



DEPARTMENT OF
ECOLOGY
State of Washington

AMENDMENT NO. 2

TO

Contract NO. C2000179

BETWEEN THE

STATE OF WASHINGTON DEPARTMENT OF ECOLOGY

AND

CLARK COUNTY

PROJECT TITLE: Status and Trends Monitoring of Urban Streams in Clark and Cowlitz Counties in the
Lower Columbia River Region

PURPOSE: To amend the Agreement between the state of Washington, Department of Ecology, hereinafter referred to as "ECOLOGY," and Clark County, hereinafter referred to as "COUNTY" or "Contractor."

WHEREAS, This Agreement is undergoing an increase in scope and extension of the timeline to allow for completion of the work described in the new Appendix A1.

IT IS MUTUALLY AGREED the Agreement is amended as follows:

- 1) The Period of Performance is amended to read as follows:
The period of performance is extended from December 31, 2024, to December 31, 2029.
- 2) Compensation is increased for additional tasks added by this amendment. The total amount is changed from \$582,854 to \$1,462,256, an increase of \$879,402.
- 3) Appendix **A1** is added to the Statement of Work for 5 more years of monitoring, effective January 1, 2025. Appendix **A1** has four tasks (1.0, 2.0, 3.0, and 4.0) to continue monitoring of the flow, water, sediment, physical habitat, and biological quality at the study sites for January 1, 2025 to December 31, 2029; and one task (5.0) for annual analysis reports for Water Years 2024, 2025, 2026, 2027 and 2028.

All other terms and conditions of the original Agreement including any other amendments remain in full force and effect, except as expressly provided by this Amendment.

APPENDIX A1 STATEMENT OF WORK AND BUDGET

Effective January 1, 2025

Project Title: Status and Trends Monitoring of Urban Streams in Clark and Cowlitz Counties in the Lower Columbia River Region

Background

Ecology has identified a need to understand how stormwater runoff is impacting the quality of receiving waters and to what extent management activities are protecting or improving small streams in urban areas. The Lower Columbia Urban Streams project (LCUS) is a status and trends regional monitoring study implemented to fulfill National Pollutant Discharge Elimination System (NPDES) Phase 1 Municipal Stormwater Permit (Permit) monitoring requirements. The study is anticipated to continue through multiple Permit terms.

The study boundaries are the Permit areas in the Lower Columbia River region, including the urban and urbanizing areas of the jurisdictions of Clark and Cowlitz Counties, and the cities of Camas, Longview, Vancouver, Battle Ground, Kelso, Washougal and Ridgefield.

The goal of this project is to characterize selected chemical, biological, and physical attributes of urban streams in Clark and Cowlitz Counties in the Lower Columbia River region, and to assess trends over time. The study objectives are described in detail in *Quality Assurance Project Plan for Status and Trends Monitoring of Urban Streams in Clark and Cowlitz Counties in the Lower Columbia River Region (2020)*. During the period of this IAA, the general objectives are to answer two questions:

- What are the status and trends of water quality and hydrology in surface waters draining subwatersheds primarily within urban and urbanizing areas under the jurisdiction of municipal stormwater NPDES municipal stormwater permittees
- What are the status and trends of in-stream biological health, sediment quality and in-stream/riparian habitat conditions that are primarily within urban and urbanizing areas under the jurisdiction of NPDES municipal stormwater permittees

This scope of work in Appendix B continues deployment and maintenance of continuous monitoring sensors, water and sediment quality sampling, stream habitat and biota assessment, data analysis and annual reporting.

Task 1: Project management

Clark County will manage the project and budget, and coordinate field, laboratory, and reporting tasks. Semi-annual project progress reports will be submitted to ECOLOGY to communicate project status and document work performed. Semi-annual progress reports will also include any decisions or modifications related to the tasks made during team meetings, communications with other permittees, and communications with Ecology as appropriate. Preliminary results or findings to date can also be included. Progress reports and billing packages will typically be delivered in the month following period end (i.e., January and July).

