



**C-470 Corridor
Environmental Assessment –
Integrated Noxious Weed
Management Plan**

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Submitted To: 
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APPENDIX B: NOXIOUS WEED SPECIES PROFILES

EXECUTIVE SUMMARY

The Colorado Department of Transportation (CDOT) is evaluating potential improvements to the C-470 corridor between South Kipling Street and I-25. This Noxious Weed Management Plan was prepared as part of the Environmental Assessment (EA) process.

Following the guidelines outlined in the CDOT NEPA Project, Noxious Weed Process (CDOT 2004), on September 24 and October 5, 2004, the study area was surveyed for all species listed on the State A, State B, on the noxious weed lists for Jefferson, Douglas, and Arapahoe counties (Colorado Department of Agriculture 2004, Arapahoe County 2004), and on the CDOT Maintenance Noxious Weed List (Durkin 2004, Roeder 2005). The following seven noxious weed species were found and mapped:

- Canada thistle (*Cirsium arvense*)
- Diffuse knapweed (*Acosta diffusa*)
- Leafy Spurge (*Euphorbia esula*)
- Musk thistle (*Carduus nutans*)
- Russian olive (*Eleagnus angustifolia*)
- Scotch thistle (*Onopordum acanthium*)
- Tamarisk (*Tamarix ramosissima*)

In addition, another species on the CDOT Maintenance Noxious Weed List, field bindweed (*Convolvulus arvensis*), was noted but not mapped because of its ubiquitous presence throughout the study area.

The potential impacts of project-induced spread of these species on public lands, threatened and endangered species, open waters and wetlands, and agriculture were assessed. If this noxious weed management plan is not successfully implemented, public lands and open waters and wetlands could be adversely affected. This noxious weed management plan describes general preventative measures, specific herbicide control measures for each species, and a monitoring program that will be implemented.

1 Introduction

The Colorado Department of Transportation (CDOT) is evaluating potential improvements to the C-470 corridor between South Kipling Street and I-25. CDOT is initiating an Environmental Assessment (EA) that will be completed as part of the National Environmental Policy Act (NEPA) process. The EA will identify the future needs of the corridor and examine improvements that meet those needs, including the number of travel lanes, interchange modifications, and other major capacity improvements, as well as alternative modes of transportation and toll lanes.

This noxious weed management plan was prepared to support the C-470 Corridor EA. It includes the results of a noxious weed inventory, analysis of impacts relating to noxious weeds, and a description of preventative and control measures that will be implemented during construction.

This plan is intended to comply with the following regulations and guidelines:

- National Environmental Policy Act (NEPA)
- Federal Executive Order 13112 Invasive Species
- Federal Highway Administration Guidance on Invasive Species (August 10, 1999)
- State of Colorado Executive Order (D 06 99 – Development and Implementation of Noxious Weed Management Programs)
- CDOT NEPA Project – Noxious Weed Process – Final (CDOT 2004)
- Colorado Noxious Weed Act (Colorado Revised Statutes [C.R.S.] 35-5.5)

The Colorado Noxious Weed Act states that all landowners must manage noxious weeds that may be damaging to adjacent landowners. Rules pertaining to administration of the Act include three lists of noxious weed species (Colorado Department of Agriculture 2004). The A List contains noxious weed species targeted for eradication within Colorado. If individuals or populations of A List species are found, the local governing body (in this case, CDOT) must provide the State Weed Coordinator with mapping that includes information on location and density of the infestation. The State B List contains species that the state has targeted for control rather than eradication. The State C List contains species for which the state will provide support and funding for local control efforts.

2 Study Area

For the purposes of this Noxious Weed Management Plan, the C-470 study area was defined as the area within about 300 feet of the maximum limits of disturbance of proposed alternatives within the C-470 highway alignment, extending from the C-470/I-25 interchange in Douglas County to just west of Kipling Street in Jefferson County (Figures 1 and 2). This corridor occurs in the Littleton, Highlands Ranch, and Parker USGS Quadrangle maps. The study area includes portions of the communities of Lone Tree, Highlands Ranch, and Littleton in Douglas, Arapahoe, and Jefferson Counties.

Most of the eastern portions of the study area are dominated by urban development including commercial and residential land uses. Several parks, golf courses, and protected open space areas are also found within the study area. West of US 85, the south side of the study area is dominated by undeveloped land and protected lands including Chatfield State Park and the Chatfield Arboretum. The study area crosses the South Platte River near US 85, and also crosses other prominent drainages including (from east to west) Willow Creek, Big Dry Creek, Lee Gulch, Dad Clark Gulch, the Highline Canal, and Massey Draw. Elevations in the study area range between 5,350 and 6,430 feet.

Most of the undeveloped portions of the corridor support native grasslands dominated by blue grama (*Bouteloua gracilis*) and western wheatgrass (*Pascopyrum smithii*), and non-native grasslands dominated by smooth brome (*Bromus inermis*) and crested wheatgrass (*Agropyron cristatum*). Along the major and some of the minor stream corridors, riparian woodlands dominated by plains cottonwood (*Populus deltoides*) and willows (*Salix* spp.) occur. Along the smaller drainages, herbaceous wetlands occur dominated by cattails (*Typha latifolia*), sedges (*Carex* spp.), and other herbaceous species.

3 Methods

On September 24 and October 5, 2004, field teams headed by Denise Larson, an ecologist with ERO, inventoried existing noxious weed populations within the C-470 study area. By following the guidelines outlined in the CDOT NEPA Project, Noxious Weed Process (CDOT 2004), ERO surveyed for all species listed on the State A, State B, Jefferson, Douglas, and Arapahoe County Noxious Weed Lists (Colorado Department of Agriculture 2004, Arapahoe County 2005), and on the CDOT Maintenance Noxious Weed List (Durkin 2004). An updated CDOT Maintenance list was provided in August 2005 (Roeder 2005).

ERO Resources hand drew the locations of populations of noxious weeds found during the survey onto aerial photographs. The locations were then transferred to a GIS database for presentation.

It is possible that additional noxious weed species were present but were not visible at the time of the year the survey was performed. CDOT prefers that weed inventories take place between June and September for the most accurate survey (Roeder 2005). Many noxious weed species go from emergence to seed dispersal during a short time in spring and may not be visible other times of the year. If the project is not constructed prior to the end of May 2006, an additional formal weed inventory will be conducted during the growing season prior to the anticipated start of construction.

4 Results

A list of noxious weeds observed and mapped in the study area is presented in Table 1 and shown on Figures 3 to 41.

Table 1: Noxious Weeds Present in the C-470 Corridor Study Area

Common Name	Scientific Name	Arapahoe County Weed List	Douglas County Weed List	Jefferson County Weed List	CDOT Weed List	Colorado Noxious Weed List
Canada thistle	<i>Cirsium arvense</i>	X	X	X	X	B
Diffuse knapweed	<i>Acosta diffusa</i>	X	X	X	X	B
Field bindweed	<i>Convolvulus arvensis</i>				X	C
Leafy spurge	<i>Euphorbia esula</i>	X	X	X	X	B
Musk thistle	<i>Carduus nutans</i>	X	X	X	X	B
Russian olive	<i>Eleagnus angustifolia</i>				X	B
Scotch thistle	<i>Onopordum acanthium</i>	X	X	X	X	B
Tamarisk	<i>Tamarix ramosissima</i>	X			X	B

Noxious weed acreages and densities are presented in Table 2. Density categories for mapped areas are: 1 = Scattered individuals; 2 = Scattered patches, usually under 500 square feet; 3 = Medium-sized patches between 500 and 2500 square feet; 4 = Large, numerous patches over 2500 square feet; 5 = Monoculture.

A species on the CDOT Maintenance Noxious Weed List that occurs throughout the study area is field bindweed (*Convolvulus arvensis*). This low-growing noxious weed occurs at least occasionally in all vegetative types except wetlands throughout the study area. Because it is so ubiquitous within the study area, it was not mapped.

The 2004 survey results were compared against the updated CDOT Maintenance. None of the three species added were present in the 2004 survey.

Table 2: C-470 Noxious Weed Densities and Acreages for Mapped Species

Common Name	Density [†]	Acreage
Canada thistle	1	0
	2	1.10
	3	18.34
	4	3.95
Diffuse knapweed	1	0.01
	2	2.48
	3	46.51
	4	66.85
Leafy spurge	1	0
	2	0.5
	3	0
	4	0
Musk thistle	1	0
	2	1.55

	3	0.44
	4	0
Russian olive	1	1.09
	2	5.01
	3	3.27
	4	0
Scotch thistle	1	0
	2	7.46
	3	4.26
	4	0
Tamarisk	1	0
	2	0.03
	3	0
	4	0

†Density Code: 1 = Scattered individuals; 2 = Scattered patches ; 3 = Medium-sized patches; 4 = Large, numerous patches; 5 = Monoculture.

5 Analysis of Impacts

Various construction activities have the potential to increase the spread of existing weeds or to introduce new noxious weeds into the project area. These activities include mobilization of construction vehicles; excavation and movement of borrow materials, land clearing and other earth-moving activities, and reclamation. Noxious weeds may be spread within the project area by transportation of topsoil that contains weed seeds and roots from one area to another during earth moving or on construction vehicles. Removal of existing vegetation and soil disturbance allows spread of weeds from airborne seeds, and may encourage germination of existing seeds in soil seedbanks. New noxious weeds may be introduced into the project area from construction vehicles.

5.1 Impacts To Public Lands

Chatfield State Park, the Chatfield Arboretum, and other designated open space areas are present in and adjacent to the study area. These parks and open space contain a mixture of native grasslands, woody riparian, and wetland areas. Noxious weeds within the study area could spread to these public lands and potentially increase existing populations or create new populations, thereby adversely affecting the diversity and abundance of desired species.

5.2 Impacts to Threatened and Endangered Species

Potential habitat for four threatened and endangered species occurs in the vicinity of the study area. These species are bald eagle, Preble's meadow jumping mouse, Ute ladies'-tresses orchid, and Colorado butterfly plant.

Bald eagles may roost in the large cottonwoods along the South Platte River, Chatfield Reservoir and other reservoirs. Invading Russian olives and tamarisk may displace young cottonwoods, eventually reducing the number of large cottonwoods used by bald eagles for roosting.

Preble's meadow jumping mouse, a threatened species, has potential habitat within the riparian corridors of the project, although none have been found. Currently, the closest known populations of Preble's are several miles south of the project area, south of Chatfield Reservoir.

If Preble's were found within the study area, noxious weeds would have a minimal impact on the species because Preble's is known to occupy habitat infested with noxious weeds.

Ute ladies'-tresses orchid and Colorado butterfly plant have some potential habitat along the South Platte River and its tributaries. However, neither plant has been found in the area after numerous searches. Noxious weeds are unlikely to impact these species.

5.3 Impacts to Open Water and Wetlands

Although none of the noxious weeds found within the study area are associated with open water habitat, riparian areas and wetlands in the study area support a great abundance of noxious weeds. Weeds associated with wetlands and moist riparian habitats include Canada thistle, leafy spurge, Russian olive, and tamarisk. Increased noxious weed concentrations will continue to adversely impact riparian areas and wetlands within and around the study area by replacing native vegetation.

5.4 Agricultural Impacts

There is no irrigated or actively cropped agricultural land in the study area.

6 Preventative Measures

CDOT will implement this weed management plan in accordance with the Colorado Noxious Weed Act and other directives to control and prevent weed infestation and spread. During the design phase the Noxious Weed Management Plan will be reviewed and updated to ensure the latest control methods and safety standards are implemented. During construction, the following preventive measures will be used in all construction areas:

- Weed management efforts will be coordinated with local jurisdictional agencies and adjacent landowners to the extent possible
- All construction equipment will be washed thoroughly before being brought into the project area to avoid introducing undesirable plants and noxious weeds.
- Noxious weeds observed in and near the construction area at the onset of construction will be treated with herbicides by a state-licensed herbicide applicator or physically removed to prevent seed distribution into areas disturbed during construction if within the CDOT or local agency right-of-way.
- Avoid non-target injury to passing pedestrians and motorists; adjacent native plant communities; nearby landscaping; sensitive wildlife habitat; and nearby beekeeping operations (if present) when herbicide is being applied.
- Herbicides can be used immediately adjacent to wetlands, riparian areas, and/or water bodies *only if* the label indicates that its use is appropriate for such areas.
- Application of herbicides immediately adjacent to active prairie dog colonies will not be permitted.
- Periodic surveys will take place during the construction period to identify and treat noxious weeds that have developed.
- Minimize soil disturbance to the extent possible.

