

individual and incremental land use decisions to be better understood and, given the scarcity of native resources and multi-jurisdictional impacts of development decisions on water quality, the greatest overall benefit can be achieved with a coordinated and consistent regional vision.

- Area plans include strategies for reducing the impact of growth. Additional opportunities also exist to reduce the cumulative impacts of growth with and without the proposed project.

3.20 Construction Impacts

This section discusses the expected construction related impacts associated with the working alignments within Corridors A3S2, B3, and B4. For any of the working alignments, construction impacts generally would be of short duration (i.e., approximately 3 to 4 years) and end shortly after project completion. With a linear transportation corridor the effects of construction would not be centered in one location for the entire construction period; rather the construction related impacts would continually progress along the corridor. The expected short term impacts associated with the construction of a transportation facility along a working alignment are identified below. This section also identifies common commitments made to minimize construction impacts.

3.20.1 Transportation

Construction activities have the potential to impact travel patterns across each of the corridors and access to and from properties adjacent to the construction zone. Each of the working alignments would connect into I-55 on the west and I-65 on the east, while crossing several major roads including US 52, US 45, I-57, and US 41, as well as several state and county designated routes. Construction would require lane closures and temporary detours, which would interrupt the normal flow of traffic adjacent to the work zones and result in temporary travel delays. Motorists traveling through work areas may experience noise and fugitive dust associated with construction/demolition related operations.

Emergency service routes and access for emergency vehicles would be maintained throughout the construction period. In addition, ingress and egress would be provided for residences and businesses adjacent to the work.

3.20.2 Water Resources

Construction of various roadway features such as bridges, approaches, and culverts has the potential to impact water resources. Each of the working alignments traverse primarily rural portions of Will, Kankakee and Lake Counties and cross numerous water resources (see Section 3.9). Typical construction activities would involve various ground disturbing activities including clearing/grubbing, grading, filling, and excavation. The removal of vegetative cover and soil disturbance would increase the potential for erosion and could result in increased sedimentation in nearby streams. Any temporary structures placed in streams or rivers may increase turbidity (suspended solids) and

temporarily alter downstream hydraulics and substrate conditions. In addition, there is the potential to impact water quality in the area from pollutants, including grease and oil from construction vehicles and equipment, paint, lubricants, and construction debris. The habitat for some aquatic species could be impacted due to increased sedimentation, turbidity, or pollutant loads. The degree of impact would vary based on site specific conditions such as stream depth, velocity, and substrate.

To help protect water quality, and reduce erosion and sedimentation during construction, guidance from both the IDOT *BDE Manual* (Chapters 41 [Construction Site Storm Water Pollution Control] and 59 [Landscape Design]) (2010) and IDEM *Storm Water Quality Manual* (October 2007) will be implemented. Prior to any ground disturbing activities, appropriate soil erosion and sediment control measures will be installed near stream crossings, wetlands, and drainageways. Erosion and sediment control plans outlining the specific control measures to be implemented will be prepared as part of the contract documents with areas of special concern identified during more detailed study in the Tier Two NEPA studies.

Construction activities would comply with Title III and Title IV of the Federal CWA and be subject to the requirements of the Illinois and Indiana NPDES permit programs for construction activity. A NPDES permit is required for construction activities that result in the disturbance of 1 acre or more; see Section 3.16 for more detail. The IDOT and INDOT standard specifications, including supplemental specifications, will also be followed, as applicable.

A SWPPP will be prepared as required by the NPDES permit(s). The SWPPP will identify the BMPs to reduce or eliminate sediment, pollutants, or other construction materials from entering into the surface waters or stormwater discharges. The appropriate soil erosion and sediment control measures will be implemented throughout the construction process and will be modified as needed to reflect the current phase of construction. The soil erosion and sediment control measures will be regularly inspected and any deficiencies will be repaired or replaced, as necessary, to maintain NPDES compliance throughout construction. Disturbed areas, including streambanks, will be stabilized as soon as practical in accordance with NPDES requirements. Typical BMPs that may be used to protect water quality, reduce erosion, and limit fugitive dust associated with project construction activities include:

- Protect storm drain inlets with settling pools, fabric barriers, or block and gravel.
- Protect and stabilize exposed soils, particularly for any work within a streambank, with a temporary stabilization method such as hydraulic mulch, hydroseeding, soil binders, straw mulch, or geotextiles and erosion control blankets.
- Intercept and slow the flow of runoff from the construction site with the use of silt fences or fiber rolls.
- Install stabilized construction access points to reduce the tracking of sediment onto public roads and into waterways by construction vehicles.

- Clear all waterways as soon as practicable of false-work, temporary piling, debris, or other obstructions placed during construction operations.
- Perform construction vehicle/equipment maintenance and onsite vehicle fueling in designated areas to prevent migration of mechanical fluids/fuel into downstream drainage facilities or watercourses and keep appropriate spill kits on-site.
- Avoid storing excavated materials adjacent to the watercourses and cover appropriately.
- Store any hazardous materials, such as paint, lubricant, and engine oil, in locations so as to minimize potential impacts to surface and groundwater.
- Prohibit the discharge of pollutants such as fuels, lubricants, asphalt, sewage, wash water, or waste from concrete mixing operations, and other harmful materials into existing bodies of water.
- Minimize the removal and disturbance of vegetation adjacent to streams and waterways.

Construction activities may also impact drainage and irrigation patterns along the corridor. Drainage patterns in agricultural areas will be maintained by locating existing field tiles and providing alternative drainage routes for field tiles that are broken or removed during construction.

