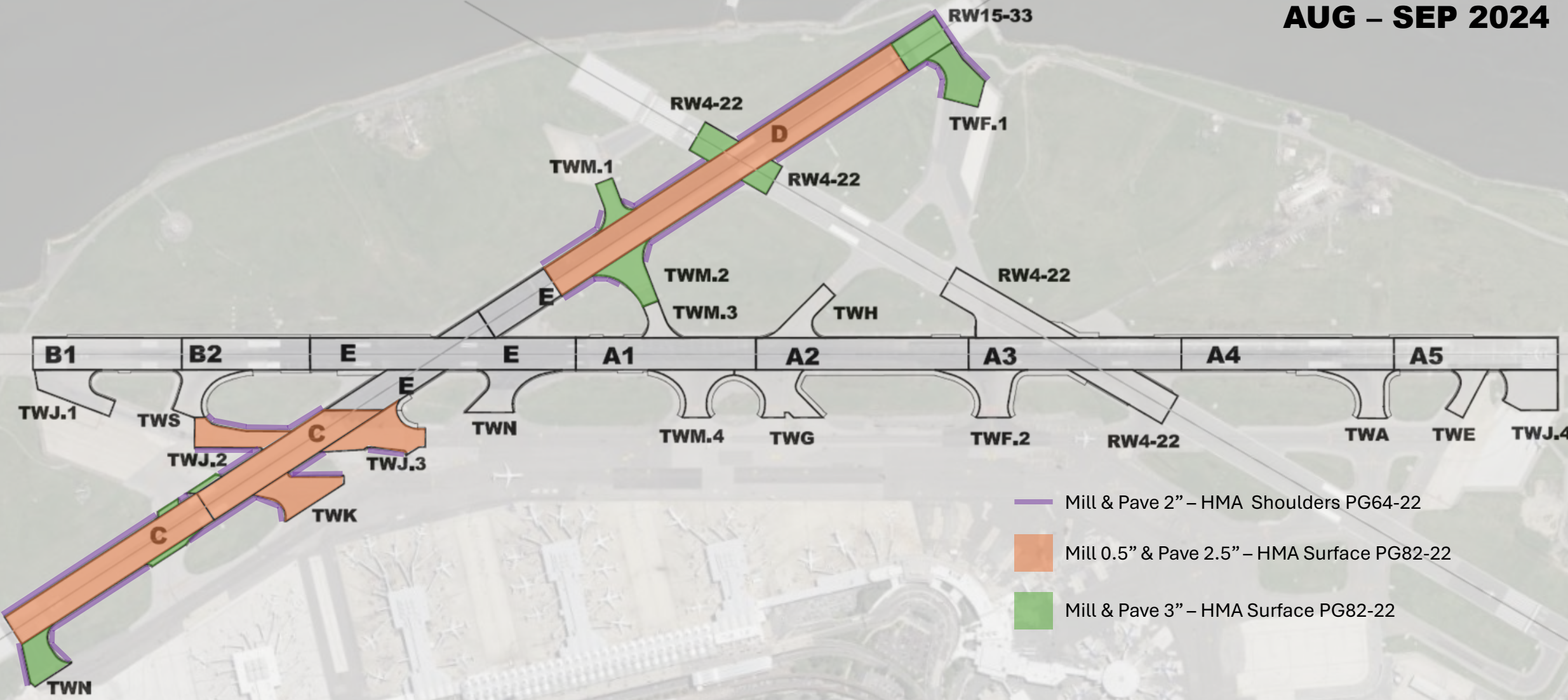
PHASE 5

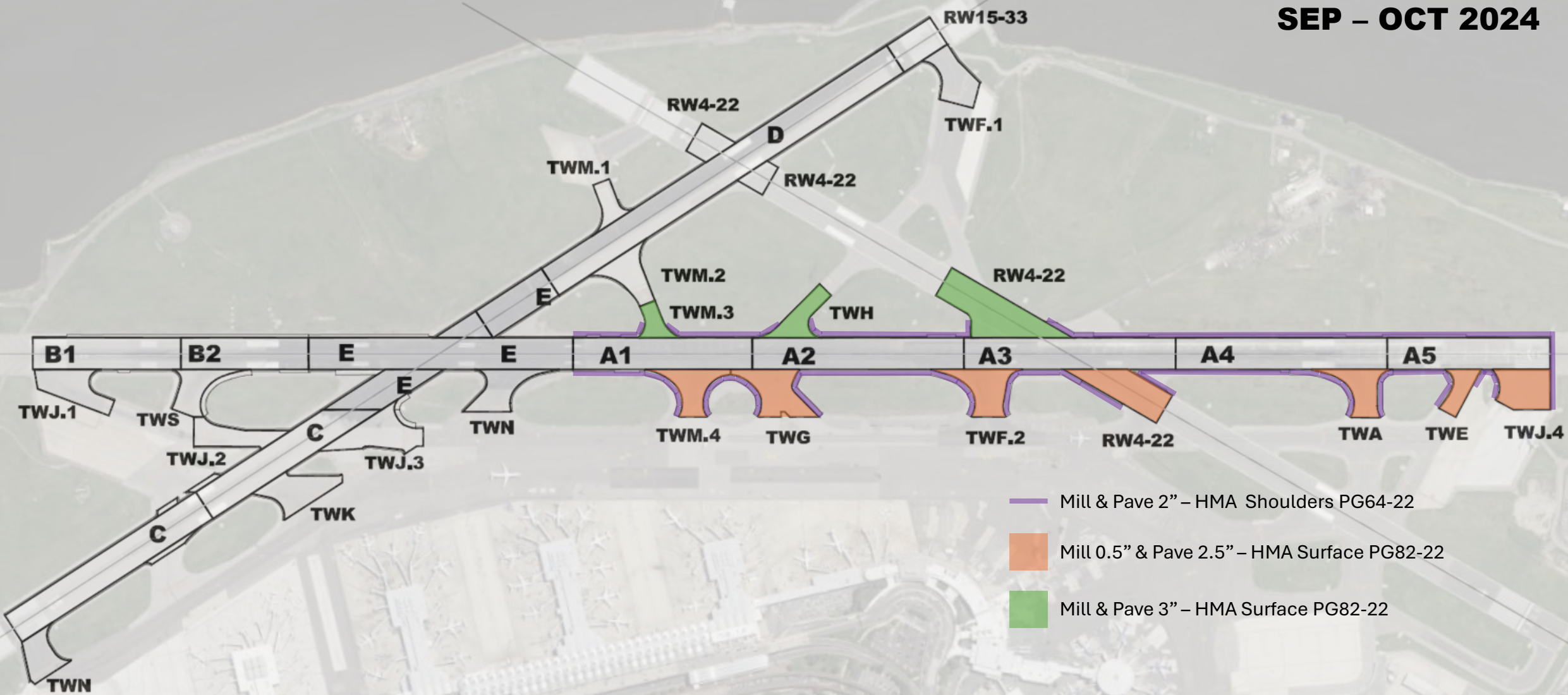
JUN – SEP 2024



PHASE 6

AUG – SEP 2024



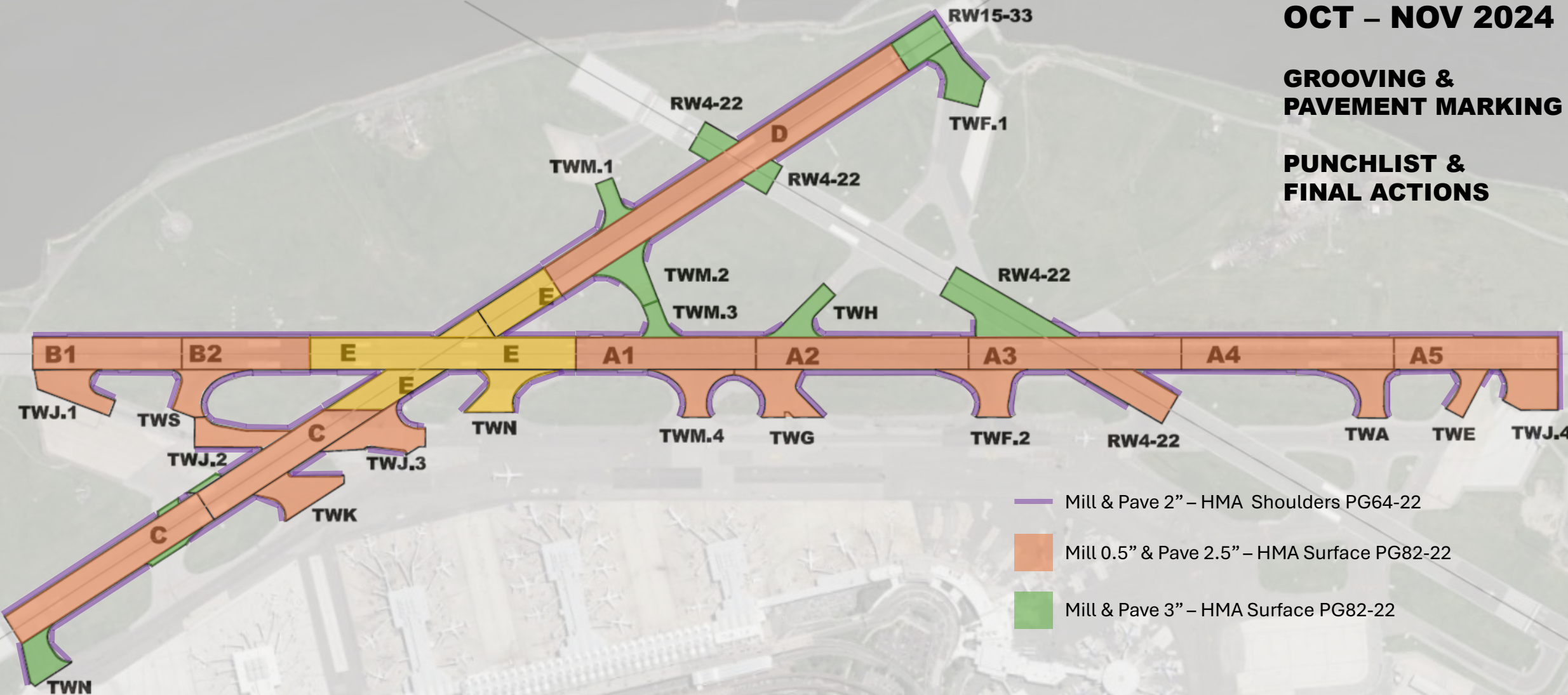
