Conservation Plan
Franklin's Ground Squirrel (*Spermophilus franklinii*)
Sangamon Valley Trail (Union Pacific RR); Centennial Park 5.52 Miles to Stuart Park in Springfield, Sangamon County

1. Description of impact likely to result from the proposed taking

A. Legal description of the project area

Phase 1 of the Sangamon Valley Trail is located on a portion the abandoned Union Pacific Railroad corridor (formerly the Chicago and North Western Transportation Company) on the west side of Springfield in Sangamon County. The south termini will be at Bunker Hill Road along the south side of Centennial Park. The trail extends 5.5 miles to just north of the structure over the abandoned B&O railroad. A connector trail will extend east 0.3 miles along the abandoned B&O railroad corridor, then northeast into Stuart Park where it connects to an existing paved path. Phase I is located within the Springfield West and Farmingdale USGS 7.5' topographic quadrangles (See Attachment B).

B. Biological data

The range of the Franklin's ground squirrel extends from northwestern Indiana, northern and central Illinois, and southern Wisconsin west to northern Kansas, Nebraska, North and South Dakota in the United States and Manitoba, Saskatchewan, and Alberta in Canada (Ostroff and Finck 2003). Within Illinois, the range of Franklin's ground squirrel includes the northern two-thirds of the state, north of Madison and Clark counties (Mohr 1943, Hoffmeister 1989, Lewis and Rongstad 1992).

Franklin's ground squirrels are often associated with mid- and tallgrass prairie (Jones et al. 1983, Hoffmeister 1989, Kurta 1995). However, they also use the juncture of woods and grassland, wetland and bog margins, forest openings, and brushy areas (Sowls 1948, Jones et al. 1983, Erlien and Tester 1984, Johnson and Choromanski-Norris 1992). Thus, their habitat includes dense grasses and forbs, shrubs, and small trees (Choromanski and Sargeant 1982, Jones et al. 1983, Martin 2003). They use sites in which the soil and vegetation have not been recently disturbed (Choromanski-Norris et al. 1989). Heavily grazed or frequently mowed areas with short grass, such as golf courses, typically are not used (Wood 1910, Haberman and Fleharty 1972, Hoffmeister 1989). Within Illinois, Franklin's ground squirrels occur in infrequently mowed roadsides and old fields, railroad rights-of-way, cemetery prairies, brushy fields, fencerows, and ditch banks (Jackson 1961, Mumford and Whitaker 1982, Masulis and Wells 1988, Hoffmeister 1989, Kurta 1995, Martin et al. 2003, Pergams and Nyberg 2003). Yearlong inhabitants of burrows, Franklin's ground squirrels are limited by the availability of suitable burrowing sites (Hoffmeister 1989, Ostroff and Finck 2003). The burrows must be in well-drained soil and deep enough to remain cool in summer and not freeze in winter (Jones et al. 1983, Hoffmeister 1989, Martin 2003, Pergams and Nyberg 2003). Burrows were consistently 17 inches deep in Nebraska (Haberman and Fleharty 1971); nest chambers of burrows in Missouri were 12-20 inches below the surface (Ellis 1982).

Burrows are often located in embankments to facilitate drainage (Haberman and Fleharty 1972, Hoffmeister 1989). In addition, burrow entrances are frequently located near brush or rocks to obscure them from view (Masulis and Wells 1988, Martin 2003).

Adult Franklin's ground squirrels hibernate for long periods of time and typically are only active aboveground from mid-April to August (Hoffmeister 1989, Ostroff and Finck 2003). Breeding occurs shortly after the females emerge from hibernation and they give birth to a single litter from late May to mid-June (Sowls 1948, Iverson and Turner 1972, Choromanski-Norris et al. 1986). Litters typically consist of 6 to 9 pups, but can include as many as 13 (Jones et al. 1983). In Illinois juvenile appear aboveground by mid-July (Martin and Heske 2005). Juveniles do not enter hibernation until September or October (Hoffmeister 1989, Ostroff and Finck 2003, Martin and Heske 2005). These diurnal squirrels vocalize with a sharp whistle (Whitaker and Hamilton 1998); however, they are not readily observed in the tall, dense vegetation.

