Appendix B WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Castlerock   City/County: Dakota   Sampling Date: 10/18/2022

Applicant/Owner: Stone Solar   State: Min   Sampling Point: UPL1

Investigator(s): S. Kinsler, M. Volbrecht, D. Hixon   Section, Township, Range: T113N, R019W, S09

Landform (hillside, terrace, etc.): Depression   Local relief (concave, convex, none): Concave   Slope %: 0-1

Subregion (LRR or MLRA): LRR M, MLRA 104   Lat: 44.604667   Long: -93.101815   Datum: WGS84

Soil Map Unit Name: Cylinder loam, 0 to 2 percent slopes   NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year?   Yes ___   No X   (If no, explain in Remarks.)

Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed?   Are "Normal Circumstances" present?   Yes ___   No X

Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	
Hydric Soil Present?	Yes ___ No X	**Is the Sampled Area within a Wetland?** Yes ___ No X
Wetland Hydrology Present?	Yes ___ No X	

Remarks: (Explain alternative procedures here or in a separate report.)
A WETS analysis indicates antecedent hydrologic conditions were drier than normal. Hay field within aerial identified wet signature.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Triticum aestivum	60	Yes	UPL
2. Phleum pratense	60	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	120 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: 0   (A)

Total Number of Dominant
Species Across All Strata: 2   (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: 0   (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	60	x 4 =	240
UPL species	60	x 5 =	300
Column Totals:	120 (A)		540 (B)
Prevalence Index = B/A =			4.5

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?   Yes ___   No X

Remarks: (Include photo numbers here or on a separate sheet.)

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SOIL Sampling Point: UPL1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 2/2	100					Loam	
8-11	10YR 2/1	60		0			Silty Clay Loam	
8-11	10YR 4/2	38	10YR 4/6	2	C	M	Silty Clay Loam	Refusal at 11in because of rock.

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: **Indicators for Problematic Hydric Soils[3]:**

___ Histosol (A1)	___ Sandy Gleyed Matrix (S4)	___ Coast Prairie Redox (A16)
___ Histic Epipedon (A2)	___ Sandy Redox (S5)	___ Iron-Manganese Masses (F12)
___ Black Histic (A3)	___ Stripped Matrix (S6)	___ Red Parent Material (F21)
___ Hydrogen Sulfide (A4)	___ Dark Surface (S7)	___ Very Shallow Dark Surface (F22)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)	___ Other (Explain in Remarks)
___ 2 cm Muck (A10)	___ Loamy Gleyed Matrix (F2)	
___ Depleted Below Dark Surface (A11)	___ Depleted Matrix (F3)	
___ Thick Dark Surface (A12)	___ Redox Dark Surface (F6)	
___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ 5 cm Mucky Peat or Peat (S3)	___ Redox Depressions (F8)	

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes ____   No __X__

Remarks:
Refusal at 11" due to compaction.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)   Secondary Indicators (minimum of two required)

___ Surface Water (A1)	___ Water-Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ True Aquatic Plants (B14)	___ Dry-Season Water Table (C2)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Crayfish Burrows (C8)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	_X_ Saturation Visible on Aerial Imagery (C9)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Stunted or Stressed Plants (D1)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Geomorphic Position (D2)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ FAC-Neutral Test (D5)
___ Inundation Visible on Aerial Imagery (B7)	___ Gauge or Well Data (D9)	
___ Sparsely Vegetated Concave Surface (B8)	___ Other (Explain in Remarks)	

Field Observations:

Surface Water Present	Yes ___	No _X_	Depth (inches): _____	
Water Table Present	Yes ___	No _X_	Depth (inches): _____	
Saturation Present (includes capillary fringe)	Yes ___	No _X_	Depth (inches): _____	**Wetland Hydrology Present?** Yes ____ No __X__

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Castlerock   City/County: Dakota   Sampling Date: 10/19/2022

Applicant/Owner: Stone Solar   State: Min   Sampling Point: UPL2

Investigator(s): S. Kinsler, M. Volbrecht, D. Hixon   Section, Township, Range: T113N, R019W, S09

Landform (hillside, terrace, etc.): Talf   Local relief (concave, convex, none): Linear   Slope %: 0-1

Subregion (LRR or MLRA): LRR M, MLRA 104   Lat: 44.604952   Long: -93.113054   Datum: WGS84

Soil Map Unit Name: Maxfield silty clay loam   NWI classification: PEM1Af

Are climatic / hydrologic conditions on the site typical for this time of year?   Yes ___   No X   (If no, explain in Remarks.)

Are Vegetation X , Soil ___ , or Hydrology ___ significantly disturbed?   Are "Normal Circumstances" present?   Yes ___   No X

Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	**Is the Sampled Area**
Hydric Soil Present?	Yes X No ___	**within a Wetland?** Yes ___ No X
Wetland Hydrology Present?	Yes ___ No X	

Remarks: (Explain alternative procedures here or in a separate report.)

Healthy cornfield on a flat landscape that has a very subtle slope down to S3 to the east. Drain tile outlet observed to the northeast at S3. Damaged drain tile observed to the north in W8. Climatic conditions are drier than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: 0   (A)

Total Number of Dominant
Species Across All Strata: 0   (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: NaN   (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- ___ 1 - Rapid Test for Hydrophytic Vegetation
- ___ 2 - Dominance Test is >50%
- ___ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?   Yes ___   No X

Remarks: (Include photo numbers here or on a separate sheet.)
No volunteer vegetation. Healthy corn has been planted.

SOIL   Sampling Point: UPL2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/1	100					Silt Loam	
8-12	10YR 3/1	98	10YR 4/6	2	C	M	Silt Loam	
12-20	10YR 3/1	97	10YR 4/6	3	C	M	Silt Loam	
20-24	10YR 3/1	93	10YR 4/6	7	C	M	Silt Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: **Indicators for Problematic Hydric Soils[3]:**

___ Histosol (A1)	___ Sandy Gleyed Matrix (S4)	___ Coast Prairie Redox (A16)
___ Histic Epipedon (A2)	___ Sandy Redox (S5)	___ Iron-Manganese Masses (F12)
___ Black Histic (A3)	___ Stripped Matrix (S6)	___ Red Parent Material (F21)
___ Hydrogen Sulfide (A4)	___ Dark Surface (S7)	___ Very Shallow Dark Surface (F22)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)	___ Other (Explain in Remarks)
___ 2 cm Muck (A10)	___ Loamy Gleyed Matrix (F2)	
___ Depleted Below Dark Surface (A11)	___ Depleted Matrix (F3)	
___ Thick Dark Surface (A12)	_X_ Redox Dark Surface (F6)	
___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ 5 cm Mucky Peat or Peat (S3)	___ Redox Depressions (F8)	

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____   **Hydric Soil Present?   Yes __X__ No _____**

Remarks:
Wetland determination based on the lack of hydrophytic vegetation and wetland hydrology indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)   Secondary Indicators (minimum of two required)

___ Surface Water (A1)	___ Water-Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ True Aquatic Plants (B14)	___ Dry-Season Water Table (C2)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Crayfish Burrows (C8)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	_X_ Saturation Visible on Aerial Imagery (C9)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Stunted or Stressed Plants (D1)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Geomorphic Position (D2)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ FAC-Neutral Test (D5)
___ Inundation Visible on Aerial Imagery (B7)	___ Gauge or Well Data (D9)	
___ Sparsely Vegetated Concave Surface (B8)	___ Other (Explain in Remarks)	

Field Observations:

Surface Water Present   Yes ___   No _X_   Depth (inches): _____

Water Table Present   Yes ___   No _X_   Depth (inches): _____

Saturation Present   Yes ___   No _X_   Depth (inches): _____
(includes capillary fringe)   **Wetland Hydrology Present?   Yes _____ No _X_**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Hydrology disturbed by drain tile system.