SEP – OCT 2024

PHASE 8

OCT – NOV 2024

GROOVING &
PAVEMENT MARKING

PUNCHLIST &
FINAL ACTIONS

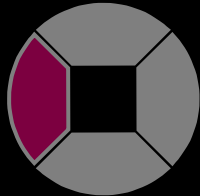
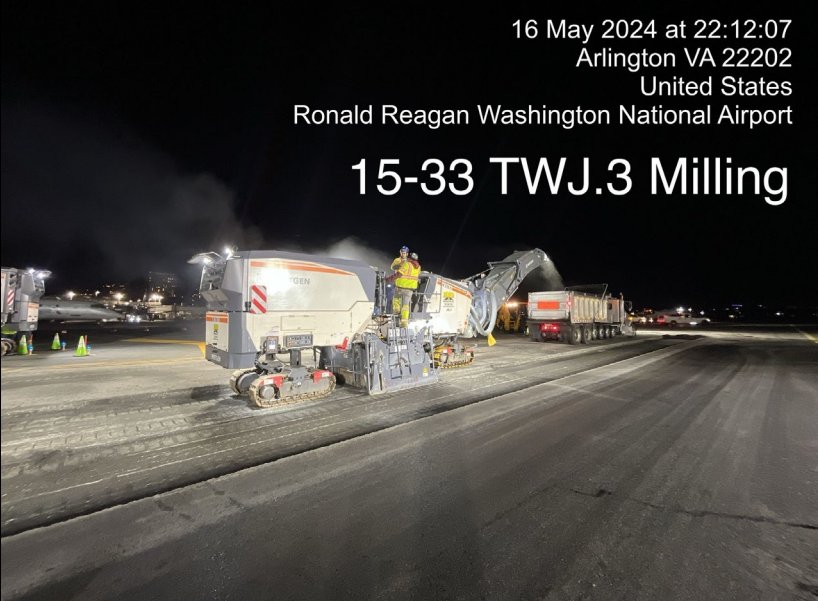


