

**Practice: 201 - Edge of Field Water Quality Monitoring Data Collection and Evaluation**

**Scenario # 1 Data Collect Surface Year 1-QAPP**

**Scenario Description:**

This practice scenario provides for the design and use of an edge-of-field WQ monitoring station(s) for surface run-off for one control and one treatment site with an average of 20 samples per year per station. The scenario requires the creation of a survey to site a monitoring station, preparation of monitoring plan and a quality assurance project plan to detail how data will be collected, handled and analyzed, provides for the data collection, analysis, semiannual report, and annual report. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP need to be prepared prior to installation under Edge-of-Field Water Quality Monitoring - System Installation (202). THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY.

**Before Practice Situation:**

The agricultural operation prior to installing this practice will not have a plan or quality assurance project plan prepared for installing equipment nor collecting data for sediment and nutrients leaving the edge of field.

**After Practice Situation:**

This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual report, and annual report for one control and one treatment site. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP have been prepared prior to installation under Edge-of-Field Water Quality Monitoring - System Installation (202). The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201.

**Scenario Feature Measure:**

Measuring Sites

<b>Scenario Typical Size:</b>	1	Each	Tot Unit Cost	\$22,269.10
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Labor	Skilled Labor	190	Hour	\$33.61	\$6,385.90
Labor	Specialist Labor	120	Hour	\$77.36	\$9,283.20
Materials	Testing, WQ, NH4-N, (Ammonium)	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, NO2-N + NO3-N (Nitrite plus	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, TKN (Total Kjeldahl Nitrogen)	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, Soluble Reactive P	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, TP (Total Phosphorus)	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, SSC (Suspended Sediment	20	Each	\$25.00	\$500.00
Materials	Testing, WQ, TSS (Total Suspended Solids) –	20	Each	\$25.00	\$500.00
Materials	Testing, WQ, Blanks Samples	4	Each	\$150.00	\$600.00

Total Cost: \$22,269.10

**Payment types:**

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$16,701.83	EQIP-HU	\$20,042.19
WHIP	\$16,701.83	WHIP-HU	\$20,042.19

**Practice: 201 - Edge of Field Water Quality Monitoring Data Collection and Evaluation**

**Scenario # 2 Data Collect Surface Year 1 - NO QAPP**

**Scenario Description:**

This practice scenario provides for the use of an edge-of-field WQ monitoring station(s) for surface run-off for one control and one treatment site. The scenario requires the collection and analysis of edge-of-field water quality data with an average sample collection of 20 per year for surface systems. The data will be transferred through semi-annual submittal and annual report which include some preliminary annual analysis. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP will be not prepared as this is for an existing monitoring system be accepted as meeting both Activity 201 and 202. THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY.

**Before Practice Situation:**

The agricultural operation prior to installing this practice will have an existing system for collecting water quality data but not have been operating with a long enough time frame to measure practice effectiveness.

**After Practice Situation:**

This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual submittal, and annual report for one control and one treatment site. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP have been prepared as part of an existing monitoring system installation where the QAPP and monitoring plan meets Activity 201 requirements and no major changes are needed to meet Activity 202 requirements. The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201.

**Scenario Feature Measure:**

Measuring Site

<b>Scenario Typical Size:</b>	1	Each	<b>Tot Unit Cost</b>	\$15,610.90
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Labor	Skilled Labor	130	Hour	\$33.61	\$4,369.30
Labor	Specialist Labor	60	Hour	\$77.36	\$4,641.60
Materials	Testing, WQ, NH4-N, (Ammonium)	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, NO2-N + NO3-N (Nitrite plus	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, TKN (Total Kjeldahl Nitrogen)	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, Soluble Reactive P	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, TP (Total Phosphorus)	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, SSC (Suspended Sediment	20	Each	\$25.00	\$500.00
Materials	Testing, WQ, TSS (Total Suspended Solids) –	20	Each	\$25.00	\$500.00
Materials	Testing, WQ, Blanks Samples	4	Each	\$150.00	\$600.00

Total Cost: \$15,610.90

**Payment types:**

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$11,708.18	EQIP-HU	\$14,049.81
WHIP	\$11,708.18	WHIP-HU	\$14,049.81

**Practice: 201 - Edge of Field Water Quality Monitoring Data Collection and Evaluation**

**Scenario # 3 Data Collect Surface Year 2+**

**Scenario Description:**

This practice scenario provides for the use of an edge-of-field WQ monitoring station(s) for surface run-off for one control and one treatment site. The scenario requires the collection and analysis of edge-of-field water quality data with an average sample collection of 20 per year for surface systems. The data will be transferred through semi-annual submittal and annual report which include some preliminary annual analysis. This scenario will normally be used in year 2 to next to the last year of monitoring. THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY.