- Staging of equipment will not be permitted in weed-infested areas.
- Areas of topsoil salvage will be assessed for the presence and abundance of noxious weeds prior to salvage. Topsoil from heavily infested areas will be properly disposed of offsite.
- Disturbed areas will be reclaimed within 7 days after the completion of construction and seeded with an appropriate native seed mix. Seeding will be done between September 1 until consistent ground freeze and from spring thaw until June 1.
- In areas that are completed and cannot be immediately seeded due to the time of year, mulch and mulch tackifier will be used for temporary erosion control until seeding can occur
- Certified weed-free mulch will be used for reclamation and all seed mixes and nursery material used for reclamation will be free of noxious weed seeds, roots, and rhizomes. Certified weed-free straw bales will be used for sediment barriers. “Weed-free” is defined in CRS Title 35, Article 27.5.
- Fertilizer will not be used in seeded areas. Small amounts may promote noxious weeds, especially annuals.
- No topsoil will be imported onto the site.

7 Control Measures

Integrated Weed Management (IWM) techniques for noxious weeds found within the study area are outlined in this section. Weed control measures are based on information from “Creating an Integrated Weed Management Plan” (CNAP 2000), Douglas County (Douglas County 2005), Colorado State University Cooperative Extension Program (CSUCE 2005), and other sources. The plant profile for each species is shown in Appendix A.

IWM for the project focuses on long-term prevention or suppression of undesirable species while reducing the impact that control techniques may have on the environment, human health, and non-target species. If necessary, specified brands of herbicides can be replaced with similarly labeled products following review and acceptance by the CDOT Region 6 Noxious Weed Specialist.

When implementing the IWM for this project, the highest priority will be given to the western end around Chatfield Reservoir, the South Platte River, Chatfield Arboretum, and other open space areas. Noxious weed invasions in these areas would have the largest impact on wildlife habitat and native plant communities.

Table 3 provides general information and control methods for each noxious weed in the project area. Control methods are focused on those areas disturbed by construction and are not intended for use in undisturbed areas of right-of-way. Herbicides will be applied by experienced applicators using appropriate safety precautions and following all manufacturer labeling. Herbicides will be applied using backpack sprayers whenever possible in order to minimize adverse impacts to non-targeted species.

Table 3: Noxious Weeds – Control Methods (From CSUCE 2005, Douglas County 2005, Dupont 2005 and NDSUES 2005).

Species Common Name	Species Scientific Name	Relative Density	Season of Occurrence	Habitat Preference	Control Methods	
					Sensitive Areas (wetlands, water)	Non-Sensitive Areas (uplands, ROW)
Canada thistle	<i>Cirsium arvense</i>	widespread and well established	Flowers from June to October	Mostly riparian areas; although also occurs in uplands	Spray Telar DF at rate of 2 qt/acre at spring and fall rosette stages	Apply Curtail. At 2-3 pints/acre in Spring when large plants are at bud stage and small plants are rosettes, again in October or after last mowing
Diffuse knapweed	<i>Acosta diffusa</i>	Very common, especially in Chatfield State Park	Buds in early June and flowers from July to August	Upland grasslands	NA	Tank mix of Tordon (0.75 pints/acre) and 2,4-D (2 pints/acre). Spring and fall during rosette stages
Leafy spurge	<i>Euphorbia esula</i>	1 small population	Early spring to fall	Common in riparian areas, although found in wide range of habitats	Spray 2,4-D at rate of 2 quarts/acre in spring and fall	Spray Tordon 1 quart/acre in Spring
Musk thistle	<i>Carduus nutans</i>	Scattered small to large patches	Bolts April to June, Flowers May to mid- July	Widespread	Pull scattered plants past rosette stage but before flowering. For larger populations spray 2,4-D at 2 quarts/acre in spring and fall	NA
Russian olive	<i>Eleagnus angustifolia</i>	Occurs in riparian areas and planted along roadsides	NA	Riparian areas, but can also grow in uplands	High priority should be given to Russian olives found in drainages near Chatfield State Park. Hand-pull scattered seedlings and sprouts. For larger trees, cut tree and immediately paint cut stump with undiluted Garlon 3 during growing season.	Hand-pull scattered seedlings and sprouts. For larger trees, cut tree and immediately paint cut stump with undiluted Garlon 3 during growing season.

Species Common Name	Species Scientific Name	Relative Density	Season of Occurrence	Habitat Preference	Control Methods	
					Sensitive Areas (wetlands, water)	Non-Sensitive Areas (uplands, ROW)
Scotch thistle	<i>Onopordum acanthium</i>	Small to large patches throughout study area	Flowering mid-June to September	Wide variety of grasslands in particular moist areas.	Pull scattered plants past rosette stage but before flowering. For larger infestations spray with 2,4-D at 2 quarts/acre in spring and fall	Pull scattered plants past rosette stage but before flowering. For larger infestations spray Curtail at 2 quarts/acre in Spring and fall during rosette stages
Tamarisk	<i>Tamarisk spp.</i>	One patch in riparian area along South Platte River	NA	Riparian areas	Cut down tree and immediately paint cut stump with undiluted Garlon 3 during growing season	NA
Field bindweed	<i>Convolvulus arvensis</i>	Widespread	Flowers in June through September or later	Disturbed ground	NA	Spray Tordon™ at 1 to 2 quarts per acre plus 2,4-D at 1 to 2 pints per acre when field bindweed has at least 12 inches of growth and is actively growing.

8 Monitoring

Periodic observation of the weeds being managed is necessary to identify new infestations, measure success, and provide a feedback mechanism for decision making. Techniques for monitoring the study area include photo monitoring, vegetation mapping, and field surveys.

During construction and reclamation, all areas disturbed by construction and adjacent undisturbed vegetation will be monitored for noxious weeds in the spring, mid-summer, and fall. Personnel assigned to monitoring will be familiar with the identification of noxious weeds in the study area. Monitoring reports, including mapping and photographs, will be completed and kept on file. All weed control actions will be recorded as part of the monitoring process and will include dates, personnel, methods used, application areas, and results of follow-up surveys.

9 References

- Arapahoe County. 2004. Weed Control.
<http://www.co.arapahoe.co.us/departments/pw/weedcontrol.asp>
- Colorado Department of Agriculture. 2005. County Noxious Weed List.
<http://www.ag.state.co.us/DPI/Weeds/mapping/counties.html>
- Colorado Department of Transportation. 2004. Incorporating Integrated Noxious Weed Management into the NEPA Analysis and Project Development Process.
- Colorado Natural Areas Program (CNAP). 2000. Creating an Integrated Weed Management Plan, A Handbook for Owners and Managers of Lands with Natural Values. Colorado Natural Areas Program.
- Colorado Noxious Weed Act. Colorado Revised Statutes 35-5.5-101-119 (enacted 1990, revised 2003).
- Colorado State University Cooperative Extension (CSUCE). 2005. Natural Resources Publications website. <http://www.ext.colostate.edu/pubs/natres/pubnatr.html>
- Douglas County Weed Division. 2005. Weed Control.
http://www.douglas.co.us/DC/PublicWorks/Weeds/weed_home.htm
- Dow AgriSciences. 2005. Garlon 3 Product Label. <http://www.cdms.net/ldat/ld0AU008.pdf>
- Dupont Vegetation Management. 2005. Telar DF product label.
<http://www.dupont.com/ag/us/prodinfo/prodsearch/information/H64384.pdf>.
- Durkin, Paula. 2003. CDOT – Region 6 Environmental Manager. Personal communication with Denise Larson, ERO Resources. March 2003.
- Durkin, Paula. 2004. CDOT – Region 6 Environmental Manager. Personal Communication with Denise Larson, ERO Resources. November 2004.
- FHWA. 1999. Federal Highway Administration Guidance on Invasive Species (August 10, 1999).
- Jefferson County Weed and Pest Program. 2005. County Weed List.
http://www.co.jefferson.co.us/ext/dpt/comm_res/openspac/weed/nox/nw2a.htm
- North Dakota State University Extension Service (NDSUES). 2005. Identification and Control of Field Bindweed. <http://www.ext.nodak.edu/extpubs/plantsci/weeds/w802w.htm>
- Roeder, Bryan. 2005. CDOT – Environmental Programs Branch Noxious Weeds Specialist. Memo to Denise Larson, ERO Resources Corp. on July 11, 2005 regarding Noxious Weeds Control Plan.

Appendix A

Noxious Weed Lists for the C-470 Environmental Assessment Study Area

Common Name	Scientific Name	Jefferson County List	Douglas County List ^a	Arapahoe County List ^b	CDOT Maintenance List	Colorado Lists ^c		
						A	B	C
Absinth wormwood	<i>Artemisia absinthium</i>			X	X		X	
African rue	<i>Peganum harmala</i>		X	X		X		
Black henbane	<i>Hysoscyamas niger</i>			X	X		X	
Bouncingbet	<i>Saponaria officinalis</i>			X			X	
Bull thistle	<i>Cirsium vulgare</i>		X	X	X		X	
Camelthorn	<i>Alhagi pseudalhagi</i>		X	X		X		
Canada thistle	<i>Cirsium arvense</i>	X	X	X	X		X	
Chinese clematis	<i>Clematis orientalis</i>	X	X	X	X		X	
Chicory	<i>Cichorium intybus</i>							X
Common burdock	<i>Arctium minus</i>							X
Common crupina	<i>Crupina vulgaris</i>		X	X		X		
Common mullein	<i>Verbascum thapsus</i>							X
Common St. Johnswort	<i>Hypericum perforatum</i>							X
Common tansy	<i>Tanacetum vulgare</i>			X			X	
Common teasel	<i>Dipsacus fullonum</i>	X		X			X	
Corn chamomile	<i>Anthemis arvensis</i>			X			X	
Cutleaf teasel	<i>Dipsacus laciniatus</i>			X			X	
Cypress spurge	<i>Euphorbia cyparissias</i>	X	X	X		X		
Dames rocket	<i>Hesperis matronalis</i>			X	X		X	
Downy brome	<i>Bromus tectorum</i>							X
Dyer's woad	<i>Isatis tinctoria</i>		X	X		X		
Eurasian watermilfoil	<i>Myriophyllum spicatum</i>			X			X	
Field bindweed	<i>Convolvulus arvensis</i>				X			X
Giant salvinia	<i>Salvinia molesta</i>		X	X		X		
Halogeton	<i>Halogeton glomeratus</i>							X
Hoary cress	<i>Cardaria draba</i>	X	X	X	X		X	
Houndstongue	<i>Cynoglossum officinale</i>	X	X	X	X		X	
Hydrilla	<i>Hydrilla verticillata</i>		X	X		X		
Johnsongrass	<i>Sorghum halepense</i>							X
Jointed goatgrass	<i>Aegilops cylindrica</i>				X			X
Knapweed, diffuse	<i>Centaurea diffusa</i>	X	X	X	X		X	

Common Name	Scientific Name	Jefferson County List	Douglas County List ^a	Arapahoe County List ^b	CDOT Maintenance List	Colorado Lists ^c		
						A	B	C
Knapweed, Russian	<i>Acroptilon repens</i>	X	X	X	X		X	
Knapweed, spotted	<i>Centaurea maculosa</i>	X	X	X	X		X	
Leafy spurge	<i>Euphorbia esula</i>	X	X	X	X		X	
Mayweed chamomile	<i>Anthemis cotula</i>			X			X	
Meadow knapweed	<i>Centaurea pratensis</i>		X	X		X		
Mediterranean sage	<i>Salvia aethiopsis</i>		X	X		X		
Medusahead	<i>Taeniatherum caput medusae</i>		X	X		X		
Moth mullein	<i>Verbascum blattaria</i>			X			X	
Musk thistle	<i>Carduus nutans</i>	X	X	X	X		X	
Myrtle spurge	<i>Euphorbia myrsinites</i>	X	X	X	X	X		
Orange hawkweed	<i>Hieracium aurantiacum</i>	X	X	X	X	X		
Oxeye daisy	<i>Chrysanthemum leucanthemum</i>			X	X		X	
Perennial pepperweed	<i>Lepidium latifolium</i>		X	X	X		X	
Perennial sowthistle	<i>Sonchus arvensis</i>							X
Plumeless thistle	<i>Carduus acanthoides</i>		X	X	X		X	
Poison hemlock	<i>Conium maculatum</i>							X
Puncturevine	<i>Tribulus terrestris</i>							X
Purple loosestrife	<i>Lythrum salicaria</i>	X	X	X	X	X		
Quackgrass	<i>Elytrigia repens</i>			X			X	
Redstem filaree	<i>Erodium cicutarium</i>			X			X	
Rush skeletonweed	<i>Chondrilla juncea</i>		X	X		X		
Russian olive	<i>Elaeagnus angustifolia</i>			X	X		X	
Scentless chamomile	<i>Matricaria perforata</i>			X	X		X	
Scotch thistle	<i>Onopordum acanthium</i>	X	X	X	X		X	
Scotch thistle	<i>Onopordium tauricum</i>	X	X	X			X	
Sericea lespedeza	<i>Lespedeza cuneata</i>		X	X		X		
Spurred anoda	<i>Anoda cristata</i>			X			X	
Squarrose knapweed	<i>Centaurea virgata</i>		X	X		X		
Sulfur cinquefoil	<i>Potentilla recta</i>			X			X	
Tamarisk (Salt cedar)	<i>Tamarix ramosissima, T. parviflora, and T. chinensis</i>	X	X	X	X		X	

