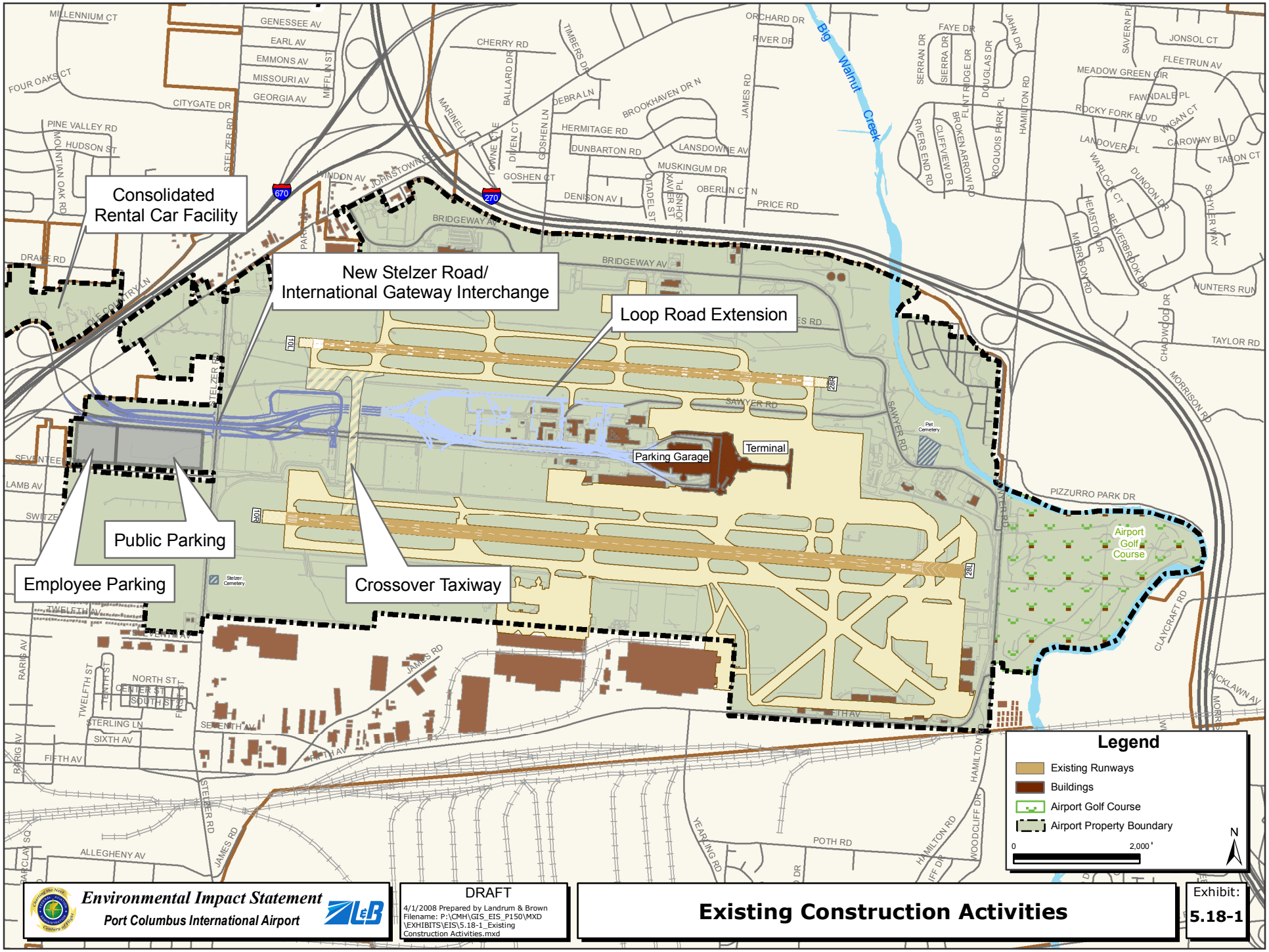
# 5.18 CONSTRUCTION IMPACTS

In accordance with Federal Aviation Administration (FAA) Order 1050.1E, *Environmental Impacts: Policies and Procedures*, the impacts to the environment due to construction activities must be assessed when preparing an Environmental Impact Statement (EIS). Construction impacts are commonly short-term and temporary in nature. Typical impacts resulting from airport construction include air, water, and noise pollution. In addition, surface transportation traffic patterns may be altered during construction. Impacts resulting from the construction of the proposed developments are not anticipated to be permanent and would occur primarily during the construction season.

Construction impacts are the short-term effects of the construction process that can usually be mitigated with proper construction management and the use of Best Management Practices (BMPs), as outlined in FAA Advisory Circular (AC) 150/5370-10C, *Standards for Specifying Construction of Airports*, Item P-156, "Temporary Air and Water Pollution, Soil Erosion, and Siltation Control." These control measures would be incorporated into all temporary erosion and sedimentation controls, as well as air and water pollution control measures during all proposed construction projects at Port Columbus International Airport (CMH or Airport) described in this EIS.

## 5.18.1 EXISTING CONDITIONS: 2006

This scenario describes conditions at CMH as they existed during the preparation of this EIS. There are several ongoing construction projects at and around CMH. These projects include the construction of the crossover taxiway bridge over International Gateway, improvements to the Stelzer Road/International Gateway Interchange, the extension of Loop Road, new employee and public parking lots to the southwest of the intersection of Stelzer Road and International Gateway, and a consolidated rental car facility west of I-670. These projects are anticipated to be completed before construction begins on the proposed relocated runway and midfield terminal, and are not expected to interfere with the proposed project. **Exhibit 5.18-1**, ***Existing Construction Activities***, shows the current construction projects around CMH.


Consolidated Rental Car Facility
New Stelzer Road/ International Gateway Interchange
Loop Road Extension
Public Parking
Employee Parking
Crossover Taxiway
Terminal
Parking Garage
Airport Golf Course
Big Walnut Creek
Legend
Existing Runways
Buildings
Airport Golf Course
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Port Columbus International Airport
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Existing Construction Activities
Exhibit:
5.18-1

## 5.18.2 FUTURE CONDITIONS: 2012

This section describes the construction activity that is anticipated to take place through 2012, which represents the first year that the proposed relocated runway would be operational. Construction tasks expected under the 2012 runway development alternatives include:

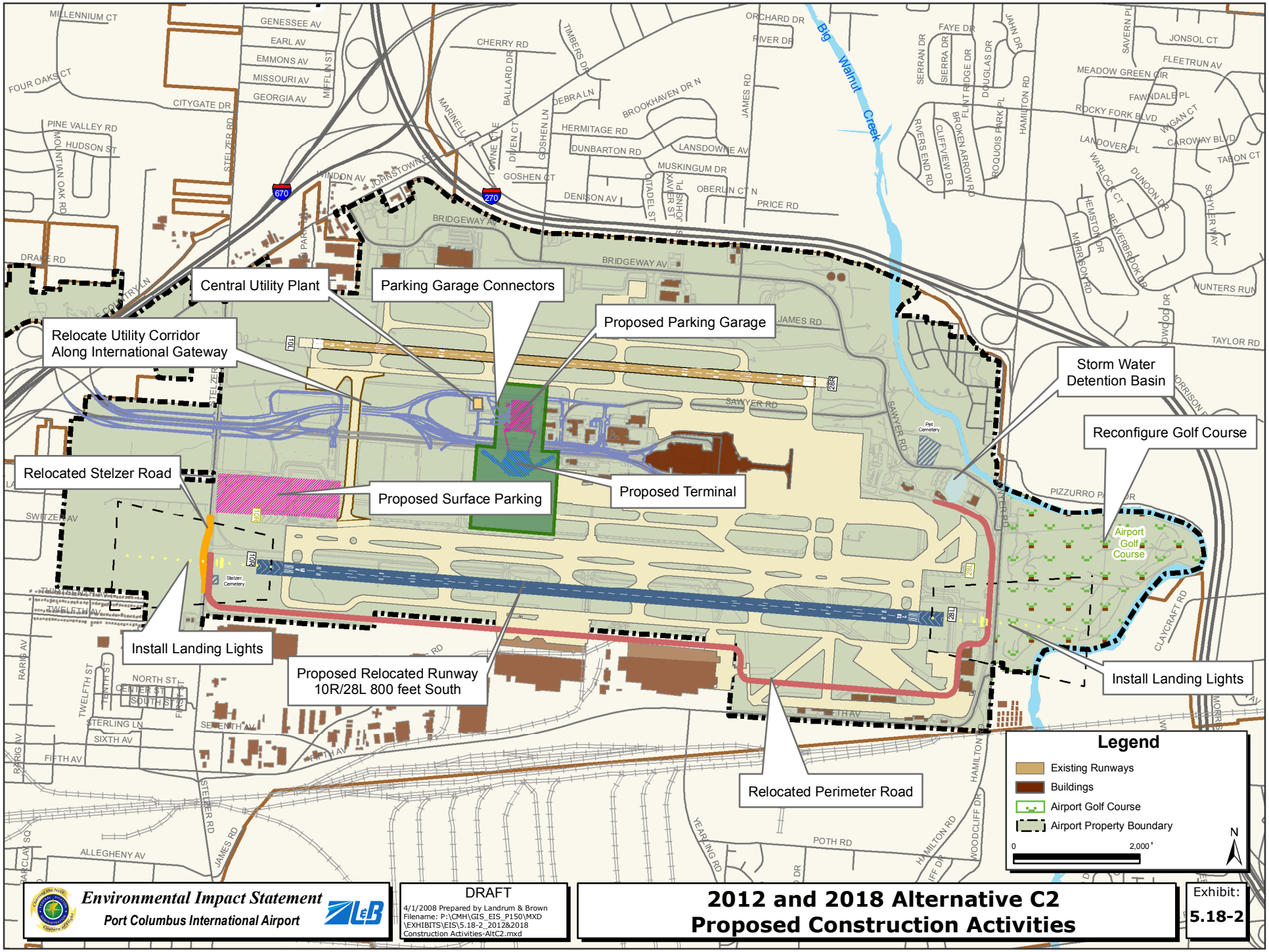
- Expansion of the glycol storage facility;
- Development of a stormwater detention basin at the location of the small tributary to Big Walnut Creek south of Sawyer Road;
- Construction of the proposed replacement runway;
- Construction of taxiways;
- Realignment of Stelzer Road;
- Removal of portions of the Columbus International Aircenter, including Control Tower Building #7;
- Demolition of hangars;
- Realignment of Perimeter road;
- Demolition of acquired homes;
- Removal of various structures on the airfield;
- Installation of the Instrument Landing System (ILS); and,
- Reconfiguration of the golf course.

### 2012 Alternative A: No-Action

Under this alternative no construction activities would occur; therefore, there would be no construction-related impacts.

### 2012 Alternative C2a: Relocate Runway 10R/28L 800 Feet to the South – Noise Abatement Scenario A

Under this alternative, Runway 10R/28L would be relocated 800 feet to the south of existing Runway 10R/28L. The relocated runway would be constructed on existing Airport-owned property on ground that is of similar elevation as existing Runway 10R/28L. Therefore, extensive fill or excavation will not be necessary. Once the construction of the proposed relocated runway begins, it is expected to last approximately 21 months. Construction activity would occur during "seasons," avoiding the winter weather, and would consist of a series of smaller projects that include earthwork, grading, subbase construction, asphalt paving, concrete paving, underdrain installation, drainage system installation, and electrical work. **Exhibit 5.18-2**, ***2012 and 2018 Alternative C2, Proposed Construction Activities***, shows the construction proposed under Alternative C2a.


Central Utility Plant
Parking Garage Connectors
Proposed Parking Garage
Relocate Utility Corridor
Along International Gateway
Storm Water
Detention Basin
Reconfigure Golf Course
Relocated Stelzer Road
Proposed Surface Parking
Proposed Terminal
Install Landing Lights
Proposed Relocated Runway
10R/28L 800 feet South
Relocated Perimeter Road
Install Landing Lights
Big Walnut Creek
Airport Golf Course
Legend
Existing Runways
Buildings
Airport Golf Course
Airport Property Boundary
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Port Columbus International Airport
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Filename: P:\CMH\GIS_EIS_P150\MXD
\EXHIBITS\EIS\5.18-2_2012&2018
Construction Activities-AltC2.mxd
2012 and 2018 Alternative C2
Proposed Construction Activities
Exhibit:
5.18-2

**Exhibit 5.18-3, *2012 and 2018 Alternative C2 Proposed Demolition and Relocation Activities,*** shows the structures proposed for demolition under Alternative C2a. Portions of the Columbus International Aircenter (CIAC) would be acquired and removed for height restrictions. Removal of these portions of the CIAC would also allow the installation of a CAT II/III ILS on the east end of the runway. In addition, two aircraft hangars would have to be removed for the construction of this alternative. 36 properties (35 homes) located in the relocated Runway Protection Zone (RPZ) would be acquired and removed for Alternative C2a. Demolition of these structures would be accomplished with minimal impact to the surrounding area. Several underground utility lines will need to be relocated or reconstructed to allow for construction of the proposed replacement runway.

These construction and demolition activities could cause impacts to soil erosion, water quality, air quality, noise, solid/hazardous waste, surface transportation, socioeconomic conditions, Airport operations, and construction resources. The impacts to each of these categories are described for each alternative in the following sections.