REHABILITATE RW 1-19 DCA – KEY QUANTITIES

BITUMINOUS PAVEMENT MILLING

OVER 500,000 SY TOTAL MILLING

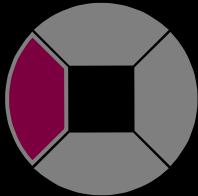
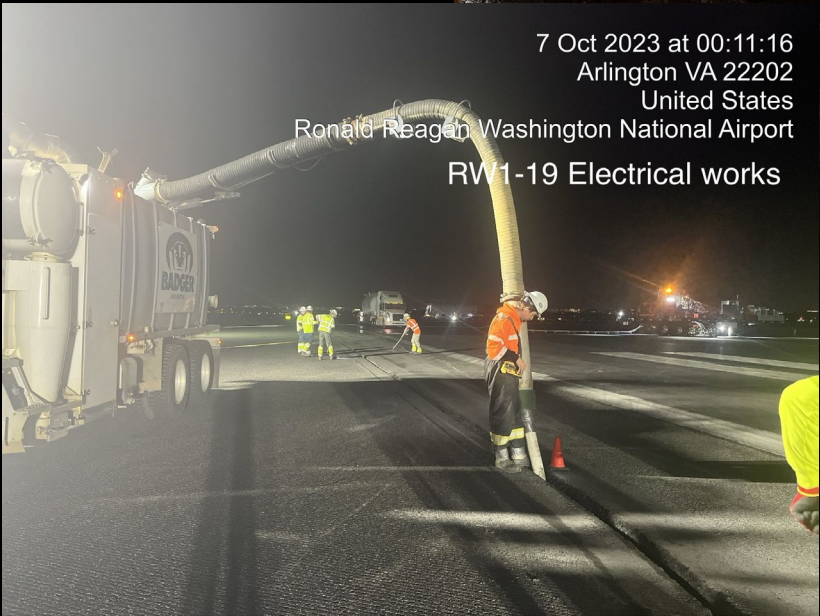
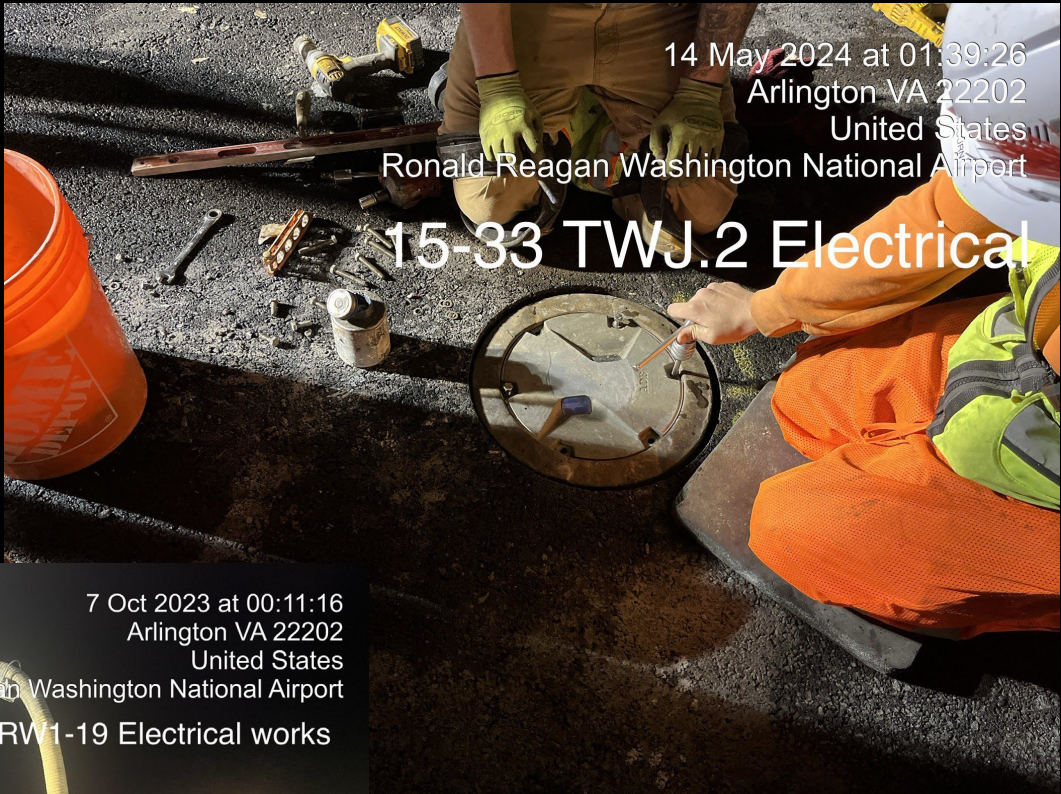
PAVEMENT MILLING, 8.0" DEPTH	201,000	SY
PAVEMENT MILLING, 6.0" DEPTH	57,300	SY
PAVEMENT MILLING, 3.0" & VARIABLE DEPTH	39,000	SY
PAVEMENT MILLING, 2.0" & VARIABLE DEPTH	35,000	SY
PAVEMENT MILLING, 0.5" & VARIABLE DEPTH PROFILING	258,000	SY



REHABILITATE RW 1-19 DCA – KEY QUANTITIES

FULL RUNWAY CL, EDGE & TDZ CONVERSION TO LED

NO. 8 AWG, 5kV, L-824C, TYPE C CABLE, INSTALLED IN TRENCH, DUCT BANK OR CONDUIT	132,000	LF
NO. 6 AWG, SOLID, BARE COPPER COUNTERPOISE WIRE INSTALLED ABOVE DUCT BANK OR CONDUIT	19,000	LF
REMOVE NO. 6 OR NO. 8 AWG 5kV CABLE FROM DUCT BANK OR CONDUIT, INCLUDING CONNECTIONS/TERMINATIONS	116,000	LF
INSTALL L-850A(L) CENTERLINE FIXTURE WITH NEW BASE	142	EA
INSTALL L-850B(L) TDZ FIXTURE WITH TOP SECTION (YEAR 2)	180	EA

