Illinois
Department of
Natural Resources
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http://dnr.state.il.us
Rod R. Blagojevich, Governor

JUN 11 2007

June 6, 2007

Eric Japsen
Senior Environmental Resources Specialist
Christopher B. Burke Engineering, Ltd.
9575 West Higgins Road, Suite 600
Rosemont, Illinois 60018

RE: *Incidental Take Authorization - Conservation Plan Review (Blanding's turtle/sandhill crane)*
Hankin Parcel (PAR Development), Lake in the Hills - McHenry County, Illinois
? *ENCAP Project No. C-01-0221A* CBBEL Proj No. 04-602 Eric Japsen

Dear Mr. Japsen:

Pursuant to the Illinois Endangered Species Protection Act (520 ILCS 10/5.5), ENCAP, Inc. on behalf of PAR Development, Inc., authorization for the incidental take of the State threatened Blanding's turtle (*Emydoidea blandingii*) and the State threatened sandhill crane (*Grus canadensis*) in McHenry County, Illinois [associated with the Hankin Parcel (IDNR File #04-02028; CBBEL Project No. 04-602)] is hereby granted, subject to the terms and conditions described in the attached Authorization and Implementing Agreement. The Illinois Department of Natural Resources has determined that this authorized take is incidental to the construction of the Hankin Parcel Commercial Development, in McHenry County, Illinois.

Please have an authorized PAR Development, Inc. official(s) sign the last page of both copies of the Authorization and Implementing Agreement and return **both** copies to my the attention. Upon receipt, I will have the agreements signed and return one (1) fully executed copy to you for your official records. This authorization shall be effective once signed by the Department.

Thank you for your cooperation and assistance during the incidental take preparation and review process. Please do not hesitate to contact our office at (217)782-6384 with any questions or comments you may have regarding this authorization agreement.

Sincerely,

Joseph A. Kath
Terrestrial Endangered Species Project Manager
IDNR-Office of Resource Conservation

Enclosures

Authorization for Incidental Take and Implementing Agreement

Pursuant to the Illinois Endangered Species Protection Act (520 ILCS 10/5.5) CBBEL, Ltd. (CBBEL), on behalf of PAR Development, Inc., authorization for the incidental take of the State threatened Blanding's turtle (*Emydoidea blandingii*) and State threatened sandhill crane (*Grus canadensis*) associated with the Hankin Parcel Commercial Development (IDNR File #05-03099; CBBEL #04-602) in McHenry County, Illinois (as described/shown in the conservation plan received by the Department on 19 January 2007) is hereby granted. This is subject to the terms and conditions described in the attached Authorization and Implementing Agreement. The Illinois Department of Natural Resources has determined that this authorized take is incidental to the construction of the Hankin Parcel Commercial Development, in McHenry County, Illinois.

Procedural History

CBBEL prepared a conservation plan for the Hankin Parcel Commercial Development (IDNR File #05-03099; CBBEL #04-602) as described by the Illinois Endangered Species Protection Act (520 ILCS 10/5.5). That plan and CBBEL's request for authorization for incidental take of Blanding's turtles and sandhill cranes were received by the Illinois Department of Natural Resources (Department) on 19 January 2007. Public notice of CBBEL's request for authorization of incidental take of these State threatened species was published in the Edwardsville Intelligencer (Official State newspaper) and the Northwest Herald (McHenry County) on January 30, 2007, as well as on February 6, 2007 and February 13, 2007. Public comments on CBBEL's conservation plan were accepted by the Department until March 15, 2007. No comments were received by the public during the period of January 30, 2007 through March 15, 2007.

The plan is necessary due to the proposed commercial retail development of a ±19.4-acre site (Hankin Parcel Commercial Development) located approximately 500 feet east of Lakewood Road and north of Huntley-Algonquin Road in Lake in the Hills, McHenry County, Illinois. Geographically, the site is located in Township 43 North, Range 7 East of the Third Principle Meridian, in the southwestern quarter of the northeastern quarter of Section 26. Please reference the ITA application submittal dated September 23, 2005 and the re-submittal with additions and clarifications dated November 7, 2005, prepared by Christopher B. Burke Engineering, Ltd. (CBBEL) - on file with the IDNR, Springfield, IL.

The ±19.4-acre property is owned by PAR Development, Inc. (PAR) and is located adjacent to and partially within the Exner Marsh Illinois Natural Area Inventory (INAI) site. Note that the Hankin Parcel lies between the Lakes of Boulder Ridge Residential Development/West Nine Golf Course and Lake Pointe Commercial Developments. The Boulder Ridge parcel, located east of the Hankin Parcel, received IDNR endangered and threatened species sign-off. PAR previously obtained an Incidental Take Authorization for the Lake Pointe parcel, which is located adjacent to (west of) the Hankin Parcel.

Compliance with the Endangered Species Protection Act

The Illinois Endangered Species Protection Act includes six (6) criteria which must be met for the authorization of incidental take of an endangered or threatened species. These criteria and the Department's determination for each criteria are listed below.

