

LAND USE LEADERSHIP ALLIANCE

TRAINING PROGRAM

QUESTIONS TO GUIDE WATER & LAND USE PLANNING INTEGRATION

March 2017

Introduction

The first thing that a local government should do when attempting to integrate land use and water conservation planning is to assess its water conservation plans and related ordinances/code provisions and address the disconnect between these documents and the community's comprehensive plan. The questions presented below should prove useful in this assessment. Many of the questions are adapted from the University of Louisville's *Kentucky Wet-Growth Handbook*,¹ while others have been adapted from leading literature on the topic of land use and water planning integration.

These questions are intended to guide a community through the process of assessing the extent to which water conservation is incorporated into a community's comprehensive plan, and the extent to which local land use regulations, building codes, and development processes are consistent with this element of the comprehensive plan. Although the questions focus primarily on water *conservation*, they also acknowledge the importance of balancing supply and demand, maintaining water quality, and other issues that relate to water conservation and contribute to an over-all water element within a comprehensive plan. Communities should keep in mind that a larger water element could contain many components in addition to water conservation, such as water quality, supply, demand, reuse, regional partnerships, and many more.

In this document, we assume that your community has both a *comprehensive land use* plan and a separate *water conservation plan*. We further assume that your community wishes to draft a discrete *water element* in its comprehensive plan and that this element will contain at least one water conservation goal, one or more short-term objectives, and strategies for achieving each objective. Finally, each objective will have a full list of implementation techniques, which can be listed without being described in detail. Then, we assume that all strategies and implementation techniques will reappear in more detail in either the community's *zoning, subdivision, or site plan regulations, or building or plumbing codes*. The matrix we presented to you therefore contains all of the above in the water conservation element of the comprehensive plan and then indicates where in the community's regulations

¹Kentucky Wet Growth Tools for Sustainable Development, Craig Anthony Arnold, Carol Norton, Dustin Wallen University of Louisville Center for Land Use and Environmental Responsibility, (2009) at 215-219, available at: <http://louisville.edu/landuse/healthy-watersheds-land-use-initiative.html>.

each implementation technique should be found. In this way, both water and land planners have a complete framework for working on a comprehensive and inclusive water conservation element, which should then influence the addition of water conservation implementation techniques into the community's land use regulations.

Questions

- (1) Does your comprehensive plan contain a discrete water element? (This element may be an entire chapter or a subsection of a chapter.)
 - (2) If not, is water integrated as a consideration throughout all relevant components of your comprehensive plan?
- (3) Does your comprehensive plan identify water conservation goals and objectives?
 - (4) If yes, is your community's water conservation plan consistent with these adopted goals and objectives?
- (5) Does your comprehensive plan identify water conservation strategies and implementation techniques?
 - (6) If yes, is your community's water conservation plan consistent with these adopted strategies and implementation techniques?
- (7) Does your comprehensive plan identify known supplies of water for future development?
- (8) Does your comprehensive plan incorporate water supply availability projections?
 - (9) If yes, do these projections factor in conditions from short-term, severe droughts to the possibility of global climate change?
- (10) Do your comprehensive plan and the water supply plan from your water district use the same growth projections and land use assumptions?
- (11) Is the water element (or integrated elements) of your comprehensive plan consistent with the policies of your water provider (if the provider is not a local government utility)?
- (12) Is the land use element of your comprehensive plan consistent with the policies of your water provider (if the provider is not a local government utility)?
- (13) If your comprehensive plan contains a discrete water element, is that element consistent with the growth projections and land use assumptions in other parts of your comprehensive plan?
- (14) Does your comprehensive plan quantify the water demand that would result from this projected population growth?

(15) If yes, does your comprehensive plan analyze how this demand will be met by available supplies (or what additional water will have to be obtained)?

(16) If yes (to 15), did your land use planners work in close cooperation with water planners on this exercise in long-term thinking?

(17) Also if yes, did your planners develop water demands per land use? (i.e., How much water per household, per capita, or per acre would be consumed for varying development patterns, such as large-lot or small-lot single-family residential, multifamily residential, mixed-use, etc.)

(18) If yes (to 17), did this calculation take into account indoor water use, outdoor water use, distribution losses, and delivery costs per land use?

(19) Is the water element (or integrated water elements) of your comprehensive plan consistent with any applicable regional or State water plans?

(20) Is the water element (or integrated elements) of your comprehensive plan consistent with land use patterns described in any applicable regional land use plans?

(21) Does your comprehensive plan provide for and encourage compact and infill development?

(22) If yes, does your water element cross-reference that portion of your comprehensive plan?