Common Name	Scientific Name	Jefferson County List	Douglas County List ^a	Arapahoe County List ^b	CDOT Maintenance List	Colorado Lists ^c		
						A	B	C
Tansy ragwort	<i>Senecio jacobaea</i>		X	X		X		
Toadflax, Dalmatian	<i>Linaria dalmatica</i>		X	X	X		X	
Toadflax, Dalmation	<i>Linaria genistifolia</i>		X	X			X	
Toadflax, yellow	<i>Linaria vulgaris</i>		X	X	X		X	
Velvetleaf	<i>Abutilon theophrasti</i>							X
Venice mallow	<i>Hibiscus trionum</i>			X			X	
Wild caroway	<i>Carum carvi</i>			X			X	
Wild proso millet	<i>Panicum miliaceum</i>							X
Yellow nutsedge	<i>Cyperus esculentus</i>			X			X	
Yellow starthistle	<i>Centaurea solstitialis</i>	X	X	X	X	X		

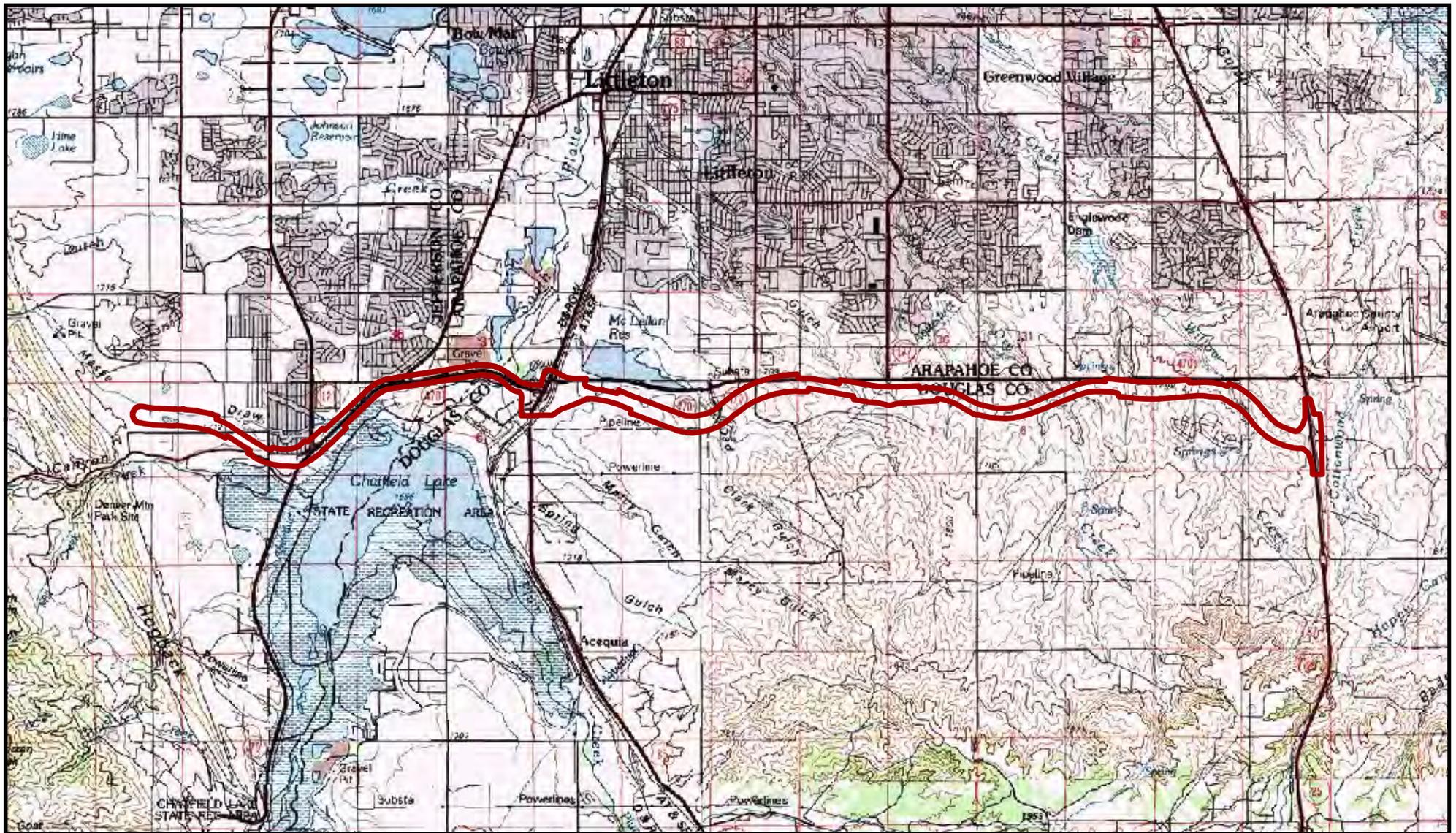
^a Species listed for Douglas County are those the county has identified for eradication or containment and suppression. The remaining Colorado B List species found in Douglas County are to be monitored and managed as funds are available.

^b Arapahoe County does not have any species unique from those on the State A and B lists.

^c List A species (all populations) in Colorado are designated by the Commissioner of Agriculture for eradication.

List B noxious weed species are species for which the Commissioner of Agriculture, in consultation with the state noxious weed advisory committee, local governments, and other interested parties, will develop and implement state noxious weed management plans designed to stop the continued spread of these species. These species are targeted for eradication, containment or suppression.

List C noxious weed species are species for which the Commissioner of Agriculture, in consultation with the state noxious weed advisory committee, local governments, and other interested parties, will develop and implement state noxious weed management plans designed to support the efforts of local governing bodies to facilitate more effective integrated weed management on private and public lands. The goal of such plans will not be to stop the continued spread of these species but to provide additional education, research, and biological control resources to jurisdictions that choose to require management of List C species.



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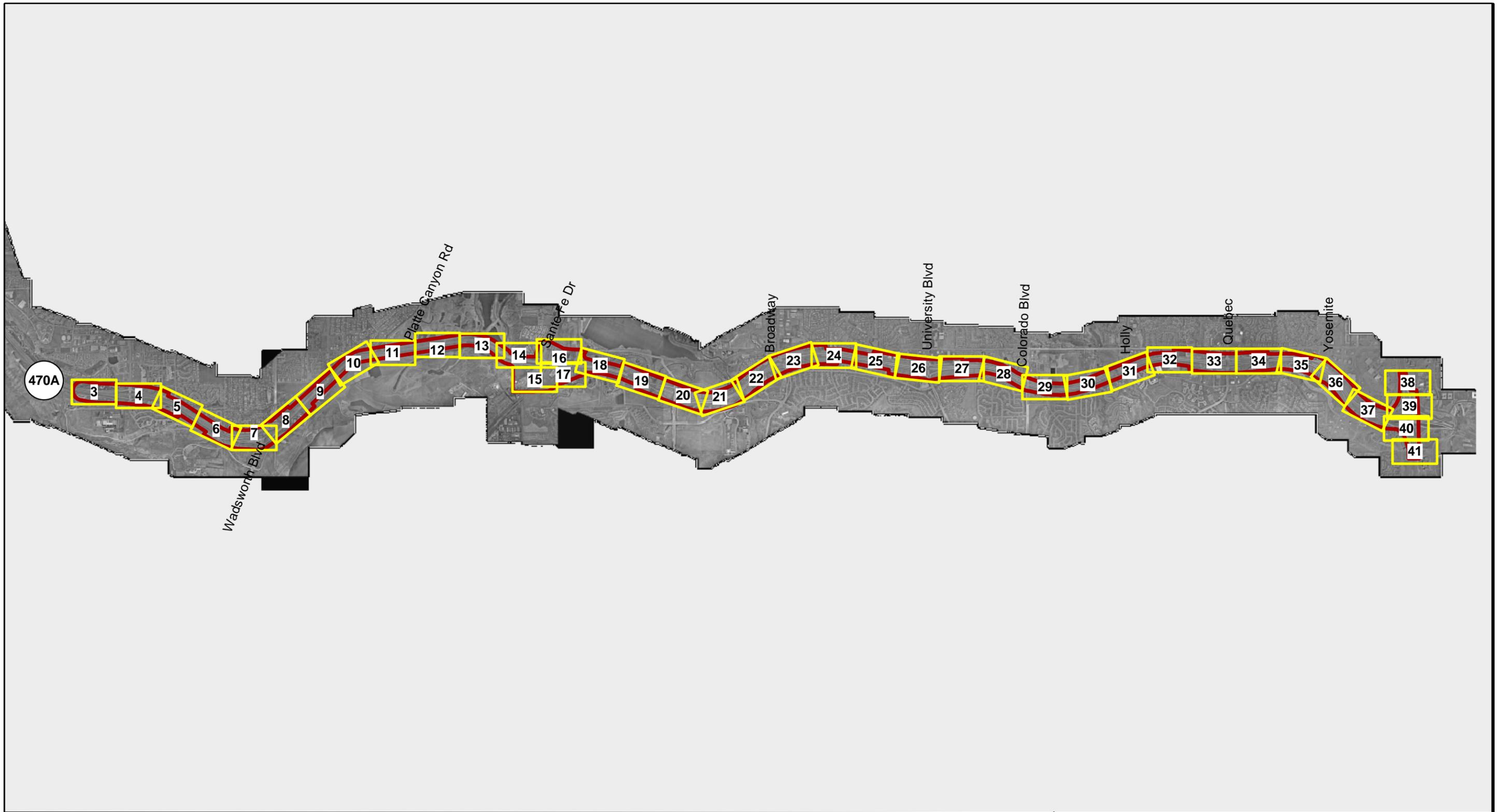
C470 EA
Highlands Ranch, Littleton and Parker Quadrangles,
Jefferson, Douglas and Arapahoe Counties, Colorado

Scale: 1:100,000



Figure 1
Site Location

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 File: 2419-Figure1.mxd (SR)
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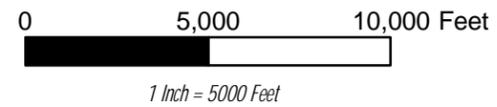


Figure 2
C-470 Corridor EA
Noxious Weeds
Figure Locator

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 File: 2419-weed tech fig locator.mxd (SR)
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- Study Area
- Noxious Weed Population

Species	Density
CT - Canada Thistle	1 - Scattered Individuals
DK - Diffuse Knapweed	2 - Scattered Patches
LS - Leafy Spurge	3 - Medium Patches
MT - Musk Thistle	4 - Large Patches
RO - Russian Olive	5 - Monoculture
ST - Scotch Thistle	
TAM - Tamarisk	

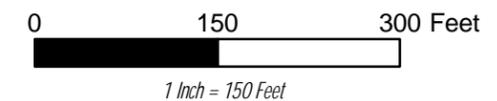


Figure 3
C-470 Corridor EA
Noxious Weeds

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- Study Area
- Noxious Weed Population

Species	Density
CT - Canada Thistle	1 - Scattered Individuals
DK - Diffuse Knapweed	2 - Scattered Patches
LS - Leafy Spurge	3 - Medium Patches
MT - Musk Thistle	4 - Large Patches
RO - Russian Olive	5 - Monoculture
ST - Scotch Thistle	
TAM - Tamarisk	