1. The taking will not be the purpose of, but will only be incidental to, the carrying out of an otherwise lawful activity:

The conservation plan includes guidance previously developed for the adjacent Lake Pointe site by Justin Congdon, Ph.D., a research scientist at the Savannah River Ecology Laboratory in South Carolina (affiliated with the University of Georgia) and Michael Pappas, a reptile consultant from Minnesota. Dr. Congdon and Mr. Pappas previously visited the marsh and adjacent areas and prepared a report discussing their findings and suggestions. They have completed, reviewed, and authored extensive research regarding Blanding's turtles. IDNR has reviewed this report previously in regards to the Lake Pointe project and accepted its findings and recommendations.

This Revised Conservation Management Plan incorporates many of the IDNR recommendations that were required in order to obtain the Incidental Take Authorization for the neighboring Lake Pointe parcel, and incorporates recommendations listed in the IDNR May 19, 2006 letter to the Village of Lake in the Hills. In addition, PAR offers site design criteria and information regarding the Best Management Practices to improve discharge water quality entering Exner Marsh.

No part of the proposed development occurs within the U.S. Army Corps of Engineers (COE) verified wetland boundary or the Exner Marsh INAI area. The proposed building footprint is outside of the 100' wide buffer area. Only an approximate 20' wide area of the storm water detention wetland slope occurs within the 100 foot average buffer width required by the McHenry County Storm water Management Ordinance. Buffer averaging is used, as allowed in the McHenry County Storm water Ordinance, to locate the storm water detention wetland inside the buffer, but outside of the COE verified wetland boundary. This provides for more efficient design and function of the storm water detention wetland.

In the course of these primary construction activities, as well as long term maintenance of the preserved on-site wetlands, created wetlands, prairie buffers, and naturalized storm-water management areas may result in the disturbance of Blanding's turtles and/or sandhill cranes, hence a technical "taking" of these species. Such taking is not the purpose of the activities proposed by CBBEL, on behalf of PAR Development, Inc. but is incidental to the carrying out of a lawful activity.

This Conservation Management Plan was developed as part of the Incidental Takings Authorization sought from the Illinois Department of Natural Resources (IDNR) for Blanding's Turtles and Sandhill Cranes. It is the intent of the developer to implement and proceed with this conservation plan in order to close IDNR consultation for the final phase of development (Hankin Parcel). Although this development has been planned in a manner that will attempt to avoid adverse impacts to listed species and enhance onsite natural features; Incidental Take

Authorization is requested for the site due to the proximity of Illinois Natural Area Inventory Sites (INAI) and the possibility of Blanding's Turtles and Sandhill Cranes to occupy or transit the site during and after development activities.

This project consists of the construction of a commercial retail development. PAR will take measures to prevent the taking of turtles during and after construction and does not anticipate a negative impact on the local population. However, because this species may travel away from the marsh to adjacent upland areas, the development could potentially result in a negative indirect impact on turtle individuals. Potential takings of the Blanding's turtle may occur during and after construction by construction machinery, vehicles, human contact and physical barriers.

Anticipated adverse impacts on the Blanding's turtle as expressed by IDNR for the Lake Pointe site (nearby residential/commercial development) include:
*Conversion of open upland area to a commercial development and wetland/storm water treatment areas resulting in the loss of nesting and foraging habitat.
*Conversion of areas within the INAI site.
*Degraded water quality from automotive pollutants and road salt.
*Addition of windblown trash throughout the Nature Preserve/Conservation Area.
*Intrusive security lighting altering the food chain.
*Barriers to overland movement.

PAR will take measures to prevent the taking of sandhill cranes during construction and does not anticipate a negative impact on the local population. Although there are no confirmed crane sightings, this species may possibly forage, nest, or otherwise occur in portions of the proposed project area; therefore, the development could potentially result in a negative indirect impact on cranes or their young (colts). Potential takings of the sandhill crane may occur during construction by construction machinery, vehicles, human contact, and physical barriers.

Potential adverse impacts on the sandhill crane include:
*Loss of foraging habitat due to conversion of upland habitat to a commercial development.
*Loss of nesting and/or brood rearing habitat.
*Please note that the majority of the proposed development occurs in an existing turf and pasture grass area containing scattered trees, an occupied residence, and outbuilding (barn), which are not favored crane habitat.

2. The parties to the conservation plan will, to the maximum extent practicable, minimize and mitigate the impact caused by the taking.

PAR has incorporated measures from their previous Taking Authorization for Lake Pointe suggested by IDNR, MCCD, Illinois Nature Preserves Commission (INPC) and COE to minimize development impacts to the ecology of the area. PAR has also gone beyond minimization of impacts to mitigate for any incidental impacts. PAR proposes to create a turtle nesting area and enhance the existing wetland and non-native grass area located south of the existing on-site pond with a supplemental native species seeding. We anticipate taking no Blanding's turtles; however, despite impact minimization measures, we estimate that 0-2 turtles and 0-2 sandhill cranes per year may be taken as a result of the development.

