

Section 7—Implementation Plan

7.1 Introduction

This section provides the proposed recommendations for the orderly and phased development at the Airport through planning activity level (PAL) 3. Throughout the evaluation of the alternatives, input from the RIAC and the project advisory group further refined some of the individual projects as they transitioned to the proposed development plan. Some of these changes were reactionary to industry and airport-specific circumstances. Therefore, the projects as shown in the phased preferred development plans may vary from the original recommended alternatives noted in the relevant portions of Section 6, Alternatives Analysis.

Section 7.2 includes the description of and planning-level cost estimates (in 2020 dollars) for the individual capital improvement projects that make up the preferred development plan. Section 7.3 explains the proposed environmental permitting and strategy to ensure all environmental requirements are fulfilled for the plan.

Beyond capital improvement projects, the Airport has also developed recommendations associated with Noise Land Reuse that is described in Section 7.4.

7.2 Capital Improvement Projects

The Airport's overall capital improvement program includes grant-eligible and major non-eligible projects identified as landside, terminal, airside, pavement, or support facility projects. This section summarizes the implementation and phasing plan of the capital improvement projects identified through this master plan process. This plan takes into account anticipated pavement maintenance projects, as well as the capital improvement projects identified for each planning period. Projects noted for implementation beyond PAL 3 are shown in the ultimate build-out development plan for future consideration and land use planning purposes. Cost estimates were not completed for the ultimate build-out projects.

As noted previously, the recommended project phasing indicated in this section is based on when the project is expected to be needed based on PAL facility requirements. Section 8, Financial Plan, provides a detailed financial analysis that may indicate a different project scope and timeframe based on financial needs and implications. Furthermore, the Coronavirus Disease 2019 (COVID-19) outbreak has had a significant impact on current and short-term financial projections and may also impact the scope, timing, and phasing of projects.

The following sections provide individual project descriptions by PAL.

7.2.1 PAL 1 Projects

The first phase of projects include the installation of an environmental screen around Winslow Park, a variety of projects on the airfield, the south concourse expansion, a number of projects to support or improvement support facilities, and a new entrance to parking Lot E, as highlighted in **Figure 7.1** and described below. **Table 7.1** summarizes the PAL 1 projects with cost estimates.

Project L1-1: Install Environmental Screen at Winslow Park

Winslow Park is located to the east of the airfield. It was relocated in 2015 as mitigation for the Runway 5 end extension that prompted the removal of the existing Park. Users of Winslow Park have reported poor air quality due to the parks location adjacent to the Airport. This project will install an environmental screen that will separate users of the park from the Airport. Further analysis is required to determine the type of environmental screening to be installed.

Project L1-2: Construct Additional Entrance to Lot E

Lot E serves as the Airport's Long Term parking lot. Existing access to this lot is gained through Evans Avenue. This project will construct an additional entrance to the lot off of Post Road, increasing the ease of access. All traffic will still exit the lot through the existing toll booths at Evans Avenue.

Project L1-3: Reconfigure Airport Connector Road, Expand Lot D, and Construct 200,000 square foot Parking Garage

Proposed improvements to Airport Connector Road include simplifying the terminal loop intersection and expanding Lot D. A cell phone lot will also be constructed as a part of the Lot D expansion. A new parking garage would be constructed over the portion of Lot D to connect just south of the InterLink. It would be approximately 200,000 SF and have five levels.

Project A1-1: Reconfigure Taxiway B to be Parallel with Runway 16-34

This reconfiguration will address several non-standard conditions as well as create additional space for development of the north apron. Currently Taxiway B enters the Runway 16 end at a less than 90 degree angle. The reconfiguration will allow for a 90 degree entrance, as well as remove the intersection of Taxiway N and Taxiway V as they cross Runway 16-34.

Project A1-2: Remove Direct Access from North Apron to Runway 23 End

The current alignment of Taxiway A leads directly from the north apron onto the Runway 23 end. The latest FAA design standards recommend that at least one 90 degree turn be required in order to access a runway from the apron area. This shift of Taxiway A will

remove the direct access and decrease the risk that a pilot of vehicle inadvertently enters the runway environment.

Project A1-3: Widen/Lengthen Runway 23 End Blast Pad to 220 feet x 400 feet

The current dimensions of the Runway 23 end blast pad are approximately 100 feet by 215 feet. This project will increase the length and width to 220 feet by 400 feet and bring the blast pad in compliance with ADG V standards.

Project A1-4: Shift Portion of Taxiway C between Runway 5-23 and Taxiway C1 to 400 foot Separation from Runway 16-34, Rehabilitate Remainder of Taxiway C

Runway 16-34 is classified as a C-IV runway and requires a runway centerline to taxiway centerline separation of 400 feet. The current separation from the Taxiway C centerline to the runway is 300 feet. This project is the first part of a two part effort to relocate Taxiway C to the FAA required distance of 400 feet. This stage of the project will shift the portion of Taxiway C between Runway 5-23 and Taxiway C1 to a 400-foot separation from the runway. The remaining section of the taxiway will be rehabbed in its existing location. There is anticipated to be a greater number of environmental impacts associated with the portion of Taxiway C between Taxiway C1 and the Runway 5 end. Due to these impacts, the remaining portion of the taxiway will be shifted in a later phase, after the various environmental hurdles have been worked through.

Project A1-5: Taxiway Stub South of Concourse Expansion and Short-Term Remain Overnight (RON) Parking on Taxiway V

This project is associated with the T1-1 terminal expansion, although not required for the expansion to take place. It would construct a new taxiway connector from Taxiway T to Taxiway V that would ease the flow of traffic around the terminal area. Additionally, this project proposes to add additional pavement between Taxiway T and Taxiway V towards the center of the concourse. A portion of Taxiway V will be closed off and be used as an RON apron with the ability to accommodate 10 ADG III aircraft.

Project T1-1: Construct Terminal Expansion on South Side of Main Concourse

This project consists of a two-level concourse expansion at the end of the south concourse. The lower level includes airport or airline space and the upper level includes hold room and concessions expansion. The total square footage of this expansion is approximately 21,000 SF and would allow for an additional two wide-body and two narrow-body gates.

Project S1-1: South Side Development Utilities, Noise Wall Removal, and Environmental Screen Construction

The goal of this project is to prepare the south side area for future development. Enabling projects include running utilities, site work, removal of the existing noise wall, and construction of an environmental screen. The noise wall will be removed in order to allow airfield access to future development in this area. A future environmental screen will be constructed to mitigate impact future development would have on residents in the Strawberry Fields area. Future analysis is required to determine the type of environmental screen that would be installed. For cost estimating purposes, the screen is assumed to be similar in type to the existing noise wall.

Project S1-2: Construct 20,000 square foot Belly Cargo Facility

The future apron for the T1-1 terminal expansion will require the removal of the existing belly cargo facility. This facility will be relocated to the area north of the concourse and south of the existing fuel farm. The size of the existing belly cargo facility is adequate and the new facility will maintain the same square footage, approximately 20,000 SF.

Project S1-3: Demolish/Relocate Old Terminal Building and Construct 53,000 square foot Cargo Facility with 238,000 square foot Apron Expansion

This project involves construction of a 53,000 SF cargo facility on the North Apron. This facility would replace the existing cargo operation that is occurring in Hangar 2. Enabling projects include relocation of the electrical vault as well as demolition of the old terminal building. Due to the historic nature of the terminal, further analysis is required to determine the level of mitigation required, and options may include demolition or relocation. A preliminary area on the opposite side of Airport Road has been identified to potentially accommodate the relocation of the building along with additional truck staging positions.

Project S1-4: Construct RON Apron to Accommodate Two ADG IV or Three ADG III Aircraft

This project is a RON apron designed to accommodate either two ADG IV or three ADG III aircraft. It will be located on the southern part of the airfield on Taxiway M.

Project S1-5: Construct 100,000 square foot ADG V Capable Cargo Facility with Access to Main Avenue

This facility would cater to a new all-cargo operator and would likely be privately funded. The size of the facility is approximately 100,000 SF and would include available apron space for two simultaneous ADG V aircraft to be parked nose-in to the building on the apron.