Deliverables and target dates:

- D1.10: Semi-annual progress report; target January 31, 2025
- D1.11: Semi-annual progress report; target July 31, 2025
- D1.12: Semi-annual progress report; target January 31, 2026
- D1.13: Semi-annual progress report; target July 31, 2026
- D1.14: Semi-annual progress report; target January 31, 2027
- D1.15: Semi-annual progress report; target July 31, 2027
- D1.16: Semi-annual progress report; target January 31, 2028
- D1.17: Semi-annual progress report; target July 31, 2028
- D1.18: Semi-annual progress report; target January 31, 2029
- D1.19: Semi-annual progress report; target July 31, 2029

Task 2: Station Set Up

Clark County acquired and installed equipment to continuously monitor stream stage and temperature at five (5) long-term trend stations and sixteen (16) rotating panel status stations during the period of the original IAA and amendment 1, July 1, 2020 - December 31, 2024. Trend stations will also include telemetry equipment. The equipment purchased for this project is owned, stored, and maintained by Clark County; however, it is understood unused equipment can be borrowed to support future SAM-sponsored studies.

Initial setup to be completed by September 2025 will include the three rotating panel stations. Additional rotating panel stations will be installed prior to October of each year; three each in 2026, 2027 and 2028, and four in 2029.

Long-term trend stations will measure water level and temperature with a Campbell Scientific CS450 series pressure transducer. The submersible sensor will be interfaced with a CR800 Campbell Scientific data logger that will be connected to a Sierra Wireless RV50 cellular modem to provide access to near real time-data and daily data transmittal.

Rotating panel status stations will measure temperature with a Hobo U24 submersible logger, and stage with a vented ONSET level logger HOB0 MX2001. Both loggers will be strategically placed in the stream and data downloaded manually during site visits.

Clark County will attach photographs and site description in the email documenting completed setup of each monitoring station as proof of deliverable.

Deliverables and target dates:

- D2.9: Confirmation email for equipment installation at three status monitoring stations; target September 30, 2025
- D2.10: Confirmation email for equipment installation at three status monitoring stations; target September 30, 2026
- D2.11: Confirmation email for equipment installation at three status monitoring stations; target September 30, 2027

D2.12: Confirmation email for equipment installation at four status monitoring stations; target September 30, 2028

D2.13: Confirmation email for equipment installation at four status monitoring stations; target September 30, 2029

Task 3: Continuous Datalogger Operation and Field Data Collection

Clark County will operate and maintain continuous monitoring equipment and perform field data collection per the Ecology-approved Quality Assurance Project Plan for Status and Trends Monitoring of Urban Streams in Clark and Cowlitz Counties in the Lower Columbia River Region (2020) and approved addendums.

General activities under this task include continuous data logger operation and data retrieval related work, and summer watershed health monitoring related work.

Continuous data loggers will record temperature and stage at 15-minute intervals throughout the project at the trend stations, and for one water year at each status station. Continuous water level data will then be used to calculate several flow metrics that are known to correlate with urbanization and biological condition in streams. All sites will initially be visited monthly for continuous data retrieval and any necessary equipment maintenance. Site visit frequency may be adjusted as needed.

Summer watershed health monitoring will be conducted between July 1 and September 30 at status and trend stations. Sediment, water quality, macroinvertebrate, and habitat data will be collected each year at each status stations. Sediment, water quality, and macroinvertebrate data will be collected each year at each trend station. Habitat data will be collected once every five years at trend stations.

Summer watershed health monitoring will be conducted between July 1 and September 30 at the Jones Creek reference station. Clark County operates and maintains continuous monitoring equipment and performs field data collection at this location per the Quality Assurance Project Plan for the Long-term Index Site Project in Clark County. Sediment samples will be collected and analyzed per the Ecology-approved Quality Assurance Project Plan for Status and Trends Monitoring of Urban Streams in Clark and Cowlitz Counties in the Lower Columbia River Region (2020) and approved addendums. Water quality samples will be analyzed for additional parameters per the Ecology-approved Quality Assurance Project Plan for Status and Trends Monitoring of Urban Streams in Clark and Cowlitz Counties in the Lower Columbia River Region (2020) and approved addendums. Habitat data will be collected once every five years at the Jones Creek reference station.

Continuous data retrieval, any issues related to the data, and maintenance status will be reported in semi-annual progress reports (Task 1 and D.1).