The project site consists of approximately 19.4 acres, of which ±11 acres will remain in open space. These 11 acres consist largely of an existing pond that was excavated prior to regulation, an herbaceous wetland fringe around the pond, and an adjacent wooded wetland area. A storm water detention wetland will be constructed and vegetated with native species. Because only a narrow 20' wide strip of the detention wetland occurs within a portion of the required 100' buffer, nearly 11 acres remains available for use by turtles and cranes during construction. The construction of the proposed storm water detention wetland and surrounding buffer will result in approximately 13 acres of open space available for wildlife habitat. In addition, PAR proposes to create one sand/gravel turtle nesting area at the northernmost tip of the upland buffer adjacent to the existing wetland/pond.

Sandhill cranes will benefit from the continued availability of the preserved upland buffer between the development and the wetland and from the proposed storm water detention wetland that will provide additional foraging habitat. Current upland land use is residential and vegetation consists of mostly monocultural turf and non-native pasture grasses with scattered trees, that will be enhanced. The following measures will be implemented to minimize potential effects of the development on Blanding's turtles and sandhill cranes:

UPLAND HABITAT AREAS: Existing upland areas consist of dense turf and pasture grasses in silt loam and silty clay loam, which provide limited foraging or nesting habitat for Blanding's turtle and sandhill crane. Blanding's turtles prefer sand and gravel substrates for nesting; therefore it is not likely that these upland areas are used for nesting.

The north and east construction limits within the buffer will be silt fenced to help prevent downslope sedimentation and protect water quality. The silt fence will be maintained throughout construction until the site is stabilized, and will provide a barrier preventing potential turtle access to the construction area. To help offset potential effects of the development, PAR will enhance the undisturbed upland areas by creating a sand/gravel turtle nesting area as well as enhancing the upland and wetland habitats for foraging. The buffer located south of this beach/turtle nesting area will provide the turtles a large undisturbed area. The buffer, including the storm water detention wetland with its bottom at normal water level and side slopes will be planted to native vegetation. The wetland limits are no closer than 100 feet to the development; therefore, the buffer ranges from 100-500+ feet wide. In addition, signs will be posted outside of the buffer area to inform passers by of the possible presence of State-listed threatened species including Blanding's turtle and sandhill crane.

To benefit turtles and cranes, the upland buffer will be enhanced by herbiciding non-native grasses and installing native grass and forb seed into non-native grass duff. Interseeding into the herbicided grass duff will help to prevent soil erosion while the seeded species establish. Native emergent, wet prairie, and upland buffer seed will be installed within the storm water detention wetland to provide habitat for Blanding's turtle, sandhill crane, and other species including yellow-headed blackbird and common moorhen. Note that an Invasive Plant Species Management Plan will be provided to MCCD, the Exner Marsh site steward, for notification prior to herbiciding, prescribed burning, or other activity that may affect runoff.

NESTING: PAR will install the sand and gravel turtle nesting area in coordination with the IDNR. An area of sand beach along the south central shoreline of the existing pond (northernmost portion of the buffer) will be enhanced with additional sand, gravel, and seeding

with dry prairie species to provide turtle nesting habitat. The proposed turtle nest area is more than 500 feet north of the proposed turtle fence along the edge of the commercial development. The enhancement of the current non-native turf and pasture grass area with native grass and forb seed is expected improve the quality of the available crane habitat for nesting.

HABITAT AND FORAGING: The wetland and buffer areas between the existing pond edge and the development will be enhanced using a variety of management techniques. Portions of the wetland area that contain quality wetland species will be enhanced with prescribed burning. Lower quality areas containing invasive species such as reed canary grass will be herbicided and will receive supplementary seeding. Similarly, the upland buffer will be herbicided and reseeded to native species. These areas will be maintained by PAR for a three year period to help prevent invasive weeds and to promote the establishment of native plant species.

STORM WATER MANAGEMENT AND WATER QUALITY: PAR proposes to maintain water quality and provide proper storm water treatment for the runoff draining to the Nature Preserve. A series of Best Management Practices (BMP's) will be implemented to provide multiple treatment of storm water runoff associated with the commercial development. Proposed BMP's are described in the following paragraphs.

Storm water runoff will be directed into a Continuous Deflective Separator (CDS) system before draining through a vegetative swale into the storm water detention wetland. The storm water detention wetland is being designed to include low berms to lengthen the path to the outfall, increase residence time, and thus, provide greater water quality benefits. The bottom and side slopes of the storm water detention wetland will be planted with native wetland vegetation including salt tolerant plants. The storm water detention wetland will discharge via level spreader overland through the upland buffer (vegetated filter strip), and finally into the existing pond for further treatment before discharging into Exner Marsh.

