

# Yearly Operational Plan 2011 Holyoke Gas & Electric

## Holyoke Gas & Electric Department



gas | electric | steam | telecom

May 2011



78 Interstate Drive  
West Springfield, MA 01089

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# 1 Introduction

This Yearly Operational Plan (YOP) has been prepared in accordance with 333 CMR 11.00, Rights of Way Management. The YOP is based on the Vegetation Management Plan (VMP) prepared for the period 2008 – 2012, which is attached to this document as *Appendix A*. This 1-year plan provides a detailed program for vegetation management for the calendar year 2011 for the Rights-of-Way (ROWs) associated with the hydroelectric, steam, gas, and electric utility operations of the City of Holyoke Gas and Electric Department (hereafter referred to as “HG&E”) and ROWs associated with pathways in a proposed recreational park owned and maintained by HG&E.

A YOP must be submitted to the Massachusetts Department of Agricultural Resources (MDAR) every year that herbicides are intended for use to maintain ROWs. The MDAR publishes a notice of receipt of the YOP in the *Environmental Monitor* (<http://www.env.state.ma.us/mepa/emonitor.aspx>). The applicant, HG&E, must provide the notice that appeared in the *Environmental Monitor* to the Boards of Health, the Conservation Commissions, and the chief elected officials for the City of Holyoke, the City of Chicopee, and the Town of South Hadley. This YOP will also be posted on the Holyoke Gas & Electric Website as allowed in 333 CMR 11.06(3). There is a 45-day comment period on the YOP that begins when the YOP and *Environmental Monitor* notice is received by the municipalities. The public notice period began on February 9, 2011 and concluded on March 25, 2011 and is included in *Appendix N*. MDAR approved the 2011 YOP and the letter is included in *Appendix N*.

Public notice of actual herbicide application in the ROWs is made at least 21 days in advance of the planned application. Notice is sent to the MDAR, the Boards of Health, the Conservation Commissions, and the chief elected officials for the City of Holyoke, the City of Chicopee, and the Town of South Hadley. In addition, notice of the herbicide application will be published in at least one newspaper of general circulation in Holyoke, Chicopee, and South Hadley at least 48 hours prior to the herbicide application. The notice will appear in the “local section” of the newspaper and will measure at least 4 inches by 5 inches in size. This published notice will include information regarding:

- The method and location of herbicide application.
- The approximate dates on which herbicide application will begin and conclude, but the application will commence not more than 10 days before nor conclude more than 10 days after the approximate dates published.
- A list of the potential herbicides to be used.
- A description of the purpose of the application.
- The name, title, business address and telephone number of a designated contact person that can be contacted for information about the herbicide application.

## 2 Location of Rights of Way

The majority of ROWs included in this YOP are located within the City of Holyoke, with some electric transmission/distribution lines located in the adjacent City of Chicopee and the park ROWs located across the Connecticut River in South Hadley. The ROWs can be divided into five categories:

1. ROWs associated with the HG&E electrical system.
  - These consist of electrical transmission and distribution lines located within the City of Holyoke, with a limited amount of lines extending into the adjacent City of Chicopee. The location of the lines included in this YOP are shown in the mapping in *Appendix B* and are listed in *Table 1*.
2. ROWs associated with above-ground steam/condensate lines
  - These ROWs are located within the City of Holyoke. They are shown in the mapping in *Appendix C* and are listed in *Table 1* below by street location.
3. ROWs associated with above-ground portions of gas distribution vaults.
  - Areas to be maintained consist of locations within a 10-foot radius of the above-ground structures. They are shown as point locations in the mapping in *Appendix D* and are listed in *Table 1* by street location. All are located within the City of Holyoke.
4. ROWs adjacent to the canal system owned and operated by HG&E (*Appendix E*).
  - Areas to be maintained consist of ROWs located on either side of the canals that are fenced in most locations. The three-level canal system extends through the southeastern areas of the City of Holyoke and provides water for industrial and hydropower generation. The canal ROWs total approximately 8 miles in length.
5. ROWs associated with public access pathways in Lower Riverside Park.
  - Areas subject to 333 CMR 11.00 include the pathways that provide public and emergency vehicle access to the park (*Appendix P*). The ROW area is approximately 1,300 linear feet. Other vegetation management activities outside of the ROWs, but within the park may occur. These include removal of invasive species, removal of woody species threatening the structural integrity of stone masonry wells, and vista pruning to create viewsheds of the Connecticut River and Holyoke Dam (*Appendix O*).

Table 1 – Gas, Steam/Condensate, and Electric Transmission/Distribution ROW Locations Potentially Scheduled for Herbicide Treatment or Mowing in 2011

