

## JOINT APPLICATION FORM FOR ILLINOIS

ITEMS 1 AND 2 FOR AGENCY USE

1. Application Number	2. Date Received
-----------------------	------------------

**3. and 4. (SEE SPECIAL INSTRUCTIONS) NAME, MAILING ADDRESS AND TELEPHONE NUMBERS**

<b>3a. Applicant's Name:</b> <b>Michael J. Weis</b> Company Name (if any) : U.S. Department of Energy Address: <b>P.O. Box 2000</b> <b>Batavia, IL 60510</b>  Email Address: michael.weis@ch.doe.gov	<b>3b. Co-Applicant/Property Owner Name</b> (if needed or if different from applicant): N/A Company Name (if any):  Address:   Email Address:	<b>4. Authorized Agent (an agent is not required):</b> N/A Company Name (if any):  Address:   Email Address:
Applicant's Phone Nos. w/area code Business: 630-840-3281  Residence:  Cell:  Fax:	Applicant's Phone Nos. w/area code Business:  Residence:  Cell:  Fax:	Agent's Phone Nos. w/area code Business:  Residence:  Cell:  Fax:

**STATEMENT OF AUTHORIZATION**

I hereby authorize, \_\_\_\_\_ to act in my behalf as my agent in the processing of this application and to furnish, upon request, supplemental information in support of this permit application.

\_\_\_\_\_ Applicant's Signature
 \_\_\_\_\_ Date

**5. ADJOINING PROPERTY OWNERS (Upstream and Downstream of the water body and within Visual Reach of Project)**

Name	Mailing Address	Phone No. w/area code
a. Available on request		
b.		
c.		
d.		

**6. PROJECT TITLE:**  
**Short Baseline Neutrino Campus**

**7. PROJECT LOCATION:**  
 Fermi National Accelerator Laboratory, Batavia, IL

LATITUDE: <b>41.83874</b> °N LONGITUDE: <b>-88.26985</b> °W	UTM's Northing: <b>4632625</b> Easting: <b>394620</b>										
STREET, ROAD, OR OTHER DESCRIPTIVE LOCATION <b>E of Schwahn Rd, S of Pine St</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">LEGAL DESCRIPT</th> <th style="width: 15%;">QUARTER</th> <th style="width: 15%;">SECTION</th> <th style="width: 15%;">TOWNSHIP NO.</th> <th style="width: 15%;">RANGE</th> </tr> <tr> <td style="text-align: center;">NW</td> <td style="text-align: center;">25</td> <td style="text-align: center;">39N</td> <td style="text-align: center;">8E</td> <td></td> </tr> </table>	LEGAL DESCRIPT	QUARTER	SECTION	TOWNSHIP NO.	RANGE	NW	25	39N	8E	
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NW	25	39N	8E								
<input type="checkbox"/> IN OR <input checked="" type="checkbox"/> NEAR CITY OF TOWN (check appropriate box) Municipality Name <b>Batavia, IL</b>	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 70%; text-align: center;">                             WATERWAY  <b>Indian Creek</b> </td> <td style="width: 30%; text-align: center;">                             RIVER MILE                              (if applicable)  <b>NA</b> </td> </tr> </table>	WATERWAY <b>Indian Creek</b>	RIVER MILE (if applicable) <b>NA</b>								
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8. PROJECT DESCRIPTION (Include all features):

The Far Detector Building portion of the project is located approximately 600 meters downstream of the Booster Neutrino Beam (BNB) target in MI-12 and incorporates the conventional facilities to provide the spatial and infrastructure requirements required to assemble, install and operate the physics components that comprise the far detector. In general, the construction will consist of a 8,500 square foot below-grade enclosure housing the relocated ICARUS detector as well as related electronics while the 7,500 square foot above-grade portion will provide a means for staging and installing the detector components as well as personnel access. The site work will include utility extensions from existing utility corridors, storage tanks, gravel staging areas and vehicle access to the Far Detector Building. The building will be designed to accommodate up to 9.84 feet (3 meters) of earth equivalent shielding over the below grade detector enclosure. (continued on additional sheet)

9. PURPOSE AND NEED OF PROJECT:

The purpose of the project is to house the Imaging Cosmic and Rare Underground Signals (ICARUS) detector. (continued)

**COMPLETE THE FOLLOWING FOUR BLOCKS IF DREDGED AND/OR FILL MATERIAL IS TO BE DISCHARGED**

10. REASON(S) FOR DISCHARGE:

There are no feasible alternatives to the location of the structure for this experiment. The project will require excavation. Any excess material from the excavation would be removed to an upland site.