The BMP treatment train will result in the removal of an estimated 95% of the total suspended solids and 90% of the total phosphorous entering the storm water management system. Note that an 80% removal of pollutants is commonly required in areas where water quality is regulated. Note that the removal efficiency of total phosphorous by the CDS system was not available at the time of this report, but the adherence of phosphorous to soil particles should be considered, intuitively resulting a much greater total pollutant removal efficiency than reported above. In addition, the pollutant removal efficiency for a level spreader was not available, but may also be considered as a BMP for pollutant removal. This multiple stage storm water treatment system greatly exceeds the typical one or two stage storm water treatment system that is permitted to discharge directly into a wetland. In our opinion, the designed BMP treatment train will function to maintain good water quality discharging into Exner Marsh.

Also note that silt fence will be installed prior to grading and will be maintained in good working condition at the grading limits (approximate middle of buffer), with the remaining half of the buffer vegetation undisturbed throughout construction. Other soil erosion and sediment control devices including filter fabric in storm inlets and riprap outlets will be installed and maintained in good condition. PAR will incorporate the following water quality recommendations listed in theIDNR May 19, 2006 letter into the site plans and management strategy:

1) PAR will provide advance notice to stewards of the Exner Marsh Nature Preserve before any prescribed burning or herbicide applications are to occur on the subject property;
2) PAR will provide an Invasive Plant Species Management Plan to site stewards;
3) PAR will periodically maintain the Continuous Deflective Separator system;
4) Vegetative swales and the wetland detention basin will be planted with native vegetation;
5) PAR will re-design the wetland bottom detention basin to include several interior berms to add topography and lengthen the flow path of water prior to discharge; and,
6) PAR will install salt tolerant plant species into the wetland bottom detention basin and vegetated swale plantings, and will consider non-saline alternatives for parking lot de-icing.

FENCING: Installation of fences is proposed to discourage the entrance of turtles into the commercial area and to act as a debris barrier. Silt fencing will be installed along the perimeter of the construction area to prevent sediment from leaving the site during construction, and will help prevent turtles from entering the construction area. A chain link fence will be installed next to the curb along the north and east sides of the commercial development to prevent wind-blown debris from entering the marsh. At the request of the Endangered and Threatened Species program, openings have been added to the fence to allow turtles to exit the commercial development.

LIGHTING: To minimize the possible effects of external building lights attracting insects from the Nature Preserve and thereby disrupting the food chain, the external perimeter lights on the north side of the commercial building will consist of shoebox lights and will have amber lenses. The shoebox style lights will shine downward to the ground and not into the Nature Preserve. PAR will cause not more than one horizontal foot-candle at the nature area boundary.

BARRIERS TO OVERLAND MOVEMENT: While the development may possibly create a barrier to turtle movement, PAR will create a high curb barrier to limit turtles from entering the developed area. Curbs will be installed with a back 6" above grade to function as a vertical barrier to prevent turtles from entering the commercial area. If turtles somehow gain access to the commercial area, the low curb height on the commercial side will not impede turtles from leaving the commercial area. PAR proposes to install the storm water detention wetland within the upland buffer, in accordance with the McHenry County Storm water Ordinance, in order to provide the largest open upland space possible for turtle habitat, while providing the area necessary for the commercial development. As mentioned previously, the proposed upland buffer provides a contiguous undisturbed area that will be enhanced using several management techniques.

The upland buffer and the storm water detention wetland will provide a large open space area between the commercial development and Exner Marsh. The buffer, nesting area, fence, and curb barrier should discourage turtle entrance into the commercial area. Algonquin Road and Lakewood Road are existing barriers to turtle movement to the south and west. There are no barriers to movement by adult sandhill cranes, since they can fly. The proposed chain link fence will also help to prevent juvenile sandhill cranes that may occur in-site from entering the construction area.

EDUCATION: By informing customers and employees of the commercial development to the presence of Blanding's turtles and sandhill cranes in the area, PAR will raise awareness of the value of these species and their habitat. PAR will post signs around the perimeter and within the commercial development. Signs will be posted at 100-200' intervals, and will include the MCCD contact information. Contractors working on the development will also be informed of the possible presence of State-listed species on-site. To help determine the potential impacts to Blanding's turtle and sandhill crane, PAR Development, Inc. proposes to monitor for these wildlife species and to manage the storm water detention wetland and enhancement wetland and buffer areas as follows:

3. The parties to the conservation plan will ensure that adequate funding for the conservation plan will be provided:

In an official correspondence to the Department dated 16 January 20056, PAR Development, Inc. verified that adequate funding exists to support and implement all (mitigation) activities described in the official Conservation Plan. This correspondence states that during site development, and continuing through the proposed three (3) year monitoring and maintenance period, PAR (or the ultimate developer) will provide all of the necessary funding for the implementation of the taking minimization measures.

Funding Verification Statement from Conservation Plan:
"PAR Development, Inc. is the land development firm responsible for project implementation in the initial phases of site improvements. PAR, or the ultimate developer of the proposed commercial development, if the development is transferred, will be responsible for project funding including implementation of the Revised Conservation Management Plan, as required by the Village of Lake in the Hills (Village). The Village requires a performance bond to cover site improvement costs prior to issuing development permits. We understand that the performance bond covers all costs to construct the permitted plan set. A landscape plan will be submitted as part of the building permit and storm water management permit applications, following receipt of the Incidental Take Authorization. The preparation of landscape plans and/or other plans or documents necessary for permit application submittal are contingent upon receiving the IDNR Incidental Take Authorization."