Table 7.1 Proposed Development Plan – PAL 1

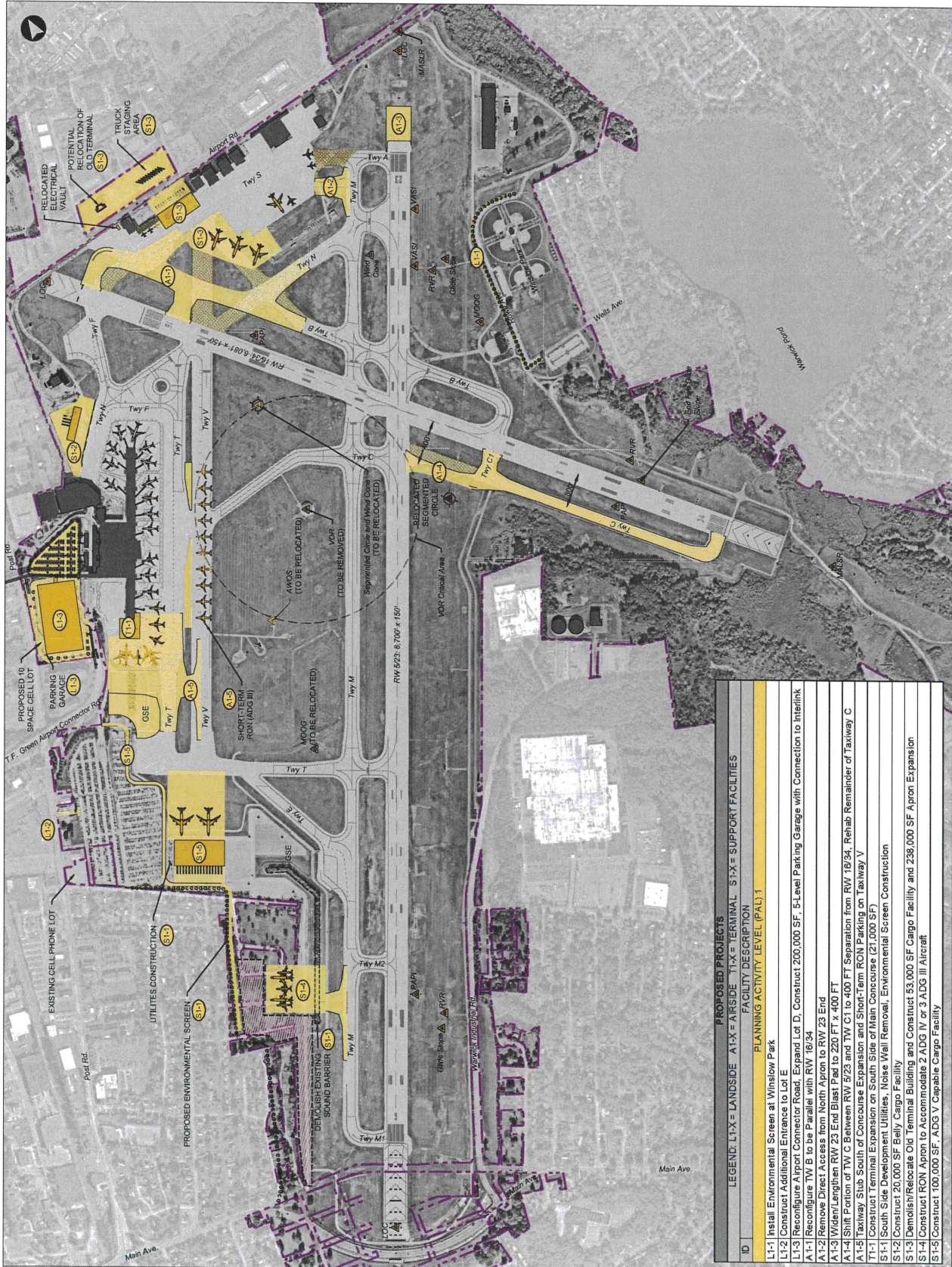
Project #	Project Title	Cost (2020 Dollars)
L1-1	Install Environmental Screen at Winslow Park	\$1,538,000
L1-2	Construct Additional Entrance to Lot E	\$300,000
L1-3	Reconfigure Airport Connector Road, Expand Lot D, Construct 200,000 SF Parking Garage	\$93,298,000
A1-1	Reconfigure Taxiway B to be Parallel with Runway 16-34	\$7,522,000
A1-2	Remove Direct Access from North Apron to Runway 23 End	\$2,323,000
A1-3	Widen/Lengthen Runway 23 End Blast Pad to 220 feet x 400 feet	\$1,575,000
A1-4	Shift Portion of Taxiway C Between Runway 5-23 and Taxiway C1 to 400 foot Separation from Runway 16-34, Rehab Remainder of Taxiway C	\$8,000,000
A1-5	Taxiway Stub South of Concourse Expansion and Short-Term RON Parking on Taxiway V	\$2,705,000
T1-1	Construct Terminal Expansion on South Side of Main Concourse	\$67,478,000
S1-1	South Side Development Utilities, Noise Wall Removal, and Environmental Screen Construction	\$15,980,000
S1-2	Construct 20,000 square foot Belly Cargo Facility	\$7,764,000
S1-3	Demolish/Relocate Old Terminal Building and Construct 53,000 square foot Cargo Facility and 238,000 square foot Apron Expansion	\$32,521,000
S1-4	Construct RON Apron to Accommodate Two ADG IV or Three ADG III Aircraft	\$10,074,000
S1-5	Construct 100,000 SF, ADG V Capable Cargo Facility	\$40,325,000
PAL 1 Total Cost		\$291,403,000

Legend: L1-X = Landside Projects, A1-X = Airside Projects, T1-X = Terminal Projects, S1-X = Support Facilities Projects

Source: C&S Engineers, Inc., WSP

Figure 7.1
PAL 1 Development Plan

- Legend**
- Property Line
 - Existing Pavement
 - Existing Buildings
 - PAL 1 Proposed Pavement
 - PAL 1 Proposed Buildings
 - PAL 1 Proposed Demolition Area Reserved for Future Aeronautical Development
 - NAVAID
 - Proposed NAVAID
 - Proposed Environmental Screen



PROPOSED PROJECTS	
ID	FACILITY DESCRIPTION
LEGEND: L1-X = LANDSIDE A1-X = AIRSIDE T1-X = TERMINAL S1-X = SUPPORT FACILITIES	
PLANNING ACTIVITY LEVEL (PAL) 1	
L1-1	Install Environmental Screen at Winslow Park
L1-2	Construct Additional Entrance to Lot E
L1-3	Reconfigure Airport Connector Road, Expand Lot D, Construct 200,000 SF, 5-Level Parking Garage with Connection to Interlink
A1-1	Reconfigure TW B to be Parallel with RW 16/24
A1-2	Remove Direct Access from North Apron to RW 23 End
A1-3	Widen/Lengthen RW 23 End Blast Pad to 220 FT x 400 FT
A1-4	Shift Portion of TW C Between RW 523 and TW C1 to 400 FT Separation from RW 16/24, Rehab Remainder of Taxiway C
A1-5	Taxiway Stub South of Concourse Expansion and Short-Term RON Parking on Taxiway V
T1-1	Construct Terminal Expansion on South Side of Main Concourse (21,000 SF)
S1-1	South Side Development Utilities, Noise Wall Removal, Environmental Screen Construction
S1-2	Construct 20,000 SF Belly Cargo Facility
S1-3	Demolish/Relocate Old Terminal Building and Construct 53,000 SF Cargo Facility and 238,000 SF Apron Expansion
S1-4	Construct RON Apron to Accommodate 2 ADG IV or 3 ADG III Aircraft
S1-5	Construct 100,000 SF, ADG V Capable Cargo Facility

7.2.2 PAL 2 Projects

The second phase of development includes major terminal facilities projects, a reconfiguration of Bruce Sundlun Roadway, taxiway improvements, and numerous support facility projects, as highlighted in **Figure 7.2** and described below. **Table 7.2** summarizes the PAL 2 projects with cost estimates.

