

## Part 501 - Authorizations

### Subpart A – Review and Approval

#### IL501.3 Compliance of Engineering Work with Laws and Regulations

A. Compliance of engineering work with laws and regulations.

- (1) The Illinois Professional Engineering Act of 1989, Illinois Statutes, Ch. 225 ILCS 325, requires that any person practicing or offering to practice professional engineering shall submit evidence that he or she is qualified to practice and to be registered in Illinois as a professional engineer. However, the Act exempts employees of the Government of the United States engaged in the practice of the profession of engineering for the Government.

#### IL501.4 Engineering Job Approval Authority

B. State Engineering Job Approval Authority (Classes I Through V).

(2) Illinois NRCS Engineering Job Approval Authority.

- (i) This policy applies to all individuals having planning, design, or installation responsibility, including conservation district employees and employees of the State of Illinois and other agencies who are under NRCS technical supervision.
  - Illinois NRCS Engineering Job Approval Authority shall be documented on form IL-ENG-35. A blank copy of the IL-ENG-35 can be found in section IL 501.9 of this manual, pages IL 501-A.4 through IL 501-A.6.
  - Construction inspection of project activities or similar contract jobs where letters of inspection instruction are issued are separate from this engineering job approval policy.
- (ii) Engineering approval for a project shall be made by an individual with adequate engineering job approval authority as shown on the employee's official IL-ENG-35, Illinois Engineering Job Approval Authority.
  - Employees shall not make commitments on behalf of the Agency regarding the technical feasibility of a project that exceeds their Inventory and Evaluation (I&E) job approval authority.
  - Prior to recording decisions in the conservation plan that involve engineering practices, documentation must show that the planned engineering practices were approved by an individual with the appropriate I&E job approval authority. The planner shall note decisions in the conservation assistance notes.
  - For complex projects, a pre-design conference with the District Conservationist or a member of the field office staff, the engineer with adequate job approval authority, and other personnel as needed is recommended to facilitate communication early in the design process.
  - Design documentation, construction drawings and specifications must be checked by an individual other than the designer, with experience in the type of design, the criteria, and the procedures. The construction drawings and specifications must be approved by an individual with the appropriate design job approval authority, prior to submitting the construction drawings and specifications to the landowner or operator and before any construction can begin. Design approval is to be documented by signature, title, and date on the construction drawings. Design check is to be documented by initials and date on the construction drawings and design supporting documentation.

## 210-National Engineering Manual

- Construction checkout shall be performed under the guidance of an employee with the appropriate construction job approval authority. Personnel certifying practices for financial assistance must either have adequate construction job approval authority for the practice or have documentation of the construction checkout approval from an employee with proper job approval authority. Construction approval shall be documented with a statement such as, "Practice as constructed meets NRCS standards and specs," and with a signature, title, and date. Documentation may be in the form of a letter, or added on the construction checkout notes.
- Major construction changes proposed in an approved project during or preceding construction shall be approved in writing by the individual that initially approved the design, or if unavailable, by another individual with the appropriate job approval authority. When changes must be approved by an individual who is not readily available, verbal approval may be obtained to expedite the work. However, the completed records must include documented written approval for the change.
- Employees without appropriate approval authority are expected to carry out work, within the limits of their knowledge and abilities, under the technical supervision of individuals with the required job approval authority.

### (5) Procedures for delegating Engineering Job Approval Authority in Illinois

- (i) All employees, including NRCS or partners whose position description identifies duties in planning, design, or installation, will have engineering job approval assigned in their first 12 months in that position. An IL-ENG-35 Engineering Job Approval Authority form will be issued even if it shows no job approval. Job approval will stay with the employee when reassigned or transferred.
- (ii) Job approval authority shall be reviewed with the employee as directed in Section 501.4B(5), of this manual, and revised as needed. The review is to be documented on the IL-ENG-35 table.
- (iii) Engineering job approval for all state level employees will be delegated by the State Conservation Engineer. Employees who transfer from the field or area to the state office lose their job approval authority unless the State Conservation Engineer approves of the delegation.
- (iv) Engineering job approval authority for all engineers who are supervised directly by the Assistant State Conservationist for Field Operations (ASTC-FO) will be delegated by the State Conservation Engineer. The ASTC-FO will provide concurrence.
- (v) Engineering job approval authority for employees supervised by the Area Engineer shall be delegated by the Area Engineer. The ASTC-FO will provide concurrence.
- (vi) Engineering job approval for all field office employees shall be delegated by the Area Engineer, except as noted below. The ASTC-FO or District Conservationist (DC) will provide concurrence for NRCS employees, as appropriate. No employee shall provide concurrence for his/her own engineering job approval authority. The Chairman of the Soil and Water Conservation District (SWCD) board shall review and concur with the job approval authority for District Employees after concurrence by the District Conservationist.
- (vii) Engineering job approval for area or field office employees working in more than one administrative Area will be delegated by the State Conservation Engineer in consultation with the Area Engineers. Concurrence will be provided by the ASTC-FO for the Area in which the employee's main duty station is located. For District Employees, the Chairman of the Soil and Water Conservation District (SWCD) board in each county shall review and concur with the job approval authority after concurrence by the ASTC-FO.