4. Based on the best available scientific data, the Department has determined that the taking will not reduce the likelihood of the survival or recovery of the endangered species or threatened species in the wild in Illinois, the biotic community of which the species is a part, or the habitat essential to the species' existence in Illinois:

<u>Blanding's Turtle</u>
The following summarizes some of the main supporting factors that the proposed taking will not reduce the likelihood of the survival of the Blanding's Turtle: The current population is most likely overestimated and over half of the estimated population consists of head started individuals. Wildlife corridors from Exner Marsh have already been destroyed. Most upland areas surrounding Exner Marsh have already been developed. No current areas within Exner Marsh provide high quality nesting opportunities. The proposed taking will not reduce the likelihood of survival of the turtle by impacting habitat essential to the species existence. The proposed development affects monocultural turfgrass and non-native pasture land on silt loam soil, which is not preferred by Blanding's turtles for habitat or nesting. Existing wetland and

upland buffer habitat will be enhanced, and will be fenced off from the development to allow turtles the continued use of the area. While the proposed development may negatively impact individual turtles, the proposed enhancements including establishment of native vegetation, creation of a nesting area, and installation of preventative barriers may improve the condition of Blanding's turtle population associated with Exner Marsh.

Sandhill Crane

The proposed taking will most likely not reduce the likelihood of survival of sandhill cranes by impacting habitat essential to the species existence. The proposed development affects monocultural turfgrass, non-native pasture, and a residence in an area having scattered mature trees which, in our opinion, is not preferred habitat of cranes for habitat or nesting. While the proposed development may negatively impact individual crane(s), the proposed enhancements of the remaining low quality wetland and buffer areas, including herbiciding of non-native grasses, native seed installation, maintenance including prescribed burning, and three years of monitoring will likely benefit sandhill cranes and other animal and plant populations associated with Exner Marsh.

5. Any measures required under Section 5.5 of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5 - 17 IL. Adm. Code Part 1080.40(b)], will be performed:

Additional measures are listed below under "Authorization." This authorization is, by definition, subject to those terms and conditions and official PAR Development, Inc. (PAR) signature(s) on this authorization indicates their commitment to performing those measures.

6. The public has received notice of the application and has had the opportunity to comment before the Department made any decision regarding the application:

CBBEL. prepared a conservation plan for the Hankin Parcel Commercial Development (IDNR File #05-03099; CBBEL #04-602) as described by the Illinois Endangered Species Protection Act (520 ILCS 10/5.5). That plan and CBBEL's request for authorization for incidental take of Blanding's turtles and sandhill cranes were received by the Illinois Department of Natural Resources (Department) on 19 January 2007. Public notice of CBBEL's request for authorization of incidental take of these State threatened species was published in the Edwardsville Intelligencer (Official State newspaper) and the Northwest Herald (McHenry County) on January 30, 2007, as well as on February 6, 2007 and February 13, 2007. Public comments on CBBEL's conservation plan were accepted by the Department until March 15, 2007. No comments were received by the public during the period of January 30, 2007 through March 15, 2007.

Authorization

It is the determination of the Department that the measures to be implemented by CBBEL, Ltd. on behalf of PAR Development, Inc. will adequately minimize and mitigate for the anticipated taking (disturbance/harassment) of a small number of Blanding's turtles and/or sandhill cranes due to the construction of the Hankin Parcel Commercial Development, in McHenry County, Illinois. Further, it is our opinion that the take (disturbance/harassment) authorized herein would not diminish the likelihood of the survival of either the Blanding's turtle and/or sandhill crane in the wild within the State of Illinois, the biotic community of which the species is a part, or the habitat essential to the species' existence in Illinois.

Pursuant to Section 5.5 of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5 - 17 IL. Adm. Code Part 1080.40(b)], this authorization is issued subject to the following additional terms and conditions:

1. This authorization is effective upon signature of the Department and shall remain in effect for a period of four (4) years, unless terminated pursuant to Section 5.5. of the Illinois Endangered Species Protection Act [520 ILCS 10/5.5 - 17 IL. Adm. Code Part 1080.80].

2. The following measures shall be implemented with regards to the Hankin Parcel Commercial Development:

The ("Revised") Conservation Management Plan incorporates many of the IDNR recommendations that were required in order to obtain the Incidental Take Authorization for the neighboring Lake Pointe parcel, and incorporates recommendations listed in the IDNR May 19, 2006 letter to the Village of Lake in the Hills. In addition, PAR offers site design criteria and information regarding the Best Management Practices to improve discharge water quality entering Exner Marsh.

