

BUREAU OF LOCAL ROADS AND STREETS MANUAL

Chapter 10 PROJECT DEVELOPMENT – MFT and State Funds

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Chapter 10

PROJECT DEVELOPMENT - MFT and State Funds

10-1 ENVIRONMENTAL ISSUES

10-1.01 **General**

During project development, it is important for the designer to identify, understand, and avoid where possible or practical any of the environmental impacts caused by the project. Environmental surveys and coordination can be a significant portion of project development and project schedules can be affected significantly. This section has a general application to all local public agency (LPA) projects that are not federally funded when addressing environmental impacts. This includes, but is not limited to, environmental documentation, coordination, and general environmental guidance procedures for the types of projects listed below.

For additional information on special environmental surveys and procedures, see Chapter 20.

10-1.01(a) Federal Action

A LPA project, funded with MFT, TBP, State, or local funds may include a federal action. A federal action may occur when an improvement requires approval or permit through a federal agency. The following items are defined as a federal action, when the proposed improvement:

- has been determined to have an adverse effect on historic properties pursuant to Section 106 of the National Historic Preservation Act,
- requires the use of properties protected by Section 4(f) of the *Department of Transportation Act* (49 U.S.C. 303) that cannot be documented with an FHWA de minimis determination, or a programmatic Section 4(f) evaluation other than the programmatic evaluation for the use of historic bridges,
- requires the acquisition of lands under the protection of Section 6(f) of the Land and Water Conservation Act of 1965, the Federal Aid in Fish Restoration Act, the Federal Aid in Wildlife Restoration Act, or other unique areas or special lands that were acquired in fee or easement with public-use money and have deed restrictions or covenants on the property,
- requires an individual U.S. Army Corps of Engineers Section 404 permit (the improvement does not meet the conditions for a Nationwide Permit or a General Permit),
- requires an individual Illinois Environmental Protection Agency Section 401 Water Quality Certification (the improvement does not meet the conditions established by ILEPA),

- requires work encroaching on a regulatory floodway or work adversely affecting the base floodplain (100-year flood) elevations of a water course or lake, pursuant to Executive Order 11988 and 23 CFR §650 subpart A, or
- may affect, and is likely to adversely affect federally listed species, or designated critical habitat, or projects with impacts subject to the conditions of the *Bald and Golden Eagle* Protection Act.

10-1.01(b) Non-Federal Certification / Project Status

Form <u>BLR 10100</u> is required to be submitted to the District BLRS prior to the advertisement in IDOT's Notice to Contractors Bulletin. The District BLRS will acknowledge receipt of Form <u>BLR 10100</u>. A copy will be placed in the project file except for locally funded projects with no federal action. For these projects, Form <u>BLR 10100</u> may be used to document environmental review. However, this form will not be required to be submitted to the District BLRS prior to advertisement.

10-1.01(c) Locally Funded Projects with No Federal Action

Locally funded projects not requiring IDOT's review or approval or not requiring federal action are highly encouraged to follow IDOT's policies and procedures as set forth in this chapter. The LPA with jurisdiction within the project limits is still required to fulfill their obligations under state law, and to obtain signoffs from any pertinent local or state agency given oversight of an environmental resource in the project vicinity. A LPA or their consultant may request IDOT's assistance in the project development to conduct environmental surveys and identify impacts to these environmental resources.

If a LPA decides not to seek IDOT's assistance with an environmental survey, the LPA or consultant should clearly label all correspondence to other agencies to clarify that the project is locally funded and will not be processed by IDOT. A copy of the cover letter should be sent to the District BLRS.

10-1.01(d) Locally Funded Projects Requiring IDOT Review / Approval or Require Federal Action

Locally funded projects with items requiring IDOT's review / approval or require federal action must follow IDOT policies and procedures for those items as set forth in this chapter and Chapter 20. All other aspects of the project will follow Section 10-1.01(c).

10-1.01(e) MFT, TBP, and State Funded Projects

LPA projects funded with Motor Fuel Tax (MFT), Township Bridge Program (TBP), or State funds are required to follow IDOT policies and procedures as set forth in this chapter.

Federally Funded Projects or Requiring Federal Action 10-1.01(f)

LPA projects funded with federal funds or requiring a federal action are required to follow IDOT policies and procedures as set forth in this chapter and Chapter 20.

10-1.02 **Environmental Survey Requests (ESR)**

10-1.02(a) General

Environmental Survey Requests (ESR) for cultural, biological, wetland and special waste resources are required for all MFT, TBP, and State funded projects.

See <u>Section 20-2</u> for Environmental Survey Requests.

10-1.02(b) **Ecological Compliance Assessment Tool (EcoCAT)**

For locally funded projects without the Illinois Department of Transportation's (IDOT) review and approval, the LPA shall use EcoCAT and pay any fee established by the Illinois Department of Natural Resources (IDNR) to comply with the Illinois Endangered Species Protection Act (520 ILCS 10/11(b)), the Illinois Natural Areas Preservation Act (525 ILCS 30/17), and the Interagency Wetland Policy Act of 1989 (20 ILCS 830/1 et seq.).

Copies of the consultation termination letter or consultation closed report from EcoCAT shall be submitted to the District BLRS.

Section 6(f) Land Conversion Request 10-1.03

See Section 20-4 for Section 6(f) Lands.

10-1.04 **OSLAD Land Conversion Request**

10-1.04(a) **Legal Authority**

The Open Space Lands Acquisition and Development (OSLAD) grant program is a State funded grant program authorized by the Open Space Lands Acquisition and Development Act, (525 ILCS 35/1 et seq). The compliance procedures for the OSLAD grant program are in the Open Space Lands Acquisition and Development Grant Program, 17 Illinois Administrative Code (IL Admin Code) 3025.

10-1.04(b) **Applicability**

Compliance procedures for proposed conversion of OSLAD assisted lands are applicable to all projects proposing conversion regardless of project type or funding source.

10-1.04(c) Procedures

17 IL Admin Code 3025 incorporates by reference essentially the same compliance procedures as required for the Land and Water Conservation Fund (LAWCON) grant program. However, because the OSLAD grant program is State funded, concurrence of the National Park Service (NPS) is not required for proposed conversion of OSLAD assisted lands. Special procedures are required when lands that have OSLAD grant program funds involved in their purchase or development and will be converted to uses other than public outdoor recreational use. The following procedures apply:

- 1. <u>Coordination</u>. Early and ongoing coordination with the official having jurisdiction over the OSLAD assisted land and the IDNR should be diligently pursued.
- Report Requirements. When a project proposes the use of land in which OSLAD funds have been involved in its purchase or development, the Director of IDNR must approve conversion of the land to other than public outdoor recreational use; however, a special report is not required.
- 3. <u>Conversion Request.</u> Requests to convert OSLAD assisted properties in whole or in part to other than public outdoor recreational uses must be submitted to IDNR in writing. IDNR will approve conversions only upon the substitution of replacement property having equal fair market value and comparable outdoor recreational usefulness, quality, and location. LPAs should submit a request for OSLAD land conversion approval to the IDNR Division of Grant Administration, as applicable. Formal review periods for conversion requests are not specified in the OSLAD regulation.

IDNR regulations do not specify information requirements for conversion requests. However, the information specified in the Section 6(f) requirements to support fair market value and comparable outdoor recreational usefulness, quality, and location should serve as a guide for the items to address in preparing OSLAD conversion requests; see Section 20-4.

10-1.05 <u>Wetland Compliance Procedures</u>

10-1.05(a) Legal Authority

The Interagency Wetland Policy Act of 1989, (20 ILCS 830/1 et seq.) and the Implementation Procedures for the Interagency Wetland Policy Act, (17 IL Admin Code 1090) address the State policy for wetlands. IDOT and IDNR have adopted a Wetlands Action Plan to establish compliance with the goals of the Interagency Wetland Policy Act of 1989 and the IL Admin Code. (See Appendix C of the Bureau of Design and Environment (BDE) Manual).

10-1.05(b) Applicability

The *Interagency Wetland Policy Act* and the *IL Admin Code* apply to all State and IDOT pass-through funded projects involving possible wetland impacts.

See Section 20-8 for wetland procedures.

10-1.06 <u>Historic Preservation Compliance</u>

10-1.06(a) Legal Authority

The following legal authority regulates or influences the policies and procedures for historic preservation compliance documentation:

- The Illinois Historic Preservation Act (20 ILCS 3410/1 et seq.),
- The Illinois State Agency Historic Resources Preservation Act (20 ILCS 3420/1 et seq.), and
- The Rules for Review of State Agency Undertakings (17 IL Admin Code 4180).

10-1.06(b) Applicability

This Section applies to all MFT, TBP, and State funded projects that do not involve federal funds or are not regulated by a federal agency must comply with these *Acts* and the *IL Admin Code*.

If a federal funds are used or a federal action is required, see <u>Section 20-5</u> for historic preservation compliance.

