Environmental Review Process
Resource Agencies Responding

	Agency	Date	Response
1	Federal Aviation Administration	6/5/2007	No Impact
2	US Natural Resources and Conservation Service	6/13/2007	Contact local NRCS representative
3	US Department of Health and Human Services	7/5/2007	Provided a list of recommend topics to be considered during the NEPA process; requested a draft copy of the document
4	US Coast Guard	6/14/2007	No Impact
5	Kentucky Department of Fish and Wildlife Resources	6/27/2007	Provided information on federally endangered species that may occur in the area.
6	Kentucky Commission on Human Rights	6/13/2007	No Recommendations
7	Kentucky Geological Survey	6/19/2007	Summarization of any geologic concerns for the study area
8	Kentucky Department of Agriculture	5/31/2007	Recognized the information, but provided no comment
9	Kentucky Department of Military Affairs	6/5/2007	No Impact
10	Kentucky Commerce Cabinet Department of Parks	6/19/2007	No Impact
11	KY EPPC Dept. for Natural Resources Division of Mine Reclamation	6/14/2007	No Impact
12	KY EPPC Division of Waste Management	6/4/2007	Any waste generated must be properly disposed of and any contaminates encountered must be properly addressed
13	KY EPPC Division of Forestry	6/25/2007	No State forests in the area, but special care of existing trees is recommended
14	KY EPPC Division for Air Quality	6/26/2007	States the Fugitive Emissions Regulation and that open burning is prohibited except under certain circumstances
15	KY EPPC Division of Water	6/20/2007	This project is endorsed
16	Kentucky Airport Zoning Commission	6/25/2007	No negative effect on air navigation; however if equipment usage exceeds 200' AGL, a permit must be obtained
17	KYTC Geotechnical	7/2/2007	Assessment of underlying rock formations and recommendations for the negotiations of the rock formations during construction
18	KYTC Permits	6/21/2007	Suggest the future Tompkinsville Bypass be built as a partially controlled access highway
19	KYTC Traffic Operations	6/25/2007	Provided a list of issues to be considered in the scoping study; lane configuration, turn lanes, speed, line of sight requirements, etc…
20	Kentucky Vehicle Enforecement	6/21/2007	No Input

U.S. Department
of Transportation
**Federal Aviation
Administration**

Memphis Airports District Office
2862 Business Park Dr, Bldg G
Memphis, TN 38118-1555

Phone: 901-322-8180

June 5, 2007

Mr. Daryl J. Greer, P.E.
Director, Division of Planning
Kentucky Department of Transportation
200 Mero Street
Frankfort, KY 40622

Re: Monroe County Item No.: 03-8310.00 and
Russell & Adair Counties Item No.: 03-8310.00

Dear Mr. Greer:

We have reviewed the proposed studies and found no issue or concerns that will affect the airports in those areas. We feel, from your proposal, that these propose projects will have no environmental impact for future development at these airports. We would like to be notified if any changes might occur from the original studies.

For future reference, please address all correspondence to Mr. Phillip Braden, Memphis Airport District Office Manager.

Sincerely,

James H. Williams
Program Manager

Borres, Boday (KYTC)

From: Wilson, Jimmy (KYTC)
Sent: Tuesday, June 19, 2007 9:26 AM
To: Borres, Boday (KYTC)
Subject: FW: Airport Studies

Attachments: Airport Studies Letter Signed.doc

Airport Studies
Letter Signed....

A follow up response on KY 76.

-----Original Message-----
From: James.Hayward.Williams@faa.gov [mailto:James.Hayward.Williams@faa.gov]
Sent: Monday, June 18, 2007 3:39 PM
To: Wilson, Jimmy (KYTC)
Subject: Airport Studies

Please replace the original letter with the attachment.

James H. Williams
Program Manager
Memphis Airports District Office
901-322-8184 FAX: -8195

(See attached file: Airport Studies Letter Signed.doc)

U.S. Department
of Transportation
**Federal Aviation
Administration**

Memphis Airports District Office
2862 Business Park Dr, Bldg G
Memphis, TN 38118-1555

Phone: 901-322-8180

June 5, 2007

Mr. Daryl J. Greer, P.E.
Director, Division of Planning
Kentucky Department of Transportation
200 Mero Street
Frankfort, KY 40622

Re: Monroe County Item No.: 03-8310.00 and
Russell & Adair Counties Item No.: 03-8302.00

Dear Mr. Greer:

We have reviewed the proposed studies and found no issue or concerns that will affect the prospective airports in those areas. We feel, from your proposal, that these projects will have no environmental impact at these airports. We would like to be notified if any changes might occur from the original studies.

For future reference, please address all correspondence to Mr. Phillip Braden, Memphis Airport District Office Manager.

Sincerely,

Original signed by James H. Williams

James H. Williams
Program Manager
Memphis, ADO
James.Hayward.Williams@faa.gov
901-322-8184

United States Department of Agriculture

NRCS

Natural Resources Conservation Service
771 Corporate Drive, Suite 210
Lexington, KY 40503

RECEIVED

JUN 14 2007

June 13, 2007

Mr. Daryl J. Greer, P.E.
Director, Division of Planning
Kentucky Transportation Cabinet
200 Mero Street, 5th Floor
Frankfort, KY 40622

RE: Scoping Study for improvements to KY 163 from Tompkinsville to the Tennessee state line.

Dear Mr. Greer:

In regards to the Scoping Study for improvements to KY 163 from Tompkinsville to the Tennessee state line in Monroe County, the USDA-Natural Resources Conservation Service (NRCS) is concerned with potential impacts that any proposed highway project might have upon prime farmland soils and additional farmlands of statewide importance. If federal dollars are to be used to convert important farmlands from agricultural uses to non-agricultural uses a Form AD-1006 (or Form NRCS-CPA-106 if the project is a corridor type project) must be submitted to the local NRCS office. These forms may be obtained from the local NRCS office and are also available as electronic forms on the web at http://www.nrcs.usda.gov/programs/fppa/pdf_files/AD1006.PDF and http://www.nrcs.usda.gov/programs/fppa/pdf_files/CPA106.pdf .

The NRCS contact person for Monroe County is Mr. Kenneth Johnson, district conservationist, 201 West Paige Street, PO Box 700, Tompkinsville, KY 42167 Phone: 270-487-6589. Mr. Johnson can help in identifying important farmlands in any proposed project area.

To further assist with the planning efforts, I am enclosing a CD containing ArcView GIS shapefiles of basic soils information for Monroe County. The GIS shapefiles are in UTM projection, nad83, zone 16. The soil database table includes a column for "farmland classification-all components" (farmclac) that identifies prime farmlands and soils of statewide importance. A legend file has been provided (farmland_classif.avl), which may be used with GIS software to more clearly display the soils that are considered prime farmlands and soils of statewide importance.

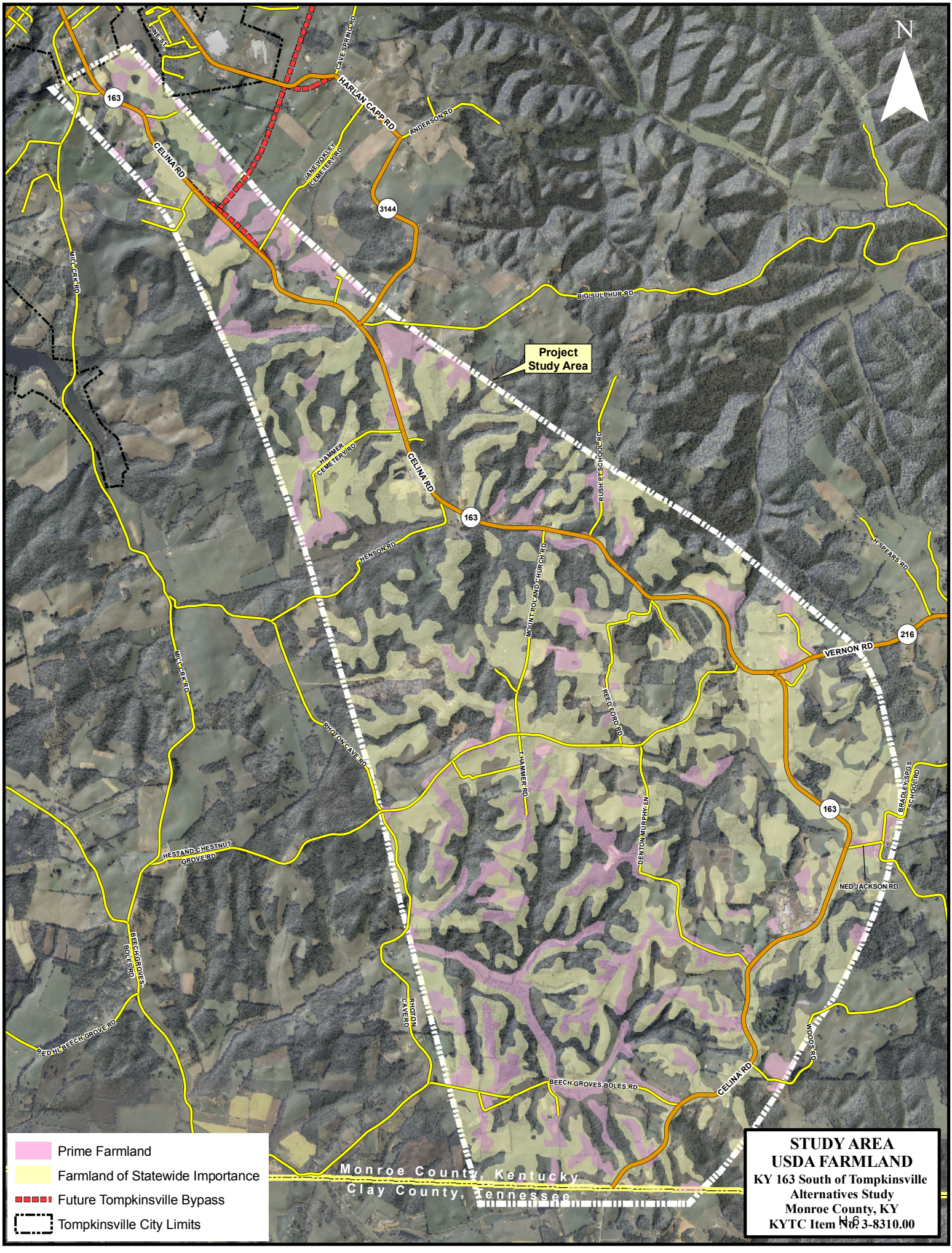
Sincerely,

Michael D. Hubbs

MICHAEL D. HUBBS
State Conservationist

Enclosure

cc:
J. David Stipes, Area Conservationist, Frankfort, KY 40601
Kenneth Johnson, DC, Tompkinsville, KY 42167


N
Project Study Area
HARLAN CAPP RD
CAVE SPRING RD
ANDERSON RD
CELINA RD
JANE YOKLEY CEMETERY RD
3144
163
MILL CRK RD
BIG SULPHUR RD
HAMMER CEMETERY RD
RUSH PT SCHOOL RD
HENSON RD
MOUNT POLAND CHURCH RD
H SPEARS RD
VERNON RD
216
REEDIFORD RD
RHOTON CAVE RD
HAMMER RD
DENTON MURPHY LN
BRADLEY SPGS SCHOOL RD
NED JACKSON RD
HESTAND CHESTNUT GROVE RD
BEECH GROVES BOLES RD
RED HL BEECH GROVE RD
RHOTON CAVE RD
WOODS RD
Monroe County, Kentucky
Clay County, Tennessee
Prime Farmland
Farmland of Statewide Importance
Future Tompkinsville Bypass
Tompkinsville City Limits
STUDY AREA
USDA FARMLAND
KY 163 South of Tompkinsville
Alternatives Study
Monroe County, KY
KYTC Item No. 3-8310.00

DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Centers for Disease Control
and Prevention (CDC)
Atlanta GA 30333

RECEIVED

JUL 16 2007

July 5, 2007

Mr. Daryl J. Greer, P.E.
Director, Division of Planning
Kentucky Transportation Cabinet
200 Metro Street
Frankfort, KY 40622

Dear Mr. Greer:

This is in response to your Advance Notification request for the Planning Study for KY 163 from Tompkinsville to the Tennessee State Line, Monroe County No. 03-8310.00. We are responding on behalf of the Department of Health and Human Services (DHHS), U.S. Public Health Service.

While we have no project specific comments to offer at this time, we do recommend that the topics listed below be considered during the NEPA process along with other necessary topics, and addressed if appropriate. Mitigation plans which are protective of the environment and public health should be described in the DEIS wherever warranted.

AREAS OF POTENTIAL PUBLIC HEALTH CONCERN:

I. Air Quality
- dust control measures during project construction, and potential releases of air toxins
  potential process air emissions after project completion
- compliance with air quality standards

II. Water Quality/Quantity
- special consideration to private and public potable water supply, including ground and surface water resources
- compliance with water quality and waste water treatment standards
- ground and surface water contamination (e.g. runoff and erosion control)
- body contact recreation

III. Wetlands and Flood Plains
- potential contamination of underlying aquifers
- construction within flood plains which may endanger human health
- contamination of the food chain

IV. Hazardous Materials/Wastes
- identification and characterization of hazardous/contaminated sites
- safety plans/procedures, including use of pesticides/herbicides; worker training
- spill prevention, containment, and countermeasures plan

V. Non-Hazardous Solid Waste/Other Materials
- any unusual effects associated with solid waste disposal should be considered

VI. Noise
- identify projected elevated noise levels and sensitive receptors (i.e. residential, schools, hospitals) and appropriate mitigation plans during and after construction

VII. Occupational Health and Safety
- compliance with appropriate criteria and guidelines to ensure worker safety and health

VIII. Land Use and Housing
- special consideration and appropriate mitigation for necessary relocation and other potential adverse impacts to residential areas, community cohesion, community services
- demographic special considerations (e.g. hospitals, nursing homes, day care centers, schools
- consideration of beneficial and adverse long-term land use impacts, including the potential influx of people into the area as a result of a project and associated impacts
- potential impacts upon vector control should be considered

IX. Environmental Justice
- federal requirements emphasize the issue of environmental justice to ensure equitable environmental protection regardless of race, ethnicity, economic status or community, so that no segment of the population bears a disproportionate share of the consequences of environmental pollution attributable to a proposed project. (Executive Order 12898)

While this is not intended to be an exhaustive list of possible impact topics, it provides a guide for typical areas of potential public health concern which may be applicable to this project. Any health related topic which may be associated with the proposed project should receive consideration when developing the draft and final EISs. Please furnish us with one copy of the draft document when it becomes available for review.

Sincerely yours,

Paul Joe

Paul Joe, DO, MPH
Medical Officer
National Center for Environmental Health (F16)
Centers for Disease Control & Prevention

U.S. Department of Homeland Security

United States Coast Guard

Commander
Eighth Coast Guard District

1222 Spruce Street
St. Louis, MO 63103-2832
Staff Symbol: dwb
Phone: (314)269-2378
Fax: (314)269-2737
Email:

16591.1/Southern KY 163
June 14, 2007

Mr. Daryl Greer
Director, Division of Planning
Kentucky Transportation Cabinet
Frankfort, KY 40622

Subj: SOUTHERN KY 163 IMPROVEMENT PROJECT

Dear Mr. Greer:

Please refer to your letter of May 30, 2007. We have determined that pursuant to the Coast Guard Authorization Act of 1982, the subject project does not involve bridges over navigable waters of the United States. Therefore, a Coast Guard bridge permit is not required for this project.

We appreciate the opportunity to comment on the project.

Sincerely,

ROGER K. WIEBUSCH
Bridge Administrator
By direction of the District Commander

RECEIVED

JUL 0 2 2007

KENTUCKY DEPARTMENT OF FISH & WILDLIFE RESOURCES
COMMERCE CABINET

Ernie Fletcher
Governor

#1 Sportsman's Lane
Frankfort, Kentucky 40601
Phone (502) 564-3400
1-800-858-1549
Fax (502) 564-0506
fw.ky.gov

George Ward
Secretary

Dr. Jonathan W. Gassett
Commissioner

June 27, 2007

Daryl J. Greer, P. E.
Director
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street
5th Floor
Frankfort, KY 40622

RE: Monroe County Item No. 03-8310.00
KY 163 Scoping Study
From South of Tompkinsville to the Tennessee State Line

Dear Mr. Greer:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) have received your request for the above-referenced information. The Kentucky Fish and Wildlife Information System indicate that the federally endangered gray bat, *Myotis grisescens* and Indiana bat, *Myotis sodalis* are known to occur or could occur within close proximity to the project area. Please be aware that our database system is a dynamic one that only represents our current knowledge of the various species distributions.