No part of the proposed development occurs within the U.S. Army Corps of Engineers (COE) verified wetland boundary or the Exner Marsh INAI area. The proposed building footprint is outside of the 100' wide buffer area. Only an approximate 20' wide area of the storm water detention wetland slope occurs within the 100 foot average buffer width required by the McHenry County Storm water Management Ordinance. Buffer averaging is used, as allowed in the McHenry County Storm water Ordinance, to locate the storm water detention wetland inside the buffer, but outside of the COE verified wetland boundary. This provides for more efficient design and function of the storm water detention wetland.

The project site consists of approximately 19.4 acres, of which ±11 acres will remain in open space. These 11 acres consist largely of an existing pond that was excavated prior to regulation, an herbaceous wetland fringe around the pond, and an adjacent wooded wetland area. A storm water detention wetland will be constructed and vegetated with native species. Because only a narrow 20' wide strip of the detention wetland occurs within a portion of the required 100' buffer, nearly 11 acres remains available for use by turtles and cranes during construction. The construction of the proposed storm water detention wetland and surrounding buffer will result in approximately 13 acres of open space available for wildlife habitat. In addition, PAR proposes to create one sand/gravel turtle nesting area at the northernmost tip of the upland buffer adjacent to the existing wetland/pond.

Sandhill cranes will benefit from the continued availability of the preserved upland buffer between the development and the wetland and from the proposed storm water detention wetland that will provide additional foraging habitat. Current upland land use is residential and vegetation consists of mostly monocultural turf and non-native pasture grasses with scattered trees, that will be enhanced. The following measures will be implemented to minimize potential effects of the development on Blanding's turtles and sandhill cranes:

UPLAND HABITAT AREAS: Existing upland areas consist of dense turf and pasture grasses in silt loam and silty clay loam, which provide limited foraging or nesting habitat for Blanding's turtle and sandhill crane. Blanding's turtles prefer sand and gravel substrates for nesting; therefore it is not likely that these upland areas are used for nesting.

The north and east construction limits within the buffer will be silt fenced to help prevent downslope sedimentation and protect water quality. The silt fence will be maintained throughout construction until the site is stabilized, and will provide a barrier preventing potential turtle access to the construction area. To help offset potential effects of the development, PAR will enhance the undisturbed upland areas by creating a sand/gravel turtle nesting area as well as enhancing the upland and wetland habitats for foraging. The buffer located south of this beach/turtle nesting area will provide the turtles a large undisturbed area. The buffer, including the storm water detention wetland with its bottom at normal water level and side slopes will be planted to native vegetation. The wetland limits are no closer than 100 feet to the development; therefore, the buffer ranges from 100-500+ feet wide. In addition, signs will be posted outside of the buffer area to inform passers by of the possible presence of State-listed threatened species including Blanding's turtle and sandhill crane.

To benefit turtles and cranes, the upland buffer will be enhanced by herbiciding non-native grasses and installing native grass and forb seed into non-native grass duff. Interseeding into the herbicided grass duff will help to prevent soil erosion while the seeded species establish. Native emergent, wet prairie, and upland buffer seed will be installed within the storm water detention wetland to provide habitat for Blanding's turtle, sandhill crane, and other species including yellow-headed blackbird and common moorhen. Note that an Invasive Plant Species Management Plan will be provided to MCCD, the Exner Marsh site steward, for notification prior to herbiciding, prescribed burning, or other activity that may affect runoff.

NESTING: PAR will install the sand and gravel turtle nesting area in coordination with the IDNR. An area of sand beach along the south central shoreline of the existing pond (northernmost portion of the buffer) will be enhanced with additional sand, gravel, and seeding with dry prairie species to provide turtle nesting habitat. The proposed turtle nest area is more than 500 feet north of the proposed turtle fence along the edge of the commercial development. The enhancement of the current non-native turf and pasture grass area with native grass and forb seed is expected improve the quality of the available crane habitat for nesting.

HABITAT AND FORAGING: The wetland and buffer areas between the existing pond edge and the development will be enhanced using a variety of management techniques. Portions of the wetland area that contain quality wetland species will be enhanced with prescribed burning. Lower quality areas containing invasive species such as reed canary grass will be herbicided and will receive supplementary seeding. Similarly, the upland buffer will be herbicided and reseeded to native species. These areas will be maintained by PAR for a three (3) year period to help prevent invasive weeds and to promote the establishment of native plant species.

STORM WATER MANAGEMENT AND WATER QUALITY: PAR proposes to maintain water quality and provide proper storm water treatment for the runoff draining to the Nature Preserve. A series of Best Management Practices (BMP's) will be implemented to provide multiple treatment of storm water runoff associated with the commercial development. Proposed BMP's are described in the following paragraphs.

Storm water runoff will be directed into a Continuous Deflective Separator (CDS) system before draining through a vegetative swale into the storm water detention wetland. The storm water detention wetland is being designed to include low berms to lengthen the path to the outfall, increase residence time, and thus, provide greater water quality benefits. The bottom and side slopes of the storm water detention wetland will be planted with native wetland vegetation including salt tolerant plants. The storm water detention wetland will discharge via level spreader overland through the upland buffer (vegetated filter strip), and finally into the existing pond for further treatment before discharging into Exner Marsh.