ROW Type	Location
<b>Gas Distribution Vaults</b>	<ul style="list-style-type: none"> <li>• Apremont Highway at Dupuis Road</li> <li>• Hampden Street at Lincoln Street</li> <li>• Lincoln Street</li> <li>• Nick Cosmos Way at Essex Street</li> <li>• Appleton Street at First Level Canal</li> <li>• Gatehouse Road near Flood Control Locks</li> <li>• Arbor Way in Polaski Park</li> <li>• South Canal Street at South Bridge Street</li> <li>• Beaulieu Street at Main Street</li> <li>• Garfield Street</li> <li>• Peltiah Street at Main Street</li> <li>• Whiting Farms Road at Northampton Street</li> <li>• Bobala Road at Whitney Avenue</li> <li>• Homestead Road at Westfield Road</li> <li>• Old Jarvis Avenue near Bassett Road</li> <li>• Hampden Street at Northampton Street</li> <li>• Apremont Highway at Rock Valley Road</li> <li>• Mueller Road</li> <li>• County Road at Weiser Drive</li> <li>• Northampton Street at Vadnais Street</li> </ul>
ROW Type	Location
<b>Steam/Condensate Lines</b>	<ul style="list-style-type: none"> <li>• Hampshire Street between Beech Street and Pine Street</li> <li>• Commercial Street between Sargeant Street and Plymouth Place</li> <li>• Sargeant Street from Commercial Street across First Level Canal</li> <li>• Southwest side of First Level Canal Between Sargeant Street and Cabot Street</li> <li>• Southwest side of First Level Canal between Dwight Street and Gate House Road</li> <li>• Along Railroad Tracks adjacent to Front Street between Jackson Street and Hampshire Street</li> <li>• Adjacent to Railroad Tracks southeast of Appleton Street to between Winter Street and North Canal Street</li> <li>• Crossing Third Level Canal near Sargeant Street</li> <li>• Along Connecticut River from approximately 950' southwest to 2500' northeast of Cabot Street</li> <li>• North side of Water Street from approximately 400' west to 1400' east of Appleton Street</li> <li>• Second Level Canal crossing in-line with Center Street</li> <li>• South of Hadley Mills Road between Gate House Road and Valley Mill Road (Rt. 116)</li> <li>• Area approximately 600' north of Cabot Street parallel to Railroad tracks</li> <li>• Area crossing Second Level Canal approximately 1250' north of Appleton Street extending approximately 300' toward Connecticut River</li> </ul>
<b>Electric Transmission/</b>	<p><b>Sheet E-1 in Appendix B</b></p> <ul style="list-style-type: none"> <li>• Pioneer Valley Railroad line from Papineau St. to Lower Westfield Road near Ashley Reservoir.</li> </ul>



ROW Type	Location
Distribution Lines	<p data-bbox="594 275 894 302"><b>Sheet E-2 in Appendix B</b></p> <ul data-bbox="594 306 1422 695" style="list-style-type: none"><li data-bbox="594 306 1422 390">• From Front Street/railroad line to Race Street, across from end of Hampshire Street, except over canals. Includes connection to substation between First and Second Level Canals.</li><li data-bbox="594 394 1422 457">• Along Race Street from approximately Hamilton Street to just beyond Appleton Street.</li><li data-bbox="594 462 1422 489">• Along Appleton Street from Race Street to North Canal Street.</li><li data-bbox="594 493 1422 556">• Along North Canal Street from Appleton Street approximately 1200 feet northeast.</li><li data-bbox="594 560 1422 623">• Near Prospect Street Substation approximately 800 feet northwest of Buckley Boulevard (Chicopee).</li><li data-bbox="594 627 1422 695">• Approximately 100 feet southeast of Water Street, parallel to Water Street, from Appleton Street and northeast approximately 1100 feet.</li></ul> <p data-bbox="594 699 894 726"><b>Sheet E-3 in Appendix B</b></p> <ul data-bbox="594 730 1422 972" style="list-style-type: none"><li data-bbox="594 730 1422 758">• Rock Valley Road to Apremont Highway</li><li data-bbox="594 762 1422 846">• An interval of approximately 600 feet where a distribution line deviates from Mountain Road approximately 600 feet south of Cherry Street.</li><li data-bbox="594 850 1422 972">• Along Apremont Highway to Westfield Road near the High Service Reservoir, east along Westfield Road for approximately 400 feet, then south, cross country, to access road (Dailey's Road) west of Ashley Reservoir (these areas are MOW ONLY).</li></ul> <p data-bbox="594 976 894 1003"><b>Sheet E-4 in Appendix B</b></p> <ul data-bbox="594 1008 1422 1092" style="list-style-type: none"><li data-bbox="594 1008 1422 1092">• From the end of Mount Tom Ski Road, up Mount Tom, to telecommunications infrastructure located at the Mount Tom summit (approximately 5,200 feet).</li></ul> <p data-bbox="594 1096 894 1123"><b>Sheet E-5 in Appendix B</b></p> <ul data-bbox="594 1127 1422 1155" style="list-style-type: none"><li data-bbox="594 1127 1422 1155">• No additional mowing or application areas</li></ul>

### 3 Identification of Sensitive Areas and Flagging Methods to Designate Sensitive Areas on the Row

Sensitive areas defined in 333 CMR 11.04 are identified as public groundwater supplies, public surface water supplies, private drinking water supplies, surface waters, wetlands, stated-listed species habitat, inhabited areas and agricultural areas. For the purpose of identification, sensitive areas can be separated into two categories:

- areas not readily identifiable in the field; and
- areas that are readily identifiable in the field.

Each sensitive area has a defined limit for special protection to further minimize environmental and public health risks. Within most sensitive areas, there is an area in which herbicide use is prohibited (no spray zones). Within those portions of the sensitive area where herbicide application is allowed, the use of herbicides and application methods recommended jointly by the MDAR and DEP is required. The general characteristics of the sensitive area herbicides are: low toxicity to humans and other animal species; short term soil persistence; biodegradation of active ingredients; and low soil mobility. Details on these characteristics are discussed in the MDAR Herbicide Fact Sheets included in *Appendix F*.