- The Indiana bat utilizes a wide array of habitats, including riparian forests, upland forest, and fencerows for both summer foraging and roosting habitat. Indiana bats typically roost under exfoliating bark, in cavities of dead and live trees, and in snags (i.e., dead trees or dead portions of live trees). Trees in excess of 16 inches diameter at breast height (DBH) are considered optimal for maternity colony roosts, but trees in excess of 9 inches DBH appear to provide suitable maternity roosting habitat. Male Indiana bats have been observed roosting in trees as small as 3 inches DBH. Removal of suitable Indiana bat roost trees due to construction of the proposed project should be completed between October 15 and March 31 in order to avoid impacting summer roosting Indiana bats. However, if any Indiana bat hibernacula are identified on the project area or are known to occur within 10 miles of the project area, we recommend the applicant only remove trees between November 15 and March 31 in order to avoid impacting Indiana bat "swarming" behavior.
- In areas where bats are known to occur, cave entrances, mine portals, and/or rock shelters that exist within the project area should be surveyed for potential use by such species as gray bats and Indiana bats. KDFWR recommends avoiding those areas that provide adequate habitat for bats.
- To minimize impacts to aquatic resources strict erosion control measures should be developed and implemented prior to construction to minimize siltation into streams located within the project area. Such erosion control measures may include, but are not limited to silt fences, staked straw bales, brush barriers, sediment basins, and diversion ditches. Erosion control measures will need to be installed prior to construction and should be inspected and repaired regularly as needed.

For more information on how to precede with the threatened/endangered species surveys please contact the US Fish and Wildlife Service Kentucky Field Office at (502) 695-0468.

It appears that the proposed project has the potential to impact wetland habitats. KDFWR recommends that you look at the appropriate US Department of Interior National Wetland Inventory Map (NWI) and the appropriate county soil surveys to determine where the proposed project may impact wetlands. Additionally, field verification may be needed to determine the extent and quality of wetland habitats within the project area. Any planning should include measures designed to eliminate and/or reduce impacts to wetland habitats. If impacts cannot be avoided, mitigation should be properly designed and proposed to offset the losses. KDFWR will recommend, at a minimum, a 2:1 mitigation ratio for any permanent loss or degradation of wetland habitats.

KDFWR recommends that you contact the appropriate US Army Corps of Engineers office and the Kentucky Division of Water prior to any work within the waterways or wetland habitats of Kentucky. Additionally, KDFWR recommends the following for the portions of the project that impact streams:

- Channel changes located within the project area should incorporate natural stream channel design.
- If culverts are used, the culvert should be designed to allow the passage of aquatic organisms.
- Culverts should be designed so that degradation upstream and downstream of the culvert does not occur.
- Development/excavation during low flow period to minimize disturbances.
- Proper placement of erosion control structures below highly disturbed areas to minimize entry of silt into area streams.
- Replanting of disturbed areas after construction, including stream banks, with native vegetation for soil stabilization and enhancement of fish and wildlife populations. We recommend a 100 foot forested buffer along each stream bank.
- Return all disturbed instream habitat to a stable condition upon completion of construction in the area.
- Preservation of any tree canopy overhanging any streams within the project area.

I hope this information proves helpful to you. If you have any questions or require additional information, please call me at (800) 852-0942 Extension 366.

Sincerely,

Doug Dawson

Doug Dawson
Wildlife Biologist III

Cc: Environmental Section File

From: Wilson, Jimmy (KYTC) [Jimmy.Wilson@ky.gov]
Sent: Friday, June 15, 2007 11:54 AM
To: Crawford, Bill; Springer, Tom
Cc: Witt, Thomas (KYTC)
Subject: FW: Planning Study

Importance: High
Resource Agency comments from Kentucky Commission on Human Rights.

From: Fox, Cynthia (KCHR)
Sent: Wednesday, June 13, 2007 12:52 PM
To: Wilson, Jimmy (KYTC)
Subject: Planning Study
Importance: High

Mr. Wilson,
This office has received correspondence from the Transportation Cabinet requesting our input and comments on a planning study to determine the appropriate improvements to KY163 from Tompkinsville to the Tennessee state line.

The Kentucky Commission on Human Rights is charged with the responsibility, under Kentucky law, to enforce the Kentucky Civil Rights Act. We therefore, receive, investigate, and litigate claims of unlawful discrimination in employment, housing, financial transactions and public accommodations, based on protected class status such as race, gender, religion, color, age (40 and over in employment), disability and national origin.

I am not sure what we have to offer you in regards to your study. Most issues that come to the attention of our office, where roads are concerned, are accessibility issues (for people with disabilities).

Please let me know if you have any questions or if we can be of any further assistance.

Cynthia B. Fox
Executive Staff Advisor
Kentucky Commission on Human Rights
332 W. Broadway, Suite 700
Louisville, KY 40202
502-595-4024/800-292-5566

UNIVERSITY OF KENTUCKY

RECEIVED

JUL 16 2007

Kentucky Geological Survey
Research
228 Mining & Mineral Resources Bldg.
Lexington, KY 40506-0107
Phone: (859) 257-5500
Fax: (859) 257-1147
www.uky.edu/kgs

June 19, 2007

Daryl J. Greer, P.E.
Director, Division of Planning
Kentucky Transportation Cabinet
200 Mero St.
Frankfort, KY 40622

Dear Mr. Greer:

This letter is to summarize any geologic concerns for the planning study:
Monroe County.
Ky. 163 Scoping Study.
Item No. 03-8310.00.

Physiographic Region
The planning area is in the Mississippian Plateau (Pennyroyal or Pennyrile) Physiographic Region, which is underlain by limestone.

Karst Potential
The planning area might encounter karst features such as sinkholes and caves.

Landslide Potential
The planning area would not encounter any pre- or post-landslide hazard.

Unconsolidated Sediments
The planning area would not encounter unconsolidated sediments, such as clay, silt, sand, gravel, and chert rubble in the streams.

Resource Conflicts
The planning area should not encounter resource conflicts such as prior ownership of property for quarrying or mining, but might encounter oil and gas wells.

Materials Suitability
The limestones within the planning area might be a sufficient supply for road construction and the chert gravel deposits from the Cumberland River might be of use as road material.

Fault Potential
The planning area would not encounter faulted areas.

Earthquake Ground Motions
The planning area has a probable peak ground acceleration (PGA) due to earthquake ground motion of 0.09g. There would be a minimal potential for liquefaction or slope failure in the unconsolidated sediments at or near streams by bedrock ground motion.

Sincerely,

Richard A. Smath
Geologist

Richie Farmer, Commissioner
32 Fountain Place
Frankfort, KY 40601

Phone: (502) 564-5126
Fax: (502) 564-5016
E-mail: richie.farmer@ky.gov

Kentucky Department of Agriculture

A Consumer Protection And Service Agency

May 31, 2007

Mr. Daryl J. Greer, P.E.
Director, Division of Planning
200 Mero Street, 5th Floor
Station: W5-05-01
Kentucky Transportation Cabinet
Frankfort, Kentucky 40622

RE: Monroe County Item No. 03-8310.00

Dear Mr. Greer:

The Kentucky Department of Agriculture recognizes receipt of information relating to the above noted Item No. At this time, the Department has no comment on the proposed project.

We appreciate the opportunity to provide input.

Yours truly,

Richie Farmer, Commissioner

RECEIVED

JUN 13 2007

DEPARTMENT OF MILITARY AFFAIRS

Ernie Fletcher
Governor

Office of the Adjutant General
Boone National Guard Center
Frankfort, KY 40601-6168

Donald C. Storm
Major General, KYNG
The Adjutant General

June 5, 2007

Daryl J. Greer, P.E.
Director
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street
5th Floor
Frankfort, KY 40622

Dear Sir:

Subject: Monroe County Item No. 03-8310.00
KY 163 Scoping Study
From South of Tompkinsville to the Tennessee State Line

Pursuant to your May 30, 2007 letter, we have reviewed the project. There are no issues or concerns that impact this agency.

Sincerely,

Julius L. Berthold, BG (R)
Executive Director
Office of Management and Administration
Department of Military Affairs

C: Joseph Sanderson

TRANSPORTATION CABINET
Frankfort, Kentucky 40622
www.kentucky.gov

Ernie Fletcher
Governor

Bill Nighbert
Secretary

Marc Williams
Commissioner of Highways

May 30, 2007

General Donald C. Storm
Adjutant General
Department of Military Affairs
Boone Nat'l Guard Ctr., 100 Minuteman Pky.
Frankfort KY 40601

Dear General Storm:

Subject: Monroe County Item No. 03-8310.00
KY 163 Scoping Study
From South of Tompkinsville to the Tennessee State Line

We are requesting your office's input and comments on a planning study to determine the appropriate improvements to KY 163 from Tompkinsville to the Tennessee State Line. The Kentucky Transportation Cabinet has assembled a study team to evaluate KY 163; that study is currently in the initial data-gathering stage.

We ask that you identify specific issues or concerns of your office that could affect the development of the project. This planning study will include a scoping process for the early identification of potential alternatives, environmental issues, and impacts related to the proposed project. We believe that early identification of issues or concerns can help us develop highway project alternatives to avoid or minimize negative impacts.

We respectfully ask that you provide us with your comments by June 30, 2007, to ensure timely progress in this planning effort.

During the development of this planning study, comments will be solicited from federal, state, and local agencies, as well as other interested persons and the general public, in accordance with principles set forth in the National Environmental Policy Act (NEPA) of 1969.

Other Transportation Cabinet offices or consultants working on behalf of the Transportation Cabinet may also contact you seeking more detailed data or information to assist them in completing their environmental studies for this phase of the project.

We have enclosed the following project information for your review and comment:

- Study Area Aerial Photograph
- Study Area Topographic Map
- Years 2006 and 2030 Traffic Information

We appreciate any input you can provide concerning this project. Please direct any comments, questions, or requests for additional information to Jim Wilson of the Division of Planning at (502)564-7183 or at jimmy.wilson@ky.gov. Please address all written correspondence to Daryl Greer, P.E., Director, Division of Planning, Kentucky Transportation Cabinet, 200 Mero Street, Frankfort, KY 40622.

Sincerely,

Daryl J. Greer, P.E.
Director
Division of Planning

DJG/BSS/NH

Enclosures

c/enc: Marc Williams
Jeff Moore
Keirsten Jaggers
Steve James
Scott Pedigo
Renee Slaughter
Tom Springer, QK4
Jim Simpson
Scott Schurman
Robert Brown

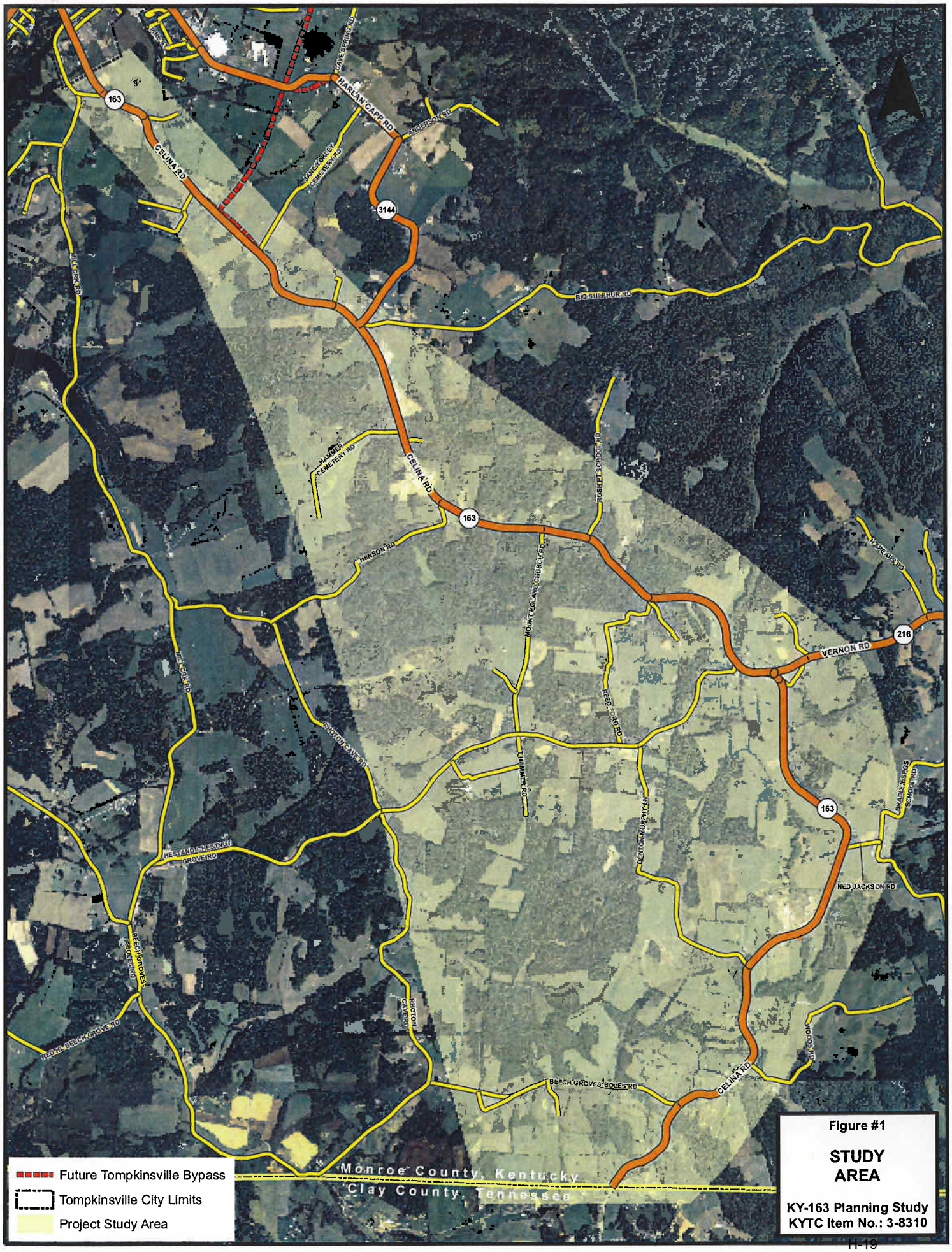
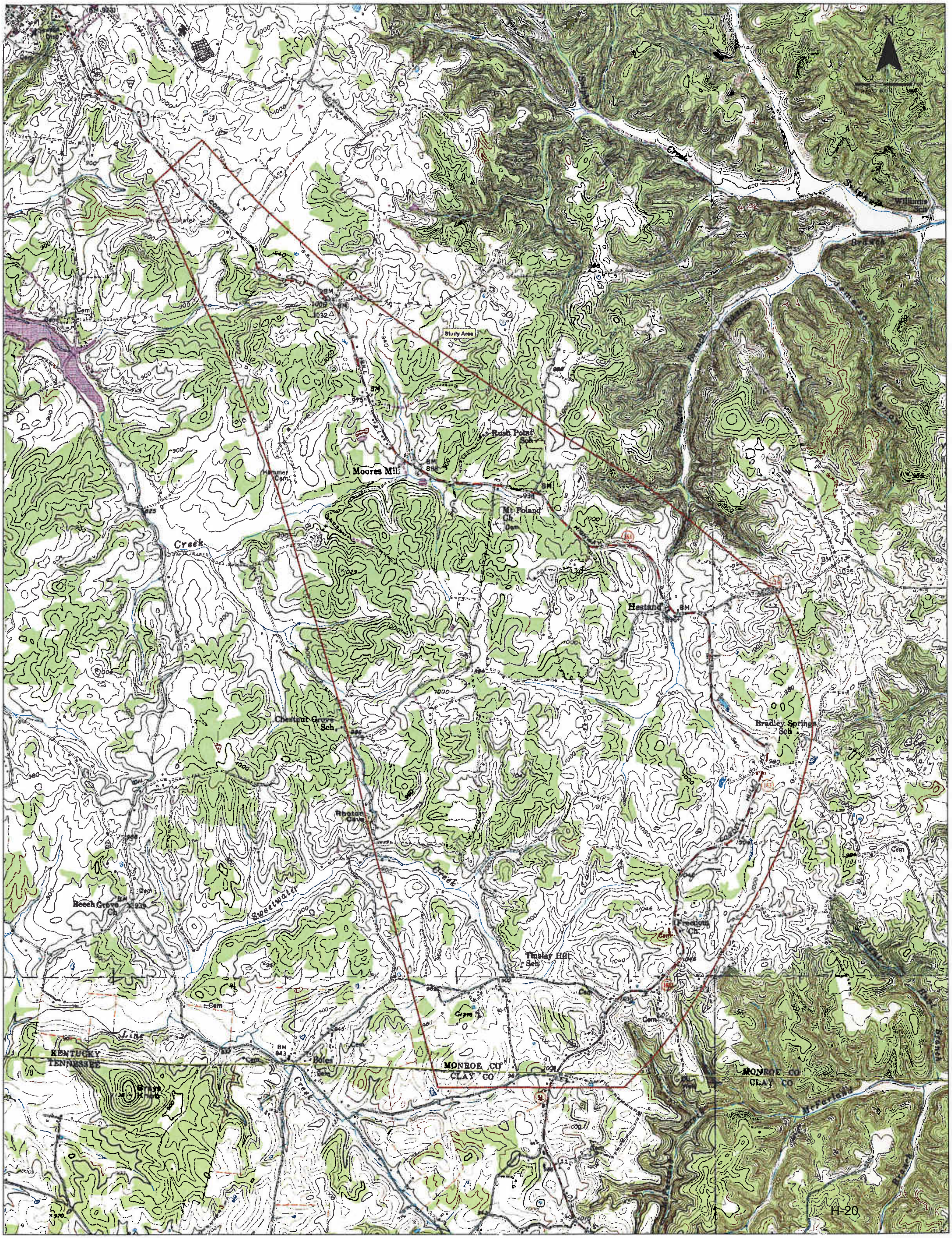


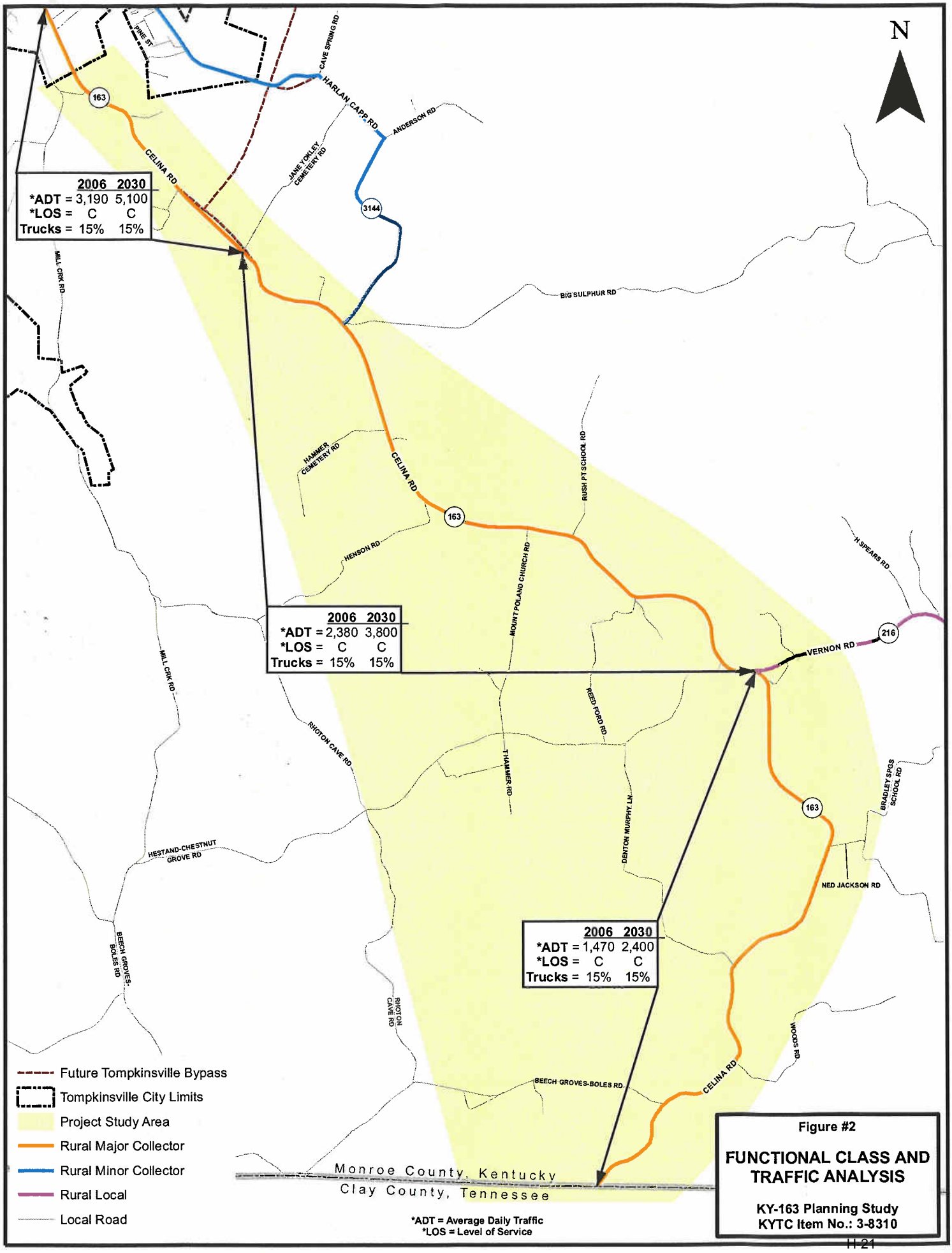
Figure #1

STUDY AREA

KY-163 Planning Study
KYTC Item No.: 3-8310



N
Study Area
Rush Point Sch
Moores Mill
Mt Poland Ch
Hammer Cem
Creek
Hestand
Bradley Springs Sch
Chestnut Grove Sch
Beech Grove Ch
Sweetwater
Tinsley Hill Sch
Freedom Ch
Line
KENTUCKY
TENNESSEE
Boles
MONROE CO
CLAY CO
Williams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2006 2030
*ADT = 3,190 5,100
*LOS = C C
Trucks = 15% 15%
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*ADT = 2,380 3,800
*LOS = C C
Trucks = 15% 15%
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*ADT = 1,470 2,400
*LOS = C C
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CELINA RD
HARLAN CAPP RD
CAVE SPRING RD
ANDERSON RD
JANE YOKLEY CEMETERY RD
PINE ST
MILL CRK RD
BIG SULPHUR RD
HAMMER CEMETERY RD
HENSON RD
RUSH PT SCHOOL RD
MOUNT POLAND CHURCH RD
H SPEARS RD
VERNON RD
REED FORD RD
THAMMER RD
DENTON MURPHY LN
BRADLEY SPGS SCHOOL RD
NED JACKSON RD
RHOTON CAVE RD
HESTAND-CHESTNUT GROVE RD
BEECH GROVES-BOLES RD
WOODS RD
163
3144
216
Future Tompkinsville Bypass
Tompkinsville City Limits
Project Study Area
Rural Major Collector
Rural Minor Collector
Rural Local
Local Road
Monroe County, Kentucky
Clay County, Tennessee
*ADT = Average Daily Traffic
*LOS = Level of Service
Figure #2
FUNCTIONAL CLASS AND TRAFFIC ANALYSIS
KY-163 Planning Study
KYTC Item No.: 3-8310

COMMERCE CABINET
DEPARTMENT OF PARKS

Ernie Fletcher
Governor

Capital Plaza Tower, 11th Floor
500 Mero Street
Frankfort, Kentucky 40601-1974
Phone 502-564-2172
Fax 502-564-9015
www.parks.ky.gov

George Ward
Secretary

J.T. Miller
Commissioner

RECEIVED
JUN 22 2007

June 19, 2007

Daryl J. Greer
P.E. Director
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street
Frankfort, KY 40622

Dear Mr. Greer:

Subject: Monroe County Item 03-8310.00
KY 163 Scoping Study
From South of Tompkinsville to the Tennessee State Line

The Kentucky Department of Parks received your request for input and comments relating to a study for improvements to KY 163 from Tompkinsville to the Tennessee State Line.

The Department of Parks has no preference in the KY 163 project.

Sincerely,

John Kington
Deputy Commissioner
Kentucky Department of Parks

KENTUCKY COMMERCE CABINET

Ernie Fletcher
Governor

Capital Plaza Tower, 24th Floor
500 Mero Street
Frankfort, Kentucky 40601
Phone (502) 564-4270
Fax (502) 564-1512
www.commerce.ky.gov

George Ward
Secretary

June 25, 2007

Mr. Daryl Greer, P.E.
Division of Planning Director
Kentucky Transportation Cabinet
200 Mero Street
Frankfort, Kentucky 40622

Re: Scoping Study
Monroe County
KY 163
Item No. 03-8310.00

Dear Mr. Greer:

The Department of Parks has reviewed your correspondence to me regarding the subject. The study will not directly impact any of our facilities. I would like to state in general that our Agency's mission is protecting the environment associated with our facilities, and we are certainly concerned about environmental impacts for the entire Commonwealth.

I appreciate you seeking our Agency's comments on this project.

Sincerely,

George Ward
Secretary

cc: John Drake

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Ernie Fletcher
Governor

Department for Natural Resources
2 Hudson Hollow
Frankfort, Kentucky 40601
Phone: (502) 564-6940
Fax: (502) 564-5698
www.eppc.ky.gov
www.dnr.ky.gov

Teresa J. Hill
Secretary

Susan C. Bush
Commissioner

June 14, 2007

Daryl Greer, P. E.
Director
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street
5th Floor
Frankfort, KY 40622

Subject: KY 163 Scoping Study
Monroe County

Dear Mr. Greer:

Thank you for the opportunity to comment on the planning study project located in Monroe County referenced in your communication of May 30, 2007.

Review of the project location does not indicate the presence of any active or abandoned mining activities in the vicinity.

I appreciate the notification and the opportunity to comment on the proposal. If you have any questions regarding this correspondence, please contact Pam Carew at (502) 564-2340.

Sincerely,

Paul Rothman

Paul Rothman, Director
Division of Mine Reclamation and Enforcement

PR/pbc

Springer, Tom

From: York, Duke (EPPC DEP DWM) [Duke.York@ky.gov]
Sent: Monday, June 04, 2007 8:42 AM
To: Gilbert, George (EPPC DEP DWM)
Subject: RE: KYTC Document

All solid waste generated by this project must be disposed at a permitted facility. If underground storage tanks are encountered they must be properly addressed. If asbestos, lead paint, and/or other contaminants are encountered during this project, they must be properly addressed.

From: Gilbert, George (EPPC DEP DWM)
Sent: Monday, June 04, 2007 8:39 AM
To: EPPC DEP DWM Branch Managers
Cc: Jones, Missy K (EPPC DPP OFI); Maybriar, Jon (EPPC DEP DWM); Hill, William (EPPC DEP DWM); McDaniel, Kerry (EPPC DEP DWM)
Subject: FW: KYTC Document

Please review the Transportation Cabinet study area in Monroe County for any sites under your jurisdiction. Report back by June 22 with a description, lat and long. Thx.

-----Original Message-----

From: Jones, Missy R (EPPC DEP DWM)

Sent: Monday, June 04, 2007 8:28 AM

To: Gilbert, George (EPPC DEP DWM)

Subject: KYTC Document

From: 5025644049 [mailto:5025644049]

Sent: Monday, June 04, 2007 8:25 AM

To: Jones, Missy R (EPPC DEP DWM)

Subject: Message received from 5025644049 on 6/4/2007 at 8:25:24 AM.

The attached fax was received from 5025644049 on 6/4/2007 at 8:25:24 AM

JobID: 347551

<< File: Fax-Jun-04-2007-08-25-10-0286.pdf >>

Taylor, Larry (EPPC DEP COM)

From: Olszowy, Diana (EPPC DNR DOF)
Sent: Monday, June 25, 2007 3:58 PM
To: Taylor, Larry (EPPC DEP COM)
Cc: Olszowy, Diana (EPPC DNR DOF)
Subject: KY 163 road improvements

Attachments: selecting and planting trees.pdf

selecting and planting trees.p...

This e-mail serves as an environmental assessment of the proposed KY 163 highway project being initiated in Monroe County. There are currently no state forests or champion trees located in the project area. However, special care should be taken around existing trees that will remain after the construction is complete. Heavy equipment should be kept away from the base of the tree to prevent wounding of the trunk or surface roots. Construction traffic should be routed away from the dripline of the tree to lessen the severity of soil compaction. Compacted soil reduces the amount of water available to the tree, and this lack of water can cause added stress. Stressed trees are vulnerable to insect and disease infestation.

After completion of the project, consider planting additional trees in the landscape. Trees selected should be matched to the site. I've attached a publication entitled "Selection and Planting Trees," which will assist in determining the correct species for the correct site conditions. Please contact me for further assistance.

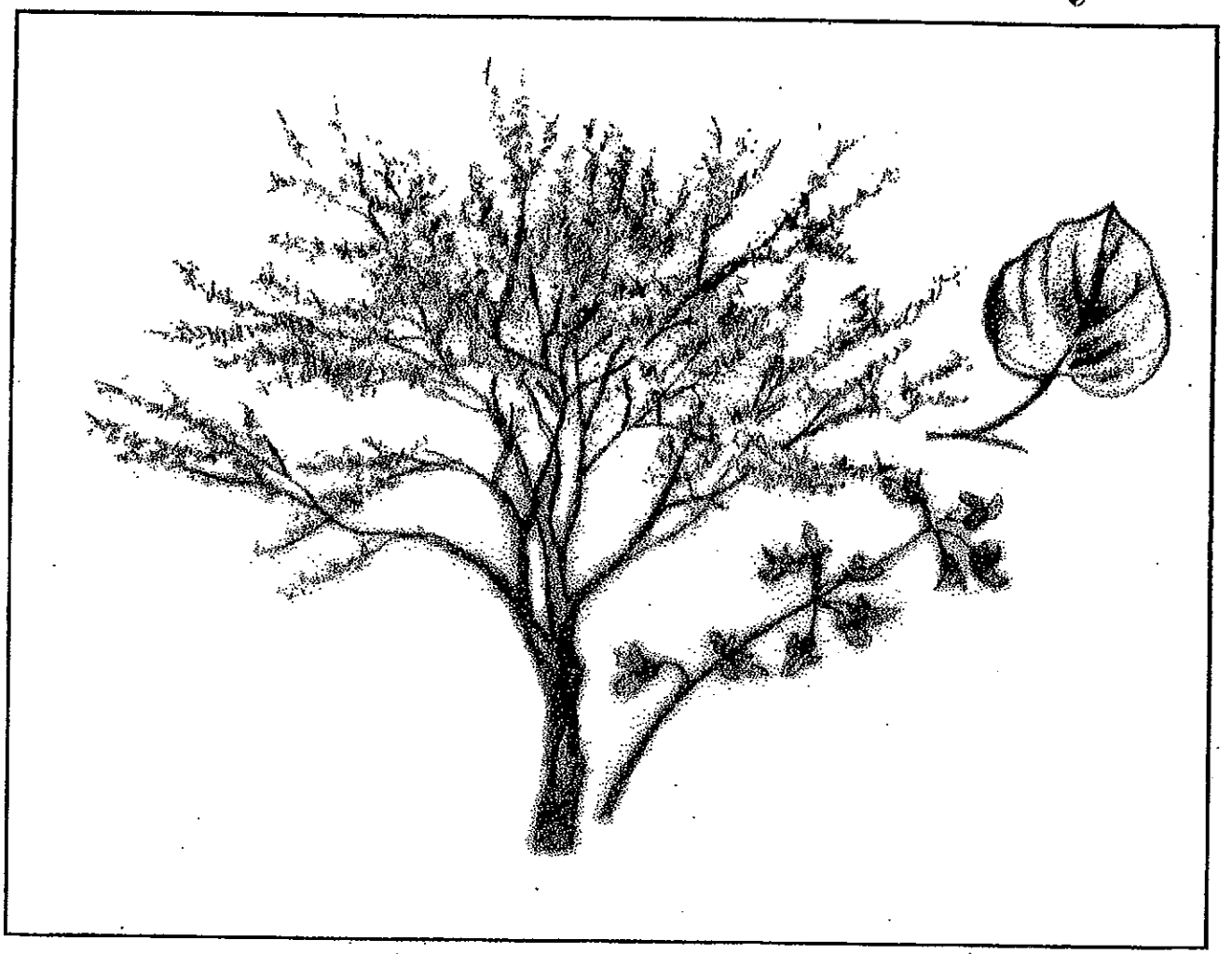
Diana Olszowy
Kentucky Division of Forestry
diana.olszowy@ky.gov
502-564-4496








T·H·E
OHIO
STATE
UNIVERSITY
EXTENSION



Selecting and Planting

TREES


Selecting and Planting Trees

Author
T. Davis Sydnor
Professor of Horticulture
Ohio State University

This publication is an update of a bulletin prepared by Dr. Phillip C. Kozel and Elaine K. Toth in 1974. It was printed as Environmental Series No. 6 by the Cooperative Extension Service and College of Agriculture and Home Economics of the Ohio State University and the Ohio Agricultural Research and Development Center. It was prepared to present the results of a 10-year comprehensive evaluation in urban and suburban areas of new introductions of shade and ornamental trees for use in the North Central United States. The original research was supported by:

OARDC	Cincinnati Gas & Electric Co.
Ohio Chapter ISTC-(now ISA)	Dayton Power & Light Co.
Ohio Nurserymen's Association	Monongahela Power Co.
Ohio Edison Co.	Ohio Power Co.
Cleveland Electric Illuminating Co.	Columbus & Southern Ohio Electric Co.

This revision was supported by The Ohio State University, Department of Horticulture; Ohio's Investor Owned Utilities; and the Ohio Department of Natural Resources, State Urban Forestry Division.

For sale publication

5/95 — 2M —Post
Issued in furtherance of Cooperative Extension work, Acts of May 8 and June 30, 1914, in cooperation with the U.S. Department of Agriculture, Keith L. Smith, Director, Ohio State University Extension, The Ohio State University.

Trees are among the most valuable natural assets in the modern city. They bring nature into the urban or suburban site, enhance the environment and, if properly planted, can increase property values.

However, urban and suburban locations are unnatural environments for trees where they are exposed to many detrimental factors. These include damaging extremes of water, light and wind. Soil and air temperatures are higher in urban areas. Deicing salts, used on roads to maintain the safety of urban residents, are damaging to many trees, as are aerial and soilborne pollutants.

Physical damage is also caused by many human activities. Roots may be cut to make room for utilities such as sewers, gas and water lines. The branches of those same trees may be pruned to avoid interference with overhead utilities such as cable TV, telephone and electrical lines. Trees must also be pruned to make room for car and foot traffic. Security lighting, a necessity in some urban areas, can be rendered ineffective by improper plant placement. Poorly placed and maintained trees may cause interruptions in utility service.

As the emphasis on and need for urban plantings increases, so does the need for a better understanding of the stresses trees encounter. All tree species, whether native or exotic, are being reevaluated for their ability to thrive in urban and suburban environments as street or park trees. The continued expansion of suburbs in Ohio means increased demand for trees adapted to these special environments.