11. TYPE(S) OF MATERIAL BEING DISCHARGED AND THE AMOUNT OF EACH TYPE IN CUBIC YARDS FOR WATERWAYS:

TYPE: Top soil and clay

AMOUNT IN CUBIC YARDS:

Approximately 10,000 cubic yards of excavated material to adjacent upland areas.

12. SURFACE AREA IN ACRES OF WETLANDS OR OTHER WATERS FILLED (See Instructions)

0.24 acres

13. DESCRIPTION OF AVOIDANCE, MINIMIZATION AND COMPENSATION (See instructions)

Approx half of the 0.24 acre wetland is a drainage swale constructed around 2002 specifically for storm water conveyance. A new storm water conveyance path will be designed and constructed as part of this project to replace this current swale. An erosion control plan will be developed consistent with Fermilab procedures. Wetland credits will be purchased for wetland mitigation. Excavation material to be placed in the adjacent upland area and would be graded to create the minimum disturbance. After the excavation is complete, the area of fill would be restored using seed from native species.

14. Date activity is proposed to commence

May 1, 2015

Date activity is expected to be completed

December 15, 2017

15. Is any portion of the activity for which authorization is sought now complete?

Yes

No

NOTE: If answer is "YES" give reasons in the Project Description and Remarks section. Indicate the existing work on drawings.

Month and Year the activity was completed

16. List all approvals or certification and denials received from other Federal, interstate, state, or local agencies for structures, construction, discharges or other activities described in this application.

<u>Issuing Agency</u>	<u>Type of Approval</u>	<u>Identification No.</u>	<u>Date of Application</u>	<u>Date of Approval</u>	<u>Date of Denial</u>
N/A					

17. CONSENT TO ENTER PROPERTY LISTED IN PART 7 ABOVE IS HEREBY GRANTED.

Yes

No

18. APPLICATION VERIFICATION (SEE SPECIAL INSTRUCTIONS)

Application is hereby made for the activities described herein. I certify that I am familiar with the information contained in the application, and that to the best of my knowledge and belief, such information is true, complete, and accurate. I further certify that I possess the authority to undertake the proposed activities.

\_\_\_\_\_  
Signature of Applicant or Authorized Agent

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Applicant or Authorized Agent

\_\_\_\_\_  
Date

\_\_\_\_\_  
Signature of Applicant or Authorized Agent

\_\_\_\_\_  
Date

Corps of Engineers  
Revised 2010

IL Dep't of Natural Resources

IL Environmental Protection  
Agency

Applicant's Copy

SEE INSTRUCTIONS FOR ADDRESS

**LOCATION MAP**

See attached map

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IL Environmental Protection Agency

Applicant's Copy

**PLAN VIEW**

See attached drawing

**FOR AGENCY USE ONLY**

Revised 2010

Corps of Engineers

IL Dep't of Natural Resources

IL Environmental Protection Agency

Applicant's Copy

Short Baseline Neutrino Campus  
Fermi National Accelerator Laboratory  
Application Notes Continued