(23) Does your comprehensive plan allow for small lot, single-family, limited landscape development?

(24) If yes, does your water element cross-reference that portion of your comprehensive plan?

(25) Does your community consider the water element of your comprehensive plan when making development decisions, infrastructure investment decisions, and budget expenditures? (Without this link, development decisions can reflect short-term expedient responses rather than long-term public interests.)

(26) Does your comprehensive plan contain a strategy to ensure that proposed-project rezonings, development approvals, and permits do not adversely affect water supplies and resources?

(27) Does your comprehensive plan include a strategy for your decision makers to condition development proposals to limit water use? (Perhaps by including requirements that are specific to project type, location, or likely impact if not conditioned or restricted.)

(28) Does your comprehensive plan include strategies for water-efficient land use? (For example, urban growth boundary, cluster development, and demand-based tap fees.)

(29) If yes, does your comprehensive plan include implementation techniques to incorporate these strategies into land use regulations and building codes?

(30) Does the water element (or integrated elements) of your comprehensive plan include strategies for water-conserving equipment? (For example, indoor fixture efficiency standards, and smart meters.)

(31) If yes, does your comprehensive plan include implementation techniques to incorporate these strategies into land use regulations and building/plumbing codes?

(32) Does the water element (or integrated elements) of your comprehensive plan include strategies for water-efficient landscaping? (For example, soil quality requirements, plant lists, turf limitations, and irrigation system efficiency requirements.)

(33) If yes, does your comprehensive plan include implementation techniques to incorporate these strategies into land use regulations and building codes?

(34) If yes, do these implementation techniques include that the landscaping requirements in your land use regulations will allow or favor native landscaping, xeriscaping, rain gardens, vegetated swales, and other ground water infiltration projects?

(35) Also if yes, do these strategies or implementation techniques include that your public-works/transportation policies should require that—as a component of any major street project—existing streets and related facilities be retrofitted with xeriscaping or other low-impact development methods?

(36) Does your comprehensive plan contain a strategy for your regulations and plans to allow or require narrower streets, sidewalks on only one side of the street, xeriscaped islands in culs-de-sac, pervious pavement, short or shared driveways, and other street layout alternatives that minimize impervious cover? (*Note:* These are good tools to help water get back into the ground for ground water supply but they must be done in consultation with emergency officials to address emergency vehicle access.)

(37) If yes, is this strategy contained within your plan's water element or is it otherwise tied to water?

(38) Does your comprehensive plan contain a strategy for your land use regulations and building codes to allow or require that streets, parking lots, medians, and other

transportation facilities be curbless or include curb gaps to allow water to run into landscaped areas, and allow or require that street-side swales be used instead of conventional curb and gutter design?

(39) If yes, is this strategy contained within your plan's water element or is it otherwise tied to water?

(40) Does your comprehensive plan contain a strategy for your land use regulations and building codes to encourage or require the use of parking garages for substantial commercial, industrial, institutional, or multi-family residential developments, instead of surface parking lots, to reduce the overall impervious cover footprint of these projects?

(41) If yes, is this strategy contained within your plan's water element or is it otherwise tied to water?

(42) Does your comprehensive plan contain a strategy to incentivize landowners (through zoning bonuses, a streamlined development processes, etc.) to use water-conserving, land use techniques that exceed those required by your land use regulations?

(43) If yes, is this strategy contained within your plan's water element or is it otherwise tied to water?

(44) Does your comprehensive plan contain a strategy for your codes to include a mandatory assured water supply regulation (a.k.a., a "show me the water" law) requiring that developers provide a professional assessment of water availability under various hydrologic conditions?

(45) If yes, is this strategy contained within your plan's water element or is it otherwise tied to water?

(46) Also if yes, does this strategy include that the regulation require actual proof of an adequate water supply to meet the development's needs, instead of simply the potential that sufficient water may exist in the future?

(47) Does your comprehensive plan contain a strategy for your land use regulations and building codes to include strong and effective post-occupancy enforcement provisions related to water conservation standards? (For example, maintenance guidelines, periodic inspections, post-occupancy documentation, and property tax abatements.)

(48) Are your land use regulations (zoning, site plan, and subdivision) consistent with your comprehensive plan and water conservation plan? (i.e., Have they been updated to implement the strategies outlined in your plans?)

(49) Are your water conservation regulations consistent with your comprehensive plan?
(i.e., Have they been updated to implement the strategies outlined in your comprehensive plan?)

(50) Are your building and plumbing codes consistent with your comprehensive plan and water conservation plan? (i.e., Have they been updated to implement the strategies outlined in your plans?)