DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
EASTERN REGION

WRITTEN RE-EVALUATION AND RECORD OF DECISION FOR THE FINAL ENVIRONMENTAL ASSESSMENT PREPARED FOR THE EAST SIDE RECONFIGURATION AT LAGUARDIA AIRPORT PROJECT

INTRODUCTION

The Federal Aviation Administration (FAA) issued a Final Environmental Assessment (EA) and a Finding of No Significant Impact/Record of Decision (FONSI/ROD) to the Port Authority of NY and NJ (Port Authority) approving the East Side Reconfiguration at LaGuardia Airport (LGA) on July 20, 2017. That decision approved the demolition of Terminals C and D, and construction of a new terminal consolidating Delta's operation into a new Terminal C. The Port Authority subsequently notified the FAA that Delta Airlines, the proponent of the project, would seek to modify certain design and construction schedule aspects of the Terminal C West and airside taxilane components of the overall Eastside Reconfiguration project.

The Port Authority submitted a *Technical Report for the East Side Reconfiguration at LaGuardia Airport, Conversion of Delta Airlines Terminal C-West* to the FAA. The Technical Report analyzed and compared potential impacts associated with proposed design and construction schedule changes, as compared to the potential impacts of the East Side Reconfiguration project analyzed in the July 2017 EA and FONSI/ROD.

This Written Re-evaluation and Record of Decision (WR/ROD) of the July 2017 EA was prepared to evaluate the potential environmental impacts associated with the design and construction schedule changes of Concourse D and taxilane components of the East Side Reconfiguration project. The analysis within this WR/ROD examines consistency with the individual and cumulative impacts discussed in the East Side Reconfiguration at LGA EA and FONSI/ROD and identifies changes to FAA decisions and Federal Actions associated with the proposed changes. This WR/ROD also assesses the on-going validity of the information contained in the July 2017 EA and FONSI/ROD. The East Side Reconfiguration at LGA EA and FONSI/ROD is incorporated by reference, and are available on the PANYNJ website at *https://www.panynj.gov/port-authority/en/about/studies-and-reports/case-studies-reports.html*

BACKGROUND

The July 20, 2017 FONSI/ROD for The East Side Reconfiguration at LGA approved the four components of the overall project: airside apron, terminal building, landside roadways and parking, and electrical capacity. Following the issuance of the FONSI/ROD, Delta Airlines informed the Port Authority it was proposing design and schedule changes to the project that are different than those described in the EA, or were not included in the EA. Specifically, Delta proposed to modify the design through the reuse of much of the existing Terminal C-West structural, electrical, and mechanical elements rather than fully demolishing the entirety of

Terminal C-West. Retaining and repurposing the existing Terminal C-West into Concourse D also requires modifications to the approved dual taxilane design between future Concourses D and E. Associated changes to the overall project construction schedule as depicted in the East Side Reconfiguration EA will also occur. No changes are proposed to the landside roadways and parking, and the electrical capacity components of the project.

FAA WRITTEN RE-EVALUATIONS

To ensure compliance with the National Environmental Policy Act (NEPA) where there are proposed changes to approved projects, the FAA evaluates the potential change in environmental impacts, in order to determine if a supplemental Environmental Assessment is required. This WR/ROD is based on guidance provided by FAA Environmental Orders 1050.1F and 5050.4B. Both Orders reference re-evaluating NEPA documents when there are new circumstances or information relevant to environmental concerns that come to light after the FAA has issued an EA or an environmental impact statement (EIS).

FAA Orders 1050.1F and 5050.4B provide guidance as to the circumstances under which it is necessary to supplement an EA. FAA Order 1050.IF, paragraph 9-2 provides that where there are changes in the proposed action, or new information relevant to environmental concerns, the FAA may prepare a written re-evaluation that will either conclude the contents of previously prepared environmental documents remain valid, or that significant changes require the preparation of a Supplemental or new EA.

FAA Order 1050.IF, paragraph 9-2(c) states "A new or supplemental EA or EIS need not be prepared if a written re-evaluation indicates that:

> (1) The proposed action conforms to plans or projects for which a prior EA and FONSI have been issued or a prior EIS has been filed and there are no substantial changes in the action that are relevant to environmental concerns;
>
> (2) Data and analyses contained in the previous EA and FONSI or EIS are still substantially valid and there are no significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts; and
>
> (3) Pertinent conditions and requirements of the prior approval have been, or will be, met in the current action."

Description of the Proposed Changes to the LaGuardia East Side Reconfiguration Project

- Concourse D – This proposed change would convert the existing Terminal C-West from a terminal to a concourse to be named Concourse D, rather than demolish the entire building and build a new concourse as originally proposed in the 2017 EA. The proposed change would maintain the majority of the existing Terminal C-West exterior glazing, with replacement of existing metal panels to match the metal panels on the rest of the new terminal. Interior concourse finishes would be updated to match the remainder of the new terminal, and the electrical, mechanical and communications infrastructure and systems

would be upgraded to be consistent with the rest of the new terminal. Modifying the existing Terminal C-West structure would increase the available space by 79,600 square feet (sq. ft.) to create larger restrooms, gate holdrooms, and boarding and circulation areas, and more than 14,000 incremental sq. ft. for concessions and food court seating areas. Conversion of the existing Terminal C-West provides an additional benefit to operations as the terminal can remain partially open while construction occurs. In addition, the conversion would reduce the overall construction schedule because there would be no need for new foundations, limited structural improvements, and significantly less airside concrete and asphalt replacement compared to the 2017 design since the larger concourse footprint would displace airside apron that would otherwise need to be constructed. The design change will not only reduce demolition and construction activities and accelerate the construction schedule, it will maintain the existing Terminal C-West ramp control tower for both Delta and FAA back-up operations.

- Dual Taxilanes and Gate Flexibility - The proposed design change would alter the 2017 Proposed Action dual taxilane design between new Concourses D and E. However, the same airfield flow would be maintained as originally proposed. Dual taxilane throats between Concourses D and E (leading to Taxiway A) and three start-up positions would mitigate the loss of full dual taxilanes by providing for the same airfield operational benefits and reduced taxi times and delays as compared to the original Concourse D design. The proposed change would also improve gate flexibility by accommodating A321 aircraft at all nine Concourse D gates, compared to only one A321 capable gate in the Concourse D design under the 2017 Proposed Action.

- Construction Schedule – The conversion would reduce the overall construction schedule because there would be no need for new foundations, limited structural improvements, and significantly less airside concrete and asphalt replacement compared to the 2017 design, since the larger concourse footprint would displace airside apron that would otherwise need to be constructed. Combined with other acceleration efforts and changes to phasing for the overall East Side Reconfiguration as described in the Technical Report, the revised Proposed Action would be completed 14 months earlier than the schedule proposed for the overall 2017 Proposed Action.

Additional information can be found in the *Technical Report for the East Side Reconfiguration at LaGuardia Airport, Conversion of Delta Airlines Terminal C-West* (Appendix A of this WR/ROD).

PROPOSED AGENCY ACTIONS

The FAA actions involved in the implementation of the proposed changes to the LGA Eastside Reconfiguration project include the following:

1. Unconditional Approval of a revised LGA Airport Layout Plan (ALP), pursuant to 49 U.S.C. §40103(b) and §47107(a)(16) to include revised project modifications as described in the Technical Report; and determination and approval of the effects of this project upon the safe and efficient utilization of navigable airspace pursuant to 14 CFR Parts 77 and 157 and 49 U.S.C. §44718;

2. Determination under 49 U.S.C. §40101(d)(l) and §47105(b)(3) as to whether the Proposed Design Changes meet applicable design and engineering standards set forth in FAA Advisory Circulars;

3. Environmental determinations concerning potential funding through the Federal grant-in-aid program authorized by the Airport and Airway Improvement Act of 1982, as amended (recodified at 49 U.S.C. §47107) and/or approval of an application to use Passenger Facility Charges (PFCs) under 49 U.S.C. §40117 (neither the July 2017 FONSI/ROD nor this WR/ROD determines eligibility or availability of potential funds);

4. Determination under 49 U.S.C. §44502 (b) concerning the acquisition, establishment, improvement, operations and maintenance of air navigation facilities and that the subject airport development is reasonably necessary for use in air commerce or in the interests of national defense;

5. Continued close coordination with the PANYNJ and appropriate FAA program offices, as required, to maintain safe, efficient use of and preservation of the navigable airspace during all aspects of project construction and demolition, in accordance with 14 CFR Part77; and

6. Approval of appropriate amendments to the LGA Airport Certification Manual (ACM), as required, pursuant to 49 U.S.C. §44706.

SUMMARY OF CHANGES TO ENVIRONMENTAL IMPACTS AND MITIGATION

This section describes the affected environment and anticipated impacts associated with the proposed changes to the East Side Reconfiguration Project at LGA.

Affected Environment

The July 2017 EA described the existing environment and conditions. The environmental setting has not changed since the July 2017.

Environmental Consequences of the Proposed Project Changes

The potential environmental impacts associated with the proposed changes to the LGA East Side Reconfiguration Project are presented in Chapter 5 of the attached Technical Report. Environmental impacts associated with the changes to the LGA East Side Reconfiguration Project are similar in nature and lesser in scale than the environmental impacts analyzed in the July 2017 EA and FONSI/ROD. The analysis included in the attached Technical Report concluded that the finding of no adverse impact on local or regional air quality, as described in the 2020 EA, remains valid. See Chapter 5 of the attached Technical Report that describes the reevaluation of all environmental impacts associated with the project.

MITIGATION MEASURES

As discussed above, the changes to the LGA East Side Reconfiguration Project will have similar impacts to those described for the July 2017 EA and FONSI/ROD. As such, no new mitigation measures are proposed and the mitigation measures identified in the 2017 EA and FONSI/ROD are unchanged.

CONCLUSION

In response to the PA request, the FAA reviewed and analyzed the *Technical Report for the LGA East Side Reconfiguration Project*. Subsequent to this review and analysis, the FAA prepared this WR/ROD.

Based on FAA Order 1050.1F, paragraph 9-2(c), the FAA concludes that a new or supplemental EA need not be prepared; this WR/ROD and attached Technical Report indicate that:

a. The proposed action conforms to plans or projects for which a prior EA and FONSI/ROD have been issued and there are no substantial changes in the action that are relevant to environmental concerns;

b. Data and analyses contained in the previous EA and FONSI/ROD are still substantially valid and there are no significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts; and

c. Pertinent conditions and requirements of the prior approval have been, or will be, met in the current action.

Based on FAA Order 5050.4B, paragraph 1402 b., FAA concludes that a supplement to the EA for this project is not required since the airport sponsor did not make substantial changes to the proposed action that could affect the action's environmental effects and there are no significant new changes, circumstances or information relevant to the proposed action, its affected environment, or its environmental impacts.

Therefore, as discussed above and in accordance with FAA Order 1050.1F, *Policies and Procedures for Assessing Environmental Impacts,* and FAA Order 5050.4B, *NEPA ImplementingInstructions for Airport Actions,* preparation of a new or Supplemental EA is not required.

FEDERAL AGENCY FINDINGS

The July 2017 EA/FONSI/ROD contained seven Federal Findings pertaining to the LGA East Side Reconfiguration project that were approved. Those findings were:

1. **The proposed action is reasonably consistent with existing plans of public agencies for development of areas surrounding the airport (49 U.S.C. § 47106(a)(1)).** The FAA is satisfied that the Proposed Action is consistent with plans (existing at the time the Proposed Action is approved) of public agencies for development of areas surrounding the airport based on coordination efforts with pertinent public agencies.

2. **The interest of the communities in or near where the Proposed Action may be located were given fair consideration. (49 U.S.C. § 47106(b)(2)).** The FAA is satisfied that the interests of the communities in or near where the Proposed Action will be located were given fair consideration as demonstrated in Chapter 7 of the Final EA

and Appendix G, which includes responses to public comments.

3. **The FAA has given this Proposed Action the independent and objective evaluation required by the Council on Environmental Quality (40 C.F.R. § 1506.5).** The FAA's review and ultimate decision process included the FAA's rigorous exploration and objective evaluation of reasonable alternatives and probable environmental consequences, regulatory agency and Native American consultations, as required, and public involvement. FAA furnished guidance and participated in the preparation of the Final EA by providing input, advice and expertise throughout the planning and technical analyses, along with administrative direction and legal review. FAA has independently evaluated the Final EA and takes responsibility for its scope and content.

4. **The Proposed Action will conform to the State Implementation Plan (SIP) in accordance with Section 176 of the Clean Air Act (CAA) and its amendments (42 U.S.C. §§ 7506(c)).** LGA is located in Queens County, which is currently designated as being a serious non-attainment area for 8-hour ozone, maintenance area for PM2.5 and a CO maintenance area. The Proposed Action conforms to the New York SIP and complies with CAA § 176(c)(1). The Proposed Action would not: cause or contribute to any new violation of any standard in any area; increase the frequency or severity of any existing violation of any standard in any area; or delay timely attainment of any standard or any required interim emission reductions or other milestones in any area. Specifically, the Proposed Action's total construction emissions, based on specific emissions calculations, are below the *de minimis* thresholds established by the General Confomity Rule (40 C.F.R. Parts 51 and 93) and therefore, would conform to the SIP. According to FAA Order 1050.1F and the Desk Reference for Airports Actions, no mitigation is necessary and further analysis is not required to comply with the CAA or NEPA. In summary, although the Proposed Action is taking place in a non-attainment area, the FAA determined that project emissions would be below *de minimis* thresholds under General Conformity requirements. Therefore, a Conformity Determination is unnecessary and significant adverse impacts to air quality would be unlikely. The requirements of the General Conformity Rule have been met as discussed in Sections 4.2. and 5.1 and Appendix C of the Final EA.