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WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Castlerock   City/County: Dakota   Sampling Date: 10/19/2022

Applicant/Owner: Stone Solar   State: Min   Sampling Point: UPL3

Investigator(s): S. Kinsler, M. Volbrecht, D. Hixon   Section, Township, Range: T113N, R019W, S09

Landform (hillside, terrace, etc.): Hillside   Local relief (concave, convex, none): Linear   Slope %: 3-4

Subregion (LRR or MLRA): LRR M, MLRA 104   Lat: 44.606032   Long: -93.115717   Datum: WGS84

Soil Map Unit Name: Ostrander loam, 1 to 6 percent slopes   NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year?   Yes ____   No X   (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed?   Are "Normal Circumstances" present?   Yes ____ No X

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X	**Is the Sampled Area**	
Hydric Soil Present? Yes ____ No X	**within a Wetland?** Yes ____ No X	
Wetland Hydrology Present? Yes ____ No X		

Remarks: (Explain alternative procedures here or in a separate report.)
Planted corn field within aerial wetness signature. Healthy, unharvested corn. Climatic conditions are drier than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: 0   (A)

Total Number of Dominant
Species Across All Strata: 0   (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: NaN   (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?   Yes ____   No X

Remarks: (Include photo numbers here or on a separate sheet.)
75% cover of healthy corn and 25% cover of bare ground. No weedy vegetation observed.

SOIL   Sampling Point: UPL3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/2	100					Silty Clay Loam	
4-10	10YR 2/2	98	10YR 3/6	2	C	M	Silty Clay Loam	
10-19	10YR 3/1	90	10YR 3/6	10	C	M	Silty Clay Loam	
19-24	10YR 3/1	50	10YR 3/6	3	C	M	Silty Clay Loam	
19-24	10YR 4/4	45	10YR 3/6	2	C	M	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: **Indicators for Problematic Hydric Soils[3]:**

____ Histosol (A1)   ____ Sandy Gleyed Matrix (S4)   ____ Coast Prairie Redox (A16)
____ Histic Epipedon (A2)   ____ Sandy Redox (S5)   ____ Iron-Manganese Masses (F12)
____ Black Histic (A3)   ____ Stripped Matrix (S6)   ____ Red Parent Material (F21)
____ Hydrogen Sulfide (A4)   ____ Dark Surface (S7)   ____ Very Shallow Dark Surface (F22)
____ Stratified Layers (A5)   ____ Loamy Mucky Mineral (F1)   ____ Other (Explain in Remarks)
____ 2 cm Muck (A10)   ____ Loamy Gleyed Matrix (F2)
____ Depleted Below Dark Surface (A11) ____ Depleted Matrix (F3)
____ Thick Dark Surface (A12)   ____ Redox Dark Surface (F6)
____ Sandy Mucky Mineral (S1)   ____ Depleted Dark Surface (F7)
____ 5 cm Mucky Peat or Peat (S3)   ____ Redox Depressions (F8)

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____   **Hydric Soil Present?**   Yes ____   No __X__

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)   Secondary Indicators (minimum of two required)

____ Surface Water (A1)   ____ Water-Stained Leaves (B9)   ____ Surface Soil Cracks (B6)
____ High Water Table (A2)   ____ Aquatic Fauna (B13)   ____ Drainage Patterns (B10)
____ Saturation (A3)   ____ True Aquatic Plants (B14)   ____ Dry-Season Water Table (C2)
____ Water Marks (B1)   ____ Hydrogen Sulfide Odor (C1)   ____ Crayfish Burrows (C8)
____ Sediment Deposits (B2)   ____ Oxidized Rhizospheres on Living Roots (C3) ____ Saturation Visible on Aerial Imagery (C9)
____ Drift Deposits (B3)   ____ Presence of Reduced Iron (C4)   ____ Stunted or Stressed Plants (D1)
____ Algal Mat or Crust (B4)   ____ Recent Iron Reduction in Tilled Soils (C6) ____ Geomorphic Position (D2)
____ Iron Deposits (B5)   ____ Thin Muck Surface (C7)   ____ FAC-Neutral Test (D5)
____ Inundation Visible on Aerial Imagery (B7) ____ Gauge or Well Data (D9)
____ Sparsely Vegetated Concave Surface (B8) ____ Other (Explain in Remarks)

Field Observations:

Surface Water Present   Yes ____   No __X__   Depth (inches): _____
Water Table Present   Yes ____   No __X__   Depth (inches): _____
Saturation Present   Yes ____   No __X__   Depth (inches): _____
(includes capillary fringe)   **Wetland Hydrology Present?**   Yes ____ No __X__

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Castlerock   City/County: Dakota   Sampling Date: 10/20/2022

Applicant/Owner: Stone Solar   State: Min   Sampling Point: UPL4

Investigator(s): S. Kinsler, M. Volbrecht, D. Hixon   Section, Township, Range: T113N, R019W, S03

Landform (hillside, terrace, etc.): Footslope   Local relief (concave, convex, none): Linear   Slope %: 2-3

Subregion (LRR or MLRA): LRR_K_MLRA_91   Lat: 44.616044   Long: -93.093609   Datum: WGS84

Soil Map Unit Name: Maxfield silty clay loam   NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year?   Yes ____   No X   (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed?   Are "Normal Circumstances" present?   Yes ____   No X

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____ No X	**within a Wetland?**	**Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____ No X		

Remarks: (Explain alternative procedures here or in a separate report.)
Harvested soybean field within hydric soil unit. Climatic conditions are drier than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Bromus arvensis	50	Yes	FACU
2. Asclepias syriaca	5	No	FACU
3. Leonurus cardiaca	5	No	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	60 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant
Species Across All Strata: 1 (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	55	x 4 =	220
UPL species	5	x 5 =	25
Column Totals:	60 (A)		245 (B)

Prevalence Index = B/A = 4.08

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?   Yes ____   No X

Remarks: (Include photo numbers here or on a separate sheet.)
40% bare ground and harvested soybean field.

SOIL   Sampling Point: UPL4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 2/2	100					Silt Loam	
9-20	10YR 3/2	80		0			Silty Clay Loam	
9-20	10YR 3/4	20		0			Silty Clay Loam	
20-24	10YR 4/3	60		0			Sandy Loam	
20-24	10YR 3/2	40		0			Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: **Indicators for Problematic Hydric Soils[3]:**

___ Histosol (A1)	___ Sandy Gleyed Matrix (S4)	___ Coast Prairie Redox (A16)
___ Histic Epipedon (A2)	___ Sandy Redox (S5)	___ Iron-Manganese Masses (F12)
___ Black Histic (A3)	___ Stripped Matrix (S6)	___ Red Parent Material (F21)
___ Hydrogen Sulfide (A4)	___ Dark Surface (S7)	___ Very Shallow Dark Surface (F22)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)	___ Other (Explain in Remarks)
___ 2 cm Muck (A10)	___ Loamy Gleyed Matrix (F2)	
___ Depleted Below Dark Surface (A11)	___ Depleted Matrix (F3)	
___ Thick Dark Surface (A12)	___ Redox Dark Surface (F6)	
___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ 5 cm Mucky Peat or Peat (S3)	___ Redox Depressions (F8)	

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____   **Hydric Soil Present?**   **Yes** ____   **No** __X__

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)   Secondary Indicators (minimum of two required)

___ Surface Water (A1)	___ Water-Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ True Aquatic Plants (B14)	___ Dry-Season Water Table (C2)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Crayfish Burrows (C8)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Saturation Visible on Aerial Imagery (C9)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Stunted or Stressed Plants (D1)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Geomorphic Position (D2)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ FAC-Neutral Test (D5)
___ Inundation Visible on Aerial Imagery (B7)	___ Gauge or Well Data (D9)	
___ Sparsely Vegetated Concave Surface (B8)	___ Other (Explain in Remarks)	

Field Observations:

Surface Water Present	Yes ___	No __X__	Depth (inches): _____	
Water Table Present	Yes ___	No __X__	Depth (inches): _____	
Saturation Present (includes capillary fringe)	Yes ___	No __X__	Depth (inches): _____	**Wetland Hydrology Present?** **Yes** ____ **No** __X__

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Castlerock   City/County: Dakota   Sampling Date: 10/20/2022

Applicant/Owner: Stone Solar   State: Min   Sampling Point: UPL5

Investigator(s): S. Kinsler, M. Volbrecht, D. Hixon   Section, Township, Range: T113N, R019W, S04

Landform (hillside, terrace, etc.): Hillside   Local relief (concave, convex, none): Linear   Slope %: 3-4

Subregion (LRR or MLRA): LRR_K_MLRA_91   Lat: 44.619144   Long: -93.105096   Datum: WGS84

