CONSERVATION PRACTICE

TECHNICAL APPROVAL AUTHORITY

For Engineering Practices

Assignment and Acceptance For:

Employee	Title
Employer	Date

Recommended by:

Area Engineer	Date

Concurred by: (Concurrence is only required for NRCS employees who are being delegated technical approval for work considered professional engineering practice.)

State Conservation Engineer	Date

Technical approval authority assigned by:

Name	Title
Signature	Date

ETHICS STATEMENT

By signing this form, I agree to utilize my assigned technical approval authority only for work that I am competent and qualified to perform. I will seek assistance from others when complicating factors warrant.

I also understand that recommended conservation practices can have negative effects on some natural resources. I agree to consider the potential impacts of practices on all resources before recommending their use.

Employee's Signature	Date

NOTE:
Practices marked with an asterisk are considered to be professional engineering practice. This was determined based upon complexity and potential hazards associated with the practice. Approval authority for these may be issued to qualified federal employees who are exempt from state registration requirements. Site specific conditions may cause a practice of any size to be considered professional engineering practice. Any practice with significant hazard potential will require Class VI approval.

Practices not included on the Engineering TAA chart will require Project-specific assignment of TAA by the state office.

Definitions of approval columns:

Inventory and Evaluation - Preliminary on-site investigation and preparation of sound alternative solutions of sufficient detail for the cooperator to make treatment decisions. May require assistance from higher levels for large or complex jobs.

Design - Designing and checking all aspects of the supporting data, drawings and specifications to insure that the planned practice will meet the purpose for which it is intended. Also setting any specific construction inspection requirements.

Construction - Surveys, layout, staking, inspection of materials and work, and making tests to determine that the job meets the plans and specifications. Specific duties authorized in inspection plans can be performed regardless of construction approval level.

NAME: _____ **DATE:**_____

Practice Code	Practice Name	Limiting factors	Job Class						Maximum Approval Authority		
			Units	I	II	III	IV	V	I & E	Design	Construction
560	Access Road	Use	Type	Private	Private	Private	Private	Public*			
316	Animal Mortality Facility	Dead Animal Units/yr	no.	5*	10*	25*	50*	All*			
326	Clearing & Snagging	Drainage area	sq mi	0	0	1	4	All			
360	Closure of Waste Impoundments	Storage Volume	1000 cu ft	25	50	100*	200*	All*			
317	Composting Facility	Manure, animal units	no.	50*	75*	100*	300*	All*			
402	Dam	See Pond (378)									
356	Dike (9)	Water Height	ft.	0	0	4*	10*	All*			
362	Diversion	Capacity	cfs	25	50	100	200	500*			
554	Drainage Water Mgmt	Watershed area	ac	10	25	50*	100*	200*			
432	Dry Hydrant	Static head	ft	4*	8*	12*	15*	All*			
771	Fabricated Shelter for Livestock	Animal Units	1000 lbs.	25	50	100	200*	500*			
404	Floodway	Capacity	cfs	25	50	100*	200*	500*			
410	Grade Stabilization Structure (1) Embankment	Drainage area	ac	100	300*	640*	1200*	12800*			
		Prin. spillway dia.	in	12	18*	24*	36*	48*			
		Effective height	ft	6	15*	20*	25*	35*			
		On public road	Y/N	No	No	No	No	Yes*			
	Drop Spillway	Net drop	ft	3	4	5*	6*	8*			
		Weir capacity	cfs	100	200	300*	400*	500*			
	Box Inlet	Net drop	ft	3	4	4	5*	6*			
		Weir capacity	cfs	100	200	300*	400*	500*			
		On public road	Y/N	No	No	No	No	Yes*			
	Chute Spillway - All Concrete Block (2)	Net drop	ft	3	4	5*	6*	6*			
		Capacity	cfs	50	100	150*	200*	250*			
	Geotextile Reinforced Vegetated Chute	Net drop	ft	3	4	5*	6*	6*			
		Capacity	cfs	50	100	150*	200*	250*			
	Chute Spillway (Rock riprap)	Capacity	cfs	10	25	50*	100*	500*			
	Side Inlets (to drainage ditch)	Net drop	ft	6	8	10	12*	16*			
		Diameter (pipe)	in	12	18	24	36*	48*			
412	Grassed Waterway	Capacity	cfs	25	50	100	200	500*			
561	Heavy Use Area Protection (3)	Site surface area	ac	0.1	0.5	1.5	3	5*			
		Surface Protection	type	vegetation	gravel	concrete	asphalt	All			
449	Irrigation Water Mgmt	All	None	All	-	-	-	-			
442	Irrigation System, Sprinkler	Size of Irrigated area	ac	40	80	160	320	All			
468	Lined Waterway/Outlet	Drainage area	ac	10	20	100*	1000*	All*			
634	Manure Transfer	Gravity Flow - length	feet	50	100	200*	300*	All*			
		Pressurized - length	feet	50	100	200*	300*	All*			