C. Habitat and description of activities that will result in take

Phase 1 of the Sangamon Valley trail will include development of 5.5 miles of the IDNR owned trail corridor as a shared–use trail with connections to both Centennial Park and Stuart Park. Sections of the railroad line with suitable vegetation and drainage occur in the corridor, but are interspersed with sections that are not suitable for use by Franklin's ground squirrel (i.e., areas that are heavily wooded or closely mowed). Suitable areas within the corridor have been identified by the Illinois Natural History Survey and appear as "Attachment A1-A6 " in this report.

Construction activity will occur primarily along the top of the railroad bed (approximately 20-35 feet wide), although there also will be staging areas for the heavy machinery used to prepare the trail. The upper 1-2 feet of soil will be removed from elevated sections of the existing railroad line so that the trail will be of the appropriate width to meet standards. Fill will be added to other sections to elevate the trail above the surrounding right-of-way. In addition, the rail bed will be cored out to a depth of approximately 1 foot to make space for crushed rock.

Franklin's ground squirrels and their burrows may be affected by these activities. A small loss of suitable habitat also will occur.

D. Explanation of the anticipated adverse effects on the listed species

It is anticipated that construction activity may temporarily disturb Franklin's ground squirrels and that individual ground squirrels may potentially be harmed due to the use of heavy equipment and the removal of soil. Active individuals may be injured or killed directly by heavy machinery in the unlikely event that they are unable to escape from its path.

Hibernating animals would be at greatest risk since animals in burrows may be injured or killed if burrows are destroyed during the removal of soil from embankments. Removal

of the top 1-2 feet of embankments and subsequent placement of crushed rock for the trail surface may also result in a small loss of suitable habitat for Franklin's ground squirrel.

2. Measures the applicant will take to minimize and mitigate the impact

A. Plans to minimize the areas affected by the proposed actions, the number of individuals of an endangered or threatened species that will be taken, and the amount of habitat affected.

The majority of the permanent impact will be limited to the railroad bed itself, which covers about 20 feet of the 100-foot wide right-of-way. Temporary impacts during construction will be restricted to the erosion control limits in those segments of the right of way most suitable for the occurrence of Franklin's ground squirrel (see Attachment A1-A6). This will be achieved by placing temporary erosion control fencing during construction which will limit the area of impact to the designated width. The remaining area within the right-of-way will continue to be suitable for foraging or dispersal. Only portions of the rail bed currently provide suitable burrowing habitat for Franklin's ground squirrel. Staging areas for heavy machinery will not be situated in suitable Franklin's ground squirrel habitat.

B. Plans for the management of the area affected by the proposed action that will allow continued use of the area by the species.

The majority of the project area is bordered by residential development. With the construction of the bike trail, existing habitat for Franklin's ground squirrel would be largely preserved. Construction activity also may enhance the suitability of other portions of the rail bed for the species. If the trail is not built, continued successional woody vegetative growth will create habitat that is unsuitable for the Franklin's ground squirrel.

C. Description of all measures to be implemented to minimize or mitigate the effects of the proposed action on the endangered or threatened species.

In January, 2008 the Department of Natural Resources received the Final Judgment Order settling a condemnation lawsuit to acquire part of an in-holding property south of Iles Ave. and east of Lennart Road. In order to create a greenway buffer adjacent to the trail, the Department acquired a 100 foot wide strip of land which exceeds the minimum required to build the trail. This additional 3.59 acres land will help mitigate the effects of the proposed Phase 1 trail development by providing additional habitat that will not be developed for commercial or residential uses.

Construction activity will be scheduled to avoid periods when young are vulnerable in burrows or when most animals are in hibernation. As noted in Attachment A1-A6 , trail construction activities will be restricted in sections that provide the most suitable

burrowing habitat so that less soil is removed from the embankments. This would limit potential destruction of nest chambers within burrows and maintain suitable elevation for burrowing.