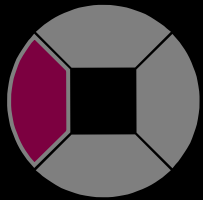


REHABILITATE RW 1-19 DCA – KEY QUANTITIES

GROOVING – 350,000 SY

PAVEMENT MARKING – 1.3 MILLION SF

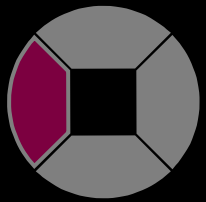
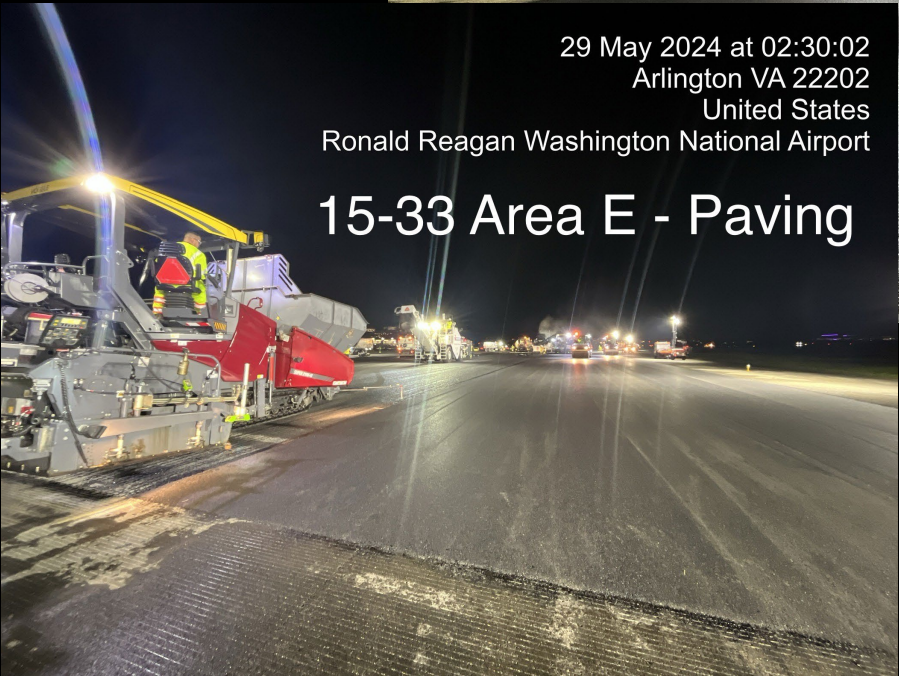
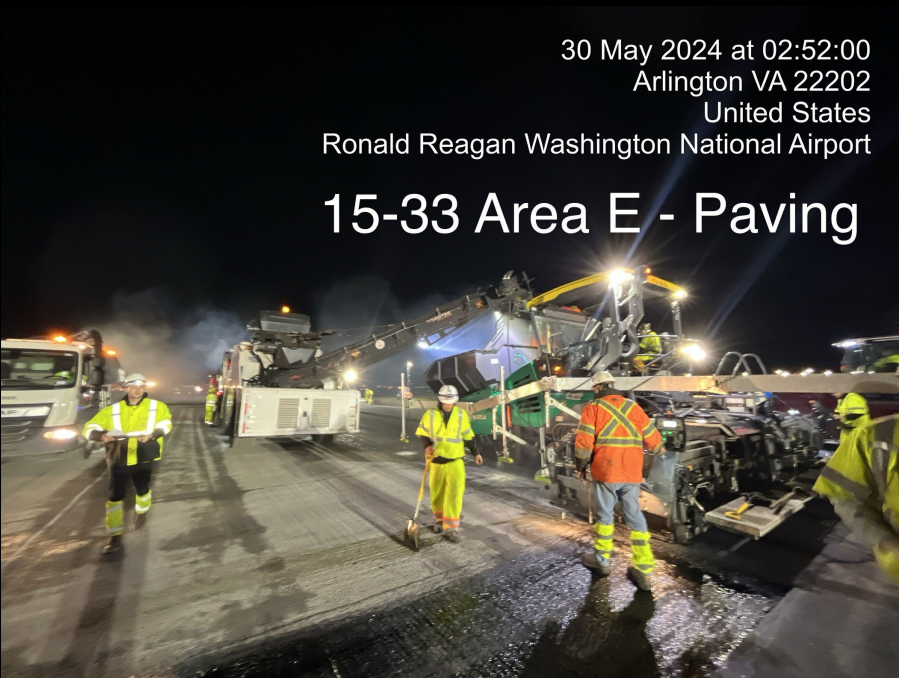
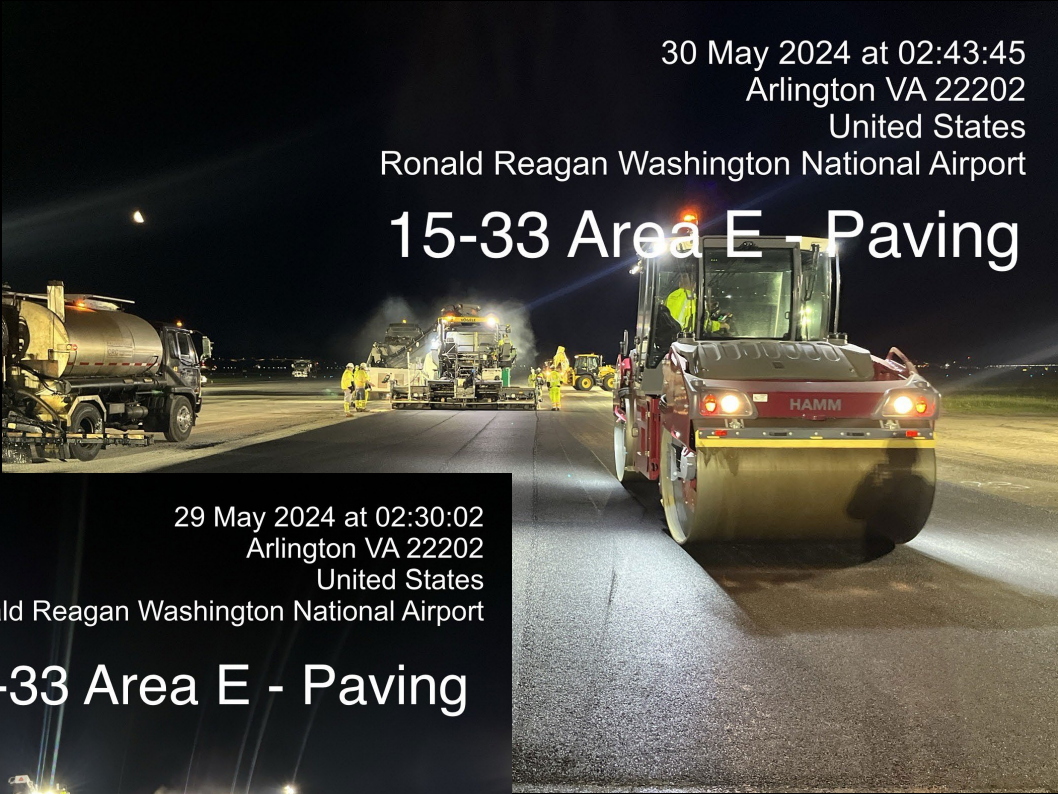
PAVEMENT MARKING REMOVAL	28,000	SF
PERMANENT PAVEMENT MARKING	380,000	SF
TEMPORARY PAVEMENT MARKING	950,000	SF
SAW-CUT GROOVING	350,000	SY



