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▷ [HRGREEN.COM](http://HRGREEN.COM)

September 15, 2021

Mr. Chuck Gleason  
Project Manager  
Lake County Division of Transportation  
600 West Winchester Road  
Libertyville, Illinois 60048

**RE: IL Route 137 Bike Path (Patriot Path)  
Supplement No. 2  
Section No.: 15-000289-01-BT**

Dear Mr. Gleason:

Based on the discussions in our meeting on September 14, 2021 and June 16, 2020, HR Green has coordinated with our subconsultants and is submitting the supporting documentation for Supplement No. 2 to the contract for the subject project.

As discussed, the Patriot Path has multiple stakeholder entities, including the Navy, that have involved extensive additional coordination to mitigate unexpected impacts to environmental resources, which also required multiple geometric modifications. This, combined with the iterative nature of the IDOT and FHWA Phase I processes, has required significantly more effort than originally anticipated or budgeted.

Shifting the path alignment and minimizing impacts to adjacent properties has resulted in additional hours required for Survey, Geometrics, Environmental Studies, Agency Coordination, and Public Involvement. In addition, there was significant coordination with IDOT relating to the 4(f) Navy golf course property that will be impacted by the project. There were geometric revisions due to Pace Bus accommodations, impacts to Navy properties and Green Oaks Park, as well as the gas station at the northeast corner of IL 137 and IL 131. The original contract only included floodplain encroachment calculations, although IDOT desires compensatory storage design grading on the engineering plans to indicate the compensatory storage will be accounted for. The compensatory storage location for the standalone bridge on the south side of the Des Plaines River will be provided on the north side and compensating volume will also be graded out at the two other floodplain crossings.

Attached is the supporting documentation for Supplement No. 2 in the amount of \$143,098.56, which approximately 10.5% of our original contract amount of \$1,360,893.69. The overall total to date with supplement #1 and #2 is \$1,632,885.27, which is an 20% increase over the original contract amount.

Please contact me at 815-759-8306 with any questions relating to this project. Thank you.

Sincerely,

**HR GREEN, INC.**

Stephen R. Bicking, PE, CFM, D.WRE  
Senior Engineer

Attachment – Change in Consultant Contract Form, Scope, CECS, CBBEL-Scope/CECS

Cc: Ron Krall, PE – HR Green

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Request for Approval  
of Change in Consultant Contract

Date: 9/15/2021

Local Agency: LAKE COUNTY

Request: No. 2

Name: IL 137 Bike Path - Phase 1  
Engineering

To: Lake County Division of Transportation

Section: 15-00289-01-BT

Consultant: HR Green, Inc.

I recommend that an addition be made to the above consultant contract.

The estimated work is listed below

Original contract amount for services described:	\$1,360,893.69
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Sum of all previous contract change orders:	\$128,893.02
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Item #	Description	Additions	Deductions
1	2.2 - Additional field survey was required for various locations.	\$4,052.64	
2	2.3 - Phase I Geometric revisions in multiple areas to accommodate IDOT and North Chicago requests. Changes for Pace Bus Stop, guardrail length, 4(f) avoidance, Gas Station avoidance, Autoturn modeling, and modification to templated cross sections.	\$30,816.32	
3	2.6 - Environmental coordination for the completion of the 4(f) documentation and multiple ESR revisions. Navy's golf course coordination regarding environment impacts.	\$16,922.49	
4	2.8 - Coordination with multiple agencies including IDOT, Tollway, FPDLC, as well as completing the CMAQ funding applications.	\$20,406.27	
5	2.9 - Additional coordination with Abbot Labs and the Great Lakes Naval Base, as well as various municipalities and their engineering firms.	\$12,729.10	
6	2.12 - Finalize the PDR with information that was not available with during the first PDR submittal. Revise exhibits, update narrative and provide additional QA/QC. The PDR level of effort is significant due to the 4(f) and environmental components.	\$17,615.89	
7	2.13 Additional Administration time due to contract extending 24 months beyond anticipated completion date.	\$20,933.15	
8	2.5 & 2.6 - CBBEL - additional work to complete the compensatory storage design grading at the three floodplain crossings that were originally scoped as encroachment evaluations. Work effort to revise the WIE that were submitted at IDOT's request while the path geometry was being finalized.	\$19,622.70	
TOTALS		\$143,098.56	\$0.00
NET CHANGE		\$143,098.56	\$0.00

Net ADDITION change to date                      \$271,991.58    which is    19.99    % of the original contract amount for services described

State fully the nature and reason for change:

Please see attached.