The BMP treatment train will result in the removal of an estimated 95% of the total suspended solids and 90% of the total phosphorous entering the storm water management system. Note that an 80% removal of pollutants is commonly required in areas where water quality is regulated. Note that the removal efficiency of total phosphorous by the CDS system was not available at the time of this report, but the adherence of phosphorous to soil particles should be considered, intuitively resulting a much greater total pollutant removal efficiency than reported above. In addition, the pollutant removal efficiency for a level spreader was not available, but may also be considered as a BMP for pollutant removal. This multiple stage storm water treatment system greatly exceeds the typical one or two stage storm water treatment system that is permitted to discharge directly into a wetland. In our opinion, the designed BMP treatment train will function to maintain good water quality discharging into Exner Marsh.

Also note that silt fence will be installed prior to grading and will be maintained in good working condition at the grading limits (approximate middle of buffer), with the remaining half of the buffer vegetation undisturbed throughout construction. Other soil erosion and sediment control devices including filter fabric in storm inlets and riprap outlets will be installed and maintained in good condition. PAR will incorporate the following water quality recommendations listed in the IDNR May 19, 2006 letter into the site plans and management strategy:
1) PAR will provide advance notice to stewards of the Exner Marsh Nature Preserve before any prescribed burning or herbicide applications are to occur on the subject property;
2) PAR will provide an Invasive Plant Species Management Plan to site stewards;
3) PAR will periodically maintain the Continuous Deflective Separator system;
4) Vegetative swales and the wetland detention basin will be planted with native vegetation;
5) PAR will re-design the wetland bottom detention basin to include several interior berms to add topography and lengthen the flow path of water prior to discharge; and;
6) PAR will install salt tolerant plant species into the wetland bottom detention basin and vegetated swale plantings, and will consider non-saline alternatives for parking lot de-icing.

FENCING: Installation of fences is proposed to discourage the entrance of turtles into the commercial area and to act as a debris barrier. Silt fencing will be installed along the perimeter of the construction area to prevent sediment from leaving the site during construction, and will help prevent turtles from entering the construction area. A chain link fence will be installed next to the curb along the north and east sides of the commercial development to prevent wind-blown debris from entering the marsh. At the request of the Endangered and Threatened Species program, openings have been added to the fence to allow turtles to exit the commercial development.

LIGHTING: To minimize the possible effects of external building lights attracting insects from the Nature Preserve and thereby disrupting the food chain, the external perimeter lights on the north side of the commercial building will consist of shoebox lights and will have amber lenses. The shoebox style lights will shine downward to the ground and not into the Nature Preserve. PAR will cause not more than one horizontal foot-candle at the nature area boundary.

BARRIERS TO OVERLAND MOVEMENT: While the development may possibly create a barrier to turtle movement, PAR will create a high curb barrier to limit turtles from entering the developed area. Curbs will be installed with a back 6" above grade to function as a vertical barrier to prevent turtles from entering the commercial area. If turtles somehow gain access to the commercial area, the low curb height on the commercial side will not impede turtles from leaving the commercial area. PAR proposes to install the storm water detention wetland within the upland buffer, in accordance with the McHenry County Storm water Ordinance, in order to provide the largest open upland space possible for turtle habitat, while providing the area necessary for the commercial development. As mentioned previously, the proposed upland buffer provides a contiguous undisturbed area that will be enhanced using several management techniques.

The upland buffer and the storm water detention wetland will provide a large open space area between the commercial development and Exner Marsh. The buffer, nesting area, fence, and curb barrier should discourage turtle entrance into the commercial area. Algonquin Road and Lakewood Road are existing barriers to turtle movement to the south and west. There are no barriers to movement by adult sandhill cranes, since they can fly. The proposed chain link fence will also help to prevent juvenile sandhill cranes that may occur in-site from entering the construction area.

EDUCATION: By informing customers and employees of the commercial development to the presence of Blanding's turtles and sandhill cranes in the area, PAR will raise awareness of the value of these species and their habitat. PAR will post signs around the perimeter and within the commercial development. Signs will be posted at 100-200' intervals, and will include the MCCD contact information. Contractors working on the development will also be informed of the possible presence of State-listed species on-site. To help determine the potential impacts to Blanding's turtle and sandhill crane, PAR Development, Inc. proposes to monitor for these wildlife species and to manage the storm water detention wetland and enhancement wetland and buffer areas as follows:

3. The following Monitoring Measures shall be implemented with regards to the Hankin Parcel Commercial Development:

In consideration of IDNR concerns, PAR will authorize Christopher B. Burke Engineering, Ltd. (CBBEL) to monitor the effectiveness of the measures implemented to minimize Blanding's turtle and sandhill crane takings. CBBEL staff will search for the presence of turtles and sandhill cranes around the entire 19.4 acre parcel weekly during a six-week period for three years as specified below. The areas to be monitored include along the fence line located between the commercial development and the upland buffer, the existing wetland and pond, within the created nesting grounds, within the storm water detention wetland, in the commercial area (parking lots, etc.), and along the right-of-way of Huntley-Algonquin Road. If a tagged turtle has been observed, the tag information will be recorded and reported to MCCD. Any sightings of Blanding's turtles or sandhill cranes will immediately be reported to MCCD.