Deliverables and target dates:

D3.5: Email for monitoring completeness WY2025, confirming submission of the data collection event (DCE) file for each site compiled by the WHM e-forms and all required data and sample collection; target October 15, 2025

D3.6: Email for monitoring completeness WY2026, confirming submission of the data collection event (DCE) file for each site compiled by the WHM e-forms and all required data and sample collection; target October 15, 2026

D3.7: Email for monitoring completeness WY2027, confirming submission of the data collection event (DCE) file for each site compiled by the WHM e-forms and all required data and sample collection; target October 15, 2027

D3.8: Email for monitoring completeness WY2027, confirming submission of the data collection event (DCE) file for each site compiled by the WHM e-forms and all required data and sample collection; target October 15, 2028

D3.9: Email for monitoring completeness WY2028, confirming submission of the data collection event (DCE) file for each site compiled by the WHM e-forms and all required data and sample collection; target October 15, 2029

Task 4: Data Management

Clark County will perform data management and submittal per the Ecology-approved Quality Assurance Project Plan for Status and Trends Monitoring of Urban Streams in Clark and Cowlitz Counties in the Lower Columbia River Region (2020) and approved addendums.

Clark County will complete QA/QC verification and upload continuous data sets to Aquarius software monthly or bi-monthly. Clark County will upload QC'd continuous datasets to EIM, along with laboratory results for sediment chemistry and macroinvertebrates annually.

Deliverables and target dates:

D4.6: Upload continuous data sediment chemistry and macroinvertebrate data from sampling water year 2024 to EIM and send the email confirmation to the project manager; target March 31, 2025.

D4.7: Upload continuous data, sediment chemistry and macroinvertebrate data from sampling water year 2025 to EIM and send the email confirmation to the project manager; target March 31, 2026.

D4.8: Upload continuous data, sediment chemistry and macroinvertebrate data from sampling water year 2026 to EIM and send the email confirmation to the project manager; target March 31, 2027.

D4.9: Upload continuous data, sediment chemistry and macroinvertebrate data from sampling water year 2027 to EIM and send the email confirmation to the project manager; target March 31, 2028.

D4.10: Upload continuous data, sediment chemistry and macroinvertebrate data from sampling water year 2028 to EIM and send the email confirmation to the project manager; target March 31, 2029.

D4.11: Email the project manager a copy of the continuous data, and water and sediment chemistry data from sampling water year 2029; target December 31, 2029.

Task 5: Data Analysis and Annual Reporting

Clark County will perform data analysis and annual reporting per the Ecology-approved Quality Assurance Project Plan for Status and Trends Monitoring of Urban Streams in Clark and Cowlitz Counties in the Lower Columbia River Region (2020) and approved addendums.

Data finalization and analysis will take place during Q4 each year beginning in 2025 (following the completion of each sampled water year). Annual reports will be submitted to Ecology during Q1 or Q2 each year beginning in 2025 (WY2024 report).

Following completion of required monitoring for water year 2026, Clark County will prepare a trend analysis report covering data collected over the first 5 years of monitoring (water years 2021 – 2026). This report will summarize all prior status assessments, trend assessment for trend sites, identification of spatial and other patterns, and analysis of natural and anthropogenic indicators that explain variability.

Communication of the trend findings report will include a presentation of the results and future-study recommendations to permittees and stakeholders at the Stormwater Work Group. A draft SAM fact sheet for distribution on the SAM website will be drafted.

Deliverables and target dates:

- D5.9: Annual report (WY2024) draft; target July 31, 2025
- D5.10 Annual report (WY2024) final; target August 31, 2025
- D5.11: Annual report (WY2025) draft; target July 31, 2026
- D5.12 Annual report (WY2025) final; target August 31, 2026
- D5.13: Annual report (WY2026) draft; target July 31, 2027
- D5.14 Annual report (WY2026) final; target August 31, 2027
- D5.15 Trend analysis report for water years 2021 – 2026 draft; target July 31, 2027
- D5.16 Trend analysis report for water years 2021—2026 final; target August 31, 2027
- D5.17 Draft SAM factsheet on trend analysis findings; target August 31, 2027
- D5.18 Presentation to Stormwater Work Group on trend analysis findings; target August 31, 2027
- D5.19: Annual report (WY2027) draft; target July 31, 2028
- D5.20 Annual report (WY2027) final; target August 31, 2028
- D5.21: Annual report (WY2028) draft; target July 31, 2029
- D5.22 Annual report (WY2028) final; target August 31, 2029