Revised contract amount for services described:	\$1,632,885.27
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When the net increase or decrease in the cost of the contract is \$10,000 or more, or the time of completion is increased or decreased by 30 days or more, one of the following statements shall be checked.

XXX    The undersigned determined that the circumstances which necessitated this change were not reasonably foreseeable at the time the contract was signed.

XXX    The undersigned has determined that the change is germane to the original contract as signed.

XXX    The undersigned determined that this change is in the best interest of the local agency and is authorized by law.

Project Manager/Engineer \_\_\_\_\_ Date \_\_\_\_\_

Department Head \_\_\_\_\_ Date \_\_\_\_\_

Chief Accounting Specialist \_\_\_\_\_ Date \_\_\_\_\_

Approved \_\_\_\_\_ Date \_\_\_\_\_

County Engineer



## **SCOPE OF SERVICES – Supplement #2**

**For**

**Lake County Division of Transportation  
Patriot Path - IL Route 137 Bike Path  
Des Plaines River Trail to Robert McClory Bike Path  
Section No. 15-00289-01-BT**

Chuck Gleason, Project Manager  
Lake County Division of Transportation  
600 West Winchester Road  
Libertyville, IL 60048  
847.377.7447

Stephen R. Bicking, PE  
HR Green, Inc.  
420 N. Front St.  
McHenry, IL 60050  
HR Green Project Number 181586

September 15, 2021

## **TABLE OF CONTENTS**

- 1.0 PROJECT UNDERSTANDING
- 2.0 SCOPE OF SERVICES



This **AGREEMENT** is between Lake County Division of Transportation, (hereafter “CLIENT”) and HR GREEN, INC. (hereafter “COMPANY”).

## 1.0 Project Understanding

The supplemental services being performed by HR Green, Inc. (COMPANY) follow the original contact scope in each section and correlate with the task number used in the “Change in Consultant Contract” form. The reason the supplemental services are required also follows each scope item.

## 2.0 SCOPE OF SERVICES

The overall Phase I Study Scope of Services consists of the Part 1 Feasibility Analysis and the Part 2 Detailed Analysis components.

In all engineering and environmental studies projects (Phase I), scope and level of effort to meet the needed requirements to gain Design Approval are sometimes difficult to precisely predict at the onset. The Patriot Path project is one of those projects due to some of the stakeholder entities involved and the associated extensive coordination necessary, unexpected impacts to environmental resources, multiple geometric modifications, as well as the iterative nature of the IDOT and FHWA Phase I processes that required more effort than originally anticipated or budgeted.

In order to complete the Phase I studies, an additional level of effort in the following tasks has been or will be needed in order to achieve Design Approval for the project:

- Task 2.2 Surveying
- Task 2.3 Phase I Geometric
- Task 2.6 Environmental Studies/Reports
- Task 2.8 Agency Coordination
- Task 2.9 Public Involvement
- Task 2.12 Project Development Report
- Task 2.13 Administration and QA/QC

**Task 2.2 Surveying (32 hours):** In order to complete the various drainage studies and reports by both COMPANY and its subconsultants, additional drainage information had to be gathered for the north side of IL 137, which included pipes sizes, invert elevations, and verification of outfall locations. Work hours used for this task were 32 hours. There were 804 hours added in Supplement #1 for survey based on needing to survey the north side of the road from O’Plaine Road to Sheridan Road.