10-1.06(c) Definitions

The following definitions apply to historic preservation:

- 1. Adverse Effect. The destruction or alteration of all or part of an historic resource; isolation or alteration of the surrounding environment of an historic resource; introduction of visual, audible, or atmospheric elements that are out of character with a historic resource or which alter its setting; neglect or improper utilization of an historic resource that results in its deterioration or destruction; or transfer or sale of an historic resource to any public or private entity without the inclusion of adequate conditions or restrictions regarding preservation, maintenance, or use.
- 2. <u>Area of Potential Effects</u>. The geographic area or areas within which an undertaking may cause changes in the character or use of historic properties, if these properties exist.
- 3. <u>Comment.</u> The written finding by the Director of the effect of a State undertaking on an historic resource.
- 4. <u>Committee</u>. The Historic Preservation Mediation Committee.
- 5. <u>Director</u>. The Director of the Illinois Department of Natural Resources (IDNR) or their designee, who serves as the State Historic Preservation Officer (SHPO).
- 6. Historic Resource. Any property that is either publicly or privately held and which:
 - is listed in the National Register of Historic Places (National Register),

- has been formally determined by the Director to be eligible for listing in the National Register as defined in 16 U.S.C. 470(f),
- has been nominated by the Director and the Illinois Historic Sites Advisory Council for listing in the National Register,
- meets one or more criteria for listing in the National Register, as determined by the Director, or
- is listed in the Illinois Register of Historic Places.
- 7. <u>Illinois State Archaeological Survey (ISAS).</u> The entity that conducts all archaeological investigations for IDOT projects, in accordance with an intergovernmental agreement between IDOT and the University of Illinois at Urbana-Champaign.
- 8. <u>State Historic Preservation Officer (SHPO)</u>. The official appointed or designated pursuant to Section 101(b)(1) of the *National Historic Preservation Act* to administer the State historic preservation program or a representative designated to act for the SHPO. The SHPO for Illinois is thru the <u>State Historic Preservation Office</u> within IDNR.
- 9. <u>Undertaking</u>. Any project, activity, or program that can result in changes in the character or use of historic properties, if any historic property is located in the area of potential effects. The project, activity, or program must be under the direct or indirect jurisdiction of a State agency or licensed or assisted by a State agency. An undertaking includes, but is not limited to, an action that is:
 - directly undertaken by a State agency,
 - supported in whole or in part through State contracts, grants, subsidies, loan guarantees, or any other form of direct funding assistance, or
 - carried out pursuant to a State lease, permit, license, certificate, approval, or other form of entitlement or permission.

10-1.06(d) Development

The following procedures will apply:

1. Resource Identification. As early as practical in the development of a proposed highway project, actions will be initiated by the LPA, in cooperation with the District BLRS and BDE, to identify historic resources within the area that the project may affect. These resources may be identified through a variety of sources (e.g., listings of the National Register properties, eligible properties published by the Keeper of the National Register, local inventories of historic sites, coordination with SHPO or local historical groups, field investigations).

An agreement, currently in effect with SHPO, allows BDE to issue an "in-house" clearance on historic properties for certain project types without the need for field surveys or project-specific coordination with SHPO. For these projects, the dated "Cleared for Letting" box on the Project Monitoring Application (PMA) Cultural Resources screen constitutes the necessary documentation of compliance with the State historic preservation requirements. For project types not covered by SHPO agreement, compliance must be established in accordance with the paragraphs that follow in this Section.

Structures at the time of construction, which are 50 years or older must be submitted for further review for historic significance. LPAs are encouraged to submit structures 40 years or older at time of design to avoid potential delays.

- 2. <u>Documentation</u>. Upon completion of the actions for identification of historic resources, BDE will forward documentation of the results to SHPO. The documentation will include a brief description of the proposed project, a map, a description of the project location, current photographs of above ground structures more than 50 years old, and, as appropriate, results of historic surveys and archaeological surveys and testing. The transmittal will indicate that the documentation is being submitted pursuant to the *Illinois State Agency Historic Resources Preservation Act* and Rules for Review of State Agency Undertakings, 17 IL Admin Code 4180.
- 3. <u>Documentation Review</u>. SHPO will review the documentation submitted and will advise BDE if additional information is needed. In accordance with 17 IL Admin Code 4180.250(d), the project may proceed if SHPO fails to provide a response within 45 calendar days after the date of completed documentation (i.e., sufficient documentation to enable SHPO to apply the National Register eligibility criteria to any historic properties identified in the project area).
- 4. No Historic Resources Present. If SHPO determines that no historic resources exist within the area of potential effects, it may provide a response to that effect within 30 calendar days of the receipt of complete documentation for the project. Upon receipt of a written response from SHPO indicating that no historic resources exist in the area of potential effects, the LPA will be deemed to have met its compliance responsibilities for the project under the *Illinois State Agency Historic Resources Preservation Act*.
- 5. <u>Findings on Effect</u>. If SHPO determines that historic resources do exist within the area of potential effects, it may issue one of the following findings: no effect, no adverse effect, no adverse effect with conditions, or adverse effect. SHPO should issue its finding within 30 days of the receipt of complete documentation.
- 6. <u>No Effect or No Adverse Effect</u>. If SHPO issues a finding that the project will have no effect or no adverse effect on historic resources, upon receipt of the written finding, the LPA will be deemed to have fulfilled its compliance responsibilities for the project under the *Illinois State Agency Historic Resources Preservation Act*.

- No Adverse Effect with Conditions. If SHPO issues a no adverse effect finding with conditions, the LPA will be deemed to have fulfilled its compliance responsibilities for the project under the *Illinois State Agency Historic Resources Preservation Act* once it has met the stipulated conditions and has provided written notification to that effect to the District BLRS. The District BLRS will forward the compliance notification to SHPO through the Central BLRS (CBLRS) and BDE.
- 8. Adverse Effect. If SHPO issues an adverse effect finding, or if the conditions stipulated for a finding of no adverse effect cannot be met, the LPA and IDOT will initiate consultation with SHPO to examine and discuss alternatives to avoid, minimize, or mitigate the identified adverse effects. (If any of the historic resources involved are listed in the Illinois Register of Historic Places, the requirements of the Illinois Historic Preservation Act will apply. Any specific actions necessary for compliance with that Act will be identified and addressed through the consultation with SHPO.) In addition to the LPA, IDOT, and SHPO, parties to the consultation may include other State agencies, local governments, local not-for-profit groups, and other parties of interest, as agreed to by the LPA, IDOT, and SHPO. As a part of the consultation process, the LPA, IDOT, and SHPO may agree to call a public information meeting to obtain comments concerning the project and its effects on historic resources. If it is agreed that a public information meeting will be held for the project, the LPA must provide notice of the meeting at least 30 calendar days before the scheduled meeting date. The notice will be placed in a newspaper of general circulation in the project area and include the following information:
 - date, time, and place of meeting,
 - purpose of the meeting,
 - description of the project,
 - description of the historic resource involved, and
 - the procedure for offering written or oral testimony.

The LPA will designate an officer to conduct the public meeting and who will be responsible for recording the proceedings and providing a written transcript to SHPO within 7 calendar days after the public meeting. See Section 20-3 for Section 4(f) and Section 20-5 for Section 106 coordination procedures.

9. <u>Elimination of Adverse Effect</u>. After consideration of the information collected during the consultation process, if the LPA, IDOT, and SHPO agree upon a feasible and prudent alternative that eliminates the adverse effect, SHPO will provide written notification indicating that implementation of the agreed alternative will result in no adverse effect on historic resources. Upon receipt of the written confirmation of the agreed alternative from SHPO, the LPA will be deemed to have met its compliance responsibilities for the project under the *Illinois State Agency Historic Resources Preservation Act*. If the LPA subsequently determines that changes are necessary in the agreed alternative which could result in adverse effects on historic resources, consultation with SHPO must be reopened.

- 10. Memorandum of Agreement for Adverse Effect. After consideration of the information collected during the consultation process, if the LPA, IDOT, and SHPO agree on a feasible and prudent alternative that minimizes or mitigates adverse effects, or if they agree that there are no feasible and prudent alternatives to reduce the adverse effects, SHPO will prepare a Memorandum of Agreement (MOA) describing the alternative or stating the finding. IDOT and SHPO will be the principal signatories to MOA. Other consulting parties will have the opportunity to concur with MOA if they are responsible for carrying out any of the terms of the agreement. Upon execution of MOA and fulfillment of its terms, the LPA will be deemed to have met its compliance responsibilities for the project under the *Illinois State Agency Historic Resources Preservation Act*.
- 11. <u>Failure to Execute MOA</u>. If the LPA, IDOT, and SHPO fail to agree upon the existence of a feasible and prudent alternative and cannot execute the MOA, see <u>Section 26-5</u> of the *BDE Manual* for guidance.

10-1.07 <u>Threatened and Endangered Species/Natural Areas Review</u>

10-1.07(a) Legal Authority

The Illinois Natural Areas Preservation Act (<u>525 ILCS 30/17</u>), Illinois Endangered Species Protection Act (<u>520 ILCS 10/11(b)</u>), and the Consultation Procedures for Assessing Impacts of Agency Actions on Endangered and Threatened Species and Natural Areas (17 IL Admin Code 1075) require consultation with IDNR.

10-1.07(b) Applicability

The above *Acts* and the *Administrative Code* apply to all actions funded, authorized, or performed by the State and LPAs.