5. **There are no disproportionately high and adverse environmental effects on minority/or low-income populations that would result from the Proposed Action. (Executive Order 12989) (U.S. DOT Order 5610.2(a)).** Environmental Justice concerns are addressed in detail in Section 5.12 of the Final EA. The minority and low-income populations immediately adjacent to LGA that would experience temporary, non-significant increases in noise resulting from the Proposed Action are similar in composition to the population of the larger communities in close proximity to the airport. Furthermore, no significant impacts are associated with the Proposed Action. In accordance with FAA guidance provided in FAA Order 5050.4B and FAA Order 1050.1F, and the "Environmental Desk Reference for Airport Actions," implementation of the Proposed Action would not result in long-term effects to any low income or minority population greater than the general community would experience. Additionally, there are no impact categories that experience a significant impact as a result of the Proposed Action. In the long-term, intersection improvements are expected to reduce congestion and result in a beneficial impact to surrounding communities.

Therefore, there would be no minority or low-income group that would bear a disproportionately high and adverse burden of the effects of the Proposed Action.

6. **Executive Order 11988, which directs federal agencies to reduce the risk of flood loss, minimize the impacts of floods on human safety, health and welfare, and restore and preserve the natural and beneficial value served by floodplains, has been followed and as required, complied with appropriately.** The Final EA contains analyses that address whether the Proposed Action would be a significant floodplain encroachment, as defined in FAA Order 1050.1F and Executive Order (EO) 11988. The FAA is satisfied that the Proposed Action would not be a significant encroachment on floodplains and that implementation of the Proposed Action would comply with all the requirements of EO 11988. There is no feasible and prudent alternative that avoids the floodplain. A "significant encroachment" on the floodplain would not occur because: the probability of loss of human life is low; the Proposed Action would be designed to minimize future extensive damage or costs; and there would be no notable adverse impacts on the floodplain's natural and beneficial features. The appropriate and currently valid FIRMs were consulted further information is included in Section 5.14.2 of the EA.

7. **The Proposed Action is consistent with the New York State Coastal Zone Management Program in accordance with the CZMA, as amended (16 U.S.C §§ 1451-1464). LGA is located within a designated New York State Coastal Zone Management Area.** As indicated in Appendix A of the final EA, the NYSDOS, on May 16, 2016, determined that the Proposed Action meets their consistency concurrence criteria for determining whether the projects proposed are consistent with the approved coastal zone management plan. There would be no significant adverse impacts to the NYSDOS Coastal Zone Management Area as result of the Proposed Action.

As this WR/ROD for the proposed changes to the LGA East Side Reconfiguration project demonstrates, there are no substantial changes relevant to environmental concerns to the project that was the subject of the July 2017 EA. Additionally, the proposed changes to the East Side Reconfiguration project do not result in any significant new circumstances or information relevant to environmental concerns. Therefore, the seven Federal Agency Findings of the July 2017 FONSI/ROD remain valid, and no changes to any of the Findings are required.

DECISION AND ORDER

This WR/ROD was prepared pursuant to FAA Orders 1050.l F, *Environmental Impacts: Policies and Procedures,* and 5050.4B, *National Environmental Policy Act Implementing Instructions for Airport Actions,* Paragraph 1401. This WR/ROD along with the FAA's July 2017 FONSI/ROD constitute the FAA's decisions with regard to the LGA East Side Reconfiguration project including the proposed changes to Concourse D and airside taxilanes. The FAA has independently evaluated the information contained in the July 2017 EA and the November 2021 Technical Report and takes full responsibility for the scope and content that addresses the FAA actions.

I have carefully and thoroughly considered the facts contained in the July 2017 EA and

FONSI/ROD, the Technical Report, and this Written Re-evaluation of the July 2017 EA and FONSI/ROD. Based on that information, I find the proposed Federal Actions are consistent with existing national environmental policies and objectives of Section 101(a) of the *National Environmental Policy Act of 1969* (NEPA). I also find the proposed Federal Actions with the required mitigation as presented in the July 2017 EA/FONSI/ROD and the November 2021 Technical Report will not significantly affect the quality of the human environment or include any condition requiring any consultation pursuant to Section 102(2)(C) of NEPA.

Accordingly, pursuant to the authority delegated to me by the Administrator of the FAA, I find that the actions summarized in this WR/FONSI/ROD are reasonably supported and approved. I hereby direct that action be taken together with the necessary related and collateral actions, to carry out the agency actions noted above. Specifically:

1. Unconditional Approval of a revised LGA Airport Layout Plan (ALP), pursuant to 49 U.S.C. §40103(b) and §47107(a)(16) to include revised Concourse D and airside taxilane modifications as described in the Technical Report; and determination and approval of the effects of this project upon the safe and efficient utilization of navigable airspace pursuant to 14 CFR Parts 77 and 157 and 49 U.S.C. §44718;

2. Determination under 49 U.S.C. §40101(d)(l) and §47105(b)(3) as to whether the Proposed Design Changes meet applicable design and engineering standards set forth in FAA Advisory Circulars;

3. Environmental determinations concerning potential funding through the Federal grant-in-aid program authorized by the Airport and Airway Improvement Act of 1982, as amended (recodified at 49 U.S.C. §47107) and/or approval of an application to use Passenger Facility Charges (PFCs) under 49 U.S.C. §40117 (neither the July 2017 FONSI/ROD nor this WR/ROD determines eligibility or availability of potential funds);

4. Determination under 49 U.S.C. §44502 (b) concerning the acquisition, establishment, improvement, operations and maintenance of air navigation facilities and that the subject airport development is reasonably necessary for use in air commerce or in the interests of national defense;

5. Continued close coordination with the PANYNJ and appropriate FAA program offices, as required, to maintain safe, efficient use of and preservation of the navigable airspace during all aspects of project construction and demolition, in accordance with 14 CFR Part77; and

6. Approval of appropriate amendments to the LGA Airport Certification Manual (ACM), as required, pursuant to 49 U.S.C. §44706.

DAVID A FISH Digitally signed by DAVID A FISH
Date: 2022.01.14 15:50:52 -05'00'

APPROVED: _____ _____
Director, Airports Division Date
Federal Aviation Administration
Eastern Region

DISAPPROVED: _____ _____
Director, Airports Division Date
Federal Aviation Administration
Eastern Region

Right of Appeal

This Written Re-evaluation/Record of Decision (WR/ROD) presents the Federal Aviation Administration's findings and final decision and approvals for the actions identified, including those taken under the provisions of Title 49 of the United States Code, Subtitle VII, Parts A and B.

Any party having a substantial interest may appeal this order to the United States Court of Appeals for the District of Columbia Circuit or in the court of appeals of the United States for the circuit in which the person resides or has its principal place of business, upon petition filed within 60 days after entry of this order in accordance with 49 U.S.C. §461IO.

Any party seeking to stay the implementation of this ROD must file an application with the FAAprior to seeking judicial relief, as provided in rule l 8(a) of the Federal Rules of Appellate Procedure.

East Side Reconfiguration at LaGuardia Airport

Conversion of Delta Air Lines Terminal C-West

Technical Report

Prepared for

U.S. Department of Transportation
Federal Aviation Administration

Sponsored by

Port Authority of NY & NJ

Prepared by

October 2021

Contents

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Attachments

Acronyms

AOA ..... Air Operations Area
APE ..... Area of Potential Effect
APU ..... Auxiliary Power Units
ASCE ..... American Society of Engineers
ATCT ..... Air traffic control tower
BMP ..... Best Management Practices
CEQR ..... City Environmental Quality Review
CTB ..... Central Terminal Building
CUP ..... Central utility plant
dBA ..... A-weighted Scale Decibel
DNL ..... Day-night average sound level
EA ..... Environmental Assessment
EES ..... East End Substation
FAA ..... Federal Aviation Administration
FEMA ..... Federal Emergency Management Agency
GHG ..... Greenhouse Gas
HVAC ..... Heating, ventilation, and air conditioning
LEED ..... Leadership in Energy and Environmental Design
MOA ..... Memorandum of Agreement
MSW ..... Municipal solid waste
NCP ..... Noise Control Plan
NEPA ..... National Environmental Policy Act of 1969, as amended
NRHP ..... National Register of Historic Places
NYC ..... New York City
NYCDOT ..... New York City Department of Transportation
NYSDEC ..... New York State Department of Environmental Conservation
NYSDOT ..... New York State Department of Transportation
PANYNJ ..... Port Authority of New York and New Jersey
PCB ..... Polychlorinated biphenyls
RCNM ..... Roadway Construction Noise Model
RON ..... Remain Overnight
SHPO ..... State Historic Preservation Office
SIP ..... State Implementation Plan
SPCC ..... Spill Prevention Control and Countermeasures
SPDES ..... State Pollutant Discharge Elimination System
SWPPP ..... Stormwater Pollution Prevention Plan
TAAM ..... Total Airspace and Airport Modeler
WRP ..... Waterfront Revitalization Program

1 Introduction

The Final Environmental Assessment (EA) for *East Side Reconfiguration at LaGuardia Airport,* dated May 2017, was prepared by the Port Authority of New York and New Jersey (PANYNJ) in accordance with Federal Aviation Administration (FAA) policies and procedures for implementing the National Environmental Policy Act (NEPA). A Finding of No Significant Impact (FONSI)/Record of Decision (ROD) was signed by Marie Kennington-Gardiner, Acting Regional Administrator, Federal Aviation Administration, Eastern Region, on July 20, 2017. The Proposed Action addressed in the EA included demolition of LaGuardia Airport's (Airport) Terminals C and D and construction of a new consolidated single headhouse with four concourses (D, E, F and G) and 37 Group III contact gate positions, reconfiguration of the airside apron around Terminals C and D to create dual taxilanes between the new concourses, reconfiguration of the arrival and departure roadways directly in front of the new terminal, and construction of two-level terminal roadway frontage.

Construction on the East Side Reconfiguration began in August 2017 in a phased manner, with Concourse G opening in November 2019 and construction continuing on with the headhouse, roadways, Concourse E and Concourse F all underway in early 2021.

Delta Air Lines has proposed a change in the design and construction approach for proposed Concourse D (existing Terminal C-West), which is one of the last elements to be constructed under the construction phasing plan set forth in Figure 3-2 of the EA. The proposed change would allow for the reuse of much of the existing Terminal C-West structural, electrical, and mechanical elements rather than fully demolishing the entirety of Terminal C-West. This would minimize demolition while also providing for a larger concourse with improved passenger amenities when compared to the 2017 Concourse D design, as well as reducing the overall construction schedule by 14 months. Those improvements include larger gate holdrooms, restrooms, and circulation areas, and more than triple the amount of available concessions offerings. Although the proposed design change would alter the 2017 Proposed Action dual taxilane design between new Concourses D and E, the same airfield flow would be maintained in the Revised Proposed Action via the implementation of dual throats and three aircraft start-up positions. The proposed change would also improve gate flexibility by accommodating A321 aircraft at all nine Concourse D gates, compared to only one A321 capable gate in the Concourse D design under the 2017 Proposed Action.

This Technical Report has been prepared to support a Written Reevaluation of the 2017 East Side Reconfiguration EA. This report describes the revised Proposed Action in detail, presents the purpose and need for the design change, discusses the differences between the original (2017) and revised Proposed Action, and evaluates the impacts on operations and the environment specific to the changes in the Proposed Action.

2 Revised Proposed Action

Under the revised Proposed Action, the majority of the East Side Reconfiguration Program would be constructed as proposed in the 2017 EA, with some necessary changes to the construction schedule (described below). There would be no change to the landside design, the headhouse or Concourses E, F and G. In the 2017 Proposed Action, Terminal C-West would be demolished and a new Concourse D constructed with a reconfigured airside apron around the concourse, nine contact gate positions (including one A321-capable position) and one remain overnight (RON) position. There would be dual parallel taxilanes, or two points of entry, between Concourse D and Concourse E and three start up positions. A new ramp control tower would be constructed on the roof of Concourse E.

The revised Proposed Action would convert the existing Terminal C-West from a terminal to a concourse to be named Concourse D, rather than demolish the entire building and build a new concourse as originally proposed in the 2017 EA. Figure 2-1 presents a side-by-side comparison of 2017 Proposed Action and the Revised Proposed Action. The proposed change would maintain the majority of the existing Terminal C-West exterior glazing, with replacement of existing metal panels to match the metal panels on the rest of the new terminal. Interior concourse finishes would be updated to match the remainder of the new terminal, and the electrical, mechanical and communications infrastructure and systems would be upgraded to be consistent with the rest of the new terminal. Using the existing Terminal C-West building would increase the available space by 79,600 square feet (sq ft) to create larger restrooms, gate holdrooms, and boarding and circulation areas, in addition to more than 14,000 incremental sq ft available for concessions and food court seating areas. As shown in Figure 2-2, there would be higher ceilings in the departures area, providing an improved customer experience.