- (viii) All Class V job approval authority delegation shall have the concurrence or recommendation of the State Conservation Engineer. Documentation of concurrence may be in the form of a letter or electronic mail.
- (ix) The original and two copies of IL-ENG-35 form will normally be prepared. The original shall be furnished to the employee, one copy to the delegating engineer, and one copy to the concurring official. For all employees with delegated approval authority for Class V jobs, an additional copy shall be prepared for the State Conservation Engineer. Delegation and concurrence will be accomplished by signing the original IL-ENG-35 form.
- (x) If the concurring official disagrees with the approval authority recommended, the proposal should be discussed with the delegating engineer. The State Conservation Engineer will assist as necessary to resolve conflicts.

C. Approval of Class VI Through VIII Jobs

(3) Illinois Procedures for Class VI to VIII Jobs

Class VI and above jobs shall be identified early in the planning stage. Section IL505.11A.(2), Upper Limits in Size and Complexity of Jobs Illinois NRCS Will Regularly Handle, outlines procedures for obtaining approval and limitations for NRCS technical assistance on jobs above job class V. The ASTC-FO shall provide leadership in developing planning, design, and construction schedules for these projects. Approval from the State Conservationist must be obtained prior to the development of these schedules.

- The schedule shall indicate the job or project name, county, the type of project, area specialist(s) responsible, and projected date for completing items of work such as surveys, preliminary design, and final design including construction specifications, cost estimate, and date final construction drawings are needed.
- The job schedule for Class VI and above jobs should be prepared prior to obtaining design surveys. The schedule should be provided to the State Conservation Engineer to assist in State Office scheduling and assignment of priorities. The State Conservation Engineer will review and approve the proposed schedule.
- A pre-design conference between the Area Engineer and the State Conservation Engineer or members of the State Engineering staff is required for all Class VI and above jobs. Pre-design conferences may be conducted by telephone or may include an onsite review with various specialists participating.

**IL 501.9 Engineering Job Approval Authority**

**ILLINOIS ENGINEERING JOB APPROVAL AUTHORITY**

U.S. Department of Agriculture  
Natural Resources Conservation Service

Rev. April 2012

<b>Name</b>		<b>Title</b>		<b>Grade</b>	
<b>Delegation By</b>		<b>Title</b>		<b>Date</b>	
<b>Concurrence By</b>		<b>Title</b>		<b>Date</b>	