See Section 20-9 for Threatened and Endangered Species/Natural Areas Review

10-1.08 Evaluation of Farmland Conversion Impacts

10-1.08(a) Legal Authority

The following legal authority regulates or influences the procedures on farmland conversions:

- The Farmland Preservation Act (505 ILCS 75/1 et seq.), and
- The Farmland Preservation Act (8 IL Admin Code 700).

The following documents also influence the procedures on farmland conversions:

- IDOT's Agriculture Land Preservation Policy (see Appendix A of the BDE Manual), and
- Cooperative Working Agreement between the Illinois Department of Agriculture (IDOA) and IDOT regarding Farmland Preservation (see Appendix A of the BDE Manual).

10-1.08(b) Definitions

The following definitions apply:

- 1. <u>Agricultural Land or Farmland</u>. All land in farms including cropland, hayland, pastureland, forestland, corrals, gardens, and orchards; land used for farmsteads, buildings, barns, and machinery sheds; adjacent yards or corrals, pens, waste lagoons, feedlots, farmstead or feedlot windbreaks, grain bins, lanes for farm residences and fields, field windbreaks, ponds, commercial feedlots, greenhouses, nurseries, broiler facilities, and farm landing strips.
- 2. <u>Agricultural Land Conversion</u>. The taking of land directly out of agricultural production or displacing it by another use and not returning it to production.
- 3. <u>Land Class</u>. One of eight classes of land in the Land Capability Classification System (Handbook 210, issued September 1961, and approved for reprinting January, 1973) as developed by the Natural Resource Conservation Service (NRCS), United States Department of Agriculture. Incorporation by reference does not include any future editions or amendments. The land capability classification shows, in a general way, the suitability of soils for most kinds of field crops. The soils are grouped according to their limitations for field crops, the risk of damage to the soil if they are used for crops, and the way they respond to management.
- Modern Soil Survey. A document published after 1965 by NRCS containing a
 description of county's soils, maps showing their distribution, and discussions
 concerning their behavior and adaptability.

10-1.08(c) Applicability

Coordination with IDOA is required for highway and bridge projects funded in whole or in part with MFT, TBP, State funds and Federal-aid projects, and which require additional right-of-way, unless any of the following apply:

- The project is located within the boundaries of an incorporated municipality,
- The project is nonlinear (e.g., bridge or intersection improvements) and requires acquisition of no more than 10 acres (4 hectares) of land. When the areas of right-of-way for the project approaches the 10 acres (4 hectare) threshold for coordination and the project will likely involve additional acquisition for borrow or mitigation, the project should be coordinated with IDOA. Anticipated sites for borrow and mitigation should be indicated if known, or
- The project is linear; requires acquisition of no more than 3 acres of land per project mile (0.75 ha per project kilometer), (area acquisition divided by project length); and does not involve alternative alignment(s) in which the right-of-way diverges from, and is not contiguous to, the existing right-of-way. When the amount of right-of-way for the project approaches the threshold for coordination and the project will likely involve additional acquisition for borrow or mitigation, the project should be coordinated with IDOA.

If individual coordination is not needed because of the above exemptions, appropriate documentation should be including in the project file. In addition, the following statement should be included in the project report or environmental documentation:

"The impact of this project on farmland conversion has been evaluated in accordance with the September 4, 1984 letter from the U.S. Soil Conservation Service (SCS). Since the project will convert less than three acres per mile and the conversion will not result in more than minor impacts, further coordination with SCS will not be necessary."

10-1.08(d) Procedures

The following procedures will apply:

1. <u>General</u>. IDOA is especially interested in projects that consider more than one alignment, each of which has different agricultural impacts and different amounts of farmland conversion. Projects with multiple alignments can be as localized as those developed to eliminate offset intersections or as widespread as those for a new freeway connecting distant cities. In all cases, however, only that information which is likely to influence a choice among alternatives should be gathered and considered. For 3R/spot improvements with multiple alignments, soils information should be included when modern soil surveys are available. If modern soil surveys are not available, the remaining coordination information should be forwarded to IDOA. If it is determined that soils information is necessary, IDOA will normally acquire this information.

Where a proposed project will convert farmland to non-farm use, consider measures that could mitigate the scope and impacts of the conversion. In cases where coordination with IDOA is required, this coordination will assist in the identification and evaluation of possible mitigation measures. In all other instances, the LPA should ensure that measures to minimize farmland conversion impacts are appropriately identified and considered.

The LPA will send the project information to the IDOA for review should be addressed as follows:

Illinois Department of Agriculture Bureau of Land and Water Resources PO Box 19281 State Fairgrounds Springfield, IL 62794-9281 When IDOA has completed its review, it will respond in writing to the agency that submitted the information. Early and complete submittals will generally result in a timely response. Should IDOA response contain substantive comments or raise controversial issues, these comments and issues should be addressed to the extent that the information is available, and a response forwarded expeditiously to IDOA. Remaining comments should then be addressed as soon as the necessary information becomes available. Additional follow-up coordination may be required to determine if mutually satisfactory solutions exist prior to assuming an IDOT position at a hearing or in draft and final environmental documents.

The discussions below identify specific procedures for projects involving new construction or reconstruction, and for 3R projects. If coordination with IDOA is necessary and it is unclear whether the project is 3R or reconstruction, the information required for a 3R project should be provided to IDOA as early in project development as practical. When offered an early opportunity to review project information, IDOA can make an initial determination of its degree of interest and request follow-up information, if appropriate, without delaying the project unduly.

2. New Construction or Reconstruction Projects. When coordination with IDOA is required, the timing of the coordination and the information provided is important. When new construction or reconstruction is involved, it is appropriate, shortly after the location study has been initiated, to notify IDOA that a project is being studied and that more detailed information will follow as it is developed. On major projects, it is desirable to maintain contact with IDOA so that potential problems can be identified early to minimize any delays.

On new construction and reconstruction projects, provide IDOA with the description, purpose, and scope of each proposed project together with the following information for each alternative:

- the location, including proposed right-of-way lines if the scale permits, on all the following maps:
 - o a general county highway map,
 - o a plat map, and
 - o a modern soil survey map (if available).
- total land area in acres (hectares) required for additional right-of-way, including frontage and access roads,
- the number of acres (hectares) of each USDA Land Capability Classification (Land Classes I - VIII) and Soil Type (including index number) proposed for acquisition, if applicable,
- identification of all soil types occurring within the proposed right-of-way and the number of acres (hectares) of each soil type, if applicable. Note: Land Class and soil type are obtainable from a county's modern soil survey which may be obtained from a local NRCS field office.

- indication of each alternative's conformance with the appropriate zoning ordinance and comprehensive land-use plan (i.e., regional, county, city) regulating the project area, if applicable,
- identification of the following impacts that may be associated with the implementation of the project, as applicable:
 - o number of farm units and owners affected,
 - number of farm parcels severed,
 - number of farm unit operations severed,
 - number of landlocked parcels created,
 - o miles (kilometers) of adverse travel created for each affected farm unit,
 - effects of the proposal upon existing farm drainage systems (surface and subsurface),
 - o acres (hectares) of farmland required for borrow and location of the borrow site (depicted on a soil survey and plat map), if available, and
 - erosion control techniques to be used on the disturbed area during and after project construction,
- a brief discussion of all measures included to mitigate any adverse impacts identified above, and
- indication that farmland conversion has been minimized and other appropriate mitigation included for the selected alternative consistent with the operational and safety requirements applicable to the project.
- 3. <u>3R Projects.</u> When coordination is necessary, and the proposed improvement primarily involves 3R work on existing alignment, it is appropriate, shortly after location and/or environmental studies have been initiated, to notify IDOA that a project is being studied and to provide the following information:
 - description, purpose, and scope of the proposed project,
 - map depicting the location of the project, a county highway map is acceptable,
 - total land area in acres (hectares) required for additional right-of-way and a brief description of its nature (e.g., a 10 ft (3 m) strip on north side, a 3 acre (1 hectare) parcel to flatten curve at location noted on map), and
 - indication that farmland conversion has been minimized and other appropriate mitigation included for the selected alternative consistent with the operational and safety requirements applicable to the project.

10-1.09 Special Waste

Special waste screening is required for MFT, TBP, and State funded projects. The procedure is discussed in the Section 20-12.

10-1.10 Groundwater

10-1.10(a) Introduction

The *Illinois Environmental Protection Act* (415 ILCS 5/1 et seq.), the *Illinois Groundwater Protection Act* (415 ILCS 55/1 et seq.), and parts of the *IL Admin Code* impose requirements for protection of the State's groundwater resources to ensure their availability for beneficial purposes.

In the development of proposed LPA highway projects, potential impacts to groundwater resources consideration should be given to implementing practical measures for avoiding, minimizing, and mitigating adverse project impacts to those resources, see <u>Section 26-22</u> of the *BDE Manual*.