The results of our findings will be documented with a summary of findings submitted to IDNR following the searches. PAR will implement the following recommendations specific to sandhill cranes that were recommended in the May 19, 2006 letter from the IDNR to the Village of Lake in the Hills:

A. The Village should require the developer to report if cranes appear on the property;

B. Cranes should be closely observed to determine whether and where a nesting attempt may be made and the distances at which the birds appear to respond to intrusions into their territory [should cranes be observed]; and,

C. The IDNR requests that it be notified by the developer immediately if cranes are present at any point during the proposed activity.

Monitoring will include weekly monitoring visits to search for sandhill cranes during the May 1 through June 15 period over three years when searches for Blanding's turtles will be conducted. In addition, PAR will inform construction crews to report any sightings during daily construction activities.

PAR Development, Inc, will monitor the establishment of the installed wetland and upland buffer seeding on an annual basis for a three year period, including the year of installation. CBBEL will help control invasive weeds by herbiciding or spot-mowing, and will provide additional management recommendations, as needed. Management activities will be documented in a short report for submittal to PAR and MCCD.

Modifying Minimization Measures:

If it is determined that the measures taken to minimize Blanding's turtle and sandhill crane takings are not effective, modifications will be developed and implemented. Management measures will be adapted to address issues of concern, as necessary.

4. The following Reporting Measures shall be implemented with regards to the ~~Talomare Residential Community project:~~ DEVELOPMENT OF THE HANKIN PROPERTY.

During site development, and continuing through the three year proposed management and monitoring period, PAR or the ultimate developer if other than PAR, will provide the Village of Lake in the Hills and MCSC funding requirements for the implementation of the taking minimization measures. Following the completion of the three (3) year period, a Business Association representing the development will be responsible for funding additional management/monitoring.

The schedule for implementing this project is estimated to be one (1) year from the groundbreaking. A typical construction sequence will be followed, including installation of soil erosion and sediment control practices, site grading, underground sewer and water, streets and curbs, building slab and interior construction, and landscaping. Revised Conservation Management Plan items including the wetland bottom detention facility, turtle fence and curb, and turtle nesting area will be constructed concurrent with site improvements. The wetland/pond will be completed at the time of grading; the turtle fence/curb will be installed during pavement and curb installation. The native seed installation and buffer area enhancements will be completed concurrent with construction. Monitoring for Blanding's turtles, sandhill cranes, and the native plantings will be completed for three (3) years.

An annual monitoring report shall be prepared (by CBBEL, Ltd. and/or another qualified environmental consultant) and submitted to the Illinois DNR-Office of Resource Conservation-Springfield, Illinois (Attention: Joseph Kath) by December 31st of each year. The monitoring report will be utilized to determine if the mitigation and enhancement areas are meeting design goals. If design goals are not being met (based on annual reports) appropriate measures shall be implemented. Please note that this monitoring report shall document all observations, sitings, encounters, etc. of any and all endangered and threatened species within the entire project area during the preceding calendar year. If animals (namely Blanding's turtles and/or Sandhill cranes) were relocated with the assistance of the MCCD and/or another conservation party, this information must also be provided.

5. The following Party Responsibilities shall be in effect with regards to the Hankin Parcel Commercial Development:

A. PAR Development, Inc. (or the ultimate developer) shall be responsible for the implementation of the conservation plan ("the plan") and all measures listed in this Incidental Take Authorization.

B. PAR Development, Inc. (or the ultimate developer) shall be responsible for the installation and initial maintenance of the measures listed in the conservation plan.

C. As property owner, PAR Development, Inc. (or the ultimate developer) shall have the legal authority to carry out the obligations and responsibilities set forth in the plan.

6. The effective period of this authorization may be altered by mutual agreement between PAR Development, Inc. and the Department.

7. This authorization may be revoked pursuant to Section 5.5 of the Act if the Department finds that PAR Development, Inc.(or the ultimate developer) has failed to comply with any of these terms and conditions or has been responsible for the take of any Blanding's turtles and/or sandhill cranes beyond that which is incidental to the construction of the Hankin Parcel Commercial Development in McHenry County, Illinois.

8. The PAR Development, Inc. official identified below is authorized to execute this agreement. Execution by PAR Development, Inc. official indicates acceptance of all terms and conditions described in this document.

For the IL. Department of Natural Resources

Mike Conlin

Mike Conlin, Acting Director
Office of Resource Conservation

Please print name and official title

Date Signed: 7.5.07

For PAR Development, Inc.

Signature

Please print name and official title

David Plote, Vice President

Date Signed: 6/28/07