Job Type and Codes	Controlling Factors	Job Class						Maximum Approval Limits			
		Units	I	II	III	IV	V	I&E	Design	Const.	
<b>All Practices **</b>	Hazard Classification as defined in NEM 520.21 Subpart C, Dams	Class	Low	Low	Low	Low	Low	Low	Low	Low	Low
<p>Dams and Structures - All with relatively impervious cutoff, simple foundation needs, and standard or proven designs for conservation practice standards Grade Stabilization Structure (410), Pond (378), Sediment Basin (350), Dike (356), Structure for Water Control (587), Shallow Water Management for Wildlife (646), Watering Facility (614; when implemented as a Pond), Constructed Wetland (656), Wetland Creation (658), Wetland Restoration (657), and Wetland Enhancement (659) . Dam classification is a "low" hazard class and treated the same as other features for approval purposes.</p> <p>Notes: <sup>1/</sup> Total fill height is the difference in elevation from the top of the embankment to the natural bed of the watercourse at the downstream dam slope or toe. <sup>2/</sup> Effective fill height of the dam is the difference in elevation from the auxiliary spillway crest to the lowest point in the cross section taken at the centerline of the dam.</p>	Requires Illinois DNR Division of Water Resources Permit		No	No	No	No	No	No	No	No	
	<b>Detention Type for Ponds and Grade Stabilization</b>										
	Total Fill Height <sup>1/</sup>		ft	10	15	24	30	35			
	Storage x Effective Fill Height <sup>2/</sup>		ac-ft-ft	200	500	1,000	3,000	All			
	Drainage Area (Detention structure)		ac	20	100	320	640	12,800			
	Conduit Spillway - Diameter		in	8*	12*	24*	36	48			
	<b>Grade Stabilization Practices</b>										
	Pipe Structure - Full Flow (Less than 10' Net Drop)	Conduit Diameter	ft	1*	2*	3*	4	5			
	Chute	Net Drop	ft	4*	4*	6*	8	10			
		Total Capacity	cfs	50	75	150	200	300			
	Weir Structure - (fabricated metal, modular concrete or concrete)	Net Drop	ft	2*	3*	4*	6	8			
		Total Capacity	cfs	100	200	300	400	500			
	Box Inlet to Existing Culvert	Net Drop	ft			4*	6	6			
		Total Capacity	cfs			300	400	500			
	Lined Waterway	Design Capacity	cfs		20*	50*	200	All			
	Structure for Water Control	Conduit Diameter	in	8*	12*	24*	36	48			
	Sediment Basin - Class I (Class II see Detention Type.)				All	All	All	All			
	Dike - Hazard Class III	Max Design Water Height	ft	2	3	4	6	12			
	<b>Wetland Practices</b>										
	Wetland - Codes (646), (657), (658), and (659)	pool area	ac	1*	5*	25	all	all			
Dam or berm height	Total fill height <sup>1/</sup>	ft	5.9	5.9	5.9	6	all				
Constructed Wetland - Code (656)	pool area	ac	1*	5*	25	all	all				
Dam or berm height	Total fill height <sup>1/</sup>	ft	5.9	5.9	5.9	6	all				

\* Standard Designs and Standard Detailed Drawings approved by the State Conservation Engineer.

\*\* For Practices With Multiple Controlling Factors, the most restrictive approval limit applies.

210-National Engineering Manual

Name \_\_\_\_\_

IL-ENG-35 (Pg. 2 of 4)

Job Type and Codes		Controlling Factors	Job Class						Maximum Approval Limits		
			Units	I	II	III	IV	V	I&E	Design	Const.
560	Access Road	Distance	ft	150	500	1,000	6,000	All			
		Culvert Diameter	ft	none	none	1	2	5			
309	Agrichemical Handling Facility	Tank Storage Volume	gal		2,500	10,000	50,000	150,000			
371	Air Filtration and Scrubbing	Volume of Air Treated	cfm				8,000	200,000			
591	Amendments for Treatment of Agricultural Waste	System, Number of 1000-lb Animal Units	AU			300	1,000	All			
316	Animal Mortality Facility	Composting Systems – Capacity Dead Animals	lbs/day			120	250	1,000			
575	Animal Trails and Walkways	Length	ft	150	500	1,000	6,000	All			
326	Clearing and Snagging	Distance	ft	150	500	1,000	6,000	All			
		Drainage Area	sq mi	0.5	1	10	50	600			
584	Channel Bed Stabilization	Design Capacity	cfs			300*	500*	1,000			
		Design Velocity	fps			4*	6*	10			
		Drainage Area	sq mi			1*	10*	50			
372	Combustion System Improvement	Size of Engine	hp			All					
317	Composting Facility	For Mortality Systems - Capacity Dead Animals	lbs/day			120	250	1,000			
		For Non-Mortality Systems - Capacity Material to be Composted	cu ft/day	500	1,000	3,000	5,000	7,000			
362	Diversion	Capacity	cfs		50*	100*	200	500			
432	Dry Hydrant	Total Lift	ft			15*	30	All			
374	Farmstead Energy Improvement	Total Plan					All				
412	Grassed Waterway	Design Capacity	cfs	50*	100*	200*	300	500			
561	Heavy Use Area Protection	Feeding Area / Heavy Use Pad	sq ft	1,000	5,000	10,000	20,000	43,560			
		Winter Feeding Station – heavy use area plus concrete	sq ft			5,000*	12,000*	50,000			
		Access Ramp Height	ft			4	8	12			
430	Irrigation Pipeline	Capacity	gpm	20	100	500	2,000	3,500			
		Total System Length, including all laterals	ft	100	1,000	2,000	5,000	15,000			
441	Irrigation System, Microirrigation	Irrigated Area	ac		1	10	40	160			
442	Irrigation System, Sprinkler	Irrigated Area	ac	20	40	80	160	640			
443	Irrigation System, Surface and Subsurface	Irrigated Area	ac	20	40	80	160	640			
447	Irrigation System, Tailwater Recovery	Irrigated Area Served	ac	20	40	80	160	640			
516	Livestock Pipeline	Total System Length, including all laterals	ft	100	1,000	2,000	5,000	15,000			
		Pressure – max. operating range	psi	100	100	100	100	300			
		Gravity flow Total Length	ft			50	200	1,000			
353	Monitoring Well	Depth	ft				All				