Soil Map Unit Name: Klinger silt loam, 1 to 5 percent slopes   NWI classification: PEM1Af

Are climatic / hydrologic conditions on the site typical for this time of year?   Yes ____   No X   (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed?   Are "Normal Circumstances" present?   Yes ____   No X

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic?   (If needed, explain any answers in Remarks.)   X

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes ____ No X	**within a Wetland?** Yes ____ No X
Wetland Hydrology Present?	Yes X No ____	

Remarks: (Explain alternative procedures here or in a separate report.)
Narrow, grass drainage swale within a successfully harvested corn field with a center pivot irrigation system. Climatic conditions are drier than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Panicum dichotomiflorum	40	Yes	FACW
2. Ambrosia trifida	3	No	FAC
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	43 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: 1   (A)

Total Number of Dominant
Species Across All Strata: 1   (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: 100   (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	3	x 3 =	9
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	43 (A)		89 (B)
Prevalence Index = B/A =			2.07

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?   Yes X   No ____

Remarks: (Include photo numbers here or on a separate sheet.)
Successfully harvested corn next to grass drainage swale. Wetland determination based on the lack of hydric soil. Fall panicgrass is a common weedy species within agricultural lands and frequently tolerates drier, upland conditions.

US Army Corps of Engineers   Midwest Region – Version 2.0

SOIL   Sampling Point: UPL5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24	10YR 2/1	100					Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: **Indicators for Problematic Hydric Soils[3]:**

_____ Histosol (A1)	_____ Sandy Gleyed Matrix (S4)	_____ Coast Prairie Redox (A16)
_____ Histic Epipedon (A2)	_____ Sandy Redox (S5)	_____ Iron-Manganese Masses (F12)
_____ Black Histic (A3)	_____ Stripped Matrix (S6)	_____ Red Parent Material (F21)
_____ Hydrogen Sulfide (A4)	_____ Dark Surface (S7)	_____ Very Shallow Dark Surface (F22)
_____ Stratified Layers (A5)	_____ Loamy Mucky Mineral (F1)	_____ Other (Explain in Remarks)
_____ 2 cm Muck (A10)	_____ Loamy Gleyed Matrix (F2)	
_____ Depleted Below Dark Surface (A11)	_____ Depleted Matrix (F3)	
_____ Thick Dark Surface (A12)	_____ Redox Dark Surface (F6)	
_____ Sandy Mucky Mineral (S1)	_____ Depleted Dark Surface (F7)	
_____ 5 cm Mucky Peat or Peat (S3)	_____ Redox Depressions (F8)	

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____   **Hydric Soil Present?**   **Yes** _____   **No** _X_

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)   Secondary Indicators (minimum of two required)

_____ Surface Water (A1)	_____ Water-Stained Leaves (B9)	_____ Surface Soil Cracks (B6)
_____ High Water Table (A2)	_____ Aquatic Fauna (B13)	_____ Drainage Patterns (B10)
_____ Saturation (A3)	_____ True Aquatic Plants (B14)	_____ Dry-Season Water Table (C2)
_____ Water Marks (B1)	_____ Hydrogen Sulfide Odor (C1)	_____ Crayfish Burrows (C8)
_____ Sediment Deposits (B2)	_____ Oxidized Rhizospheres on Living Roots (C3)	_X_ Saturation Visible on Aerial Imagery (C9)
_____ Drift Deposits (B3)	_____ Presence of Reduced Iron (C4)	_____ Stunted or Stressed Plants (D1)
_____ Algal Mat or Crust (B4)	_____ Recent Iron Reduction in Tilled Soils (C6)	_____ Geomorphic Position (D2)
_____ Iron Deposits (B5)	_____ Thin Muck Surface (C7)	_X_ FAC-Neutral Test (D5)
_____ Inundation Visible on Aerial Imagery (B7)	_____ Gauge or Well Data (D9)	
_____ Sparsely Vegetated Concave Surface (B8)	_____ Other (Explain in Remarks)	

Field Observations:

Surface Water Present	Yes _____	No _X_	Depth (inches): _____
Water Table Present	Yes _____	No _X_	Depth (inches): _____
Saturation Present (includes capillary fringe)	Yes _____	No _X_	Depth (inches): _____

Wetland Hydrology Present?   **Yes** _X_ **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Wetland determination based on the lack of hydric soil.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Castlerock   City/County: Dakota   Sampling Date: 10/20/2022

Applicant/Owner: Stone Solar   State: Min   Sampling Point: UPL6

Investigator(s): S. Kinsler, M. Volbrecht, D. Hixon   Section, Township, Range: T113N, R019W, S04

Landform (hillside, terrace, etc.): Shoulder   Local relief (concave, convex, none): Linear   Slope %: 8-9

Subregion (LRR or MLRA): LRR_K_MLRA_91   Lat: 44.616974   Long: -93.11353   Datum: WGS84

Soil Map Unit Name: Hawick gravelly sandy loam, 6 to 12 percent slopes   NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year?   Yes ___   No X ___   (If no, explain in Remarks.)

Are Vegetation ___ , Soil ___ , or Hydrology ___ significantly disturbed?   Are "Normal Circumstances" present?   Yes X   No ___

Are Vegetation ___ , Soil ___ , or Hydrology ___ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ___ No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ___ No X	**within a Wetland?** Yes ___ No X
Wetland Hydrology Present?	Yes ___ No X	

Remarks: (Explain alternative procedures here or in a separate report.)
Climatic conditions are drier than normal. Unplowed grassland community on a hillside shoulder, surrounded by a farmed agricultural field. Grassland community located in a field with a center pivot irrigation system.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Bromus inermis	100	Yes	FACU
2. Poa pratensis	40	Yes	FAC
3. Asclepias verticillata	15	No	FACU
4. Melilotus albus	3	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	158 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: 1   (A)

Total Number of Dominant
Species Across All Strata: 2   (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: 50   (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	118	x 4 =	472
UPL species	0	x 5 =	0
Column Totals:	158 (A)		592 (B)
Prevalence Index = B/A =			3.75

Hydrophytic Vegetation Indicators:

- _ 1 - Rapid Test for Hydrophytic Vegetation
- _ 2 - Dominance Test is >50%
- _ 3 - Prevalence Index is ≤3.0[1]
- ___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?	Yes ___	No X

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL   Sampling Point: UPL6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-10	10YR 3/3	100					Sandy Loam	70% gravel. Refusal at 10in due to gravel

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: **Indicators for Problematic Hydric Soils³:**

____ Histosol (A1)	____ Sandy Gleyed Matrix (S4)	____ Coast Prairie Redox (A16)
____ Histic Epipedon (A2)	____ Sandy Redox (S5)	____ Iron-Manganese Masses (F12)
____ Black Histic (A3)	____ Stripped Matrix (S6)	____ Red Parent Material (F21)
____ Hydrogen Sulfide (A4)	____ Dark Surface (S7)	____ Very Shallow Dark Surface (F22)
____ Stratified Layers (A5)	____ Loamy Mucky Mineral (F1)	____ Other (Explain in Remarks)
____ 2 cm Muck (A10)	____ Loamy Gleyed Matrix (F2)	
____ Depleted Below Dark Surface (A11)	____ Depleted Matrix (F3)	
____ Thick Dark Surface (A12)	____ Redox Dark Surface (F6)	
____ Sandy Mucky Mineral (S1)	____ Depleted Dark Surface (F7)	
____ 5 cm Mucky Peat or Peat (S3)	____ Redox Depressions (F8)	

Restrictive Layer (if observed):

Type: Gravel

Depth (inches): 10   **Hydric Soil Present?   Yes ____   No   X__**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)   Secondary Indicators (minimum of two required)