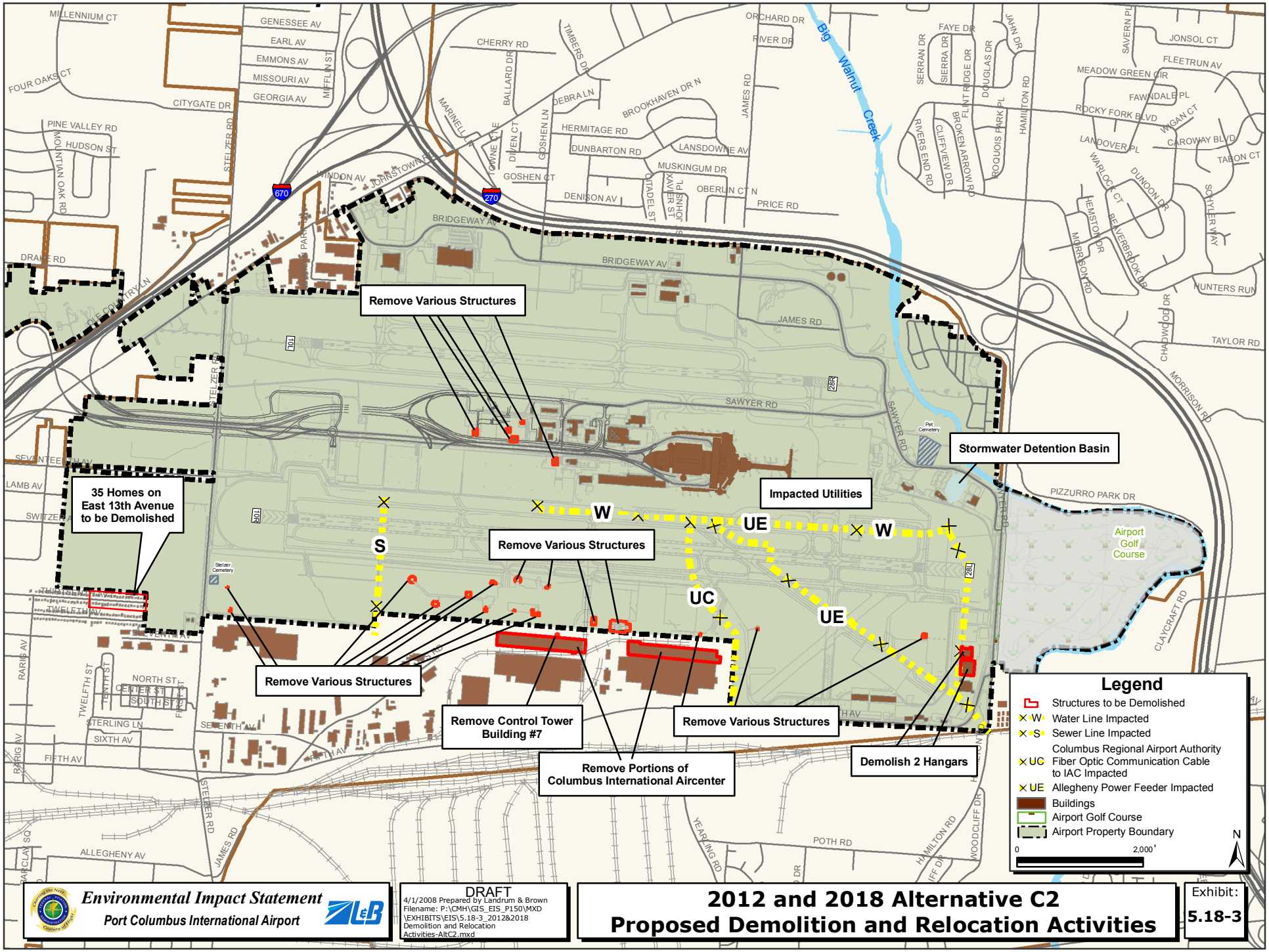
## SOIL EROSION

Soil erosion is a primary concern as a possible serious adverse impact of construction. During the site-preparation phase, existing land would be cleared and excavation would occur to remove any existing pavement, trees, vegetation, utility lines, and other structures. Specific permanent erosion control measures would accompany the temporary measures to effectively minimize the potential for long-term as well as short-term construction-related environmental impacts.

This alternative would increase the potential for the erosion of soils during construction of the proposed relocated runway.

Temporary control measures would be specifically identified through the application of an erosion control plan prepared during the project's design stage as identified in FAA AC 150/5370-10C, *Standards for Specifying Construction of Airports*, Item P-156, "*Temporary Air and Water Pollution, Soil Erosion, and Siltation Control,*" to ensure that there are no long-term impacts to the existing drainage systems or water quality in the area. These provisions would require the development of plans and schedules for control of erosion, dust, and waste disposal. Temporary and permanent erosion controls include, but are not limited to: exposing the minimum area of erodible earth; applying temporary mulch with or without seeding; use of temporary crossing protection of watercourses; and temporary slope drains, benches, dikes, dams, sediment basins, and filter fabric/silt fencing.

In the case of any conflict between standard requirements and other regulatory standards, the pollution control regulations and laws that are the most stringent would be applied. Additionally, temporary and permanent erosion and pollution control measures may be instituted during construction activities if they become necessary.


Remove Various Structures
35 Homes on East 13th Avenue to be Demolished
Impacted Utilities
Stormwater Detention Basin
Remove Various Structures
Remove Various Structures
Remove Control Tower Building #7
Remove Various Structures
Remove Portions of Columbus International Aircenter
Demolish 2 Hangars
W
S
UE
UC
Big Walnut Creek
Airport Golf Course
Legend
Structures to be Demolished
Water Line Impacted
Sewer Line Impacted
Columbus Regional Airport Authority Fiber Optic Communication Cable to IAC Impacted
Allegheny Power Feeder Impacted
Buildings
Airport Golf Course
Airport Property Boundary
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Environmental Impact Statement
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Filename: P:\CMH\GIS_EIS_P150\MXD\EXHIBITS\EIS\5.18-3_2012&2018 Demolition and Relocation Activities-AltC2.mxd
2012 and 2018 Alternative C2
Proposed Demolition and Relocation Activities
Exhibit:
5.18-3

## WATER QUALITY

Adverse impacts to water quality due to erosion and subsequent sedimentation are primary concerns during an airport construction project. The increase in suspended sediment concentrations, caused by an increase of eroded materials entering waterways, could induce impacts on aquatic life within the Airport environs. Impacts could also result from pollutants released from construction materials and equipment, such as fuels, lubricants, bitumen, concrete, and wash water from concrete mixing. To prevent discharge of these materials into surface water and groundwater, all materials would be confined to the work area. Additionally, precautions would be taken to limit and minimize the potential for spills.

The primary mechanism for delivery of sediment from construction and borrow sources is in stormwater runoff. Sediment yields and temporary increases in total suspended solids (TSS) from construction activities would depend on the effectiveness of erosion and sediment controls, fillslope and cutslope lengths, widths of existing buffers of vegetation, topographic benches and depressions that act as sinks for eroded material, and available sediment delivery pathways (e.g., ditches and culverts).

A National Pollutant Discharge Elimination System (NPDES) for stormwater discharge and a Storm Water Pollution Prevention Plan would be required for project construction. Under the National Stormwater Program, the U.S. Environmental Protection Agency (USEPA) regulates stormwater discharges from construction sites containing clearing, grading, and excavation activities, if the disturbed land area is five acres or more. To comply with the USEPA regulations, the Columbus Regional Airport Authority (CRAA) would have to file a "Notice of Intent" (NOI) form with the OEPA. The NOI indicates that the operator of the construction site would comply with the erosion, sediment, and stormwater control measures presented in Ohio EPA's General Permit for Construction Activities. The NOI requirements are promulgated as Ohio Administrative Code (OAC) 3745-38-06 (see also *EPA Final NPDES General Permits for Stormwater Discharges From Construction Sites Notice*).

Potential construction impacts would be reduced through the implementation of an erosion and sediment control plan. Elements of an erosion and sediment control plan would include an interconnected system of erosion and stormwater runoff controls, including BMPs and structural erosion control methods, such as phased clearing and grading, confining construction to the dry season whenever possible, sediment traps and ponds, interceptor dikes and swales, mulching, filter fabric fencing, hydroseeding, and terracing. Although implementation of an effective erosion and sediment control plan would not remove all TSS, it is expected to successfully mitigate potential TSS loading and temporary construction impacts on the water quality within the Airport environs.

## AIR QUALITY

Construction activities would have a short-term impact on local air quality. Air pollution during the construction period would be a consequence of one or more of the following activities:

- Vehicular activity in support of construction operations;
- Wind erosion of soils;
- The movement of construction vehicles along haul roads;
- Excavation; and
- Cement and aggregate handling.

Air pollutants from construction activities would be similar to those of automobiles and aircraft. The same National Ambient Air Quality Standards (NAAQS) set forth for vehicles and aircraft must also be met for construction activities. NAAQS has set specific limits for the following criteria air pollutants: carbon monoxide (CO), lead (Pb), ozone ($O_3$), nitrogen dioxide ($NO_2$), sulfur dioxide ($SO_2$), and particulate matter 10 microns (one micron = $10^{-6}$ m) in diameter ($PM_{10}$). See Section 5.5, *Air Quality,* for a detailed discussion of the pollutants and air quality regulations.

- Pb and $O_3$ are two pollutants that are not normally assessed when considering construction activities. Pb is traditionally not a pollutant associated with construction vehicles or activities and, as such, the impact would be negligible. $O_3$ is not an emitted pollutant; therefore, it can not be assessed with respect to direct emissions from construction vehicles or activities.

### Vehicle Emissions

Construction vehicles would emit various amounts of $PM_{10}$, CO, $NO_2$, and $SO_2$ dependent upon the total number of vehicles used for the project. A detailed air quality analysis of construction vehicle emissions is provided in Section 5.5, *Air Quality*. Emissions from construction vehicles would be temporary in nature and would be localized to the construction area and immediate surrounding vicinity. Emissions would be mitigated through the use of construction BMPs, and pollutant inventories and concentrations would be subject to all local, State of Ohio, and Federal regulations.