It is the intent of HG&E to use only herbicides and application methods recommended for use in sensitive areas, as per 333 CMR 11.04 (d), on the full length and width of all ROW areas it shall treat. The operational effect of this policy is that outer limits of sensitive areas need not be identified in the field by treatment crews.

The following is a description of how the sensitive areas will be identified for required protection:

- Consult the appropriate reference materials and sources to determine the precise location of these areas.
- Place the boundaries of these sensitive areas on US Geological Survey (USGS) topographical maps or other HG&E mapping.
- Prior to commencement of herbicide application operations, the treatment crew will be provided the marked-up mapping with which to mark boundaries of these sensitive areas.
- The treatment crew will deploy a cutting crew or point person in advance of the main herbicide application operation to locate and mark these.

Sensitive areas readily identifiable in the field include surface waters, inhabited areas, wetlands, agricultural areas and major road crossings. The method utilized to identify these sensitive areas will be as follows:

- Consult USGS topographic maps to locate any of these sensitive areas that may already be identified on these maps.

- Prior to commencement of herbicide application operations, the treatment crew will be provided the marked mapping.
- The treatment crew will visually survey the area to be treated for any sensitive areas.
- Appropriate distances will be measured from sensitive areas to identify no herbicide treatment zones and limited herbicide treatment zones.

Table 2 – Sensitive Area Restriction Guide (333 CMR 11.04)

Sensitive Area	No Spray Zone	Limited Use Zone	Where Identified
Wetlands and Water Over Wetlands	Within 10 feet (unless provisions of 333 CMR 11.04(4)(c) are followed)	10 - 100 feet; 12 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications	YOP Maps <sup>1</sup> and identify on site <sup>2</sup>
Certified Vernal Pool	Within 10 feet	10 feet to the outer boundary of any Certified Vernal Pool Habitat; 12 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications	YOP Maps <sup>1</sup> and identify on site <sup>2</sup>
Public Ground Water Supply	Within 400 feet (Zone I)	Zone II or IWPA (Primary Recharge Area); 24 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications	YOP Maps <sup>1</sup>
Public Surface Water Supply	Within 100 feet of any Class A public surface water source	100 feet to the outer boundary of the Zone A; 24 months must elapse between applications;  Selective low pressure, using foliar techniques or basal or cut-stump applications	YOP Maps <sup>1</sup>
	Within 10 feet of any tributary or associated surface water body located outside of the Zone A	10 feet to the outer boundary of the Zone A; 24 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications	
	Within 100 feet of any tributary or associated surface water body located within the Zone A of a Class A public surface water		

<sup>1</sup>Maps are located in *Appendices B, C, D, and E*

<sup>2</sup>Methods are shown in *Appendix G*.

Sensitive Area	No Spray Zone	Limited Use Zone	Where Identified
	source		
	Within a lateral distance of 100 feet for 400 feet upstream of any Class B Drinking Water Intake	Within a lateral distance of between 100 -200 feet for 400 feet upstream of intake; 24 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications	
Private Water Supply	Within 50 feet	50 - 100 feet; 24 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications	In YOP well list <sup>3</sup> and identify on site <sup>2</sup>
Surface Waters	Within 10 feet from mean annual high-water line	10 feet from the mean annual high water line and the outer boundary of the Riverfront Area; 12 months must elapse between applications; Selective low pressure, using foliar techniques or basal or cut-stump applications	YOP Maps <sup>1</sup> and identify on site <sup>2</sup>
Agricultural and Inhabited Areas	N/A	0 - 100 feet 12 months must elapse between application; Selective low pressure, using foliar techniques or basal or cut-stump applications.	Identify on site <sup>2</sup>
State-listed Species Habitat	No application within habitat area except in accordance with a Yearly Operational Plan approved in writing by the Division of Fisheries and Wildlife		YOP Maps <sup>1</sup>

#### Flagging Methods to Mark Sensitive Areas

As shown in the diagrams in *Appendix G*, RED flagging will identify the outer boundary of the NO HERBICIDE TREATMENT ZONE surrounding surface waters, private water supplies, and public surface and groundwater supplies. If the herbicide treatment to be used is different within the LIMITED USE ZONE than in the adjacent non-sensitive area, then YELLOW flagging will be used to mark the outer boundary of the LIMITED USE ZONE. If herbicides approved for use in sensitive areas are to be used in adjacent non-sensitive areas, no flagging of the outer boundary of the LIMITED USE ZONE is necessary.

<sup>3</sup> Well list is contained in *Appendix N*.

If herbicide treatment on or within 10 feet of a wetland will be used in the adjacent LIMITED USE ZONE, the 10' boundary from the wetland will be flagged RED and YELLOW. If the adjacent LIMITED USE ZONE and non-sensitive area will be treated as a wetland, then no flagging is necessary.

## 4 Vegetation Management Activities in Priority Habitat Areas

The Massachusetts Endangered Species Act (MESA) (M.G.L. c. 131A) and regulations found at 321 CMR 10.00 protect rare species and their habitats by prohibiting the "take" of any plant or animal listed as Endangered, Threatened or of Special Concern by the Massachusetts Department of Fisheries and Wildlife (DFW). The regulations require that work in the areas mapped as Priority Habitats (PHs) be subject to review and approval by DFW. Portions of the HG&E rights-of-way are located within areas identified as Priority Habitat areas by the Natural Heritage Endangered Species Program (NHESP) of the DFW.