\* Standard Designs and Standard Detailed Drawings approved by the State Conservation Engineer.

210-National Engineering Manual

Name				Job Class					Maximum Approval Limits			
Job Type and Codes		Controlling Factors		Units	I	II	III	IV	V	I&E	Design	Const.
533	Pumping Plant	Capacity		gpm	20	100	500	2,000	3,500			
		Static Head		ft	500	500	500	500	500			
		Sump Depth		ft			6	10	15			
558	Roof Runoff Structure	Roofed Area		sq ft		1,000	5,000	12,000	50,000			
367	Roofs and Covers	Covered Area		sq ft			5,000*	12,000*	50,000			
632	Solid/Liquid Waste Separation Facility	Number of 1000-lb Animal Units		AU			300*	1,000	5,000			
574	Spring Development	Capacity		gpm	1	5	10	25	50			
578	Stream Crossing	Ford Crossing – capacity (low bank)		cfs	50*	100*	300*	500*	All			
		Culvert Diameter		ft	None	None	1	2	5			
580	Streambank Protection	Capacity (Low Bank)		cfs			1,000*	3,000*	5,000			
		Velocity (Low Bank)		fps			6*	8*	10			
		Drainage Area		sq mi			50*	300*	600			
		Beaches and Shorelines - Height Above Mean High Water		ft				1	3			
606	Subsurface Drain	Tile Diameter		in	8	12	18	24	36			
607	Surface Drain, Field Ditch	Design Capacity		cfs	50	100	200	300	500			
608	Surface Drain, Main or Lateral	Design Capacity		cfs	100	200	300	500	1000			
		Design Velocity		fps	4	4	4	6	10			
600	Terrace	Area Terraced in System		ac	10	20	40	80	640			
620	Underground Outlet	Orifice Flow	Conduit Diameter	in	8*	12*	18*	30*	36			
		Pressure Flow	Conduit Diameter	in		8*	12*	15*	36			
		Relief Well	Conduit Diameter	in		12*	24*	48*	60			
635	Vegetated Treatment Area	Feedlot Area		ac			0.5	2	5			
630	Vertical Drain	Inlet Diameter		in			12*	24	48			
360	Waste Facility Closure	Surface Area		sq ft			5,000	12,000	50,000			
313	Waste Storage Structure	Dry Stack - Wall Height		ft			6*	8	8			
		Liquid or Slurry - Capacity		cu ft			200,000*	500,000	2,000,000			
634	Waste Transfer	Pipeline, Gravity Flow – Length		ft	50	100	300	1,000	2,000			
		Pipeline, Pressurized - Length		ft	100	1,000	2,000	5,000	15,000			
		Agitator – Waste Storage Facility Capacity		cu ft			200,000	500,000	2,000,000			
		Concrete, Scrape Alleys and Curbing		cu yd				200	All			
629	Waste Treatment	System, Number of 1000-lb Animal Units		AU			300	1,000	5,000			
359	Waste Treatment Lagoon	Aerobic-Surface Area		ac			6	10	25			
		Anaerobic		cu ft			500,000	1,000,000	2,000,000			
		Total Fill Height <sup>1/</sup>		ft			20	25	35			
638	Water & Sediment Control Basin	Drainage Area - Single Basin		ac	3	5	10	20	30			
642	Water Well	Capacity		gpm	3	20	500	2,000	3,500			
351	Water Well Decommissioning	Diameter		in			6	12	All			
614	Watering Facility	Tank or Trough Capacity		gal	100	200	500	1,000	15,000			

\* Standard Designs and Standard Detailed Drawings approved by the State Conservation Engineer.

