Section 4 - Municipal Strategies: What to Look for in an Ordinance

This section will address some potential strategies for municipalities to use to help them to account for local conditions. These strategies – consideration of local conditions, science-based decisionmaking – are not new; much of what we will discuss in this section is simply good land use planning. The strategies discussed here are of the same type that municipalities have used for years to protect quality of life in their communities, including special places, natural resources, and places where people live, work, and go to school every day.

We will start with an introduction to what science-based decisionmaking could entail, and then describe different approaches a municipality can take to meet its Section 27 obligations by addressing local conditions in the community.

What is "science-based decisionmaking?" Section 27 requires science-based decisionmaking to determine whether a proposed course of action will unreasonably infringe on constitutional environmental rights (citizens' rights to clean air and pure water, among other values, in their community), or unreasonably degrade public natural resources. Science-based decisionmaking ensures that a municipality will be fully informed as to the actual ramifications of an action it is considering in order to ensure that it does not take any action -- such as enacting a proposed ordinance or granting a permit – if such an action would cause an unreasonable degradation of the environment and therefore violate their constitutional obligations.

In the land use planning context, this decisionmaking process is consistent with what good land use planners should already be doing. Specifically, proper land use planning takes into account a community's public natural resources (e.g., sensitive groundwater areas, fishing streams, parks and forests, agricultural soils, floodplains, wetlands, steep slopes, etc.); historic resources; roads; existing development patterns including location of residences, schools, and hospitals; and crafts from that a plan of growth and conservation for the future, which is then embodied in a zoning ordinance and other ordinances that dictate which uses are allowed where, and what standards and conservation requirements apply. These considerations should always be a part of determining whether a use is proper in a particular location in a municipality – and that applies whether the use is heavy industry, such as shale gas development, or some other type of use.

The more complex the land use activity being proposed for a community, the more study the municipality may need to do in enacting its comprehensive plan and its land use ordinances. Likewise, the more intrusive the land use activity, the more studies a municipality may need to require of applicants to prove that the proposed land use is appropriate for a given location.

For industrial activities like unconventional shale gas development, these studies can include, for example:

- dispersion modeling of potential air emissions, both during regular activities and during accidents, to determine what areas of a community would be downwind of industrial activity, and thus whether the location for the activity is proper; and
- geologic analyses of faults and fractures, to determine whether activity would pose a risk to the local groundwater.

A municipality could choose to do these analyses on its own as part of its planning process, or it may require applicants to perform such analyses as part of the zoning permit approval process.

For instance, for heavy industrial activity like unconventional shale gas development, a municipality might place such uses together as conditional uses in industrial and extraction/quarry zones, and require applicants to produce site-specific scientific studies demonstrating that the use would not unduly degrade the local environment.

The Commonwealth Court described this effort to respect environmental rights well when it said: "[W]hen environmental concerns of development are juxtaposed with economic benefits of development, the Environmental Rights Amendment is a thumb on the scale, giving greater weight to the environmental concerns in the decision-making process." Pennsylvania Envtl. Def. Found. v. Com., 108 A.3d 140 (Pa. Commw. Ct. 2015).

The following pages offer some samples of different types of ordinance provisions that communities may wish to use as a starting point. Each municipality is unique. There is no single, one-size-fits-all approach that applies to all municipalities. Each community must consider its own local resources and attributes, its existing land uses, its at-risk populations, and the planning and ordinances that are already in place. While we

offer here ideas and possible ordinance provisions, these should be used only as a starting point for discussion. Community leaders should consult with knowledgeable legal counsel and planning experts to help enact ordinance provisions that are consistent with current law and local conditions.

- Examples of general resource-protective ordinances that a municipality might use:
  - Stream or riparian buffer requirements (sample in Appendix A);
  - Overlays in zoning ordinances to protect natural resources such as steep slopes, special protection watersheds, wetlands, aquifers, scenic views, etc.;[1]
  - Stormwater management ordinances;
  - Grading ordinances;
  - Floodplain ordinances;
  - Subdivision and land development ordinances;
  - Air emissions ordinances or requirements (such as dispersion modeling) that address local conditions (such as topography, prevailing wind speed and direction, and nearby land uses);[2]
  - Water well construction ordinances;
  - Wellhead protection areas;
  - Water well pumping test requirements; and
  - Historic resource protection requirements.

- More specific examples of provisions that can be included in zoning or other ordinances:
  - Environmental assessment requirements as part of application criteria, which would require an applicant to identify local resources and the potential impacts to those resources resulting from a proposed activity. Impact studies should include short-term, long-term, and cumulative effects.