The revised Concourse D would include nine A321-capable contact gates allowing for increase gauge and gate flexibility, thereby helping to protect aircraft from having to wait for a gate to become available during irregular operations. Although the proposal eliminates the RON hardstand associated with Concourse D, the deicing operation would remain as originally planned, as fewer gates would need to be closed to support deicing and snow melting operations. Dual taxilane throats between Concourses D and E (leading to Taxiway A) and three start-up positions would mitigate the loss of full dual taxilanes by providing for the same airfield operational benefits and reduced taxi times and delays as compared to the original Concourse D design (under 2017 Proposed Action). Provisions for hydrant fueling (i.e., hydrant fuel lines and hydrant pits) would still be constructed within the apron area as was approved in the 2017 Proposed Action.

Rather than construct a new ramp control tower at the new Concourse E, the existing ramp control tower on Terminal C-West, which is currently being used as FAA's back-up tower, would be maintained. The East Side Reconfiguration would maintain two ramp control towers for the east side concourses (per the 2017 design) and still provide a back-up tower for FAA's use.

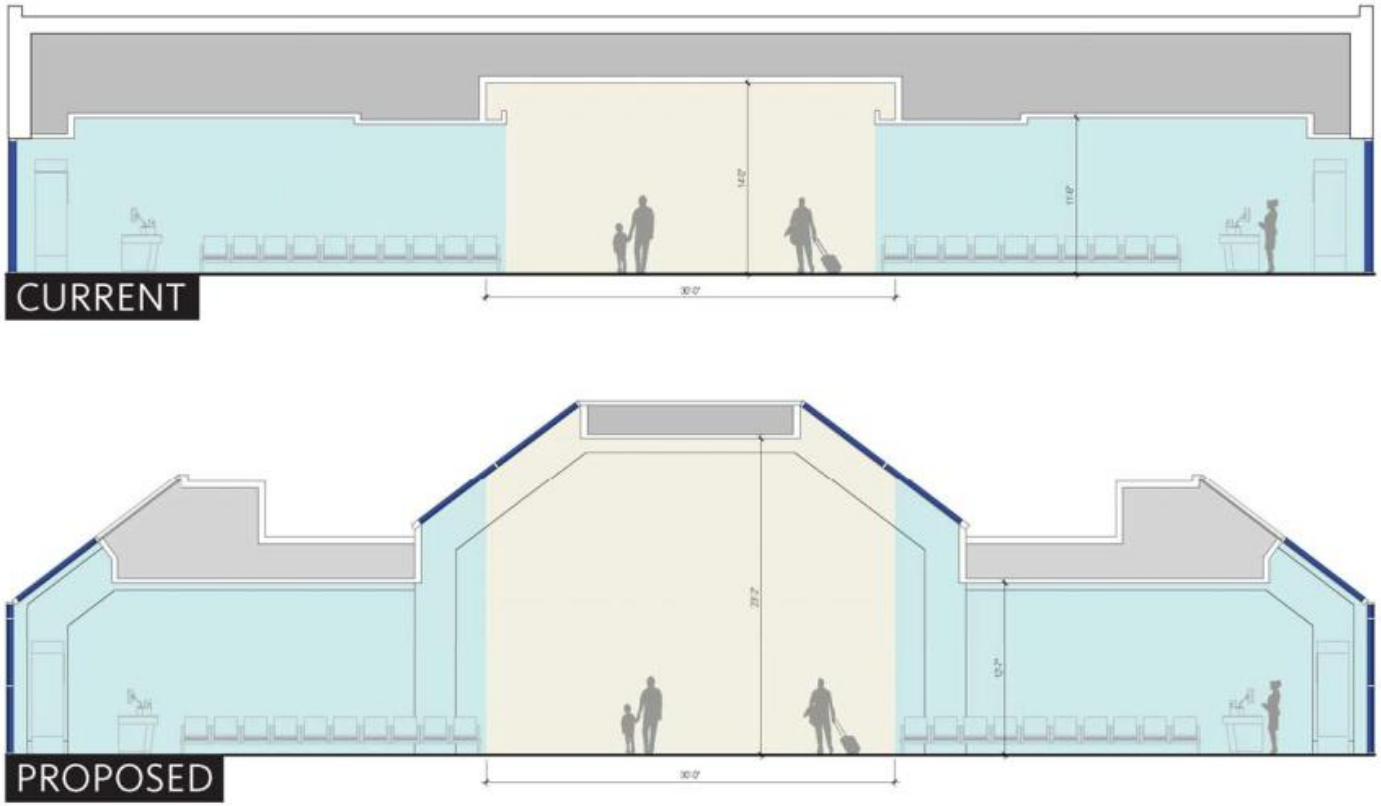
As with any complex construction project, there have been some changes in the construction schedule for the East Side Reconfiguration as originally proposed in the 2017 EA. Construction began in August 2017 (rather than April 2017) and there were delays during the first two years caused by unexpected challenges with handling of passenger and vehicular traffic (particularly taxi and for-hire vehicle staging) due to the on-airport roadway construction spanning the entirety of the Airport. As a result, Concourse G was not completed until November 2019 (rather than second quarter of 2019). In order to alleviate scheduling pressures, airside civil work began in the area of Terminal C-East (for proposed Concourse E) in March 2019, while work on Concourse G was still underway. Working inefficiently using isolated gate closures, rather than closing large sections of the concourse, allowed the existing Terminal C-East to maintain most operations while construction advanced.

There was a slight construction slow-down at the beginning of the COVID-19 pandemic in March 2020, although never a complete work stoppage. Once work was allowed to safely continue at full capacity, the pandemic-induced reduction in operations and passenger volume allowed Delta to close aircraft gates and accelerate components of the East Side Reconfiguration construction. Beginning in June 2020, construction of the northern half of Concourse F began at the same time as construction of Concourse E. In addition, construction of the landside roadways was able to be accelerated, opening approximately six months ahead of schedule in June 2021.

Moving forward, Delta will be able to keep the majority of the gates at existing Terminal D active while constructing the new Concourse F. This allows Delta to close portions of Terminal C-West for an approximately twelve-month period in order to convert it into the new Concourse D, concurrent with the Concourse F construction. Aircraft parking positions would be maintained to support Delta's operations allowing the construction schedule to be accelerated further. See Attachment A for updated construction schedule drawings. Conversion of the existing Terminal C-West provides an additional benefit to operations as the terminal can remain partially open while construction occurs. In addition, the conversion would reduce the overall construction schedule because there would be no need for new foundations, limited structural improvements, and significantly less airside concrete and asphalt replacement compared to the 2017 design since the larger concourse footprint would displace airside apron that would otherwise need to be constructed. Combined with other acceleration efforts and changes to phasing for the overall East Side Reconfiguration as previously described, the revised Proposed Action would be completed 14 months earlier than the schedule proposed for the 2017 Proposed Action.

Figure 2-1. Comparison of Current and Proposed Concourse D Layout

Figure 2-2. Comparison of Current and Proposed Concourse D Departures Cross-Section



Since the FAA's issuance of the FONSI/ROD for the LaGuardia Airport East Side Reconfiguration on July 20, 2017, the following changes have been made to the Proposed Action:

- Acceleration of construction of the northern portion of Concourse F – Constructing five of the twelve new gates beginning in 2020, with completion expected in 2022.
- Modification of the two ramp control towers – Originally planned to be located on level 4 of Concourses E and F, the towers will now be located on level 2 of Concourses E and F, with a third ramp control tower that will remain on Concourse D to provide redundancy. While a design change, the modification to the two ramp control towers would have no positive or negative environmental impacts on the surrounding community and would not have an impact on the schedule.
- Conversion of existing Terminal C-West into the new Concourse D – The design change will not only reduce demolition and construction activities and accelerate the construction schedule, it will maintain the existing Terminal C-West ramp control tower for both Delta and FAA back-up operations. The impacts of the change are discussed further in Chapter 5 of this Technical Report.

The remaining elements of the 2017 Proposed Action remain unchanged.

3 Purpose and Need

As described in the 2017 East Side Reconfiguration at LaGuardia Airport EA, the purpose of the East Side Reconfiguration is to improve aircraft operations and reduce delays to enable the airlines to safely and effectively meet passenger demand at acceptable levels of service by providing the following:

- Improve airline efficiency and operational safety on the airside apron through a reconfigured apron with additional maneuvering space and increased gating flexibility.
- Provide a modern terminal building with increased energy efficiency, improved passenger processing (check-in, security, etc.), additional concessions and retail options, and sufficient electrical capacity to provide reliable service.
- Improve traffic circulation and flow along the terminal's landside roadways and accommodation of vehicle parking by extending the East Parking garage.

The Proposed Action is needed because of the following:

- LaGuardia Airport has average delays of over 15 minutes, resulting in residual delays that affect airline networks and other airports, which in turn negatively affect the National Airspace System and poor passenger experience (i.e., delayed arrivals or missed connections).[1]
- To comply with the Tarmac Delay Rule (U.S. DOT consumer rule entitled "Enhancing Airline Passenger Protections," effective April 29, 2010) without taking significant operational penalties, airlines using Terminals C and D require a facility with flexible gating options and multiple apron ingress and egress points that do not presently exist.[2]
- The current ramp layouts do not include dual taxilanes, independent aircraft deicing operations, or aircraft gating flexibility.[3]
- The airside layout cannot be reconfigured without impacts to the terminal buildings and roadways because of constrained airport property that is surrounded by water to the north, east, and west, and Grand Central Parkway to the south.

[1] Terminal C & D Redevelopment, TAAM Analysis, New York LaGuardia Airport (January 2017); see Appendix B.

[2] *https://www.transportation.gov/airconsumer/enhancing-airline-passenger-protections-baggage-and-other-consumer-issue*

[3] Although the 2017 EA called out the need for dual taxilanes, the intent was to achieve the project purpose of improved aircraft operations and reduced delays that were a result of the single-width taxilanes at the existing Terminals C and D. Airfield modeling has demonstrate the purpose is achieved without a full-length dual taxilane between all concourses, as the modified taxilane design between Concourse D and E provides the same airfield benefits as a dual taxilane via the dual throats and three aircraft start-up positions. See Attachment B TAAM Analysis & Results, C-West Conversion to Concourse D (August 20,2021).

As described in the 2017 East Side Reconfiguration at LaGuardia Airport EA, for the airlines to safely and effectively accommodate forecasted passenger demand[4] at acceptable levels of service, the following airside, terminal, and landside needs must be met:

- Airside Apron
  - Dual taxilanes
  - Contact gate positions that allow for maximum fleet mix flexibility
  - Overnight positions within the terminal apron area
  - Aircraft deicing areas in close proximity to the terminal
- Terminal Building
  - Passenger and baggage screening areas that meet TSA requirements.
  - Space for passenger amenities such as gate-wait seating and concessions that would achieve LOS C under forecast passenger demand
  - Energy efficient building compliant with PANYNJ's *Sustainable Design Guidelines*
  - Additional electrical capacity to meet the future East Terminal and parking electrical load
- Landside Roadways and Parking
  - Safe and efficient access to terminals and parking facilities
  - Separation of various vehicle types for passenger loading and unloading
  - Parking facilities within a short walk from the terminal
  - Taxi/for-hire vehicle staging lots serving both Terminal B and the East Terminal

Although the 2017 Proposed Action met all these needs, the revised design and construction methodology for Concourse D would allow Delta Air Lines to improve upon some elements, without negatively impacting other needs. The revised design and construction approach for Concourse D would increase aircraft gating flexibility, improve customer experience and accelerate the East Side Reconfiguration program construction timeline and provide other benefits including minimizing the duration of overall construction and reducing impacts to operations and customer experience during construction.

- Increased aircraft gating flexibility – As stated in the 2017 EA, improved airline efficiency and operational safety on the airside apron would be provided through a reconfigured apron with additional maneuvering space and increased gating flexibility. The Revised Proposed Action is consistent with the purpose in the 2017 EA as the revised layout would result in nine A321-capable gates (up from one A321 gate in the 2017 Proposed Action). Since only certain gate positions can accommodate larger aircraft when the adjacent gates are serving other aircraft, airlines are

[4] Between 2019 and 2020, LaGuardia Airport experienced a 43.7% drop in operations and 52.3% drop in enplanements due to the COVID-19 pandemic. Based on the FAA's Terminal Area Forecast Executive Summary for Fiscal Year 2020-2045, LaGuardia Airport operations are not estimated to be back to 2019 levels until 2027 and enplanements not back to 2019 levels until 2026. However, according to the TAF, the airport will reach its slot-controlled operations limit of 380,970 by 2028 and the passenger level forecasted for 2033 in the 2017 EA (34,096,341) by the year 2029.

restricted in the flight schedule options they can operate without producing delays. The delay of a single flight can affect all subsequent flights that are not able to access the assigned gate at an allotted time and flights at other gates that may be blocked unexpectedly. Increasing the number of gates capable of handling larger aircraft would provide further operational flexibility compared to the 2017 layout, which improved flexibility from the existing layout, reduce congestion during the busiest times, and vastly improve the customers' level of service. The revised Proposed Action would not result in upgauging of the future fleet mix (i.e., increase aircraft size) beyond what is currently forecast.