**Task 2.3 Phase I Geometric (216 hours):** Multiple areas of geometric designs had to be revised, completely designed, and/or adjusted due to ROW and other undesirable impacts, accommodation of other agency projects, modifications based on drainage calculations, effort not anticipated when the project was started as part of Phase I, etc. A list of geometric modifications includes:

1. Lewis Avenue Pace Bus Stop accommodations for North Chicago (not accounted for in Phase I scope) - 40;
2. IDOT requested guardrail length of need calculations throughout the corridor. Seven (7) guardrail locations were reviewed and exhibit prepared for inclusion into the PDR (not accounted for in Phase I scope) – 28;
3. Reduced cross-section to avoid ROW impact at Green Oaks Park. The 4(f) impact anticipated at the initial scoping in this location was avoided - 32;



4. Multiple designs for and around the gas station at IL 131 in the NE corner; cross-section redesign/adjustments based on refinements to the drainage plans; guardrail calculations (not accounted for in Phase I scope) - 40;
5. Autoturn for five (5) intersections that had medians (not accounted for in Phase I scope) - 40; and
6. Revised templated cross sections to drain away from the road (where possible) per IDOT drainage comments – 36.

**Task 2.6 Environmental Studies/Reports (80 hours):** The completion of the 4(f) coordination required additional documentation, coordination with IDOT and the Navy, multiple revisions to the one (1) required report based on reviews by IDOT Local Roads (still on-going), multiple ESR revisions, development and revision of multiple exhibits, and meetings. The 4(f) for the Navy's golf course has required an extensive amount of coordination and documentation with IDOT and the Navy that could not have been anticipated at the onset of the project and is not yet completed. Numerous emails, phone calls, and conference calls have been required with IDOT D-1 Local Roads and Central Office Local Roads. At the time of this supplement, we have made three submittals of the DeMinis Report with differing comments received back from each submittal. The latest involved Central Office attempting to require a fourth PIM as a true Public Hearing. This has required significant coordination and the intervention of LCDOT to address this. Likewise, Central Office required an AESR for the impacted golf course parking lot. A special exhibit was developed for this area and reviewed, commented on, and revised prior to Central office being satisfied with additional level of effort. Likewise, in attempting to complete the 4(f) report, numerous attempts were made to coordinate with the Navy and provide support in the form of a letter, email or other form. The Navy's change in civilian coordinators to a less responsive individual causing a much larger level of effort. The estimated work hours used and/or anticipated to be used for this ongoing task is 80 hours. There was a net addition of 52 hours for an additional 4f parcel that was added in supplement #1.

**Task 2.8 Agency Coordination (96 hours):** This task includes the additional level of effort required to coordinate the various project components, issues and solutions with IDOT (District One and Central Office), the Forest Preserve District of Lake County, the Illinois Tollway, and LCDOT. This task also includes the coordination and effort necessary for completing the CMAQ funding applications. The estimated work hours used and/or anticipated to be used for this ongoing task is 96 hours. There were no hours for this task in supplement #1.

**Task 2.9 Public Involvement (60 hours):** The additional level of effort required for this task was primarily focused on two (2) entities (Abbott Labs and the Great Lakes Naval Base). However, additional effort was also required for occasional coordination with the various municipalities along the project corridor and/or their respective engineering firms, in particular Green Oaks. The estimated work hours used and/or anticipated to be used for this ongoing task is 60 hours. There were no hours for this task in supplement #1.

**Task 2.12 Project Development Report (96 hours):** The final PDR will be updated per IDOT comments. The draft PDR was developed and submitted. Based on IDOT's review of the draft PDR, there are comments to be addressed and additional information will need to be added since there a portion of the PDR was incomplete due to required information that was not yet available. Also, exhibit revisions, finalize the narrative, QC/QA review, and production of hard copies, it is anticipated an additional level of effort will be required to complete this task. The PDR for this project is substantially more involved and detailed than a standard PDR for CE Federal Report. There was no way to anticipate the level of effort required to develop, address comments, add additional information and verbiage details, and exhibits. Central Office has required information that has this CE Report approaching 800 pages for a bike path project. COMPANY estimates an additional 96 hours will be necessary to complete this task. There were no hours for this task in supplement #1.