**Before Practice Situation:**

The agricultural operation prior to installing this practice will have an existing system for collecting water quality data but not have been operating with a long enough time frame to measure practice effectiveness.

**After Practice Situation:**

This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual submittal, and annual report for one control and one treatment site. The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201.

**Scenario Feature Measure:**

Measuring Site

<b>Scenario Typical Size:</b>	1	Each	<b>Tot Unit Cost</b>	\$15,610.90
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Labor	Skilled Labor	130	Hour	\$33.61	\$4,369.30
Labor	Specialist Labor	60	Hour	\$77.36	\$4,641.60
Materials	Testing, WQ, NH4-N, (Ammonium)	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, NO2-N + NO3-N (Nitrite plus	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, TKN (Total Kjeldahl Nitrogen)	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, Soluble Reactive P	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, TP (Total Phosphorus)	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, SSC (Suspended Sediment	20	Each	\$25.00	\$500.00
Materials	Testing, WQ, TSS (Total Suspended Solids) –	20	Each	\$25.00	\$500.00
Materials	Testing, WQ, Blanks Samples	4	Each	\$150.00	\$600.00

Total Cost: \$15,610.90

**Payment types:**

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$11,708.18	EQIP-HU	\$14,049.81
WHIP	\$11,708.18	WHIP-HU	\$14,049.81

**Practice: 201 - Edge of Field Water Quality Monitoring Data Collection and Evaluation**

**Scenario # 4 Data Collect Surface Last Year**

**Scenario Description:**

This practice scenario provides for the use of an edge-of-field WQ monitoring station(s) for surface run-off for one control and one treatment site with an average of 20 samples per year per station. The scenario requires the collection and analysis of edge-of-field water quality data along with a comprehensive report to statistically prove relationship between select conservation practices and water quality. The data will be transferred through semi-annual submittal and annual report and a comprehensive report of practice effectiveness. This scenario will be used in the last year of monitoring. THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY.

**Before Practice Situation:**

The agricultural operation prior to installing this practice will have an existing system for collecting water quality data but not have been operating with a long enough time frame to measure practice effectiveness.

**After Practice Situation:**

This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual submittal, and annual report for one control and one treatment site. The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201 to provided a comprehensive report of statistical testing of data collected during to complete monitoring period.

**Scenario Feature Measure:**

Measuring Site

<b>Scenario Typical Size:</b>	1	Each	<b>Tot Unit Cost</b>	\$18,705.30
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Labor	Skilled Labor	130	Hour	\$33.61	\$4,369.30
Labor	Specialist Labor	100	Hour	\$77.36	\$7,736.00
Materials	Testing, WQ, NH4-N, (Ammonium)	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, NO2-N + NO3-N (Nitrite plus	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, TKN (Total Kjeldahl Nitrogen)	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, Soluble Reactive P	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, TP (Total Phosphorus)	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, SSC (Suspended Sediment	20	Each	\$25.00	\$500.00
Materials	Testing, WQ, TSS (Total Suspended Solids) –	20	Each	\$25.00	\$500.00
Materials	Testing, WQ, Blanks Samples	4	Each	\$150.00	\$600.00

Total Cost: \$18,705.30

**Payment types:**

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$14,028.98	EQIP-HU	\$16,834.77
WHIP	\$14,028.98	WHIP-HU	\$16,834.77

**Practice: 201 - Edge of Field Water Quality Monitoring Data Collection and Evaluation**

**Scenario # 5 Data Collect Tile Year 1-QAPP**

**Scenario Description:**

This practice scenario provides for the design and use of an edge-of-field WQ monitoring station(s) for tile or subsurface drainage run-off for one control and one treatment site with an average of 40 samples per year per station. The scenario requires the creation of a survey to site a monitoring station, preparation of monitoring plan and a quality assurance project plan to detail how data will be collected, handled and analyzed, provides for the data collection, analysis, semiannual report, and annual report. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP need to be prepared prior to installation under Edge-of-Field Water Quality Monitoring - System Installation (202). THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY.