10-1.10(b) Sole Source Aguifers (SSA)

On March 11, 2015 the U.S. Environmental Protection Agency (USEPA) designated a portion of the Mahomet Aquifer system as a sole source aquifer (SSA) for Illinois. The *Safe Drinking Water Act* of 1974 gives the USEPA authority to designate all or part of an aquifer as a "sole source" if contamination of the aquifer would create a significant hazard to public health and there are no physically available or economically feasible alternative sources of drinking water to serve the population that relies on the aquifer. A significant hazard to public health is defined as the level of contaminants in an aquifer would exceed National Primary Drinking Water Standards or exceed Federal, Tribal or state public health advisory levels for currently unregulated contaminants, or violate the intent of EO 12088, "Federal Compliance with Pollution Control Standards." This designation authorizes USEPA review of federally funded projects to assess potential for contamination of the aquifer system.

LPA projects which do not include federal funds or federal action do not require any coordination with the USEPA. However, LPA's are encouraged to coordinate with the USEPA; if their project would have a potential impact to the Mahomet Aquifer. Further information may be found in <u>Section 26-22</u> of the *BDE Manual*.

LPA projects which do include federal funds or federal action, see Section 20-13.

10-2 PROJECT STUDIES/REPORTS

Section 10-2 provides guidance on the preparation of various project studies and reports for LPA MFT, TBP, and State funded projects.

10-2.01 Information Sources

Engineering investigations must determine if the proposed highway improvement satisfies the need for safe, economical, and efficient transportation and provides other relevant benefits (e.g., traffic benefits, public services, reduction of crashes, pedestrian facilities, transit considerations). The following sections identify informational sources that are important in establishing the need for the highway improvement.

10-2.01(a) Functional Classification

<u>Section 27-3</u> discusses the application of the functional classification system in Illinois for geometric design applications. All highway improvements must be compatible with the functional classification of the highway under design. A highway's functional classification and highway type are important factors in determining which design policies and criteria to use and for establishing programming priorities for new construction, reconstruction, or 3R-type improvements. <u>Five Year Classification Maps</u> are available from the IDOT Office of Planning and Programming (OPP).

10-2.01(b) Highway Data Bank

OPP is responsible for maintaining the Illinois Highway Information System (IHIS), which includes the <u>Roadway Information and Procedure Manual</u> (IRIS) and <u>Structure Information and Procedure Manual</u> (SIP). The LPA may obtain computer generated route log listings for the State routes and local roads and streets from OPP. The available data is dependent on the highway system. The following major items may be available:

- administrative classification,
- physical dimensions,
- roadway characteristics,
- traffic data,
- geometric data,
- pavement cross sections, surface type, drainage, and shoulder conditions, and
- bridge inspection and appraisal data.

A complete listing of items is shown in the indices of the *Illinois Highway Information System* - Roadway Information and Procedure Manual and the Structure Information and Procedure Manual.

10-2.01(c) Current and Projected Traffic Volumes

Under the general guidance of OPP, the districts count and classify existing traffic volumes on the State highway system and some local roads and streets. OPP also maintains data used to project future traffic volumes (e.g., annual traffic growth factors). The following traffic data may be available from the District:

- current hourly and daily traffic volumes,
- current turning movement volumes,
- traffic projections and assignments for new facilities, and
- traffic projections for future design years on existing facilities.

Similar data, developed in conjunction with the Urban Transportation Planning Process, also may be available from Metropolitan Planning Organizations (MPOs). Because the design of a project is dependent upon the projected design hourly volumes, these figures must be carefully examined and questioned before using for design purposes. Improper traffic projections can result in the construction of unnecessary or inadequate highway improvements.

10-2.01(d) Crash and Skid Reduction Analyses

During the preliminary study, identify areas on the Five-Percent Report and computer-generated listings that report supplemental data for high-crash spots and roadway sections, statewide average crash rates, and all crash patterns (e.g., fixed objects) at various sites throughout the project. The Bureau of Safety Programs and Engineering (BSPE) regularly provides crash information upon request. The following is a partial listing of available crash information:

- Five-Percent Report and computer-generated listings that report supplemental data for high-crash spots and roadway sections,
- county crash summaries,
- municipal crash summaries,
- reports which can be generated for individual locations, selected geometric feature, or type of crash:
 - Five-Percent Report,
 - Intersection Profile,
 - Segment Profile,
 - Location Summary,
 - Crash One-Line Listing,
 - Intersection Summary,
 - Cross Tab
 - Time of Day by Severity,
 - Crash Type by Severity,

- Conditions by Severity,
- Time of Day by Day of Week,
- Roadway Description,
- Roadway Summary, and
- Animal/Vehicle Collisions.
- statewide average crash rates (distributed annually for comparison with existing project crash rates for proposed improvement justification),
- collision diagram printouts for roads and streets on the local system when the LPA is part of the Local Accident Reference System (LARS) and for intersections with State highways. Collision diagram computer plots also may be requested for intersections,
- individual crash reports for above locations, upon request from a microfilm or imaging retrieval system,
- summaries of Motor Vehicle Traffic Crashes and statewide average percentages by type
 of collision, light condition, and road surface. These percentages may be compared with
 project percentages from collision diagram summary sheets to help identify overrepresented crash patterns.

10-2.01(e) Airport Coordination

Highway and bridge improvements within 2 miles (3.2 km) of publicly owned airports, within 1 mile (1.6 km) of privately-owned airports open to the public, and within 0.5 miles (0.8 km) of restricted-landing areas require coordination with the IDOT's Office of Intermodal Project Implementation, Bureau of Aeronautics. These coordination requirements concerning distance to an airport are in conjunction with height obstructions of 15 ft (4.6 m) or more above the roadway. In addition, the LPA must coordinate with the Bureau of Aeronautics for all realignments and construction improvements on new location regardless of the height of obstruction.

For those airports that are publicly owned, coordination with the Federal Aviation Administration (FAA) is required. Contact the Bureau of Aeronautics prior to communicating with FAA.

Airport clearance requirements could affect the controlling elevations and locations of pavements and structures. Discuss the necessary construction equipment (e.g., cranes, pile drivers) and highway appurtenances (e.g., signs, lighting, traffic signals, utility poles) that might affect airspace clearances. During the project's development, also contact the local airport authorities to ascertain that any proposed airport expansion plans will not cause the highway improvement to conflict with future airspace clearances. Any required vertical clearance permits must be obtained prior to plans, specifications, & estimates (PS&E) approval. Airspace clearances are defined in the Aviation Safety (92 IL Admin Code 16).

10-2.01(f) Railroad Coordination

When a project is involved with a railroad grade crossing or separation, coordination with the affected railroad should take place at an early stage to determine if any improvement is necessary to the railroad facility and to determine funding responsibilities for the improvement. Before the railroad work can begin, it will be necessary to prepare a railroad agreement or to obtain the approval of the Illinois Commerce Commission (ICC).

<u>Section 5-6</u> discusses when a railroad agreement is required, agreement format, and procedures for preparing and executing the agreement. Additionally, <u>Section 5-6</u> provides guidance on petitions before ICC and ICC Stipulated Agreements.

During preliminary engineering, the following will occur:

- 1. <u>General</u>. In most instances, the LPA is responsible for the preparation of the plans for new construction, modernization, or reconstruction of highway structures, drainage facilities, and the approaches. Occasionally, the railroad will prepare plans for a structure carrying the railroad over a local highway.
 - All plans, specifications, and special provisions prepared by either the LPA or the railroad are subject to approval by the other party, and no changes will be allowed by either party without the consent in writing of the other party.
- 2. Railroad Structures Designed By or For the Railroad. This applies to a railroad structure over a local highway or street. When the railroad elects not to perform the structure design with its own forces and the LPA does not have the forces available to perform the design within the required schedule, a consultant may be employed to perform the design. Typically, the LPA will select a suitable consultant from a list of consultants approved by the railroad, but must follow the requirements in Section 5-5. The design work is then performed by agreement between the LPA and the consultant with the railroad's approval.
 - In certain cases, where justified, the railroad will select a consultant to design the structure and enter into an agreement with the consultant for the design. The selection of the consultant and the terms, including fee, is subject to the LPA's approval.
 - In those projects where Federal-aid funds are anticipated for reimbursing the railroad's consultant for the cost of preparing the plans for a structure, the preliminary engineering cost must be programmed before IDOT can authorize the preparation of such plans.
- 3. <u>Preliminary Engineering Portion of Railroad Force Account Work</u>. The railroad will generally perform the preliminary engineering with its own forces for the railroad force account work covered by construction agreements between the LPA and the railroad.
 - In special instances (particularly warning device system design), the railroad may use the services of a consultant retained by the railroad to perform the preliminary engineering.

10-2.02 <u>Intersection Design Studies</u>

10-2.02(a) General

An Intersection Design Study (IDS) is a graphic representation of a proposed treatment for the development or improvement of an intersection facility. It is based on an analysis of traffic needs and an evaluation of physical and economic elements at the intersection site. Chapter 34 provides the design criteria for intersections.

The LPA will be required to prepare an IDS for intersections if any of the following conditions apply:

- in a rural area when both roads have a current 30th maximum design hourly volume (DHV) of 300 vehicles or more,
- in a rural area when a local road with a current DHV of 300 or more intersects a State marked route.
- in an urban area when both streets have a current DHV of 400 vehicles or more,
- in an urban area when a local street with a current DHV of 400 or more intersects a State marked route,
- when additional lanes and/or channelization is proposed on one or both routes, or
- any intersection designed as a roundabout.