### Fugitive Dust

Fugitive dust would be generated by two physical occurrences: pulverization and abrasion of surface materials by application of mechanical force and entrapment of dust particles by the action of turbulent air currents created by wind or construction vehicle activity. The air pollution impact potential of fugitive dust sources would depend on the quantity and drift potential of the dust injected into the atmosphere.

Control measures for fugitive dust on paved roads focuses on either preventing material from being deposited on roads, or removal of any material from the lanes of travels. Methods commonly used to prevent the deposit of dust include: covering of loads in trucks or wetting of material being hauled; cleaning vehicles before they leave the construction site; using 'bump strips' or grates to shake dust from the vehicles; and paving the construction site access roads nearest to the paved roads. To minimize the stirring or entrapment of fugitive dust already on roads, mitigation measures would include frequent sweeping and/or flushing of the roads with water. In order to minimize fugitive dust transport, unpaved roads and inactive portions of

the construction site would be either watered (achieving a 50 percent reduction in fugitive dust) or chemically stabilized (achieving an 80 percent reduction). The exact method or combination of methods for abatement of fugitive dust will be determined by specific conditions at the construction site. Another measure frequently used in the suppression of dust is placement of seeding and mulching as construction areas are completed.

## NOISE

Noise impacts may occur in the vicinity of the construction sites. Earthwork and site preparation activities would result in elevated levels of noise generated by the types of equipment used on most construction sites. Noise from this equipment would vary from model to model, and would change according to the operation involved. Any noise generated by runway construction activities would be localized and would be overshadowed by aircraft noise. In the event that construction would occur during nighttime hours, the CRAA will make efforts to minimize noise impacts as much as possible. Since existing Runway 10R/28L will remain operational during most stages of construction, there would be little to no effect on aircraft noise impacts within the Airport environs. Additional information on aircraft noise is included in Section 5.1, *Noise*.

**Table 5.18-1** depicts an estimate of the typical sound level energy from each item of construction equipment. The total sound energy is essentially a product of a machine's sound level, the number of such machines in service, and the average time they operate. Although pile drivers and rock drills produce the highest sound levels, dump trucks, air compressors, and concrete mixers, due to their greater number or longer operating times, produce the most total sound energy.[1] Noise levels resulting from operation of construction equipment are generally higher than those generated by normal traffic flows.

However, with few exceptions, there would be limited off-Airport construction-related noise impacts because of the distance of the residential areas from the sound sources at the various construction sites.

[1] *Handbook of Noise Assessments*, May 1978, D. N. Editor, Van Nostrand Reinhold Company, New York.

**Table 5.18-1**
**CONSTRUCTION EQUIPMENT NOISE**
**Port Columbus International Airport**

| Equipment Type | Typical Sound Level dB(A) at 50 Feet | Est. Total Sound Energy kWh/Day |
|---|---|---|
| Dump Truck | 88 | 296 |
| Portable Air Compressor | 81 | 147 |
| Concrete Mixer (truck) | 85 | 111 |
| Jackhammer | 88 | 84 |
| Scraper | 88 | 79 |
| Dozer | 87 | 78 |
| Paver | 89 | 75 |
| Generator | 76 | 65 |
| Pile Driver | 101 | 62 |
| Rock Drill | 98 | 53 |
| Pump | 76 | 47 |
| Pneumatic Tools | 85 | 36 |
| Backhoe | 85 | 33 |

Source: *Handbook of Noise Assessments*, 1978, May, D. N., Editor, Van Nostrand Reinhold Company, New York.

## SOLID/HAZARDOUS WASTE

It is expected that only a small amount of demolition and construction waste would be generated from the proposed project through 2018. The majority of waste material would result from the removal of any structures to accommodate the new runway. At least 58 structures would be demolished to allow construction of the proposed relocated runway under Alternative C2a, including portions of the CIAC, two aircraft hangars, a minimum of 24 homes along East 13th Avenue, and approximately 19 other small structures on Airport property. Demolition of these structures would be accomplished with minimal impacts to the surrounding area. Additional information on known or potential hazardous waste located in and around the construction sites is included in Section 5.17, *Hazardous Materials, Pollution Prevention, and Solid Waste*.

Prior to demolition and removal of any building, each structure would be assessed to determine the presence of asbestos or any other hazardous material. All necessary precautions for the removal of such materials would be coordinated with the appropriate State and local permitting agencies.

All construction waste would be disposed of in accordance with all applicable State and Federal regulations. Clean construction debris (concrete, asphalt, etc.) would be used as fill at the Airport and off-site, as needed, in accordance with present BMPs and all applicable laws. The disposal of demolition and construction debris would be arranged through a licensed waste hauler.

In the event of a release of hazardous waste or a hazardous substance (including petroleum products) in an amount greater than the reportable quantity (RQ) as established by the USEPA, the National Response Center (NRC) would be contacted (1-800-424-8802) and provided details of the incident and measures taken to reduce the effects of the release. In the event that hazardous substances and/or waste are identified within the project area, consultation with the appropriate State agency or USEPA would be initiated by the CRAA.

## SURFACE TRANSPORTATION

The construction of the proposed development would also result in increased construction-related traffic in the vicinity of the Airport. Temporary construction impacts could include increased noise, dust, vibration, congestion, and truck traffic along roadways. BMPs for construction will be incorporated into a construction management plan that would be included in bid documents and contracts. The construction management plan will be prepared based on the haul plan of the selected contractor, specifying hours of operation, haul routes, and other controls regarding activity during periods of extreme congestion and severe weather.

Because most of the construction activity will occur on existing Airport-owned property, with convenient access to I-670 and I-270, it is anticipated that construction vehicles would not disrupt residential neighborhoods or local businesses. If it becomes necessary for large numbers of construction vehicles to travel through local streets, standard traffic engineering techniques would be used to maintain traffic during construction.

Completion of the construction projects would involve using typical construction vehicles. The number of vehicles would vary due to project timing, funding, budget constraints, weather, scope of work, and other unforeseen factors, but the types of equipment would remain relatively constant. Equipment common to all of the projects would be backhoes, bulldozers, dump trucks, excavators, graders, loaders, rollers, and scrapers. Some equipment may have a unique purpose suited only to a specific element of the project.

## SOCIOECONOMIC IMPACTS

Socioeconomic impacts are the direct and indirect consequences of construction projects. Direct impacts associated with the proposed project could include the employment and payroll of construction workers and other personnel associated with the project, as well as related capital expenditures for materials and equipment. Indirect impacts are those impacts that support project construction. Increased employment, payroll, and expenditures of local building supply companies are examples of such indirect impacts.

Induced socioeconomic impacts would also be caused by construction. These are increased activity in the service sectors of the local economy such as gas stations, restaurants, and supermarkets. The higher levels of employment and greater amounts of disposable income spent by construction related workers in the local economy would generate more employment and activity in these service sectors. Socioeconomic impacts of construction are generally short-term and temporary in

nature, as is the case for most other construction impacts. Additional information regarding socioeconomic impacts is included in Section 5.3, *Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks*.

## AIRPORT OPERATIONS DURING CONSTRUCTION

Construction of the proposed developments would be phased between 2009 and 2018. Construction related operational impacts are not expected to result in significant changes in runway usage or taxi patterns. A detailed construction phasing plan would be developed to allow the construction activities to proceed without causing substantial airfield delays and congestion. The plan would identify work areas which would require closure or restrictions on existing runway operations (e.g., limiting construction activities to nighttime or requiring displaced runway thresholds) versus areas where work could continue without impacting airport and aircraft operations.