Project L2-1: Reconfigure Bruce Sundlun Roadway

The enhancements to Bruce Sundlun Roadway will improve the Airport entrance and exit by eliminating the one-way access to Post Road and allow for the opportunity to develop a grand access to the Airport.

Project A2-1: Construct South Side Parallel Taxiway to Runway 16-34, West of Runway 5-23

This taxiway will simplify the overall taxiway system as well as eliminate several non-standard conditions. It will be constructed at 400 feet centerline to centerline separation from Runway 16-34 and will have 30-foot wide shoulders. This new taxiway will correct several non-standard conditions such as the entrance of Taxiway F to the Runway 16 end and the intersection of Taxiway N and Taxiway V as they cross Runway 16-34.

Project A2-2: Close Portion of Taxiway T and Construct Additional Taxiway Entrance/Exit to Runway 5-23

Taxiway T currently leads straight from the terminal area onto Runway 5-23. The taxiway stub between Taxiway M and Runway 5-23 will be demolished and a new connector will be constructed closer to the middle of the runway. This will reduce the potential for runway incursions on Taxiway T.

Project T2-1: Construct Pier Concourse and Adjacent Apron Area

This project consists of a two-level concourse expansion at the mid-point of the existing concourse. The lower level will include airport or airline space as well as concessions storage. The upper level will contain a widened and expanded security checkpoint, a comprehensive concessions zone, and a hold room expansion. The total building expansion is an approximately 137,000 SF footprint along with 593,000 SF of apron improvements or expansion. This expansion will allow for four additional wide-body and five additional narrow-body gates. This project would trigger the need to decommission or remove the VOR if not already done by the time this project is initiated.

The project footprint has the potential to include an FIS facility, however for the purposes of the cost estimates, the FIS is assumed to be a stand-alone project as T2-2. If it was ultimately decided that the FIS was to be included as a part of this expansion it would increase the project cost by approximately \$33,000,000.

Project T2-2: Ground Level Federal Inspection Services (FIS) Facility

As an alternative to constructing the FIS facility as a part of the T2-1 expansion, this project reserves space for a greenfield FIS facility at the lower-level and behind the existing concourse. The area includes all FIS passenger processing and CBP requirements, an international arrivals hall/meeter greeter area, and a non-secure passenger walkway back to the main terminal. The total area is approximately 61,000 SF.

Project T2-3: Baggage System Expansion (20,000 square feet)

This project includes a 20,000 SF expansion to the existing north baggage system to address deficiencies for outbound baggage requirements. This project would require the relocation of an existing loading dock.

Project T2-4: Baggage Screening and Outbound Baggage Make Up Expansion

Includes construction of a single-level building on the south side of the building to accommodate the expanded TSA baggage screening and outbound baggage make up. This area is approximately 16,000 SF and the cost estimate does not include the actual screening system.

Project S2-1: Demolish Hangar 2 and Construct Two 40,000 square foot Corporate Hangars

Once Project S1-3 is completed Hangar 2 will be vacant. This project proposes to demolish Hangar 2 and construct two 40,000 SF corporate hangars in its place. Due to the historic nature of Hangar 2, further analysis will be required at the time of this project to determine the extent of the mitigation required in order to demolish the hangar. This project is likely to be privately funded.

Project S2-2: ARFF Building Expansion (17,000 square feet)

The existing ARFF facility is aging and would not have sufficient capacity to handle an up gauge in the fleet mix at the Airport. This project would construct a new facility approximately double the size of the existing structure. Once the new facility is up and running the existing ARFF building will be repurposed. Potential impacts to the MOOG should be considered as part of this project.

Project S2-3: Maintenance Facility Expansion (11,000 square feet), Parking Area Expansion (19,000 square feet), and Access Road to Runway for Snow Removal Equipment

This proposed 11,000 SF expansion to the Maintenance Facility would allow for additional equipment storage. The associated 19,000 SF parking area expansion would allow for continued ease of access around the facility after the building extension is completed.

Additionally, there is a proposed service road to allow Snow Removal Equipment (SRE) access to the Runway 23 end. Currently, the SRE has to take the service road around the Runway 23 end and queue up on the North Apron before taking Taxiway A to access the runway. This new service road would allow a much more direct route to the runway and would have two 90-degree turns with appropriate signage before allowing access into the runway environment to minimize the risk of a runway incursion.

Project S2-4: Fuel Farm Expansion (3 x 50,000 gallon Tanks)

Improvements to the fuel farm include the addition of three 50,000 gallon tanks as well as improvements to access and circulation. These improvements include relocating the access gate into the fuel farm and changing the limits of existing security fencing to allow for easier maneuvering of the fuel delivery trucks.

Project S2-5: Construct 100,000 square foot Cargo Facility Expansion

This expansion is Phase 2 of the Project S1-5 cargo facility. It would effectively double the size of the facility by adding 100,000 SF of building and enough ramp space for two ADG V aircraft. As with Phase 1 of the cargo facility, this project is anticipated to be privately funded.

Project S2-6: Construct RON to Accommodate 10 ADG III Aircraft

This RON apron will be located just east of Taxiway V and will accommodate 10 ADG III aircraft. It will be within the footprint of the ultimate terminal expansion and as such, is a temporary condition until the construction of the final phase of the terminal expansion begins. This project would include the evaluation of impacts to the AWOS and its potential relocation.

Project S2-7: Construct RON to Accommodate 2 ADG IV or 3 ADG III Aircraft

This project is the second and final phase of project S1-4. It will be a RON apron designed to accommodate either two ADG IV or three ADG III aircraft. It will be located on the southern part of the airfield on Taxiway M.

Project S2-8: Additional North Apron Expansion (128,000 square feet)

This 128,000 SF expansion of the North Apron. It will allow additional operating area for the general aviation tenants in the area.