Trees Have Many Uses

Trees serve many functions. People normally think only of their ability to beautify an area, but there are other benefits as well.

Architectural and Engineering Uses

Trees, like brick and mortar, can be used to make walls and ceilings, screen unwanted light, intercept glare, divert sound, and reduce erosion.

Reduction of Direct Light and Glare

Direct light and glare from natural and manufactured reflective surfaces can be reduced when trees of correct mature size, shape and density are planted in the proper places. Dense foliage and branching reduce light intensity, while open, loose foliage allows moderate filtration. The tree should be placed between the sun and viewer. When reflecting surfaces are involved, the tree should be placed either between the sun and the reflecting surface, or between the reflecting surface and the viewer.

Sound Control

Noises from nearby highways, industries and playgrounds can be reduced through proper placement of trees, particularly when used in conjunction with land forms or other solid barriers. The degree of sound control depends on the density of planting. A well-designed planting will include evergreens as well as deciduous trees (those trees that drop their leaves in autumn) for effective year-round sound control.

Erosion Control

Failure to protect soil from wind and water results in erosion. Tree characteristics such as coarse leaf textures, horizontal branching habits, fibrous root systems and rough bark can help slow water movement and reduce wind speed, thus reducing soil erosion from rain and wind.

Climate Control

Plants can modify the environment on a small scale. One of the best known effects of plants in this area is the ability of deciduous trees to allow light to pass through the leafless canopy during the winter months and warm up a structure beneath. The leaves then

shade that same structure during the summer months and keep the building cooler. Trees that keep the building cooler in summer and allow passive solar heating in the winter can help reduce heating and cooling costs, as shown below.

Trees are capable of guiding, deflecting and filtering winds. A structure in a wooded area will experience lower wind speeds, which will result in lower heat loss.

Areas beneath trees are somewhat protected from the effects of precipitation. Only about 80 percent of the rain that hits the top of the tree canopy will reach the ground. Perhaps an even more dramatic example of precipitation control is the use of evergreens as living snow fences. A windbreak of evergreens will filter wind and allow snow to be deposited about 1½ times the height of the screen downwind of the planting.

Aesthetic Functions

Trees add beauty and interest to urban and suburban areas. Urban areas are often harsh and are greatly softened by the presence of trees. Trees can enhance architectural designs, provide privacy and frame views. Varying textures and colors of foliage, flowers, bark and fruit create multiple seasons of interest. Trees also provide habitat and food for wildlife, attracting birds and animals into urban and suburban areas where they can be enjoyed by the residents.

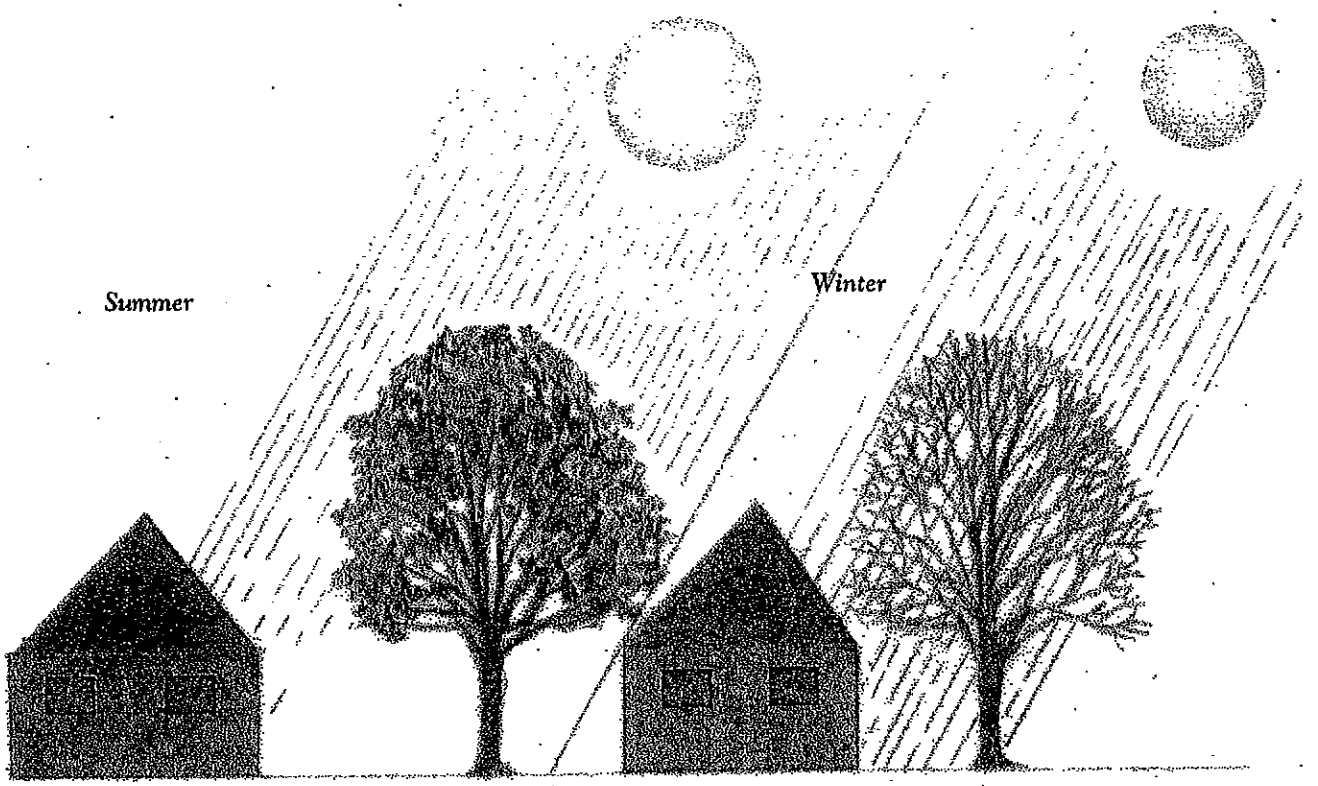
Property Values

Trees are known to affect property appraisals. Real estate appraisers classically value an attractively planted home higher than they would an unplanted home. Trees are primary contributors to this property value increase.

Improper Selection and Planting Causes Problems

Public Safety

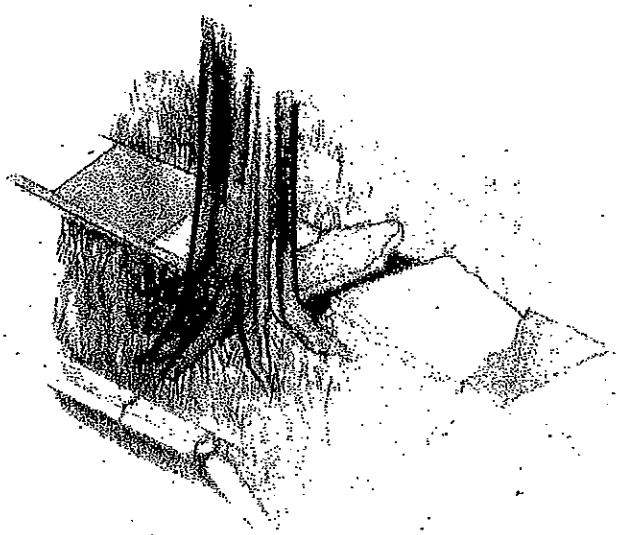
Public safety dictates that homeowners and municipalities alike have an obligation to maintain plantings in good condition. Failure to properly place any tree can cause safety problems, especially in urban sites characterized by compacted soils and large amounts of paving, both of which reduce oxygen penetration and force surface rooting in all trees. When trees are planted in spaces that are too small, as often happens in urban areas, tree size and service life are reduced.



Failure to care for trees or to remove declining trees can constitute a hazard. Trees planted in too small a space, not maintained properly, or those that are declining should be removed in the interest of public safety. Trees do not live forever and the cost of replacements should be a budgeted item for municipalities and homeowners.

Broken Sidewalks and Driveways

Careful consideration should be given to the space available for the tree and the tree's ultimate height and spread. A 6-foot square planting area can accommodate a tree with a mature height of 20 to 35 feet. When planted in narrow places, larger trees such as sycamore will cause damage when trunks and roots lift and crack pavement and sidewalks.



Interference with Lighting

Trees with dense foliage or low spreading branches should not be planted in areas of street lighting or they will interfere with sidewalk illumination. Trees planted opposite each other on both sides of the street will also interfere with security lighting.

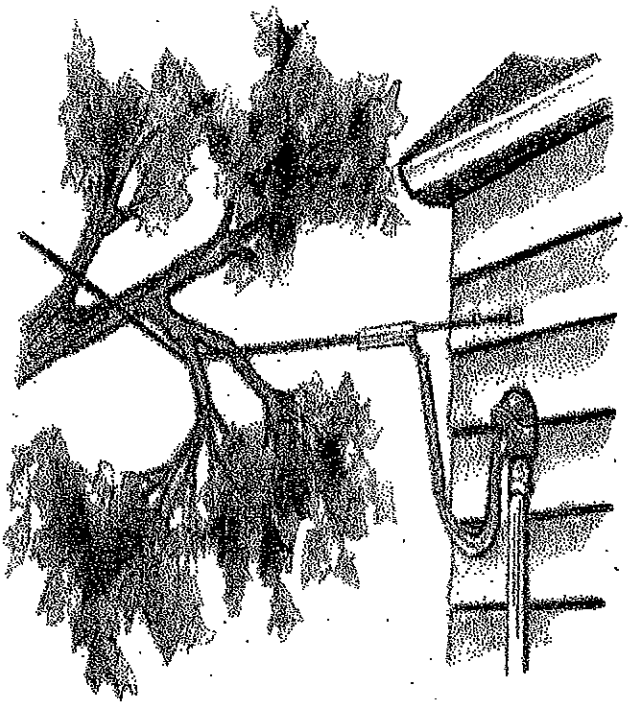
Dangerous Screening

To minimize danger of tree limbs blocking visibility of street or traffic lights and signs, driveways, and sidewalks, new trees should be planted at least 35 feet from an intersection. Branches of existing trees should be limbed up at 6½ to 7 feet above ground. Trees severely hindering visibility should be removed. Use of shrubs along streets is not recommended since density and spread impair vision.

Electrical Problems

Power failures occur when tree branches or whole trees fall or contact electric lines. Such power failures become more numerous during storms. Trees also contribute to momentary power outages that may interfere with appliances. Momentary power outages can be a minor irritant to the homeowner. Plant trees in areas where they will not interfere with utility service. If trees must be planted beneath power lines or within 15 feet of an overhead power line, choose trees with mature heights of less than 25 feet.

Underground utilities, including electric and gas lines, telephone and cable service, should also be considered. When planting trees in areas served with underground utilities, determine the location and depth of the utilities before digging. Call the Ohio Utilities Protection Service (OUPS) at 1 (800) 362-2764 to locate these underground utilities. A quick call before planting can protect you from unnecessary outages or even severe personal injury. Depth of buried



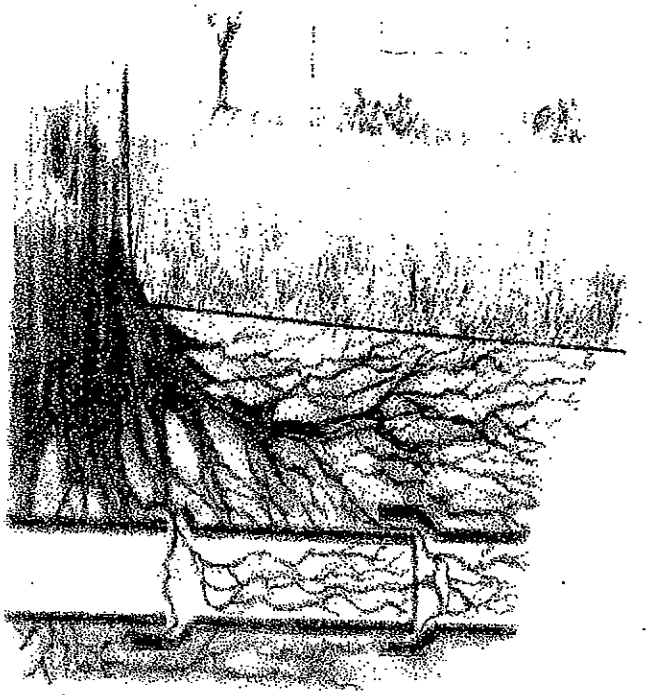
utilities in Ohio is generally 2 feet; however this depth varies greatly due to grade changes and other factors. Since new trees are generally planted at depths greater than 2 feet, it is essential to know the precise location of utilities. Utility companies must maintain these facilities, so trees and shrubs should not be planted near these lines or within 10 feet of surface mounted transformers.

Damage to Buildings

Trees that are too large and too close to the house or are not kept properly pruned will cause damage to gutters, paint or roofing. Select trees that will not litter the outdoor living area or clog gutters with twigs, fruits or other debris. Avoid trees with spreading branches, which may cause damage to buildings. Remove low hanging and dead or weakened branches that might break during a storm. Trees that overhang buildings should be inspected for structural stability every 3–5 years by a professional arborist. Remove declining trees or prune to enhance structural stability.

Clogged Sewers and Drains

Trees may cause problems by clogging storm sewers, drains and sewage systems with flowers, fruits, leaves or roots. Once the tree root gets into a sewer it will find water, air and nutrients that allow it to grow rapidly and clog the sewer. Fortunately, modern sewer installations involve cemented pipe that greatly reduces or eliminates this problem. Although these underground utilities need servicing infrequently, thought should be given to ensure that the lines could be dug up and serviced without destroying permanent plantings, such as trees.



Selecting and Planting Trees

Selection of trees depends on the desired effect and the purpose trees will satisfy in the landscape. Will they attract birds to the area? Shade a patio? Screen an unsightly view? Enhance the view of the home? Identify an entrance or exit? Trees should provide contrast and relief from surrounding buildings and create seasonal interest in areas near the home.

When selecting a specific tree consider hardiness (ability of the plant to survive extremes of winter cold and summer heat); mature height and spread; growth rate; cleanliness; type of root system; moisture and fertilizer requirements; space available; maintenance requirements; availability; ornamental effects, such as branching habit, texture, and color of bark, flower, fruit and foliage; and whether the tree is evergreen or deciduous.

Susceptibility or resistance to environmental conditions, disease and insect problems may limit your selections. A close analysis of the specific site might also help identify problems. Consider the prior use of the planting site and soil conditions, such as poor drainage, and high or low pH. The presence or absence of channelized winds and the location of utilities both above and below ground are site conditions that dictate plant choice and location. The relationship of the plant to roads, walkways and security lighting should also be considered.

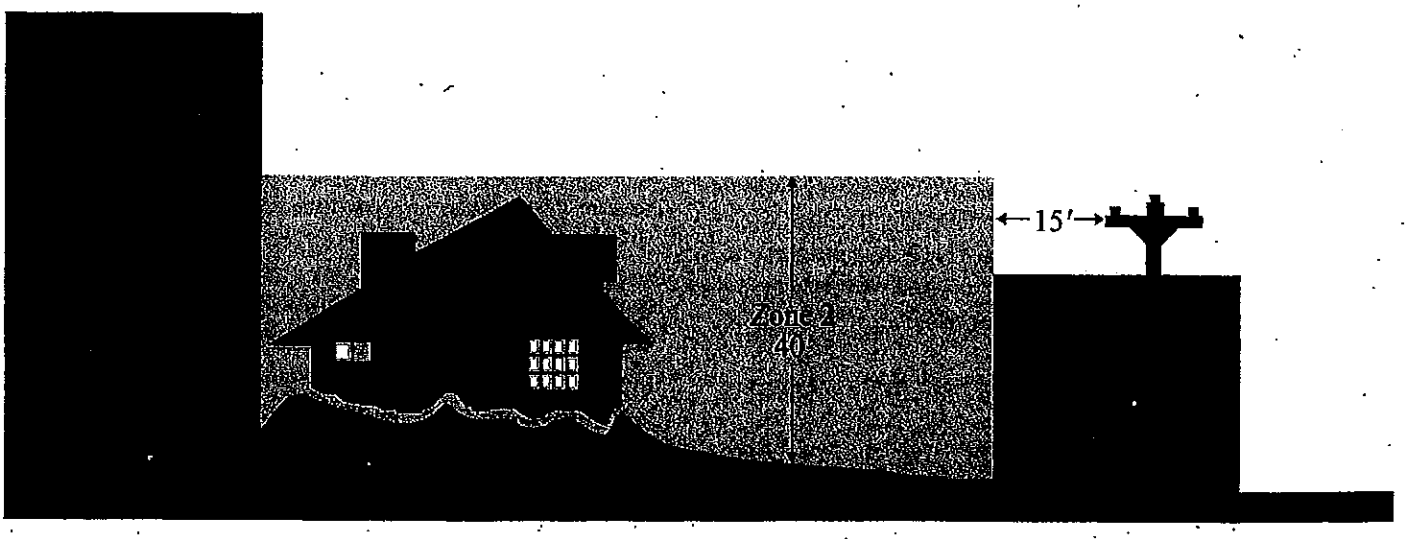
The space available at the specific site and mature tree size are important considerations and addressing these limits will go a long way towards reducing maintenance costs. The planting diagram shown below represents this graphically. In no instance should trees exceeding 25 feet be planted under overhead power lines. Do not forget the underground utilities. Out-of-sight does not mean that they would not have to be serviced at some point. Permanent plantings such as trees should be spaced to allow utility service. Ground-level utility structures such as transformers and individual service connections require space to be serviced. A minimum of 10 feet is needed.