Phase 1 plans do not call for any trees to be removed along the main trail corridor. Selective pruning will be specified to provide a min. 14 foot wide by 12 foot high clear space throughout the trail. Some tree removal will be required to construct the Stuart Park connector. Disturbed slopes of embankments will be seeded with herbaceous vegetation. Following construction of the trail, slopes of embankments will be managed to limit encroachment of woody vegetation, in zones most suitable for Franklin Ground Squirrel. Additional removal of trees from elevated portions of the rail bed may also increase the suitability of burrowing habitat for Franklin's ground squirrels.

D. Plans for monitoring the effects of the measure implemented.

The trail construction project will be implemented on behalf of Sangamon County, the City of Springfield, the Springfield Park District and the IDNR. Sangamon County will ensure that the conservation plan is implemented, including on-site daily inspections. Additionally, district and IDNR staff will interact with the consultant and provide assistance where necessary.

E. Projected cost of each measure that will minimize or mitigate the effects of proposed action on endangered or threatened species.

Each remedy listed in the Conservation Plan, e.g., restricted construction area, fencing, etc., are standard practices when working with environmental issues. Incorporating them into the construction plans will not cause any inordinate cost measure.

F. Adaptive management practices that will be used to deal with changed or unforeseen circumstances that affect the effectiveness of measures instituted to minimize or mitigate the effects of the proposed action on endangered and threatened species.

Should new information be discovered prior to, or during construction that may impact the effectiveness of this plan, Sangamon County and their consultants and contractors will alter the plan accordingly. In doing so, the aforementioned will consult with IDNR on a description of the changed circumstances or new information and propose modifications to the plan. Since this would likely occur during or immediately preceding construction, Sangamon County and their consultants and contractors will request a timely response from the IDNR in order to keep the project moving and reduce delays while work is being conducted in the vicinity of any FGS habitat.

G. Verification that funding to support mitigation activities will be available for the life of the conservation plan.

Funding in support of mitigation activities will be folded into all grant requests for trail construction. Federal and State grants typically require a match to complete funding for

construction, and all jurisdictions support the mitigation requirements to satisfy preserving and protecting Franklin Ground Squirrel.

3. <u>Alternative actions that would not result in the take.</u>

A. Alternative 1: No build

If the bike trail is not constructed, it is likely that the habitat for Franklin's ground squirrel would disappear due to the encroachment of trees or increased wetness due to poor water drainage.

B. Alternative 2: Alternative Trail Alignments, adjacent lands

Investigation of adjacent lands for the purpose of the trail was undertaken, and immediately discounted. Unwillingness of private landowners to sell a strip of ground for trail purposes adjacent the unused railroad right of way preempts any attempt to continue on this course of action.

Also, the development of a separated shared use path will create a safer transportation facility for pedestrians and cyclists than improving or creating on-road shoulder improvements shared with vehicular traffic.

4. <u>Data and information to assure that the proposed taking will not reduce the likelihood of the survival of the species.</u>

The range of the Franklin's ground squirrel extends from northwestern Indiana, northern and central Illinois and southern Wisconsin west to northern Kansas, Nebraska, North and South Dakota in the United States and Manitoba, Saskatchewan, and Alberta in Canada (Ostroff and Finck 2003). Hofmann (2008) documented Franklin's ground squirrels in 33 Illinois counties.

According to the Natural Heritage Database (Illinois Department of Natural Resources), known areas with Franklin's ground squirrel in Springfield close to the Sangamon Valley Trail include the N & S Railroad spur between Wabash Avenue and I-72 at its juncture with Cockrell Lane and the northwest corner of the intersection of Cockrell Lane and I-72. Franklin's ground squirrels were captured at these sites in 2007. In addition, Franklin's also were seen at Vredenburg Park in 2007.