Table 7.2 Proposed Development Plan – PAL 2

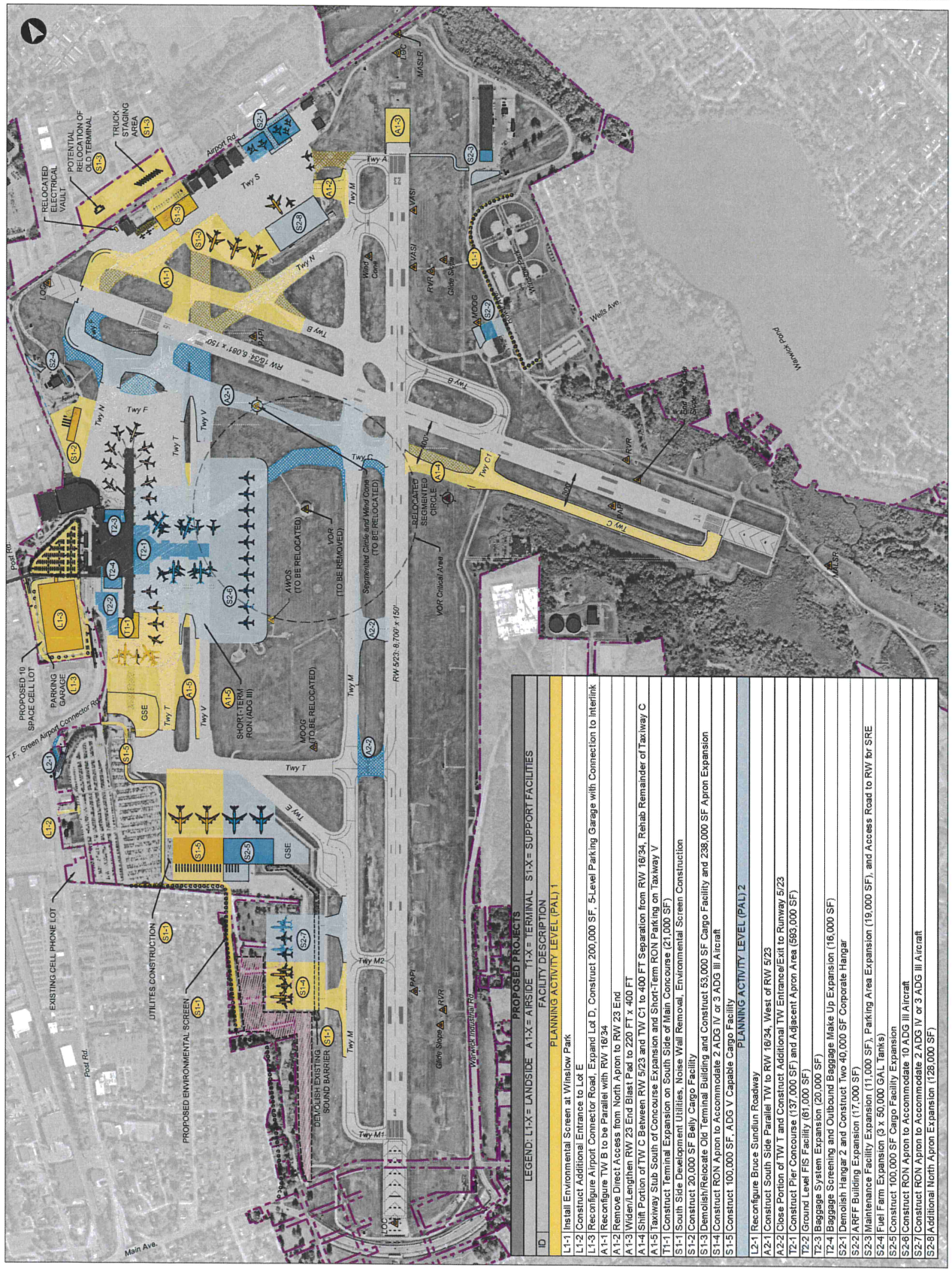
Project #	Project Title	Cost (2020 Dollars)
L2-1	Reconfigure Bruce Sundlun Roadway	\$420,000
A2-1	Construct South Side Parallel Taxiway to Runway 16-34, West of Runway 5-23	\$12,276,000
A2-2	Close Portion of Taxiway T and Construct Additional Taxiway Entrance/Exit to Runway 5-23	\$2,192,000
T2-1	Construct Pier Concourse and Adjacent Apron Area	\$202,694,000
T2-2	Ground Level FIS Facility	\$51,216,000
T2-3	Baggage System Expansion (20,000 SF)	\$5,824,000
T2-4	Baggage Screening and Outbound Baggage Make Up Expansion	\$5,824,000
S2-1	Demolish Hangar 2 and Construct Two 40,000 SF Corporate Hangars	\$25,775,000
S2-2	ARFF Building Expansion (17,000 SF)	\$6,233,000
S2-3	Maintenance Facility Expansion (11,000 SF), Parking Area Expansion (19,000 SF), and Access Road to Runway for SRE	\$3,282,000
S2-4	Fuel Farm Expansion (3 x 50,000 GAL Tanks)	\$1,382,000
S2-5	Construct 100,000 SF Cargo Facility Expansion	\$35,855,000
S2-6	Construct RON Apron to Accommodate 10 ADG III Aircraft	\$31,386,000
S2-7	Construct RON Apron to Accommodate 2 ADG IV or 3 ADG III Aircraft	\$10,074,000
S2-8	Additional North Apron Expansion (128,000 SF)	\$5,667,000
PAL 2 Total Cost		\$400,100,000

Legend: L2-X = Landside Projects, A2-X = Airside Projects, T2-X = Terminal Projects, S2-X = Support Facilities Projects

Source: C&S Engineers, Inc., WSP

Figure 7.2
PAL 2 Development Plan

- Legend**
- Property Line
 - Existing Pavement
 - Existing Buildings
 - PAL 1 Proposed Pavement
 - PAL 1 Proposed Buildings
 - PAL 1 Proposed Demolition
 - PAL 2 Proposed Pavement
 - PAL 2 Proposed Buildings
 - PAL 2 Proposed Demolition
 - Area Reserved for Future Aeronautical Development
 - NAVAID
 - Proposed NAVAID
 - Proposed Environmental Screen



ID	LEGEND: L1-X= LANDSIDE A1-X= AIRSIDE T1-X= TERMINAL S1-X= SUPPORT FACILITIES
PROPOSED PROJECTS	
FACILITY DESCRIPTION	
PLANNING ACTIVITY LEVEL (PAL) 1	
L1-1	Initial Environmental Screen at Winslow Park
L1-2	Construct Additional Entrance to Lot E
L1-3	Reconfigure Airport Connector Road - Expand Lot D, Construct 200,000 SF, 5-Level Parking Garage with Connection to Interlink
A1-1	Reconfigure TW B to be Parallel with RW 16/34
A1-2	Remove Direct Access from North Apron to RW 23 End
A1-3	Widen/Lengthen RW 23 End Blast Pad to 220 FT x 400 FT
A1-4	Shift Portion of TW C Between RW 5/23 and TW C1 to 400 FT Separation from RW 16/34, Rehab Remainder of Taxiway C
A1-5	Taxiway Stub South of Concourse Expansion and Short-Term RON Parking on Taxiway V
T1-1	Construct Terminal Expansion on South Side of Main Concourse (21,000 SF)
S1-1	South Side Development Utilities, Noise Wall Removal, Environmental Screen Construction
S1-2	Construct 20,000 SF Belly Cargo Facility
S1-3	Demolish/Relocate Old Terminal Building and Construct 53,000 SF Cargo Facility and 238,000 SF Apron Expansion
S1-4	Construct RON Apron to Accommodate 2 ADG IV or 3 ADG III Aircraft
S1-5	Construct 100,000 SF, ADG V Capable Cargo Facility
PLANNING ACTIVITY LEVEL (PAL) 2	
L2-1	Reconfigure Bruce Sudduth Roadway
A2-1	Construct South Side Parallel TW to RW 16/34, West of RW 5/23
A2-2	Close Portion of TW 1 and Construct Additional TW Entrance/Exit to Runway 5/23
T2-1	Construct Pier-Concourse (137,000 SF) and Adjacent Apron Area (695,000 SF)
T2-2	Ground Level FIS Facility (61,000 SF)
T2-3	Baggage System Expansion (20,000 SF)
T2-4	Baggage Screening and Outbound Baggage Make Up Expansion (16,000 SF)
S2-1	Demolish Hangar 2 and Construct Two 40,000 SF Corporate Hangar
S2-2	ARFF Building Expansion (17,000 SF)
S2-3	Maintenance Facility Expansion (11,000 SF), Parking Area Expansion (19,000 SF), and Access Road to RW for SRE
S2-4	Fuel Farm Expansion (3 x 50,000 GAL Tanks)
S2-5	Construct 100,000 SF Cargo Facility Expansion
S2-6	Construct RON Apron to Accommodate 10 ADG III Aircraft
S2-7	Construct RON Apron to Accommodate 2 ADG IV or 3 ADG III Aircraft
S2-8	Additional North Apron Expansion (128,000 SF)

7.2.3 PAL 3 Projects

The third phase of development includes three projects: a parking garage, taxiway improvements, and a cargo facility expansion as highlighted in **Figure 7.4** and described below. **Table 7.3** summarizes the PAL 3 projects with cost estimates.

Project L3-1: Construct 82,000 square foot Parking Garage

A new parking garage would be constructed over the portion of Lot D to connect just north of the InterLink. It would be approximately 82,000 SF and have five levels.

Project A3-1: Shift the Remainder of Taxiway C to 400 foot Separation from Runway 16-34

This is the second and final phase of project A1-4. It will shift the remainder of Taxiway C to the FAA required 400 foot separation. This shift will occur on the portion of Taxiway C between Taxiway C1 and the Runway 34 end.

Project S3-1: Construct 100,000 square foot Cargo Facility Expansion and Employee Parking Lot with Access to Main Avenue

This is the third and final phase of the south side cargo facility. It builds on projects S1-5 and S2-5. This phase proposes an additional 100,000 SF of building and enough apron to accommodate two B767-300 ERW aircraft. Also included is an area reserved for employee parking and a continuation of the access road to the west that will connect it to Main Avenue. As with the earlier phases of this project, this facility is anticipated to be privately funded and the ultimate development will only occur if there is sufficient demand.

Table 7.3 Proposed Development Plan – PAL 3

Project #	Project Title	Cost (2020 Dollars)
L3-1	Construct 82,000 SF Parking Garage	\$38,556,000
A3-1	Shift the Remainder of Taxiway C to 400 FT Separation from Runway 16-34	\$32,000,000
S3-1	Construct 100,000 SF Cargo Facility Expansion and Employee Parking Lot with Access to Main Avenue	\$36,117,000
PAL 3 Total Cost		\$106,673,000

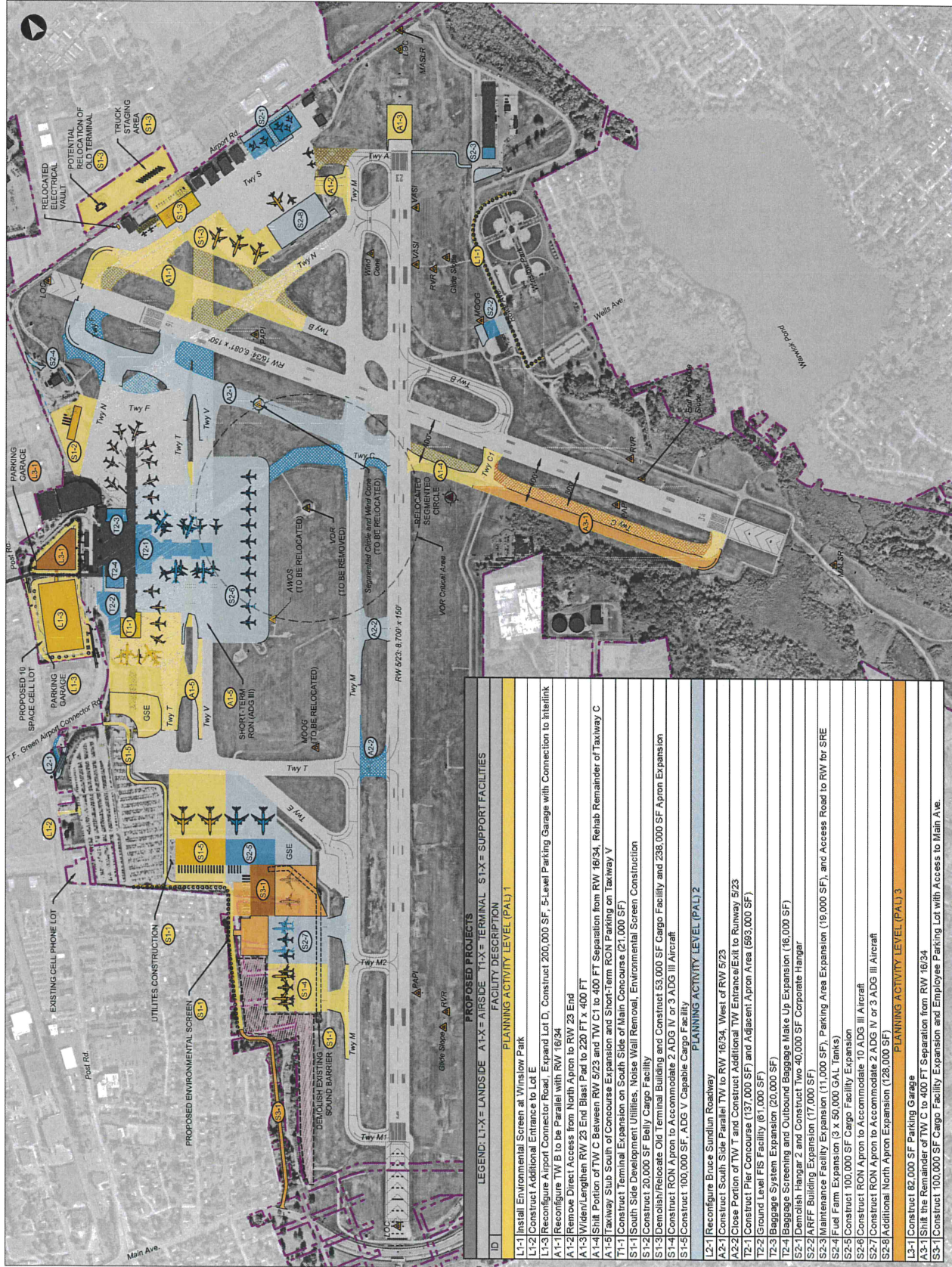
Legend: L3-X = Landside Projects, A3-X = Airside Projects, T3-X = Terminal Projects, S3-X = Support Facilities Projects

Source: C&S Engineers, Inc., WSP

Figure 7.3

PAL 3 Development Plan

- Legend**
- Property Line
 - Existing Pavement
 - Existing Buildings
 - PAL 1 Proposed Pavement
 - PAL 1 Proposed Buildings
 - PAL 1 Proposed Demolition
 - PAL 2 Proposed Pavement
 - PAL 2 Proposed Buildings
 - PAL 2 Proposed Demolition
 - PAL 3 Proposed Pavement
 - PAL 3 Proposed Buildings
 - PAL 3 Proposed Demolition
 - Area Reserved for Future Aeronautical Development
 - NAVAID
 - Proposed NAVAID
 - Proposed Environmental Screen



PROPOSED PROJECTS
LEGEND: L1-X= LANDSIDE A1-X= AIRSIDE T1-X= TERMINAL S1-X= SUPPORT FACILITIES

ID	FACILITY DESCRIPTION
PLANNING ACTIVITY LEVEL (PAL) 1	
L1-1	Install Environmental Screen at Winslow Park
L1-2	Construct Additional Entrance to Lot E
L1-3	Reconfigure Airport Connector Road - Expand Lot D, Construct 200,000 SF, 5-Level Parking Garage with Connection to Interlink
A1-1	Reconfigure TW B to be Parallel with RW 1634
A1-2	Remove Direct Access from North Apron to RW 29 End
A1-3	Widen/Lengthen RW 23 End Blast Pad to 220 FT x 400 FT
A1-4	Shift Portion of TW C between RW 523 and TW C1 to 400 FT Separation from RW 1634, Rehab Remainder of Taxiway C
A1-5	Taxiway Slub South of Concourse Expansion and Short-Term RON Parking on Taxiway V
T1-1	Construct Terminal Expansion on South Side of Main Concourse (21,000 SF)
S1-1	South Side Development Utilities, Noise Wall Removal, Environmental Screen Construction
S1-2	Construct 20,000 SF Belly Cargo Facility
S1-3	Demolish/Relocate Old Terminal Building and Construct 53,000 SF Cargo Facility and 238,000 SF Apron Expansion
S1-4	Construct RON Apron to Accommodate 2 ADG IV or 3 ADG III Aircraft
S1-5	Construct 100,000 SF, ADG V, Capable Cargo Facility
PLANNING ACTIVITY LEVEL (PAL) 2	
L2-1	Reconfigure Bruce Sundlin Roadway
L2-1	Construct South Side Parallel TW to RW 1634, West of RW 523
A2-2	Close Portion of TW T and Construct Additional TW Entrance/Exit to Runway 523
T2-1	Construct Pier Concourse (137,000 SF) and Adjacent Apron Area (693,000 SF)
T2-2	Ground Level FIS Facility (67,000 SF)
T2-3	Baggage System Expansion (20,000 SF)
T2-4	Baggage Screening and Outbound Baggage Make Up Expansion (16,000 SF)
S2-1	Demolish Hangar 2 and Construct Two 40,000 SF Corporate Hangar
S2-2	ARFF Building Expansion (17,000 SF)
S2-3	Maintenance Facility Expansion (11,000 SF), Parking Area Expansion (19,000 SF), and Access Road to RW for SRE
S2-4	Fuel Farm Expansion (3 x 50,000 GAL Tanks)
S2-5	Construct 100,000 SF Cargo Facility Expansion
S2-6	Construct RON Apron to Accommodate 19 ADG III Aircraft
S2-7	Construct RON Apron to Accommodate 2 ADG IV or 3 ADG III Aircraft
S2-8	Additional North Apron Expansion (128,000 SF)
PLANNING ACTIVITY LEVEL (PAL) 3	
L3-1	Construct 82,000 SF Parking Garage
A3-1	Shift the Remainder of TW C to 400 FT Separation from RW 1634
S3-1	Construct 100,000 SF Cargo Facility Expansion and Employee Parking Lot with Access to Main Ave.