The above conditions apply to all intersections including the terminus of a project.

<u>Chapter 14</u> of the *BDE Manual* provides guidelines for the preparation of an IDS and the data that is required to be documented. The designer should also consider the following:

- if an existing intersection would normally require an IDS, but it is found to be adequate for the design year traffic, a capacity analysis is considered adequate,
- for any intersection where additional turning lanes or channelization are proposed, and traffic volumes are less than those shown above, a capacity analysis will not normally be required,
- for warrants on traffic signals, see <u>Chapter 39</u>.

10-2.02(b) Processing

All IDSs and major geometric changes for MFT, TBP, and State funded projects should be reviewed by the District geometrics unit, as a best practice

10-2.03 NBIS Length / Bridge Condition / Hydraulic Report

10-2.03(a) NBIS Length

Based on the definition of a bridge by the American Association of State Highway and Transportation Officials (AASHTO) and as given in the National Bridge Inspection Standards (NBIS), the NBIS length is 20.0 ft (6.1 m).

10-2.03(b) Bridge Condition Report

The Bridge Condition Report (BCR) summarizes the findings of the investigation of a bridge and its components. It is used to establish the scope of work on the extent of repair, replacement (partial or total), and widening or other improvements. The BCR allows the LPA and IDOT to determine the most cost-effective method of correcting the reported structural, geometric, or hydraulic deficiencies and for restoring a bridge to a structurally adequate and functionally serviceable condition.

A BCR is not required for total structure replacement for projects using non-federal funding.

A BCR is required for all repair projects affecting the load carrying capacity of the structure (an abbreviated BCR will be allowed), rehabilitation and widening projects or for which a Preliminary Bridge Design and Hydraulic Report (PBDHR) must be submitted for IDOT approval. This includes not only projects using MFT, TBP, or State funds, but also bridges of NBIS length or greater, also see Sections 10-1.01(c) and (d). All rehabilitation and widening projects require an in-depth report and is to include color photos. The following items are necessary for an in-depth report:

- 1. Introduction. The introduction should provide the reason for the report.
- Administrative and Geographical Information. The report should include detailed administrative and geographical information (e.g., facility carried, feature crossed, age of bridge).
- 3. <u>Inspection Information</u>. Include what type of inspection was performed (e.g., visual, testing type, equipment), results of inspection, degree of impairment to structure, and any structural deficiencies. Precast prestressed deck beams should be sounded and scaled as part of the inspection.
- 4. <u>Description</u>. The report should include a description of the physical condition of the bridge and the deficiencies that require correction.
- 5. <u>Verification</u>. The ability and capacity of the existing structure for reuse should be verified and documented. This should include at a minimum, a statement that the structure is adequate for the required and stated design load. In addition, for structures to remain over waterways, the BCR should verify the adequacy of the structure for scour.
- 6. Recommendations. Note all recommended repairs and any methods of repair.
- 7. <u>Justification</u>. Provide justification for any proposed work.

- 8. Photos. Include color photos of deficient areas.
- 9. Asbestos Determination (Form BLR 10220). Form BLR 10220 is required when the scope of work disturbs the bridge deck or wearing surface, if not previously submitted.
- 10. Master Structure Report (S-107). This report is output from the Structure Information Management System (SIMS). The current S-107 should also be included with the PBDHR submittal.

For structures on 3R and resurfacing only projects not requiring any rehabilitation and where change in surface thickness is 0 in. or greater, provide color photos and a description of the structures as described in the Master Structure Report, as well as Form BLR 10220. These structures should preferably be in good condition (structure condition rating of 5 or greater). A formal BCR will then not be required for these structures. However, a load rating analysis, with submittal of Form BBS 2795 and Form BLR 06510, will be required, as well as other materials described in Section 4.2 of the Structural Service Manual.

When the scope of the anticipated rehabilitation work is limited to bridge deck and minor structural repairs (without need for a widening or replacement), only the preparation of a Bridge Condition Report for Deck Repair is required. Because the geometrics of the structure will not be altered, this type of work normally will not require a Type, Size, and Location (TS&L) submittal as discussed in Section 10-2.03(b). However, a load rating analysis, with submittal of Form BBS 2795 and Form BLR 06510 will be required, as well as other materials described in Section 4.2 the Structural Service Manual.

Submit the required number of copies of the BCR to the District BLRS. The District BLRS will forward the BCR to the Local Bridge Unit (LBU) in the Bureau of Bridges and Structures (BBS) for review and approval. The BCR must be approved prior to or with the approval of the PBDHR.

Preliminary Bridge Design and Hydraulic Report (PBDHR) 10-2.03(c)

The PBDHR contains the necessary information for use by IDOT personnel to review the preliminary bridge design and hydraulics for LPA bridge and culvert construction projects, and for obtaining construction permits from the IDNR Office of Water Resources (OWR). For further information on permits, see Chapter 7. Submittal of PBDHR to IDOT is required for all structures of NBIS length or greater, as well as when a permit is to be issued except for:

structures having a clear span of 10 ft (3 m) or less, or a waterway opening of 100 ft² (9 m²) or less (including over-the-road flow) for the design flood.

In addition, submittal is not required for structures for which the preliminary design has been prepared by IDOT.

Prior to the submittal of the PBDHR to the BBS, the proposed structure number (SN) must be assigned and entered into IHIS by the District (see Section 6-2).

For most projects where the structure is a rural stream crossings, a completed Form <u>BLR 10210</u> with attachments, including the plan and profile sheet, hydraulic/hydrologic analysis and calculations, foundation borings/soil report (see Section 10-2.05), Asbestos Determination Certification (Form <u>BLR 10220</u>), Scour Critical Evaluation Coding Report (Form <u>BBS-SCE</u>), hydraulic certification statement, or joint application form as applicable, should provide sufficient information for IDOT to review and approve proposed projects.

Detailed TS&L drawings must be prepared and submitted as part of PBDHR for projects that have at least one of the conditions listed below:

- structures carrying or crossing an Interstate highway,
- a roadway under the jurisdiction of the State of Illinois,
- structures over roadways or railroads,
- urban structures,
- structures having a clear span of 100 ft (30 m) or greater,
- projects funded with Illinois Major Bridge funds,
- unusual or complex structures,
- structures designed by IDOT,
- retaining walls,
- multi-use structures, or
- boardwalks.

Simple structures, such as rural precast concrete deck beam structures on pile bent spill thru abutments and piers, or simple culverts, typically do not require TS&L drawings, as Form <u>BLR 10210</u> and plan and profile sheet are sufficient to describe the proposed structure. In addition, for pile supported substructures, the pile encasement type should be provided on Form <u>BLR 10210</u>. For similar locations using superstructures such as steel wide flange beams (or plate girders, concrete I-beams, etc.), the PBDHR submittal must include a cross section thru the superstructure. The additional structure information is provided for IDOT personnel to review and approve the preliminary bridge design.

The following information and/or forms should be included with the PBDHR as applicable:

1. <u>Stream Crossings</u>. For most rural stream crossings, a completed Form <u>BLR 10210</u> with attachments should provide sufficient information for IDOT personnel to review and approve preliminary bridge designs.

- 2. <u>Borings/Structural Geotechnical Reports (SGR)</u>. Foundation borings are required following the procedures in the <u>IDOT Geotechnical Manual</u> (see Section 10-2.05). Record the boring data for all structures on the Soil Boring Log (Form <u>BBS 137</u>), or similar form. Include this data as part of the Form <u>BLR 10210</u> submission. When appropriate, borings are required to be submitted with the PBDHR. This assists the BBS in review of the preliminary foundation design and for determination of scour (SIP Item 113). There may be occasions when borings are to be taken "Before Final Design", such as:
 - a. some culverts, and
 - b. single span pile bent spill thru bridges where SIP Item 113 is coded "8B" for scour, and the only decision is pile type.

Boring information is highly recommended at an early stage and before the PBDHR submittal. The waiving by the BBS of the boring/SGR requirement with the submittal is not automatic. PBDHRs submitted without this required information for approval of the PBDHR may be returned as incomplete.

- 3. <u>Pile Encasement Type</u>. For pile supported substructures, the pile encasement type should be provided on Form <u>BLR 10210</u>.
- 4. <u>Superstructure Cross Section</u>. For locations using superstructures such as steel wide flange beams (or plate girders, concrete I-beams, etc.), the PBDHR submittal must include a cross section thru the superstructure.
- 5. <u>Type, Size, and Location (TS&L) Plans</u>. TS&L drawings are detailed bridge configuration plans that are used as the basis for the development of construction plans.
- 4. <u>Certification Statements</u>. The certification statements included with the Hydraulic Reports submitted to IDOT should reference the <u>IDOT Drainage Manual</u> as the publication providing the policies and procedures for determining hydraulic adequacy. See <u>Section 7-2</u> for permitting and certification requirements for those structures requiring an OWR permit.