The following notification requirements to NHESP must be observed:

- Prior to work with ROWs containing PH areas, NHESP shall be provided with written notification of the following:
  - anticipated start and end date for the vegetation management,
  - anticipated start location
  - name, phone number and email address for project manager that will be performing on-site supervision of work crews.
- Should vegetation management be necessary in areas that are not shown in the YOP mapping, NHESP must be provided with a minimum 72 hours notice.
- Emergency maintenance and repair activities within PHs may be conducted without prior notification, but NHESP must be notified within 24 hours of the onset of such activities through the submission of an "Emergency ROW Work within Priority Habitat" in *Appendix L*. If possible, NHESP should be notified in advance of emergency activities. Note that mitigation may be required for damage done to state-listed species habitat due to emergency activities.
- Within one (1) year from the date of this NHESP approval letter (by February 23, 2012) a written summary (and/or shapefile) of activities which occurred within PH, including locations, dates, a description of vegetation management techniques, and the BMPs which were implemented, shall be submitted to the NHESP.

The following procedures must be incorporated for vegetation management within PHs and within portions of the ROWs indicated in the mapping in *Figures 1, 2, 3, 4, 5, 6, 6a, 6b, 6c, and 6d* and *Appendices B, C, and D*:

1. Shrub species (i.e. scrub oak) less than 8 feet tall shall not be cut or have herbicide applied except:
  - a. within a 30-foot diameter area surrounding electrical towers and pole structures

- b. within an existing vehicle access road
  - c. to improve access to a work site after consultation with and approval by NHESP
  - d. if the shrub species is considered to be an invasive species (see [http://www.mass.gov/dfwele/dfw/nhosp/conservation/invasives/invasive\\_plant\\_info.htm](http://www.mass.gov/dfwele/dfw/nhosp/conservation/invasives/invasive_plant_info.htm) for more information on invasive species in Massachusetts)
2. Areas dominated by low-growing native shrub species (e.g., lowbush blueberry, huckleberry, sheep laurel, New Jersey tea, sweet-fern) shall not be cut or have herbicide applied.
3. A subset of ROW areas proposed for vegetation management activities are mapped, in part, for the presence of state-listed snake species. These areas are shown in *Figure 2* as areas with "State Listed Snake Species Habitat", but also include any work around as vaults. Work crews should familiarize themselves with the management requirements in *Appendix K* and *Figure 2*, including:
  - a. Mowing shall be avoided in these areas between 1 April and 1 November. If mowing *must* occur between 1 April and 1 November, raising the height of mower blades to greater than 8 inches above the ground will reduce the likelihood of snake mortality, if the mower does not have a weighted stability bar mounted behind the blades.
  - b. Maintenance conducted between 2 November and 31 March poses minimal risk to state-listed snakes and can proceed as described elsewhere in this document.
  - c. Crew members should be aware that any snakes observed during vegetation management activities may be state-listed and protected species. Direct harm to or capture of these species without a permit from the Division of Fisheries and Wildlife is considered an unauthorized "taking" of a state-listed species and may be punishable by fines or imprisonment (321 CMR 10.06).
  - d. Any snakes encountered should be avoided by vehicles or heavy equipment.
4. A subset of ROW areas proposed for vegetation management activities are mapped, in part, for the presence of state-listed reptile and amphibian species. These include turtle species ( ) and salamander species ( ). Within these ROW areas, extra care should be taken to avoid direct impacts to turtles by following the recommendations provided in *Appendix K*, "ROW Vegetation Management in State-listed Turtle Habitat" and "ROW Vegetation Management in Vernal Pool Habitat for State-listed Species" and listed on *Figures 3 and 4*. These recommendations for turtles include:
  - a. Avoiding such areas between 15 April and 15 October. In general, activities associated with vegetation management that are conducted between 16 October and 14 April will pose minimal or no risk to state-listed turtles.
  - b. No special conditions are required for hand-cutting of target vegetation.
  - c. Mandatory training for staff conducting vegetation management activities during the period 15 April to 15 October.

- d. For work between 15 April and 15 October, each work crew conducting vegetation management activities with mapped turtle habitat areas must have a designated and NHESP-approved turtle "Team Leader" as described in *Appendix K*.
- e. If at all possible, avoid work between 25 May and 5 July, the prime nesting season for most state-listed turtle species.
- f. If mowing is to occur between 15 April and 15 October, raising the height of mower blades 10-12 inches above the ground will reduce the likelihood of turtle mortality. Preferably, if possible, mow from the center of the utility ROW out toward the forested edges.
- g. For all other annual vegetation management activities or driving of equipment off of existing roads occurring between 15 April and 15 October, including mowing without raising the height of mower blades, visual inspections of the ground in front of equipment will be required at the time of work where vegetation allows, and removing turtles from the path of vehicles or heavy equipment. This inspection must be conducted under the supervision of the turtle Team Leader as described in *Appendix K*.