**Before Practice Situation:**

The agricultural operation prior to installing this practice will not have a plan or quality assurance project plan prepared for installing equipment nor collecting data for sediment and nutrients leaving the edge of field.

**After Practice Situation:**

This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual report, and annual report for one control and one treatment site. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP have been prepared prior to installation under Edge-of-Field Water Quality Monitoring - System Installation (202). The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201.

**Scenario Feature Measure:**

Measuring Site

<b>Scenario Typical Size:</b>	1	Each	Tot Unit Cost	\$35,559.20
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Labor	Skilled Labor	320	Hour	\$33.61	\$10,755.20
Labor	Specialist Labor	150	Hour	\$77.36	\$11,604.00
Materials	Testing, WQ, NH4-N, (Ammonium)	80	Each	\$25.00	\$2,000.00
Materials	Testing, WQ, NO2-N + NO3-N (Nitrite plus	80	Each	\$25.00	\$2,000.00
Materials	Testing, WQ, TKN (Total Kjeldahl Nitrogen)	80	Each	\$25.00	\$2,000.00
Materials	Testing, WQ, Soluble Reactive P	80	Each	\$25.00	\$2,000.00
Materials	Testing, WQ, TP (Total Phosphorus)	80	Each	\$25.00	\$2,000.00
Materials	Testing, WQ, SSC (Suspended Sediment	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, TSS (Total Suspended Solids) –	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, Blanks Samples	8	Each	\$150.00	\$1,200.00

Total Cost: \$35,559.20

**Payment types:**

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$26,669.40	EQIP-HU	\$32,003.28
WHIP	\$26,669.40	WHIP-HU	\$32,003.28

**Practice: 201 - Edge of Field Water Quality Monitoring Data Collection and Evaluation**

**Scenario # 6 Data Collect Tile Year 1 - NO QAPP**

**Scenario Description:**

This practice scenario provides for the use of an edge-of-field WQ monitoring station(s) for tile or subsurface drainage run-off for one control and one treatment site. The scenario requires the collection and analysis of edge-of-field water quality data with an average sample collection of 40 per year for subsurface systems. The data will be transferred through semi-annual submittal and annual reports, which include some preliminary annual analysis. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP will be not prepared as this is for an existing monitoring system be accepted as meeting both Activity 201 and 202. THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY.

**Before Practice Situation:**

The agricultural operation prior to installing this practice will have an existing system for collecting water quality data but not have been operating with a long enough time frame to measure practice effectiveness.

**After Practice Situation:**

This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual submittal, and annual report for one control and one treatment site. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP have been prepared as part of an existing monitoring system installation where the QAPP and monitoring plan meets Activity 201 requirements and no major changes are needed to meet Activity 202 requirements. The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201.

**Scenario Feature Measure:**

Measuring Site

<b>Scenario Typical Size:</b>	1	Each	<b>Tot Unit Cost</b>	\$28,901.00
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Labor	Skilled Labor	260	Hour	\$33.61	\$8,738.60
Labor	Specialist Labor	90	Hour	\$77.36	\$6,962.40
Materials	Testing, WQ, NH4-N, (Ammonium)	80	Each	\$25.00	\$2,000.00
Materials	Testing, WQ, NO2-N + NO3-N (Nitrite plus	80	Each	\$25.00	\$2,000.00
Materials	Testing, WQ, TKN (Total Kjeldahl Nitrogen)	80	Each	\$25.00	\$2,000.00
Materials	Testing, WQ, Soluble Reactive P	80	Each	\$25.00	\$2,000.00
Materials	Testing, WQ, TP (Total Phosphorus)	80	Each	\$25.00	\$2,000.00
Materials	Testing, WQ, SSC (Suspended Sediment	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, TSS (Total Suspended Solids) –	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, Blanks Samples	8	Each	\$150.00	\$1,200.00

Total Cost: \$28,901.00

**Payment types:**

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$21,675.75	EQIP-HU	\$26,010.90
WHIP	\$21,675.75	WHIP-HU	\$26,010.90

**Practice: 201 - Edge of Field Water Quality Monitoring Data Collection and Evaluation**

**Scenario # 7 Data Collect Tile Year 2+**

**Scenario Description:**

This practice scenario provides for the use of an edge-of-field WQ monitoring station(s) for tile or subsurface drainage run-off for one control and one treatment site. The scenario requires the collection and analysis of edge-of-field water quality data with an average sample collection of 40 per year for subsurface systems. The data will be transferred through semi-annual submittal and annual report, which include some preliminary annual analysis. This scenario will normally be used in year 2 to next to the last year of monitoring. THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY.