**Task 2.13 Administration and QC/QA (108 hours):** The project has extended well beyond the originally anticipated schedule as a result of the various tasks described above. Additional project oversight and QC/QA reviews were required for all the changes and/or modifications made to the design and associated Phase I documentation. The extended schedule has necessitated additional time for the project administrative duties, such as document control, file management, budgeting/scheduling, and invoicing. The original contract anticipated 12 months for Part 1, 24 months for Part 2 and was signed in May 2015, finishing June 2018. Supplement #1 added 12 months at 114 hours with an anticipated completion date of 8/1/19. We have added approximately 24 months after the completion date set in supplement #1. Since we have been proceeding more slowly, the 108 hours for this task represent a 12 month extension rather than a 24 month extension and is consistent with Supplement #1. The estimated work hours used and/or anticipated to be used for this ongoing task is 108 hours.

Sincerely,

HR GREEN, INC.

A handwritten signature in black ink, appearing to read 'Stephen R. Bicking', written over a horizontal line.

Stephen R. Bicking, PE, D.WRE, CFM  
Senior Engineer - Transportation

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**PAYROLL ESCALATION TABLE  
FIXED RAISES**

FIRM NAME HR Green, Inc.  
PRIME/SUPPLEMENT Prime

DATE 07/13/21  
PTB NO. N/A

CONTRACT TERM 16 MONTHS  
START DATE 5/1/2020  
RAISE DATE 4/1/2021

OVERHEAD RATE 167.79%  
COMPLEXITY FACTOR  
% OF RAISE 3.00%

**ESCALATION PER YEAR**

5/1/2020 - 4/1/2021
11
<hr/> 16

4/2/2021 - 9/1/2021
5
<hr/> 16

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= 68.75%  
= 1.0094

32.19%

**The total escalation for this project would be:**

**0.94%**





## COST PLUS FIXED FEE COST ESTIMATE OF CONSULTANT SERVICES

FIRM	HR Green, Inc.	DATE	07/13/21
PSB	N/A	OVERHEAD RATE	1.6779
PRIME/SUPPLEMENT	Prime	COMPLEXITY FACTOR	0

DBE DROP BOX	ITEM	MANHOURS (A)	PAYROLL RATE	PAYROLL Costs (DL) (B)	OVERHEAD & FRINGE BENF (C)	SERVICES BY OTHERS (G)	IN-HOUSE DIRECT COSTS (D)	Profit (E)	TOTAL (B-G)	% OF GRAND TOTAL
	2.2 Surveying	32	\$41.30	1,321.72	2,217.71			513.22	4,052.64	3.28%
	2.3 Phase I Geometric	216	\$46.53	10,050.34	16,863.47			3,902.50	30,816.32	24.96%
	2.6 Environmental Studies/Rpts	80	\$68.99	5,519.05	9,260.41			2,143.02	16,922.49	13.71%
	2.8 Agency Coordination	96	\$69.33	6,655.24	11,166.83			2,584.20	20,406.27	16.53%
	2.9 Public Involvement	60	\$69.19	4,151.43	6,965.68			1,611.98	12,729.10	10.31%
	2.12 Project Development Report	96	\$59.85	5,745.20	9,639.86			2,230.83	17,615.89	14.27%
	2.13 Project Admin/QA-QC	108	\$63.21	6,827.08	11,455.15			2,650.92	20,933.15	16.95%
	<b>TOTALS</b>	688		40,270.05	67,569.12	0.00	0.00	15,636.68	<b>123,475.85</b>	100.00%