7.2.4 Ultimate Build-Out Projects

The projects noted in the fourth phase are not part of the 20-year planning period associated with the master plan. The facility requirements analysis does not indicate these improvements or facilities are needed but they are shown for future consideration and the preservation of potential development areas. The need or justification for these projects are susceptible to changes in airport activity and demand. While their need is not currently justified, if the demand arises or operations change significantly, the area needed for these projects is preserved and ready for implementation. Ultimate build-out projects are highlighted in **Figure 7.4** and described below. **Table 7.4** summarizes the ultimate build-out projects but no cost estimates are included.

Project A4-1: Construct Additional Taxiways for Terminal Area Circulation

This project would construct the additional taxiways that will be needed to support the terminal expansion in project T4-1 (see below). This will connect the expanded terminal apron area to Taxiway M in two locations with connections also extending to Taxiway T and Taxiway C.

Project T4-1: Terminal and Apron Expansion

This project includes construction of a 212,000 SF terminal expansion and 984,000 SF of apron expansion. The proposed two-level pier concourse would include airport or airline space and concessions storage on the first floor. The second floor would include a widened and expanded security checkpoint, a comprehensive concessions zone, and hold room expansion.

Table 7.4 Proposed Development Plan – Ultimate Build-Out

Project #	Project Title	Cost (2020 Dollars)
A4-1	Construct Additional Taxiways for Terminal Area Circulation	NOT ESTIMATED
T4-1	Terminal and Apron Expansion	NOT ESTIMATED

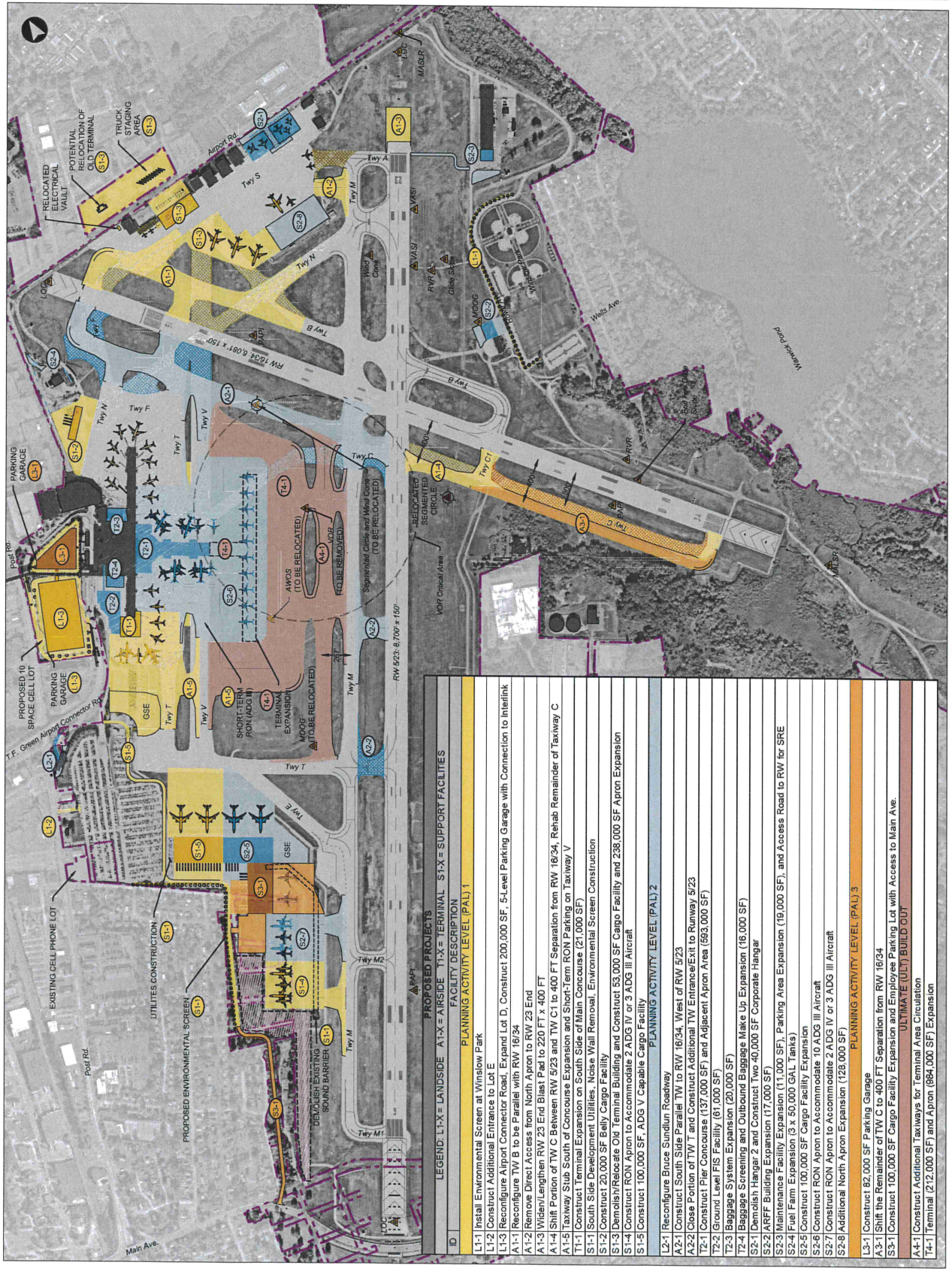
Legend: L4-X = Landside Projects, A4-X = Airside Projects, T4-X = Terminal Projects, S4-X = Support Facilities Projects

Source: C&S Engineers, Inc., WSP

Figure 7.4

Ultimate Build-Out Development Plan

- Legend**
- Property Line
 - Existing Pavement
 - Existing Buildings
 - PAL 1 Proposed Pavement
 - PAL 1 Proposed Buildings
 - PAL 1 Proposed Demolition
 - PAL 2 Proposed Pavement
 - PAL 2 Proposed Buildings
 - PAL 2 Proposed Demolition
 - PAL 3 Proposed Pavement
 - PAL 3 Proposed Buildings
 - PAL 3 Proposed Demolition
 - ULT Proposed Pavement
 - ULT Proposed Buildings
 - Area Reserved for Future Aeronautical Development
 - NAVAID
 - Proposed NAVAID
 - Proposed Environmental Screen