## CONSTRUCTION RESOURCES

Materials used to construct the proposed development represent an irretrievable and irreversible commitment of resources. At the present time, the design plans have not been finalized, so specific types and exact quantities of materials are unknown. It is anticipated that the construction would require common materials such as steel, concrete, wood, etc. These materials are generally available locally and are not expected to be needed in such a magnitude as to adversely affect supplies locally or in the surrounding areas. A beneficial impact of the use of these local materials would be the large financial expenditures for materials and labor required for construction.

### 2012 Alternative C2b:
### Relocate Runway 10R/28L 800 Feet to the South – Noise Abatement Scenario B

Alternative C2b includes the same relocation of Runway 10R/28L 800 feet to the south as Alternative C2a, along with implementation of the operational recommendations of the 2007 Part 150 Noise Compatibility Study Update (2007 Part 150 Study). Therefore, impacts due to construction activities under the 2012 Alternative C2b would remain the same as described for the 2012 Alternative C2a.

### 2012 Alternative C3a:
### Relocate Runway 10R/28L 702 Feet to the South – Noise Abatement Scenario A

Under this alternative, Runway 10R/28L would be relocated 702 feet to the south of existing Runway 10R/28L. The relocated runway would be constructed on existing Airport-owned property on ground that is of similar elevation as existing Runway 10R/28L, therefore extensive fill or excavation will not be necessary. Once the construction of the proposed relocated runway begins, it is expected to last approximately 18 months. Construction activity would occur during "seasons," avoiding the winter weather, and would consist of a series of smaller projects that include earthwork, grading, subbase construction, asphalt paving, concrete paving,

underdrain installation, drainage system installation, and electrical work. **Exhibit 5.18-4**, ***2012 and 2018 Alternative C3 Proposed Construction Activities,*** shows the construction proposed under Alternative C3a.

One aircraft hangar would have to be removed for the construction of this alternative. In addition, 36 properties (35 homes) located in the relocated RPZ would need to be acquired and removed for Alternative C3a. Demolition of these structures would be accomplished with minimal impacts to the surrounding area. Several underground utility lines will need to be relocated or reconstructed to allow for construction of the proposed replacement runway. **Exhibit 5.18-5**, ***2012 and 2018 Alternative C3 Proposed Demolition and Relocation Activities,*** shows the structures proposed for demolition under Alternative C3a.

## SOIL EROSION

The impacts to soil erosion and mitigation control measures discussed for the 2012 Alternative C2a remain the same for the 2012 Alternative C3a.

## WATER QUALITY

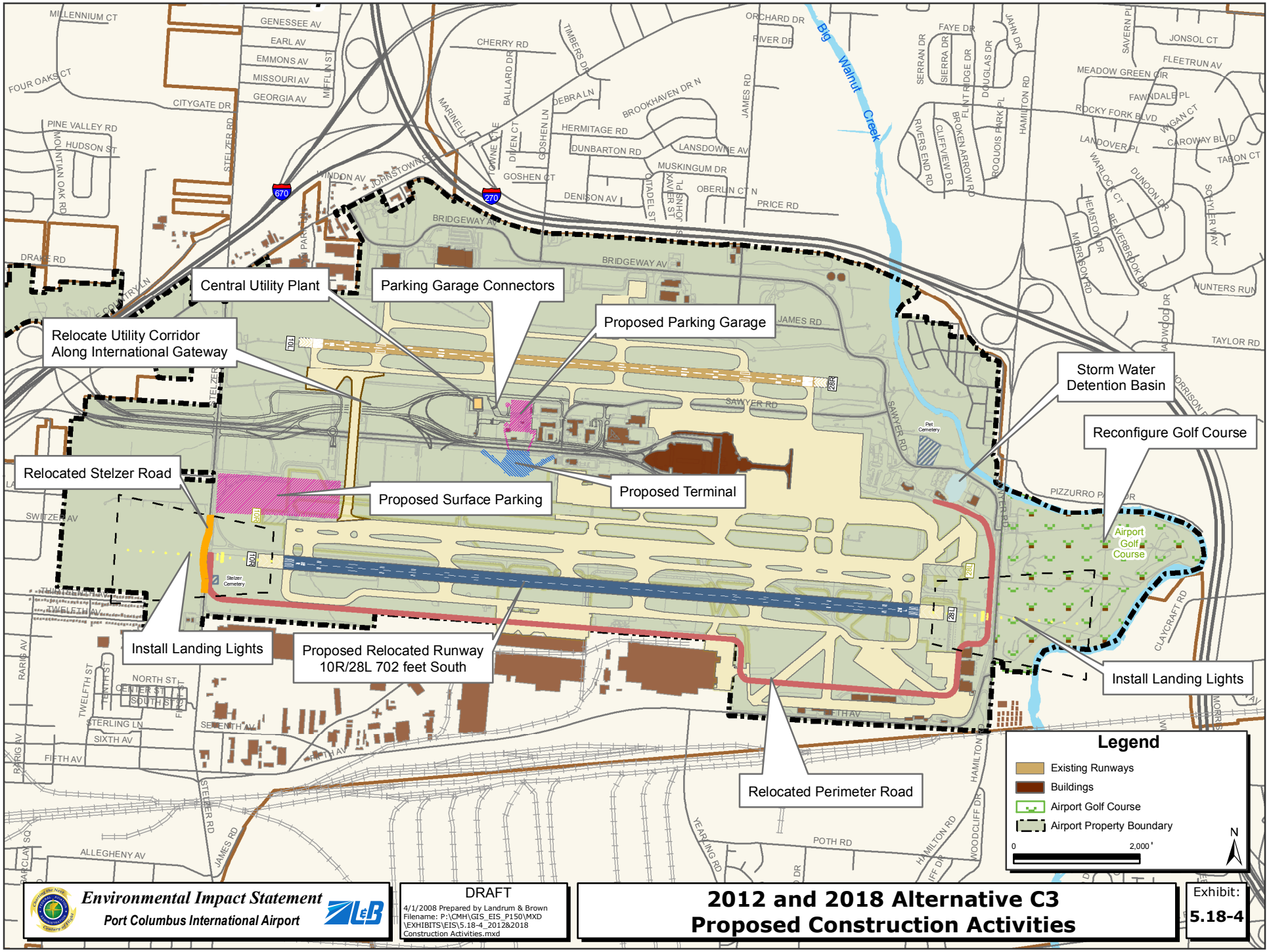
The impacts to water quality and mitigation control measures discussed for the 2012 Alternative C2a remain the same for the 2012 Alternative C3a.

## AIR QUALITY

The impacts to air quality due to construction and mitigation control measures discussed for the 2012 Alternative C2a are similar for the 2012 Alternative C3a. However, this alternative requires less demolition and therefore, fewer construction vehicles will be needed to complete the project and lower vehicle emission will be produced.