**Before Practice Situation:**

The agricultural operation prior to installing this practice will not have a plan or quality assurance project plan prepared for installing equipment nor collecting data for sediment and nutrients leaving the edge of field.

**After Practice Situation:**

This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual report, and annual report for one control and one treatment site. The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201.

**Scenario Feature Measure:**

Measuring site

**Scenario Typical Size:**

1	Each	Tot Unit Cost	\$28,901.00
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Labor	Skilled Labor	260	Hour	\$33.61	\$8,738.60
Labor	Specialist Labor	90	Hour	\$77.36	\$6,962.40
Materials	Testing, WQ, NH4-N, (Ammonium)	80	Each	\$25.00	\$2,000.00
Materials	Testing, WQ, NO2-N + NO3-N (Nitrite plus	80	Each	\$25.00	\$2,000.00
Materials	Testing, WQ, TKN (Total Kjeldahl Nitrogen)	80	Each	\$25.00	\$2,000.00
Materials	Testing, WQ, Soluble Reactive P	80	Each	\$25.00	\$2,000.00
Materials	Testing, WQ, TP (Total Phosphorus)	80	Each	\$25.00	\$2,000.00
Materials	Testing, WQ, SSC (Suspended Sediment	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, TSS (Total Suspended Solids) –	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, Blanks Samples	8	Each	\$150.00	\$1,200.00

Total Cost: \$28,901.00

**Payment types:**

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$21,675.75	EQIP-HU	\$26,010.90
WHIP	\$21,675.75	WHIP-HU	\$26,010.90

**Practice: 201 - Edge of Field Water Quality Monitoring Data Collection and Evaluation**

**Scenario # 8 Data Collect Tile Last Year**

**Scenario Description:**

This practice scenario provides for the use of an edge-of-field WQ monitoring station(s) for tile or subsurface drainage run-off for one control and one treatment site with an average of 40 samples per year per station. The scenario requires the collection and analysis of edge-of-field water quality data along with a comprehensive report to statistically prove relationship between select conservation practices and water quality. The data will be transferred through semi-annual submittal and annual report and a comprehensive report of practice effectiveness. This scenario will be used in the last year of monitoring. THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY.

**Before Practice Situation:**

The agricultural operation prior to installing this practice will have an existing system for collecting water quality data but not have been operating with a long enough time frame to measure practice effectiveness.

**After Practice Situation:**

This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual submittal, and annual report for one control and one treatment site. The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201 to provide a comprehensive report of statistical testing of data collected during to complete monitoring period.

**Scenario Feature Measure:**

Measuring site

<b>Scenario Typical Size:</b>	1	Each	<b>Tot Unit Cost</b>	<b>\$31,995.40</b>
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Labor	Skilled Labor	260	Hour	\$33.61	\$8,738.60
Labor	Specialist Labor	130	Hour	\$77.36	\$10,056.80
Materials	Testing, WQ, NH4-N, (Ammonium)	80	Each	\$25.00	\$2,000.00
Materials	Testing, WQ, NO2-N + NO3-N (Nitrite plus	80	Each	\$25.00	\$2,000.00
Materials	Testing, WQ, TKN (Total Kjeldahl Nitrogen)	80	Each	\$25.00	\$2,000.00
Materials	Testing, WQ, Soluble Reactive P	80	Each	\$25.00	\$2,000.00
Materials	Testing, WQ, TP (Total Phosphorus)	80	Each	\$25.00	\$2,000.00
Materials	Testing, WQ, SSC (Suspended Sediment	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, TSS (Total Suspended Solids) –	40	Each	\$25.00	\$1,000.00
Materials	Testing, WQ, Blanks Samples	8	Each	\$150.00	\$1,200.00

Total Cost: \$31,995.40

**Payment types:**

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$23,996.55	EQIP-HU	\$28,795.86
WHIP	\$23,996.55	WHIP-HU	\$28,795.86

**Practice: 201 - Edge of Field Water Quality Monitoring Data Collection and Evaluation**

**Scenario # 9 Data Collect Surface Year 1-QAPP with two treatment Sites**

**Scenario Description:**

This practice scenario provides for the design and use of an edge-of-field WQ monitoring station(s) for surface run-off for one control and two treatment sites with an average of 20 samples per year per station. The scenario requires the creation of a survey to site a monitoring station, preparation of monitoring plan and a quality assurance project plan to detail how data will be collected, handled and analyzed, provides for the data collection, analysis, semiannual report, and annual report. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP need to be prepared prior to installation under Edge-of-Field Water Quality Monitoring - System Installation (202). THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY.