The revised design would alter the full taxilanes between Concourses D and E, instead providing taxilanes in a modified dual taxilane configuration (hybrid dual taxilane/"V" throat design) with three aircraft start-up positions in the alley between Concourses D and E. The proposed configuration would still provide bypass capability that was the intent of the dual taxilanes and allow the apron to operate in an efficient manner with free flow of aircraft on and off Taxiways A and B. In addition, one remain overnight (RON) position would be eliminated. The Total Airport and Airspace Modeler (TAAM) results demonstrate that the revised Proposed Action would have no negative impacts to airport operations compared to the 2017 Proposed Action and an improvement over the No Action Alternative (see Attachment B).

- Improved customer experience – The conversion of Terminal C-West would provide for much larger and spacious interiors with nearly 60 percent more concourse square footage than the original (2017) design. The 2017 Proposed Action delivered an International Air Transport Association (IATA) level of service C. The Revised Proposed Action remains consistent with that level of service and is in line with the purpose and need of the 2017 EA.

- Reduced impacts to operations and customer experience during construction – Conversion of Terminal C-West would reduce the amount of overall demolition and allow portions of the concourse to remain operational during construction, maintaining gate availability and minimizing customer impacts. This, combined with other changes to the construction phasing, would result in an overall reduction of 14 months in the construction schedule with completion in December 2024.

4 Alternatives Analysis

Delta Air Lines considered two alternatives for the design and construction of the proposed Concourse D:

1. Alternative 1: No Action Alternative (New Concourse as Proposed in the 2017 EA) – As proposed in the 2017 EA, the existing Terminal C-West would be demolished and a new Concourse D would be constructed. The surrounding airside apron would be reconfigured with dual parallel taxilanes and two start-up positions between Concourse D and Concourse E. The proposed Concourse D would include nine contact gate positions (including one A321-capable position) and one remain overnight (RON) position. Within the concourse building would be areas dedicated to concessions, retail areas, gate holdrooms, and secure circulation areas to accommodate level of service C or better. Construction would take approximately two years with no ability to maintain gate availability once the demolition of the existing terminal begins.

2. Alternative 2: Conversion of Existing Terminal C-West – The existing Terminal C-West would be renovated and converted into a new Concourse D. As necessary, some sections of the surrounding apron would be reconstructed to provide taxilanes in a modified dual taxilane configuration (hybrid dual taxilane/"V" throat design) with three aircraft start-up positions in the alley between Concourses D and E. The new Concourse D would include nine A321-capable contact gate positions. The renovated concourse building would provide space for larger restrooms, holdrooms, and boarding and circulation areas than the 2017 Proposed Action, and over 20,000 sq ft for concessions and food court seating areas. Portions of the concourse could remain operational during construction, maintaining gate availability and minimizing customer impacts. Construction on the new Concourse D would take approximately 21 months; however, when combined with other construction acceleration efforts that were implemented prior to and during the COVID-19 pandemic (see Section 2), the overall construction time for the East Side Reconfiguration would be reduced by 14 months compared to the No Action Alternative.

The No Action Alternative (the Proposed Action from the 2017 EA) meets the project purpose and need (see Section 2.1 of the 2017 EA). The dual taxilanes would reduce gate-wait delays but there would be limited improvements to gating flexibility with the single A321-capable gate position. There would be improved passenger amenities and increased gate hold and circulation space, as compared to the existing terminals. Demolition of the existing Terminal C-West and construction of the new Concourse D and surrounding apron area would take two years, and would require a complete shutdown of Terminal C-West with no gate availability. The new Concourse D was the last element to be constructed in the original (2017) East Side Reconfiguration Program and was to be completed 96 months after the start of construction, finishing in February 2026.

Alternative 2 (the Conversion of Terminal C-West) would meet the project purpose and need and improve upon the No Action Alternative by improving gating flexibility, expanding terminal space for passengers, increasing amenities, and reducing overall construction time for the East Side Reconfiguration Program. Although the full dual taxilane between the new Concourses D and E would be modified, the hybrid dual taxilane/"V" throat design with three aircraft start-up positions allows the apron to operate in an efficient

manner, similar to the No Action Alternative. With nine A321-capable gate positions, Alternative 2 further increases gating flexibility by preventing aircraft from having to wait for gates to become available. The increased square footage within the concourse will increase passenger convenience with larger hold rooms, more circulation space and additional concessions and retail. Finally, the construction methodology will maintain gate availability during construction and reduce the construction time for the East Side Reconfiguration, allowing for completion by December 2024.

With Alternative 2, the East Side Reconfiguration would continue to meet the project purpose from the 2017 EA. Minor changes in the airfield design, including modification of the dual taxilanes between Concourses D and E and reduction in one RON position, would not negatively impact airside operations and would continue to be an improvement from the existing condition. Aircraft gating flexibility and space for passenger circulation and amenities would increase from Alternative 1. Alternative 2 would serve the public interest by meeting the air transportation needs of the FAA, PANYNJ, airlines serving Terminals C and D, Transportation Security Administration (TSA), and air passengers. Based on the improvements to gating flexibility, customer experience, and construction timeline, with no negative impacts to taxi times and delays from the change in airside configuration, Alternative 2 – Conversion of Terminal C-West – was selected as the preferred alternative for consideration in a written reevaluation of the 2017 *East Side Reconfiguration at LaGuardia Airport* EA.

5 Environmental Impacts

The Revised Proposed Action would not result in a substantial change to the direct or indirect impacts to the environment from those of the 2017 Proposed Action, as presented in the 2017 EA. For most environmental resources, the impacts would remain the same as those for the 2017 Proposed Action. The Revised Proposed Action would reduce construction time and require fewer construction vehicles and less pile-driving, resulting in a reduction of impacts to construction-related air quality, climate, hazardous materials, and noise. The modification in design would result in a minor change in visual impacts, and flood hazard mitigation strategies would be incorporated into the design to mitigate any floodplain impacts. Following construction, airport operations (both airside and landside) would be substantially the same under the Revised Proposed Action as the 2017 Proposed Action (similar passenger forecast and airport operations, with only minor changes to operations in the taxilane between Concourses D and E), such that there would be no appreciable change to the environmental impacts described in the 2017 EA.

This section summarizes the direct and indirect impacts expected under the Revised Proposed Action for those environmental resources that changed from the 2017 EA. There would be no change to the following environmental resources: biological resources, Department of Transportation Act, Section 4(f), Farmlands, historical, architectural, archaeological, and cultural resources, land use, natural resources, socioeconomic, environmental justice, children's environmental health and safety risks, and water resources except for floodplains. The discussion summarizes impacts for the entire East Side Reconfiguration and provides more detailed analysis of the impacts related to conversion of Terminal C-West. Cumulative impacts would be similar to those under the Revised Proposed Action and are summarized in Section 5.8.

5.1 Air Quality

Construction-related air emissions for the East Side Reconfiguration would be generated by on-road vehicles and non-road equipment. After construction, day-to-day airport and airline operations would continue to generate emissions of criteria pollutants, from both mobile and stationary sources.

The annual emissions inventory analysis of construction emissions for the 2017 Proposed Action found that construction emissions would be a small percentage of the applicable *de minimis* threshold levels; therefore, federal guidelines indicated that no significant air quality impact would occur during the construction period. The Revised Proposed Action would reduce the demolition required and eliminate any foundation or major structural work for the new Concourse D. On the airside, reconstruction of the pavement (concrete and asphalt) would be reduced by approximately half. The number of construction workers would also be reduced by at least 200 during the maximum Concourse D construction period, compared to the 2017 Proposed Action and, therefore, the number of private automobiles and shuttle buses required to transport workers. Due to the change in construction activities, there would be a reduction in on-road and non-road sources of emission sources related to construction of Concourse D.

Major construction activities that would result in increased emissions (i.e., earth work and demolition) have either been reduced in size and scope, or they have been scheduled so as not to substantively change the projected emissions for the program. The table of direct emissions (Table 5-1 from the 2017 EA) shows

that the emissions for the peak year 2021 would not approach the General Conformity thresholds. Based on the type of work to be performed, annual emissions for the years 2023 and 2024 would be reduced from those predicted in the 2017 EA. *Therefore, the Revised Proposed Action would have no significant air quality impact during construction.*

Table 5-1. Annual Emissions - Construction (2017 EA)

Year	Annual Emission Rate (tons)					
	VOC	NO_x	CO	PM_{10}	$PM_{2.5}$	SO_2
2017	3.685	29.998	16.858	2.775	2.612	0.035
2018	4.626	33.401	19.202	3.167	2.979	0.046
2019	2.993	22.693	12.121	2.067	1.931	0.030
2020	2.894	21.636	12.711	2.064	1.932	0.030
2021	5.100	38.097	24.888	3.882	3.690	0.048
2022	3.747	29.448	15.583	2.724	2.575	0.041
2023	2.697	18.965	12.884	2.060	1.921	0.027
2024	1.226	8.352	5.464	0.935	0.825	0.013
2025	0.206	1.412	0.920	0.157	0.139	0.002
De minimis Threshold	50	100	100	n/a	100	n/a

Source: Table 5-1, 2017 EA.
Note: Bold values indicate the maximum (peak) year of emissions based on the 2017 EA.

Following construction, since neither the 2017 Proposed Action nor the Revised Proposed Action would result in a change in the passenger forecast when compared with the No Action Alternative, it is assumed that there would be no change in landside mobile source emissions. Emissions from the proposed central utility plant (CUP) for the East Terminal would be the same for the 2017 and Revised Proposed Actions. As described in the 2017 EA, emissions from the Proposed Action(s) would be higher than the emissions from the No Action Alternative for only three pollutants, and lower for the other three pollutants.

The 2017 Proposed Action would reduce aircraft congestion and gate-wait delays in and around the aircraft parking apron. Since there would be no change in the number of operations or the fleet mix (compared with the No Action Alternative), this would translate into reduced fuel consumption and, by extension, fewer air emissions. Despite the increase in A321-capable gates under the Revised Proposed Action (nine positions from one under the 2017 Proposed Action), there would be no change to the future flight forecast or the flight schedule. The TAAM results demonstrate that the Revised Proposed Action would have no negative impacts to airport operations compared to the 2017 Proposed Action; therefore, air quality benefits as a result of reduced aircraft congestion and gate-wait delays at the aircraft parking area compared to the No Action Alternative would be similar to those of the 2017 Proposed Action. See Attachment B for the TAAM results. Therefore, it is assumed that the amount of airside emissions would be similar to those of the 2017 Proposed Action, and that the Revised Proposed Action emissions would be lower than those under the No Action Alternative.

Because the Revised Proposed Action (both construction and operations) would not result in emissions above the applicable *de minimis* thresholds, no further analysis is required under the General Conformity Rule. The Revised Proposed Action conforms to the New York SIP and the Clean Air Act. *Consequently, no*

significant impact on local or regional air quality is expected to occur as a result of the Revised Proposed Action.

5.2 Climate

Construction activities related to the entire project would result in the burning of fossil fuels by construction equipment as well as an increase in construction-related vehicle traffic over the construction period, directly increasing greenhouse gases (GHGs). During the peak year for construction air emissions (2021), the 2017 Proposed Action would emit approximately 7,600 tons of GHGs. The GHGs would be emitted from a variety of construction equipment. The Revised Proposed Action would have a construction timeframe 14 months shorter and fewer construction vehicles and workers related to the redevelopment of Terminal C-West than that of the 2017 Proposed Action, although the compressed construction schedule would increase emissions during the peak construction year. Over the total construction period, GHG emissions would be lower under the Revised Proposed Action than under the 2017 Proposed Action.

Aircraft takeoffs and landings and operation of ground service equipment would result in fossil fuel combustion and associated GHG emissions following construction. However, under both the 2017 Proposed Action and the Revised Proposed Action, GHG emissions from aircraft operations would decrease for the following reasons:

- There would be no increase in flight operations or change in the fleet mix.
- The reconfigured apron design would reduce average taxi times and average delays compared to the No Action Alternative.
- Charging stations built into the terminal would allow the use of electric ground service equipment.
- 400 Hz ground power and PCAir at each gate would reduce the use of the aircraft's APUs, which consume aircraft fuel.