Available Tree Types

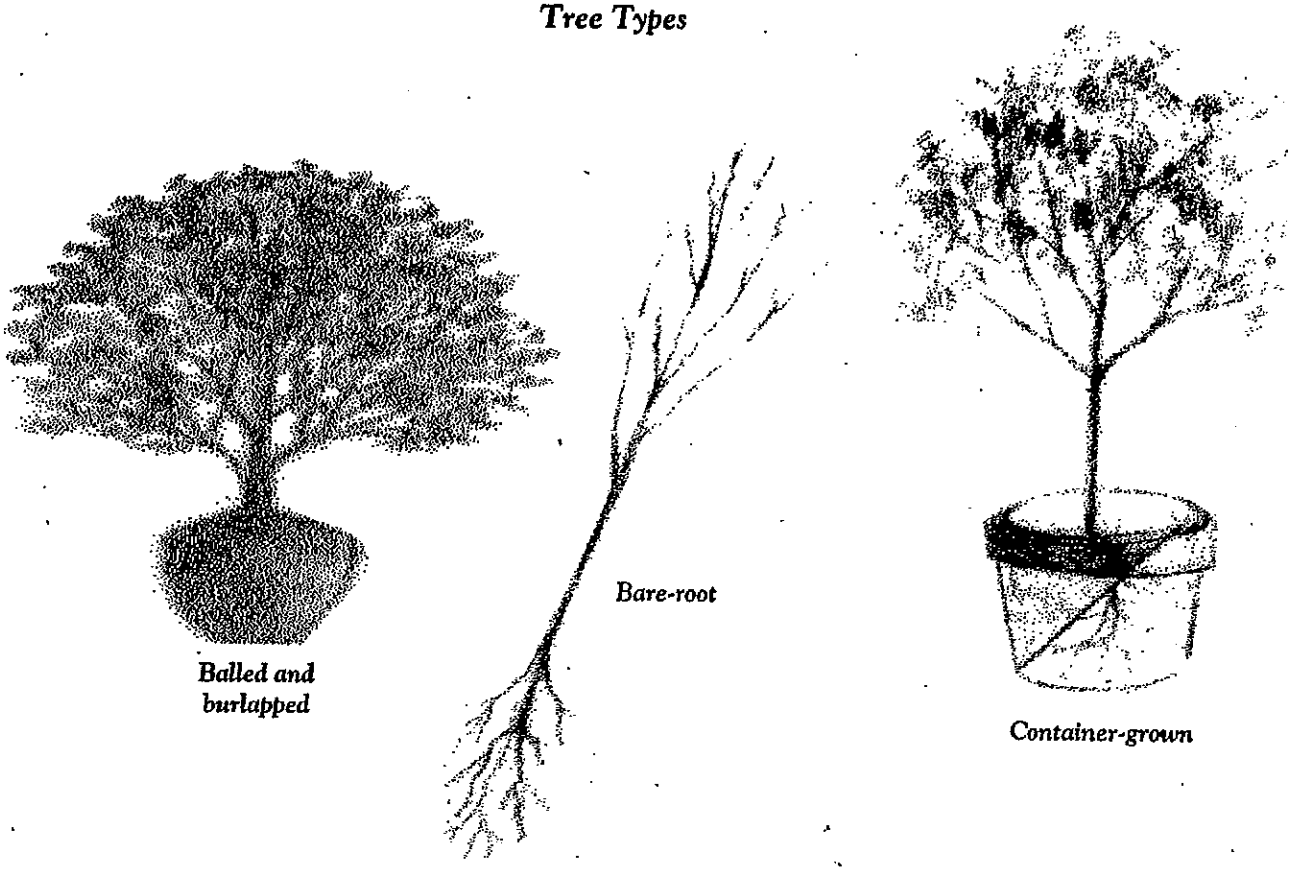
Trees can be purchased in three common forms: 1) bare-root, (BR) 2) balled and burlapped (B & B) and 3) container-grown.

Bare-Root

Bare-root plants are normally transplanted in October or early November and again in March to mid-May. These plants may be sold with the roots tightly packed in a moisture-retaining medium that is wrapped with paper or plastic or with roots loosely covered by a moist packing medium. If bare-root trees cannot be planted soon after purchase they should be temporarily planted (heeled in) by removing the packing materials and covering the roots with soil or organic matter, such as wood chips and watered regularly



Tree Types



to prevent drying of the root system. Bare-root trees are normally less than 2½ inches in diameter.

Balled and Burlapped

Many trees are moved with a ball of soil protecting their root system.

Soil balls are heavy (approximately 100 lb./per cu.ft.). Because of the weight involved, professional landscapers or arborists who have proper equipment should be hired to plant large trees. Smaller soil balls should be carried with a hand under the ball. Carrying a balled tree by the stem or branches can result in a seriously damaged root system. Mulch and water B & B trees thoroughly if they cannot be planted soon after purchase.

B & B trees are usually larger than bare-root trees and have a more extensive root system, often allowing for a shorter establishment time. Trees up to 8" in diameter are considered to be commercially transplantable using this method.

Container-Grown

Many tree types are grown in containers. Advantages of this type are that the root system is undisturbed at the time of planting, and trees can be planted throughout spring, summer and fall.

Roots must be pruned immediately before planting container-grown trees. Root pruning normally leaves about 50 percent of the roots in containerized plants, which is sufficient to permit plant establishment. This compares with about 5 percent or less of the root system being transplanted with either B & B or BR plants. Always remove the container prior to planting. If container grown plants cannot be planted at the time they are purchased, place them in a sheltered location and water to keep the soil moist. Container-grown plants can be transplanted anytime when the soil temperature is 50 degrees or higher. This allows time for the plant to be established prior to the onset of winter and to avoid damage from the freezing and thawing of the soil during winter following planting.

Planting Trees

Planting is one of the most important cultural practices that determines success or failure of tree establishment. Transplanting is not successful until the tree returns to a normal growth rate. This transplant recovery period normally takes three years, but may range from 2–8 years. To get the most satisfactory performance from trees, attention must be given to planting details. Using quality plants and following good cultural practices such as watering, pruning and fertilizing will not compensate for poor planting techniques or poor plant selection.

The usual planting seasons are spring and fall. However, container-grown trees and some B & B trees can be transplanted anytime during the growing season if proper watering practices are followed.

Where to Plant

Community ordinances may restrict planting of trees near power lines, parking strips, street lights, sewers, traffic control signs and signals, sidewalks and property lines. Municipalities may require planting permits for trees planted on city property. City codes often require that trees on city property be maintained by the city, so citizens planting an improper selection can cause problems for themselves and the municipality.

How to Plant

General planting steps are as follows:

1. Measure the height and diameter of the rootball or root spread.
2. Dig the hole 2–3" shallower than rootball or root depth. The hole diameter should be 1½ to 2 times the diameter of the rootball or root spread.
3. Set the tree on undisturbed solid ground in the center of the area. The tree should be planted 2–3" higher than it was in the nursery due to Ohio's heavy clay soils.
4. Backfill with a mixture of two parts soils from the planting hole and one part organic matter.
5. Use water to pack or settle the soil around the rootball to secure the plant.
6. A saucer of soil should be in place so that water is directed down through the roots or rootball rather than around the rootball.
7. Mulch with 2 to 4 inches of mulch such as woodchips or compost.
8. Trees should be pruned to remove broken, damaged or dead branches. Be careful not to remove any more than one third of the leaf-bearing surface at a single time. The natural shape of the plant should be retained.

When planting bare-root, containerized and balled and burlapped trees there are several specific considerations:

Bare-root: Trees, and especially exposed roots, must be kept moist prior to planting.

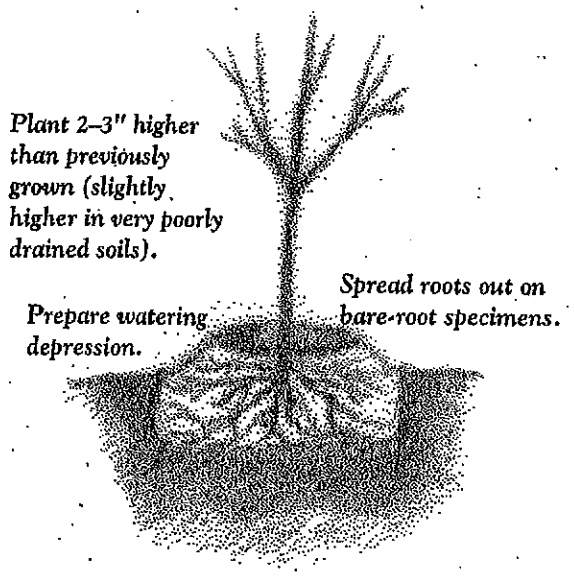
Containerized: The root mass will need to be pruned to prevent circling or girdling roots.

Balled and Burlapped: Set the rootball in the hole and remove all twine and nails. Remove or loosen the burlap from the upper third of the rootball. Wire baskets should be cut and folded down so that the top of the wire is one foot below the soil surface.

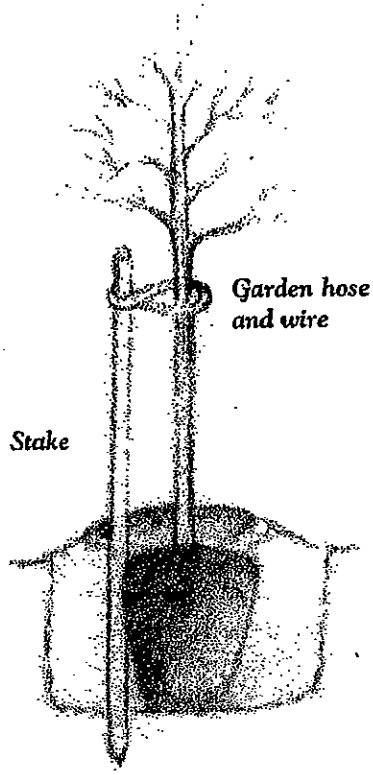
Tree Wrap

Wrapping the trunks of newly planted trees can help reduce insect damage. Before applying tree wrap the trunk should be carefully inspected to ensure that there is no mechanical damage and that serious insect and disease problems are not present. Wrapping an injured tree could worsen the condition if disease or insects are present. Tree wrap should be applied from the bottom up and secured to the tree with biodegradable twine. The tree wrap should be removed within one year, normally during winter due to lower light levels at that time of year.

Proper Planting Depth



Staking a Young Tree



Guying and Staking

Guys or stakes should only be used when necessary, such as when roots are not solid in the planting hole or where the tree could be dislodged by high winds. In most instances the weight of the rootball is normally sufficient to hold the tree in place, assuming it was properly planted. Guys or stakes should be secured to the tree using a wire through a hose and attaching the guy or stake wires at that point. Normal attachment is at two-thirds the height of the tree. To avoid girdling the tree stem, guys and stakes should be removed after one year or earlier if the wire causes problems.

Post-Planting Care

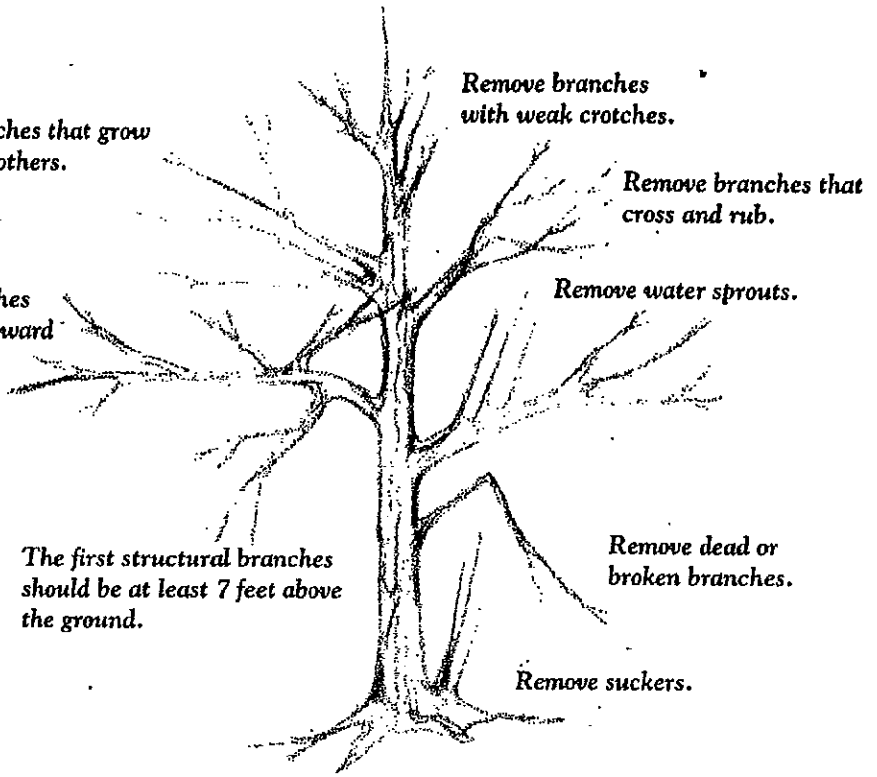
For at least one to two years after planting, trees should receive about 1 inch of water per week during the growing season. During hot and dry weather, supplemental irrigation is essential for tree establishment. Remember that excessive water can be as much of a problem and probably kills more plants than does a water deficiency. To help determine when watering is needed plant a drought-indicator plant in the rootball of the tree. Plants such as impatiens, coleus and ajuga wilt dramatically. If these plants are planted into the rootball of the tree, the tree can be watered whenever the indictor plant has been in shade for at least one hour and is still wilted. Mulch should be maintained for at least a year at a depth of 2 to 4 inches. In addition to helping to maintain moisture and reducing competition from weeds and grass, mulches may reduce the possibility of lawn mower damage.

Caring for Established Trees

A tree is a living organism in balance with surrounding natural elements. Even when the plant has been properly selected, sited and planted, maintenance is required to ensure that trees continue to bring pleasure. The following cultural practices will help ensure plant health.

- Maintaining proper pH is critical for many trees. A pH of 6.0–6.5 is ideal for almost all plants. Sulfur is normally used to lower pH and ground limestone is used to raise pH.
- Fertilization is the addition of nutrients. Nitrogen is the element most likely to be deficient in Ohio. Remember that tree roots extend 1½ to 3 times the height of the plant away from the trunk. Fertilizing lawns and shrubs also results in fertilizing nearby trees. Depending on the circumstance, between 1 and 4 pounds of actual nitrogen per 1,000 sq. ft. per year is considered adequate for tree growth and development. Never apply more that 1½ to 2 pounds of nitrogen per 1,000 square feet in an application.
- Mulching reduces the need for close mowing and trimming, which will help prevent mechanical damage by lawn mowers, string trimmers and other mechanical equipment. No more than 2–4 inches of mulch should be in place at any one time. Don't allow mulch to build up, as this can cause serious problems, such as cankering, girdling roots and reduced oxygen.
- Prevent damage to tree trunks and root systems by the indiscriminate raising or lowering of grade during construction. Grade changes around trees may result in death of the tree, although symptoms may not appear for 3 to 5 years or longer. Putting a raised bed around the trunk of a tree can also result in long-term damage. Rototilling beds under trees is another common way of damaging or killing

Pruning Trees



trees. Shrubs and annuals under trees should be pocket planted.

- Watering is important. Under normal circumstances in Ohio, 1 inch of water per week during the growing season is adequate. Many trees will require water during the establishment period, but once established are tolerant enough to survive most droughts without supplemental irrigation. However, inadequate watering during drought periods can result in increased sensitivity to insect attack, which will often show up 2 or 3 years after the drought stress was present.
- Prevent soil compaction around mature trees. The best way to alleviate compaction is through a technique called vertical mulching. Holes are drilled 2 feet on center about 18 inches into the soil and 2 inches in diameter. Care is taken to ensure that major roots are not damaged. These holes are then filled with organic or inorganic matter that allows oxygen penetration into the soil. Vertical mulching without fertilization may result in a better plant response than fertilization alone in some circumstances.
- Pruning is important during a tree's entire life. Where branches join at angles less than 35 degrees, one of the branches should be removed. Weak, damaged and diseased branches should also be removed, as should branches that are too low to the ground. The first structural branches for a tree should be at least 7 feet above the ground. If you know a branch will require removal later, keep it pruned back so that it does not become a major part of the tree canopy.
- Cabling and bracing can be used to make a plant more structurally stable. This type of work should be done only by a professional. Once cable and braces are placed in a tree, they must be inspected every 3–5 years to ensure that they remain effective. The tree becomes dependent on the braces, and if the cable or brace fails, the tree will be more vulnerable to damage than if it had not been supported. In urban areas, the standard of care required for plants is higher than would be required in forested areas. There is a duty on the part of the resident to inspect the trees on a regular basis. Where safety is questioned, contact a professional.