1 For example, see http://www.tinicumbucks.org/maps.htm

2 See 35 P.S. § 4012(a) (stating, in part, "Nothing in this act shall prevent counties, cities, towns, townships or boroughs from enacting ordinances with respect to air pollution which will not be less stringent than the provisions of this act, the Clean Air Act or the rules and regulations promulgated under either this act or the Clean Air Act.").

- Placement of industrial activity in industrial or extraction/quarry zones only.
- Noise-related requirements, such as:
  - Noise limitations that are consistent with the general background level of noise during the day and at night in a particular area;
  - Requirement that applicants conduct noise impact studies that include a comparison of the noise an activity may generate at a property line boundary and the background level of noise (day and night) that is usually present in that area; and
  - Hours of operation restrictions.
- Setbacks from buildings, water bodies, wetlands, floodplains, livestock areas, property lines, right-of-ways (including roads), as well as screening and/or landscaping requirements.
  - Setback distances should depend on various factors, including what's being protected, and factors unique to the particular municipality in question (e.g. topography, local groundwater flow).
  - Publicly-available research materials from university studies and peer-reviewed literature can help inform municipalities about what setbacks might be prudent based on health or other environmental concerns from particular industrial operations.

- Protections for sensitive populations, such as children, the elderly, and the infirm. Examples include:
  - More protective setbacks from schools, playgrounds, hospitals, and senior care facilities than other buildings;
  - Prohibition of heavy industry near such areas (e.g. via overlays or by which districts the uses are allowed in);
  - Prohibition on heavy truck traffic on school bus routes or near school bus stops; and

        - Other protections that may be wise based on local conditions (e.g. local air quality issues, etc.).
    - Protections for special or sensitive places and public natural resources in the municipality:
        - Types of special or sensitive places could include:
            - Parks and forests;
            - Popular fishing streams, hunting areas, and hiking trails;
            - Properties conserved with municipal open space funds (whether by purchase or by conservation easement) and privately-conserved lands;
            - Important scenic views or viewsheds;
            - Important wildlife habitat (e.g. eagle nesting areas, habitat for endangered or threatened species);
            - Headwater areas of streams and wetlands;
            - Areas with carbonate geology/karst topography;
            - Cemeteries and places of worship; and
            - Historic and/or known archeological resources or areas.
        - Types of public natural resources (not already mentioned) include:
            - Groundwater resources, including sensitive aquifer or recharge areas;
            - Streams and wetlands;
            - Endangered or threatened species;
            - Prime agricultural soils; and
            - Local air quality.

- There are various types of protections that might be appropriate depending on the type of resource and the municipality. Tools include:
  - Prohibition of industrial or other incompatible uses in particular areas (e.g. no wastewater impoundments in a headwaters area; no industrial activity on conserved lands; only industrial activity in industrial and quarry/extraction districts);
  - Setbacks;
  - Overlays;
  - Requirements on an applicant to demonstrate that the proposed activity will not have an adverse impact on these resources;
  - Riparian buffer protections;
  - Screening and landscaping; and
  - Lighting and/or glare restrictions.

- Road-related requirements:
  - Requirements for road use plans, and to keep heavy industrial traffic away from school bus routes, schools, and important emergency vehicle routes;
  - Bonding for overweight vehicles;
  - Requirements to keep roads clear of mud and other debris;
  - Road maintenance agreements; and
  - Requirement that transportation of hazardous material be in accordance with federal and state law.

- Air and water quality:
  - Dispersion modeling of potential air emissions, both during regular activities and during accidents, to determine what areas of a community would be downwind of industrial activity;
  - Requirement of "best practices" in areas with very good surface water and/or groundwater quality;
  - Prohibition on offensive or noxious odors, gases, fluids, etc.; and
  - Requirement that all trucks transporting waste, extracted material, or construction material be covered to minimize fugitive dust and spills.