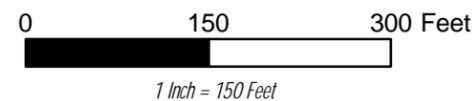
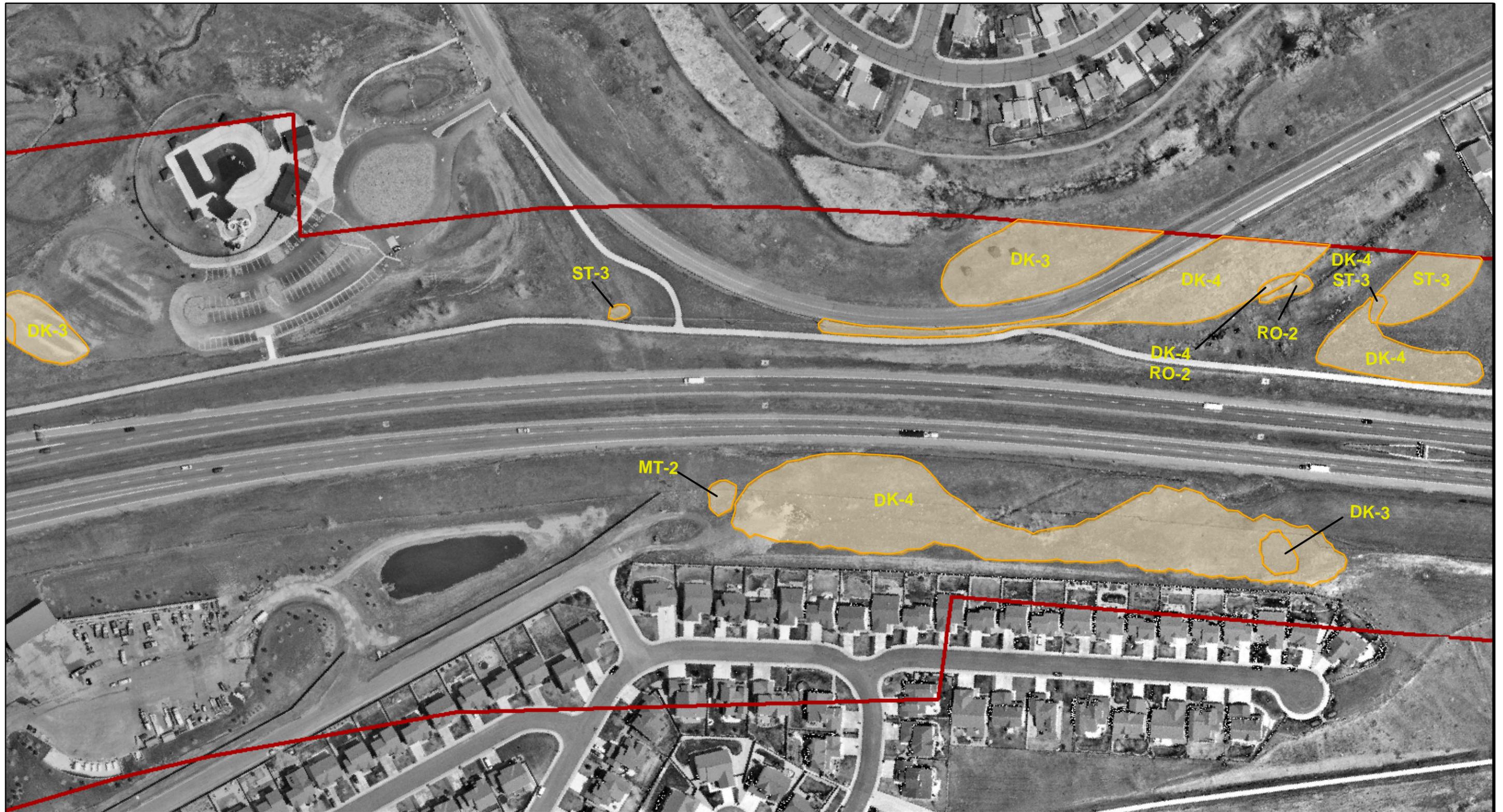


Figure 4
 C-470 Corridor EA
 Noxious Weeds

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- Study Area
- Noxious Weed Population

Species	Density
CT - Canada Thistle	1 - Scattered Individuals
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LS - Leafy Spurge	3 - Medium Patches
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ST - Scotch Thistle	
TAM - Tamarisk	

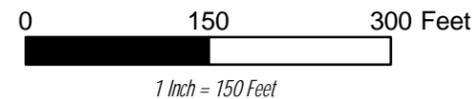


Figure 5
C-470 Corridor EA
Noxious Weeds

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- Study Area
- Noxious Weed Population

Species	Density
CT - Canada Thistle	1 - Scattered Individuals
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ST - Scotch Thistle	
TAM - Tamarisk	

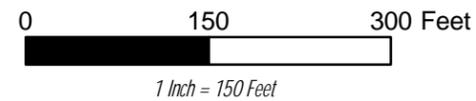


Figure 6
 C-470 Corridor EA
 Noxious Weeds

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- Study Area
- Noxious Weed Population

Species	Density
CT - Canada Thistle	1 - Scattered Individuals
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RO - Russian Olive	5 - Monoculture
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TAM - Tamarisk	

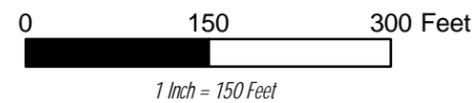


Figure 7
C-470 Corridor EA
Noxious Weeds

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- Study Area
- Noxious Weed Population

Species	Density
CT - Canada Thistle	1 - Scattered Individuals
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MT - Musk Thistle	4 - Large Patches
RO - Russian Olive	5 - Monoculture
ST - Scotch Thistle	
TAM - Tamarisk	

0 150 300 Feet



1 Inch = 150 Feet



Figure 8
C-470 Corridor EA
Noxious Weeds

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- Study Area
- Noxious Weed Population

Species

- CT - Canada Thistle
- DK - Diffuse Knapweed
- LS - Leafy Spurge
- MT - Musk Thistle
- RO - Russian Olive
- ST - Scotch Thistle
- TAM - Tamarisk

Density

- 1 - Scattered Individuals
- 2 - Scattered Patches
- 3 - Medium Patches
- 4 - Large Patches
- 5 - Monoculture

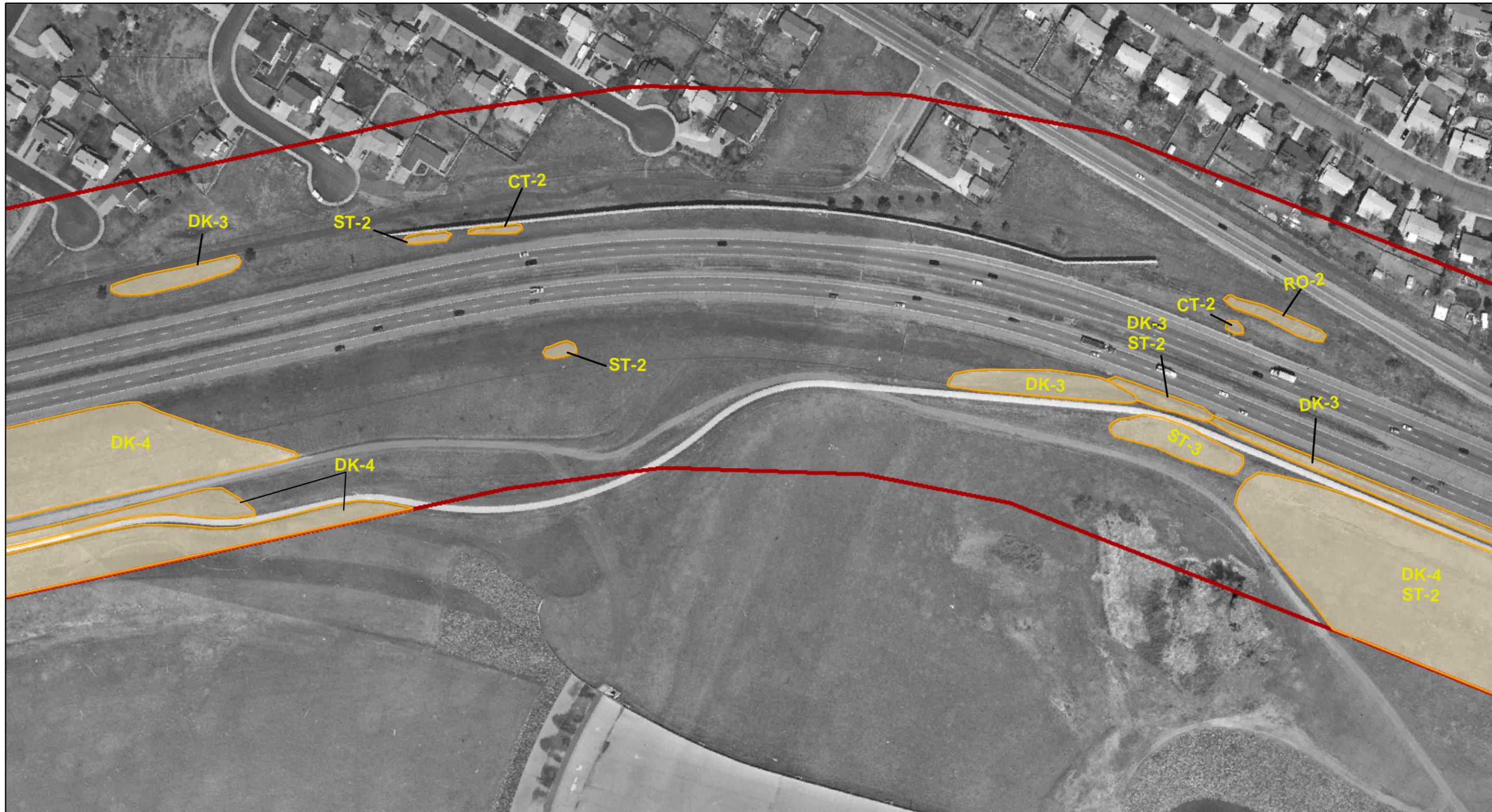
0 150 300 Feet

1 Inch = 150 Feet



Figure 9
 C-470 Corridor EA
 Noxious Weeds

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- Study Area
- Noxious Weed Population

Species

- CT - Canada Thistle
- DK - Diffuse Knapweed
- LS - Leafy Spurge
- MT - Musk Thistle
- RO - Russian Olive
- ST - Scotch Thistle
- TAM - Tamarisk

Density

- 1 - Scattered Individuals
- 2 - Scattered Patches
- 3 - Medium Patches
- 4 - Large Patches
- 5 - Monoculture

0 150 300 Feet

1 Inch = 150 Feet



Figure 10
C-470 Corridor EA
Noxious Weeds

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-  Study Area
-  Noxious Weed Population

Species

- CT - Canada Thistle
- DK - Diffuse Knapweed
- LS - Leafy Spurge
- MT - Musk Thistle
- RO - Russian Olive
- ST - Scotch Thistle
- TAM - Tamarisk

Density

- 1 - Scattered Individuals
- 2 - Scattered Patches
- 3 - Medium Patches
- 4 - Large Patches
- 5 - Monoculture

0 150 300 Feet



1 Inch = 150 Feet



Figure 11
C-470 Corridor EA
Noxious Weeds

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- Study Area
- Noxious Weed Population

Species	Density
CT - Canada Thistle	1 - Scattered Individuals
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MT - Musk Thistle	4 - Large Patches
RO - Russian Olive	5 - Monoculture
ST - Scotch Thistle	
TAM - Tamarisk	

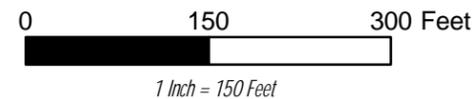


Figure 12
C-470 Corridor EA
Noxious Weeds

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- Study Area
- Noxious Weed Population

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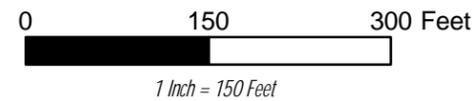