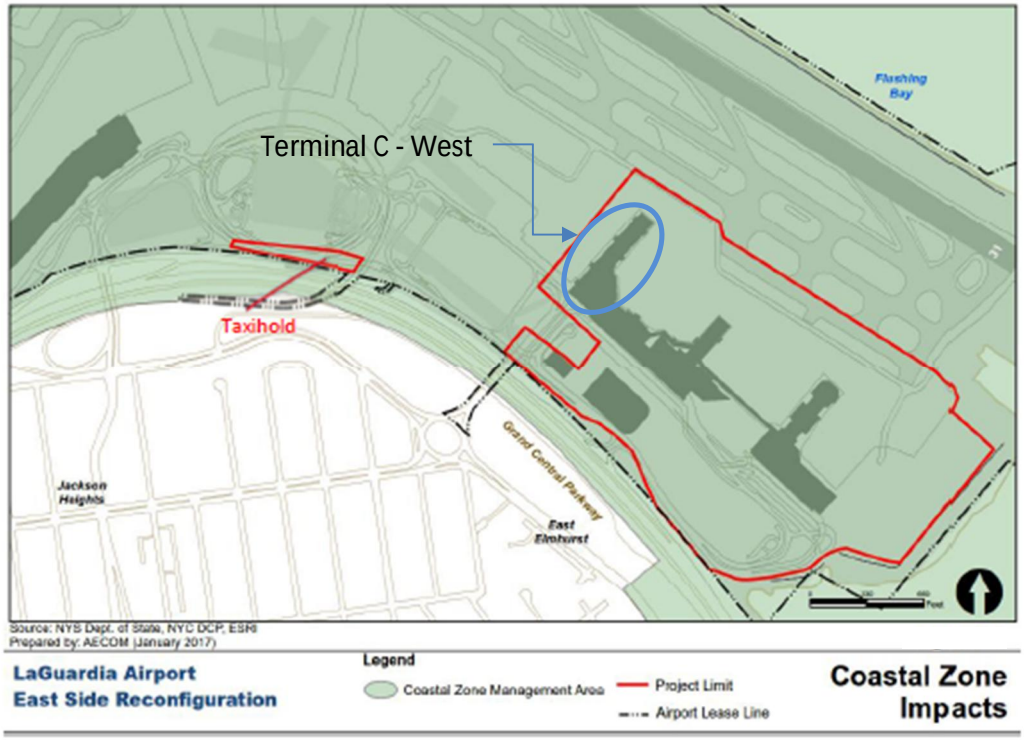
The proposed upgrade of the terminal heat and power system within a new CUP would decrease GHG emissions under the 2017 and Revised Proposed Action. More modern models of hot water heaters, boilers, and generators would be more efficient than older model years and be fueled largely by natural gas (lower CO2 emissions than combustion of oil).

5.3 Coastal Resources

Almost the entire project limits are within the Coastal Zone Management Area (see Figure 5-1). Direct impacts on coastal resources would result from construction activities as part of the reconfiguration of the area of Terminals C and D. The proposed development activities within the tidal floodplains cannot be avoided and the impacts to coastal resources would be the same under the 2017 Proposed Action and Revised Proposed Action.

PANYNJ submitted a state Consistency Assessment Form for the 2017 Proposed Action to the New York State Department of State (NYSDOS) along with supporting documentation.[5] PANYNJ also submitted a Waterfront Revitalization Program (WRP) Consistency Assessment Form and supporting documentation to the NYC Department of City Planning requesting their concurrence.[6] In an email dated April 20, 2016, the Waterfront Open Space Division, on behalf of the New York City Coastal Commission, found that the actions would not substantially hinder the achievement of any WRP policy and provided its finding to the NYSDOS that this action would be consistent with the WRP policies and the local program. NYSDOS determined that the proposal meets the Department's general consistency concurrence criteria (see letter dated May 16, 2016). The coastal zone consistency would apply to the Revised Proposed Action because modification to Terminal C-West would reduce the amount of construction within the coastal zone, maintaining some of the existing terminal. *No adverse direct impacts to the coastal resources are anticipated as a result of this Revised Propose Action, no mitigation measures are proposed, and no further analysis is required.*

Figure 5-1. Coastal Zone Impacts for Revised Proposed Action



No secondary or induced development has been identified that would cause or contribute to indirect effects on the surrounding coastal zone. The project site would be reconfigured under both the 2017 and Revised Proposed Action, but the existing use of the land for transportation purposes would not change and aircraft operations and passenger demand would not increase as a result of either action. The change in construction methodology for Concourse D would not increase runoff or change stormwater

[5] Letter to Jeffrey Zappieri, NYSDOS Division of Coastal Resources, from Marc Helman, PANYNJ, Environmental Engineering Unit (March 10, 2016).

[6] Letter to Michael Marrella, NYC Department of City Planning, from Marc Helman, PANYNJ, Environmental Engineering Unit (March 10, 2016).

management that would affect water quality or quantity, compared to the 2017 Proposed Action. The action would not change snow management practices at the airport or increase the potential for contamination or spills within the coastal resources. Operations of the proposed terminal would not increase facility lighting that could affect wildlife on nearby shorelines. *There would be no indirect impacts to coastal resources as a result of the Revised Proposed Action.*

5.4 Hazardous Materials, Solid Waste, and Pollution Prevention

The 2017 Proposed Action and the Revised Proposed Action would generate demolition and construction waste; however, the Revised Proposed Action would generate a smaller amount of waste than the 2017 Proposed Action since Terminal C-West would not be demolished. All necessary precautions for the safe removal of hazardous materials and wastes would be coordinated with the appropriate state and local permitting agencies.

Contaminated soils and/or groundwater may be encountered during excavation and dewatering associated with the installation of utilities and construction of foundations, although the risk is reduced under the Revised Proposed Action since the conversion of Terminal C-West would not require a new foundation. Appropriate safety procedures and remediation strategies would be taken if hazardous material was encountered. During the renovation of Terminal C-West, hazardous materials such as lead paint and asbestos would be identified and removed. Since both the 2017 Proposed Action and Revised Proposed Action would likely remove and remediate some hazardous materials from the buildings and subsurface areas, the existing levels of contamination would be expected to be reduced or eliminated. These hazardous materials would be properly disposed of, reclaimed, or recycled, as appropriate. Pollution prevention measures would limit the potential for adverse human health or environmental impacts from these materials generated during construction. As described in the 2017 East Side Reconfiguration at LaGuardia Airport EA, the following preventive measures are appropriate for construction activities associated with each of the previously identified hazardous materials:

- If asbestos is encountered in locations such as utility duct banks, it will be removed prior to any demolition or construction work. Removal protocols, established by PANYNJ, the City of New York, and the State of New York would be followed, thereby minimizing potential risks to human health and the environment. The asbestos waste generated during the abatement process would be disposed of according to NYSDEC regulatory requirements.
- Materials coated with lead-based paint will be removed from the buildings during demolition and the waste will be recycled or disposed of as appropriate. Construction protocols will ensure that dust is minimized and contained. Workers will be provided with protection from lead dust. Local and state permitting and notification will apply to the removal, transportation, recycling, and/or disposal of lead-containing materials.
- PCB-containing ballasts will be incinerated, recycled, or disposed of in an approved landfill, subject to federal, state, and New York City regulations. Transformers containing PCBs will be incinerated or recycled at approved facilities, also subject to federal, state, and New York City regulations. Incineration and recycling are more protective of the environment.

- Mercury-containing lamps will be removed prior to demolition in accordance with federal and state hazardous waste requirements. Removal protocols will ensure that lamps are protected from breakage and that waste lamps handled by qualified waste handlers and transporters are directed to appropriate recycling or disposal facilities. Mercury and lead in elemental form—such as thermostats, thermometers, switches, and solders—will be removed and disposed of or recycled at approved facilities in accordance with federal and state hazardous waste requirements.
- Soils from excavation will be tested and disposed of either as solid waste or petroleum-contaminated soil in accordance with NYSDEC requirements. Groundwater from dewatering activities will also be tested for pollution concentration levels, treated (if necessary) in accordance with an individual SPDES permit, and discharged into the airport's stormwater system operated by PANYNJ under SPDES Permit #NY0008133.

As with the 2017 Proposed Action, based on the combined effects of the measures discussed previously, the Revised Proposed Action would likely result in net positive impacts related to the potential removal of hazardous materials during construction and there would be no impact to the ability of facilities in the area to handle solid waste.

Following construction, there would be no change in the number of operations (takeoffs and landings) or the fleet mix as a result of either the 2017 Proposed Action or the Revised Proposed Action; therefore, the quantity of fuel and other potentially hazardous materials stored and handled on airport property would not increase. Control measures to manage hazardous waste (such as water quality treatment devices) would be the same under the Revised Proposed Action as the 2017 Proposed Action. During operations, the airlines' use, handling, and storage of fuel, oil, grease, and other materials associated with the operation and maintenance of conventional diesel- and gasoline-powered Ground support equipment (bag tractors, belt loaders, push-back tractors, etc.) would be reduced by providing charging stations for the use of electric ground support equipment same as in the 2017 EA.

Municipal solid waste generated by the operation of the new terminal would be same for the 2017 and Revised Proposed Actions. No problems are anticipated in meeting applicable federal, state, or New York City requirements regarding solid waste management or disposal.

5.5 Noise and Noise-Compatible Land Use

Noise would be generated throughout the construction of the Proposed Action, by on-site equipment and by traffic (from construction trucks and construction worker vehicles) accessing the airport.

A wide range of construction equipment would be required for demolition and construction of the East Side Reconfiguration. As set forth in the 2017 EA, impact pile driving during the construction of the 2017 Proposed Action would likely result in noticeable noise increases that range from 3 to 9 dBA above existing background levels at two receptors located immediately across from the project site near Ditmars Boulevard: M3 (at 102nd Street and Ditmars Boulevard) and M4 (at 105-05 Ditmars Boulevard). However, the construction equipment noise levels were predicted to be well below the 85 dBA criterion established by NYSDOT in all times analyzed in the roadway construction noise model (see Table 5-11 of the 2017 EA).

The majority of the construction phase activities under the Revised Proposed Action would be similar to those under the 2017 Proposed Action, generating similar noise levels. However, work on conversion of Terminal C-West would result in reduced noise impacts, as compared to demolition of Terminal C-West and construction of new Concourse D under the 2017 Proposed Action. The conversion would require only minor demolition and would not require any pile driving or piles caps. Since pile driving results in the highest noise levels modeled for the 2017 Proposed Project, it is assumed that the construction equipment noise levels for the Revised Proposed Action would be well below the 85 dBA criterion established by NYSDOT in all cases.

Construction activities would require a construction Noise Control Plan (NCP) to minimize construction noise as mandated in Chapter 28, Title 15 of the City of New York Administrative Code, *Citywide Construction Noise Mitigation.* The NCP would incorporate various noise control measures in accordance with the New York City *Citywide Construction Noise Mitigation* policy and to demonstrate compliance with the City's *Noise Control Code* (Local Law No. 113 of 2005). The NCP prepared at the start of the 2017 Proposed Action construction would apply to the construction for the Revised Proposed Action.

There would be a temporary increase in truck and vehicle traffic during the construction period over existing conditions. The construction traffic noise analyses for the 2017 Proposed Action determined that the maximum incremental noise predicted for each roadway link within the project-related traffic network was below 3 dBA in all cases. Therefore, traffic noise impacts from constructing the 2017 Proposed Action would not be significant, and no mitigation measures related to construction traffic are warranted.

For construction traffic noise, per the *CEQR Technical Manual*, the methodology for predicting future on-road traffic noise levels assumes that existing noise levels are dominated by existing traffic volumes. Changes in future noise levels can be estimated by evaluating the proportional increase in traffic as a result of a given project. A doubling of traffic volume would increase noise levels by approximately 3 dBA (the minimum change in sound level that an average human ear can detect and the equivalent of doubling a sound's intensity). The total construction period for the Revised Proposed Action would be reduced by 14 months compared to the 2017 Proposed Action. During the work on Concourse D, the number of trucks would be reduced by almost half compared to the 2017 Proposed Action (due to limited demolition and new construction). Although the change in construction phasing would allow for simultaneous work on different concourses, which would increase the number of trucks in certain periods compared to the number estimated in the 2017 EA, since the roadway network around the airport is heavily traveled, the additional truck trips during construction periods would not double the traffic volume under the No Action Alternative. Therefore, it is assumed that construction traffic noise for the Revised Proposed Action would also be below 3 dBA in all cases. Therefore, traffic noise impacts from construction due to the Revised Proposed Action would not be significant, and no mitigation measures related to construction traffic are warranted.

Neither the 2017 Proposed Action nor the Revised Proposed Action would result in an increase in forecast passenger demand. There would be no additional aircraft operations and no change in the aircraft fleet mix under either alternative. Therefore, there would not be any indirect increase in noise due to increased vehicular traffic or variation in the future aircraft operations at the airport. All other operations at the airport would remain similar to existing conditions and have no impact on noise.

5.6 Visual Effects

Light Emissions

Light emissions from the construction and operation of the 2017 Proposed Action would not cause or contribute to off-site annoyance or present a possible danger to persons living or driving near the airport. No nighttime construction is planned; however, if nighttime construction were to occur, the light emissions would be temporary.

Lighting for the aircraft parking aprons, exterior of the terminal building, and exterior screens of the proposed East Garage extensions, and roadways would be the same under the Revised Proposed Action as the 2017 Proposed Action. Although not planned, if nighttime construction were to occur for the Revised Proposed Action, the light emissions would be temporary.

Visual Resources and Visual Character Effects

The 2017 Proposed Action would occur within existing land use and zoning envelopes and would not result in physical changes in urban design beyond the project site. The construction and operation of the 2017 Proposed Action would be seen by people driving east and west along Grand Central Parkway, by drivers and pedestrians looking north from Ditmars Boulevard, and by employees and guests of the multiple hotels located along Ditmars Boulevard east of the 102nd Street entrance to the airport. With the exception of the small number of residences along Ditmars Boulevard immediately opposite of the existing Terminals C and D, and views from multi-story buildings in the vicinity, there are few if any vantage points of the project site from businesses and residences.