____ Surface Water (A1)	____ Water-Stained Leaves (B9)	____ Surface Soil Cracks (B6)
____ High Water Table (A2)	____ Aquatic Fauna (B13)	____ Drainage Patterns (B10)
____ Saturation (A3)	____ True Aquatic Plants (B14)	____ Dry-Season Water Table (C2)
____ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	____ Crayfish Burrows (C8)
____ Sediment Deposits (B2)	____ Oxidized Rhizospheres on Living Roots (C3)	____ Saturation Visible on Aerial Imagery (C9)
____ Drift Deposits (B3)	____ Presence of Reduced Iron (C4)	____ Stunted or Stressed Plants (D1)
____ Algal Mat or Crust (B4)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Geomorphic Position (D2)
____ Iron Deposits (B5)	____ Thin Muck Surface (C7)	____ FAC-Neutral Test (D5)
____ Inundation Visible on Aerial Imagery (B7)	____ Gauge or Well Data (D9)	
____ Sparsely Vegetated Concave Surface (B8)	____ Other (Explain in Remarks)	

Field Observations:

Surface Water Present	Yes ____	No X	Depth (inches): _____	
Water Table Present	Yes ____	No X	Depth (inches): _____	
Saturation Present (includes capillary fringe)	Yes ____	No X	Depth (inches): _____	**Wetland Hydrology Present? Yes ____ No X__**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Castlerock   City/County: Dakota   Sampling Date: 10/20/2022

Applicant/Owner: Stone Solar   State: Min   Sampling Point: UPL7

Investigator(s): S. Kinsler, M. Volbrecht, D. Hixon   Section, Township, Range: T113N, R019W, S09

Landform (hillside, terrace, etc.): Hillside   Local relief (concave, convex, none): Linear   Slope %: 3-4

Subregion (LRR or MLRA): LRR M, MLRA 104   Lat: 44.60477   Long: -93.105263   Datum: WGS84

Soil Map Unit Name: Maxfield silty clay loam   NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year?   Yes ____   No X   (If no, explain in Remarks.)

Are Vegetation ____ , Soil ____ , or Hydrology ____ significantly disturbed?   Are "Normal Circumstances" present?   Yes X   No ____

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____ No X	**within a Wetland?**	**Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____ No X		

Remarks: (Explain alternative procedures here or in a separate report.)
Hay field. Climatic conditions are drier than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Triticum aestivum	100	Yes	UPL
2. Chenopodium album	3	No	FACU
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
	103 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1. _____	_____	_____	_____
2. _____	_____	_____	_____
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	3	x 4 =	12
UPL species	100	x 5 =	500
Column Totals:	103 (A)		512 (B)
Prevalence Index = B/A =			4.97

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?   Yes ____   No X

Remarks: (Include photo numbers here or on a separate sheet.)
Wheat appears to be volunteer following harvest so it is included in the herbaceous cover. Last seasons planted wheat crop was successfully harvested.

SOIL   Sampling Point: UPL7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/3	100					Silt Loam	
10-17	10YR 3/3	50		0			Silt Loam	
10-17	10YR 4/4	50		0			Silt Loam	
17-24	10YR 5/4	100					Fine Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: **Indicators for Problematic Hydric Soils[3]:**

____ Histosol (A1)   ____ Sandy Gleyed Matrix (S4)   ____ Coast Prairie Redox (A16)
____ Histic Epipedon (A2)   ____ Sandy Redox (S5)   ____ Iron-Manganese Masses (F12)
____ Black Histic (A3)   ____ Stripped Matrix (S6)   ____ Red Parent Material (F21)
____ Hydrogen Sulfide (A4)   ____ Dark Surface (S7)   ____ Very Shallow Dark Surface (F22)
____ Stratified Layers (A5)   ____ Loamy Mucky Mineral (F1)   ____ Other (Explain in Remarks)
____ 2 cm Muck (A10)   ____ Loamy Gleyed Matrix (F2)
____ Depleted Below Dark Surface (A11) ____ Depleted Matrix (F3)
____ Thick Dark Surface (A12)   ____ Redox Dark Surface (F6)
____ Sandy Mucky Mineral (S1)   ____ Depleted Dark Surface (F7)
____ 5 cm Mucky Peat or Peat (S3)   ____ Redox Depressions (F8)

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____   **Hydric Soil Present?   Yes ____   No __X__**

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)   Secondary Indicators (minimum of two required)

____ Surface Water (A1)   ____ Water-Stained Leaves (B9)   ____ Surface Soil Cracks (B6)
____ High Water Table (A2)   ____ Aquatic Fauna (B13)   ____ Drainage Patterns (B10)
____ Saturation (A3)   ____ True Aquatic Plants (B14)   ____ Dry-Season Water Table (C2)
____ Water Marks (B1)   ____ Hydrogen Sulfide Odor (C1)   ____ Crayfish Burrows (C8)
____ Sediment Deposits (B2)   ____ Oxidized Rhizospheres on Living Roots (C3) ____ Saturation Visible on Aerial Imagery (C9)
____ Drift Deposits (B3)   ____ Presence of Reduced Iron (C4)   ____ Stunted or Stressed Plants (D1)
____ Algal Mat or Crust (B4)   ____ Recent Iron Reduction in Tilled Soils (C6) ____ Geomorphic Position (D2)
____ Iron Deposits (B5)   ____ Thin Muck Surface (C7)   ____ FAC-Neutral Test (D5)
____ Inundation Visible on Aerial Imagery (B7) ____ Gauge or Well Data (D9)
____ Sparsely Vegetated Concave Surface (B8)   ____ Other (Explain in Remarks)

Field Observations:

Surface Water Present   Yes ____   No __X__   Depth (inches): _____
Water Table Present   Yes ____   No __X__   Depth (inches): _____
Saturation Present   Yes ____   No __X__   Depth (inches): _____
(includes capillary fringe)   **Wetland Hydrology Present?   Yes ____   No __X__**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Castlerock   City/County: Dakota   Sampling Date: 10/20/2022

Applicant/Owner: Stone Solar   State: Min   Sampling Point: UPL8

Investigator(s): S. Kinsler, M. Volbrecht, D. Hixon   Section, Township, Range: T113N, R019W, S04

Landform (hillside, terrace, etc.): Footslope   Local relief (concave, convex, none): Concave   Slope %: 1-2

Subregion (LRR or MLRA): LRR_K_MLRA_91   Lat: 44.617334   Long: -93.108587   Datum: WGS84

Soil Map Unit Name: Lindstrom silt loam, 1 to 4 percent slopes   NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year?   Yes ____   No X (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed?   Are "Normal Circumstances" present?   Yes ____   No X

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic?   (If needed, explain any answers in Remarks.)   X

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area**
Hydric Soil Present?	Yes ____ No X	**within a Wetland?** Yes ____ No X
Wetland Hydrology Present?	Yes X No ____	

Remarks: (Explain alternative procedures here or in a separate report.)
Successfully harvested corn field with a center pivot irrigation system. Climatic conditions are drier than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: 0   (A)

Total Number of Dominant
Species Across All Strata: 0   (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: NaN   (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation

- 2 - Dominance Test is >50%

- 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1]
    (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?	Yes ____	No X

Remarks: (Include photo numbers here or on a separate sheet.)
Successfully harvested corn field with no volunteer vegetation. Vegetation assumed to be non-hydrophytic due to the lack of hydric soil.

US Army Corps of Engineers   Midwest Region – Version 2.0

SOIL   Sampling Point: UPL8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 2/1	100					Silty Clay Loam	3% gravel
16-24	10YR 2/1	97	10YR 3/6	3	C	M	Silty Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: **Indicators for Problematic Hydric Soils[3]:**

___ Histosol (A1)	___ Sandy Gleyed Matrix (S4)	___ Coast Prairie Redox (A16)
___ Histic Epipedon (A2)	___ Sandy Redox (S5)	___ Iron-Manganese Masses (F12)
___ Black Histic (A3)	___ Stripped Matrix (S6)	___ Red Parent Material (F21)
___ Hydrogen Sulfide (A4)	___ Dark Surface (S7)	___ Very Shallow Dark Surface (F22)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)	___ Other (Explain in Remarks)
___ 2 cm Muck (A10)	___ Loamy Gleyed Matrix (F2)	
___ Depleted Below Dark Surface (A11)	___ Depleted Matrix (F3)	
___ Thick Dark Surface (A12)	___ Redox Dark Surface (F6)	
___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ 5 cm Mucky Peat or Peat (S3)	___ Redox Depressions (F8)	

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____   **Hydric Soil Present?   Yes ____   No X **

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)   Secondary Indicators (minimum of two required)

___ Surface Water (A1)	___ Water-Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ True Aquatic Plants (B14)	___ Dry-Season Water Table (C2)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Crayfish Burrows (C8)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	_X_ Saturation Visible on Aerial Imagery (C9)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Stunted or Stressed Plants (D1)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	_X_ Geomorphic Position (D2)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ FAC-Neutral Test (D5)
___ Inundation Visible on Aerial Imagery (B7)	___ Gauge or Well Data (D9)	
___ Sparsely Vegetated Concave Surface (B8)	___ Other (Explain in Remarks)	

Field Observations:

Surface Water Present	Yes ___	No X	Depth (inches): _____
Water Table Present	Yes ___	No X	Depth (inches): _____
Saturation Present (includes capillary fringe)	Yes ___	No X	Depth (inches): _____

Wetland Hydrology Present?   Yes X   No ____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
Wetland determination based on the lack of hydrophytic vegetation and hydric soils.

