

STORY COUNTY
BOARD OF SUPERVISORS
MEETING AS
DRAINAGE DISTRICT TRUSTEES

TENTATIVE AGENDA

April 11, 2017

Public Meeting Room, Administration Building
900 6th St., Nevada, IA

CALL TO ORDER 6:00 p.m.

1. Present Engineer's Reports on Annexation and Reclassification of Drainage District Richland #20.
2. Consider annexation of additional lands into Richland #20.
3. Consider adopting reclassification schedule as basis for future assessments against Richland #20.



**A
METHOD
OF
PARCEL
CLASSIFICATION
FOR
DRAINAGE
DISTRICT NO. 20
RICHLAND
FACILITY
BENEFITS**

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I+S GROUP

FACTORS USED IN RECLASSIFICATION

DRAINAGE DISTRICT NO. 20 RICHLAND STORY COUNTY

- 1) **Benefited Acres** – The number of acres within the watershed of the facility.
- 2) **Wet Factor** – The drainage need based on the soil types within the parcel.
- 3) **Proximity to Outlet** – The ratio of the length of facility used to the total distance to the outlet.
- 4) **Facility Use Factor** – The ratio of the cost of the portion of the facility used to the total cost of the facility.
- 5) **Runoff Factor** – A factor assigned to account for areas of greater runoff, such as gravel and hard surfaced roadways and, railroads as well as acres not needing subsurface drainage.

BENEFIT(T)ED ACRES

**All Lands Within the
Watershed of the Facility**

**Lands Outside the
Watershed, But Drained
Into the Facility**

**Lands Protected From
Overflow**

WET FACTOR

Inherent Drainage Need of the Soils on
the Parcel

Use County Soil Survey Drainage
Classification

	Drainage	Factor
Category	Classification	(Typical)
SWAMP	VPD	100
WET	PD	75
LOW	SPD – SWD	50
HIGH	WD	20

**EXAMPLE: Wet Factor= (5 Ac. Swamp x 100) +
(20 Ac. Wet x 75) + (10 Ac. Low x 50) +
(5 Ac. High x 20) /40 Ac. = 65**

PROXIMITY TO OUTLET

How Nearer an Outlet is Brought

**Computed as Part of Linear Distance to
The Outlet Furnished by the Facility**

**Parcel's Outlet is Assumed to be at the
Outlet of the Facility**

**Equals Length of Facility Used by
Parcel's Drainage Divided by Total
Distance to Parcel's Outlet**

EXAMPLE:

**Proximity Factor = 13,500 feet of ditch / 18,000 feet of
Distance to outlet = 0.75**

Side Note to Engineers:

**An exponential factor is sometimes applied to the
proximity factor to affect the rate of change in moving
away from the ditch. An exponent > 1 will increase the
rate of reduction with distance. An exponent < 1 will
decrease the rate.**

FACILITY USE FACTOR

**Portion of the Facility Through Which
the Parcel Drainage Water Passes**

**Computed as Percent of Original Total
Ditch Excavation Completed – or as
Percent of Original Total Cost of Drain
Tile Required to Construct Facility –
Downstream of Point of Water Entry**

**Always Increases Along Facility With
Distance Upstream from Outlet But Rate
Of Increase is Greater on Lower Reaches**

EXAMPLE:

**Facility Use Factor = (30,000 CY Original Downstream
Excavation / 50,000 CY Original Total Excavation)
X 100% = 60%**

OTHER FACTORS

Facility Need and Elevation Factors

**Flood Protection Distinct from Drainage
Benefits**

**Urban Areas and Others with Greater
Runoff Potential**

Roads & Railroads

Conservation Areas

Land Too Steep to Farm

Municipal Waste Treatment Lagoons

Pumped Quarry

**Area Tiled Across Divide Into or out of
District Watershed**

**Other Factors Assigned by
Commissioners**

FINAL JUDGEMENT

This Classification Methodology Provides the Benefit Commission with an Understandable, Defensible Way to Individually Consider and Account for the Many Factors Which Affect Relative Benefits in a Drainage District. It is a Way to Better Assure Fair and Equitable Treatment of all Landowners, Wherever they may be in the District.

BUT, IT ONLY YIELDS A SET OF NUMBERS!

The Final & Most Important Step is for the Commission to Judge the Equity of those Numbers.

CALCULATION OF CLASSIFICATIONS

PARCEL	#1	#2	#3	#4	#5	#6	#7	#8	#9	#10
BENEFITED ACRES	37	48	37	38	39	40	39	50	36	20
WET FACTOR	x	70	80	70	70	70	30	85	75	40
PROXIMITY TO OUTLET	x	1.00	1.00	0.75	0.51	0.27	0.73	0.59	1.00	0.75
FACILITY USE FACTOR	x	25	75	75	50	25	75	75	100	100
FACILITY NEED FACTOR	x	1.00	0.80	0.90	0.90	1.00	0.80	0.80	0.90	0.90
ELEVATION FACTOR	x	1.00	1.00	0.60	0.60	0.60	1.00	1.00	1.00	0.80
ADJUSTMENT FACTOR	x	1.25	1	1	1	1	1	1	1	4
Reason:	Flood		Flood							
ASSESSIBLE UNITS	80,938	15,086	222,000	71,820	37,469	11,200	30,736	149,674	243,000	172,800
CLASSIFICATION	33.31%	6.21%	91.36%	29.56%	15.42%	4.61%	12/65%	61.59%	100.00%	71.11%
ASSESSMENT	\$333.08	\$62.08	\$913.58	\$295.56	\$154.19	\$46.09	\$126.49	\$615.94	\$1,000.00	\$711.11
CLASSIFICATION PER ACRE	0.90	0.13	2.47	0.78	0.40	0.12	0.32	1.23	2.78	3.56