During the construction period for the East Terminal, many of the features within the viewshed, roadways and ramps associated with the Grand Central Parkway and existing airport buildings, would change. Construction activities would be temporary (approximately 14 months less time for the Revised Proposed Action than the 2017 Proposed Action) and the visual impacts during construction would diminish as the project nears completion.

The additional height of the terminal and the roof element would not block any significant views, such as a skyline or water feature (i.e., Flushing Bay). Although Concourse D would be 2'-6" taller under the Revised Proposed Action than under the 2017 Proposed Action, as shown in Figure 5-2, the difference is negligible when viewed from the Grand Central Parkway. As with the 2017 Proposed Action, Concourse D under the Revised Proposed Action would be shorter than the terminal headhouse (110 feet) and the Central Terminal Building (112 feet), therefore, would not be the dominant visual feature and the Revised Proposed Action would result in similar visual impacts to those identified in the 2017 EA. Neither the 2017 Proposed Action nor the Revised Proposed Action would change urban design features so that the context of a natural or built visual resource is altered. Visually distinct units within the viewshed would change under the Revised Proposed Action, but, as with the 2017 Proposed Action, the Revised Proposed Action would have a minimal impact on a driver's view when compared to the No Action Alternative.

Figure 5-2. Terminal C-West, View from Grand Central Parkway (Current and Revised)

Source: Delta Air Lines, 2021

Indirect visual impacts would be the same under the Revised Proposed Action as the 2017 Proposed Action. The operation of the proposed cooling towers, to be located on the roof of Concourse G, may occasionally generate vapor plumes. Measures would be taken to reduce the chance of vapor plumes to less than 1 percent of the design days. The construction of the building associated with the Revised Proposed Action would not obstruct the views of any historic resources in or around the airport. There would be no induced development in the area surrounding the airport as a result of the Revised Proposed Action that would change the visual character or lighting of the area. Indirect visual effects would not be significant under the Revised Proposed Action.

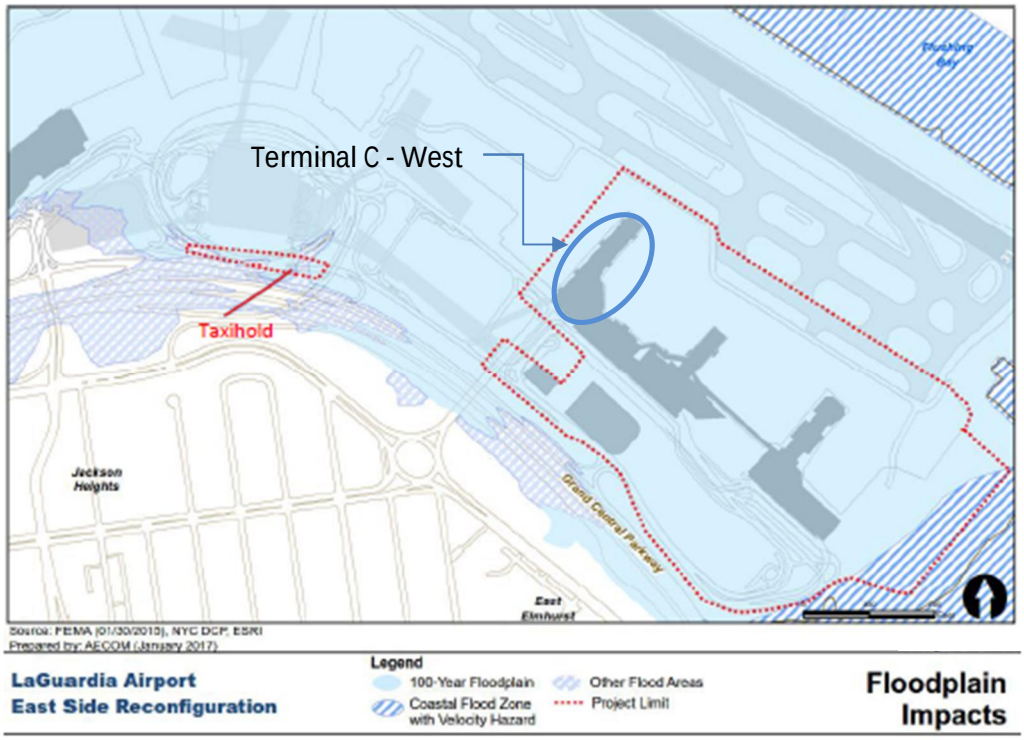
5.7 Floodplain

The 2017 Proposed Action would result in construction activities within a FEMA-designated floodplain, with a portion of the project site along the shoreline within the coastal flood zone with velocity hazard. Direct impacts on the floodplain would be limited to the reconfiguration of existing facilities on built land. Under the 2017 Proposed Action, impervious cover within the 100-year floodplain would increase by no more than 1 acre. Regardless, the 100-year floodplain surrounding the Airport is controlled by coastal storm surges and tidal flooding; therefore, the 2017 Proposed Action would have no effect on the FEMA designated 100-year flood elevation. Because it is not practical to locate the 2017 Proposed Action outside the floodplain, Delta Air Lines identified and incorporated flood hazard mitigation strategies into the design of the 2017 Proposed Action as approved by the airport sponsor, PANYNJ. These strategies focus on the use of specific design criteria to minimize impacts on human safety and minimize future damages or costs to equipment, facilities, and structures to the degree practicable.

The Revised Proposed Action would impact the same area within a FEMA-designated floodplain as the 2017 Proposed Action (see Figure 5-3), with an increase in impervious cover within the 100-year floodplain

of no more than 1 acre compared to existing conditions. Since the 100-year floodplain surrounding the Airport is controlled by coastal storm surges and tidal flooding, the Revised Proposed Action would have no effect on the FEMA designated 100-year flood elevation. As with the 2017 Proposed Action, it is not practical to locate the Revised Proposed Action outside the floodplain; therefore, Delta Air Lines has identified and incorporated flood hazard mitigation strategies into the design of the Revised Proposed Action. In addition to the design elements proposed under the 2017 Proposed Action, the Revised Proposed Action would relocate any equipment and infrastructure above the design flood elevation to support critical operations on Concourse D, while keeping the existing dry-floodproofed substation on ramp level powering all non-critical operations.

Figure 5-3. Proposed Action Floodplain Impacts



Note: Figure was updated to include Terminal C -West call out in 2021.

The design and construction of the 2017 Proposed Action in the floodplain would comply with all applicable federal guidelines as well as NYC Building Codes (2014) and American Society of Engineers (ASCE) 24-14 *Flood Resistant Design and Construction Standards* (2014), and the PANYNJ *Design Guidelines – Climate Resilience* (2018). The Design Flood Elevation would be set to meet the ASCE 24-14 standards for a Class 3 building located in a coastal zone and the PANYNJ Guidelines that adjust the flood protection levels for anticipated sea level rise based on the design life. The proposed construction within the floodplain would meet a Design Flood Elevation base flood elevation + 52". In areas or facilities that cannot be raised above the flood protection elevation (such as where several fixed boarding fingers slope down to passenger boarding bridges), the structures would be designed in accordance with ASCE 24-14 for structures within the Coastal High Hazard Areas and Coastal A zones.

A comprehensive flood hazard mitigation plan with freeboard elevations and flood-proofing measures would be implemented to the degree practicable, with special emphasis on critical equipment associated

the electrical substation on the roof of Concourse D. Based on criteria established by U.S. DOT Order 5650.2, the project would not significantly encroach on a floodplain.

The design and construction of the Revised Proposed Action in the floodplain would comply with the same guidelines and standards as the 2017 Proposed Action. The Revised Proposed Action would also follow a comprehensive flood hazard mitigation plan. Compliance with these requirements provides adequate assurance that project-related impacts on the floodplain would be less than significant. The Revised Proposed Action would meet the criteria for no significant encroachment in the floodplain. No additional mitigation measures are proposed.

5.8 Cumulative Impacts

Council on Environmental Quality (CEQ) regulations require that all federal agencies consider the cumulative effects of Proposed Actions. Cumulative impacts can result from individually minor, but collectively significant, actions taking place over a period of time. If a Proposed Action would not cause direct or indirect impacts on a resource, then it may be concluded that it will not contribute to a cumulative impact on the resource.

Delta assessed the cumulative impacts resulting from the Revised Proposed Action for projects on and off the Airport. The geographic boundary included the existing Airport property and adjacent properties. The timeframe for the analysis varied by resource, but the time limits generally extended five years into the past (2011–2016) and into the future through the aviation activity forecast period (2016–2029). The list of past, ongoing and reasonably foreseeable projects listed in Chapter 5 of the 2017 EA would apply to the Revised Proposed Action. Subsequent to the publishing of the 2017 EA, FAA issued a Record of Decision on July 20, 2021 for the LaGuardia Airport Access Improvement Project Environmental Impact Statement which would provide rail access to and from LaGuardia Airport. Early action work, including on-Airport utility work and foundations for the guideway and stations, had started, but the project was recently halted.

An evaluation of the cumulative impacts in the 2017 EA found that the conversion of Terminal C-West would not significantly change the cumulative impacts for any environmental resource. As discussed above, the construction-related air quality and noise impacts would be altered slightly due to the change in construction phasing under the Revised Proposed Action that would allow simultaneous construction of multiple concourses; however, the increase in air emission and noise during the peak period (late 2020, early 2021) would not result in a significant adverse cumulative impact.

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6 Summary

Delta Air Lines is proposing to revise the Proposed Action approved in the 2017 Environmental Assessment (EA) for *East Side Reconfiguration at LaGuardia Airport* to reuse much of the existing Terminal C-West rather than fully demolishing the structure; thereby providing a larger concourse with improved passenger amenities and reducing the overall construction schedule by 14 months. Although the proposed design change would alter the original (2017) dual taxilane design between new Concourses D and E, the same airfield flow would be maintained via the implementation of dual throats and three aircraft start-up positions, while also improving gate flexibility.

The Revised Proposed Action would continue to meet the purpose and need of the project as described in the 2017 EA, while improving upon some elements. The purpose of the revised design and construction methodology for Concourse D is to increase aircraft gating flexibility, improve customer experience and accelerate the East Side Reconfiguration program construction timeline.

As shown in the Alternatives Analysis (Section 4) Conversion of Terminal C-West was selected as the preferred alternative for consideration in a written reevaluation of the 2017 *East Side Reconfiguration at LaGuardia Airport* EA.

An evaluation of the potential environmental impacts from the Revised Proposed Action has demonstrated that there would be no increase impact as compared to the 2017 Proposed Action and the Revised Proposed Action would continue to result in no significant impacts to the environment. The following table summarizes the comparison of impacts between the original (2017) and revised Proposed Actions.

Environmental Resource	2017 Proposed Action (No Action Alternative)	Revised Proposed Action	Notes
Air Quality	No significant adverse impact from construction; beneficial impact following construction. Construction-related air emissions generated by on-road vehicles and non-road equipment (below *de minimis* thresholds). Reduced aircraft congestion and gate-wait delays in and around the aircraft parking apron would result in reduced fuel consumption and lower air emissions.	No significant adverse impact from construction; beneficial impact following construction. Construction-related air emissions generated by on-road vehicles and non-road equipment reduced due to renovation rather than demolition of Terminal C-West (below *de minimis* thresholds). Similar reduced emissions from aircraft operations due to reduced delay and taxi times.	Construction schedule 14 months shorter for Revised Proposed Action; less demolition and excavation requires fewer trucks and less heavy equipment use. TAAM results show similar improvements in gate-wait delay and taxi times between 2017 and Revised Proposed Actions.

Environmental Resource	2017 Proposed Action (No Action Alternative)	Revised Proposed Action	Notes
Climate	No significant adverse impact from construction; beneficial impact following construction. Peak year construction air emissions (2021) approximately 7,600 tons of GHGs. GHG emissions from aircraft operations would decrease as well as operations of terminal due to upgrade of the terminal heat and power system within a new CUP.	No significant adverse impact from construction; beneficial impact following construction. Same peak year construction air emissions (2021) of approximately 7,600 tons of GHGs. GHG emissions from operations of aircraft and terminal would be similar to 2017 Proposed Action.	Overall construction timeframe of Revised Proposed Action 14 months shorter than that of the 2017 Proposed Action. Less intensive construction activities for Terminal C-West would result in reduced GHG emissions.
Coastal Resources	Direct impacts on coastal resources from construction activities. Proposed Action consistent with state and local coastal policies.	Same impacts to coastal resources from construction activities. Proposed Action would continue to be consistent with State and local coastal policies.	
Hazardous Materials, Solid Waste, and Pollution	No significant adverse impact. Demolition and construction waste would be generated during construction. Existing levels of contamination reduced or eliminated. Pollution prevention measures would limit the potential for adverse human health or environmental impacts from hazardous materials. During operations, use, handling, and storage of fuel, oil, and grease would be reduced from No Action. Municipal solid waste generated in new terminal would be same.	No significant adverse impact. Renovation of Terminal C-West would generate a smaller amount of waste than demolition and replacement. Levels of contamination would be similarly reduced and measures to limit impacts from hazardous materials would be the same. Impacts during operations would be the same as under the 2017 Proposed Action.	