US Army Corps of Engineers   Midwest Region – Version 2.0

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Castlerock   City/County: Dakota   Sampling Date: 10/12/2023

Applicant/Owner: Stone Solar   State: Min   Sampling Point: UPL9

Investigator(s): MB MS   Section, Township, Range: T113N, R19W, S2

Landform (hillside, terrace, etc.): Backslope   Local relief (concave, convex, none): Linear   Slope %: 5-7

Subregion (LRR or MLRA): LRR M   Lat: 44.624786   Long: -93.070583   Datum: WGS84

Soil Map Unit Name: Cylinder loam, 0 to 2 percent slopes   NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year? Yes __X__ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed?   Are "Normal Circumstances" present? Yes __X__ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No __X__	**Is the Sampled Area**
Hydric Soil Present?	Yes ____ No __X__	**within a Wetland?** Yes ____ No __X__
Wetland Hydrology Present?	Yes ____ No __X__	

Remarks: (Explain alternative procedures here or in a separate report.)
Vegetated swale with grasses and forbs

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Setaria pumila	30	Yes	FAC
2. Setaria faberi	30	Yes	FACU
3. Eriochloa villosa	25	Yes	UPL
4. Chenopodium album	10	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	95 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: 1   (A)

Total Number of Dominant
Species Across All Strata: 3   (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: 33   (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	_____	x 2 =	_____
FAC species	_____	x 3 =	_____
FACU species	_____	x 4 =	_____
UPL species	_____	x 5 =	_____
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No __X__

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL   Sampling Point: UPL9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-21	10YR 3/2	100					Clay Loam	
21-25	10YR 4/2	98	2.5YR 4/4	2	C	M	Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: **Indicators for Problematic Hydric Soils³:**

____ Histosol (A1)	____ Sandy Gleyed Matrix (S4)	____ Coast Prairie Redox (A16)
____ Histic Epipedon (A2)	____ Sandy Redox (S5)	____ Iron-Manganese Masses (F12)
____ Black Histic (A3)	____ Stripped Matrix (S6)	____ Red Parent Material (F21)
____ Hydrogen Sulfide (A4)	____ Dark Surface (S7)	____ Very Shallow Dark Surface (F22)
____ Stratified Layers (A5)	____ Loamy Mucky Mineral (F1)	____ Other (Explain in Remarks)
____ 2 cm Muck (A10)	____ Loamy Gleyed Matrix (F2)	
____ Depleted Below Dark Surface (A11)	____ Depleted Matrix (F3)	
____ Thick Dark Surface (A12)	____ Redox Dark Surface (F6)	
____ Sandy Mucky Mineral (S1)	____ Depleted Dark Surface (F7)	
____ 5 cm Mucky Peat or Peat (S3)	____ Redox Depressions (F8)	

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____   **Hydric Soil Present?   Yes ____   No   X **

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)   Secondary Indicators (minimum of two required)

____ Surface Water (A1)	____ Water-Stained Leaves (B9)	____ Surface Soil Cracks (B6)
____ High Water Table (A2)	____ Aquatic Fauna (B13)	____ Drainage Patterns (B10)
____ Saturation (A3)	____ True Aquatic Plants (B14)	____ Dry-Season Water Table (C2)
____ Water Marks (B1)	____ Hydrogen Sulfide Odor (C1)	____ Crayfish Burrows (C8)
____ Sediment Deposits (B2)	____ Oxidized Rhizospheres on Living Roots (C3)	____ Saturation Visible on Aerial Imagery (C9)
____ Drift Deposits (B3)	____ Presence of Reduced Iron (C4)	____ Stunted or Stressed Plants (D1)
____ Algal Mat or Crust (B4)	____ Recent Iron Reduction in Tilled Soils (C6)	____ Geomorphic Position (D2)
____ Iron Deposits (B5)	____ Thin Muck Surface (C7)	____ FAC-Neutral Test (D5)
____ Inundation Visible on Aerial Imagery (B7)	____ Gauge or Well Data (D9)	
____ Sparsely Vegetated Concave Surface (B8)	____ Other (Explain in Remarks)	

Field Observations:

Surface Water Present	Yes ____	No X	Depth (inches): _____	
Water Table Present	Yes ____	No X	Depth (inches): _____	
Saturation Present (includes capillary fringe)	Yes ____	No X	Depth (inches): _____	**Wetland Hydrology Present? Yes ____ No X **

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: __Castlerock__   City/County: __Dakota__   Sampling Date: __10/12/2023__

Applicant/Owner: __Stone Solar__   State: __Min__   Sampling Point: __UPL10__

Investigator(s): __MB MS__   Section, Township, Range: __T113N, R19W, S2__

Landform (hillside, terrace, etc.): __Depression__   Local relief (concave, convex, none): __Concave__   Slope %: __0-2__

Subregion (LRR or MLRA): __LRR M__   Lat: __44.625423__   Long: __-93.074056__   Datum: __WGS84__

Soil Map Unit Name: __Cylinder loam, 0 to 2 percent slopes__   NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes __X__   No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed?   Are "Normal Circumstances" present? Yes __X__ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No __X__	**Is the Sampled Area**
Hydric Soil Present?	Yes ____ No __X__	**within a Wetland?** Yes ____ No __X__
Wetland Hydrology Present?	Yes ____ No __X__	

Remarks: (Explain alternative procedures here or in a separate report.)
Vegetated swale

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: __30 ft__)	Absolute % Cover	Dominant Species	Indicator Status
1. _____	____	____	____
2. _____	____	____	____
3. _____	____	____	____
4. _____	____	____	____
5. _____	____	____	____
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: __15 ft__)			
1. _____	____	____	____
2. _____	____	____	____
3. _____	____	____	____
4. _____	____	____	____
5. _____	____	____	____
	0 = Total Cover		
Herb Stratum (Plot size: __5 ft__)			
1. Setaria faberi	45	Yes	FACU
2. Setaria pumila	45	Yes	FAC
3. Urtica dioica	10	No	FACW
4. _____	____	____	____
5. _____	____	____	____
6. _____	____	____	____
7. _____	____	____	____
8. _____	____	____	____
9. _____	____	____	____
10. _____	____	____	____
	100 = Total Cover		
Woody Vine Stratum (Plot size: __30 ft__)			
1. _____	____	____	____
2. _____	____	____	____
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: __1__ (A)

Total Number of Dominant Species Across All Strata: __2__ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: __50__ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	_____	x 1 =	_____
FACW species	_____	x 2 =	_____
FAC species	_____	x 3 =	_____
FACU species	_____	x 4 =	_____
UPL species	_____	x 5 =	_____
Column Totals:	_____ (A)		_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

__-__ 1 - Rapid Test for Hydrophytic Vegetation

__-__ 2 - Dominance Test is >50%

__-__ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No __X__

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL   Sampling Point: UPL10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/2	100					Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: **Indicators for Problematic Hydric Soils[3]:**