The information below is provided for approval requirements for those structures not requiring an IDNR construction permit:

a. <u>Structures for Drainage Areas Not Requiring a Permit</u>. This is applicable for structures in rural areas with drainage areas less than 10 mi² (26 km²) and for structures in urban areas with drainage areas less than 1 mi² (2.6 km²). The following certification statement should be included with the PBDHR submittal:

I hereby certify that the waterway opening for the proposed
structure has been designed using hydrologic and hydraulic
engineering methods in accordance with the policies and
procedures presented in the Drainage Manual of the Illinois
Department of Transportation.
P.E. Seal (Signature): Date:
(with date of expiration)

b. <u>Superstructure Replacements Not Requiring a Permit</u>. A PBDHR submitted to BBS for a superstructure replacement project should contain a certification statement that the existing structure has not been the cause of "demonstrable flood damage," similar to the certification statement for the Statewide Permit 12 provided in <u>Section 7-2</u>. When using this certification, the engineer should consider the structural and hydraulic adequacy of the structure to remain, including scour.

If the municipal or county engineer cannot provide the certification statement for flood damage, a complete hydrologic and hydraulic analysis is required to verify the hydraulic adequacy of the existing waterway opening, and the following certification statement should be included with the report.

I hereby existing/pro	posed st	ructure	has be	en anal	yzed and	evalu	ated
using hyd accordance Drainage M	with the	e policie	s and	procedui	es prese	nted in	
P.E. Seal (with date o		` •	ature): _		Da	te:	

When making this certification, the engineer is acknowledging that the "design risk assessment process" has been performed as described in the <u>IDOT</u> <u>Drainage Manual</u>.

c. <u>Maintenance/Rehabilitation Exceptions</u>. The current policy of IDNR OWR does not require a construction permit for projects considered to be maintenance. Maintenance includes repair or replacement of the superstructure, widening or resurfacing, minor dredging to restore the waterway opening to the original cross section design, and culvert extensions of up to 100%, but not exceeding 40 ft (12 m) in length (i.e., culvert extension of up to 40 ft (12 m) on an existing 40 ft (12 m) culvert).

However, IDOT requires the hydraulic adequacy of the existing waterway opening be investigated to approve PBDHR for certain projects. Such includes projects that involve the use of federal or State funds, or locally funded projects when the clear span is NBIS length or greater.

Projects involving the total removal of an existing superstructure and the construction of a new superstructure on the existing substructure units, and culvert extensions as noted above, require hydraulic submittals.

The hydraulic submittal should include the existing and proposed design and 100-year hydraulic openings and elevations and must be sufficient to evaluate the impacts of scour on the existing substructure to remain (for bridges). Note that approval of the BCR requires verification of scour adequacy, which may require hydraulic evaluation for scour during that phase. The supporting data should be included, and a certification statement included that the existing structure has not been the cause of "demonstrable flood damage". Use a certification statement similar to that provided for Statewide Permit 12 provided in Section 7-2.

- 5. Review. Submit the required number of copies of the PBDHR to the District BLRS for transmittal to BBS for review and approval.
- 6. Proposed Structure Number (SN). The proposed SN, when required, should be assigned and entered in the IHIS prior to submittal, and must be entered before approval of the PBDHR.
- 7. Design Exceptions. The PBDHR is to include justification for any design exceptions necessary for the structure (i.e. the clearance above design highwater elevation).

The LPA is responsible for obtaining all other permits including IDNR OWR (individual permits) when necessary. Approval of the PBDHR by IDOT will be contingent on the hydraulic approval and permit by IDNR OWR. For additional guidance on permits, see Chapter 7.

10-2.04 **Drainage Studies**

The roadway alignment is dependent on the interrelationships of several variables. High-water elevations and the depth of roadway ditch flow for surface drainage directly influence the gradeline. Hydraulic structure sizes and storm sewer systems may significantly affect project cost estimates. For these and other reasons associated with drainage controls, a drainage study containing preliminary hydrologic and hydraulic analyses should be prepared where highway drainage and/or structures will significantly affect the design or cost of a project. A drainage study is an investigation of the existing and proposed drainage patterns that affect a section of roadway. Drainage studies are discussed in more detail in the IDOT Drainage Manual. See Chapter 38 for drainage design guidelines.

The district may request that a drainage study be submitted for review when a concern about the adequacy of a drainage feature is identified during review of the plans.

10-2.05 **Geotechnical Studies and Reports**

10-2.05(a) **Geotechnical Report**

The purpose for a Geotechnical Report is to provide insight into area geology, pedology, and other engineering factors to be used by the designer. If soil stability problems are anticipated, a preliminary Geotechnical Report should be prepared during the preliminary study phase. Information on the geotechnical reports can be found in the IDOT Geotechnical Manual.

While a final pavement design is usually not needed until plan preparation, a determination of pavement type and approximate thickness may be needed during the preliminary study phase. Chapter 44 discusses pavement design procedures and when a Geotechnical Report is required.

10-2.05(b) Structure Geotechnical Report (SGR)

A SGR is necessary for projects involving bridges, culverts, retaining walls, or other structures. However, for many LPA structures, such as those on low volume roads with little change in grade, it may be possible the SGR consists only of soil borings with foundation recommendations.

The design engineer must ensure foundation information provided is sufficient. All soil borings must be tied to the vertical and horizontal project datum.

The SGR shall be included with the PBDHR submittal to the BBS. For additional requirements for PBDHR submittals see Section 10-2.03(c).

10-2.06 Commitments

A commitment is a documented obligation or promise made by a properly authorized representative of the LPA for carrying out a specific action or actions affecting the planning, design, land acquisition, construction, or operation of a highway project that involves special consideration and action. A commitment file must be kept for all State funded local projects and is recommended for MFT projects. Section 22-2 provides additional information concerning the recording of commitments. When applicable, note the commitments in the project agreements and contract documents. The commitment list is to be included with the plan submittal to the District BLRS. If the LPA is under an MFT Memorandum of Understanding, the LPA is responsible for providing the District BLRS with a copy of their commitment file at the same time as the rest of the project file is submitted.

10-2.07 <u>Design Criteria</u>

10-2.07(a) General

Design criteria for MFT and State funded projects can be found in <u>Part IV</u> of the *BLRS Manual*. Use Form <u>BLR 22120</u> to document the adherence of the proposed project to the BLRS design criteria. For those agencies without a licensed professional engineer (PE) on staff, the entire form must be fully completed and submitted to the District BLRS prior to submittal of the plans.

10-2.07(b) Design Exceptions

In general, the designer is responsible for making a reasonable effort to meet the design criteria presented in this *Manual*. However, recognizing that this will not always be practical or cost effective, <u>Section 27-7</u> discusses the evaluation of design exceptions to the geometric design criteria.

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Form BLR 22120 is also used to document the justification and approval of design exceptions that are necessary for the completion of the project. The form must be fully completed by those LPAs without a licensed professional engineer on staff. LPAs with a licensed PE on staff will only need to complete page one of the form and those portions of the form where a design variance from a specific design criterion is being requested.

Requests for design exceptions should be submitted in writing to the District BLRS. A written response will then be sent to the LPA.

LPAs operating under an Agreement of Understanding will be allowed to determine the acceptability of Level Two design exceptions without District BLRS approval. A copy of the form should be kept in the LPA's project file.

Work Zone Transportation Management Plans for Impact on State Highways 10-2.08

For MFT or state funded projects that impact a State highway, the LPA shall follow procedures contained in Section 22-2 except the LPA should coordinate directly with the District rather than taking to a FHWA/IDOT coordination meeting.

10-2.09 **Complete Streets for State-Maintained Routes**

10-2.09(a) General

605 ILCS 5/4-220 requires that bicycle and pedestrian ways shall be given full consideration in the planning and development of transportation facilities, including the incorporation of such ways into State plans and programs. Therefore, when a LPA project follows or intersects a State highway, and there is any type of work (including the addition of turn lanes) to the State highway, Chapter 17 of the BDE Manual will apply to the State highway.

10-2.09(b) **Application**

For all LPA projects that impact a State highway in or within one mile of an urban area, bicycle and pedestrian ways shall be established for State highways in conjunction with the construction, reconstruction, or other change of any State transportation facility except:

- 1. In pavement resurfacing projects that do not widen the existing travel way or do not provide stabilized shoulders; or
- 2. Where approved by the Secretary of Transportation based upon documented safety issues, excessive cost, or absence of need.

The location of the State highway in a non-urban area is in and of itself insufficient to automatically exclude it from consideration of the Complete Streets law. Other factors to consider include bicycle accommodations on either side of the project, bicycle generators in the project vicinity, bicycle travel along State highways, and safety concerns.

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The District or CBLRS may direct questions regarding the applicability of the law to the Statewide Bicycle and Pedestrian Coordinator.

10-2.09(c) **Construction Options for Bicycle Travel**

Each project must be evaluated on an individual basis. Some of the options in accommodating bicyclists on a State-maintained route include:

- 1. The installation of a 10-foot wide shared use path;
- 2. Paved shoulders in accordance with policy guidelines in the BDE Manual; or
- 3. In urban areas, a wider travel way.