- Emergency planning and related requirements:
  - Protections or requirements for areas of potential wildfire hazard;
  - Floodplain development restrictions;
  - Requirements for fire protection plan, public safety plan, and information on chemicals being used on site;
  - Provision of emergency contact information to the municipality and local fire departments and other first responders; and
  - Requirement to notify the municipality of spills or other accidents so that it may notify residents (especially those on private groundwater) of the spill.
- Other types of requirements:
  - Lighting ordinances or requirements, including to avoid glare. Some municipalities are in remote areas known for stargazing, and so a municipality might want to consider that when addressing lighting requirements;
  - Provision of insurance policy that meets certain requirements;

- General safety requirements, such as signs, gates and fencing;
- Provision of all state permit application materials and any permits acquired to municipality;
- Requirements re: storage of trash, junk, refuse, equipment onsite; and
- Requirement of compliance with federal and state law, as well as local ordinances.

o Definitions of uses and activities, and important terms being used:

- In the shale gas development context, municipalities need to be careful to define uses to include the full range of potential activities that might occur as part of shale gas development. Examples of uses that a municipality might want to define are:
  - Gas or oil wellsite development, or recovery of subsurface oil and gas deposits;
  - Pipeline facilities (such as pig launchers);
  - Compressor stations;
  - Wellhead compressors;
  - Processing facilities;
  - Pipelines;
  - Seismic testing or other geophysical exploratory activities;
  - Gas storage and/or wastewater injection wells;
  - Staging and/or storage areas for equipment, materials, vehicles, pipes, etc.; and
  - Water withdrawal facilities.

- If there are particular, important terms being used in the ordinance, those should be defined so that everyone – citizens, municipal officials, applicants – understand what is meant.
    - For example, if a municipality wants to require a setback from all special protection waters, it should define what "special protection waters" means, such as any waterbody that qualifies as exceptional value water or high quality water, or is subject to other special protections for water quality, including standards set by interstate river basin commissions.

- Strong conditional use and/or special exception requirements:
    - Conditional uses and special exceptions are a type of permitted use.
    - When a municipality designates a land use as a conditional use or special exception it means that the municipality considers the general impacts of the proposed activity to be acceptable in the district for which it is proposed.
    - This means that if a given use is allowed by conditional use or special exception, there is a presumption that, once the applicant meets the requirements in the ordinance for the activity, the activity will be permitted.
    - It is important for municipalities to establish clear, objective criteria in their ordinances that the applicant must meet and that help the municipality determine whether the impact of a proposed conditional use or special exception as proposed for a particular location is reasonable.[3]
    - To illustrate, zoning ordinances will have different categories of requirements, such as:
        - General standards applicable in a given district (e.g. which uses are allowed, yard and lot size requirements, noise regulations);
        - Standards applicable to categories of uses regardless of district (e.g. parking or

3 Because the use is, by default, permitted, it is important before enacting an ordinance for municipal officials to educate themselves about the nature of the use so that they have an accurate picture of the potential impacts and place the activity in a proper zoning district. This research would inform officials about what land uses are compatible with other land uses, such as whether a compressor station is consistent with other industrial land uses or residential uses.

driveway standards for residential and commercial uses);

  - General requirements that apply across the board (e.g. resource protection requirements, application requirements for conditional uses and special exceptions); and
  - Standards applicable to specific uses or class of uses.

- Standards applicable to specific uses might include the items listed earlier, such as:
  - A requirement of an environmental assessment;
  - A noise impact study;
  - Air emissions dispersion modeling; and
  - Geologic analyses (e.g. of sensitive geological areas, of fractures, etc. that might dictate whether a particular location is, for example, at higher risk of contaminating local groundwater).
- In addition to imposing standards for specific land uses, a municipality might impose such standards across a class of uses, such as all industrial uses.
- Some industrial uses may pose risks to neighbors that are peculiar to that use that a municipality may want to address.
  - For instance, municipalities often require groundwater studies of quarrying operations due to concerns for depletion of neighbors' water wells due to pumping.
  - Extraction uses with heavy truck traffic pose risks regarding fugitive dust, road debris, and conflicts with other types of traffic. Municipalities often require traffic studies, road use plans, requirements to cover trucks, and plans to keep roads clear of mud and other debris to determine whether there would be an adverse impact from the proposed use.
  - Some uses pose greater risks of exposure to radiological material (nuclear plants, radiological-focused research facilities, shale gas well sites and waste disposal). Thus, requirements of containments, proof of security measures, and local monitoring plans might be required.
  - Some industrial uses do not have extensive air emissions (e.g., equipment sales and storage) while others do (e.g., asphalt and concrete plants, shale gas development). Requirements of air emissions dispersion modeling could be put in place for those uses that pose the most potential risk to surrounding residents based on prevailing wind patterns and topography.
- The ordinance needs to establish objective criteria for the use, including what types of material the applicant needs to present to meet its burden.
- Municipalities should expressly state any requirements such as local air emissions modeling, geologic and/or groundwater studies. That way, the applicant knows what it must present so that municipal officials can determine whether the applicant has shown that its use is on par with what would be generally be expected, including whether the use would have an unreasonable impact on local citizens.