Specific recommendations for amphibians include:

- a. Work within vernal pools should be avoided if at all possible.
- b. Fueling of equipment shall not take place within "VP Habitat" all year long.
- c. In general, maintenance activities associated with VMPs that are conducted between 1 December and 15 March will pose minimal or no risk to state-listed amphibians.
- d. If appropriate, swamp mats should be used in conjunction with heavy equipment to avoid altering the hydrology of the "VP Habitat." Mats shall be removed immediately upon completion of the project.
- e. Vegetation management activities occurring between 16 March and 30 November may cause harm to state-listed amphibians and the following special procedures should be followed:
  - i. Hand Cutting:
    - Hand-cutting and trimming of vegetation within these areas is permitted without restriction except;
    - All slash material resulting from mechanical operations shall be removed from "VP Habitat."
  - ii. Mowing and the Use of Heavy Equipment:
    - In advance of equipment operation, qualified personnel shall flag or otherwise visibly delineate the boundaries of vernal pool habitat to facilitate avoidance by equipment operators;
    - If mowing or any other operation of heavy equipment is to occur between 15 March and 1 December, no large heavy equipment (e.g. tracked or wheeled vehicles including skidder buckets and access vehicles) shall enter the designated wetland areas constituting vernal pool habitat;
    - If the qualified personnel find other potential vernal pool habitat within the ROW not included in the NHESP GIS datalayer, utility

staff shall make a good faith effort to delineate these areas as well for avoidance by heavy equipment;

- All slash material resulting from mechanical operations shall be removed from "VP Habitat."

iii. Herbicide Applications:

- Herbicide applications must follow the restrictions in 333 CMR 11.00, Rights of Way Regulations.

Any state-listed reptiles and amphibians that are encountered shall be photographed and reported to the NHESP on Rare Animal Observation Forms (available at [www.nhesp.org](http://www.nhesp.org)) and included in *Appendix M*. A Scientific Collection Permit is required to handle state-listed species, and appropriate training of crews will be required if mowing in state-listed turtle habitat will occur without raising the mower blades. Previous experience searching for turtles or appropriate hands-on training with such an experienced person will be required

5. A subset of ROW areas proposed for vegetation management activities are mapped, in part, for the presence of state-listed lepidoptera (moth and butterfly) species. Many state-listed lepidoptera are host specific, feeding exclusively on one or two plant species as caterpillars. Within these ROW areas, extra care should be taken to avoid direct impacts to state-listed plants and lepidoptera by following the recommendations provided in the attached document in *Appendix K*, "Vegetation Management of Existing Right-of-Ways (ROW) in State-listed Plant, Lepidoptera, Bird and Snake Priority Habitats". Vegetation management activities, excluding the broadcast application of herbicides, occurring within these areas between 2 November and 14 April will pose little risk to the state-listed plants and moths and butterflies identified in *Figure 5*. For all operation and maintenance activities occurring between 15 April and 1 November within these ROW areas, extra care should be taken to avoid direct impacts to rare plants or moth and butterfly host plants by following the recommendations presented in the attached document (*Appendix K*) and mapping, including:
  - a. No herbicides shall be applied to the host plants in Priority Habitat areas identified in the YOP mapping, nor shall herbicides be allowed to reach the host plants when targeting other species.
  - b. On a case by case basis, the NHESP may request that Holyoke Gas & Electric employ a trained botanist to survey work areas identified as rare plant or rare moth/butterfly habitat. Botanical surveys shall focus on the state-listed plant species or host plants for state-listed moths/butterflies identified within portions of ROW, but any and all rare plant species found shall be identified, reported, and flagged by the botanist and avoided by the work crews.
6. A subset of ROW areas proposed for vegetation management activities are mapped, in part, for the presence of state-listed plant species. In general, vegetation management activities, excluding broadcast application of herbicides, occurring between 2 November and 14 April pose minimal or no risk to state-listed plant species and can proceed as described elsewhere in this YOP. For activities between 15 April and 1 November, care must be taken to avoid harm to state-listed plant

plant species. Work crews must carefully review the information in *Appendix K* and *Figures 7, 7a, 7b, 7c, and 7d*. Management requirements for these areas include:

- a. Delineate population and avoid – Requires delineation by NHESP-approved botanist and NHESP approval prior to any vegetation management activities
  - b. No herbicide on grasses/sedges, ferns or forbs
  - c. No herbicide on grasses/sedges, ferns, forbs, or vines
7. A subset of ROW areas proposed for vegetation management activities in 2011 are mapped, in part, for the presence of “Data Sensitive Species”. These species are highly susceptible to collection and are therefore of high concern to Natural Heritage. Information about these species (including presence/absence) cannot be released to anyone else (especially including release to third parties or published) unless such release is agreed to in writing by the Natural Heritage Program (See Massachusetts Public Records law: M.G.L. chapter 66 section 17D). These species include [REDACTED]. If you know the species list we are providing will be published (based on application) do not release the species name instead use “sensitive plant (invertebrate or vertebrate)”.
8. A subset of ROW areas are mapped, in part, for the presence of known [REDACTED] (*Figure 1*). Within these ROW areas, extra care should be taken to avoid disturbing breeding birds by following the following recommendations:
- a. Avoid work during breeding season 1 January through 15 August - The breeding season for [REDACTED] in Massachusetts begins with courtship during late fall or early winter. The entire breeding cycle, from nest construction to fledging of young, lasts 6–8 months.
9. Reporting requirements – NHESP requires the following reporting requirements:
- a. On an annual basis, HG&E shall provide to NHESP a written summary of vegetation management activities which occurred in mapped state-listed turtle habitat. This summary shall include dates, approximate work area boundaries, description of vegetation management techniques at each work site, and the best management practices (BMPs) implemented.
  - b. On an annual basis, HG&E shall provide to NHESP a written summary of vegetation management activities which occurred in vernal pool habitat areas. This summary shall include dates, description of vegetation management techniques at each work site, and information on any vernal pools identified.
  - c. All observed state-listed plants must be identified, reported, and mapped following the guidelines in *Appendix K*.
  - d. The following activities that may be related to vegetation management for utility ROWs are exempt from the review requirements outlined in 321 CMR 10.18 through 10.23:
    - o construction, repair, replacement or maintenance of septic systems, utility lines, sewer lines, wastewater treatment systems, or residential

water supply wells within existing paved areas and lawfully developed and maintained lawns or landscaped areas.