____ Histosol (A1)   ____ Sandy Gleyed Matrix (S4)   ____ Coast Prairie Redox (A16)

____ Histic Epipedon (A2)   ____ Sandy Redox (S5)   ____ Iron-Manganese Masses (F12)

____ Black Histic (A3)   ____ Stripped Matrix (S6)   ____ Red Parent Material (F21)

____ Hydrogen Sulfide (A4)   ____ Dark Surface (S7)   ____ Very Shallow Dark Surface (F22)

____ Stratified Layers (A5)   ____ Loamy Mucky Mineral (F1)   ____ Other (Explain in Remarks)

____ 2 cm Muck (A10)   ____ Loamy Gleyed Matrix (F2)

____ Depleted Below Dark Surface (A11) ____ Depleted Matrix (F3)

____ Thick Dark Surface (A12)   ____ Redox Dark Surface (F6)

____ Sandy Mucky Mineral (S1)   ____ Depleted Dark Surface (F7)

____ 5 cm Mucky Peat or Peat (S3)   ____ Redox Depressions (F8)

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____   **Hydric Soil Present?**   **Yes** ____ **No** __X__

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)   Secondary Indicators (minimum of two required)

____ Surface Water (A1)   ____ Water-Stained Leaves (B9)   ____ Surface Soil Cracks (B6)

____ High Water Table (A2)   ____ Aquatic Fauna (B13)   ____ Drainage Patterns (B10)

____ Saturation (A3)   ____ True Aquatic Plants (B14)   ____ Dry-Season Water Table (C2)

____ Water Marks (B1)   ____ Hydrogen Sulfide Odor (C1)   ____ Crayfish Burrows (C8)

____ Sediment Deposits (B2)   ____ Oxidized Rhizospheres on Living Roots (C3)   ____ Saturation Visible on Aerial Imagery (C9)

____ Drift Deposits (B3)   ____ Presence of Reduced Iron (C4)   ____ Stunted or Stressed Plants (D1)

____ Algal Mat or Crust (B4)   ____ Recent Iron Reduction in Tilled Soils (C6)   __X__ Geomorphic Position (D2)

____ Iron Deposits (B5)   ____ Thin Muck Surface (C7)   ____ FAC-Neutral Test (D5)

____ Inundation Visible on Aerial Imagery (B7)   ____ Gauge or Well Data (D9)

____ Sparsely Vegetated Concave Surface (B8)   ____ Other (Explain in Remarks)

Field Observations:

Surface Water Present   Yes ____   No __X__   Depth (inches): _____

Water Table Present   Yes ____   No __X__   Depth (inches): _____

Saturation Present   Yes ____   No __X__   Depth (inches): _____   **Wetland Hydrology Present?**   **Yes** ____ **No** __X__
(includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Castlerock   City/County: Dakota   Sampling Date: 10/12/2023

Applicant/Owner: Stone Solar   State: Min   Sampling Point: UPL11

Investigator(s): MB MS   Section, Township, Range: T113N, R19W, S2

Landform (hillside, terrace, etc.): Depression   Local relief (concave, convex, none): Concave   Slope %: 5-7

Subregion (LRR or MLRA): LRR M   Lat: 44.625423   Long: -93.074056   Datum: WGS84

Soil Map Unit Name: Cylinder loam, 0 to 2 percent slopes   NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year?   Yes X   No ____ (If no, explain in Remarks.)

Are Vegetation ____ , Soil ____ , or Hydrology ____ significantly disturbed?   Are "Normal Circumstances" present?   Yes X   No ____

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area**
Hydric Soil Present?	Yes X No ____	**within a Wetland?** Yes ____ No X
Wetland Hydrology Present?	Yes ____ No X	

Remarks: (Explain alternative procedures here or in a separate report.)
Upland cornfield

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: 0   (A)

Total Number of Dominant
Species Across All Strata: 0   (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: ____ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	____	x 1 =	____
FACW species	____	x 2 =	____
FAC species	____	x 3 =	____
FACU species	____	x 4 =	____
UPL species	____	x 5 =	____
Column Totals:	____ (A)		____ (B)

Prevalence Index = B/A =   ____

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- ____ 2 - Dominance Test is >50%
- ____ 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?   Yes ____   No X

Remarks: (Include photo numbers here or on a separate sheet.)
Healthy corn stubble

SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-24	10YR 2/1	100					Clay Loam	Rocky - Assumed A12

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

		Indicators for Problematic Hydric Soils[3]:
___ Histosol (A1)	___ Sandy Gleyed Matrix (S4)	___ Coast Prairie Redox (A16)
___ Histic Epipedon (A2)	___ Sandy Redox (S5)	___ Iron-Manganese Masses (F12)
___ Black Histic (A3)	___ Stripped Matrix (S6)	___ Red Parent Material (F21)
___ Hydrogen Sulfide (A4)	___ Dark Surface (S7)	___ Very Shallow Dark Surface (F22)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)	_X_ Other (Explain in Remarks)
___ 2 cm Muck (A10)	___ Loamy Gleyed Matrix (F2)	
___ Depleted Below Dark Surface (A11)	___ Depleted Matrix (F3)	
___ Thick Dark Surface (A12)	___ Redox Dark Surface (F6)	
___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ 5 cm Mucky Peat or Peat (S3)	___ Redox Depressions (F8)	

Restrictive Layer (if observed):

Type: Rock

Depth (inches): 12

Hydric Soil Present?   Yes _X_   No _____

Remarks:
Assumed A 12 - Rocky refusal

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

		Secondary Indicators (minimum of two required)
___ Surface Water (A1)	___ Water-Stained Leaves (B9)	___ Surface Soil Cracks (B6)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Drainage Patterns (B10)
___ Saturation (A3)	___ True Aquatic Plants (B14)	___ Dry-Season Water Table (C2)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Crayfish Burrows (C8)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Saturation Visible on Aerial Imagery (C9)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	___ Stunted or Stressed Plants (D1)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Geomorphic Position (D2)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ FAC-Neutral Test (D5)
___ Inundation Visible on Aerial Imagery (B7)	___ Gauge or Well Data (D9)	
___ Sparsely Vegetated Concave Surface (B8)	___ Other (Explain in Remarks)	

Field Observations:

Surface Water Present	Yes ___	No _X_	Depth (inches): _____	
Water Table Present	Yes ___	No _X_	Depth (inches): _____	
Saturation Present (includes capillary fringe)	Yes ___	No _X_	Depth (inches): _____	**Wetland Hydrology Present?** Yes _____ No _X_

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: __Castlerock__   City/County: __Dakota__   Sampling Date: __10/17/2022__

Applicant/Owner: __Stone Solar__   State: __Min__   Sampling Point: __W1-1u__

Investigator(s): __S. Kinsler, M. Volbrecht, D. Hixon__   Section, Township, Range: __T113N, R019W, S04__

Landform (hillside, terrace, etc.): __Footslope__   Local relief (concave, convex, none): __Linear__   Slope %: __0-1__

Subregion (LRR or MLRA): __LRR_K_MLRA_91__ Lat: __44.616296__   Long: __-93.104382__   Datum: __WGS84__

Soil Map Unit Name: __Klinger silt loam, 1 to 5 percent slopes__   NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year?   Yes ____   No _X_   (If no, explain in Remarks.)

Are Vegetation _X_, Soil ____, or Hydrology ____ significantly disturbed?   Are "Normal Circumstances" present?   Yes ____ No _X_

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No _X_	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____ No _X_	**within a Wetland?** Yes ____ No _X_	
Wetland Hydrology Present?	Yes ____ No _X_		

Remarks: (Explain alternative procedures here or in a separate report.)
Successfully harvested corn field with a center pivot irrigation system and located east of W1. Climatic conditions are drier than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: __30 ft__)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: __15 ft__)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: __5 ft__)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: __30 ft__)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: __0__ (A)

Total Number of Dominant
Species Across All Strata: __0__ (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: __NaN__ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

_-_ 1 - Rapid Test for Hydrophytic Vegetation

_-_ 2 - Dominance Test is >50%

_-_ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1]
(Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?   Yes ____   No _X_

Remarks: (Include photo numbers here or on a separate sheet.)
Successfully harvested corn. No stunting observed. Vegetation assumed to be non-hydrophytic due to the lack of hydric soil indicators and wetland hydrology.