## NOISE

The impacts to construction noise discussed for the 2012 Alternative C2a are similar for the 2012 Alternative C3a. However, this alternative requires less demolition and therefore, fewer construction vehicles will be needed to complete the project and lower construction noise will be produced.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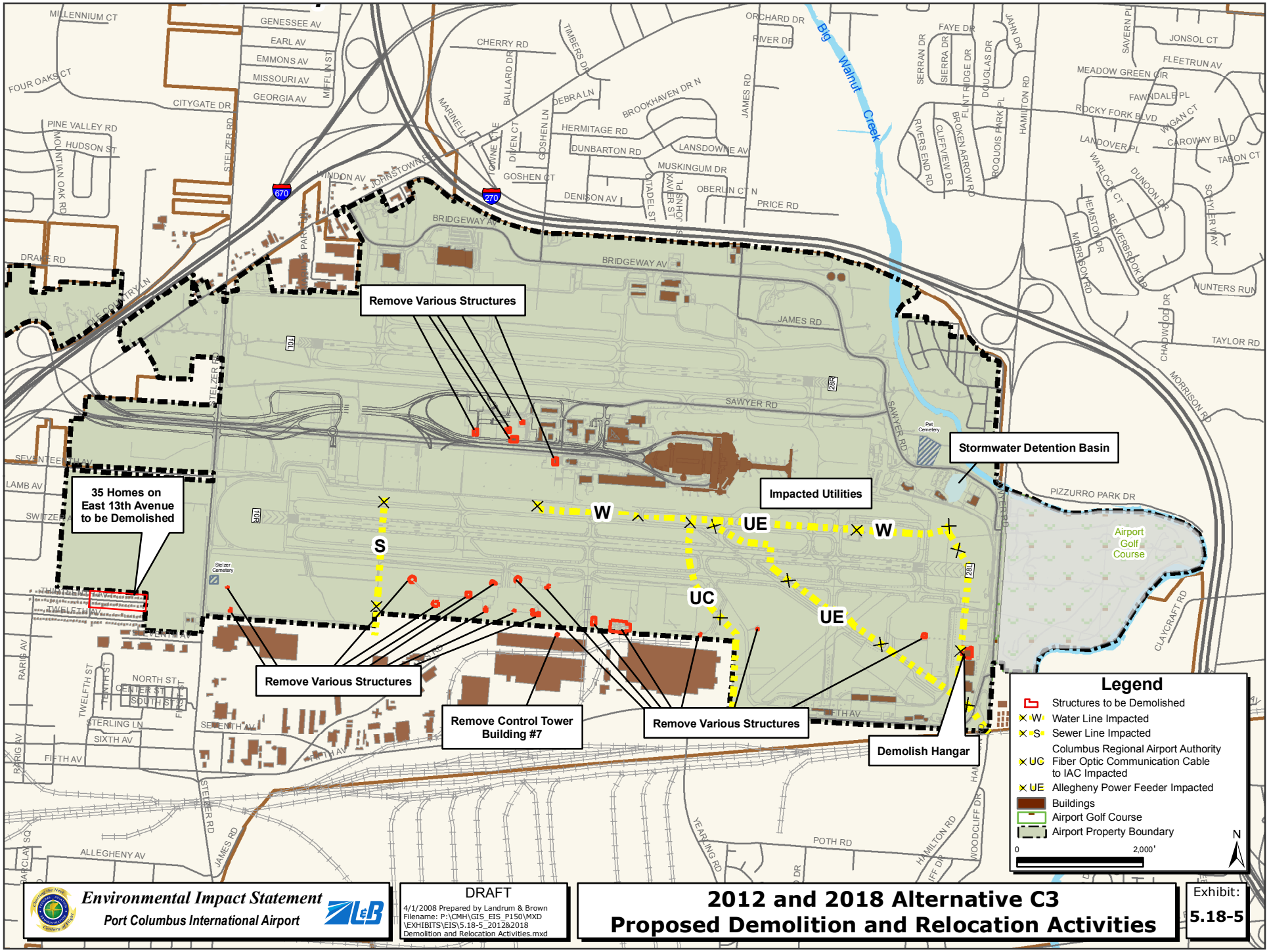
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Remove Various Structures
Remove Control Tower Building #7
Remove Various Structures
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S
UE
UC
Big Walnut Creek
Airport Golf Course
Legend
Structures to be Demolished
W Water Line Impacted
S Sewer Line Impacted
UC Columbus Regional Airport Authority Fiber Optic Communication Cable to IAC Impacted
UE Allegheny Power Feeder Impacted
Buildings
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Filename: P:\CMH\GIS_EIS_P150\MXD\EXHIBITS\EIS\5.18-5_2012&2018 Demolition and Relocation Activities.mxd
2012 and 2018 Alternative C3
Proposed Demolition and Relocation Activities
Exhibit:
5.18-5

### SOLID/HAZARDOUS WASTE

The impacts to solid and hazardous waste and mitigation control measures discussed for the 2012 Alternative C2a are similar for the 2012 Alternative C3a. However, this alternative will require less demolition and therefore less waste will be produced. At least 55 structures would be demolished to allow construction of the proposed relocated runway, including one aircraft hangar, a minimum of 15 homes along East 13th Avenue, and approximately 19 other small structures on Airport property. Demolition of these structures would be accomplished with minimal impacts to the surrounding area. Additional information on known or potential hazardous waste located in and around the construction sites is included in Section 5.17, *Hazardous Materials, Pollution Prevention, and Solid Waste.*

### SURFACE TRANSPORTATION

The impacts to surface transportation and mitigation control measures discussed for the 2012 Alternative C2a are similar for the 2012 Alternative C3a. However, this alternative will require less demolition and therefore fewer construction vehicles will be needed to complete the project resulting in less construction traffic.

### SOCIOECONOMIC IMPACTS

The socioeconomic impacts caused by construction discussed for the 2012 Alternative C2a are similar for the 2012 Alternative C3a. However, this alternative will require less demolition and therefore less construction employment will be created causing a lesser socioeconomic impact.

### AIRPORT OPERATIONS DURING CONSTRUCTION

The impacts to Airport operations during construction discussed for the 2012 Alternative C2a remain the same for the 2012 Alternative C3a.

### CONSTRUCTION RESOURCES

The impacts to construction resources discussed for the 2012 Alternative C2a remain the same for the 2012 Alternative C3a.

## 2012 Alternative C3b:
## Relocate Runway 10R/28L 702 Feet to the South – Noise Abatement Scenario B (Sponsor's Proposed Project)

Alternative C3b includes the same relocation of Runway 10R/28L 702 feet to the south as Alternative C3a, along with implementation of the operational recommendations of the 2007 Part 150 Study.

### SOIL EROSION

The impacts to soil erosion and mitigation control measures discussed for the 2012 Alternative C2a remain the same for the 2012 Alternative C3b.

### WATER QUALITY

The impacts to water quality and mitigation control measures discussed for the 2012 Alternative C2a remain the same for the 2012 Alternative C3b.

### AIR QUALITY

The impacts to air quality due to construction and mitigation control measures discussed for the 2012 Alternative C2a are similar for the 2012 Alternative C3b. However, this alternative will require less demolition and therefore, fewer construction vehicles will be needed to complete the project and lower vehicle emission will be produced.

### NOISE

The impacts to construction noise discussed for the 2012 Alternative C2a are similar for the 2012 Alternative C3b. However, this alternative will require less demolition and therefore, fewer construction vehicles will be needed to complete the project and less construction noise will be produced.

### SOLID / HAZARDOUS WASTE

The impacts to solid and hazardous waste and mitigation control measures discussed for the 2012 Alternative C2a are similar for the 2012 Alternative C3b. However, this alternative will require less demolition and therefore less waste will be produced. At least 55 structures would be demolished to allow construction of the proposed relocated runway, including one aircraft hangar, a minimum of 15 homes along East 13$^{th}$ Avenue, and approximately 19 other small structures on Airport property. Demolition of these structures would be accomplished with minimal impacts to the surrounding area. Additional information on known or potential hazardous waste located in and around the construction sites is included in Section 5.17, *Hazardous Materials, Pollution Prevention, and Solid Waste*.

### SURFACE TRANSPORTATION

The impacts to surface transportation and mitigation control measures discussed for the 2012 Alternative C2a are similar for the 2012 Alternative C3b. However, this alternative will require less demolition and therefore fewer construction vehicles will be needed to complete the project resulting in less construction traffic.

### SOCIOECONOMIC IMPACTS

The socioeconomic impacts caused by construction discussed for the 2012 Alternative C2a are similar for the 2012 Alternative C3b. However, this alternative will require less demolition and therefore less construction employment will be created causing a lesser socioeconomic impact.

### AIRPORT OPERATIONS DURING CONSTRUCTION

The impacts to airport operations during construction discussed for the 2012 Alternative C2a remain the same for the 2012 Alternative C3b.