- installation, repair, replacement, and maintenance of utility lines (gas, water, sewer, phone, electrical) for which all associated work is within ten feet from the edge of existing paved roads.
- the maintenance or replacement but not the expansion of existing lawns and landscaped areas.

The following activities that may be related to vegetation management for pathway ROWs are exempt from the review requirements outlined in 321 CMR 10.18 through 10.23:

- the maintenance or replacement but not the expansion of existing lawns and landscaped areas.
- performance of customary land surveying activities, wetland resource area delineations, environmental assessments and investigations performed in accordance with M. G. L. c. 21E, and other customary preliminary site investigations.
- The active management of State-listed Species habitat, including but not limited to mowing, cutting, burning, or pruning of vegetation, or removing exotic or invasive species, for the purpose of maintaining or enhancing the habitat for the benefit of rare species, provided that the management is carried out in accordance with a habitat management plan approved in writing by the Division of Fisheries and Wildlife.

## 5 Herbicides Proposed Including Application Rates, Carriers, and Adjuvants

Herbicides that may be used on the ROWs during the calendar year 2011 are limited to the following:

Table 3 – Herbicides Proposed for Use

Trade Name	EPA Reg.	Active Ingredient(s)	Application Method	Carrier/ Adjuvant*	Percent Solution	Application Rates
Arsenal	241-346	Imazapyr	Foliar	Nonionic surfactant	0.05-5%	Manufacturer label recommendations, not to exceed 3 pints/acre every 3 <sup>rd</sup> year OR 2 pints/acre every other year
Accord Concentrate	62719-324	Glyphosate	Foliar	Nonionic surfactant	0.75-10%	Manufacturer's label recommendations; lowest labeled rates
Accord Concentrate	62719-324	Glyphosate	Cut Stump	None (mix with water only)	50-100%	Manufacturer's label recommendations; lowest labeled rates
Escort	352-439	Metsulfuron-methyl	Foliar	Surfactant	0.25%-2%	Manufacturer's label recommendations; lowest labeled rates
Garlon 4	62719-40	Triclopyr, butoxy ethyl ester	Foliar Cut Stump	Surfactant	0.25-50%	Manufacturer's label recommendations, Lowest of the following rates: lowest labeled rate or 0.5 pints/acre between 10 - 50 feet of resource; Lowest labeled rate or 3.0 pints/acre between 50 feet and boundary of spray zone

\*Adjuvants and drift control agents may be included in application mixtures according to label requirements.

## 6 Herbicide Application Techniques and Alternative Control Procedures Proposed

Vegetation along the ROWs will involve IPM, including mechanical control methods (e.g., hand cutting, mowing, selective trimming) and chemical control (e.g., foliar herbicide treatments and cut stump treatments). The method chosen for a given vegetation problem will attempt to achieve a long-term, low maintenance vegetation management program through the encouragement of a stable herbaceous community.

### Hand Cutting

Hand cutting consists of the mechanical cutting of target species using chain saws or brush cutters. Target species are cut as close to the ground as practical with stump heights usually not exceeding three inches. Hand cutting is used in order to protect environmentally sensitive sites or on target vegetation greater than twelve feet tall where herbicide use is prohibited by regulation. Hand cutting is used on those restricted sites where terrain, site size or sensitivity render mowing impossible or impractical. Hand cutting may be used at any time of the year.

### Mowing

Mowing consists of the mechanical cutting of target vegetation using machines. Depending upon the resources available, mechanical cutting may be made using a consumer-type push mower, a large self-propelled or rider mower, brush hog, edgers, and "Weed Whackers". Selection of specific equipment is based on terrain, target vegetation size and equipment availability. Mowing is used on sites where herbicide use is prohibited by regulation, where a large number of target species stems have exceeded maximum control heights, or where access is inhibited by high woody vegetation density and that access is required in the short term. The use of mowing as a treatment method is restricted by steep slopes, rocky terrain, and wet sites with deep soft soils. Mowing shall be used in most areas where terrain, site size and sensitivity permit efficient use of the equipment. Mowing may be used at any time of the year except when snow precludes operations.

### Selective Trimming

Selective trimming consists of the mechanical pruning of the tops or encroaching limbs of trees. This trimming will be accomplished using aerial lifts mounted on trucks or tractors or, if terrain or obstructions prevent equipment access, climbing crews.

### Foliar Treatments

Foliar treatments involve the selective application of a herbicide diluted in water to the foliage of target vegetation. The two types of equipment used for foliar treatments are the hand-held pump sprayers and motorized truck-mounted sprayer. Both treatments use low pressure (i.e., below 60 psi at the nozzle) for application. Foliar treatments with hand-held pump sprayers are used on low-density target vegetation. Motorized application equipment is used on higher density target vegetation. Truck-mounted hydraulic sprayers are used to apply the herbicide solution to lightly wet the target plant.