REHABILITATE RW 1-19 DCA – KEY QUANTITIES

P-401 HOT MIX ASPHALT - 183,000 TONS TOTAL

RUNWAY/TAXIWAY ASPHALT BASE COURSE (PG 76-22)	128,000	TON
RUNWAY/TAXIWAY ASPHALT WEARING COURSE (PG 82-22)	49,000	TON
SHOULDER ASPHALT SURFACE COURSE (PG 64-22)	6,000	TON



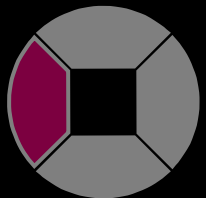
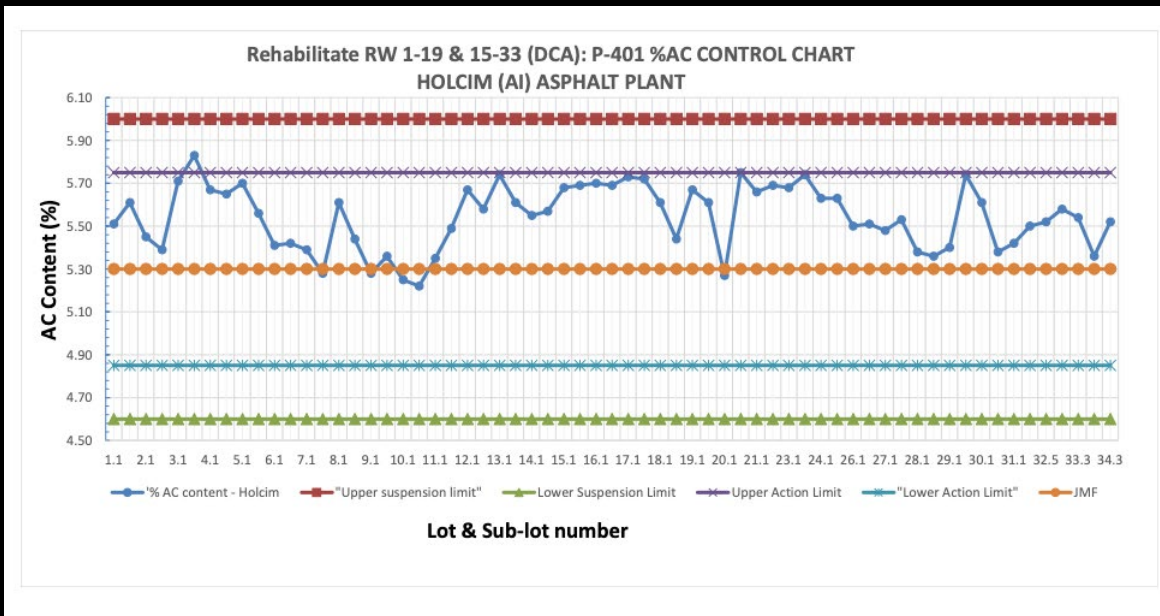
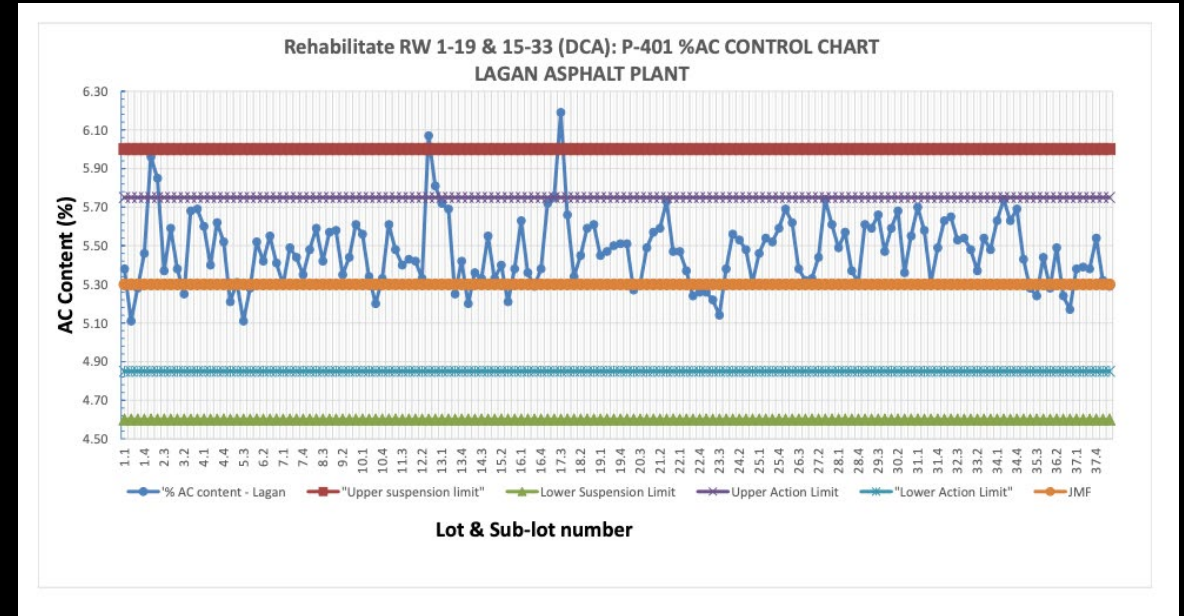
QC SUMMARY