**Before Practice Situation:**

The agricultural operation prior to installing this practice will not have a plan or quality assurance project plan prepared for installing equipment nor collecting data for sediment and nutrients leaving the edge of field.

**After Practice Situation:**

This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual report, and annual report for one control and one treatment site. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP have been prepared prior to installation under Edge-of-Field Water Quality Monitoring - System Installation (202). The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201.

**Scenario Feature Measure:**

Measuring Sites

<b>Scenario Typical Size:</b>	1	Each	Tot Unit Cost	\$30,545.66
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Labor	Skilled Labor	246	Hour	\$33.61	\$8,268.06
Labor	Specialist Labor	160	Hour	\$77.36	\$12,377.60
Materials	Testing, WQ, NH4-N, (Ammonium)	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, NO2-N + NO3-N (Nitrite plus	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, TKN (Total Kjeldahl Nitrogen)	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, Soluble Reactive P	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, TP (Total Phosphorus)	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, SSC (Suspended Sediment	30	Each	\$25.00	\$750.00
Materials	Testing, WQ, TSS (Total Suspended Solids) –	30	Each	\$25.00	\$750.00
Materials	Testing, WQ, Blanks Samples	6	Each	\$150.00	\$900.00

Total Cost: \$30,545.66

**Payment types:**

PayType	Unit Payment	PayType	Unit Payment
EQUIP	\$22,909.25	EQUIP-HU	\$27,491.09
WHIP	\$22,909.25	WHIP-HU	\$27,491.09

**Practice: 201 - Edge of Field Water Quality Monitoring Data Collection and Evaluation**

**Scenario # 10 Data Collect Surface Year 1 less QAPP (pre-install information) with two treatment sites**

**Scenario Description:**

This practice scenario provides for the use of an edge-of-field WQ monitoring station(s) for surface run-off for one control and two treatment sites. The scenario requires the collection and analysis of edge-of-field water quality data with an average sample collection of 20 per year for each surface system. The data will be transferred through semi-annual submittal and annual report, which include some preliminary annual analysis. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP will not be prepared as this is for an existing monitoring system be accepted as meeting both Activity 201 and 202. THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY.

**Before Practice Situation:**

The agricultural operation prior to installing this practice will have an existing system for collecting water quality data but not have been operating with a long enough time frame to measure practice effectiveness.

**After Practice Situation:**

This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual submittal, and annual report for one control and two treatment sites. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP have been prepared as part of an existing monitoring system installation where the QAPP and monitoring plan meets Activity 201 requirements and no major changes are needed to meet Activity 202 requirements. The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201.

**Scenario Feature Measure:**

Measuring site

**Scenario Typical Size:**

1	Each	Tot Unit Cost	\$22,105.56
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Labor	Skilled Labor	156	Hour	\$33.61	\$5,243.16
Labor	Specialist Labor	90	Hour	\$77.36	\$6,962.40
Materials	Testing, WQ, NH4-N, (Ammonium)	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, NO2-N + NO3-N (Nitrite plus	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, TKN (Total Kjeldahl Nitrogen)	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, Soluble Reactive P	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, TP (Total Phosphorus)	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, SSC (Suspended Sediment	30	Each	\$25.00	\$750.00
Materials	Testing, WQ, TSS (Total Suspended Solids) –	30	Each	\$25.00	\$750.00
Materials	Testing, WQ, Blanks Samples	6	Each	\$150.00	\$900.00

Total Cost: \$22,105.56

**Payment types:**

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$16,579.17	EQIP-HU	\$19,895.00
WHIP	\$16,579.17	WHIP-HU	\$19,895.00

**Practice: 201 - Edge of Field Water Quality Monitoring Data Collection and Evaluation**

**Scenario # 11 Data Collect Surface Year 2+ with two treatment sites**

**Scenario Description:**

This practice scenario provides for the use of an edge-of-field WQ monitoring station(s) for surface run-off for one control and two treatment sites. The scenario requires the collection and analysis of edge-of-field water quality data with an average sample collection of 20 per year for each surface system. The data will be transferred through semi-annual submittal and annual report, which include some preliminary annual analysis. This scenario will normally be used in year 2 to next to the last year of monitoring. THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY.