Figure 13
C-470 Corridor EA
Noxious Weeds

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- Study Area
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Species	Density
CT - Canada Thistle	1 - Scattered Individuals
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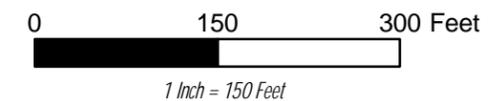
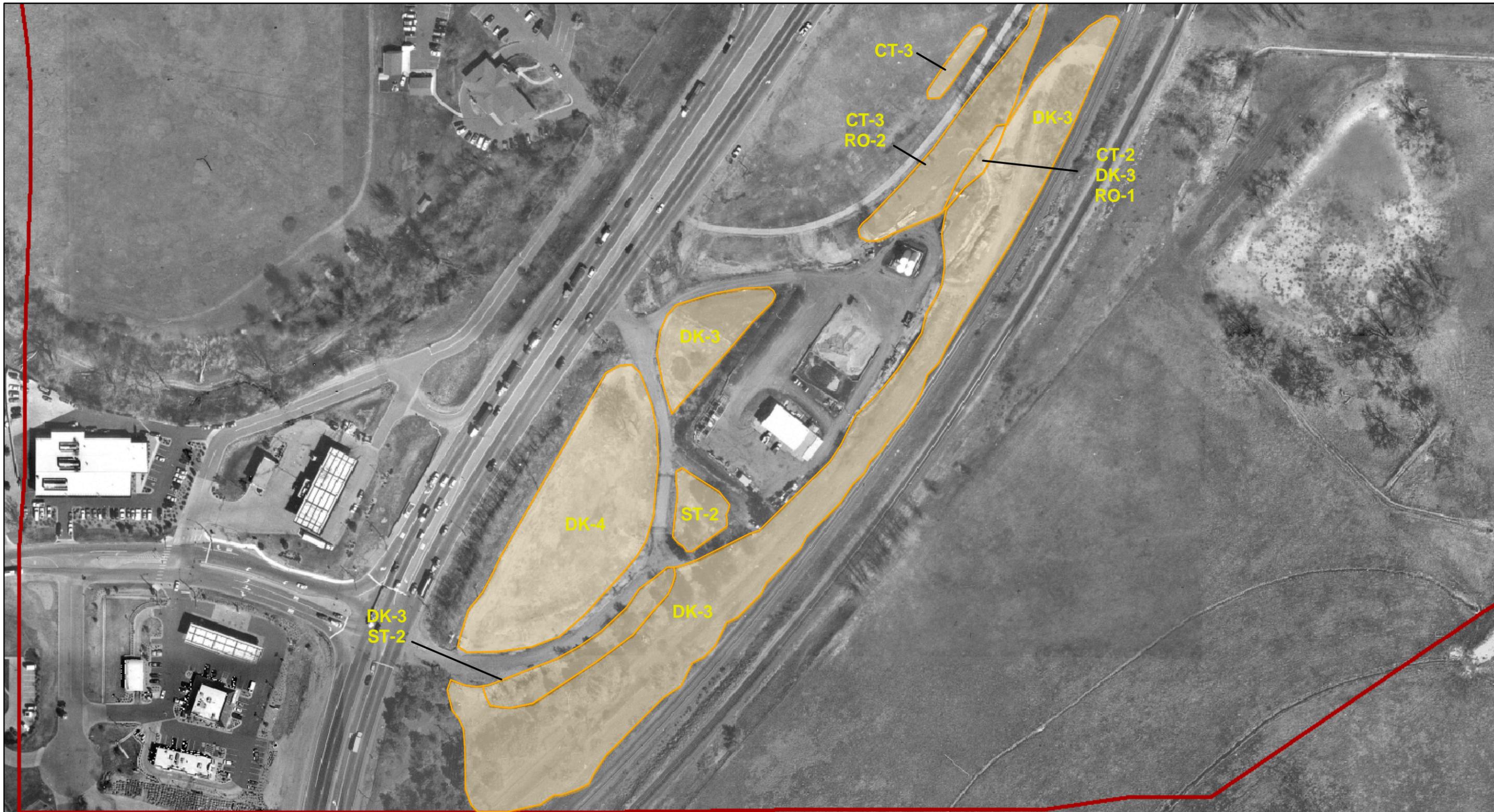


Figure 14
 C-470 Corridor EA
 Noxious Weeds

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- Study Area
- Noxious Weed Population

Species

- CT - Canada Thistle
- DK - Diffuse Knapweed
- LS - Leafy Spurge
- MT - Musk Thistle
- RO - Russian Olive
- ST - Scotch Thistle
- TAM - Tamarisk

Density

- 1 - Scattered Individuals
- 2 - Scattered Patches
- 3 - Medium Patches
- 4 - Large Patches
- 5 - Monoculture

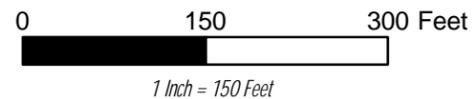
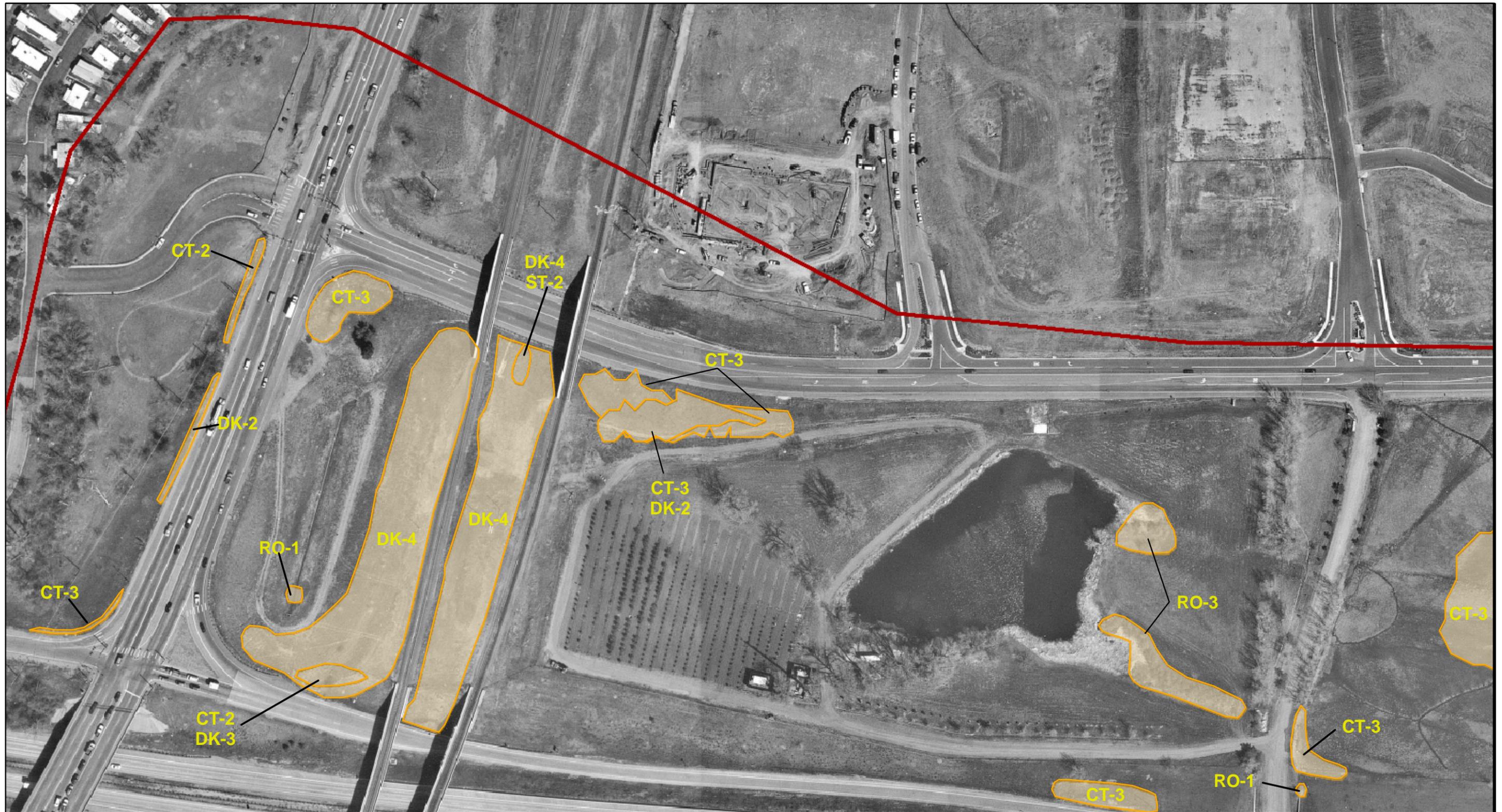


Figure 15
C-470 Corridor EA
Noxious Weeds

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- Study Area
- Noxious Weed Population

Species

- CT - Canada Thistle
- DK - Diffuse Knapweed
- LS - Leafy Spurge
- MT - Musk Thistle
- RO - Russian Olive
- ST - Scotch Thistle
- TAM - Tamarisk

Density

- 1 - Scattered Individuals
- 2 - Scattered Patches
- 3 - Medium Patches
- 4 - Large Patches
- 5 - Monoculture

0 150 300 Feet



1 Inch = 150 Feet



Figure 16
 C-470 Corridor EA
 Noxious Weeds

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- Study Area
- Noxious Weed Population

Species	Density
CT - Canada Thistle	1 - Scattered Individuals
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LS - Leafy Spurge	3 - Medium Patches
MT - Musk Thistle	4 - Large Patches
RO - Russian Olive	5 - Monoculture
ST - Scotch Thistle	
TAM - Tamarisk	

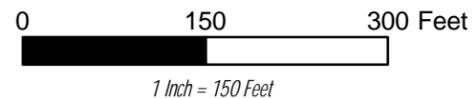


Figure 17
C-470 Corridor EA
Noxious Weeds

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- Study Area
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Species	Density
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RO - Russian Olive	5 - Monoculture
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TAM - Tamarisk	

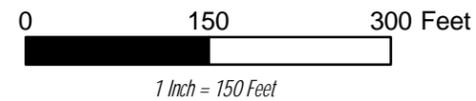


Figure 18
 C-470 Corridor EA
 Noxious Weeds

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- Study Area
- Noxious Weed Population

Species	Density
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RO - Russian Olive	5 - Monoculture
ST - Scotch Thistle	
TAM - Tamarisk	

0 150 300 Feet



1 Inch = 150 Feet



Figure 19
 C-470 Corridor EA
 Noxious Weeds

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- Study Area
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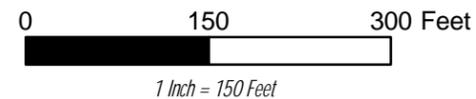
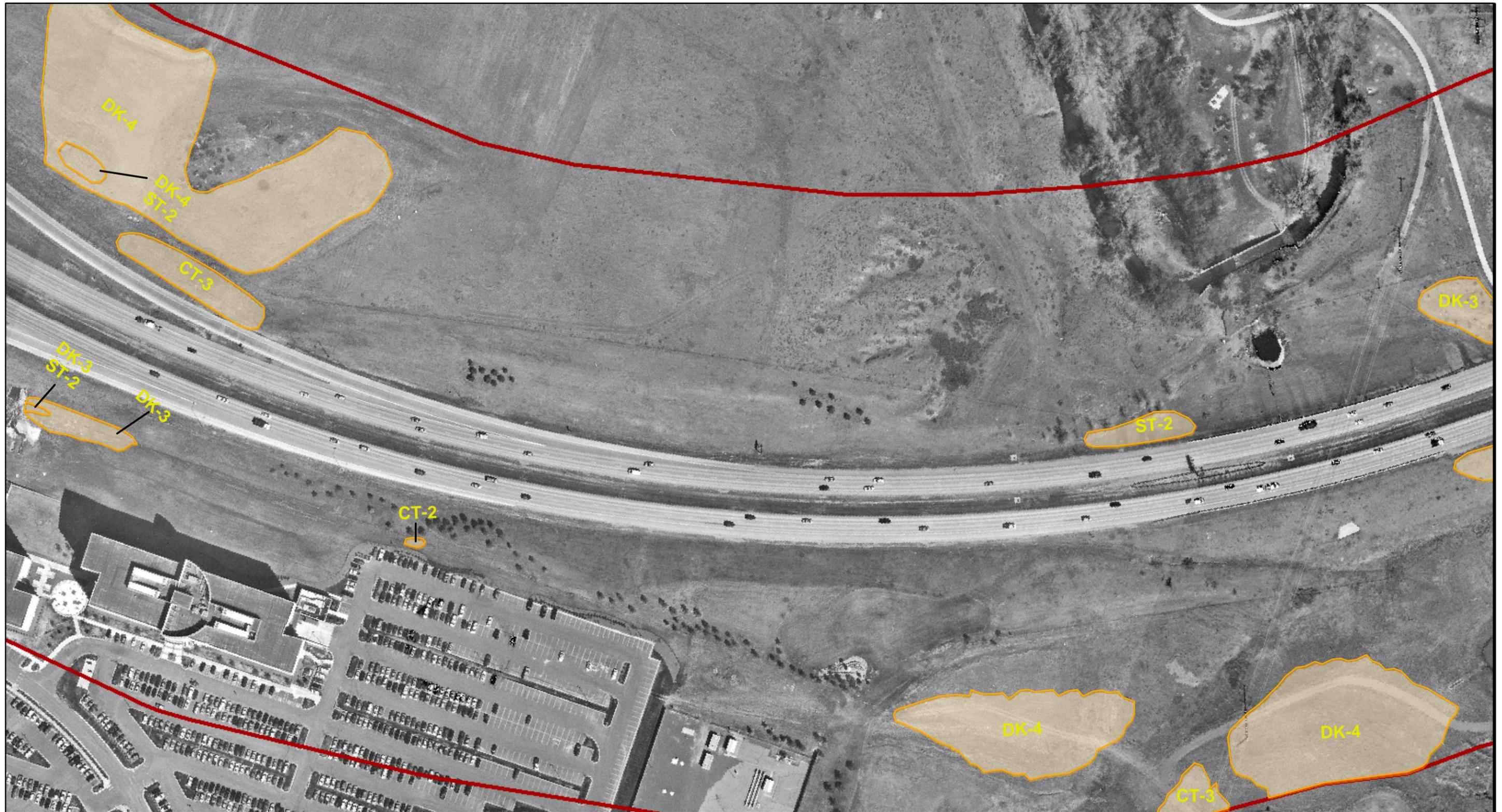