### CONSTRUCTION RESOURCES

The impacts to construction resources discussed for the 2012 Alternative C2a remain the same for the 2012 Alternative C3b.

## 5.18.3 FUTURE CONDITIONS: 2018

This section describes the construction activity that is anticipated to take place from 2012 through 2018, which represents the first year that the proposed passenger terminal would be operational. Construction tasks would include:

- Relocation of the utility corridor along International Gateway;
- Expansion of parking areas;
- Installation of the underground aircraft fuel hydrant system;
- Construction of the heating, venting, and air conditioning plant (HVAC);
- Construction of the proposed new midfield passenger terminal;
- Construction of the apron area adjacent to the new midfield passenger terminal;
- Construction of the parking garage connectors; and,
- Construction of the proposed new midfield parking garage.

### 2018 Alternative A: <u>No-Action</u>

Under this alternative no construction activities would occur. Therefore, there would be no construction related impacts.

### 2018 Alternative C2a: <u>Relocate Runway 10R/28L 800 Feet to the South and Construct Midfield Terminal (T2) – Noise Abatement Scenario A</u>

Under this alternative, a new midfield terminal, parking garage, and aircraft apron would be constructed to the west of the existing main terminal on the south side of International Gateway. The current layout of the proposed terminal includes a central terminal facility with four departure halls. Phase 1 of the proposed terminal, which includes the central terminal facility and two departure halls, is anticipated to be operational by 2018. The construction would consist of concrete removal, utility installation, paving the apron area, and construction of the new terminal building and parking garage. The Concourse Construction Project is anticipated to begin after 2012 and Phase 1 is expected to be completed before 2018.

## SOIL EROSION

Soil erosion is a primary concern as a possible serious adverse impact of construction. During the site-preparation phase, existing land would be cleared and excavation would occur to remove any existing pavement, trees, vegetation, utility lines, and other structures. Specific permanent erosion control measures would accompany the temporary measures to effectively minimize the potential for long-term as well as short-term construction-related environmental impacts.

This alternative would increase potential for the erosion of soils during construction of the proposed midfield terminal, parking garage, and aircraft apron. Temporary control measures would be specifically identified through the application of an erosion control plan prepared during the project's design stage as identified in FAA AC 150/5370-10C, *Standards for Specifying Construction of Airports*, Item P-156, "*Temporary Air and Water Pollution, Soil Erosion, and Siltation Control,*" to ensure that there are no long-term impacts to the existing drainage systems or water quality in the area. These provisions would require the development of plans and schedules for control of erosion, dust, and waste disposal. Temporary and permanent erosion controls include, but are not limited to, exposing the minimum area of erodible earth; applying temporary mulch with or without seeding; use of temporary crossing protection of watercourses; and temporary slope drains, benches, dikes, dams, and sediment basins.

In the case of any conflict between standard requirements and other regulatory standards, the pollution control regulations and laws that are the most stringent would be applied. Additionally, temporary and permanent erosion and pollution control measures may be instituted during construction activities if they become necessary.

## WATER QUALITY

Adverse impacts to water quality due to erosion and subsequent sedimentation are primary concerns during an airport construction project. The increase in suspended sediment concentrations, caused by an increase of eroded materials entering waterways, could induce impacts on aquatic life within the Airport environs. Impacts could also result from pollutants released from construction materials and equipment, such as fuels, lubricants, bitumen, concrete, and wash water from concrete mixing. To prevent discharge of these materials into surface water and groundwater, all materials would be confined to the work area. Additionally, precautions would be taken to limit and minimize the potential for spills.

The primary mechanism for delivery of sediment from construction and borrow sources is in stormwater runoff. Sediment yields and temporary increases in TSS from construction activities would depend on the effectiveness of erosion and sediment controls; fillslope and cutslope lengths; widths of existing buffers of vegetation; topographic benches and depressions that act as sinks for eroded material; and available sediment delivery pathways (e.g., ditches and culverts).

A NPDES permit for stormwater discharge and a Storm Water Pollution Prevention Plan would be required for project construction. Under the National Stormwater Program, the USEPA regulates stormwater discharges from construction sites containing clearing, grading, and excavation activities, if the disturbed land area is five acres or more. To comply with USEPA regulations, the CRAA would have to file a NOI form with the OEPA. The NOI indicates that the operator of the construction site would comply with the erosion, sediment, and stormwater control measures presented in Ohio EPA's General Permit for Construction Activities. The NOI requirements are promulgated at OAC 3745-38-06 (see also *EPA Final NPDES General Permits for Stormwater Discharges From Construction Sites Notice).*

Potential construction impacts from the proposed midfield terminal, short-term parking garage, and aircraft apron would be reduced through the implementation of an erosion and sediment control plan. Elements of an erosion and sediment control plan would include an interconnected system of erosion and stormwater runoff controls including BMPs, and structural erosion control methods such as phased clearing and grading, confining construction to the dry season whenever possible, sediment traps and ponds, interceptor dikes and swales, mulching, filter fabric fence, hydroseeding, and terracing. Although implementation of an effective erosion and sediment control plan would not remove all TSS, it is expected to successfully mitigate potential TSS loading and temporary construction impacts on the water quality within the Airport environs.

## AIR QUALITY

Construction activities for the proposed midfield terminal, short-term parking garage, and aircraft apron would have a short-term impact on local air quality. Air pollution during the construction period would be a consequence of one or more of the following activities:

- Vehicular activity in support of construction operations;
- Wind erosion of soils;
- The movement of construction vehicles along haul roads;
- Excavation; and
- Cement and aggregate handling.

Air pollutants from construction activities would be similar to those of automobiles and aircraft. The same NAAQS set forth for vehicles and aircraft must also be met for construction activities. NAAQS has set specific limits for the following criteria air pollutants: CO, Pb, $O_3$, $NO_2$, $SO_2$, and $PM_{10}$. See Section 5.5, *Air Quality,* for a detailed discussion of the pollutants and air quality regulations.

Pb and $O_3$ are two pollutants that are not normally assessed when considering construction activities. Pb is traditionally not a pollutant associated with construction vehicles or activities and, as such, the impact would be negligible. Ozone is not an emitted pollutant. Therefore, it can not be assessed with respect to direct emissions from construction vehicles or activities.

## VEHICLE EMISSIONS

Construction vehicles would emit various amounts of $PM_{10}$, CO, $NO_2$, and $SO_2$ dependent upon the total number of vehicles used for the project. A detailed air quality analysis of construction vehicle emissions is provided in Section 5.5, *Air Quality*. Emissions from construction vehicles would be temporary in nature and would be localized to the construction area and immediate surrounding vicinity. Emissions would be mitigated through the use of best construction practices and pollutant inventories and concentrations would be subject to all local, State, and Federal regulations.

## FUGITIVE DUST

Fugitive dust would be generated by two physical occurrences: pulverization and abrasion of surface materials by application of mechanical force and entrapment of dust particles by the action of turbulent air currents created by wind or construction vehicle activity. The air pollution impact potential of fugitive dust sources would depend on the quantity and drift potential of the dust injected into the atmosphere. Control measures for fugitive dust on paved roads focus on either preventing material from being deposited on roads, or removal of any material from the lanes of travels. Methods commonly used to prevent the deposit of dust include: covering of loads in trucks or wetting of material being hauled; cleaning vehicles before they leave the construction site; using 'bump strips' or grates to shake dust from the vehicles; and paving the construction site access roads nearest to the paved roads. To minimize the stirring or entrapment of fugitive dust already on roads, mitigation measures would include frequent sweeping and/or flushing of the roads with water. In order to minimize fugitive dust transport, unpaved roads and inactive portions of the construction site would be either watered (achieving a 50 percent reduction in fugitive dust) or chemically stabilized (achieving an 80 percent reduction). The exact method or combination of methods for abatement of erosion has not yet been determined. Another measure frequently used in the suppression of dust is placement of seeding and mulching as construction areas are completed.