**Before Practice Situation:**

The agricultural operation prior to installing this practice will have an existing system for collecting water quality data but not have been operating with a long enough time frame to measure practice effectiveness.

**After Practice Situation:**

This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual submittal, and annual report for one control and two treatment sites. The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201.

**Scenario Feature Measure:**

Measuring site

**Scenario Typical Size:**

1	Each	Tot Unit Cost	\$22,105.56
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Labor	Skilled Labor	156	Hour	\$33.61	\$5,243.16
Labor	Specialist Labor	90	Hour	\$77.36	\$6,962.40
Materials	Testing, WQ, NH4-N, (Ammonium)	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, NO2-N + NO3-N (Nitrite plus	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, TKN (Total Kjeldahl Nitrogen)	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, Soluble Reactive P	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, TP (Total Phosphorus)	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, SSC (Suspended Sediment	30	Each	\$25.00	\$750.00
Materials	Testing, WQ, TSS (Total Suspended Solids) –	30	Each	\$25.00	\$750.00
Materials	Testing, WQ, Blanks Samples	6	Each	\$150.00	\$900.00

Total Cost: \$22,105.56

**Payment types:**

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$16,579.17	EQIP-HU	\$19,895.00
WHIP	\$16,579.17	WHIP-HU	\$19,895.00

**Practice: 201 - Edge of Field Water Quality Monitoring Data Collection and Evaluation**

**Scenario # 12 Data Collect Surface Last Year with two treatment sites**

**Scenario Description:**

This practice scenario provides for the use of an edge-of-field WQ monitoring station(s) for surface run-off for one control and two treatment sites with an average of 20 samples per year per station. The scenario requires the collection and analysis of edge-of-field water quality data along with a comprehensive report to statistically prove relationship between select conservation practices and water quality. The data will be transferred through semi-annual submittal and annual report and a comprehensive report of practice effectiveness. This scenario will be used in the last year of monitoring. THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY.

**Before Practice Situation:**

The agricultural operation prior to installing this practice will have an existing system for collecting water quality data but not have been operating with a long enough time frame to measure practice effectiveness.

**After Practice Situation:**

This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual submittal, and annual report for one control and two treatment sites. The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201 to provide a comprehensive report of statistical testing of data collected during to complete monitoring period.

**Scenario Feature Measure:**

Measuring site

<b>Scenario Typical Size:</b>	1	Each	<b>Tot Unit Cost</b>	\$26,747.16
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Labor	Skilled Labor	156	Hour	\$33.61	\$5,243.16
Labor	Specialist Labor	150	Hour	\$77.36	\$11,604.00
Materials	Testing, WQ, NH4-N, (Ammonium)	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, NO2-N + NO3-N (Nitrite plus	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, TKN (Total Kjeldahl Nitrogen)	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, Soluble Reactive P	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, TP (Total Phosphorus)	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, SSC (Suspended Sediment	30	Each	\$25.00	\$750.00
Materials	Testing, WQ, TSS (Total Suspended Solids) –	30	Each	\$25.00	\$750.00
Materials	Testing, WQ, Blanks Samples	6	Each	\$150.00	\$900.00

Total Cost: \$26,747.16

**Payment types:**

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$20,060.37	EQIP-HU	\$24,072.44
WHIP	\$20,060.37	WHIP-HU	\$24,072.44

**Practice: 201 - Edge of Field Water Quality Monitoring Data Collection and Evaluation**

**Scenario # 13 Data Collect Tile Year 1 with two treatment sites and QAPP**

**Scenario Description:**

This practice scenario provides for the design and use of an edge-of-field WQ monitoring station(s) for tile or subsurface drainage run-off for one control and two treatment sites with an average of 40 samples per year per station. The scenario requires the creation of a survey to site monitoring stations, preparation of monitoring plan and a quality assurance project plan (QAPP) to detail how data will be collected, handled and analyzed, provides for the data collection, analysis, semiannual report, and annual report. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP need to be prepared prior to installation under Edge-of-Field Water Quality Monitoring - System Installation (202). THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY.

**Before Practice Situation:**

The agricultural operation prior to installing this practice will not have a plan or quality assurance project plan prepared for installing equipment nor collecting data for sediment and nutrients leaving the edge of field.

**After Practice Situation:**

This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual report, and annual report for one control and two treatment sites. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP have not been prepared prior to installation under Edge-of-Field Water Quality Monitoring - System Installation (202). The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201.

**Scenario Feature Measure:**

Measuring site

<b>Scenario Typical Size:</b>	1	Each	Tot Unit Cost	\$49,170.02
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Labor	Skilled Labor	402	Hour	\$33.61	\$13,511.22
Labor	Specialist Labor	205	Hour	\$77.36	\$15,858.80
Materials	Testing, WQ, NH4-N, (Ammonium)	120	Each	\$25.00	\$3,000.00
Materials	Testing, WQ, NO2-N + NO3-N (Nitrite plus	120	Each	\$25.00	\$3,000.00
Materials	Testing, WQ, TKN (Total Kjeldahl Nitrogen)	120	Each	\$25.00	\$3,000.00
Materials	Testing, WQ, Soluble Reactive P	120	Each	\$25.00	\$3,000.00
Materials	Testing, WQ, TP (Total Phosphorus)	120	Each	\$25.00	\$3,000.00
Materials	Testing, WQ, SSC (Suspended Sediment	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, TSS (Total Suspended Solids) –	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, Blanks Samples	12	Each	\$150.00	\$1,800.00

Total Cost: \$49,170.02

**Payment types:**

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$36,877.52	EQIP-HU	\$44,253.02
WHIP	\$36,877.52	WHIP-HU	\$44,253.02

**Practice: 201 - Edge of Field Water Quality Monitoring Data Collection and Evaluation**  
**Scenario # 14 Data Collect Tile Year 1 less QAPP (pre-install information) with two treatment sites**

**Scenario Description:**

This practice scenario provides for the use of an edge-of-field WQ monitoring station(s) for tile or subsurface drainage run-off for one control and two treatment sites. The scenario requires the collection and analysis of edge-of-field water quality data with an average sample collection of 40 per year for each subsurface system. The data will be transferred through semi-annual submittal and annual reports, which include some preliminary annual analysis. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP will not be prepared as this is for an existing monitoring system be accepted as meeting both Activity 201 and 202. THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY.

**Before Practice Situation:**

The agricultural operation prior to installing this practice will have an existing system for collecting water quality data but not have been operating with a long enough time frame to measure practice effectiveness.

**After Practice Situation:**

This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual submittal, and annual report for one control and two treatment sites. This scenario will normally be used in year 1 of the contract when a monitoring plan and QAPP have been prepared as part of an existing monitoring system installation where the QAPP and monitoring plan meets Activity 201 requirements and no major changes are needed to meet Activity 202 requirements. The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201.

**Scenario Feature Measure:**

Measuring site

<b>Scenario Typical Size:</b>	1	Each	Tot Unit Cost	\$40,729.92
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Labor	Skilled Labor	312	Hour	\$33.61	\$10,486.32
Labor	Specialist Labor	135	Hour	\$77.36	\$10,443.60
Materials	Testing, WQ, NH4-N, (Ammonium)	120	Each	\$25.00	\$3,000.00
Materials	Testing, WQ, NO2-N + NO3-N (Nitrite plus	120	Each	\$25.00	\$3,000.00
Materials	Testing, WQ, TKN (Total Kjeldahl Nitrogen)	120	Each	\$25.00	\$3,000.00
Materials	Testing, WQ, Soluble Reactive P	120	Each	\$25.00	\$3,000.00
Materials	Testing, WQ, TP (Total Phosphorus)	120	Each	\$25.00	\$3,000.00
Materials	Testing, WQ, SSC (Suspended Sediment	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, TSS (Total Suspended Solids) –	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, Blanks Samples	12	Each	\$150.00	\$1,800.00

Total Cost: \$40,729.92

**Payment types:**

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$30,547.44	EQIP-HU	\$36,656.93
WHIP	\$30,547.44	WHIP-HU	\$36,656.93

**Practice: 201 - Edge of Field Water Quality Monitoring Data Collection and Evaluation**

**Scenario # 15 Data Collect Tile Year 2+ with two treatment sites**

**Scenario Description:**

This practice scenario provides for the use of an edge-of-field WQ monitoring station(s) for tile or subsurface drainage run-off for one control and two treatment sites. The scenario requires the collection and analysis of edge-of-field water quality data with an average sample collection of 40 per year for each subsurface system. The data will be transferred through semi-annual submittal and annual report, which include some preliminary annual analysis. This scenario will normally be used in year 2 to next to the last year of monitoring. THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY.