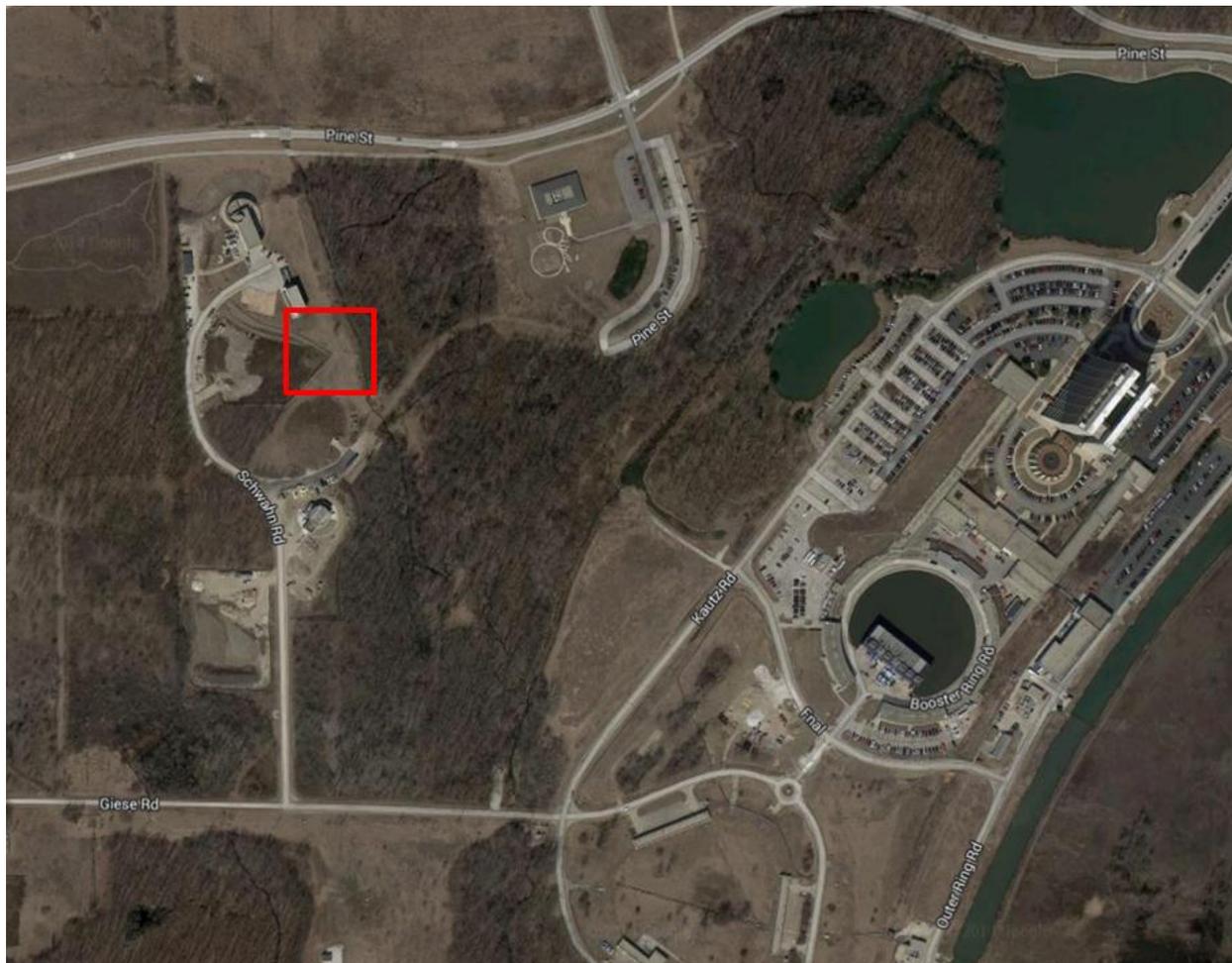
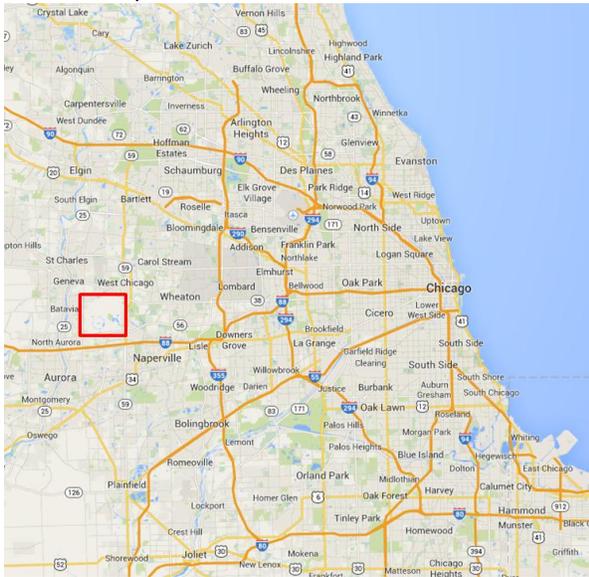
Project description:

Because the experiment utilizes the existing BNB beam, the location must be positioned along the beamline. Also, due to the type of experiment, the experiment needed to be positioned between 600 and 800m downstream of the BNB target. The chosen location was considered the optimal location, because upstream is a large hill that houses another experiment and downstream would have placed the building more in the surrounding wetlands.

Purpose and Need:

Fermilab is planning a suite of experiments that utilize the existing BNB located on the western portion of the site south of Pine Street. This area, called the Neutrino Campus, currently contains the SciBooNE, MiniBooNE and NOvA Near Detector on the Surface (NDOS) experiments with the MicroBooNE experiment expected to be on line later this year. As part of a planned expansion of the Neutrino Campus, an experiment has been proposed located approximately 600 meters downstream of the BNB target. This Far Detector facility will house the ICARUS detector, currently located in Gran Sasso, Italy. The detector and support equipment will be moved from Italy and installed in a new building located on the Fermilab site.

Short Baseline Neutrino Campus  
Fermi National Accelerator Laboratory  
Location Map:



Short Baseline Neutrino Campus  
Fermi National Accelerator Laboratory  
Plan View:

