ChecklistGuro

Water Runoff Analysis

Site Assessment & Data Collection

Initial assessment of the agricultural site to identify potential runoff sources and collect baseline data.

GPS Coordinates of Assessment Start Point

Set My Current Location

Date of Site Assessment

Enter date...

Time of Site Assessment Start

Area of Field/Farm Under Assessment (hectares/acres)

Enter a number...

Detailed Description of Field/Farm Topography & Vegetation

Write something...

Land Use Types within Assessment Area

- [ ] Cropland
- [ ] Pasture
- [ ] Orchard
- [ ] Forest
- [ ] Other (Specify)

Site Map/Sketch (indicating drainage patterns, key features)

Upload File

Dominant Soil Type(s) Observed

- [ ] Sandy
- [ ] Silty
- [ ] Clayey
- [ ] Loamy
- [ ] Organic
- [ ] Unknown

General Condition of Ground Cover (e.g., Excellent, Good, Fair, Poor)

Write something...

Rainfall & Hydrologic Data Analysis

Reviewing rainfall patterns, intensity, and frequency, along with relevant hydrological data for the area.

Start Date of Rainfall Data Collection

Enter date...

End Date of Rainfall Data Collection

Enter date...

Average Annual Rainfall (mm/inches)

Enter a number...

Maximum Hourly Rainfall Intensity (mm/inches/hr)

Enter a number...

Rainfall Data Source

- [ ] Local Weather Station
- [ ] Regional Precipitation Network
- [ ] Satellite Data
- [ ] Other (Specify)

Description of Hydrologic Data Used (e.g., streamflow records, snowpack data)

Write something...

Rainfall Data Files (e.g., CSV, Excel)

Upload File

Recurrence Interval (for design storm - years)

Enter a number...

Soil Characteristics & Infiltration

Evaluating soil types, permeability, and infiltration rates to understand water absorption capacity.

Soil Organic Matter (%)

Enter a number...

Soil Bulk Density (g/cm³)

Enter a number...

Soil Texture Class

- [ ] Sandy
- [ ] Loamy Sand
- [ ] Sandy Loam
- [ ] Silt Loam
- [ ] Clay Loam
- [ ] Sandy Clay Loam
- [ ] Silty Clay Loam
- [ ] Clay
- [ ] Silty Clay
- [ ] Sandy Clay

Initial Infiltration Rate (mm/hr)

Enter a number...

Steady-State Infiltration Rate (mm/hr)

Enter a number...

Description of Soil Profile (layers, colors, consistencies)

Write something...

Soil Texture Analysis Report (if available)

Upload File

Saturated Hydraulic Conductivity (cm/hr)

Enter a number...

Topography & Slope Analysis

Analyzing the land's slope and elevation to determine runoff pathways and potential accumulation areas.

Maximum Slope (%)

Enter a number...

Average Slope (%)

Enter a number...

Highest Elevation Point (GPS Coordinates)

Set My Current Location

Lowest Elevation Point (GPS Coordinates)

Set My Current Location

Contour Maps or Topographic Survey

Upload File

Description of Terrain Features (e.g., gullies, depressions)

Write something...

Dominant Aspect (Direction Slope Faces)

- [ ] North
- [ ] Northeast
- [ ] East
- [ ] Southeast
- [ ] South
- [ ] Southwest
- [ ] West
- [ ] Northwest

Agricultural Practices Evaluation

Assessing farming techniques (tillage, irrigation, fertilization, crop selection) and their impact on runoff.

Tillage Method Employed?

- [ ] Conventional Tillage
- [ ] Reduced Tillage
- [ ] No-Till

Fertilizer Application Rate (lbs/acre)

Enter a number...

Types of Fertilizer Used (Select all that apply)

- [ ] Nitrogen
- [ ] Phosphorus
- [ ] Potassium
- [ ] Organic
- [ ] Compost

Irrigation System Description (Type, Frequency, Volume)

Write something...

Irrigation Volume (gallons/acre/irrigation)

Enter a number...

Crop Rotation Practices?

- [ ] Monoculture
- [ ] Rotation - Describe below
- [ ] Cover Cropping - Describe below

Describe Crop Rotation/Cover Cropping (if applicable)

Write something...

Upload Field Map/Layout (showing planting areas)

Upload File

Runoff Modeling & Estimation

Using appropriate models (e.g., NRCS Curve Number method, SWAT) to estimate runoff volume and peak flow rates.

Modeling Approach Selected

- [ ] NRCS Curve Number Method
- [ ] SWAT
- [ ] HEC-RAS
- [ ] Other (Specify in LONG_TEXT)

Rainfall Intensity (in/hr)

Enter a number...

Curve Number (CN)

Enter a number...

Area (acres)

Enter a number...

Estimated Runoff Volume (acre-feet)

Enter a number...

Peak Flow Rate (cfs)

Enter a number...

Model Input Data Description (e.g., data sources, assumptions)

Write something...

Model Input File(s)

Upload File

Water Quality Assessment

Sampling and analyzing runoff water for pollutants (sediment, nutrients, pesticides) to determine water quality impacts.

pH Level

Enter a number...

Turbidity (NTU)

Enter a number...

Total Suspended Solids (TSS) (mg/L)

Enter a number...

Nitrate-N (mg/L)

Enter a number...

Phosphate-P (mg/L)

Enter a number...

Pesticide Concentration (Specify Pesticide) (µg/L)

Enter a number...

Indicators of Fecal Contamination Present?

- [ ] E. coli
- [ ] Fecal Coliforms
- [ ] None Detected

Observations of Color or Odor

Write something...

Sampling Date

Enter date...

Sampling Time

Mitigation Measures Evaluation

Identifying and evaluating potential runoff control measures (e.g., cover crops, terraces, riparian buffers).

Potential Cover Crop Options Considered (Select all that apply)

- [ ] Cereal Rye
- [ ] Oats
- [ ] Buckwheat
- [ ] Crimson Clover
- [ ] Hairy Vetch
- [ ] Other (Specify in LONG_TEXT)

If 'Other' cover crop was selected, please specify:

Write something...

Estimated Terracing Slope Reduction (%)

Enter a number...

Riparian Buffer Type (If Applicable)

- [ ] Native Vegetation
- [ ] Grassed
- [ ] None
- [ ] Other (LONG_TEXT)

If 'Other' Riparian Buffer type was selected, please specify:

Write something...

Estimated width of Riparian Buffer (meters)

Enter a number...

Conservation Tillage Practices Considered (Select all that apply)

- [ ] No-Till
- [ ] Reduced Till
- [ ] Ridge Tillage
- [ ] Conventional Tillage
- [ ] Other (LONG_TEXT)

If 'Other' Conservation Tillage was selected, please specify:

Write something...

Nutrient Management Plan Review Required?

- [ ] Yes
- [ ] No

Reporting & Documentation

Compiling findings into a clear report with recommendations and maintaining detailed records of the analysis.

Executive Summary of Findings

Write something...

Estimated Runoff Volume (cubic meters)

Enter a number...

Peak Runoff Flow Rate (m^3/s)

Enter a number...

Runoff Modeling Output Files (e.g., simulation results)

Upload File

Overall Risk Level (Based on analysis)

- [ ] Low
- [ ] Moderate
- [ ] High

Detailed Description of Recommended Mitigation Measures

Write something...

Date of Report Completion

Enter date...

Analyst Signature

Any Limitations of the Analysis

Write something...