Foliar treatments are used on woody plants, grasses, weeds and conifer species. Only hardwood species less than 12 feet in height will be foliar herbicide treated. Treatments will take place when plants are in full leaf and actively growing, or in accordance with the manufacturer's recommendations. Foliar treatments are incorporated into the VMP because, when used according to the HG&E application program, they are an effective and efficient method to control the whole target plant. Controlling the whole target plant reduces competition from sprout growth.

### Cut Stump Treatment

Cut stump treatments consist of mechanical cutting of target species using chain saws immediately followed by a herbicide treatment applied with a squirt bottle or painted on the freshly cut surface of the stump within 2 hours after cutting. The herbicide is limited to the

freshly cut surface of the remaining stump. The cutting procedure is identical to the outlined in Hand Cutting. Hardwoods greater than 12 feet tall will be cut stump treated. Cut stump application is preferred during the dormant period.

#### Vista Pruning

Vista pruning, as defined in 310 CMR 10.04, is the selective thinning of tree branches of understory shrubs to establish a specific "window" to improve visibility. Vista pruning does not include the cutting of trees which would reduce the leaf canopy to less than 90% of the existing crown cover and does not include the mowing or removal of understory brush. Vista pruning activities in the Lower Riverside Park will be conducted from the bottom of the slope.

Cutting will be minimized by evaluating the visual effects of cutting practices as work is conducted.

## **7 Companies Which will Perform Herbicide Treatment**

One or more of the following companies will apply herbicides, under contract to HG&E. The specific company or companies will be identified in the notification given at least 21 days prior to herbicide treatment, in accordance with 333 CMR 11.07, Public Notification.

Asplundh Tree Expert Co.  
P.O. Box 207 (1044 Main Street)  
Watertown, CT 06795  
(860) 274-0615  
Local Contact: Barry P. Croke  
65 Maple Street  
Belchertown, MA 01007  
Telephone (Day) 860-307-4998

Northern Tree Service  
290 Park  
Palmer, MA 01069  
(413) 596-6132

Mountain View Landscape  
67 Old James Avenue  
Chicopee, MA 01020  
(413) 536-7555

Lewis Tree Service, Inc.  
Walt Dodge  
89 Brookfield Rd.  
Brookfield, MA 01010  
(413) 245-6166

CMS Landscaping  
175 Suffolk Street,  
Holyoke, MA 01040  
(413) 533-3300  
Contact: Bob Cameron

Country View Lawn Care  
14 Ernest Lane,  
Holyoke, MA 01040  
(413) 532-8355  
Contact: Bob McKenzie

## 8 Identification of Target Vegetation

For the purposes of this plan, plant species are divided into two groups, undesirable species that have the potential to impede access to public pathways or fault overhead conductors on the ROW or are capable of damaging or interfering with physical and visual access to above-ground lines and equipment for inspection, maintenance and repair, and desirable species which cannot. It is the responsibility of the vegetation control contractor to be knowledgeable about and to instruct crews in the identification of desirable and undesirable species and the various herbicide control techniques necessary for integrated vegetation management. In general, undesirable species include trees, tall maturing shrubs and vines. This includes, but is not limited to the following species:

<u>Common Name</u>	<u>Scientific Name</u>
Grape Vines	<i>Vitis</i> spp.
Virginia creeper	<i>Parthenocissus quinquefolia</i>
Bittersweet	<i>Solanum dulcamara</i>
Poison ivy	<i>Rhus radicans</i>
Mulberry	<i>Morus</i> spp.
Staghorn sumac	<i>Rhus typhina</i>
Catalpa	<i>Chilopsis linearis</i>
Ailanthus	<i>Ailanthus altissima</i>
White ash	<i>Fraxinus Americana</i>
Cottonwood	<i>Populus deltoids</i>
Poplar	<i>Populus</i> spp.
Silver maple	<i>Acer saccharinum</i>
Red oak	<i>Quercus falcate</i>
American elm	<i>Ulmus Americana</i>
Russian olive	<i>Elaeagnus angustifolia</i>
Box elder	<i>Acer negundo</i>
Black cherry	<i>Prunus serotina</i>
Black birch	<i>Betula nigra</i>
Japanese bamboo	<i>Polygonum cuspidatum</i>
Dogwood	<i>Cornus</i> spp.
Black Locust	<i>Robinia pseudoacacia</i>
Norway maple	<i>Acer platanoides</i>
Northern catalpa	<i>Catalpa speciosa</i>
Tree of Heaven	<i>Ailanthus altissima</i>
Autumn olive	<i>Elaeagnus umbellate</i>
Japanese barberry	<i>Berberis thunbergii</i>
Exotic bush honeysuckle	<i>Lonicera</i> sp
Oriental bittersweet	<i>Celastrus orbiculata</i>

Control of woody species is critical because they have the potential to short circuit overhead electrical conductors on the ROWs. Removal of other invasive species is necessary to facilitate physical and visual access to the ROW for inspection, maintenance and repair.

Desirable species in the ROWs typically include low maturing shrubs (less than 12 feet), ferns, grasses, herbs, and wildflowers. In the 10-foot radius surrounding the gas distribution vaults, only low-growing grasses are desirable.