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SOIL

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10YR 2/2	100					Loam	
7-13	10YR 2/1	100					Loam	15% gravel compacted soil
13-20	10YR 2/1	80		0			Loam	
13-20	10YR 3/2	20		0			Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

___ Histosol (A1)	___ Sandy Gleyed Matrix (S4)	**Indicators for Problematic Hydric Soils[3]:**
___ Histic Epipedon (A2)	___ Sandy Redox (S5)	___ Coast Prairie Redox (A16)
___ Black Histic (A3)	___ Stripped Matrix (S6)	___ Iron-Manganese Masses (F12)
___ Hydrogen Sulfide (A4)	___ Dark Surface (S7)	___ Red Parent Material (F21)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)	___ Very Shallow Dark Surface (F22)
___ 2 cm Muck (A10)	___ Loamy Gleyed Matrix (F2)	___ Other (Explain in Remarks)
___ Depleted Below Dark Surface (A11)	___ Depleted Matrix (F3)	
___ Thick Dark Surface (A12)	___ Redox Dark Surface (F6)	
___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ 5 cm Mucky Peat or Peat (S3)	___ Redox Depressions (F8)	

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____

Hydric Soil Present?   Yes _____   No __X__

Remarks:
Refusal at 20 inches due to compaction.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	___ Water-Stained Leaves (B9)
___ High Water Table (A2)	___ Aquatic Fauna (B13)
___ Saturation (A3)	___ True Aquatic Plants (B14)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)
___ Inundation Visible on Aerial Imagery (B7)	___ Gauge or Well Data (D9)
___ Sparsely Vegetated Concave Surface (B8)	___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ Drainage Patterns (B10)
___ Dry-Season Water Table (C2)
___ Crayfish Burrows (C8)
_X_ Saturation Visible on Aerial Imagery (C9)
___ Stunted or Stressed Plants (D1)
___ Geomorphic Position (D2)
___ FAC-Neutral Test (D5)

Field Observations:

	Yes	No	Depth (inches):
Surface Water Present	___	X	_____
Water Table Present	___	X	_____
Saturation Present (includes capillary fringe)	___	X	_____

Wetland Hydrology Present?   Yes _____ No __X__

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: __Castlerock__   City/County: __Dakota__   Sampling Date: __10/17/2022__

Applicant/Owner: __Stone Solar__   State: __Min__   Sampling Point: __W1-1w__

Investigator(s): __S. Kinsler, M. Volbrecht, D. Hixon__   Section, Township, Range: __T113N, R019W, S04__

Landform (hillside, terrace, etc.): __Depression__   Local relief (concave, convex, none): __Concave__   Slope %: __1-2__

Subregion (LRR or MLRA): __LRR_K_MLRA_91__ Lat: __44.616282__   Long: __-93.104462__   Datum: __WGS84__

Soil Map Unit Name: __Klinger silt loam, 1 to 5 percent slopes__   NWI classification: __PSS1/EM1Ad__

Are climatic / hydrologic conditions on the site typical for this time of year?   Yes ____   No _X_   (If no, explain in Remarks.)

Are Vegetation ____ , Soil __X__ , or Hydrology ____ significantly disturbed?   Are "Normal Circumstances" present?   Yes ____   No _X_

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes _X_ No ____	**Is the Sampled Area**	
Hydric Soil Present? Yes _X_ No ____	**within a Wetland?** Yes _X_ No ____	
Wetland Hydrology Present? Yes _X_ No ____		

Remarks: (Explain alternative procedures here or in a separate report.)
Degraded wet meadow in excavated ditch between two cornfields, both with a center pivot irrigation system. Climatic conditions are drier than typical.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: __30 ft__)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: __15 ft__)			
1. Cornus alba	8	Yes	FACW
2.			
3.			
4.			
5.			
	8 = Total Cover		
Herb Stratum (Plot size: __5 ft__)			
1. Phalaris arundinacea	90	Yes	FACW
2. Typha latifolia	10	No	OBL
3. Bidens frondosa	10	No	FACW
4. Urtica dioica	5	No	FACW
5. Solanum dulcamara	3	No	FAC
6.			
7.			
8.			
9.			
10.			
	118 = Total Cover		
Woody Vine Stratum (Plot size: __30 ft__)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: __2__ (A)

Total Number of Dominant
Species Across All Strata: __2__ (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: __100__ (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	113	x 2 =	226
FAC species	3	x 3 =	9
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	126 (A)		245 (B)

Prevalence Index = B/A = __1.94__

Hydrophytic Vegetation Indicators:

_X_ 1 - Rapid Test for Hydrophytic Vegetation

_X_ 2 - Dominance Test is >50%

_X_ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1]
(Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?	Yes _X_	No ____

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: W1-1w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 2/2	90	10YR 4/6	10	C	M	Clay Loam	
3-18	10YR 2/1	50		0			Clay Loam	
3-18	10YR 4/1	20	10YR 4/6	30	C	M	Clay Loam	
18-24	10YR 2/1	40		0			Silty Clay	
18-24	10YR 6/2	20	10YR 6/6	40	C	M	Silty Clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)

- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- _X_ Other (Explain in Remarks)

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present?   Yes _X_   No _____

Remarks:
Significantly disturbed soils due to the excavation of the drainage ditch containing W1. The soil profile almost meets the conditions of Redox Dark Surface (F6) despite the disturbance. Redox concentrations within a depleted matrix are a significant component of the second soil profile but does not meet the conditions of Depleted Matrix (F3) due to soil mixing. The soil profile is assumed to meet the conditions of hydric soil in the absence of disturbance.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)

- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- _X_ Geomorphic Position (D2)
- _X_ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present	Yes ___	No _X_	Depth (inches): _____
Water Table Present	Yes ___	No _X_	Depth (inches): _____
Saturation Present (includes capillary fringe)	Yes ___	No _X_	Depth (inches): _____

Wetland Hydrology Present?   Yes _X_   No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Castlerock   City/County: Dakota   Sampling Date: 10/18/2022

Applicant/Owner: Stone Solar   State: Min   Sampling Point: W1-2u

Investigator(s): S. Kinsler, M. Volbrecht, D. Hixon   Section, Township, Range: T113N, R019W, S04

Landform (hillside, terrace, etc.): Footslope   Local relief (concave, convex, none): Concave   Slope %: 3-5

Subregion (LRR or MLRA): LRR_K_MLRA_91   Lat: 44.616875   Long: -93.097878   Datum: WGS84

Soil Map Unit Name: Hawick gravelly sandy loam, 6 to 12 percent slopes   NWI classification:

Are climatic / hydrologic conditions on the site typical for this time of year?   Yes ____   No X   (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed?   Are "Normal Circumstances" present?   Yes ____   No X

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____ No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes ____ No X	**within a Wetland?**	**Yes** ____ **No** X
Wetland Hydrology Present?	Yes ____ No X		

Remarks: (Explain alternative procedures here or in a separate report.)
Harvested corn field with a center pivot irrigation system, located on the slope east of wetland W1. Climatic conditions are drier than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: 0   (A)

Total Number of Dominant
Species Across All Strata: 0   (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: NaN   (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- - 1 - Rapid Test for Hydrophytic Vegetation
- - 2 - Dominance Test is >50%
- - 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?	**Yes** ____ **No** X

Remarks: (Include photo numbers here or on a separate sheet.)
No volunteer vegetation. Fragments of healthy corn from recent harvest.

SOIL   Sampling Point: W1-2u

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type¹	Loc²	Texture	Remarks
0-16	10YR 3/3	100					Sandy Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: **Indicators for Problematic Hydric Soils³:**

___ Histosol (A1)	___ Sandy Gleyed Matrix (S4)	___ Coast Prairie Redox (A16)
___ Histic Epipedon (A2)	___ Sandy Redox (S5)	___ Iron-Manganese Masses (F12)
___ Black Histic (A3)	___ Stripped Matrix (S6)	___ Red Parent Material (F21)
___ Hydrogen Sulfide (A4)	___ Dark Surface (S7)	___ Very Shallow Dark Surface (F22)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)	___ Other (Explain in Remarks)
___ 2 cm Muck (A10)	___ Loamy Gleyed Matrix (F2)	
___ Depleted Below Dark Surface (A11)	___ Depleted Matrix (F3)	
___ Thick Dark Surface (A12)	___ Redox Dark Surface (F6)	
___ Sandy Mucky Mineral (S1)	___ Depleted Dark Surface (F7)	
___ 5 cm Mucky Peat or Peat (S3)	___ Redox Depressions (F8)	

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____   **Hydric Soil Present?   Yes ____   No   X **