Environmental Resource	2017 Proposed Action (No Action Alternative)	Revised Proposed Action	Notes
Noise and Noise-Compatible Land Use	No significant adverse impact from construction; no impact following construction. During construction, noticeable noise increases above existing background levels; however, well below the 85 dBA criterion established by NYSDOT. No significant traffic noise impacts from construction. Following construction, no increase in noise compared to No Action.	No significant adverse impact from construction; no impact following construction. During construction, noticeable noise increases above existing background levels. Reduced pile driving and fewer trucks due to renovation of Terminal C-West. Noise well below the 85 dBA criterion. No significant traffic noise impacts from construction. Following construction, noise levels similar to 2017 Proposed Action.	Reduction of construction timeframe by 14 months would reduce overall noise impact to the community.
Visual Effects	No adverse impact. The proposed terminal and the East Garage extension would have a minimal impact on the view from the community.	No adverse impact. Although Concourse D would be taller than under the 2017 Proposed Action, the difference is minimal as far as views from the Grand Central Parkway and would still be shorter than the terminal headhouse.	
Floodplains	No significant adverse impact during or after construction. Construction activities within a FEMA-designated floodplain would have no effect on flood elevation. Flood hazard mitigation strategies incorporated into design would minimize impacts on human safety and minimize future damages or costs to equipment, facilities, and structures.	No significant adverse impact during or after construction. Impacts to wetlands and FEMA-designated floodplain would be the same as the 2017 Proposed Action. A new (second) electrical substation above the design flood elevation would support critical operations on Concourse D, while keeping the existing dry-floodproofed substation on ramp level powering all non-critical operations.	

Attachment A: Updated Construction Drawings

STEP 1

Dates: June 2020 - December 2020

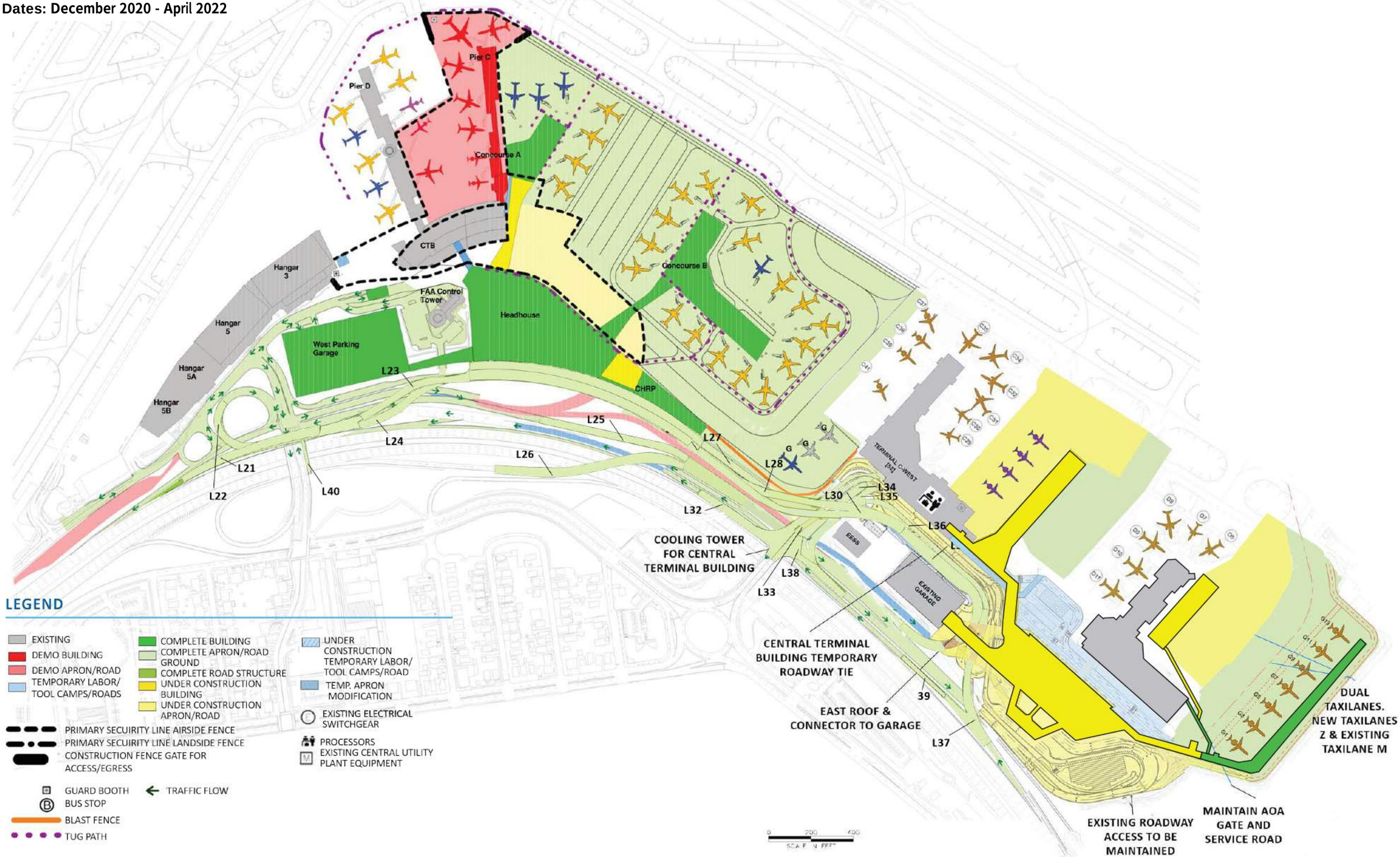
Pier C
Pier D
Concourse A
CTB
Hangar 3
Hangar 5
Hangar 5A
Hangar 5B
FAA Control Tower
Headhouse
Concourse B
West Parking Garage
CHRP
L21
L22
L23
L24
L25
L26
L27
L28
L30
L32
L33
L34
L35
L36
L37
L38
L40
39
TERMINAL C-WEST (52)
EESS
EXISTING GARAGE
COOLING TOWER FOR CENTRAL TERMINAL BUILDING
CENTRAL TERMINAL BUILDING TEMPORARY ROADWAY TIE
EAST ROOF & CONNECTOR TO GARAGE
EXISTING ROADWAY ACCESS TO BE MAINTAINED
AIRSIDE PEDESTRIAN BRIDGE
DUAL TAXILANES. NEW TAXILANES Z & EXISTING TAXILANE M
0 200 400
SCALE IN FEET

LEGEND

- EXISTING
- DEMO BUILDING
- DEMO APRON/ROAD
- TEMPORARY LABOR/ TOOL CAMPS/ROADS
- COMPLETE BUILDING
- COMPLETE APRON/ROAD GROUND
- COMPLETE ROAD STRUCTURE
- UNDER CONSTRUCTION BUILDING
- UNDER CONSTRUCTION APRON/ROAD
- UNDER CONSTRUCTION TEMPORARY LABOR/ TOOL CAMPS/ROAD
- TEMP. APRON MODIFICATION
- EXISTING ELECTRICAL SWITCHGEAR
- PROCESSORS
- EXISTING CENTRAL UTILITY PLANT EQUIPMENT
- PRIMARY SECUIRITY LINE AIRSIDE FENCE
- PRIMARY SECUIRITY LINE LANDSIDE FENCE
- CONSTRUCTION FENCE GATE FOR ACCESS/EGRESS
- GUARD BOOTH
- BUS STOP
- BLAST FENCE
- TUG PATH
- TRAFFIC FLOW