Further Information

A number of sources of information are available to you. Your local utility company frequently employs utility arborists who can help, upon request, if the tree is near a utility line. The Ohio Department of Natural Resources, State Urban Forestry program, and county offices of Ohio State University Extension also provide advice. Contact a professional arborist when tree work is required. Arborist firms should be investigated to ensure that they have adequate insurance to protect you and adjacent property owners in case of an accident.

Recommended Trees for Ohio

Selected trees have been grouped by height according to the diagram on page 5, listing zones 1,2 and 3.

The list does not contain all trees suitable for street tree or home grounds planting, but includes some newer trees for planting in the urban environment. The trees included in the lists all have a service life of 20 years or more.

Service life is defined as the time after planting when half of the original plants are still living. Plants have a life span, so future replacements should be considered when planting. Older plants are possible under this concept but increasingly less likely as time progresses.

Trees for sale are labeled with their botanical (genus, species, cultivar) and common names:

Acer	*rubrum*	'Franksred'	Red Sunset Red Maple
genus	species	cultivar	common name

The cultivar, a part of the botanical name indicated with single quotes in the above example, is a cultivated variety that represents a selection superior to the species because of outstanding foliage, flower or fruit character, branching habit, or disease or pest resistance.

Purchase trees by their botanical name; common names are often confusing. For example, 'Laurel Tree' is a common name applied to Shingle Oak, Sweetbay Magnolia, Mountain Laurel and Laurelcherry, which are vastly different plants. Also, a single plant may have multiple common names. For example, Amelanchier Grandiflora is know as Serviceberry, Shadblow, Sarvis Tree, Juneberry and Amelanchier.

Trees Not Generally Recommended

The following trees are currently not recommended for general use in the landscape because they have one or more of the following limiting factors: insect and disease susceptibility, fruit or bark maintenance problems or poor structural stability. These trees should not be totally ignored because several of them have merit as street trees under harsh conditions such as dry soils and pollution. Development of improved selections of these plants may allow them to be used very effectively as street trees in the future. The plants identified as undesirable for general planting are as follows:

Box Elder (*Acer negundo*)

Silver Maple (*Acer saccharinum*)

Horsechestnut (*Aesculus hippocastanun*)

Tree-of-Heaven (*Ailanthus altissima*)

Catalpa (*Catalpa* sp.)

Cottonwood (*Populus* sp.)

Poplar (*Populus* sp.)

Black Locust (*Robinia pseudoacacia*)

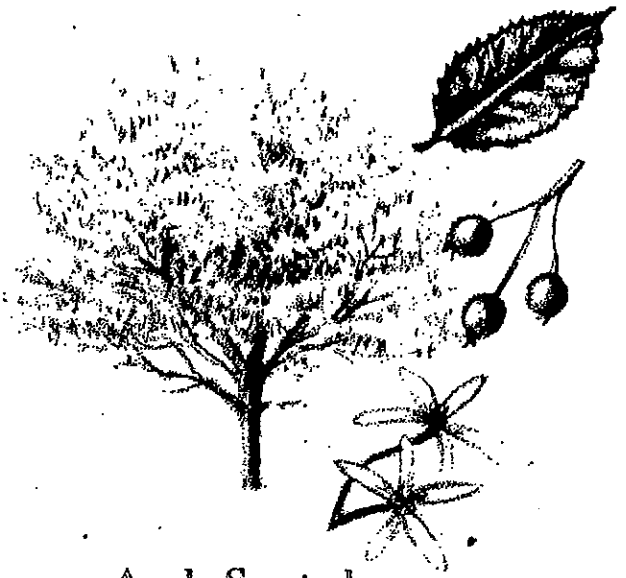
Willow (*Salix* sp.)

American Elm (*Ulmus americana*)

Siberian Elm (*Ulmus pumila*)

Desirable Small-Sized Trees

Zone 1 trees are suitable for planting beneath utility wires and mature at heights below 25'.



Apple Serviceberry

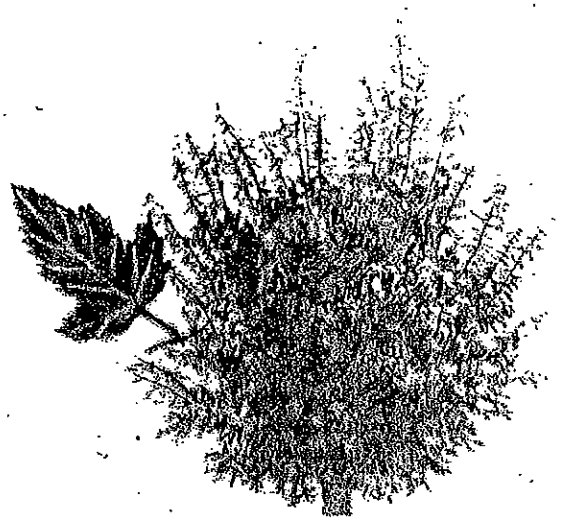
Amelanchier x grandiflora (25')

Branches are erect. Habit is upright oval to vase-shaped. White flowers are borne in early spring. Attractive smooth gray bark is a plus. May be grown single or multistemmed. Amelanchier will grow in full sun or shade and can adapt to moist sites. Fruit is edible for humans and wildlife alike. Service life is 25+ years.

Eastern Redbud

Cercis canadensis (20')

Rosy pink flowers appear in April along the stems. Flowers are present during the bloom time of the flowering dogwood. Heart-shaped leaves add interest. Redbud requires partial shade and has an irregular, vase-shaped habit of growth. Service life in partial shade is about 25 years, but in full sun drops to 10 to 15 years in Ohio.



Amur Maple

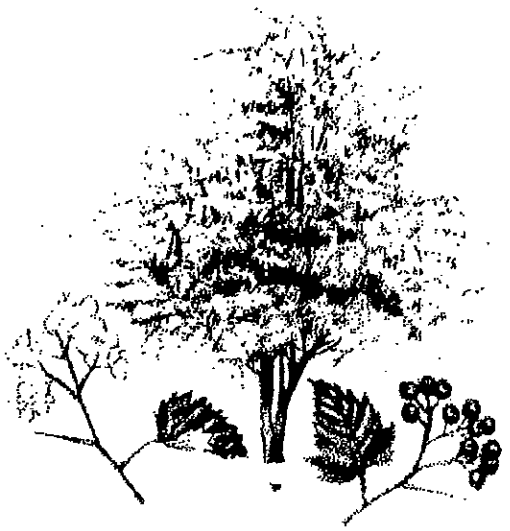
Acer ginnala (25')

This small maple is quite hardy. The fall color on this plant is outstanding, ranging from yellow to bright scarlet. This plant usually has a heavy fruit set and the tan fruit holds through the winter months, giving some winter interest. The irregular growth pattern is attractive in its own right. Amur maple is susceptible to Verticillium wilt, although this disease rarely kills the plant. Service life is 25 years.

Chinese Dogwood

Cornus kousa (25')

This is the Asiatic relative of the Eastern flowering dogwood. This plant is more anthracnose-resistant than the American native. The plant is generally less cold-hardy than the native flowering dogwood. Chinese dogwood tolerates higher stress and will grow better in a lawn area, as the flowering dogwood requires forest understory conditions. Flowers bloom in early June about three weeks after the native dogwood. The red fruit is a curious globe and attractive to wildlife. Fall color is red to wine and attractive. Cold-hardy seed sources should be used in Ohio. Named cultivars introduced prior to 1993 may not be hardy in Ohio. Service life is 25 years.



Washington Hawthorn

Crataegus phaenopyrum (25')

Four seasons of interest are present with this plant. White flowers grace the early spring. Attractive dark green foliage adorns the summer. Reddish fall color enhances the autumn and red-orange fruit decorates the holiday season. This plant is heavily armed and thorns may limit this plant's use in urban areas. Its attractiveness to birds is due to the fruit and the dense branching pattern. Washington hawthorns can be grown either single-stemmed or multistemmed and tolerate very high light. A cultivar 'Vaughn' is very salt-tolerant and might be highly desirable in areas where deicing salts are a problem. Service life is 25 years with proper pruning.

Flowering Crabapples

Malus sp. (10-25')

A wide variety of growth habits are present, but the tree is typically as broad as tall. Flowers range in color from white to pink and red. Disease-resistant cultivars tend to be white, but some pink selections are available. Fruit color ranges from red through orange to yellow and green. Crabapples as a group are very stress-tolerant and will grow in full sun to very light shade. Service life is 30-plus years.

Some disease-resistant cultivars with their flower and fruit colors are as follows: Adams: pink flowers, red fruit; Beverly: white flowers, red fruit; Bob White: white flowers, yellow fruit; Coralburst: pink flowers, very little fruit; David: white flowers, red fruit; Donald Wyman: white flowers, red fruit; Floribunda: pink flowers, red and yellow fruit; Indian Magic: pink flowers, red fruit; Indian Summer: pink flowers, red fruit; Liset: pink to red flowers, crimson fruit; Ormiston Roy: white flowers, orange fruit; Mary Potter: white flowers, red fruit; Sargentii: white flowers, red fruit; Winter Gold: white flowers, yellow fruit; Candied Apple: pink flowers, red fruit and a weeping habit.

Green Hawthorn

Crataegus viridis (25')

This hawthorn is vase-shaped, which is unusual in the hawthorns. This habit allows for foot traffic beneath the crown. The plant is less heavily armed than the Washington hawthorn. The white flowers are followed by red fruit that persist until early spring the following year. Fruit is very attractive to birds such as robins and cedar waxwings. Fall color is yellowish and more attractive than most hawthorns. Rust is a cosmetic problem with this plant. High prevailing winds tend to windthrow hawthorns in general. Service life is 25 years.

Flowering Cherry & Plum

Prunus sp. (25')

Growth patterns vary somewhat by species. Flower color ranges from white to pink. Fall color is usually not spectacular. Purple summer foliage color is available in the Purple-leaved plum. (Prunus cerasifera) The cultivars 'Thundercloud' and 'Newport' are the best. A weeping habit of growth is present and extremely attractive in the Weeping Higan Cherry (Prunus subhirtella 'pendula'). Okame, an attractive upright oval cherry with pink flowers, is cold-hardy. Service life ranges from 15 to 30 years, depending on the species.

Japanese Tree Lilac

Syringa reticulata (25')

Large panicles of ivory flowers are borne in early summer. The fruit that follows is brown and not showy. This plant can be grown single-stemmed or multistemmed and will tolerate full light. This plant is intolerant of mechanical damage. Bark can be showy and cherry-like. Service life is 20 years.

Nannyberry

Viburnum lentago (20–25')

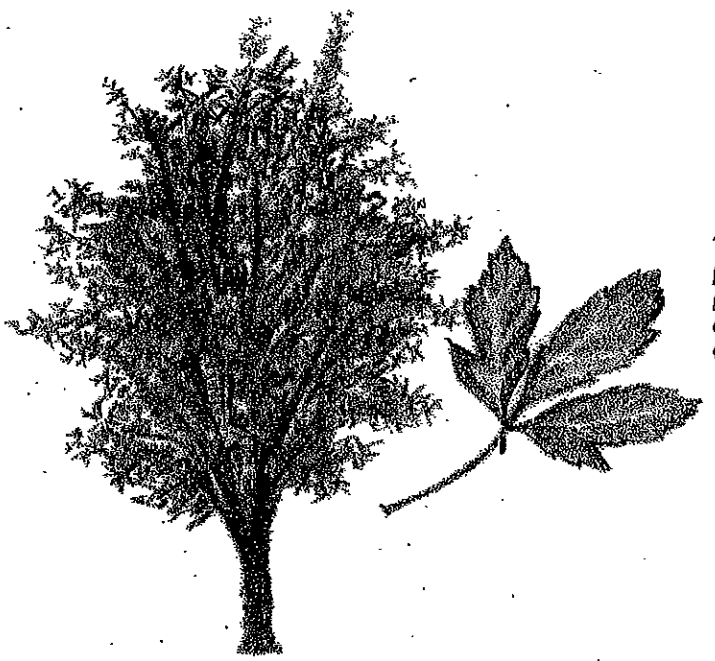
This large shrub or small tree is vase-shaped to upright oval in habit. Dark green foliage turns an attractive deep wine in fall. White flowers are borne in mid-spring. Fruit is deep purple and attractive to birds. The plant will grow in full sun or partial shade. Service life is 20 years.

Other recommended small trees:

Red Buckeye (Aesculus pavia) *20–25'*
Russian Olive (Elaeagnus angustifolia) *20'*
Wayfaringtree Viburnum (Viburnum lantana) *20'*
Blackhaw Viburnum (Viburnum prunifolium) *20'*

Desirable Medium-Sized Trees

These trees are appropriate for Zone 2. They should be planted no closer than 15' to power lines.



Paperbark Maple

Acer griseum (35')

This maple has three leaflets on each leaf and excellent red fall color. The plant's growth habit is upright oval and adorned with attractive deep green foliage through the summer months. One of the most outstanding ornamental features of this plant is the copper-colored exfoliating bark, which is showy 365 days a year. Service life is 30 years.

Goldenrain Tree

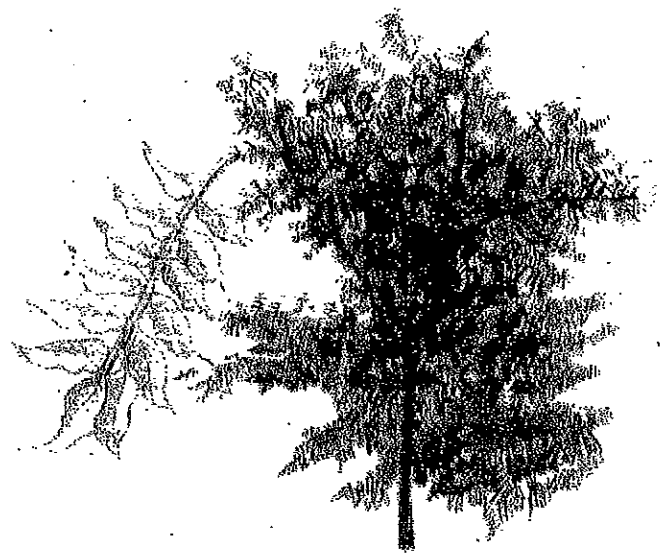
Koelreuteria paniculata (35')

A spreading, irregular habit results in this plant growing broader than tall. Goldenrain tree will tolerate high light and urban stress. Foliage is dark green. This plant has attractive yellow summer flowers. Flowers are followed by an even more showy fruit truss, which at first is green and then turns tan and dark brown. Fruit is conspicuous through the winter months. Cold-hardy seed sources are a must in Ohio. Service life is 25 years.

Callery Pear

Pyrus callyerana (35')

This city-tolerant flowering tree does well in sidewalk cuts. Glossy green foliage and early white flowers are attractive additions to the city scene. Some selections have excellent fall color. Storm damage is a serious threat and the best cultivars are those with good branch structure. 'Aristocrat' and 'Autumn Blaze' have the best branch structures at present. 'Redspire' and 'Chanticleer' are intermediate in susceptibility to storm damage. 'Bradford' and 'Faureri' are very prone to storm damage, as the plant exceeds 6 inches in trunk diameter. Fruit is bronze and not showy, but is attractive to birds who also like the dense branching habit. Service life is 15 to 25 years, depending on storm-damage sensitivity.



Amur Corktree

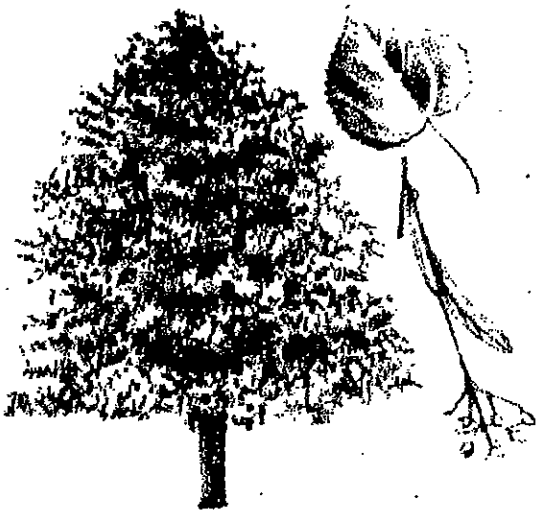
Phellodendron amurense (40')

This plant is tolerant of city conditions but not restricted soil space. Corktree has an unusually broad spreading habit, often being twice as broad as it is tall. Rich green foliage is attractive throughout the summer. Male cultivars such as 'Macho' do not have fruit. The small black fruit of the female can be a litter problem on walkways. The female plants grow much more slowly than do males. Service life is 30 years.

Japanese Pagodatree

Saphora japonica (35')

This stress-tolerant tree is valued for its summer flowers, which are white to ivory. It is tolerant of city conditions and restricted soil spaces. In Ohio, care should be taken to use only cold-hardy seed sources. The popular cultivar 'Regent' is not cold-hardy in Ohio. The dark green foliage is an additional summer feature. Service life is 25 years.