Budget and Schedule:

Deliverable by Task	Target Date	Deliverable Cost
Task 1.0 Project Management		
D1.10: Semi-annual progress report	Jan-25	\$13,905
D1.11: Semi-annual progress report	Jul-25	\$13,905
D1.12: Semi-annual progress report	Jan-26	\$14,322
D1.13: Semi-annual progress report	Jul-26	\$14,322
D1.14: Semi-annual progress report	Jan-27	\$14,752
D1.15: Semi-annual progress report	Jul-27	\$14,752
D1.16: Semi-annual progress report	Jan-28	\$15,194
D1.17: Semi-annual progress report	Jul-28	\$15,194
D1.18: Semi-annual progress report	Jan-29	\$15,650
D1.19: Semi-annual progress report	Jul-29	\$15,650
	Task Subtotal	\$147,646
Task 2.0 Station Set Up		
D 2.9: Confirmation email for equipment installations for status sites	Sep-25	\$10,300
D 2.10: Confirmation email for equipment installations for status sites	Sep-26	\$10,609
D 2.11: Confirmation email for equipment installations for status sites	Sep-27	\$10,927
D 2.12: Confirmation email for equipment installations for status sites	Sep-28	\$11,255
D 2.13: Confirmation email for equipment installations for status sites	Sep-29	\$11,593
	Task Subtotal	\$54,684
Task 3.0: Continuous Datalogger Maintenance and Downloads and Field Annual Base Parameters		
D 3.5: Submission of the data collection events file for each site	Oct-25	\$52,445
D 3.6: Submission of the data collection events file for each site	Oct-26	\$54,018
D 3.7: Submission of the data collection events file for each site	Oct-27	\$55,639
D 3.8: Submission of the data collection events file for each site	Oct-28	\$57,308
D 3.9: Submission of the data collection events file for each site	Oct-29	\$59,027
	Task Subtotal	\$278,437
Task 4.0 Data Management		
D 4.6: Upload data from sampling WY2024 to EIM	Mar-25	\$15,000
D 4.7: Upload data from sampling WY2025 to EIM	Mar-26	\$30,900
D 4.8: Upload data from sampling WY2026 to EIM	Mar-27	\$31,827
D 4.9: Upload data from sampling WY2027 to EIM	Mar-28	\$32,782
D 4.10: Upload data from sampling WY2028 to EIM	Mar-29	\$33,765
D 4.11: Email the project manager a copy of the data from WY2029	Dec-29	\$34,778
	Task Subtotal	\$179,052
Task 5.0 Data Analysis and Annual Reporting		
D5.9 Annual Report (WY2024) Draft	Jul-25	\$13,000
D5.10 Annual Report (WY2024) Final	Aug-25	\$2,000
D5.11 Annual Report (WY2025) Draft	Jul-26	\$13,390
D5.12 Annual Report (WY2025) Final	Aug-26	\$2,060
D5.13 Annual Report (WY2026) Draft	Jul-27	\$13,792

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D5.14 Annual Report (WY2026) Final	Aug-27	\$2,122
D5.15 Trend analysis report for water years 2021 – 2026, Draft	Jul-27	\$45,000
D5.16 Trend analysis report for water years 2021 – 2026, Final	Aug-27	\$9,000
D5.17 Draft SAM factsheet on trend analysis findings	Aug-27	\$3,000
D5.18 Presentation to SWG on trend analysis findings	Aug-27	\$3,000
D5.19 Annual Report (WY2027) Draft	Jul-28	\$14,205
D5.20 Annual Report (WY2027) Final	Aug-28	\$2,185
D5.21 Annual Report (WY2028) Draft	Jul-29	\$14,632
D5.22 Annual Report (WY2028) Final	Aug-29	\$2,251
	Task Subtotal	\$139,637
Appendix A1 Subtotal		\$799,456
Appendix A1 Contingency (10%)		\$79,946
Appendix A Subtotal & Contingency (10%)		\$582,854
Total Project Cost		\$1,462,256