3.20.3 Air Quality

During construction there is the potential for short term increases in fugitive dust and equipment related particulate emissions in and around each of the corridors to impact local air quality. Construction air quality impacts would be short term in duration, occurring while construction or demolition activities are in progress and local meteorological conditions are suitable for dust dispersion. Fugitive dust is generally associated with several construction related activities including demolition, ground clearing, grading, material stockpiling, onsite movement of equipment, and the transport of materials to and from the work site. The potential for fugitive dust is greatest during dry weather periods, high wind conditions, and periods of intense work activity.

Both IDOT *Standard Specifications for Road and Bridge Construction* (January 2012) and INDOT *2012 Standard Specifications* (September 2011) include provisions for dust control during construction. Under the provisions provided by both IDOT and INDOT, the contractors will be responsible for controlling dust and air borne dirt generated by their construction activities. If determined necessary, a specific dust control plan will be developed in cooperation with the DOTs. Working together, the contractor and DOTs will develop specific types of control measures appropriate for specific situations. The types of techniques that may be used to control dust include minimization of track out soil onto nearby publicly traveled roads, reduction of vehicle speeds on unpaved surfaces, covering haul vehicles, and application of chemical suppressants or water to exposed surfaces traveled by construction vehicles. Another method of controlling

fugitive dust is to clean paved areas that have soil on them using a street sweeper or alternate method.

In addition to the measures to control dust, there are additional air quality control practices that may be implemented during construction. These construction related air quality control measures include the use of diesel emission reduction strategies, use of clean fuels, and regular maintenance of vehicles and equipment. Diesel emission reduction strategies include implementation of idling restrictions on construction vehicles and equipment and retrofitting the diesel engines on construction equipment. There are several clean fuel options that may be considered for use in construction equipment including ultra low sulfur diesel, emulsified diesel, and compressed natural gas. IDOT currently requires diesel emission reduction and clean fuel provisions for all construction contracts in Will County.³³ Through the application of appropriate emission control measures, the proposed project would not cause significant, short term PM air quality impacts.

3.20.4 Construction Noise

Construction vehicles and equipment produce noise that may impact some land uses located along each of the working alignments. The primary source of construction noise and vibration would come from trucks and heavy machinery involved in construction and demolition activities. While the majority of the corridor is designated as agricultural land, there are several areas that include land uses which would be sensitive to increased noise (see Section 3.6). Individuals residing or working adjacent to the corridor would experience temporary increases in noise levels associated with construction activities. IDOT *Standard Specifications for Road and Bridge Construction* (Article 107.35) includes construction noise restrictions that minimize or eliminate the impacts of construction noise on those receptors near work areas. Restrictions identified in the IDOT specifications include installation of adequate mufflers on all engines and engine driven equipment, regular maintenance of equipment, and designated work hours for certain activities that are located within 1,000 feet of a sensitive receptor. In addition, the INDOT Noise Policy states, "INDOT will be sensitive to local needs and may make adjustments to work practices in order to reduce inconvenience to the public."

It is anticipated that any noise and vibration impacts would be confined to normal working hours or periods generally considered to be tolerant of increased noise and vibration. Construction noise and vibration would be a temporary condition and localized in the vicinity of the work activity. No adverse noise and vibration impacts are expected during construction.

3.20.5 Solid Waste

Construction activities would generate a variety of solid wastes that would require offsite disposal. Typical waste generated during construction would include vegetation,

³³ IDOT BDE Special Provisions for Construction Air Quality - Diesel Retrofit (eff. July 2010), Diesel Vehicle Emissions Control (eff. January 2012), Idling Restrictions (eff. April 2009).

old pavement, miscellaneous debris, and other solid wastes. The disposal of construction generated waste will follow the guidelines of IDOT and INDOT standard specifications and all applicable state and federal regulations. Nonhazardous and uncontaminated debris will be salvaged or recycled to the extent practical.

The contractor will be responsible for the collection, storage, and transport of solid wastes generated during construction and demolition. In addition, the contractor will be responsible for acquiring the necessary permits and will comply with all local, state, and federal regulations for the offsite disposal of materials. All waste materials will be appropriately stored onsite following DOT specifications until it is transported for disposal or salvage. Liquid waste will be stored in secure containers. All spills or leaks will be cleaned as soon as possible and the liquid waste will be moved to a more secure container if necessary.

Contractors will be responsible for the proper handling, storage, transportation, and disposal of all regulated materials used onsite, including those materials that are classified as a hazardous waste, hazardous substance, or hazardous material under the regulations of the USEPA or the USDOT. Onsite storage of regulated materials will be minimized; if stored onsite, materials will be stored in clearly marked containers. The disposal of all special and hazardous wastes will be done in accordance with local, state, and federal requirements and regulations.

Containment measures will be installed to ensure concrete waste or washout would not enter a stormwater drainage system or watercourse. Concrete washouts will be done in facilities with sufficient volume to contain all liquid and concrete waste materials, and will include enough capacity for expected levels of rainwater.

3.20.6 Utility Services

Construction activity may be in conflict with public utilities located along each of the working alignments. In order to avoid conflicts and minimize service interruptions, construction work will be coordinated with the utility providers. For unavoidable service interruptions, all efforts will be made to limit the duration of the interruption and to provide advanced notice to those impacted. Utilities not directly impacted by the proposed project will be protected in place to ensure that they are not impacted during the construction process.

3.20.7 Energy

During the construction period, there would be an indirect consumption of energy for general construction activities and processing of materials. Potential traffic delays occurring during the construction period may result in increased energy consumption by vehicles experiencing those delays. The overall consumption of fossil fuels consumed during the construction process would correlate to the amount of construction activity, types of activity, and time needed to complete the activities (see Section 3.7).