On 11 March 2010, the Illinois Department of Natural Resources requested that the Illinois Natural History Survey (INHS) determine habitat suitability for the state-threatened Franklin's ground squirrel (*Spermophilus franklinii*) along the proposed Sangamon Valley Trail. On 25 March 2010, Jean Mengelkoch, Joyce Hofmann, and Joseph Merritt from the INHS walked the vast majority of the Sangamon Valley Trail alignment to assess the habitat.

Several areas along the former railroad line that could provide suitable habitat for Franklin's ground squirrels. These areas are illustrated on the erosion control plan sheets in Attachment A1-A6 , and those points have a GPS coordinate in UTMs (NAD 83) written near them. The first area is located in Centennial Park starting from the sledding hill (16S 263559mE, 4404484mN) to a point near the land bridge between the ponds (16S 263608mE, 4404587mN). The second area is just north of the first area from 16S 263793mE, 4404894mN to the edge of the subdivision on the west side of the trail (16S 264009mE, 4405130mN). This area is just southwest of Lenhart Road. The third area covers most of the trail between Lenhart Road and Iles Avenue. Within this stretch there are a few small sections that would not need to be trapped, including the first 75m of trail south of Iles Avenue (too flat) and sections of the trail bordered by dense trees. The fourth area covers approximately the first 200m of trail northeast of Iles Avenue. The fifth area of suitable habitat is a small area of herbaceous vegetation at 16S 265252mE, 4406590mN. located at an opening between subdivisions on both sides of the trail south of Greenbriar Drive. The sixth area extends from 100m northeast to about 300m southwest of Archer Elevator Road. The seventh area extends from 100m north of Meadowbrook Road to 250m north of Meadowbrook Road.

In addition, two sites with burrow entrances approximately the size of those used by Franklin's ground squirrels were located. The first site was immediately southeast of the trail's juncture with Lenhart Road. The area was mowed which is not typical habitat for Franklin's ground squirrel; however, the Franklin's seen at Vredenburg Park in 2007 also had burrows in mowed areas. This site was not included in the delineations of suitable habitat, but the area will be trapped. The second site where burrows were located occurred in mounds of soil on the south side of the trail roughly 300m southwest of Archer Elevator Road. This site is included in the sixth area listed as suitable habitat.

5. <u>An implementing agreement, which shall include, but not be limited to:</u>

A. <u>Names of all participants in the execution of the conservation plan, including public bodies, corporations, organizations, and private individuals.</u>

Illinois Department of Natural Resources owns +/- 38 miles of the abandoned Union Pacific Railroad corridor located in Sangamon, Menard and Macoupin counties including the 5.5 mile area to be developed as Phase 1 of the Sangamon Valley Trail.

Sangamon County will develop the property as a shared-use trail. Following legislative transfer, Sangamon County will assume ownership, jurisdiction, and maintenance of the IDNR property.

The city of Springfield owns the abandoned B&O Railroad corridor which will be utilized and developed as a connection to Stuart Park.

The Springfield Park District owns or leases the property at Centennial Park and Stuart Park.

B. The obligations and responsibilities of each of the identified participants with schedules and deadlines for completion of activities in the conservation plan and a schedule for preparation of progress reports to be provided to the Department.

Sangamon County and the Department of Natural Resources shall direct their consultants and contractors to:

A. Ensure that all tasks are completed as described in the Conservation Plan.

B. Ensure that all maps are accurate and up to date showing areas of Franklin Ground Squirrel habitat that is most suitable.

C. Coordinate training for all construction personnel from a qualified biologist with knowledge of Franklin Ground Squirrel and linear construction projects.

D. Install barrier fencing to restrict the area of construction in those areas most suitable for FGS.

E. Conduct daily inspections during construction of barrier fencing.

F. Conduct daily inspections of the area for Franklin Ground Squirrel

G. Report to IDNR any sightings of FGS.

Long-term Maintenance Work:
Sangamon County and IDNR coordinated responsibilities include:

A. Ensure procedures in the Conservation Plan are implemented in future maintenance of the trail.

B. Continue to monitor and survey the trail right of way on a periodic basis to ensure mitigation measures have succeeded in protecting FGS habitat.

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