

PUBLIC WORKS MEMORANDUM
#34-2022

DATE: July 11, 2022
TO: Honorable Mayor Meredith Leighty and City Council Members
THROUGH: Heather Geyer, City Manager *Hmg*
FROM: Kent Kisselman, PE – Director of Public Works *CHK*
SUBJECT: CR-113 – Community Center Drive Bridge Rehabilitation Engineering Services

PURPOSE

To consider CR-113, a resolution approving a contract with Collins Engineers for Community Center Drive Bridge Rehabilitation Engineering Services for \$142,355.

BACKGROUND

The Colorado Department of Transportation (CDOT), through its bridge inspections program, has identified certain deficiencies on the Community Center Drive Bridge that will reduce its lifespan. Delay of rehabilitation will mean increased repair costs as the deficiencies worsen. In 2019, the City contracted Atkins to evaluate the bridge and generate a report identifying recommended repairs. The report was completed in 2020, and is included as Attachment 1.

In 2020, the City applied for CDOT’s Off-System Bridge Program Grant. The City was awarded \$524,258. The grant requires the City to create construction documents meeting CDOT submittal requirements and obtain all clearances required for Federally-funded projects. The City received a proposal from Collins Engineering to create construction plans per the CDOT requirements and obtain all the clearances required. After completion of the design phase of the project and obtaining all necessary clearances, the City would then issue an invitation for bids for a contractor to complete the work in 2023.

BUDGET/TIME IMPLICATIONS

Funds in the amount of \$655,323 are available for the Community Center Drive Bridge Rehabilitation Project in the 2022 Capital Projects Fund.

	Amount
2022 CIP	\$655,323
Collins Engineers contract	(\$142,355)
Budget Remaining	\$512,968

Design is expected to be completed in the first quarter of 2023; bidding and construction should start in 2023.

STAFF RECOMMENDATION

Attached is CR-113, a resolution that, if approved, would authorize the mayor to execute a contract between the City of Northglenn and Collins Engineers, Inc. for Community Center Drive Bridge Rehabilitation Engineering Services in an amount not to exceed \$142,355. Staff recommends approval of CR-113.

STAFF REFERENCE

If Council members have any questions, please contact Kent Kisselman, Director of Public Works, at kkisselman@northglenn.org or 303.450.4005.

ATTACHMENT

1. Atkins Community Center Drive Bridge Structure Rehabilitation Report

CR-113 – Community Center Drive Bridge Rehabilitation Engineering Services
Collins Engineers, Inc. Professional Services Agreement

THE CITY OF NORTHGLENN



STRUCTURE REHABILITATION REPORT

Community Center Drive Bridge Over I-25



December 20, 2019

Prepared By:
ATKINS
Member of the SNC-Lavalin Group

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1 Executive Summary

1.1 Project Description

Community Center Drive Bridge is located on Community Center Drive between Huron St, to the west, and Malley Dr, to the east. The bridge is a vital connection for the City of Northglenn being one of three I-25 crossings within the limits of the City. The existing structure is a two span prestressed tub girder bridge with the existing pier in the median of I-25. Community Center Drive (CCD) connects 112th Avenue at Huron St to 120th Avenue east of I-25. CCD is two lanes in each direction with a median and sidewalk on the north side of the bridge.

Figure 1 Location Map of Community Center Drive Bridge



1.2 Purpose of Report

The purpose of this report is to break the down damage that is occurring to the CCD over I-25 bridge, see what issues are causing the damage and to propose the best course of action to rehabilitate the abutments and other items that are cause for concern. These items may include

- Approach slabs settling at the end of the approaches.
- Cheek walls connected to the back wall of the abutments cracking and needing repaired or replaced
- Removal of backwall
- Bearing replacement
- Abutment seat repairs
- Water moving behind and under the wingwalls and abutments
- Bridge rail and pedestrian rail repair and bridge rail replacement

1.3 Structure Rehabilitation Recommendations

The structure repair at Community Center Drive for the City of Northglenn will entail a two phased approach with traffic being moved to one half of the bridge for each phase of the construction. Temporary shoring will be required during both phases of the construction of project to allow traffic to continue crossing I-25 while the bridge repairs are completed. The removal of the approach slabs, and the removal of the median, bridge rail, sidewalk and portions of deck past the existing expansion joint will be required in the bridge repair work. Once these have been removed the MSE backfill will be removed to provide access to the abutment backwall. The backwall will be removed down to the abutment bearing seat and any removal of wingwall for repair and replacement will be done at this stage of construction. Each girder will be jacked vertically off their seat slightly and the bearing devices under each girder will be replaced. Once this has occurred portions of the diaphragm concrete will be removed and any excess concrete that spilled during the placement of the original backwall will be cleaned. Reinforcing and formwork for the overhanging diaphragm (semi-integral diaphragm) will be placed and the diaphragm will be poured in place. The MSE backfill will be installed and the new approach slab with the expansion joint at the end of the approach slab will be poured in place.