Littleleaf Linden

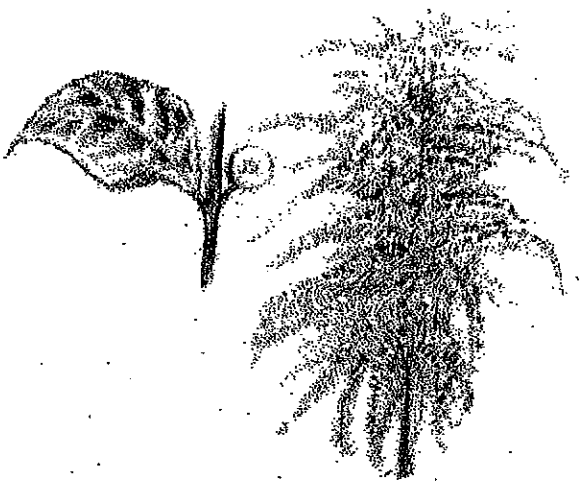
Tilia cordata (40')

This plant is intolerant of mechanical injury but if protected from damage can serve well in urban areas. It does not grow in restricted root spaces. For this plant to function, it must be grown in unrestricted root space with protection from mechanical injury. Under these conditions, 'Greenspire,' 'Chanticleer' and 'Bicentennial' are good selections. The small yellow fragrant flowers are not conspicuous but extremely attractive to bees. People that are allergic to honey bees would do well to avoid this plant. Service life is 20 years.

Hedge Maple

Acer campestre (35')

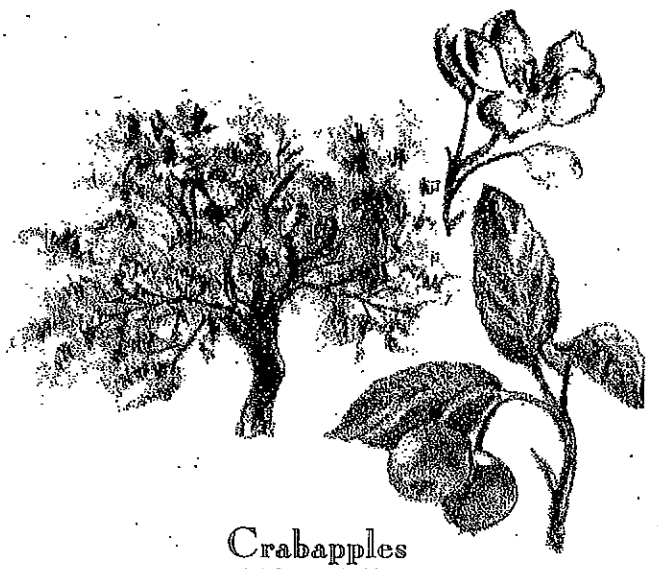
A dense upright oval growth pattern is adorned with dark green summer foliage. This plant may be grown single-stemmed or multistemmed. This maple can be allowed to retain foliage to the ground or can be limbed up to allow foot traffic beneath the plant. This plant is tolerant of urban conditions but is susceptible to Verticillium wilt. Fall color is not showy. Service life is 30 years.



Lacebark Elm

Ulmus parvifolia (35')

This tree has variable hardiness. Only cold-hardy seed sources or cultivars should be grown in Ohio. Foliage is dark green and the tree holds foliage late into the fall. Fall color ranges from yellow to plum in color. Attractive flaking bark gives rise to the common name. This plant is resistant to Dutch elm disease, elm yellows and elm leaf beetle. This tree is extremely urban tolerant and can be grown in sidewalk cuts. Service life is 30-plus years.



Crabapples

Malus sp. (35')

Some crabapples are medium-sized trees and should be treated as such. Like their smaller counterparts, these plants are very urban-tolerant and make remarkable landscape subjects in urban situations. Dolgo is white flowered with large red fruit. The large fruit (1½ inches) is edible, but can be a litter problem if not harvested. 'Zumi Calocarpa,' the 25–30' tall flowering crab, has white flowers and red fruit. 'Snowdrift' is a large crab with white flowers and orange-red fruit. 'Spring Snow' is a white flowering crab that has not been known to set fruit. 'Spring Snow' is an ideal planting where fruit is not desired, but it does tend to have poor branch structure, although crabapples in general are resistant to structural failure. Service life is 35 years.

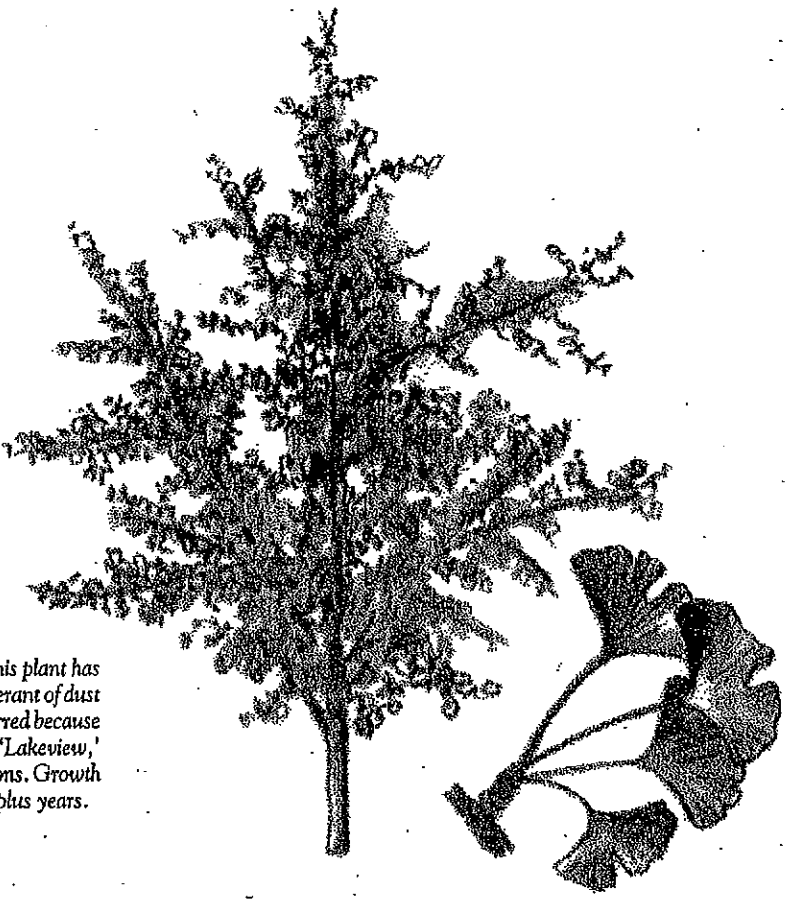
Desirable Large-Size Trees

Zone 3 trees should be planted a distance of at least 35 feet from overhead power lines and structures.

Freeman Maple

Acer x Freemani (65')

This is an interspecific hybrid between silver and red maples. It takes advantage of some of the assets of each of its parents. Freeman maples are more urban-tolerant and more tolerant of alkaline soils than red maple. By selecting the individual cultivar, fall color can be outstanding. 'Autumn Blaze' has stunning scarlet fall color. 'Celebration' has particularly good branching structure and moderate growth rate. 'Armstrong' is upright for about 20 years, then returns to a normal habit of growth. Red maple is similar in many respects but is less urban tolerant with a 20–25 year service life. Service life exceeds 30 years.



Ginkgo

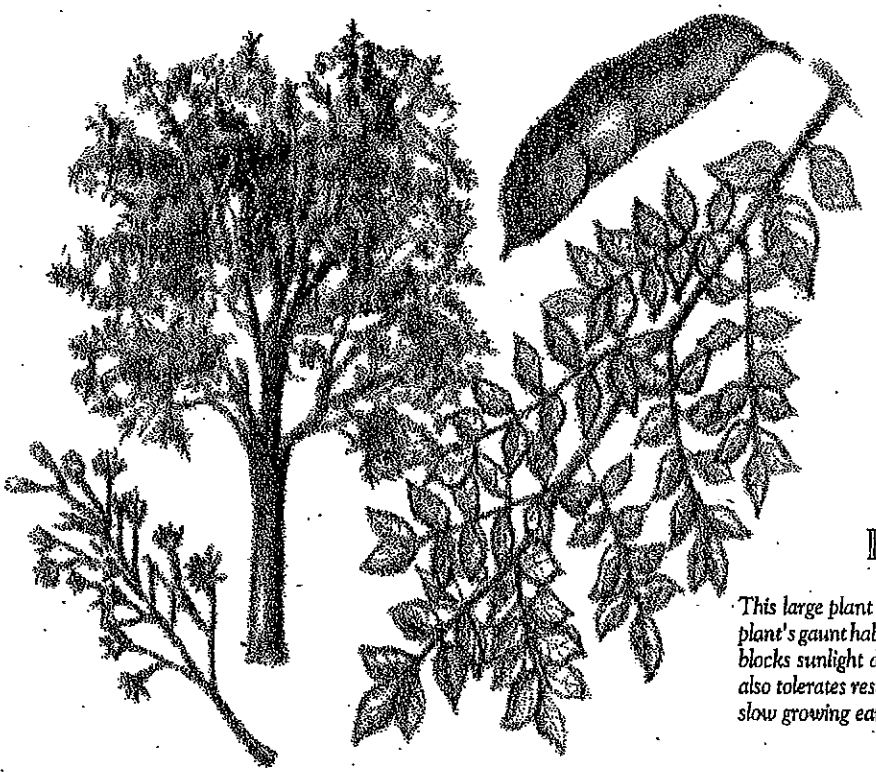
Ginkgo biloba (60')

The leaf is an unusual fan shape with yellow fall color. This plant has a high degree of insect and disease resistance and is quite tolerant of dust and dirt in urban areas. Male selections of ginkgo are preferred because they do not have the bad-smelling fruit. 'Autumn Gold,' 'Lakeview,' 'Princeton Sentry' and 'Fairmount' are known male selections. Growth habit is highly variable within cultivars. Service life is 30-plus years.

Thornless Honeylocust

Gleditsia triacanthos (65')

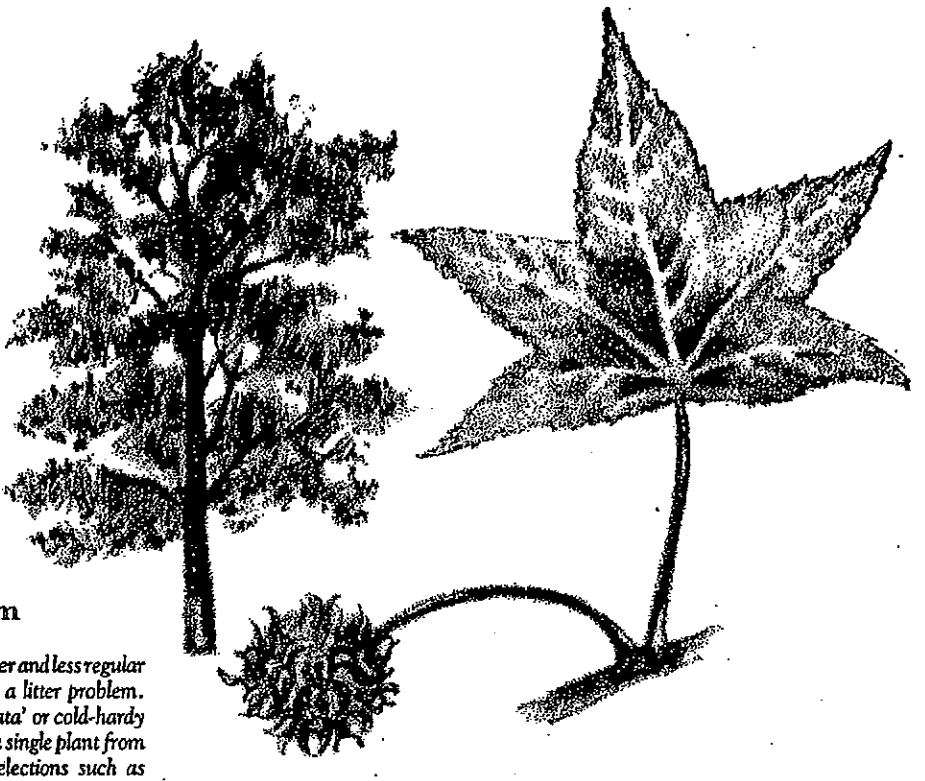
'Moraine,' 'Shademaster' and 'Skyline' are good selections. 'Skyline' is the most pest-resistant honeylocust. They are extremely fine-textured trees. A somewhat vase shaped habit of growth when young gives way to a irregular growth pattern as the tree matures. If desired, a gold summer foliaged form is available. Improved cultivars normally have less fruit than the species. Service life varies from 15 years in high-stress areas to 30 years in lawn areas.



Kentucky Coffeetree

Gymnocladus dioica (60')

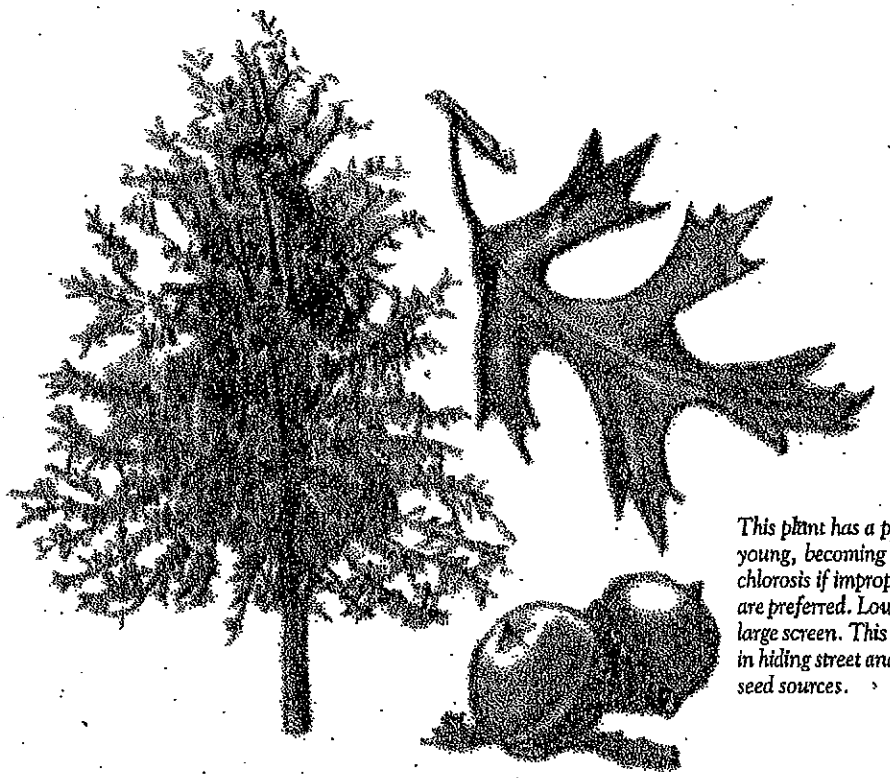
This large plant is particularly useful for planting near windows. This plant's gaunt habit during the winter allows light passage while the foliage blocks sunlight during the summer months. This urban-tolerant plant also tolerates restricted root space and poor soils. Kentucky coffeetree is slow growing early and faster after 10 years. Service life is 30 years.



American Sweetgum

Liquidambar styraciflua (55')

Young plants are generally pyramidal, becoming broader and less regular in habit with age. The 1-inch diameter fruit may be a litter problem. Cold-hardy selections such as 'Moraine' and' Variegata' or cold-hardy seed sources are a must in Ohio. Fall color ranges on a single plant from primrose to a deep wine. Some of the southern selections such as 'Burgundy,' 'Festival' and 'Palo Alto'. are not cold-hardy in Ohio. Plants are tolerant of restricted soil space. Service life is 25 years.



Pin Oak

Quercus palustris (65')

This plant has a pyramidal habit with pendulous lower branches when young, becoming upright oval with age. Pin oak is susceptible to iron chlorosis if improper seed sources are used. Ohio adapted seed sources are preferred. Lower branches will trail the ground, making an excellent large screen. This same habit may be undesirable if the screening results in hiding street and traffic signs. Service life is 30-plus years for adapted seed sources.

Department of Fish and Wildlife Resources Comments

KENTUCKY DEPARTMENT OF FISH & WILDLIFE RESOURCES
COMMERCE CABINET

Ernie Fletcher
Governor

#1 Sportsman's Lane
Frankfort, Kentucky 40601
Phone (502) 564-3400
1-800-858-1549
Fax (502) 564-0506
fw.ky.gov

George Ward
Secretary

Dr. Jonathan W. Gassett
Commissioner

June 27, 2007

Daryl J. Greer, P. E.
Director
Division of Planning
Kentucky Transportation Cabinet
200 Mero Street
5th Floor
Frankfort, KY 40622

RE: Monroe County Item No. 03-8310.00
KY 163 Scoping Study
From South of Tompkinsville to the Tennessee State Line

Dear Mr. Greer:

The Kentucky Department of Fish and Wildlife Resources (KDFWR) have received your request for the above-referenced information. The Kentucky Fish and Wildlife Information System indicate that the federally endangered gray bat, *Myotis grisescens* and Indiana bat, *Myotis sodalis* are known to occur or could occur within close proximity to the project area. Please be aware that our database system is a dynamic one that only represents our current knowledge of the various species distributions.