Figure 20
 C-470 Corridor EA
 Noxious Weeds

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- Study Area
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Species

- CT - Canada Thistle
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- LS - Leafy Spurge
- MT - Musk Thistle
- RO - Russian Olive
- ST - Scotch Thistle
- TAM - Tamarisk

Density

- 1 - Scattered Individuals
- 2 - Scattered Patches
- 3 - Medium Patches
- 4 - Large Patches
- 5 - Monoculture

0 150 300 Feet



1 Inch = 150 Feet



Figure 21
C-470 Corridor EA
Noxious Weeds

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TAM - Tamarisk	

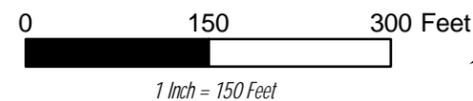
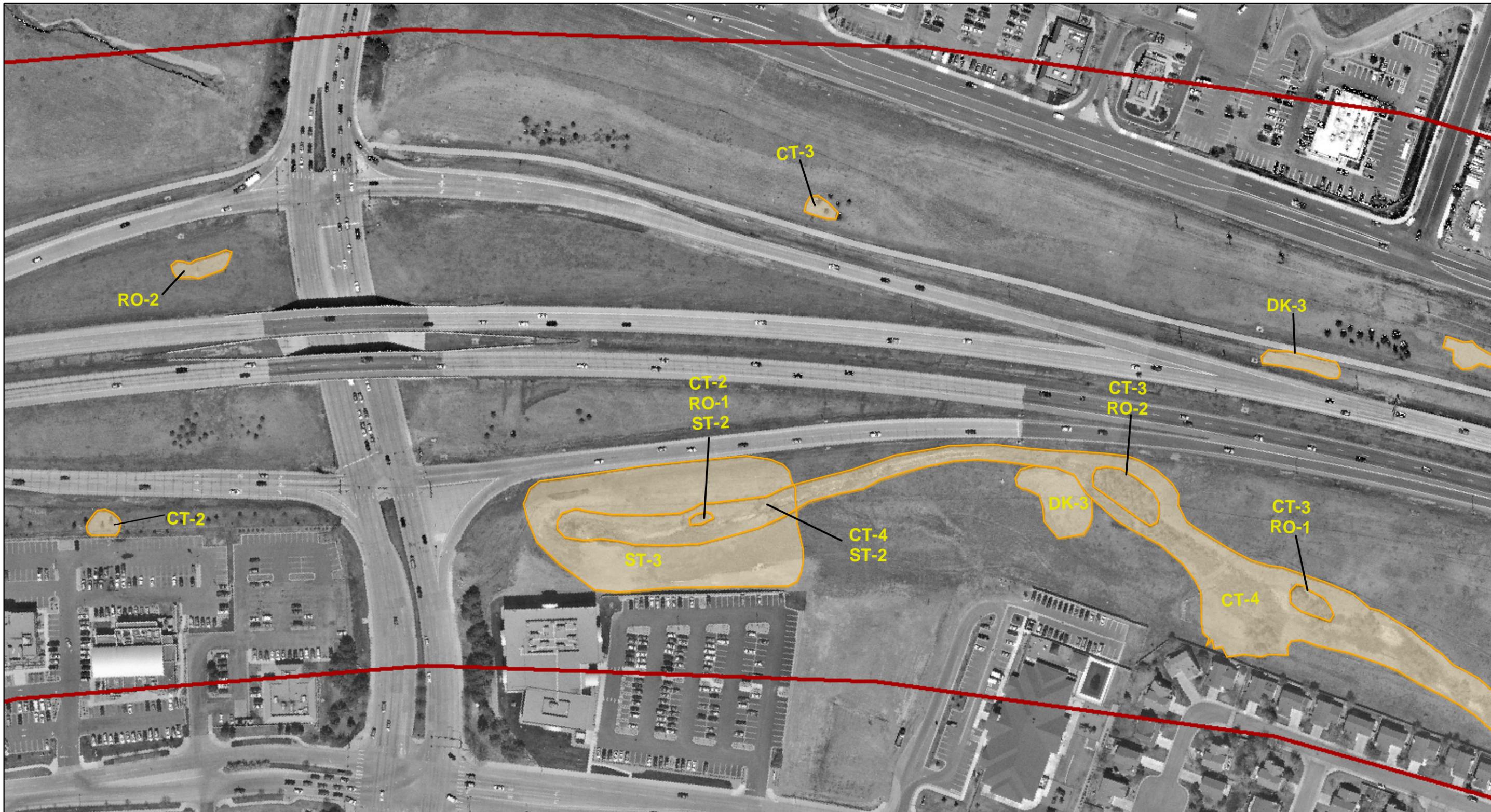


Figure 22
 C-470 Corridor EA
 Noxious Weeds

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- Study Area
- Noxious Weed Population

Species

- CT - Canada Thistle
- DK - Diffuse Knapweed
- LS - Leafy Spurge
- MT - Musk Thistle
- RO - Russian Olive
- ST - Scotch Thistle
- TAM - Tamarisk

Density

- 1 - Scattered Individuals
- 2 - Scattered Patches
- 3 - Medium Patches
- 4 - Large Patches
- 5 - Monoculture

0 150 300 Feet



1 Inch = 150 Feet



Figure 23
 C-470 Corridor EA
 Noxious Weeds

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- Study Area
- Noxious Weed Population

Species	Density
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MT - Musk Thistle	4 - Large Patches
RO - Russian Olive	5 - Monoculture
ST - Scotch Thistle	
TAM - Tamarisk	

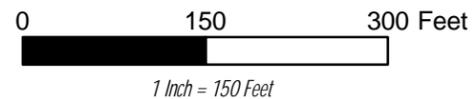


Figure 24
C-470 Corridor EA
Noxious Weeds

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- Study Area
- Noxious Weed Population

Species	Density
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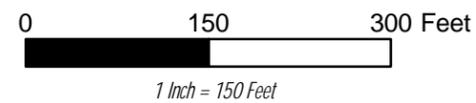
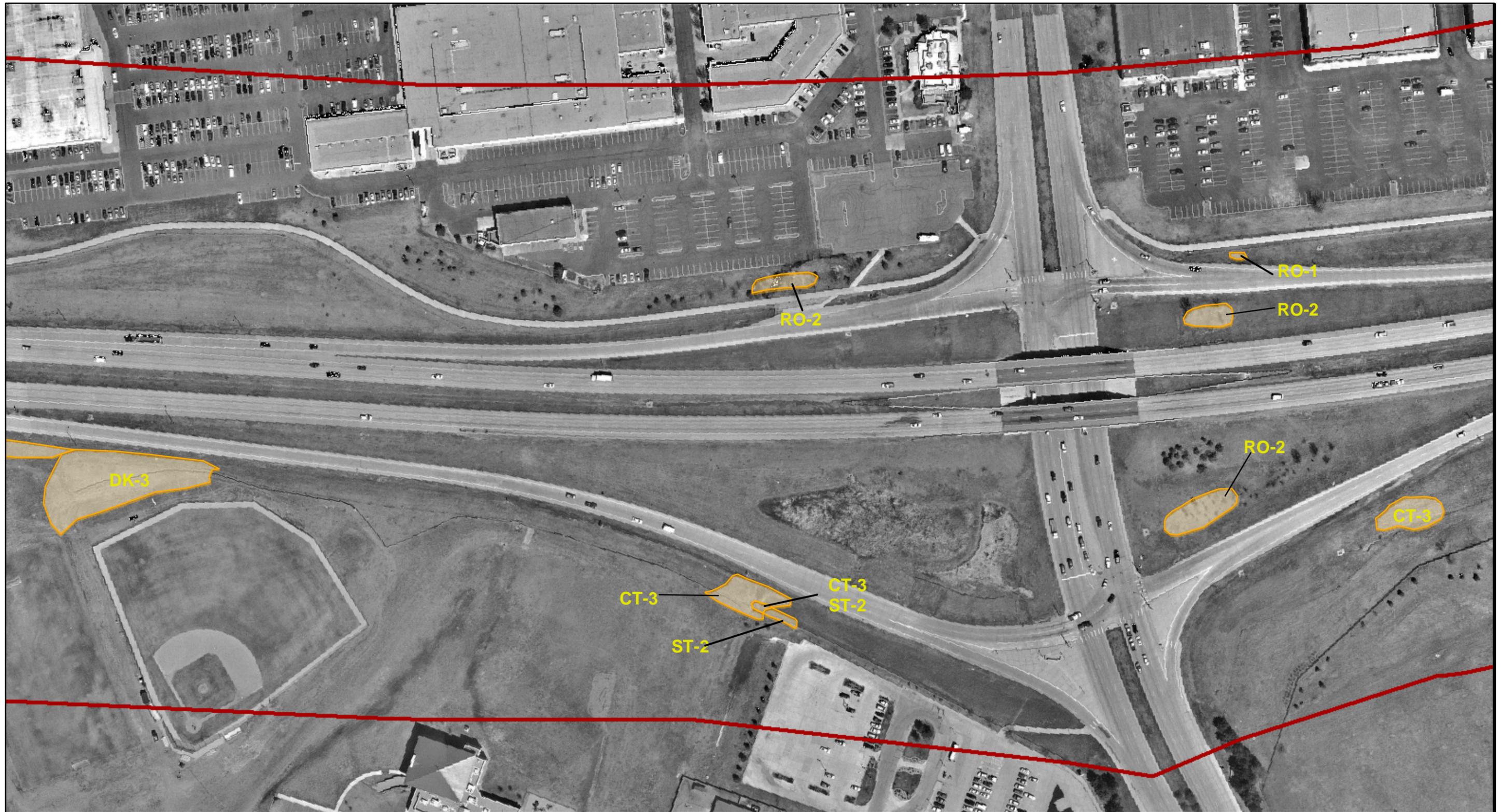


Figure 25
C-470 Corridor EA
Noxious Weeds

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- Study Area
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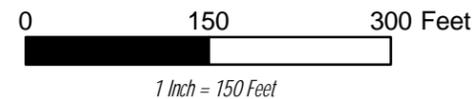


Figure 26
 C-470 Corridor EA
 Noxious Weeds

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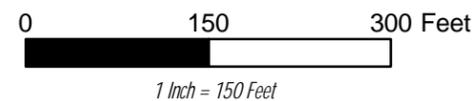


Figure 27
C-470 Corridor EA
Noxious Weeds

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- Study Area
- Noxious Weed Population

Species

- CT - Canada Thistle
- DK - Diffuse Knapweed
- LS - Leafy Spurge
- MT - Musk Thistle
- RO - Russian Olive
- ST - Scotch Thistle
- TAM - Tamarisk

Density

- 1 - Scattered Individuals
- 2 - Scattered Patches
- 3 - Medium Patches
- 4 - Large Patches
- 5 - Monoculture

0 150 300 Feet



1 Inch = 150 Feet



Figure 28
C-470 Corridor EA
Noxious Weeds

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December 13, 2004



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 Fax: 830-1199

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Density

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- 3 - Medium Patches
- 4 - Large Patches
- 5 - Monoculture

0 150 300 Feet



1 Inch = 150 Feet



Figure 29
 C-470 Corridor EA
 Noxious Weeds

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Species	Density
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TAM - Tamarisk	