## **9 Individuals Representing Applicant Supervising YOP**

The applicant is represented by Fuss & O'Neill, Inc. Consulting Engineers. The contact person at Fuss & O'Neill is:

Diane M.L. Mas, PhD  
Senior Environmental Engineer  
Fuss & O'Neill Inc. Consulting Engineers  
78 Interstate Drive  
West Springfield, MA 01089  
Telephone: 413-452-0445  
dmas@FandO.com

The individual responsible for supervision of the YOP implementation is:

Charles L. Martel  
Environmental Health and Safety Coordinator  
City of Holyoke Gas & Electric Department  
99 Suffolk Street  
Holyoke, MA 01040-5082  
Telephone: 413-536-9369  
Fax: 413-532-4305  
Email: cmartel@hged.com

## **10 Procedures and Locations for Handling, Mixing, and Loading Herbicide Concentrates**

No herbicide concentrates shall be handled, mixed or loaded on a ROW within 100 feet of a sensitive area. The following guidance is provided for the handling, mixing and loading of herbicide concentrates.

1. Follow all manufacturers' label directions.
2. Wear protective clothing as specified on the manufacturer's label, i.e., rubber gloves, hat, respirator, goggles, face shield.
3. Immediately change clothes if herbicide concentrate is spilled or splashed on clothing.

4. Have soap and water available for clean up.
5. While pouring herbicides, keep head above the container opening and positioned so that winds do not carry concentrate onto face or body.
6. Do not overfill sprayer.
7. Triple rinse empty containers and use the rinsings when possible.

In order to minimize the potential for spills of herbicide concentrate and mitigate the impact of any accidental spills, the following procedures will be followed.

Only the amount of herbicide necessary to carry out the vegetation control, based on the monitoring results, will ensure that there will be no waste and minimize potential problems. Any vehicle carrying out a spray operation will be equipped with a bag of adsorbent, activated charcoal, leak-proof containers, a broom and a shovel in case of minor spills. A clipboard log of the herbicides on the vehicle will be kept on the vehicle. Herbicide labels and fact sheets should be carried on-site by the applicator.

As soon as any spill is observed, immediate action will be taken to contain the spill and protect the spill area. The cause of the spill must be identified and secured. Spill containment will be accomplished by covering the spill with adsorptive clay or other adsorptive material or, for large spills, building clay or soil dikes to impede spill progress. Until completely clean, protection of the spill area will be accomplished by placing barriers, flagging or crewmember at strategic location. If a fire is involved, care will be taken to avoid breathing fumes from any burning chemicals.

## EMERGENCY CONTACTS

In the event of a spill or emergency, information on safety precautions and cleanup procedures may be gathered from the following sources:

<u>Source</u>	<u>Telephone Number</u>
Herbicide Label	See <i>Appendix H</i>
Herbicide Fact Sheet	See <i>Appendix F</i>
Herbicide Material Safety Data Sheet	See <i>Appendix H</i>
Herbicide Manufacturer	
BASF (Arsenal)	(800) 832-4357
Dow AgroSciences	
(Accord Concentration and Garlon 4)	(800) 992-5994
EI DuPont (Escort)	(800) 441-7515
Holyoke, Chicopee, and South Hadley Fire and/or Police Departments	911
Holyoke Gas & Electric Department (EH&S Coordinator)	(413) 536-9352
Holyoke Board of Health	(413) 322-5595
Holyoke Conservation Commission	(413) 322-5615
Chicopee Health Department	(413) 594-1660
Chicopee Conservation Commission (Planning Dept.)	(413) 594-1515
South Hadley Board of Health	(413) 538-5013
South Hadley Conservation Commission	(413) 538-5052
Holyoke Medical Center	(413) 534-2500
Massachusetts Pesticide Bureau	(617) 626-1700
Massachusetts Dept. of Environmental Protection (DEP)	(413) 784-1100 or (888) 304-1133
Massachusetts Dept. of Public Health, Environmental Toxicology Program	(617) 624-5757
Massachusetts Poison Control Center	(800) 222-1222
CHEMTREC	(800) 262-8200
US Environmental Protection Agency (EPA)	
National Pesticide Information Center	(800) 858-7378

## **Appendix A**

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### Vegetation Management Plan 2008-2012

## **Appendix B**

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### Electrical Transmission/Distribution ROW Maps

## **Appendix C**

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### Steam Distribution/Condensate Collection ROW Map

## Appendix D

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### Gas Distribution Vault ROW Map

## **Appendix E**

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### Canal Right of Way Map

## **Appendix F**

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### Herbicide Fact Sheets

## **Appendix G**

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### Methods For Flagging In Sensitive Areas

## **Appendix H**

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### Herbicide Labels and MSDS

## **Appendix I**

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### HG&E Summary of Canal Wall Maintenance Responsibilities

## **Appendix J**

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### Endangered and Threatened Species Protection Plan

## **Appendix K**

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### NHESP Management Recommendations

## **Appendix L**

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### NHESP Species Observation Forms and Emergency Work Form

## **Appendix M**

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Well Area/List

## **Appendix N**

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### Public Notice and MDAR YOP Approval Letter

## **Appendix O**

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### Lower Riverside Park Vegetation Operation And Maintenance Plan

## **Appendix P**

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### Lower Riverside Park ROW Map