CONTROL CHARTS

P-401 SURFACE PG82-22

- AVERAGE AC Content (%)
- JMF – 5.3%
- PG 86-22 Surface

AC CONTENT		
	LAGAN	HOLCIM
JMF	5.30%	5.30%
MAX	5.74%	5.74%
MIN	5.10%	5.21%
AVG	5.48%	5.48%



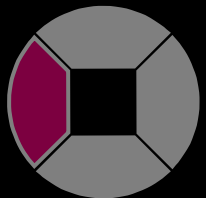
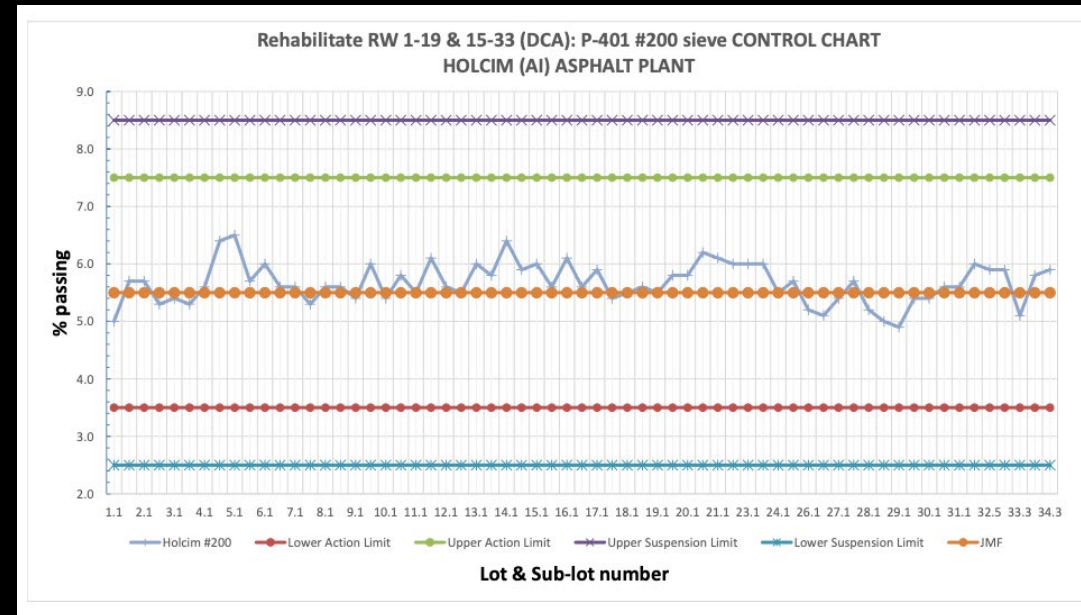
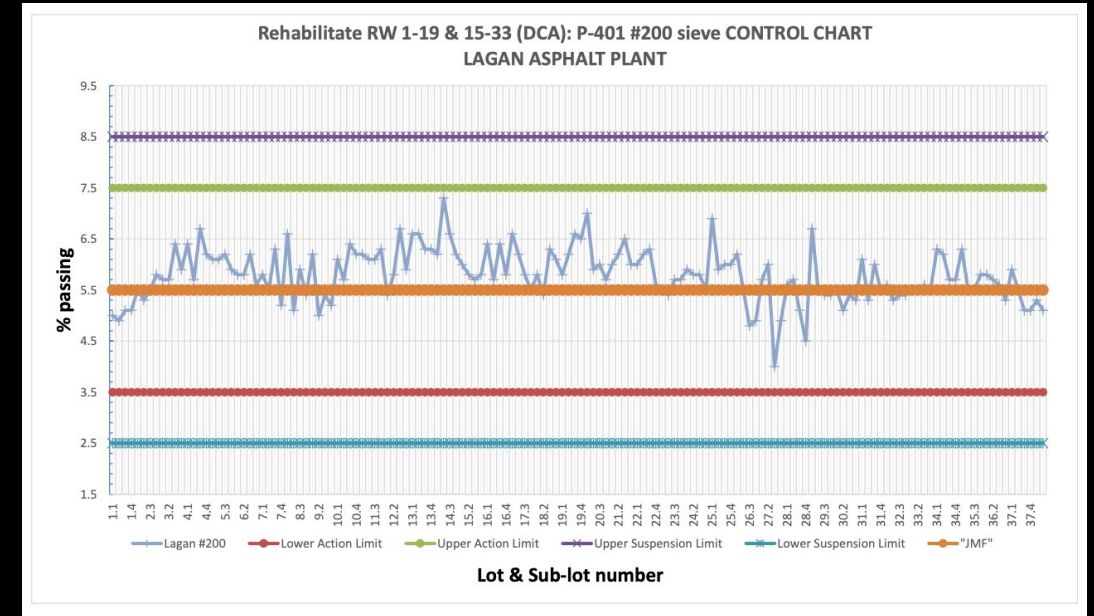
QC SUMMARY