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

___ Surface Water (A1)	___ Water-Stained Leaves (B9)	Secondary Indicators (minimum of two required)
___ High Water Table (A2)	___ Aquatic Fauna (B13)	___ Surface Soil Cracks (B6)
___ Saturation (A3)	___ True Aquatic Plants (B14)	___ Drainage Patterns (B10)
___ Water Marks (B1)	___ Hydrogen Sulfide Odor (C1)	___ Dry-Season Water Table (C2)
___ Sediment Deposits (B2)	___ Oxidized Rhizospheres on Living Roots (C3)	___ Crayfish Burrows (C8)
___ Drift Deposits (B3)	___ Presence of Reduced Iron (C4)	X Saturation Visible on Aerial Imagery (C9)
___ Algal Mat or Crust (B4)	___ Recent Iron Reduction in Tilled Soils (C6)	___ Stunted or Stressed Plants (D1)
___ Iron Deposits (B5)	___ Thin Muck Surface (C7)	___ Geomorphic Position (D2)
___ Inundation Visible on Aerial Imagery (B7)	___ Gauge or Well Data (D9)	___ FAC-Neutral Test (D5)
___ Sparsely Vegetated Concave Surface (B8)	___ Other (Explain in Remarks)	

Field Observations:

Surface Water Present	Yes ___	No X	Depth (inches): _____	
Water Table Present	Yes ___	No X	Depth (inches): _____	
Saturation Present (includes capillary fringe)	Yes ___	No X	Depth (inches): _____	**Wetland Hydrology Present? Yes ____ No X **

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Castlerock   City/County: Dakota   Sampling Date: 10/18/2022

Applicant/Owner: Stone Solar   State: Min   Sampling Point: W1-2w

Investigator(s): S. Kinsler, M. Volbrecht, D. Hixon   Section, Township, Range: T113N, R019W, S04

Landform (hillside, terrace, etc.): Toeslope   Local relief (concave, convex, none): Concave   Slope %: 1-2

Subregion (LRR or MLRA): LRR_K_MLRA_91   Lat: 44.616926   Long: -93.097943   Datum: WGS84

Soil Map Unit Name: Ostrander loam, 1 to 6 percent slopes   NWI classification: PEM1Ad

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No X (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed?   Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No ____	**Is the Sampled Area**
Hydric Soil Present?	Yes X No ____	**within a Wetland?** Yes X No ____
Wetland Hydrology Present?	Yes X No ____	

Remarks: (Explain alternative procedures here or in a separate report.)
Shrub-carr community north of 230th Street and within an agricultural field with a center pivot irrigation system. Connected to the wetland community on the west side of the agricultural field by a mowed and maintained wet meadow community in the ditch north of 230th Street. Climatic conditions are drier than normal.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1. Salix interior	25	Yes	FACW
2. Salix discolor	5	No	FACW
3. Cornus alba	3	No	FACW
4.			
5.			
	33 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1. Phalaris arundinacea	100	Yes	FACW
2. Solidago gigantea	3	No	FACW
3. Rumex crispus	2	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	105 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	136	x 2 =	272
FAC species	2	x 3 =	6
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	138 (A)		278 (B)
Prevalence Index = B/A =			2.01

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)

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SOIL   Sampling Point: W1-2w

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 3/1	97	10YR 4/6	3	C	M	Sandy Loam	
4-10	10YR 3/1	92	10YR 4/6	8	C	M	Sandy Loam	
10-24	10YR 3/1	53	10YR 3/4	7	C	M	Sandy Loam	
10-24	10YR 4/2	40		0			Sandy Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.   [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: **Indicators for Problematic Hydric Soils[3]:**

____ Histosol (A1)   ____ Sandy Gleyed Matrix (S4)   ____ Coast Prairie Redox (A16)
____ Histic Epipedon (A2)   ____ Sandy Redox (S5)   ____ Iron-Manganese Masses (F12)
____ Black Histic (A3)   ____ Stripped Matrix (S6)   ____ Red Parent Material (F21)
____ Hydrogen Sulfide (A4)   ____ Dark Surface (S7)   ____ Very Shallow Dark Surface (F22)
____ Stratified Layers (A5)   ____ Loamy Mucky Mineral (F1)   ____ Other (Explain in Remarks)
____ 2 cm Muck (A10)   ____ Loamy Gleyed Matrix (F2)
____ Depleted Below Dark Surface (A11)   ____ Depleted Matrix (F3)
____ Thick Dark Surface (A12)   __X__ Redox Dark Surface (F6)
____ Sandy Mucky Mineral (S1)   ____ Depleted Dark Surface (F7)
____ 5 cm Mucky Peat or Peat (S3)   ____ Redox Depressions (F8)

Restrictive Layer (if observed):

Type:_____

Depth (inches):_____   **Hydric Soil Present?**   Yes __X__ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)   Secondary Indicators (minimum of two required)

____ Surface Water (A1)   ____ Water-Stained Leaves (B9)   ____ Surface Soil Cracks (B6)
____ High Water Table (A2)   ____ Aquatic Fauna (B13)   ____ Drainage Patterns (B10)
____ Saturation (A3)   ____ True Aquatic Plants (B14)   ____ Dry-Season Water Table (C2)
____ Water Marks (B1)   ____ Hydrogen Sulfide Odor (C1)   ____ Crayfish Burrows (C8)
____ Sediment Deposits (B2)   ____ Oxidized Rhizospheres on Living Roots (C3) ____ Saturation Visible on Aerial Imagery (C9)
____ Drift Deposits (B3)   ____ Presence of Reduced Iron (C4)   ____ Stunted or Stressed Plants (D1)
____ Algal Mat or Crust (B4)   ____ Recent Iron Reduction in Tilled Soils (C6) __X__ Geomorphic Position (D2)
____ Iron Deposits (B5)   ____ Thin Muck Surface (C7)   __X__ FAC-Neutral Test (D5)
____ Inundation Visible on Aerial Imagery (B7) ____ Gauge or Well Data (D9)
____ Sparsely Vegetated Concave Surface (B8)   ____ Other (Explain in Remarks)

Field Observations:

Surface Water Present   Yes ____ No _X_ Depth (inches): _____
Water Table Present   Yes ____ No _X_ Depth (inches): _____
Saturation Present   Yes ____ No _X_ Depth (inches): _____   **Wetland Hydrology Present?**   Yes _X_ No _____
(includes capillary fringe)

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Castlerock   City/County: Dakota   Sampling Date: 10/20/2022

Applicant/Owner: Stone Solar   State: Min   Sampling Point: W1-3u

Investigator(s): S. Kinsler, M. Volbrecht, D. Hixon   Section, Township, Range: T113N, R019W, S04

Landform (hillside, terrace, etc.): Footslope   Local relief (concave, convex, none): Linear   Slope %: 2-3

Subregion (LRR or MLRA): LRR_K_MLRA_91 Lat: 44.61707   Long: -93.105799   Datum: WGS84

Soil Map Unit Name: Klinger silt loam, 1 to 5 percent slopes   NWI classification: PEM1Af

Are climatic / hydrologic conditions on the site typical for this time of year?   Yes ____   No X   (If no, explain in Remarks.)

Are Vegetation X , Soil ____ , or Hydrology ____ significantly disturbed?   Are "Normal Circumstances" present?   Yes ____   No X

Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic?   (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes ____ No X	**Is the Sampled Area**	
Hydric Soil Present? Yes X No ____	**within a Wetland?** Yes ____ No X	
Wetland Hydrology Present? Yes ____ No X		

Remarks: (Explain alternative procedures here or in a separate report.)
Successfully harvested corn field with a center pivot irrigation system. Climatic condtions are drier than normal.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species	Indicator Status
Tree Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
	0 = Total Cover		
Herb Stratum (Plot size: 5 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	0 = Total Cover		
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
	0 = Total Cover		

Dominance Test worksheet:

Number of Dominant Species
That Are OBL, FACW, or FAC: 0   (A)

Total Number of Dominant
Species Across All Strata: 0   (B)

Percent of Dominant Species
That Are OBL, FACW, or FAC: NaN   (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1]
  (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present?   Yes ____   No X

Remarks: (Include photo numbers here or on a separate sheet.)
Debris from harvested corn. No volunteer vegetation. Vegetation assumed to be non-hydrophytic due to the lack of wetland hydrology.

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