Appropriate bicycle accommodations at roadway intersections along the State highway are required (curb cuts, ADA ramps, etc.).

10-2.09(d) **Exceptions to the Complete Streets Law**

The Secretary of Transportation must specifically approve accommodation exceptions in or within one mile of urban areas covered in the law based on documented safety issues, excessive cost (as determined by the BDE Manual), or absence of need. The LPA shall submit their request of exception to the District. Signed documentation of the Secretary's concurrence shall be included in the project files.

10-2.09(e) **Funding for Complete Streets**

The LPA will be responsible for the cost of any work along a State highway required by the bicycle and pedestrian accommodations.

10-3 RIGHT-OF-WAY

The procedures for the acquisition of right-of-way by a LPA are flexible but should adequately address all significant concerns based on the specific situation. 605 ILCS 5/5-801 thru 803, 605 ILCS 5/6-801 thru 805, and 65 ILCS 5/11-76, 76.1, and 76.2, also govern the acquisition of right-of-way. This Section presents a general overview of right-of-way issues for LPAs. The IDOT Land Acquisition Policies and Procedures Manual provides additional guidance and potential requirements in the acquisition of right-of-way.

Additional coordination through the District Bureau of Land Acquisitions is required when:

- federal funds are used in any phase of the project (see <u>Section 22-3</u>);
- right of way is to be acquired in the name of the State (see Section 10-3.03); or
- coordination is a requirement of the state funds. Additional coordination is typically not required when using state funds such as Economic Development Program (EDP), Truck Access Route Program (TARP), or listed under <u>Section 4-2</u>.

10-3.01 Interest to be Acquired

10-3.01(a) Fee Title

LPAs may expend MFT funds to acquire fee title to any land, rights, or other property necessary for highway purposes by purchase or through eminent domain. It is recommended that fee title to be acquired for all right-of-way within the proposed right-of-way line, except when it is considered feasible to acquire a dedication or permanent easement. Ensure deeds or court orders are recorded in the county in which the property is located.

10-3.01(b) Dedication

Dedications are when a property owner of private property allows the land to be used for public use, and the acceptance by the proper public authority. This is commonly done when a developer of a subdivision dedicates the right-of-way for the roadways which are to be accepted by the LPA.

10-3.01(c) Permanent Easement

Permanent easements for highways purposes, are acquired for the perpetual right to construct and maintain a public highway and incidental facilities over and across the surface of lands. Examples would be construction and/or installation of appurtenant highway facilities such as outfall storm sewers, riprapping of stream channels, or channel changes are examples that may require future entry for maintenance, or future improvements. Ensure permanent easements are recorded in the county in which the property is located.

10-3.01(d) Temporary Easement

Temporary easements are grants of an estate or interest in the land and are irrevocable. Ensure that the easements are recorded. They are transferred with the sale of the land. Acquisition of temporary easements should be accomplished in the same manner as the acquisition of a fee acquisition or a permanent easement. Obtain temporary easements where the specified use is essential to the completion of a project and future entry is not necessary. Examples when a temporary easement may be necessary are detour roads; borrow pits (owned or furnished by the LPA), removal of the remainder of buildings located partially on acquired right-of-way, or channel changes requiring no future maintenance by the LPA. Ensure temporary easements are recorded in the county in which the property is located.

10-3.01(e) Temporary Use Permit and Right-of-Entry

Occasionally once construction has begun, an unknown issue may arise requiring work off the right-of-way. In this case, a temporary use permit and right-of-entry may be appropriate and are the terms used to describe a license giving permission to a LPA to do a particular act or series of acts on the land of another without possessing any estate or interest in that land.

A license with respect to real property does not usually continue with the sale of the land and may be terminated in various ways. Consequently, the acquisition of temporary use permits should be confined to particular areas of construction (e.g., sloping of lawns, extending back slope beyond the right-of-way lines, reconstruction of driveways) where a nominal amount of money is involved, the probability of termination is minimal, and the effect of termination would not jeopardize completion of the project.

10-3.01(f) Right-of-Way Donations

Right-of-way for MFT projects may be secured through right-of-way donations. Ensure the landowner has been informed of their right to receive just compensation. However, in case of donations, it is not necessary to appraise the property or to offer compensation. It is recommended the LPA follow Section 4.1.12 of the <u>IDOT Land Acquisition Policies and Procedures Manual</u> including the various forms.

10-3.01(g) Acquisition of Railroad Property

When the LPA requires property interest from a railroad to complete a highway improvement, sufficient lead time to acquire these interests is essential. Once it is determined that a project will require the acquisition of property owned or under the control of a railroad, it is critical that the CBLRS be informed. The following will apply:

 Acquisition of Railroad Non-Operating Property. The acquisition of non-operating railroad property is accomplished in the same manner as any other acquisition of property for a highway improvement. 2. Acquisition of Railroad Operating Property. Where a proposed highway improvement will cross or longitudinally use a railroad's operating property, the LPA generally will acquire a permanent easement to construct and maintain the improvement. There will be instances when a highway project will require only the temporary use of railroad property. When this situation occurs, permission to do work of a temporary nature on railroad right-of-way will be included in the construction and maintenance agreements between the LPA and the railroad.

The railroad is responsible for executing the necessary documents to cover the rights or interests required for the highway project, regardless of whether it owns the fee title or Section 3.6.16 of the IDOT Land Acquisition Policies and Procedures Manual provides information on the compensation of railroad right-of-way. condemnation is necessary, consult with the District BLRS and Land Acquisition. However, note that permission of the ICC is a prerequisite to the filing of the complaint for condemnation and motion for the right of immediate possession and the time required must be considered when scheduling the project.

10-3.02 **Right-of-Way Statement**

LPA projects built under the supervision of IDOT should not be advertised for letting until the necessary right-of-way has been secured. Material awards for day labor projects should not be made until the necessary right-of-way for construction has been secured. Authorization for the expenditure of MFT funds for day labor materials or work will not be given to the LPA until the right-of-way is clear. As soon as the right-of-way has been secured, the appropriate LPA official (e.g., county engineer, highway commissioner, city engineer, municipal official) is responsible for submitting a statement to that effect to the District BLRS.

10-3.03 Right-of-Way for a State Highway

If the right-of-way will be acquired for work on a State highway, the LPA must follow IDOT's procedures for land acquisition. If the acquired right-of-way is to be added to the state's highway system, full compliance with Title II and III of the Uniform Relocation Assistance and Real Property Acquisition Act of 1970 is mandatory. Contact the District's Bureau of Land Acquisition to coordinate before proceeding.

10-3.04 Right-of-Way Procedures Versus Funding Type

If there is a possibility that a MFT funded project may be changed to a federally funded project, ensure that the federal procedures for land acquisition are followed; see Section 22-3. If proper procedures were not followed, the project may not be eligible for federal funding.

10-3.05 **Right-of-Way Markers**

Right-of-way markers are required on all county improvements; their use is optional on township and municipal improvements.

10-4 UTILITY COORDINATION

10-4.01 Definition

A utility is defined as a privately, publicly, or cooperatively owned line, facility, or system for producing, transmitting, or distributing communications, cable television, power, electricity, light, heat, gas, oil, crude products, water, steam, waste, storm water not connected with highway drainage, or any other similar commodity. This includes any fire or police signal system or street lighting system, which directly or indirectly serves the public. The term utility also applies to a utility company inclusive of any wholly owned or controlled subsidiary. The term utility includes those facilities used solely by the utility that are a part of its operating plant.

10-4.02 Plan Preparation and Field Location of Utilities

Generally, it will be the responsibility of the planner and designer to attempt to locate, identify, and, to the maximum extent practical, avoid disturbance, or to provide for the relocation of all existing identified utilities. Send a copy of the preliminary plans to all affected utility companies in the early stages of the project.

In the design plans, show the type and nature of all utility facilities (mains and services) located within the limits of the right-of-way and indicate all owners, their addresses, and list the Joint Utility Locating Information for Contractors (JULIE) phone number (800-892-0123) or 811.

Show the utilities with the appropriate symbols. For guidance, see the <u>IDOT Highway Standards</u> and <u>IDOT CADD</u>, <u>Modeling and Deliverables Manual</u>. The vertical and horizontal location of utilities, to be relocated or adjusted by their owners, need not be exact. However, if the utility were to remain in place or were relocated or adjusted by the contractor, vertical and horizontal dimensions must be shown to the accuracy provided by the utility owner.

When a utility owner fails or refuses to stake the utility or provide a written statement to the contractor, the Engineer will authorize the contractor to locate the facility with payment made in accordance with the <u>IDOT Standard Specifications</u>. If a utility is located on right-of-way by permit, the cost of locating the utility should be at the utility owner's expense.

10-4.03 Estimates and Final Bills for Moving or Removing Utilities

Utility agreements are necessary when an improvement requires relocation or adjustment of utility appurtenances, except when existing permits provide for moving or removing a utility. Section 5-7 provides guidance on a preparation of the utility agreement.

In preparing the cost estimate, consider the following:

1. <u>District Review</u>. The District must review and approve the cost estimate for the work before the work is started. When only MFT funds are involved and the total cost of the utility adjustment is less than \$5,000, neither an estimate of cost nor an audit of the final bill will be required.