CONTROL CHARTS

P-401 SURFACE PG82-22

- % PASSING #200 Sieve
- JMF – 5.5%
- PG 86-22 Surface

AC CONTENT		
	LAGAN	HOLCIM
JMF	5.50%	5.50%
MAX	7.30%	6.55%
MIN	4.10%	4.90%
AVG	5.88%	5.73%



QC SUMMARY

AVERAGE PAY FACTOR

P-401 SURFACE PG82-22

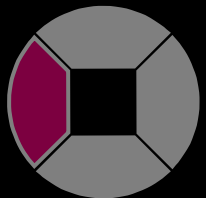
P-401 BASE PG-76-22

Lagan US

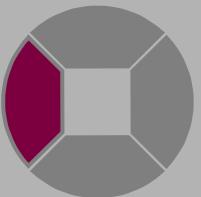


		AVERAGE PAY FACTOR			
	Lots	MAT Density	Air Voids	JT Density	FINAL
P-401 SURFACE PG82-22 (2024)					
LAGAN PLANT	50	105.57	103.85	100.00	104.54
HOLCIM PLANT	15	103.43	106.00	100.00	104.76
P-401 BASE PG76-22 (2023)					
LAGAN PLANT	38	105.43	101.28	99.87	102.46
HOLCIM PLANT	62	105.98	103.78	99.11	103.38

- Achieved Average Pay Factor > 100% from both production plants
- PG 82-22 surface mix > 104%
- PG 76-22 base mix > 102%

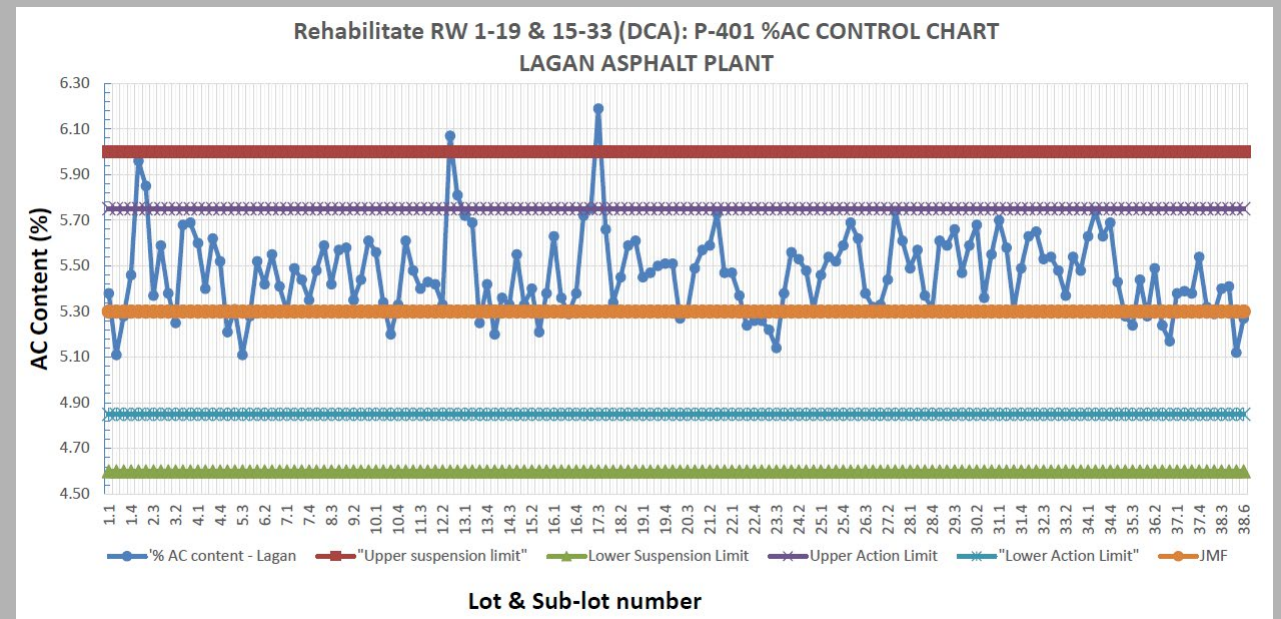


24 HOURS OF RUNWAY REHABILITATION AT DCA

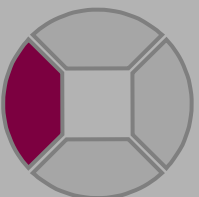


H.M.A Plant Report										I.A.S.T.	
Sheet	2	Of	4	Lagan Construction LLC						Acceptance	
Date	9/5/2024			Contract #		DCA, Lot # 27SL, sub. # 2L		F.A.P. #		Quality Control	
Day / Night	Night			Plant Location		DCA - Arlington VA		A.C. Producer		Associated Asphalt	
Plant Type	Drum			Mix #		P-401 Surface		A.C. Type		82-22	
Sieve Size				Gradation		Beltcut / Burn Off		Plant Q. C.		Sub # 2	
Standard	Metric	JMF	Tolerances	Test # 1	Retest						
1 1/2 "	37.50 MM	100	100	100.0							
1 "	25.00 MM	100	94-100	100.0							
3/4 "	19.00 MM	96	90-100	97.9							
1/2 "	12.50 MM	85	79-91	89.8							
3/8 "	9.50 MM	61	55-67	62.2							
# 4	4.75 MM	41	35-47	41.9							
# 8	2.36 MM	27	22-32	25.6							
# 16	1.18 MM	18	13-23	16.7							
# 30	.600 MM	12	9-15	11.6							
# 50	.300 MM	8	5-11	8.5							
# 100	.150 MM	5.5	3.5-7.5	6.0							
# 200	.075 MM	1.10	.6-1.6								
Dust To Effective Binder Ratio	M.S.G.	2.634	2.542-2.602	2.647							
VOIDS		V.T.M.	3.5	2.0-5.0	3.7						
		V.M.A.	15.2	14.7 Min.	15.1						
		V.F.A.	77.1	65-78							
GYRATORY PLUGS		Sample A	3.6								
N Design = 75 gyrations		Sample B	3.8								
		Sample C	3.7								
		Average	3.7								
A	B	C	N ini.	Mix Temp. =	310 F						
			N Des.								
Target Asphalt =		5.30	Extraction / Nuclear								
		4.15-5.05	Ignition	5.44							
Anti - Strip Additive		Required	0.00%								
Random Number		Load # 24	Tonnage	626.87							
Weather & Temperature		Mild night 61 F									
Remarks Surface, P401, 82-22											
Moist = Vul #8=2.37%, MV # 10=2.48%, Manu.sand=4.18%, Luck. #78=1.18%											
Asphalt Moist. = 0.066%											
Certification # _____ Name C Conner, Specialized Engineering											