PROPOSED PROJECTS	
ID	FACILITY DESCRIPTION
LEGEND: L1-X = LANDSIDE A1-X = AIRSIDE T1-X = TERMINAL S1-X = SUPPORT FACILITIES	
PLANNING ACTIVITY LEVEL (PAL) 1	
L1-1	Install Environmental Screen at Windlow Park
L1-2	Construct Additional Entrance to Lot E
L1-3	Reconfigure Airport Connector Road, Expand Lot D, Construct 200,000 SF, 5-Level Parking Garage with Connection to Interlink
A1-1	Reconfigure TW B to be Parallel with RW 16/34
A1-2	Remove Direct Access from North Apron to RW 23
A1-3	Widen/Lengthen RW 23 End Blast Pad to 220 FT x 400 FT
A1-4	Shift Portion of TW C Between RW 5/23 and TW C1 to 400 FT Separation from RW 16/34, Rehab Remainder of Taxiway C
A1-5	Taxiway Stub South of Concourse Expansion and Short-Term RON Parking on Taxiway V
T1-1	Construct Terminal Expansion on South Side of Main Concourse (21,000 SF)
S1-1	South Side Development Utilities, Noise Wall Removal, Environmental Screen Construction
S1-2	Construct 20,000 SF Belly Cargo Facility
S1-3	Demolish/Relocate Old Terminal Building and Construct 53,000 SF Cargo Facility and 238,000 SF Apron Expansion
S1-4	Construct RON Apron to Accommodate 2 ADG IV or 3 ADG III Aircraft
S1-5	Construct 100,000 SF, ADG V Capable Cargo Facility
PLANNING ACTIVITY LEVEL (PAL) 2	
L2-1	Reconfigure Bruce Sundlun Roadway
A2-1	Construct South Side Parallel TW to RW 16/34, West of RW 5/23
A2-2	Close Portion of TW T and Construct Additional TW Entrance/Exit to Runway 5/23
T2-1	Construct Pier Concourse (137,000 SF) and Adjacent Apron Area (693,000 SF)
T2-2	Ground Level FIS Facility (61,000 SF)
T2-3	Baggage System Expansion (20,000 SF)
T2-4	Baggage Screening and Outbound Baggage Make Up Expansion (16,000 SF)
S2-1	Demolish Hangar 2 and Construct Two 40,000 SF Corporate Hangar
S2-2	ARFF Building Expansion (17,000 SF)
S2-3	Maintenance Facility Expansion (11,000 SF), Parking Area Expansion (19,000 SF), and Access Road to RW for SRE
S2-4	Fuel Farm Expansion (3 x 50,000 GALL Tanks)
S2-5	Construct 100,000 SF Cargo Facility Expansion
S2-6	Construct RON Apron to Accommodate 10 ADG III Aircraft
S2-7	Construct RON Apron to Accommodate 2 ADG IV or 3 ADG III Aircraft
S2-8	Additional North Apron Expansion (128,000 SF)
PLANNING ACTIVITY LEVEL (PAL) 3	
L3-1	Construct 82,000 SF Parking Garage
A3-1	Shift the Remainder of TW C to 400 FT Separation from RW 16/34
S3-1	Construct 100,000 SF Cargo Facility Expansion and Employee Parking Lot with Access to Main Ave.
ULTIMATE (ULT) BUILD OUT	
A4-1	Construct Additional Taxiways for Terminal Area Circulation
T4-1	Terminal (212,000 SF) and Apron (984,000 SF) Expansion

7.3 Environmental Permitting and Strategy

The alternatives development process has resulted in 34 projects within the T.F. Green Airport property boundary. These projects are distributed by planning activity level, with 14 projects planned for development within PAL 1, 14 projects anticipated for PAL 2, three projects planned for PAL 3, and three additional project in the ultimate build out, which would occur beyond PAL 3. The expected environmental permitting and approvals range from Categorical Exclusions and Environmental Assessments under federal environmental review (NEPA) to state permitting through RIDEM such as RIPDES and Applications to Alter Freshwater Wetlands (among other required permits and approvals); some coordination with local authorities including the City of Warwick should also be anticipated, particularly where the projects involve local transportation networks.

This proposed environmental strategy groups projects with similar planning activity level, permit and approval requirements, facility uses, and geographic zones within the Airport. Such groupings aim to streamline the effort and cost associated with obtaining required permits and approvals. Based on the proposed project list, it is recommended that the projects be consolidated into five groupings, as well as three independent projects.

- **Group 1** includes taxiway, apron, and cargo improvements in the North Ramp area
- **Group 2** includes cargo, remain overnight (RON), and roadway and parking reconfigurations in the Terminal/Strawberry Fields area
- **Group 3** includes terminal, concourse, and baggage improvements in the central Terminal area
- **Group 4** includes improvements to support facilities in various geographic zones
- **Group 5** includes long-term terminal, taxiway, and apron expansion at the end of the Master Planning horizon

Additional permitting assessment will be required as the projects are advanced into the design phase. Mitigation may also need to be considered to offset project impacts.

Anticipated permits by project are listed in **Table 7.5**.

Group 1, for example, includes taxiway and apron projects that are planned for the short- to intermediate term horizon. All projects in Group 1 will require review Section 106 of the NHPA and many will also require review under Section 4(f). The additional impervious surfaces associated with the Group 1 projects will trigger state environmental review under the RIPDES program and a Water Quality Certification.

Independent Projects

In addition to the projects consolidated within Groups 1 through 5, two projects are recommended for independent environmental review.

- **Install Environmental Screen** – This project near the new Winslow Park facility is recommended for independent review as minimal permitting and approvals would be required and it would serve as mitigation for visual impacts for the ballfield users. It is planned for PAL 1.
- **Shift the remainder of Taxiway C to 400-foot separation from Runway 16-34** – This project involves wetland and floodplain impacts. Accordingly, it is recommended for independent review as more substantial permitting (i.e., a federal 404 permit, state environmental review under the freshwater wetlands program) and mitigation design would be required. It is planned for the PAL 2.

Table 7.5 Master Plan Update Project Environmental Review and Permitting

Group	Projects	Federal Permitting/ Approvals	State Permitting/ Approvals	Timeframe
Group 1 – taxiway, apron, and cargo improvements in the North Ramp area	<ul style="list-style-type: none"> Construct South Side Parallel TW to RW 16/34, West of RW 5/23 Reconfigure TW B to be Parallel with RW 16/34 Remove Direct Access from North Apron to RW 23 End Lengthen RW 23 End Blast Pad to 200 FT Shift Portion of TW C between RW 5/23 and TW G1 to 400 FT Separation from RW 16/34, Rehab Remainder of Taxiway C Demolish/Relocate Old Terminal Building Construct Cargo Facility and Apron Expansion Close Portion of TW T and Construct Additional TW Entrance/Exit to Runway 5/23 Demolish Hangar 2 and Construct Two Corporate Hangars Additional North Apron Expansion 	Environmental Assessment Section 106/ Section 4(f)	WQC, RIPDES, RIHPHC Review	PAL 1-2
Group 2 - cargo, remain overnight (RON), and roadway and parking reconfigurations in the Terminal/ Strawberry Fields area	<ul style="list-style-type: none"> Construct Belly Cargo Facility Install Environmental Screen - Strawberry Fields Construct RON Apron to Accommodate 2 ADG IV or 3 ADG III and noise barrier removal Construct 100,000 SF, ADG V Capable Cargo Facility with Access to Main Ave. and screening Construct Terminal Expansion on South Side of Main Concourse Reconfigure Bruce Sandlum Roadway Cargo Facility Expansion Construct RON Apron to Accommodate 2 ADG IV or 3 ADG III Cargo Facility Expansion & Employee Parking Lot w/ Access to Main Ave. New Parking Garages with Connection to InterLink 	Categorical Exclusion GRMC consistency	WQC, RIPDES RIDOT Physical Alteration Permit	PAL 1-3
Group 3 – terminal, concourse, and baggage improvements in the central Terminal area	<ul style="list-style-type: none"> Construct RON Apron to Accommodate 10 ADG III Aircraft Construct Pier Concourse (137,000 SF) and Adjacent Apron Area Construct Ground Level FIS Facility Expand Receiving Area and Expand Baggage Screening/Outbound Baggage Make Up 	Categorical Exclusion	WQC, RIPDES, RIHPHC Review	PAL 2
Group 4 – improvements to support facilities in various geographic zones	<ul style="list-style-type: none"> ARFF Building Expansion Maintenance Facility Expansion Parking Area Expansion Access Road to RW for SRE Fuel Farm Expansion 	Categorical Exclusion	WQC, RIPDES	PAL 2
Group 5 - Long-term terminal and apron expansion	<ul style="list-style-type: none"> Expand Terminal and Apron Construct Additional Taxiways for Terminal Area Circulation 	Environmental Assessment	WQC, RIPDES	PAL 3

7.4 Noise Land Reuse Recommendations

The purpose of Noise Land Reuse is to convert the land to a use that is compatible with airport operations. These acquisition projects include the voluntary relocation of homeowners and residential tenant occupants to a comparable replacement dwelling outside of the incompatible airport noise contours based on the terms of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Uniform Act) and the implementing DOT regulations contained in the Title 49, CFR, Part 24.