During phase one construction the reinforcing will extend past the new concrete with the required lap distance installed and will to be protected in place. The traffic will switch sides of the bridge and the repair work for the second phase will occur in the same manner as described for phase one. Once both sides of the abutment and approach slabs have been replaced, the neoprene seal for the expansion joints will be put in place and the bridge will reopen all lanes.

2 Site Description and Design Issues

2.1 Existing Structure

CCD Bridge is located on Community Center Drive between Huron St, to the west, and Malley Dr, to the east. The existing structure is a two span prestressed tub girder bridge with the existing pier in the median of I-25. The west approach is at grade with a two-tiered MSE retaining wall below and wrapping around the west abutment. The east approach ramps up to the bridge with an MSE retaining wall on the north side along Boondocks, the south side grades out. There is an MSE retaining wall in front of the east abutment.

2.1.1 West Abutment (Abutment 1)

The west abutment backwall is being displaced and pushed away from the abutment seat by several factors. The original design of the bridge intended the backwall to have a minimum 1.75 inch gap between it and the superstructure. Misrepresentation of expansion joint gaps in the bridge plans when the bridge girders were set and construction issues or mistakes while pouring the backwall caused the superstructure to have no gap between it and the backwall. The expansions joint appeared to have been set with the appropriate gap at time of placement, but the structure below was not able to expand appropriately. This has caused the superstructure to push against the backwall binding the bridge and causing the backwall to be displaced from the cheek walls and the abutment seat. With the backwall being displaced and pushed away from the bridge, the cheek walls at the abutment ends are showing stress cracking and concrete spalling.

In addition to the superstructure displacing the backwall, the approach slab connection used in the bridge design is older design which Colorado Department of Transportation (CDOT) no longer allows to be used. The approach slab is attached as a direct connection placed on top of the backwall. This created a fixed connection between the approach slab and the backwall causing further displacement in the backwall as the approach slab settles and tries to pull away from the bridge.

With the settlement of the approach slab, the bridge rail has begun to crack at the expansion joint. The pedestrian rail attached to the bridge rail was not provided a slip joint, or a means to expand and contract. This caused the pedestrian rail at each bridge rail expansion joint to bow out away from the bridge due to the expansion of the superstructure.

2.1.2 East Abutment (Abutment 3)

The east abutment backwall is being displaced and pushed away from the abutment seat to a lesser degree than the west abutment by several factors. The original design of the bridge intended the backwall to have a minimum 1.75 inch gap between it and the superstructure. Misrepresentation of expansion joint gaps in the bridge plans when the bridge girders were set and construction mistakes while pouring the backwall caused the superstructure to have no gap between it and the backwall. The expansion joint appeared to have been set with the appropriate gap at time of placement, but the structure below was not able to expand appropriately. This has caused the superstructure to push against the backwall binding the bridge and causing the backwall to be displaced from the cheek walls and the abutment seat. With the backwall being displaced and pushed away from the bridge, the cheek walls at the abutment ends are showing stress cracking and concrete spalling.

In addition to the superstructure displacing the backwall, the approach slab connection used in the bridge design is older design which Colorado Department of Transportation (CDOT) no longer allows to be used. The approach slab is attached as a direct connection placed on top of the backwall. This created a fixed connection between the approach slab and the backwall causing further displacement in the backwall as the approach slab settles and tries to pull away from the bridge.

With the settlement of the approach slab, the bridge rail has begun to crack at the expansion joint. The pedestrian rail attached to the bridge rail was not provided a slip joint, or a means to expand and contract. This caused the pedestrian rail at each bridge rail expansion joint to bow out away from the bridge due to the expansion of the superstructure.

There was evidence of water potentially getting behind the wingwall and under the approach slab and exiting near the abutment and pilaster on the north side. Recent heaving of median at the end of the approach may also be evidence of this.

2.2 ROW Impact

All proposed work on the bridge is intended within the current limits of roadway and bridge, no additional ROW impacts are anticipated. Coordination with CDOT during construction work may be required.