- Handover from night shift to day shift.
- Report / Action any equipment or material issues
- Replenish aggregate stockpiles
- Receive and load liquid asphalt into storage tank
- Removal of millings from stockpile at contractor yard



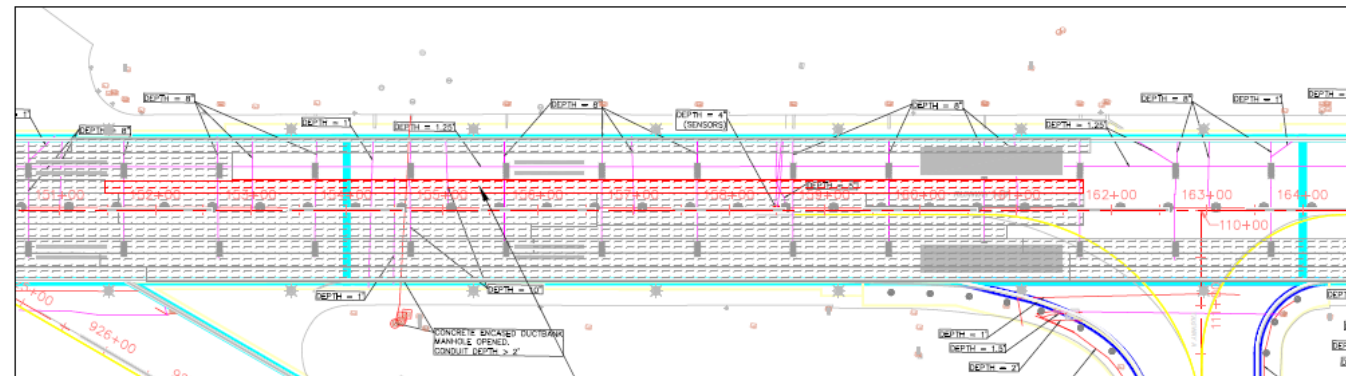
- Daily Superintendent Reports
- Daily QC Reports
- Setup and Plan in Place for nightly work areas



Potential impacts of weather or other applicable factors discussed and decision made by the Airport if shift is to proceed as planned or cancelled.



DATE: 08-17-23
AREAS A3 & A4 (RUNWAY 1-19) - 8" MILL & PAVE



- NOTES:
- Lower & Upper Layer – Holcim off site plant
 - Stations shown in Work Area information also indicate paving direction.

PAINT REQUIRED:
WHITE: 0 SF
YELLOW: 0 SF

WORK AREA
Lane -2:
(13'x133') from Sta. 151+47 to 152+80
(15'x891') from Sta. 152+80 to 161+71

LEGEND

- ELECTRICAL
- UNKNOWN
- EXISTING RUNWAY CL LIGHT
- EXISTING RUNWAY TDZ LIGHT

Virtual meeting / Call with DCA Ops and COTR to review scheduled works for the shift. Lagan provided sketches each night showing exact work locations, MOT barrier plan in accordance with approved Contract Plans, staging points.

Internal pre-start meeting at the Contractors office with key personnel from relevant subcontractors and service providers to review the planned works for the shift, MOT plan, haul route and staging locations.

Pre-Start Safety and Coordination meeting with all site personnel for the evening in the Contractors yard to ensure all personnel are briefing on key aspects of the planned works and details for the shift.





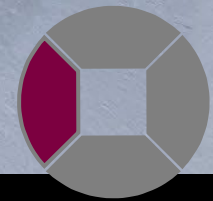
Lagan US 



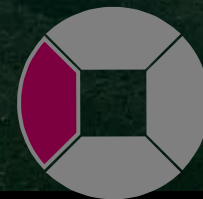
- Turn off Runway Lights, Taxiway Lights & Electrical Systems
- Install low profile barricades
- Install Flashing “X” and other MOT









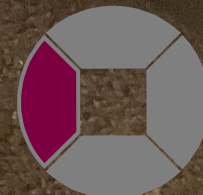


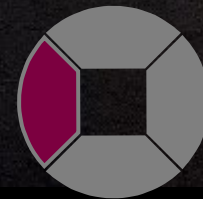


Lagan US

PROFILE MILLING





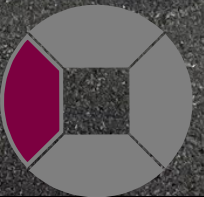


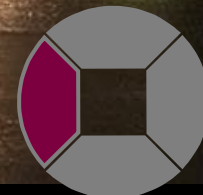




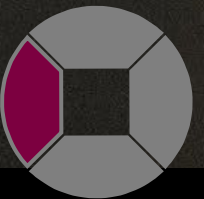
Lagan US

CLEAN & TACK COAT











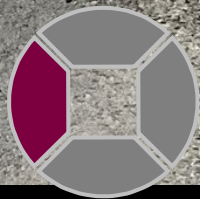
REPLACE CL LIGHTS





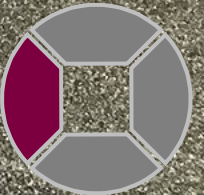
Lagan US 

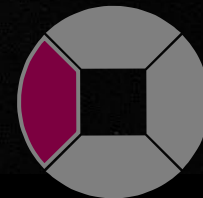
CONCRETE FOR CL LIGHTS





FINISH HMA COMPACTION





- Final clean-up underway
- HMA compaction equipment demobilized to staging locations, only essential equipment and personnel on-site
- Commence removal of barricades

- Barricade removal complete, only lighted RCMs remain.
- DCA Ops commence reopening inspection.
- Lagan essential personnel on hand to provide any final assistance, FOD removal, etc.
- Once inspection complete and approved by DCA Ops, Lagan will remove RCMs from the runway(s)





RUNWAY REOPENS





Lagan US 





Lagan US



HAMPTON AGGREGATES, LLC.

THANK YOU !