When airport land, otherwise known as noise land, is acquired with Airport Improvement Program (AIP) grant funds, it is subject to Grant Assurance 31, *Written Assurances on Acquiring Land*. The purpose of Grant Assurance 31, based on 49 USC §47107(c) (2) (A), is to assure that optimal use is made of the federal share of the proceeds from the disposal of noise land (disposal proceeds). The assurance requires that when noise land is no longer needed for noise compatibility purposes, the land will be disposed of and that the federal share of the disposal proceeds will be either paid to the Airport and Airway Trust Fund and/or will be used for another noise compatibility project.

Under any noise disposal plan, RIAC is obligated to retain sufficient interest in the land to ensure that the “converted” land uses remain compatible with the noise levels expected from the continued operation of the airport. This is typically accomplished with a permanent aviation easement placed on the property. “Disposal” of noise land does not mean that an airport must sell the property to another entity. It is the decision of the airport to sell, retain, lease or exchange the unneeded noise land, in association of an FAA approved. Since 1987, the RIAC has purchased over 500 noise-impacted residential properties with AIP funds. All properties have been acquired via voluntary means, following the procedures in the Uniform Act.

After a complete review of existing noise land as described above, a disposal recommendation is provided for each area. The future use of lands disposed of by sale will be subject to the City of Warwick’s land use and zoning regulations. Development patterns, existing infrastructure and the limitations on the reuse of noise land results in few parcels recommended for disposal by sale. By definition, acquired noise land is nearly always within residential areas, which limits the range of compatibly alternative uses. As emphasized above, the future land use and zoning of properties for potential sale be dictated by the City of Warwick through Comprehensive Plan process. The only limitation is that these properties cannot be used for residential or other noise sensitive purposes.

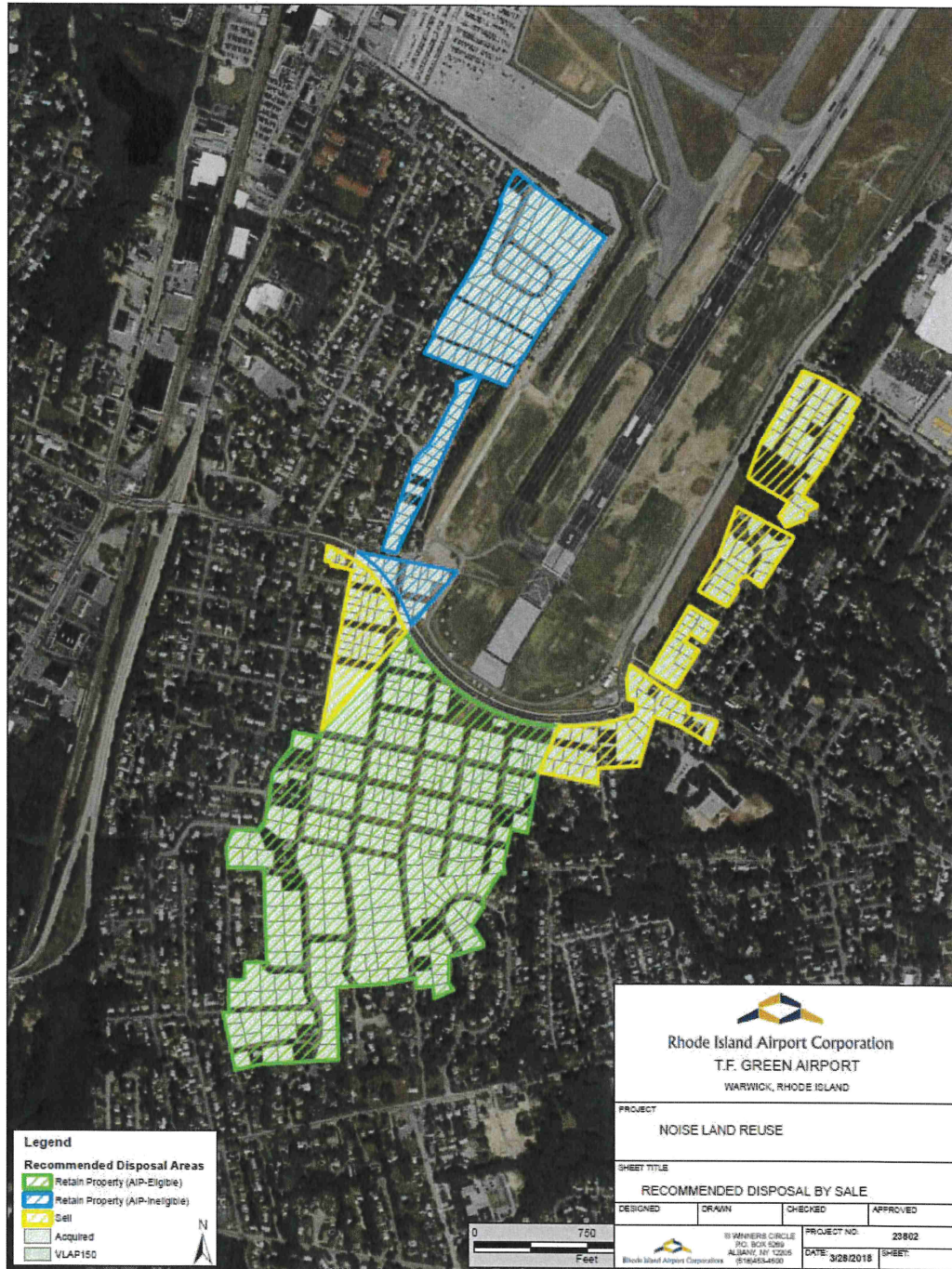
To ensure that sold property remains airport compatible, a permanent “aviation” easement will be attached to the property that prohibits residential uses and other development that could impact the Airport (i.e., antenna towers and tall structures).

Areas identified for potential sale include the following:

- **Runway 5 (outside RPZ)** – It is anticipated that noise land located along the relocated Main Avenue will include prime locations for future commercial development. Properties south of the RPZ may also have alternative uses compatible with the surrounding neighborhood.
- **Strawberry Field East** – This area has access to Warwick Industrial Drive, which may enable the City to consider this property for commercial activities or low impact non-residential uses.

As shown in **Figure 7.5**, the areas indicated in yellow would be parcels designated for disposal through sale or land lease.

Figure 7.5 – Recommended Noise Land Reuse Areas



Source: RIAC 2020

The next steps and other considerations in this disposal process include the following:

1. **Bundle Parcels as Appropriate** – Properties that are recommended for disposal through sale or lease should be assembled or “bundled” into larger parcels in order to make them marketable for compatible uses, or maybe placed as an obligation of the buyer. Noise land by its very nature is typically residential. The majority of the residential parcels acquired are under ¼ acre in size. The ability to develop these noise lands for a compatible use will be greatly enhanced by the bundling of parcels.
2. **Acquire Public Right-Of-Way (ROW)** – RIAC may work with the City to acquire the street and/or other public ROW that fall within the noise land areas identified to be disposed of by sale. This action should occur in concert with parcel bundling and will provide potential buyers more flexibility for potential site uses and design.
3. **Mothball Utilities** – RIAC may coordinate with the various agencies responsible for public utilities located within the noise land areas to identify appropriate procedures for their temporary abandonment and possible future reuse. These could include public water, public sewer, electric and gas lines. This should be initiated during the bundling and ROW acquisition process. Note that the removal of existing utility lines, and former public roadway pavement, would not be conducted by the Airport. Such activities would be the responsibility of the buyer, as part of their redevelopment efforts. Provisions will be made for City access for maintenance purposes.
4. **Avigation Easement** – Develop language for an avigation easement and execute it for bundled parcels to be disposed of by sale to ensure that future uses are compatible with airport uses. The easement language should be presented to potential buyers as well as the City.
5. **Appraisal of Market for Bundled Parcels** – This task will be accomplished by the RIAC or its authorized agent according to FAA requirements.

The acquisition of public ROW, zoning, and the mothballing of utilities may be left to the developer to accomplish. This decision can be made based on economic conditions, the level of interest in purchasing the noise lands and the time table necessary to sell the properties. Ultimately, the City will make the final determination of acceptable land uses on parcels that will be offered for sale or for long term lease. The City will influence the preferred future land use of these parcels.