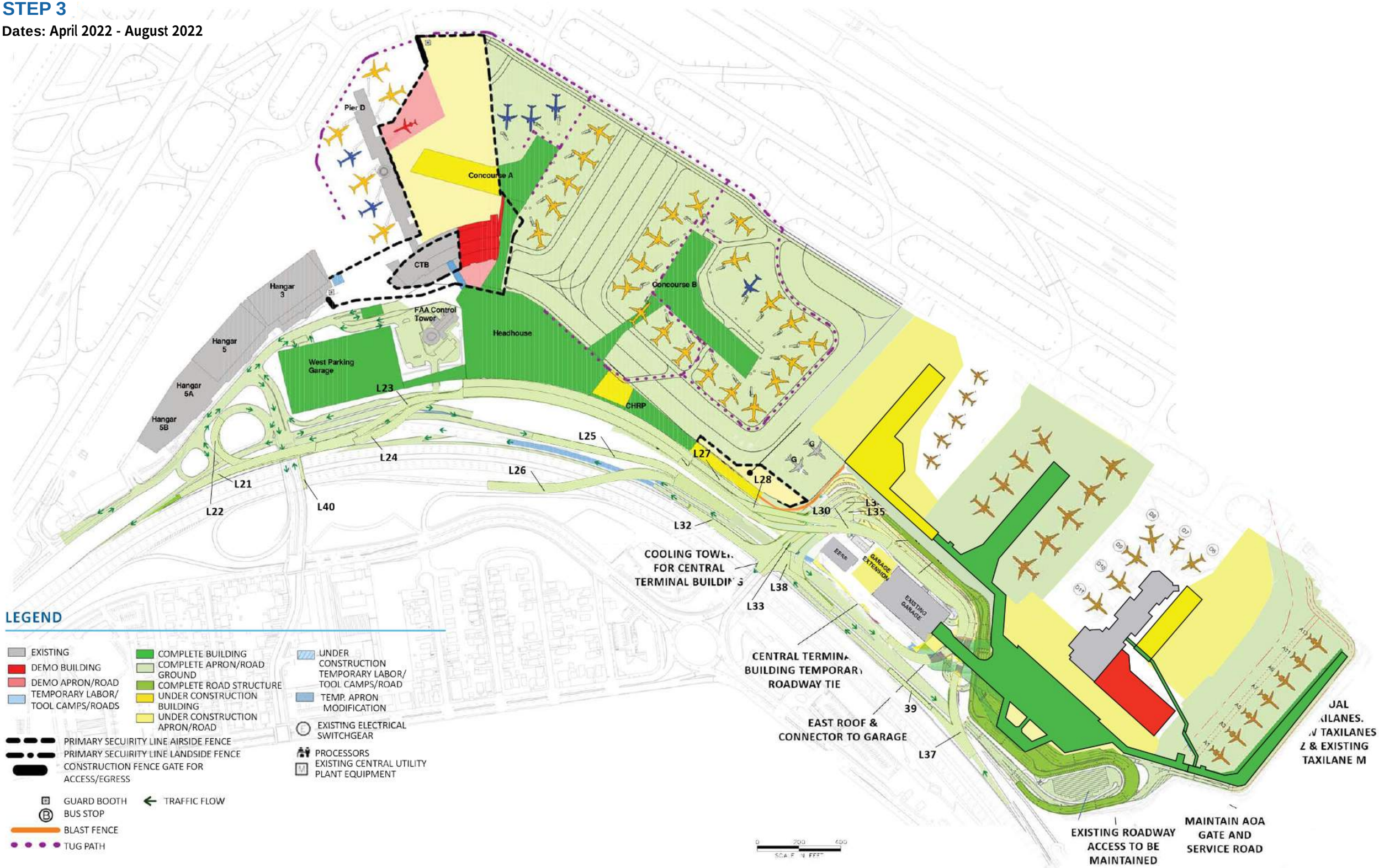
STEP 2

Dates: December 2020 - April 2022



STEP 3

Dates: April 2022 - August 2022

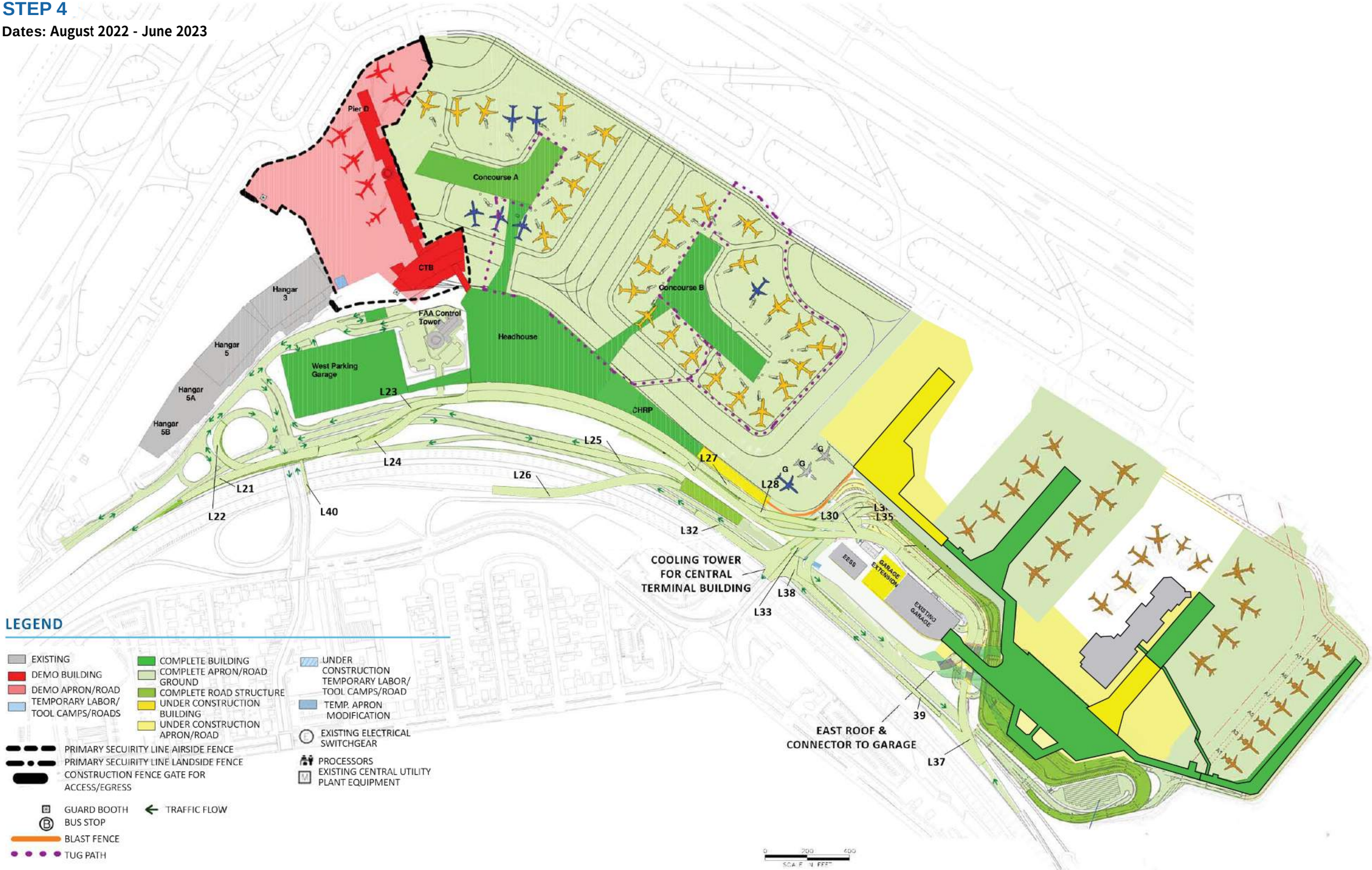


LEGEND

- EXISTING
- DEMO BUILDING
- DEMO APRON/ROAD
- TEMPORARY LABOR/ TOOL CAMPS/ROADS
- COMPLETE BUILDING
- COMPLETE APRON/ROAD GROUND
- COMPLETE ROAD STRUCTURE
- UNDER CONSTRUCTION BUILDING
- UNDER CONSTRUCTION APRON/ROAD
- UNDER CONSTRUCTION TEMPORARY LABOR/ TOOL CAMPS/ROAD
- TEMP. APRON MODIFICATION
- EXISTING ELECTRICAL SWITCHGEAR
- PROCESSORS
- EXISTING CENTRAL UTILITY PLANT EQUIPMENT
- PRIMARY SECUIRITY LINE AIRSIDE FENCE
- PRIMARY SECUIRITY LINE LANDSIDE FENCE
- CONSTRUCTION FENCE GATE FOR ACCESS/EGRESS
- GUARD BOOTH
- BUS STOP
- BLAST FENCE
- TUG PATH
- TRAFFIC FLOW

STEP 4

Dates: August 2022 - June 2023



LEGEND

- EXISTING
- DEMO BUILDING
- DEMO APRON/ROAD TEMPORARY LABOR/ TOOL CAMPS/ROADS
- COMPLETE BUILDING
- COMPLETE APRON/ROAD GROUND
- COMPLETE ROAD STRUCTURE
- UNDER CONSTRUCTION BUILDING
- UNDER CONSTRUCTION APRON/ROAD
- UNDER CONSTRUCTION TEMPORARY LABOR/ TOOL CAMPS/ROAD
- TEMP. APRON MODIFICATION
- EXISTING ELECTRICAL SWITCHGEAR
- PROCESSORS
- EXISTING CENTRAL UTILITY PLANT EQUIPMENT
- PRIMARY SECUIRITY LINE AIRSIDE FENCE
- PRIMARY SECUIRITY LINE LANDSIDE FENCE
- CONSTRUCTION FENCE GATE FOR ACCESS/EGRESS
- GUARD BOOTH
- BUS STOP
- BLAST FENCE
- TUG PATH
- TRAFFIC FLOW

STEP 5

Dates: June 2023 - December 2024

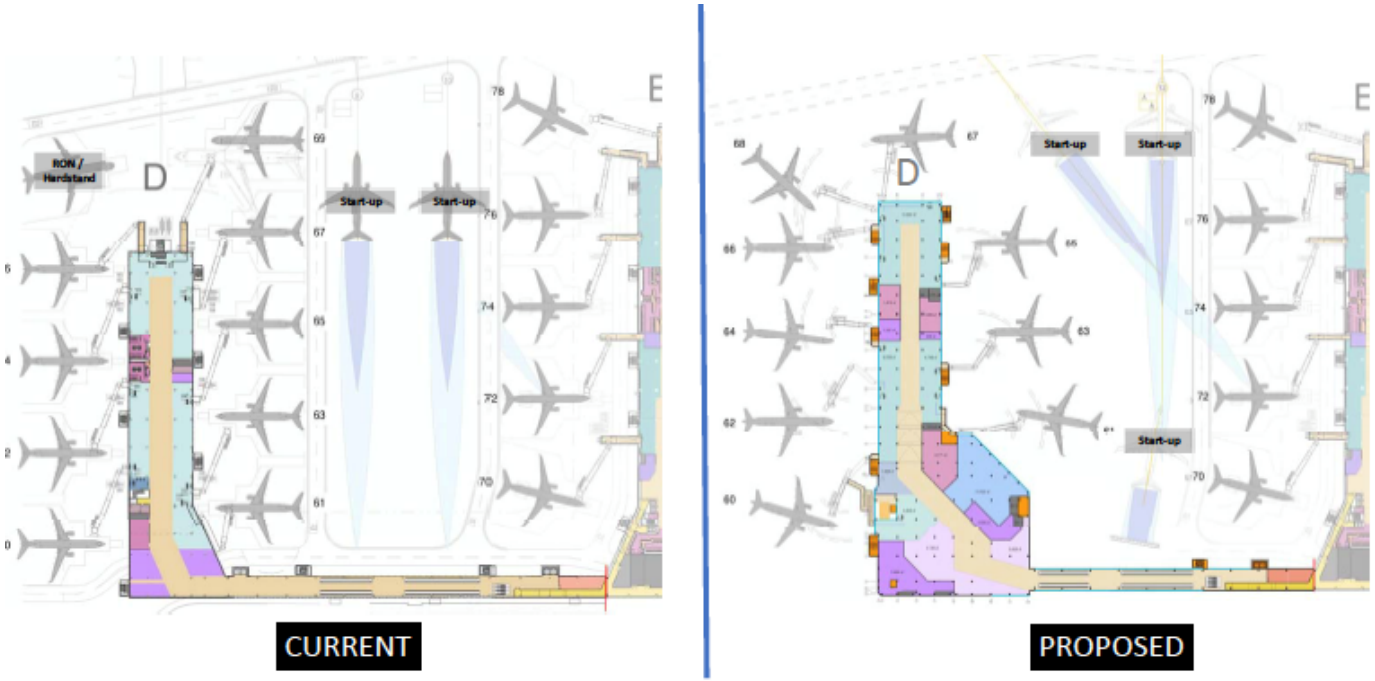
Attachment B: TAAM Analysis & Results, C-West Conversion to Concourse D (August 20, 2020)

TAAM Analysis & Results
C-West Conversion to Concourse D

LaGuardia Airport New Terminal C Project

August 20, 2020

DELTA



- In our July review of the proposed Concourse D taxilane changes, APD requested a TAAM simulation to compare performance of the current and proposed plans

- Delta engaged Landrum & Brown who developed the original 2016 TAAM analysis to run the same models, changing only the proposed Concourse D taxilane configuration

Comparison of Dual Taxilanes – Current & Proposed Concourse D

Based on the TAAM analysis the results conclude:

- The modified Full Build (2020) scenario does not negatively impact airport operations. This simulation study shows that the Full Build (2020) layout created by converting existing Terminal C West into the new Concourse allows the apron and taxiways to operate as efficiently as the original Full Build layout.

- The proposed Full Build (2020) layout of the alley between Concourses D and E now has taxilanes in a "V" configuration instead of full dual taxilanes in the original Full Build layout. This "V" configuration of the taxilanes provides much needed bypass capability and allows the apron to operate in an efficient manner.

- Operational performance improvements are also achieved by the flexibility in the new apron design (utilizing dual throats and three aircraft start-up positions) as well as larger gauge aircraft that can now be accommodated at all Concourse D gates in the Full Build (2020) scenario, thereby further increasing gating flexibility and efficiency by preventing aircraft from having to wait for gates to become available.

Arrival Average Delay (mins/op)			
Flow	No Action	Full Build	Updated Full Build (2020)
A04/D13 VMC	4.4	4.3	4.2
A22/D13 VMC	2.8	1.5	1.5
A22/D31 VMC	4.5	3.0	3.0
A31/D04 VMC	10.2	9.9	7.8
A04/D13 IMC	11.8	11.1	11.1
A22/D13 IMC	5.9	4.8	4.7

Arrival Average Taxi (mins/op)			
Flow	No Action	Full Build	Updated Full Build (2020)
A04/D13 VMC	4.8	4.6	4.5
A22/D13 VMC	6.5	5.2	5.2
A22/D31 VMC	6.2	5.2	5.2
A31/D04 VMC	4.2	4.6	4.1
A04/D13 IMC	4.7	4.6	4.8
A22/D13 IMC	5.7	5.2	5.1

Arrival Metrics – Comparison to 2016 TAAM Results

DELTA

Departure Average Delay (mins/op)			
Flow	No Action	Full Build	Updated Full Build (2020)
A04/D13 VMC	7.8	5.3	5.1
A22/D13 VMC	4.1	3.4	3.6
A22/D31 VMC	6.5	5.3	5.2
A31/D04 VMC	19.4	18.2	17.4
A04/D13 IMC	19.4	17.4	16.6
A22/D13 IMC	8.9	8.2	7.6

Departure Average Taxi (mins/op)			
Flow	No Action	Full Build	Updated Full Build (2020)
A04/D13 VMC	15.8	13.6	13.3
A22/D13 VMC	11.8	11.4	11.4
A22/D31 VMC	12.3	11.2	11.2
A31/D04 VMC	26.7	25.6	25.1
A04/D13 IMC	27.3	25.5	24.1
A22/D13 IMC	16.4	15.9	14.8

Departure Metrics – Comparison to 2016 TAAM Results

DELTA

- As seen in the previous slides, multiple arrivals and departures flows show improvements over not only the No Action scenario, but also improvements over the original 2016 Full Build
  - Some of the improvements may be explained by TAAM software updates since the original 2016 models were developed

- To provide a more comparable analysis, Delta requested that Landrum & Brown re-run the original 2016 models using the current software, the results of which are shown on the following pages

- In summary, while the improvements between the modified 2020 Full Build and the original 2016 Full Build narrowed when allowing for the latest TAAM software updates, and in certain IMC Departures conditions were only slightly longer (of which IMC conditions only represent ~14% of LGA operations), the model comparison still shows no negative impacts to airport operations by converting existing C West into the new Concourse D

Arrival Average Delay (mins/op)			
Flow	No Action	Full Build	Updated Full Build (2020)
A04/D13 VMC	4.4	4.2	4.2
A22/D13 VMC	2.8	1.5	1.5
A22/D31 VMC	4.5	3.0	3.0
A31/D04 VMC	10.2	7.9	7.8
A04/D13 IMC	11.8	11.1	11.1
A22/D13 IMC	5.9	4.7	4.7

Arrival Average Taxi (mins/op)			
Flow	No Action	Full Build	Updated Full Build (2020)
A04/D13 VMC	4.8	4.6	4.5
A22/D13 VMC	6.5	5.3	5.2
A22/D31 VMC	6.2	5.2	5.2
A31/D04 VMC	4.2	4.3	4.1
A04/D13 IMC	4.7	4.6	4.8
A22/D13 IMC	5.7	5.2	5.1

Arrival Metrics – Comparison using Current TAAM Software

Departure Average Delay (mins/op)			
Flow	No Action	Full Build	Updated Full Build (2020)
A04/D13 VMC	7.8	5.3	5.1
A22/D13 VMC	4.1	3.5	3.6
A22/D31 VMC	6.5	5.1	5.2
A31/D04 VMC	19.4	17.6	17.4
A04/D13 IMC	19.4	16.0	16.6
A22/D13 IMC	8.9	7.1	7.6

Departure Average Taxi (mins/op)			
Flow	No Action	Full Build	Updated Full Build (2020)
A04/D13 VMC	15.8	13.5	13.3
A22/D13 VMC	11.8	11.4	11.4
A22/D31 VMC	12.3	11.3	11.2
A31/D04 VMC	26.7	25.5	25.1
A04/D13 IMC	27.3	24.0	24.1
A22/D13 IMC	16.4	14.5	14.8

Departure Metrics – Comparison using Current TAAM Software