- The Indiana bat utilizes a wide array of habitats, including riparian forests, upland forest, and fencerows for both summer foraging and roosting habitat. Indiana bats typically roost under exfoliating bark, in cavities of dead and live trees, and in snags (i.e., dead trees or dead portions of live trees). Trees in excess of 16 inches diameter at breast height (DBH) are considered optimal for maternity colony roosts, but trees in excess of 9 inches DBH appear to provide suitable maternity roosting habitat. Male Indiana bats have been observed roosting in trees as small as 3 inches DBH. Removal of suitable Indiana bat roost trees due to construction of the proposed project should be completed between October 15 and March 31 in order to avoid impacting summer roosting Indiana bats. However, if any Indiana bat hibernacula are identified on the project area or are known to occur within 10 miles of the project area, we recommend the applicant only remove trees between November 15 and March 31 in order to avoid impacting Indiana bat "swarming" behavior.
- In areas where bats are known to occur, cave entrances, mine portals, and/or rock shelters that exist within the project area should be surveyed for potential use by such species as gray bats and Indiana bats. KDFWR recommends avoiding those areas that provide adequate habitat for bats.
- To minimize impacts to aquatic resources strict erosion control measures should be developed and implemented prior to construction to minimize siltation into streams located within the project area. Such erosion control measures may include, but are not limited to silt fences, staked straw bales, brush barriers, sediment basins, and diversion ditches. Erosion control measures will need to be installed prior to construction and should be inspected and repaired regularly as needed.

For more information on how to precede with the threatened/endangered species surveys please contact the US Fish and Wildlife Service Kentucky Field Office at (502) 695-0468.

It appears that the proposed project has the potential to impact wetland habitats. KDFWR recommends that you look at the appropriate US Department of Interior National Wetland Inventory Map (NWI) and the appropriate county soil surveys to determine where the proposed project may impact wetlands. Additionally, field verification may be needed to determine the extent and quality of wetland habitats within the project area. Any planning should include measures designed to eliminate and/or reduce impacts to wetland habitats. If impacts cannot be avoided, mitigation should be properly designed and proposed to offset the losses. KDFWR will recommend, at a minimum, a 2:1 mitigation ratio for any permanent loss or degradation of wetland habitats.

KDFWR recommends that you contact the appropriate US Army Corps of Engineers office and the Kentucky Division of Water prior to any work within the waterways or wetland habitats of Kentucky. Additionally, KDFWR recommends the following for the portions of the project that impact streams:

- Channel changes located within the project area should incorporate natural stream channel design.
- If culverts are used, the culvert should be designed to allow the passage of aquatic organisms.
- Culverts should be designed so that degradation upstream and downstream of the culvert does not occur.
- Development/excavation during low flow period to minimize disturbances.
- Proper placement of erosion control structures below highly disturbed areas to minimize entry of silt into area streams.
- Replanting of disturbed areas after construction, including stream banks, with native vegetation for soil stabilization and enhancement of fish and wildlife populations. We recommend a 100 foot forested buffer along each stream bank.
- Return all disturbed instream habitat to a stable condition upon completion of construction in the area.
- Preservation of any tree canopy overhanging any streams within the project area.

I hope this information proves helpful to you. If you have any questions or require additional information, please call me at (800) 852-0942 Extension 366.

Sincerely,

Doug Dawson

Doug Dawson
Wildlife Biologist III

Cc: Environmental Section File

RECEIVED

JUL 02 2007

ENVIRONMENTAL AND PUBLIC PROTECTION CABINET

Ernie Fletcher
Governor

Department for Environmental Protection
Division for Air Quality
803 Schenkel Lane
Frankfort, Kentucky 40601-1403

Teresa J. Hill
Secretary

June 26, 2007

Mr. Daryl J. Greer, P.E.
Director, Division of Planning
Kentucky Transportation Cabinet
200 Mero Street, 5th Floor
Frankfort, Kentucky 40622

Dear Mr. Greer,

The Division has reviewed the planning study for evaluating proposed improvements along KY 163 from Tompkinsville to the Tennessee State Line, in Monroe County, Item Number 03-8310.00. The following Kentucky Administrative Regulations apply to this proposed project:

Kentucky Division for Air Quality Regulation **401 KAR 63:010** Fugitive Emissions states that no person shall cause, suffer, or allow any material to be handled, processed, transported, or stored without taking reasonable precaution to prevent particulate matter from becoming airborne. Additional requirements include the covering of open bodied trucks, operating outside the work area transporting materials likely to become airborne, and that no one shall allow earth or other material being transported by truck or earth moving equipment to be deposited onto a paved street or roadway. Please note the Fugitive Emissions Fact Sheet located at http://www.air.ky.gov/homepage_repository/e-Clearinghouse.htm.

Kentucky Division for Air Quality Regulation **401 KAR 63:005** states that open burning is prohibited. Open Burning is defined as the burning of any matter in such a manner that the products of combustion resulting from the burning are emitted directly into the outdoor atmosphere without passing through a stack or chimney. Open burning may be utilized for the expressed purposes listed on the Open Burning Fact Sheet located at http://www.air.ky.gov/homepage_repository/e-Clearinghouse.htm. Although, vegetative matter accumulated by land clearing is included as a permissible method of disposal, the Division encourages the use of chipping and grinding in order to avoid excessive particulate emissions in the immediate vicinity of the project.

Finally, the projects listed in this document must meet the conformity requirements of the Clean Air Act as amended and the transportation planning provisions of Title 23 and Title 49 of United States Code.

The Division also suggests an investigation into compliance with applicable local government regulations.

Every effort should be made to maintain compliance with the preceding regulations and requirements. The Division also suggests an investigation into compliance with applicable regulations in the local governments. If there are any questions relating to this matter, please contact Joe Forgacs at (502) 573-3382 extension 309.

Sincerely,

John S. Lyons
Director

JSL/jmf

KY 163 Scoping Study from South of Tompkinsville to the Tennessee State Line

Endorsement:

A request for review of the KY 163 Scoping Study from South of Tompkinsville to the Tennessee State Line was received on June 11, 2007. The Division of Water (DOW) completed this assessment review and found that the information provided warranted an endorsement of this project. Below are the comments that were received.

Water Quality Branch:

A Special Water exists and will mostly likely be affected by this construction corridor of this project. The segment is McFarland Creek (MPT 0.8 to 6.2). The Lat/Long for this segment is downstream point (36.16327, -85.5095) and upstream point (36.616, -85.5876) in Adair County. It is part of the KDOW's reference reach stream program that is used to provide data for similar streams for support comparisons. We use this data from streams like this one to be able to tell what biota should be living in the stream if not affected by man-made perturbations.

Groundwater:

Improvements to KY 163 from Tompkinsville to the Tennessee state line are unlikely to have any permanent detrimental impacts to groundwater. However, because this is karst terrane, which is inherently sensitive to potential pollution from surface activities, the appropriate measures should be taken to ensure that these resources are protected. Endorse.

Therefore, to protect the area's groundwater, the measures found in the following should be adhered to: (Kentucky Transportation Cabinet) KYTC Best Management Practices, the Kentucky Department of Highways Standard Specifications, and the KYTC Generic Groundwater Protection Plan. If, during construction, these measures are found to be inadequate, KYTC is strongly encouraged to consult with the Kentucky Geological Survey and the Groundwater Branch of the Kentucky Division of Water in the development of any new measures that may be necessary.

Field Operations

Endorse.

Water Resources:

This project does not require a Stream Construction Permit from the DOW; however, the Transportation Cabinet must meet FEMA requirements.

Enforcement Branch:

The Division of Enforcement does not object to the project proposed by the applicant.

Springer, Tom

From: Wilson, Jimmy (KYTC) [Jimmy.Wilson@ky.gov]
Sent: Monday, June 25, 2007 11:46 AM
To: Witt, Thomas (KYTC)
Subject: FW: Monroe County Item No. 03-8310.00

From: Houlihan, John (KYTC)
Sent: Monday, June 25, 2007 11:19 AM
To: Wilson, Jimmy (KYTC)
Subject: Monroe County Item No. 03-8310.00

Mr. Wilson,

The above subject will have no negative effect on air navigation, however if an equipment use exceeds 200' above ground level a permit must be obtain from this office. If you have any questions let me know.

Thank you.

Kentucky Airport Zoning Commission
John Houlihan, Administrator
200 Mero Street
Frankfort KY 40622
502.564.9900 Ext. 3854
Fax 502.564.7953
www.transportation.ky.gov/aviation/zoning.htm

M E M O R A N D U M **P-008-2007**

TO: Daryl Greer PE
Director
Division of Planning

FROM: William Broyles, PE
Geotechnical Engineering
Branch Manager
Division of Structural Design

BY: Michael Blevins, PG
Geotechnical Branch

DATE: July 2, 2007

SUBJECT: Monroe County
FD04 068 1063 000-005 D
KY 163 - From South of Tompkinsville to Tennessee State Line
Item # 03-8310.00
Mars # 7970701D
Geotechnical Review for Scoping Study

The Geotechnical Branch has completed a review of the Geologic Maps for Tompkinsville and Union Hill Quadrangle (# 937); and the Vernon and Celina Quadrangle (# 966). The following comments are provided.

The project study area is underlain by a Brecciated Sandstone (QTb), and bedrock of the St. Louis Limestone Formation (Msl), Salem and Warsaw Limestone Formation (Msw) and Fort Payne Formation (Mfp).

The Brecciated Sandstone consists of angular sandstone boulders, cobbles and sandstone fragments in a clayey silt and sand matrix. Boulders can be as much as 2 feet thick and 3 feet long. The sandstone is very friable and weakly cemented with iron oxide and silica. Cut will be highly erodeable, required to have slope protection and flatter than normal slopes. Soil stabilization measures (cement and/or lime) would likely be required. **This unit should be avoided** and is shown on the Attached Geologic Quadrangle Map.

The St. Louis Limestone consists of limestone with chert concretions and has very good engineering properties suitable for roadway applications. Sinkholes are common along with deeper soils. Sinkholes are shown on the attached Geologic Quadrangle Map.

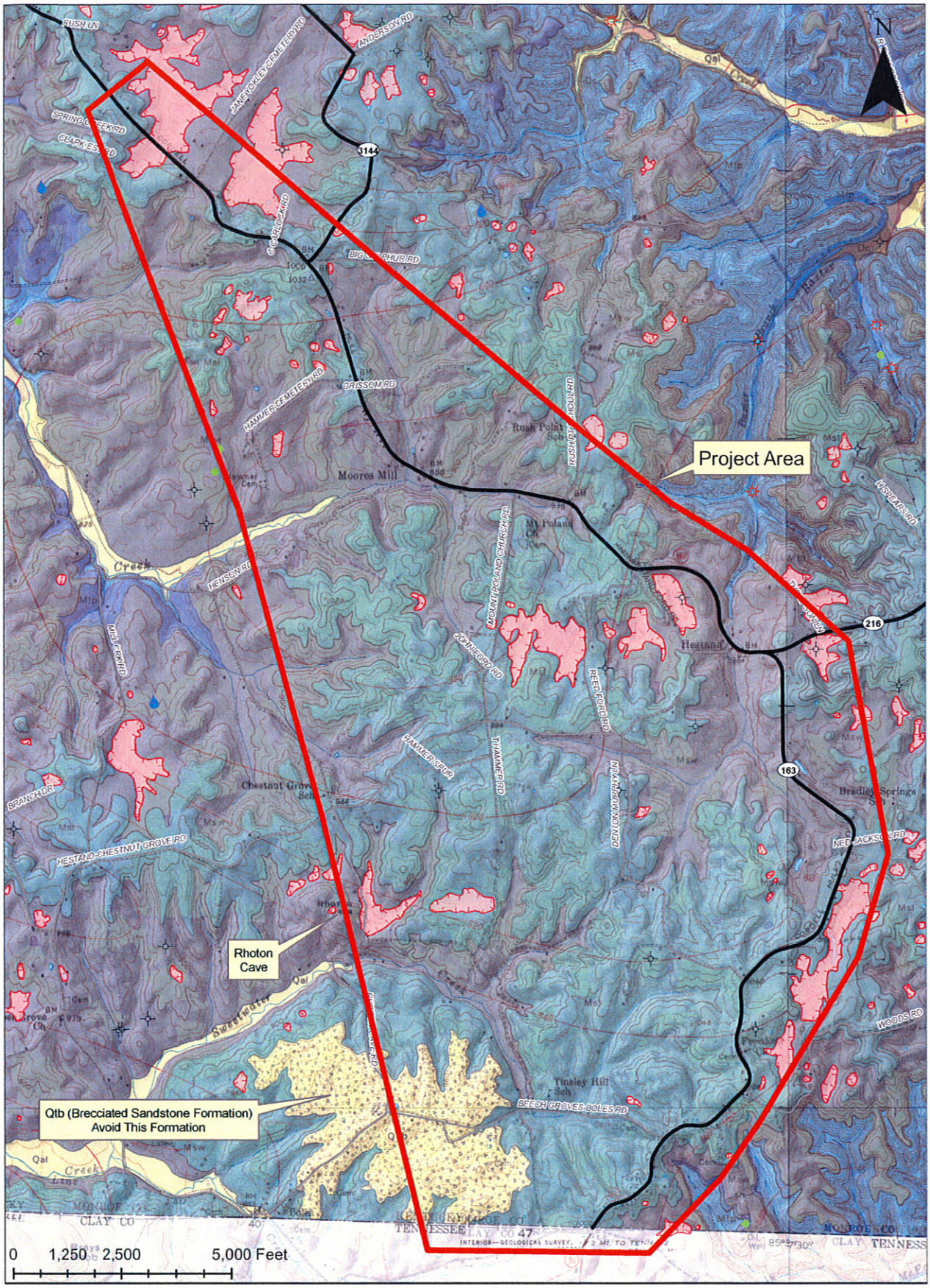
The Salem and Warsaw Limestone's consist of thick bedded Limestone with cross-bedding and a shaly siltstone at the base of the formation. Caves and sinkholes are very common and springs may be encountered and the base of the formation.

A cave (**Rhoton Cave**) is noted on the attached geologic map. The cave area should be avoided because of the possibility of encountering unstable foundations.

The Fort Payne Formation consists of a shaly siltstone and in part is dolomitic. The formation should only be encountered in fills and no problems are anticipated.

Oil and gas wells may be encountered throughout the project study area. Several dry holes (B) are indicated on the attached map. Further research for additional wells should be completed and any existing wells should be avoided.

If there are any questions, please advise.


Project Area
Rhoton Cave
Qtb (Brecciated Sandstone Formation)
Avoid This Formation
N
0 1,250 2,500 5,000 Feet
Legend
Msl St. Louis Limestone
Msw Salem & Warsaw Limestone
sh Shaly Siltstone
Mfp Fort Payne Formation
Qal Alluvium
Qtb Brecciated Sandstone
Springs
State Roads
Local Roads
Sinkholes
Oil Well
Gas Well
Combined Oil and Gas Well
Domestic Gas Well
Dry Well

TRANSPORTATION CABINET
Frankfort, Kentucky 40622
www.kentucky.gov

Ernie Fletcher
Governor

Bill Nighbert
Secretary

Marc Williams
Commissioner of Highways

MEMORANDUM

TO: Daryl Greer, P.E.
Director
Division of Planning

FROM: Cass T. Napier
Branch Manager
Permits

DATE: June 21, 2007

RE: KY 163, Monroe County
Scoping Study, Tompkinsville to Tennessee State Line
Item No. 3-8310.00

The Permits Branch has reviewed the data provided for subject study site and wish to offer the following.

1. We suggest the future Tompkinsville Bypass be built as a partially controlled access highway.

Based on the limited information we have at this time, that is our only comment. Should you have any questions or comments, please advise.

CTN/pm

~~5th~~ 5th floor
Daryl Greer
RECEIVED
JUN 26 2007

TRANSPORTATION CABINET
Frankfort, Kentucky 40622
www.kentucky.gov

Ernie Fletcher
Governor

Bill Nighbert
Secretary

Marc Williams
Commissioner of Highways

TO: Daryl Greer
Director
Division of Planning

THROUGH: R. Jeffrey Wolfe
TEBM - Traffic Engineering
Division of Traffic Operations

FROM: Robert Brown
Engineer-In-Training II
Division of Traffic Operations

DATE: June 25, 2007

SUBJECT: Monroe County
KY 163
Scoping Study

We have completed our review of the materials that you provided about the scoping study on the subject road. Below are issues that should be considered on the scoping study.

- Traffic Control at the intersections of KY 163 and other intersecting routes.
- Line-of-Sight at these intersections and along the roadway.
- Proper speeds and signing when designing and/or reconstructing the roadway, particularly near the city limits.
- Proper lane configuration based on capacity and ADTs.
- Proper turn lanes if further analysis confirms they are necessary.

If you have any questions regarding this matter, please let us know.

RJW:RFB:akg

JUSTICE AND PUBLIC SAFETY CABINET

Ernie Fletcher
Governor

Kentucky Vehicle Enforcement
Frankfort, Kentucky 40601

BG Norman E. Arflack
Secretary

Gregory G. Howard
Commissioner

June 21, 2007

Mr. Daryl J. Greer, P.E.
Division of Planning
Transportation Cabinet
200 Mero Street
Frankfort, KY 40622

Dear Mr. Greer:

We are in receipt of your letter requesting any input that Kentucky Vehicle Enforcement might have in regards to a planning study in Monroe County, item no. 03-8310.00, on KY 163 from south of Tompkinsville to the Tennessee state line.

After having my staff research the matter, KVE would not have any specific issues or concerns as far as the improvements to KY 163. It appears, as far as the map shows, it would be a great benefit to the Tompkinsville area.

If you need any further information, please do not hesitate to let us know.

Sincerely,

Gregory G. Howard
Commissioner
Department of Kentucky Vehicle Enforcement