**Before Practice Situation:**

The agricultural operation prior to installing this practice will have an existing system for collecting water quality data but not have been operating with a long enough time frame to measure practice effectiveness.

**After Practice Situation:**

This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual report, and annual report for one control and two treatment sites. The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201.

**Scenario Feature Measure:**

Measuring site

<b>Scenario Typical Size:</b>	1	Each	<b>Tot Unit Cost</b>	\$40,729.92
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Labor	Skilled Labor	312	Hour	\$33.61	\$10,486.32
Labor	Specialist Labor	135	Hour	\$77.36	\$10,443.60
Materials	Testing, WQ, NH4-N, (Ammonium)	120	Each	\$25.00	\$3,000.00
Materials	Testing, WQ, NO2-N + NO3-N (Nitrite plus	120	Each	\$25.00	\$3,000.00
Materials	Testing, WQ, TKN (Total Kjeldahl Nitrogen)	120	Each	\$25.00	\$3,000.00
Materials	Testing, WQ, Soluble Reactive P	120	Each	\$25.00	\$3,000.00
Materials	Testing, WQ, TP (Total Phosphorus)	120	Each	\$25.00	\$3,000.00
Materials	Testing, WQ, SSC (Suspended Sediment	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, TSS (Total Suspended Solids) –	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, Blanks Samples	12	Each	\$150.00	\$1,800.00

Total Cost: \$40,729.92

**Payment types:**

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$30,547.44	EQIP-HU	\$36,656.93
WHIP	\$30,547.44	WHIP-HU	\$36,656.93

**Practice: 201 - Edge of Field Water Quality Monitoring Data Collection and Evaluation**

**Scenario # 16 Data Collect Tile Last Year with two treatment sites**

**Scenario Description:**

This practice scenario provides for the use of an edge-of-field WQ monitoring station(s) for tile or subsurface drainage run-off for one control and two treatment sites with an average of 40 samples per year per station. The scenario requires the collection and analysis of edge-of-field water quality data along with a comprehensive report to statistically prove relationship between select conservation practices and water quality. The data will be transferred through semi-annual submittal and annual report and a comprehensive report of practice effectiveness. This scenario will be used in the last year of monitoring. THIS IS PLACED IN A PAIRED SITUATION IF THE CONTROL AND TREATMENT ARE ON DIFFERENT LANDOWNERS FIELDS THEN A JOINT CONTRACT WILL BE NECESSARY.

**Before Practice Situation:**

The agricultural operation prior to installing this practice will have an existing system for collecting water quality data but not have been operating with a long enough time frame to measure practice effectiveness.

**After Practice Situation:**

This practice scenario after installation of the WQ monitoring stations, provides for the data collection, analysis, semiannual submittal, and annual report for one control and two treatment sites. The operator will be able to collect field level water quality data of sufficient quality to measure loss of nutrients as listed in 201 to provide a comprehensive report of statistical testing of data collected during to complete monitoring period.

**Scenario Feature Measure:**

Measuring site

<b>Scenario Typical Size:</b>	1	Each	<b>Tot Unit Cost</b>	<b>\$45,371.52</b>
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Cost Category	Component Name	Quantity	Unit	Unit Cost	Cost
Labor	Skilled Labor	312	Hour	\$33.61	\$10,486.32
Labor	Specialist Labor	195	Hour	\$77.36	\$15,085.20
Materials	Testing, WQ, NH4-N, (Ammonium)	120	Each	\$25.00	\$3,000.00
Materials	Testing, WQ, NO2-N + NO3-N (Nitrite plus	120	Each	\$25.00	\$3,000.00
Materials	Testing, WQ, TKN (Total Kjeldahl Nitrogen)	120	Each	\$25.00	\$3,000.00
Materials	Testing, WQ, Soluble Reactive P	120	Each	\$25.00	\$3,000.00
Materials	Testing, WQ, TP (Total Phosphorus)	120	Each	\$25.00	\$3,000.00
Materials	Testing, WQ, SSC (Suspended Sediment	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, TSS (Total Suspended Solids) –	60	Each	\$25.00	\$1,500.00
Materials	Testing, WQ, Blanks Samples	12	Each	\$150.00	\$1,800.00

Total Cost: \$45,371.52

**Payment types:**

PayType	Unit Payment	PayType	Unit Payment
EQIP	\$34,028.64	EQIP-HU	\$40,834.37
WHIP	\$34,028.64	WHIP-HU	\$40,834.37