## NOISE

Noise impacts from construction of the proposed midfield terminal, short-term parking garage, and aircraft apron may occur in the vicinity of the construction sites. Earthwork and site preparation activities would result in elevated levels of noise generated by the types of equipment used on most construction sites. Noise from this equipment would vary from model to model, and would change according to the operation involved. Any noise generated by runway construction activities would be localized and would be overshadowed by aircraft noise. In the event that construction would occur during nighttime hours, the CRAA will make efforts to minimize noise impacts as much as possible. Since existing Runway 10R/28L will remain operational during most of the stages of construction, there would be little or no effect on aircraft noise impacts within the Airport environs. Additional information on aircraft noise is included in Section 5.1, *Noise*.

**Table 5.18-2** depicts an estimate of the typical sound level energy from each item of construction equipment. The total sound energy is essentially a product of a machine's sound level, the number of such machines in service, and the average time they operate. Although pile drivers and rock drills produce the highest sound levels, dump trucks, air compressors, and concrete mixers, due to their greater number or longer operating times, produce the most total sound energy.[2] Noise levels resulting from operation of construction equipment are generally higher than those generated by normal traffic flows. However, with few exceptions, there would be limited off-Airport construction-related noise impacts because of the distance of the residential areas from the sound sources at the various construction sites.

**Table 5.18-2**
**CONSTRUCTION EQUIPMENT NOISE**
**Port Columbus International Airport**

| Equipment Type | Typical Sound Level dB(A) at 50 Feet | Est. Total Sound Energy kWh/Day |
|---|---|---|
| Dump Truck | 88 | 296 |
| Portable Air Compressor | 81 | 147 |
| Concrete Mixer (truck) | 85 | 111 |
| Jackhammer | 88 | 84 |
| Scraper | 88 | 79 |
| Dozer | 87 | 78 |
| Paver | 89 | 75 |
| Generator | 76 | 65 |
| Pile Driver | 101 | 62 |
| Rock Drill | 98 | 53 |
| Pump | 76 | 47 |
| Pneumatic Tools | 85 | 36 |
| Backhoe | 85 | 33 |

Source: *Handbook of Noise Assessments*, 1978, May, D. N., Editor, Van Nostrand Reinhold Company, New York.

## SOLID/HAZARDOUS WASTE

It is expected that only a small amount of demolition and construction waste would be generated from the Sponsor's Proposed Project and it's alternatives through 2018. Prior to demolition and removal of any building, each structure would be assessed to determine the presence of asbestos or any other hazardous material. All necessary precautions for the removal of such materials would be coordinated with the appropriate State and local permitting agencies.

[2] *Handbook of Noise Assessments*, 1978, May, D. N., Editor, Van Nostrand Reinhold Company, New York.

All construction waste would be disposed of in accordance with all applicable State and Federal regulations. Clean construction debris (concrete, asphalt, etc.) would be used as fill at the Airport and off-site, as needed, in accordance with present practices. The disposal of demolition and construction debris would be arranged through a licensed waste hauler.

In the event of a release of hazardous waste or a hazardous substance (including petroleum products) in an amount greater than the RQ, as established by the USEPA, the NRC would be contacted (1-800-424-8802) and provided details of the incident and measures taken to reduce the effects of the release. In the event that hazardous substances and/or waste are identified within the project area, consultation with the appropriate State agency or USEPA would be initiated by the CRAA.

## SURFACE TRANSPORTATION

The construction of the proposed midfield terminal, parking garage, and aircraft apron would also result in increased construction-related traffic in the vicinity of the Airport. Temporary construction impacts could include increased noise, dust, vibration, congestion, and truck traffic along roadways. A construction management plan would be prepared which, based on the selected contractor(s) haul plan, would specify hours of operation, haul routes, and similar controls.

It is expected that such a plan would be consistent with normal contracting practices, because it is not likely that a contractor would schedule haul activities during extreme congestion periods or severe weather conditions because it could increase costs to the contractor and affect the schedule.

Because most of the construction activity will occur on existing Airport-owned property, with convenient access to I-670 and I-270, it is anticipated that construction vehicles would not disrupt residential neighborhoods or local businesses. If it becomes necessary for large numbers of construction vehicles to travel through local streets, standard traffic engineering techniques would be used to maintain traffic during construction.

Completion of the construction projects would involve using typical construction vehicles. The number of vehicles would vary due to project timing, funding, budget constraints, weather, scope of work, and other unforeseen factors, but the types of equipment would remain relatively constant. Equipment common to all of the projects would be backhoes, bulldozers, dump trucks, excavators, graders, loaders, rollers, and scrapers. Some equipment may have a unique purpose suited only to the specific element of the project.

## SOCIOECONOMIC IMPACTS

Socioeconomic impacts are the direct and indirect consequences of construction projects. Direct impacts associated with the proposed project could include the employment and payroll of construction workers and other personnel associated with the project, as well as related capital expenditures for materials and equipment. Indirect impacts are those impacts that support project construction.

Increased employment, payroll, and expenditures of local building supply companies are examples of such indirect impacts.

Induced socioeconomic impacts would also be caused by construction. These impacts are increased activity in the service sectors of the local economy such as gas stations, restaurants, and supermarkets. The higher levels of employment and greater amounts of disposable income spent by construction related workers in the local economy would generate more employment and activity in these service sectors. Socioeconomic impacts of construction are generally short-term and temporary in nature, as is the case for most other construction impacts. Additional information regarding socioeconomic impacts is included in Section 5.3, *Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks*.

## AIRPORT OPERATIONS DURING CONSTRUCTION

Construction of the proposed developments would be phased between 2009 and 2018. Construction related operational impacts are not expected to result in significant changes in runway usage or taxi patterns. A detailed construction phasing plan would be developed to allow the construction activities to proceed without causing substantial airfield delays and congestion. The plan would identify work areas that would require closure or restrictions on existing runway operations (e.g., limiting construction activities to nighttime or requiring displaced runway thresholds) versus areas where work could continue without impacting airport and aircraft operations.

## CONSTRUCTION RESOURCES

Materials used to construct the proposed development represent an irretrievable and irreversible commitment of resources. At the present time, the design plans have not been finalized, so specific types and exact quantities of materials are unknown. It is anticipated that the construction would require common materials such as steel, concrete, wood, etc. These materials are generally available locally and are not expected to be needed in such a magnitude as to adversely affect supplies locally or in the surrounding areas. A beneficial impact of the use of these local materials would be the large financial expenditures for materials and labor required for construction.

### 2018 Alternative C2b: Relocate Runway 10R/28L 800 Feet to the South and Construct Midfield Terminal (T2) – Noise Abatement Scenario B

2018 Alternative C2b includes the same construction projects as 2018 Alternative C2a (proposed passenger terminal), along with implementation of the operational recommendations of the 2007 Part 150 Study. Therefore, impacts due to construction activities under the 2018 Alternative C2b would remain the same as described for the 2018 Alternative C2a.

**2018 Alternative C3a:**
**Relocate Runway 10R/28L 702 Feet to the South and Construct Midfield Terminal (T2) – Noise Abatement Scenario A**

2018 Alternative C3a includes the same construction projects as 2018 Alternative C2a (proposed passenger terminal). Therefore, impacts due to construction activities under the 2018 Alternative C3a would remain the same as described for the 2018 Alternative C2a.

**2018 Alternative C3b:**
**Relocate Runway 10R/28L 702 Feet to the South and Construct Midfield Terminal (T2) – Noise Abatement Scenario B (Sponsor's Proposed Project)**

2018 Alternative C3b includes the same construction projects as 2018 Alternative C2a (proposed passenger terminal), along with implementation of the operational recommendations of the 2007 Part 150 Study. Therefore, impacts due to construction activities under the 2018 Alternative C3b would remain the same as described for the 2018 Alternative C2a.