# AVERAGE HOURLY PROJECT RATES

**FIRM** HR Green, Inc.  
**PSB** N/A  
**PRIME/SUPPLEMENT** Prime

DATE 07/13/21

SHEET 1 OF 2

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJECT RATES			2.2 Surveying			2.3 Phase I Geometric			2.6 Environmental Studies			2.8 Agency Coordination			2.9 Public Involvement		
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg
Principal	70.00	0															0		
Senior PM	70.00	236	34.30%	24.01				16	7.41%	5.19	60	75.00%	52.50	80	83.33%	58.33	48	80.00%	56.00
Senior Engr	70.00	120	17.44%	12.21							10	12.50%	8.75	8	8.33%	5.83	6	10.00%	7.00
Project Manager	61.90	122	17.73%	10.98				60	27.78%	17.20	10	12.50%	7.74	8	8.33%	5.16	6	10.00%	6.19
Lead Engr	63.28	0																	
Professional Engr II	49.15	0																	
Professional Engr I	37.18	80	11.63%	4.32				80	37.04%	13.77									
Staff Engineer II	36.64	20	2.91%	1.07															
Staff Engineer I	33.25	0																	
Senior Design Tech	37.37	60	8.72%	3.26				60	27.78%	10.38									
Project Scientist I	52.80	0																	
Strategic Client Mgr	70.00	0																	
Operations Mgr Survey	60.35	0																	
Project Land Surveyor II	46.64	16	2.33%	1.08	16	50.00%	23.32												
Survey Crew Chief	46.11	0																	
Staff Land Surveyor II	35.96	16	2.33%	0.84	16	50.00%	17.98												
Project Coordinator	29.28	18	2.62%	0.77															
		0																	
		0																	
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<b>TOTALS</b>		688	100%	\$58.53	32	100.00%	\$41.30	216	100%	\$46.53	80	100%	\$68.99	96	100%	\$69.33	60	100%	\$69.19

# AVERAGE HOURLY PROJECT RATES

**FIRM** HR Green, Inc.  
**PSB** N/A  
**PRIME/SUPPLEMENT** Prime

**DATE** 07/13/21

**SHEET** 2 OF 2

PAYROLL CLASSIFICATION	AVG HOURLY RATES	2.12 Project Development Reg			2.13 Project Admin/QA-QC														
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg			
Principal	70.00																		
Senior PM	70.00	32	33.33%	23.33															
Senior Engr	70.00	6	6.25%	4.38	90	83.33%	58.33												
Project Manager	61.90	38	39.58%	24.50															
Lead Engr	63.28																		
Professional Engr II	49.15																		
Professional Engr I	37.18																		
Staff Engineer II	36.64	20	20.83%	7.63															
Staff Engineer I	33.25																		
Senior Design Tech	37.37																		
Project Scientist I	52.80																		
Strategic Client Mgr	70.00																		
Operations Mgr Surv	60.35																		
Project Land Survey	46.64																		
Survey Crew Chief	46.11																		
Staff Land Surveyor	35.96																		
Project Coordinator	29.28				18	16.67%	4.88												
<b>TOTALS</b>		96	100%	\$59.85	108	100%	\$63.21	0	0%	\$0.00	0	0%	\$0.00	0	0%	\$0.00	0	0%	\$0.00

**Lake County Division of Transportation  
IL Route 137 Bike Path  
Des Plaines River Trail to Robert McClory Bike Path  
Section No. 15-00289-01-BT**

**Phase I Engineering and Environmental Studies  
Christopher B. Burke Engineering, Ltd  
Supplemental Agreement #2  
August 2020**

Based on the ongoing and iterative nature of the project development process since authorization of Supplemental Agreement #1 in 2019, additional level of effort has been and/or will be required within the following tasks for completion of Phase I Engineering and Environmental studies for the subject project.

**Task 2.05: Location Drainage Study and Hydraulic Reports (128 hours)**

Additional level of work effort is required to complete compensatory storage grading design for the bike path crossings of the Des Plaines River, Tributary #1, and Skokie River. The original scope included time for Floodplain Encroachment Evaluations to determine the required compensatory storage volume. Detailed grading design of the compensatory storage areas is extra effort necessary to minimize ROW takes. The original scope assumed storm sewer and ditch design would be needed for eight (8) outlets. However, at the time of scoping, the locations and depths of the existing IDOT storm sewers was not known. Due to the location of the storm sewer systems beneath or very near the proposed path in several areas, additional sewer system and ditch relocation layout and analyses are required for several hundred feet of the project. This affects both the proposed drainage plan (PDP) and the Location Drainage Study (LDS) writeup. On this basis, 128 additional work hours is requested as follows for this additional level of effort:

- Extra effort HR hours: 48 (3 detailed FP grading designs at 16 hours/each)
- Extra effort PDP/LDS hours: 80 (additional length of storm sewer/ditch design)

**Task 2.06: Environmental Studies/Reports (32 hours)**

The Wetland Impact Evaluation (WIE) sheets were submitted in July 2019 at IDOT's request. The proposed path geometry was still being finalized and under IDOT review during WIE preparation which resulted in additional level of effort required (iterative process working with HRG and revising as needed) to complete the WIE's to ensure the WIE's were correct and final. As a result, this task is currently over budget by 50 hours. 32 hours is requested to offset this required additional level of effort.

# IL 137 Bike Path

**FIRM**  
**Section Number**  
**Project**

CBBEL  
15-00289-01-BT  
Supplement 2

**OVERHEAD RATE**  
**COMPLEXITY FACTOR**

**DATE** 08/03/20  
1.2372  
0

ITEM	WORKHOURS (A)	PAYROLL (B)	OVERHEAD (C)	IN-HOUSE DIRECT COSTS (D)	FIXED FEE (E)	OUTSIDE DIRECT COSTS (F)	SERVICES BY OTHERS (G)	TOTAL (B-G)	% OF GRAND TOTAL
2.05 Part 2 - LDS and Hydraulic Reports	128	5,955.66	7,368.34		2,072.57			15,396.57	78.46%
2.06 Part 2 - Environmental Studies/Reports	32	1,634.74	2,022.50		568.89			4,226.13	21.54%
<b>TOTALS</b>	160	7,590.40	9,390.84	0.00	2,641.46	0.00	0.00	<b>19,622.70</b>	100.00%

# AVERAGE HOURLY PROJECT RATES

**FIRM** CBBEL  
**Section Number** 15-00289-01-BT  
**Project** Supplement 2

**DATE** 08/03/20

**SHEET** 1 OF 1

PAYROLL CLASSIFICATION	AVG HOURLY RATES	TOTAL PROJECT RATES			2.05 Part 2 - LDS and Hyd			2.06 Part 2 - Environmen											
		Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg	Hours	% Part.	Wgtd Avg			
Engineer VI	70.00	0																	
Engineer V	60.06	26	16.25%	9.76	24	18.75%	11.26	2	6.25%	3.75									
Engineer IV	49.19	32	20.00%	9.84	30	23.44%	11.53	2	6.25%	3.07									
Engineer III	41.19	32	20.00%	8.24	32	25.00%	10.30												
Engineer I/II	30.23	8	5.00%	1.51	8	6.25%	1.89												
Survey V	70.00	0																	
Survey IV	61.50	0																	
Survey III	52.50	0																	
Survey II	37.40	0																	
Survey I	25.88	0																	
Env. Res. Spec. V	66.50	0																	
Env. Res. Spec. IV	50.58	28	17.50%	8.85				28	87.50%	44.26									
Env. Res. Spec. III	38.37	0																	
Env. Res. Spec. I/II	25.25	0																	
Env. Res. Technician	34.00	0																	
Landscape Architect	50.00	0																	
Cad Manager	55.50	6	3.75%	2.08	6	4.69%	2.60												
Asst. Cad Manager	47.00	0																	
Cad II	43.48	20	12.50%	5.44	20	15.63%	6.79												
Cad I	33.25	0																	
Engineering Tech V	60.00	0																	
Engineering Tech IV	45.00	0																	
Engineering Tech III	41.02	0																	
Engineering Tech I/II	41.17	0																	
GIS Specialist III	43.00	4	2.50%	1.08	4	3.13%	1.34												
GIS Specialist I/II	26.00	4	2.50%	0.65	4	3.13%	0.81												
Administrative	29.15	0																	
<b>TOTALS</b>		160	100%	\$47.44	128	100.00%	\$46.53	32	100%	\$51.09	0	0%	\$0.00	0	0%	\$0.00	0	0%	\$0.00