457	Mine Shaft Adit Closing	Depth	ft	10*	25*	35*	40*	50*			
500	Obstruction Removal	Public safety hazard during removal	each	No	No	No	Yes*	Yes*			
582	Open Channel	Design Capacity	cfs	25	50	100*	200*	500*			
		Velocity	ft/sec	2	3	5	7	10*			
516	Pipeline	Length	ft	1000	2000	4000	5000*	10000*			
		Diameter	inches	1	1.25	1.5	2	All*			
		Pressure	psi	40	50	70*	90*	300*			
		Installation (4)	location	surface	surface	buried	buried	buried			
378	Pond (1) Excavated	Use	type	wildlife	livestock	-	-	-			
	Embankment	Drainage area	ac	100	300*	640*	1200*	12800*			
		Effective height	ft	6	15*	20*	25*	35*			
		Prin. spillway dia	in	12	18*	24*	36*	48*			
		Storage volume	ac ft	5	15*	50*	100*	500*			
521C	Pond Sealing or Lining, bentonite sealant	Surface area	ac	0.1	1	5*	10*	All*			
521A	Pond Sealing or Lining, flexible membrane lining membrane	Surface area	ac	0.1	1	5*	10*	All*			
533	Pumping Plant for Water Control	Pump capacity	gpm	20	50*	100*	200*	3500*			
558	Roof Runoff Mgmt	Area of roof	sq ft	500	1000	2000	5000	All*			
570	Runoff Mgmt System	Drainage area	ac	0.5	1*	2*	3*	5*			
350	Sediment Basin Embankment (1)	Watershed area	ac	5	10*	50*	100*	500*			
		Effective height	ft	6	10*	15*	25*	35*			
		Prin. spillway dia	in	12	18*	24*	36*	48*			
		Storage	ac ft	2	5*	15*	50*	100*			
725	Sinkhole Treatment	Drainage area	ac	0.5*	1*	2*	3*	5*			
572	Spoil spreading	Surface area	ac	0.5	1	2	5	All*			
574	Spring development	Discharge	gpm	1	5*	10*	All*	All*			
584	Stream Channel Stabilization	Design capacity	cfs	50	100*	200*	300*	500*			
		Design velocity	fps	2	4*	6*	8*	10*			
580	Shoreline Protection	WPH(5)	ft	1	1.5	2*	2.5*	3*			
		Raw bank height(6)	ft	1	3	5*	8*	20*			
	Streambank Protection	Capacity (bankfull)	cfs	100	250*	500*	1000*	5000*			
		Velocity (bankfull)	fps	2	4	6*	8*	10*			
587	Structure for Water Control	Structure capacity	cfs	10	25	50*	100*	500*			
		Drainage area	ac	10	50	100*	250*	10,000*			
606	Subsurface Drain	Diameter	in	6	12	18	24	All*			
		Area drained	ac	60	160	240	320	All*			

607	Surface Drainage, Field ditch	Capacity (bankfull)	cfs	10	25	50*	100*	All*			
608	Surface Drainage, Main or Lateral	Capacity (bankfull)	cfs	10	25	50*	100*	500*			
600	Terrace	Fill height	ft	4	8	10	12*	All*			
620	Underground Outlet	Ac drained per intake	ac	5	10	15	40	All*			
		Diameter	in	6	8	12	18	All*			
313	Waste Storage Facility (1)	Storage capacity	1000 cu ft	25*	50*	100*	500*	2000*			
		Depth to water table from pond bottom(7)	ft	>10*	5-10*	2-5*	0-2*	All*			
		Depth to bedrock from pond bottom	ft	>20*	10-20*	5-10*	3-5*	<3*			
		Soil group	no	IV*	IV*	III*	II*	All*			
784	Wastewater & Feedlot Runoff Control	Animal Units per feedlot	no.	50*	100*	300*	700*	1000*			
		Treatment Level	Level	1,4,5*	1,4,5*	1-5*	1-5*	1-5*			
638	Water & Sediment Control Basin	Fill height	ft	6	8	10	12	35*			
636	Water Harvesting Catchment	See Pond (378)									
642	Water Well	Construction to be completed by a well driller licensed in MN	gpm	2	20	50*	100*	All*			
614	Watering Facility	Facility	Type	seasonal	seasonal	frost-free	frost-free	frost-free			
		Animal Units per site	no.	50	100	300*	500*	All*			
351	Well Decommissioning	Must be completed by a well driller licensed in MN per MDH criteria	diam inches	2	4	6	12*	All*			
657	Wetland Restoration	Effective height	ft	4	5*	7*	8*	10*			
		Infrastructure Impact (8)	Y/N	No	No	No	Yes*	Yes*			
		Watershed area	ac	10	50	100*	250*	2000*			
		Storage volume	ac ft	10	15	30*	50*	500*			
658	Wetland Creation	see standard 657									
659	Wetland Enhancement	see standard 657									

* *All levels marked with an asterisk are considered professional engineering practice. Special factors may cause other jobs to be considered professional engineering practice also.*

(1) All with relatively impervious cutoff, simple foundation needs and standard or proven designs. Hazard class "a" only. Product of Storage x Height not to exceed 3,000. For standard 784, tank designs utilize pre-qualified standard drawings without structural modifications. Pre-qualified standard drawings are those which appear in Chapter 17 of the Minnesota Engineering Field Handbook.
(2) Includes all precast concrete block, articulated and non-articulated.
(3) Requires joint approval by engineering and ecological sciences staff.
(4) Pipeline will be installed a)above ground (surface) or b) the pipeline will be buried.
(5) WPH = Wave Protection Height = Height above mean highwater, see MN-TR2.
(6) Raw Bank Height = Difference in feet from top of raw bank to water surface. See MN-TR2.
(7) Depth to water table from pond bottom prior to installation of drain.
(8) Project impacts public road(s), utilities, adjacent property, and/or public drainage systems.
(9) Class I-V Dikes (practice standard 356) are limited to low hazard situations or Class III (see NEM 501.04(b)(1).)

All jobs not listed or more complex than those listed, which will be approved under the NRCS system, must be sent with supporting data to the state office for design.