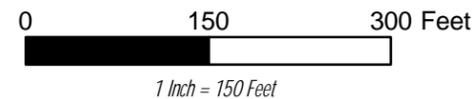
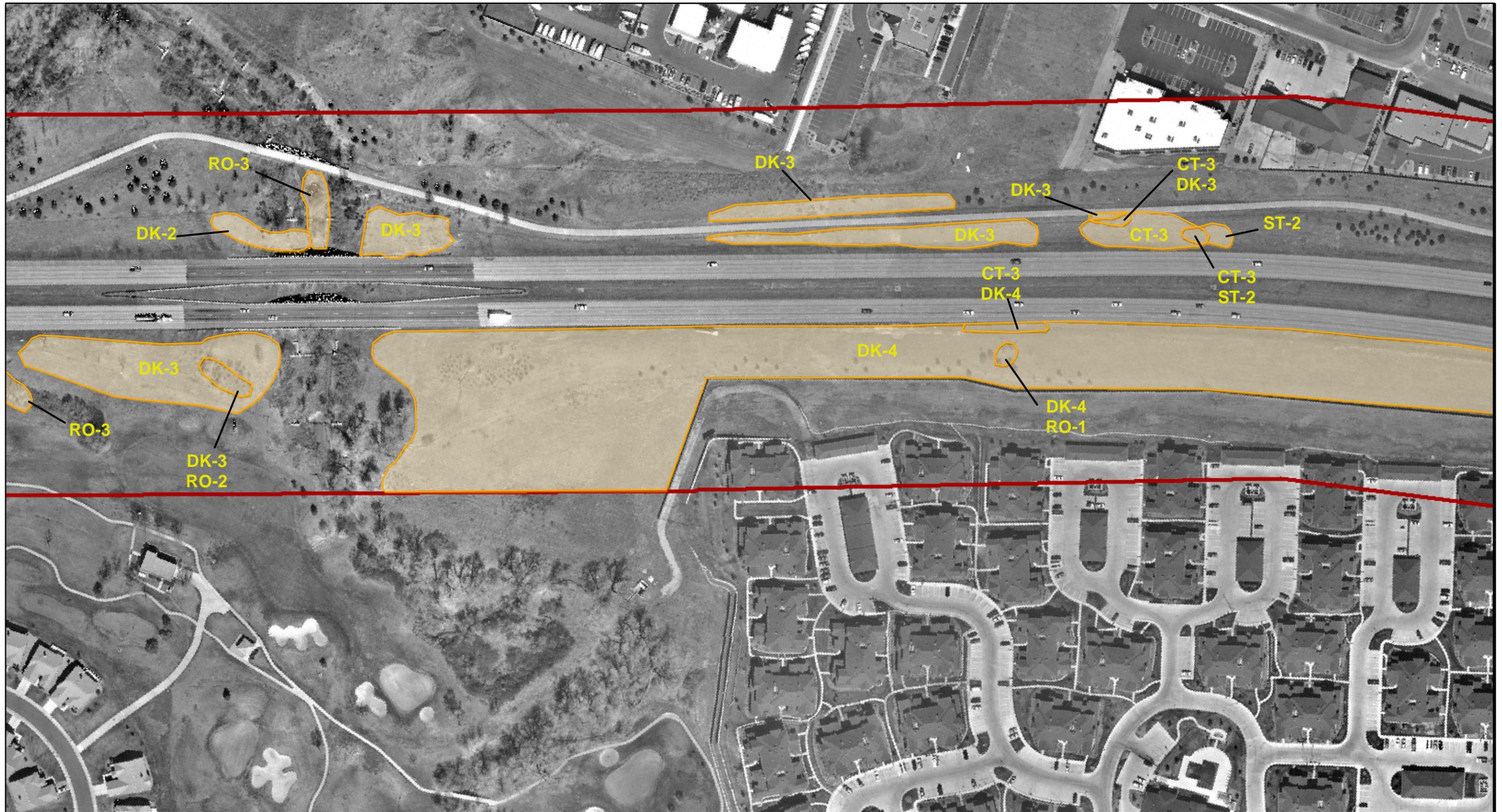


Figure 30
 C-470 Corridor EA
 Noxious Weeds

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Density

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- 3 - Medium Patches
- 4 - Large Patches
- 5 - Monoculture

0 150 300 Feet

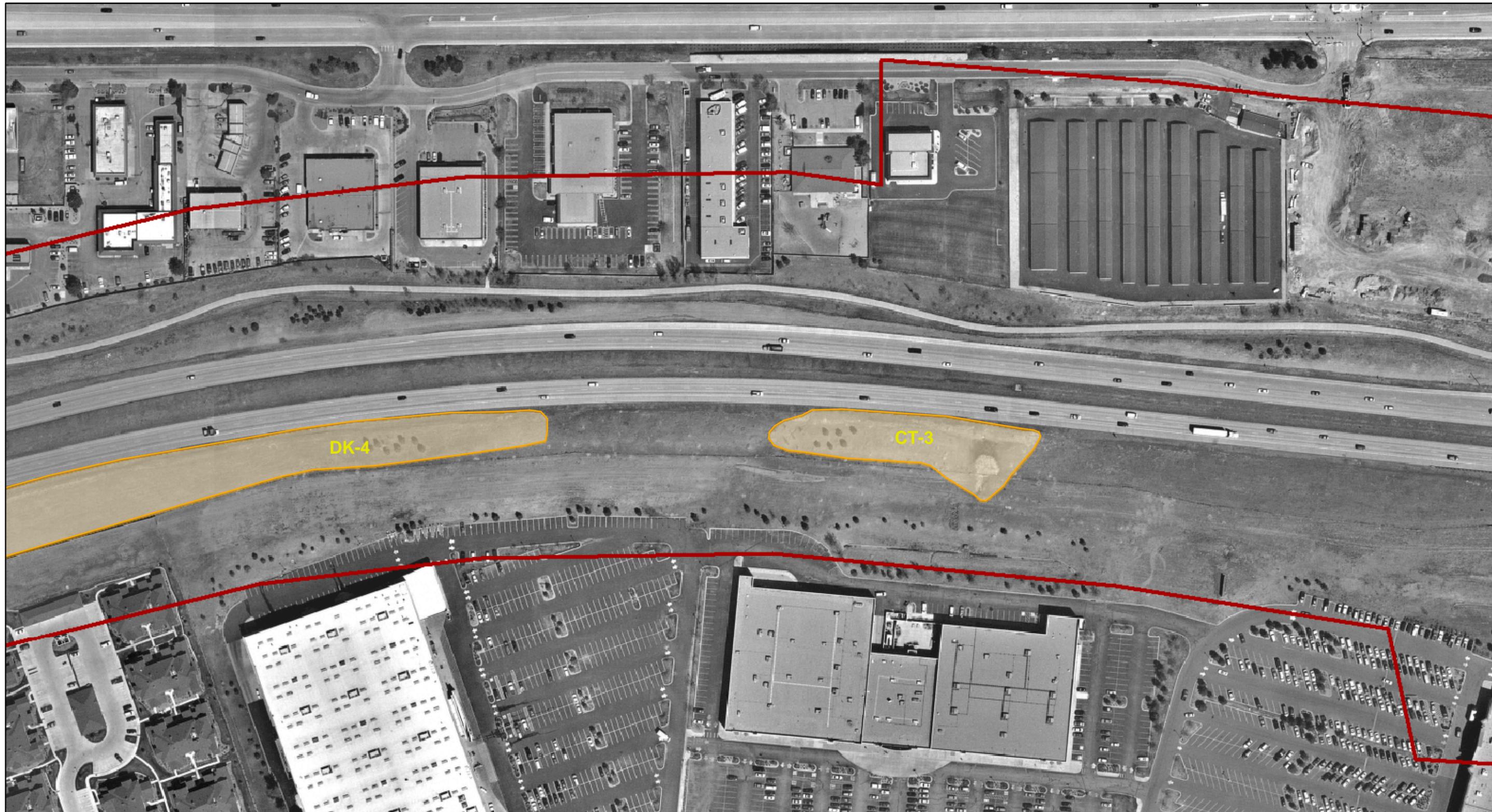


1 Inch = 150 Feet



Figure 31
C-470 Corridor EA
Noxious Weeds

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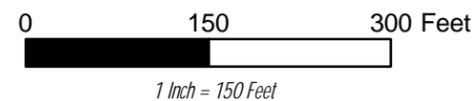
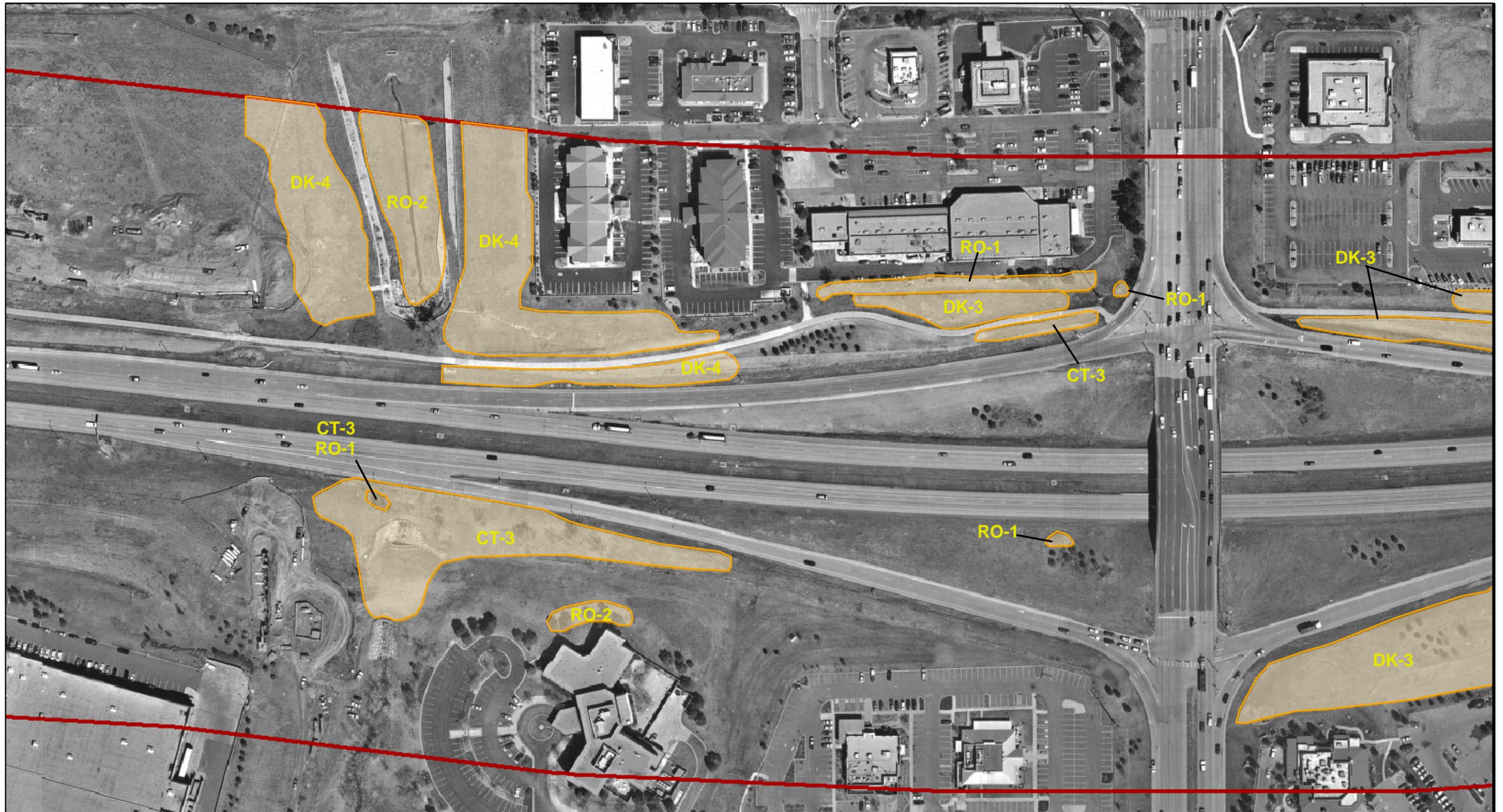