- 2. <u>Additional Information</u>. Indicate the age of the existing facility on the cost estimate. Include a staking diagram that shows the existing and proposed right-of-way lines.
- 3. Cost Details. Include the applicable items from the following list in the cost estimate:
 - a. cost of labor for moving or removing existing utility,
 - b. equipment expense for moving or removing existing utility,
 - c. cost of labor for installation,
 - d. equipment expense for installation,
 - e. cost of new material necessary for installation,
 - f. credit for extended service life,
 - g. engineering and overhead costs,
 - h. credit for betterments not required by road construction, and/or
 - i. material salvage from existing utility.

Provide a detailed estimate for Items 3a through 3e, 3h, and 3i showing the number of hours, rate, kind of equipment, items of material, etc. For Items 3f and 3g, provide detailed computations.

- 4. <u>Labor Rates and Equipment Rental Rates</u>. Indicate the labor rates and equipment rental rates used to determine the cost estimate.
- 5. Extended Service Life. Calculate the credit for extended service life (Item 3f.) as follows:

$$\label{eq:credit} \text{Credit} = \frac{ \begin{array}{c} \text{Expired Service Life} \\ \text{of Re placed Facility} \\ \hline \text{Total Estimated Service} \\ \text{Life of Re placed Facility} \end{array}} \text{x Original Cost}$$

Where:

Expired Service Life of Replaced Facility = the number of years that the particular facility has been in service.

Total Estimated Service Life of Replaced Facility = the sum of the period of actual use plus the period of expectant remaining life.

Original Cost = the original cost of the facility being replaced.

- 6. <u>Depreciation</u>. If the facility is still in operation but has been fully depreciated by the utility company, the interested parties, by mutual agreement, need to reestablish the expectant remaining life of the replaced facility.
- 7. <u>Public/Private Property</u>. If portions of a facility to be adjusted are on both private and public right-of-way, proportion of the final cost between that on private property and that on public property in the same relations that the dollar values for each bear to the approved estimate.

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Where the utility company elects to construct an entirely new facility and retire (remove) the existing utility, include Items 3c, 3d, 3e, 3f, 3g, and 3h in the estimate. If only a portion of the existing facility will be removed, use Items 3a, 3b, 3g, and 3i for that portion of the work. Item 3f may be omitted if the facility involves only a utility line crossing of the highway, or a segment of a utility line that is less than 1 mile (1.6 km) in length, provided the replacement facility for the segment is not of greater functional capacity or capability than the one it replaces, and includes no betterments.

If the utility company elects to move the existing facility and replacement material is unfit for reuse, include Items 3b, 3e, 3g, and 3i in the estimate.

If desired, reimbursement to the utility company may be made on an agreed lump-sum basis, for adjustment work estimated to cost less than \$25,000. Also, a detailed final bill will not be required. If the reimbursement is a lump sum, include with the estimate of cost, a statement signed by the proper utility official indicating concurrence in the estimated cost as the figure for which the reimbursement will be made.

The expenditure of MFT funds may be authorized by the LPA for the full amount of the utility adjustment estimates at the time the estimates are approved. To facilitate payment, the LPA should submit a Request for Expenditure (Form <u>BLR 09150</u>) with the estimate to the District BLRS.

In approving the estimate of cost and reviewing of the final bill, IDOT will be governed by the policies set forth by FHWA and <u>Chapter 15</u>.

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10-5 CONTEXT SENSITIVE SOLUTIONS (CSS)

See <u>Section 21-7</u> for CSS requirements.

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10-6 ACRONYMS

This is a summary of the acronyms used within this chapter.

AASHTO American Association of State Highway and Transportation Officials

BBS Bureau of Bridges and Structures

BCR Bridge Condition Report

BDE Bureau of Design and Environment BLRS Bureau of Local Roads and Streets

BSPE Bureau of Safety Programs and Engineering CBLRS Central Bureau of Local Roads and Streets

CSS Context Sensitive Solutions
DHV Design Hourly Volume

EcoCAT Ecological Compliance Assessment Tool

EDP Economic Development Program

EO Executive Order

ESR Environmental Survey Request FAA Federal Aviation Administration FHWA Federal Highway Administration ICC Illinois Commerce Commission

IDNR Illinois Department of Natural Resources

IDOA Illinois Department of Agriculture IDOT Illinois Department of Transportation

IDS Intersection Design Study

IHIS Illinois Highway Information System

ILCS Illinois Compiled Statutes

ILEPA Illinois Environmental Protection Agency
IRIS Illinois Roadway Information and Procedure

ISAS Illinois State Archaeological Survey
LARS Local Accident Reference System
LAWCON Land and Water Conservation Fund

LBU Local Bridge Unit
LPA Local Public Agency
MFT Motor Fuel Tax

MOA Memorandum of Agreement

MPO Metropolitan Planning Organization
NBIS National Bridge Inspection Standards

NPS National Park Service

NRCS Natural Resource Conservation Service
OPP Office of Planning and Programming

OSLAD Open Space Lands Acquisition and Development

OWR Office of Water Resources (IDNR)

PBDHR Preliminary Bridge Design and Hydraulic Report

PE Professional Engineer

PS&E Plans, Specifications, & Estimates

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10-6-2	PROJECT DEVELOPMENT – MFT and State Funds	December 2018
SCS	U.S. Soil Conservation Service	
SGR	Structure Geotechnical Report	
SHPO	State Historic Preservation Officer	
SIMS	Structure Information Management System	
SIP	Structure Information and Procedure	
SN	Structure Number	
SSA	Sole Source Aquifer	
TARP	Truck Access Route Program	
TBP	Township Bridge Program	
TS&L	Type, Size, and Location	
USDA	U.S. Department of Agriculture	
USEPA	U.S. Environmental Protection Agency	

10-7 REFERENCES

1. Nalional Historical Heselvalion A	1.	National Historical Preserv	/ation	Ac
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- 2. Department of Transportation Act
- 3. Land and Water Conservation Act
- 4. Federal Aid in Fish Restoration Act
- 5. Federal Aid in Wildlife Restoration Act
- 6. Bald and Golden Eagle Protection Act
- 7. Executive Order 11988 "Floodplain Management"
- 8. Illinois Endangered Species Protection Act (520 ILCS 10/11(b))
- 9. Illinois Natural Areas Preservation Act (525 ILCS 30/17)
- 10. Interagency Wetland Policy Act of 1989 (20 ILCS 830/1 et seq.)
- 11. Open Space Lands Acquisition and Development Act, (525 ILCS 35/1 et seq)
- 12. The Illinois Historic Preservation Act (20 ILCS 3410/1 et seq.)
- The Illinois State Agency Historic Resources Preservation Act (20 ILCS 3420/1 et 13. seq.)
- 14. The Farmland Preservation Act (505 ILCS 75/1 et seg.)
- 15. Illinois Environmental Protection Act (415 ILCS 5/1 et seq.)
- 16. Illinois Groundwater Protection Act (415 ILCS 55/1 et seq.)
- 17. Safe Drinking Water Act
- 18. Chapter 14 "Intersection Design Studies", BDE Manual, IDOT
- 19. Chapter 17 "Bicycle and Pedestrian Accommodations", BDE Manual, IDOT
- 20. Chapter 26 "Special Environmental Analyses", BDE Manual, IDOT
- 21. Appendix A "Duplicated Regulations and Guidance", BDE Manual, IDOT
- 22. Appendix C "Authority/Responsibilities", BDE Manual, IDOT

10-7-2	PROJECT DEVELOPMENT – MFT and State Funds December 2018
23.	Chapter 4 "Local Roads and Streets Funding", BLRS Manual, IDOT
24.	Chapter 5 "Agreements", BLRS Manual, IDOT
25.	Chapter 6 "Bridge Inventory and Inspections", BLRS Manual, IDOT
26.	Chapter 7 "Permits", BLRS Manual, IDOT
27.	Chapter 15 "Documentation Review", BLRS Manual, IDOT
28.	Chapter 20 "Special Environmental Studies", BLRS Manual, IDOT
29.	Chapter 21 "Requirements for Public Involvement Programs", BLRS Manual, IDOT
30.	Chapter 22 "Project Development", BLRS Manual, IDOT
31.	Chapter 27 "Basic Design Controls", BLRS Manual, IDOT
32.	Chapter 34 "Intersections", BLRS Manual, IDOT
33.	Chapter 38 "Drainage Design", BLRS Manual, IDOT
34.	Chapter 39 "Traffic Control Devices", BLRS Manual, IDOT
35.	Chapter 44 "Pavement Design", BLRS Manual, IDOT
36.	CADD, Modeling and Deliverables Manual, BBS and BDE, IDOT
37.	<u>Drainage Manual</u> , BBS, IDOT
38.	Geotechnical Manual, BMPR, IDOT
39.	Highway Standards, BDE, IDOT
40.	Land Acquisition Policies and Procedures Manual, BLA, IDOT
41.	Roadway Information and Procedure Manual, OPP, IDOT
42.	Structural Service Manual, BBS, IDOT
43.	Structure Information and Procedure Manual, OPP, IDOT