Figure 32
 C-470 Corridor EA
 Noxious Weeds

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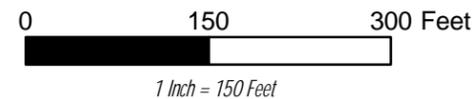
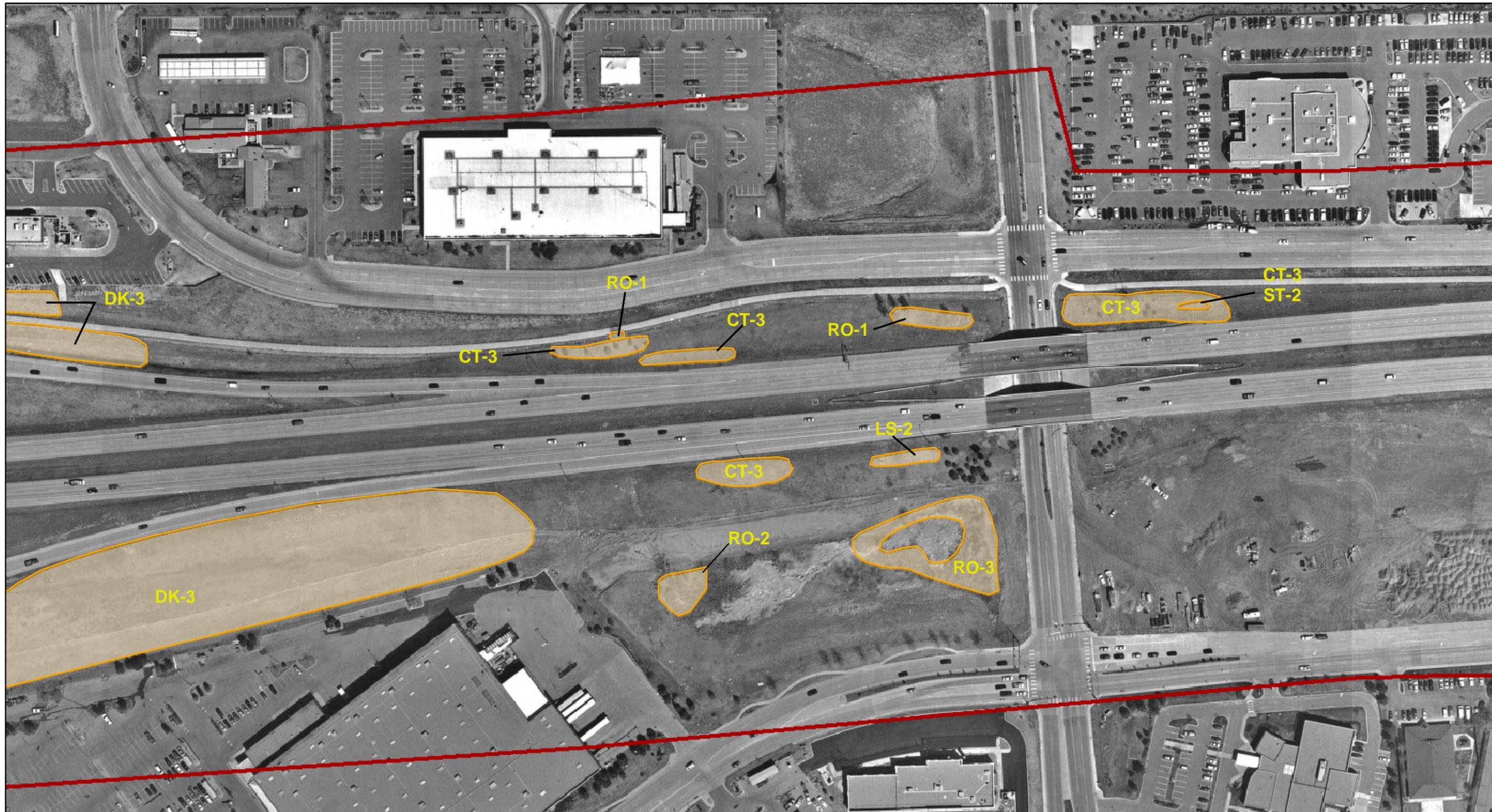


Figure 33
 C-470 Corridor EA
 Noxious Weeds

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Density

- 1 - Scattered Individuals
- 2 - Scattered Patches
- 3 - Medium Patches
- 4 - Large Patches
- 5 - Monoculture

0 150 300 Feet



1 Inch = 150 Feet



Figure 34
 C-470 Corridor EA
 Noxious Weeds

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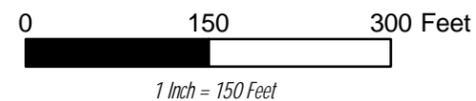


Figure 35
C-470 Corridor EA
Noxious Weeds

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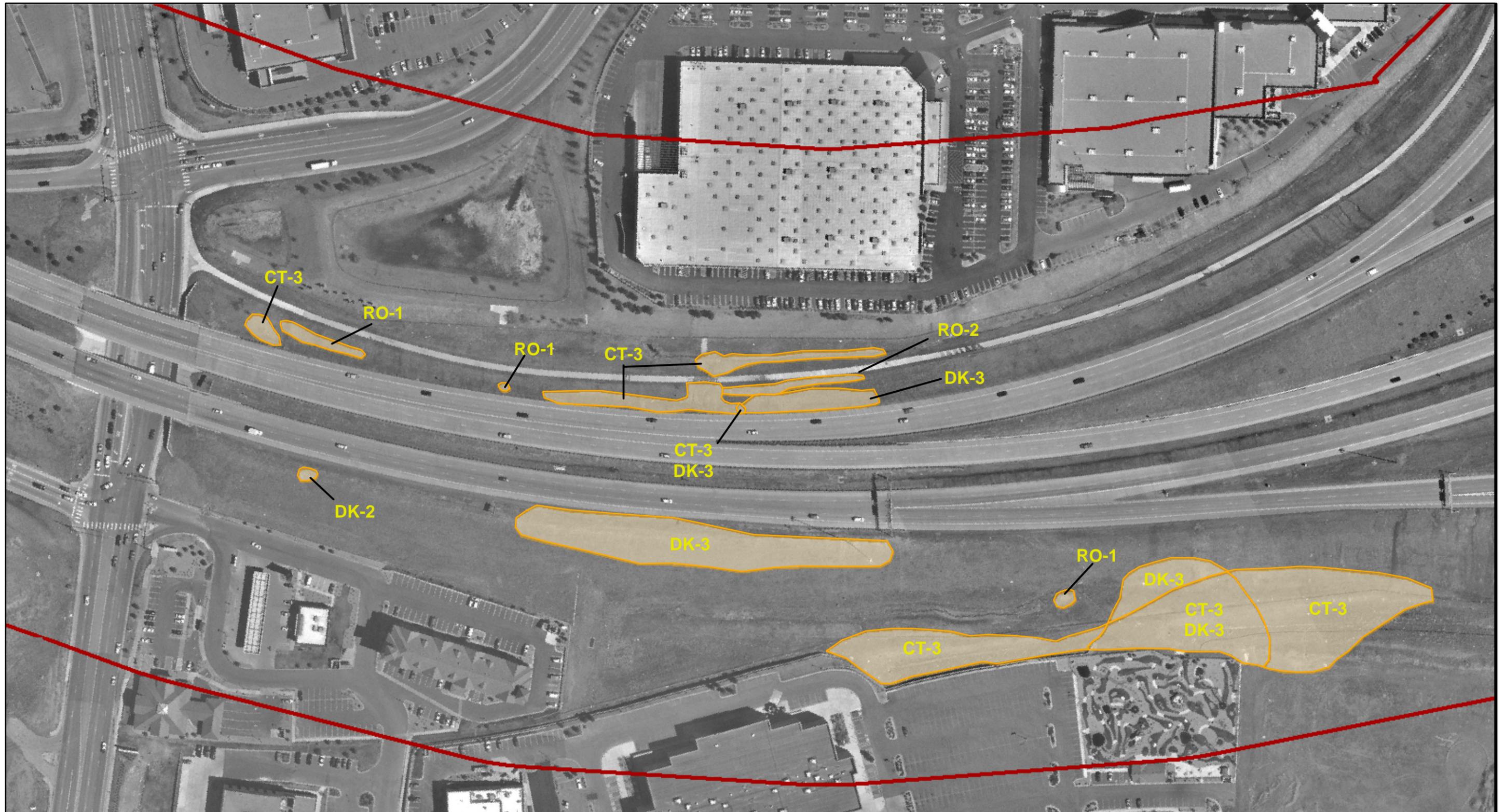
- Study Area
- Noxious Weed Population

Species	Density
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ST - Scotch Thistle	
TAM - Tamarisk	



Figure 36
 C-470 Corridor EA
 Noxious Weeds

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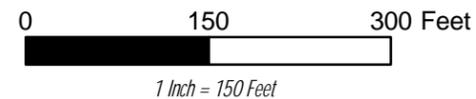
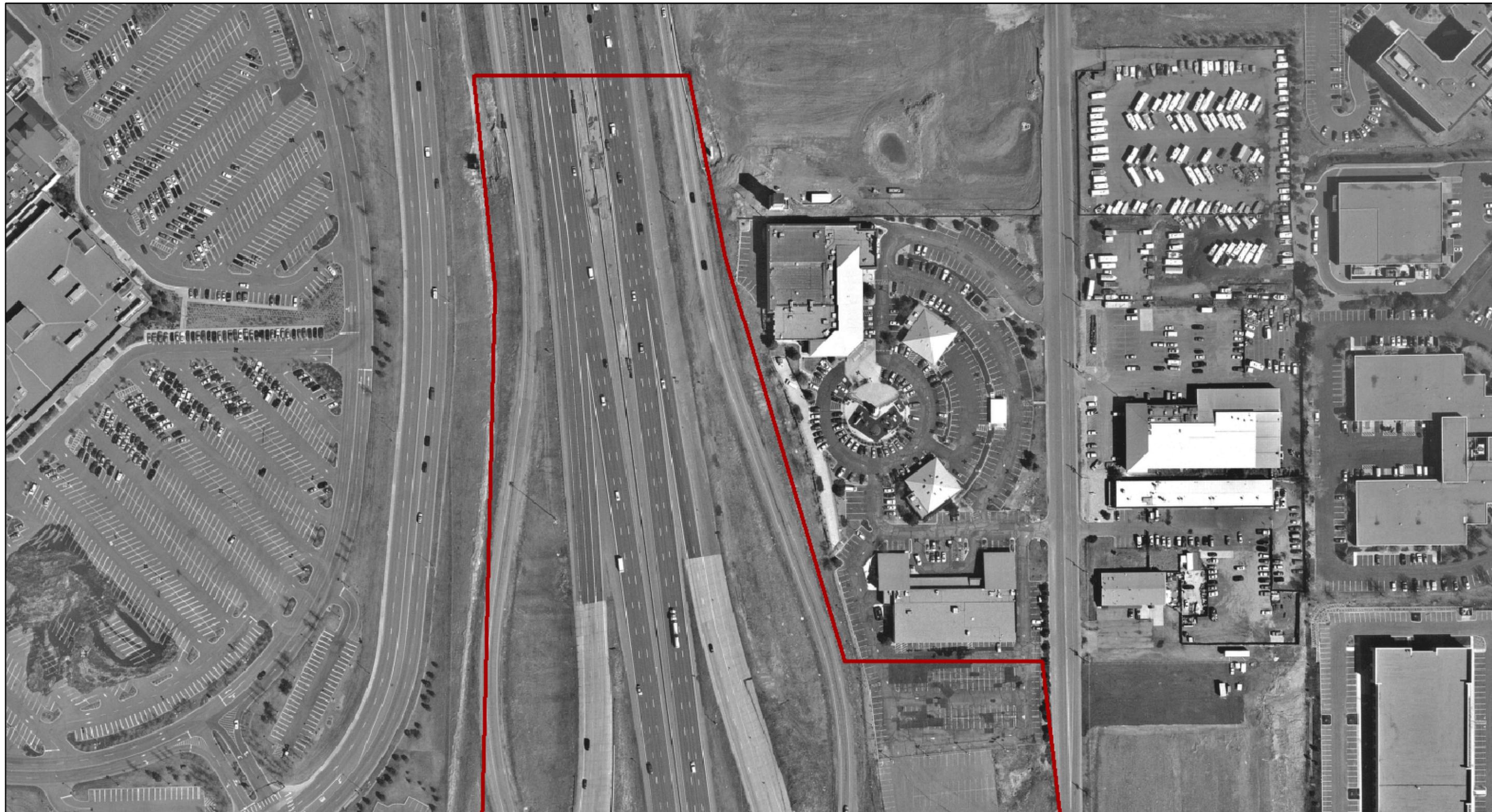


Figure 37
 C-470 Corridor EA
 Noxious Weeds

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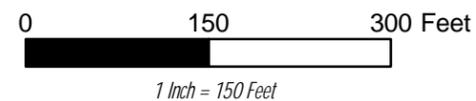


Figure 38
C-470 Corridor EA
Noxious Weeds

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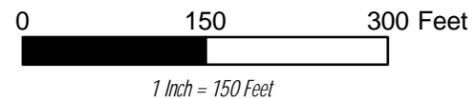


Figure 39
C-470 Corridor EA
Noxious Weeds

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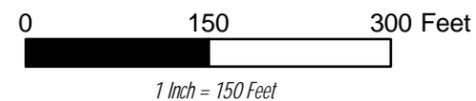


Figure 40
C-470 Corridor EA
Noxious Weeds

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Density

- 1 - Scattered Individuals
- 2 - Scattered Patches
- 3 - Medium Patches
- 4 - Large Patches
- 5 - Monoculture

0 150 300 Feet



1 Inch = 150 Feet



Figure 41
C-470 Corridor EA
Noxious Weeds

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