2.3 Traffic Detour

CCD is one of three streets that crossover I-25 in the City of Northglenn. The street is vital to the City in allowing emergency services from the Justice Center to access the east side of I-25 quickly and cannot be completely closed during construction. Therefore, the work will be done in two phases,

shifting traffic to single lane access in each direction at Justice Center Drive and Malley Drive during each phase of repair work. This will allow half the repair work to be completed during each phase.

2.4 Utilities

There are several different utility conduits running through the sidewalk and bridge barriers, the contractor will need to verify whether all conduits have utilities within them before work begins and come up with a plan on how to work with the utilities in the structure. The existing plans do not show any existing utilities near the abutment, but the contractor should verify existing utilities before work begins.

2.5 Roadway Design Features

The roadway features on the bridge and the approaches leading up to the bridge are not intended to change from the existing design. The purpose of the work is to repair the approach slabs and bridge abutments.

3 Structure Design Criteria

3.1 Design Specifications

The primary design code in which the abutments will be designed is the *AASHTO LRFD Bridge Design Specifications*. The existing structure was designed to AASHTO 2nd Edition LRFD with 1999, 2000 and 2001 Interims. The design shall be subjected to the most current version at the start of the design unless the existing elements cannot meet current standards, then it will be based on the existing design code. The most current design code is the 8th Edition, published in 2017 and prior to the commencement of the final design, an agreement with the City of Northglenn shall be reached to understand which code will be used as the basis of the design.

3.2 Construction Specifications

CDOT specifications will be followed for this project. The project team may develop construction specifications that apply to the bridge and/or may adopt existing specifications published by other agencies such as the City of Northglenn and AASHTO.

All welding of the bridge steel superstructure will be specified to conform to the American Welding Society (AWS) D1.1/D1.1M structural welding code. Fabricators will be required to be certified by the American Institute of Steel Construction (AISC) for simple and major steel bridges.

Shop fabrication, welding, as well as field assembly and erection will be subject to strict quality control and quality assurance (QA/QC) procedures throughout fabrication and construction.

3.3 Loading

The major loading conditions the bridge rehabilitation will be subject to include thermal, earthquake, dead, and live. Specific loading requirements are as follows:

<i>Thermal Loads:</i>	
Thermal range - Concrete	-20 to 105 degrees F
Thermal range - Steel	-20 to 110 degrees F
Expansion bearing assembly at tall abutment (sliding friction per manufacturer's design)	
<i>Seismic Loads:</i>	Detailing per AASHTO, Seismic Zone 1
<i>Dead Loads:</i>	Self-weights of concrete substructure, approach slabs, sidewalks, barriers, railings and wearing surfaces
<i>Live Loads:</i>	HL-93: Design Truck or Design Tandem and Design Lane loads Impact Multi-presence factors Braking Loads Pedestrian Load: 75 pounds per square foot of sidewalk area Colorado Permit Truck
<i>Earth Loads:</i>	
Equivalent Fluid Pressures	Active, at-rest or passive
Live Load Surcharge	Dependent on geometry and component

3.4 Software Used by the Designer

The rehabilitation designs discussed and presented within this report have been developed using hand calculations created in EXCEL spreadsheets. These calculations are very preliminary in nature and serve the purpose of confirming rehabilitation requirement, but not to fine tune the dimensions of the rehabilitation. Additionally, CDOT preliminary design guides, information drawn from previous designs and CAD software has supported the design assumptions.

The final design phases will likely invoke the usage of numerous design and analysis software tools. For the bridges, industry-standard software packages that may be utilized could include, but are not limited to:

- SAP2000
- LARSA
- L-PILE

4 Structure Rehabilitation

4.1 Rehab Considerations

The intent of this repair is to remove damaged portions of the bridge and improve the abutments. The expansion joint at each abutment is no longer standard practice with CDOT. This repair will replace the existing backwall with an overhanging diaphragm. By converting the backwall to an overhanging diaphragm (also called a semi-integral abutment), the expansion joint can be moved to the back of the approach slab, thereby removing any reoccurrence of current issues and will remove any future water damage to the abutment due to the expansion joint seals leaking over time.

The costs for this project will involve the following processes.

- Traffic Control
- Removal of Portions of Present Structure
- Repair and Replacement of Deficient Components

The three processes above will be the main concern for construction, design and overall costs. There are additional evaluation concerns for the structure rehabilitation but do not hold as much value in the process and project cost, they include the following:

- Maintenance and Durability
- Constructability
- Initial Construction Costs

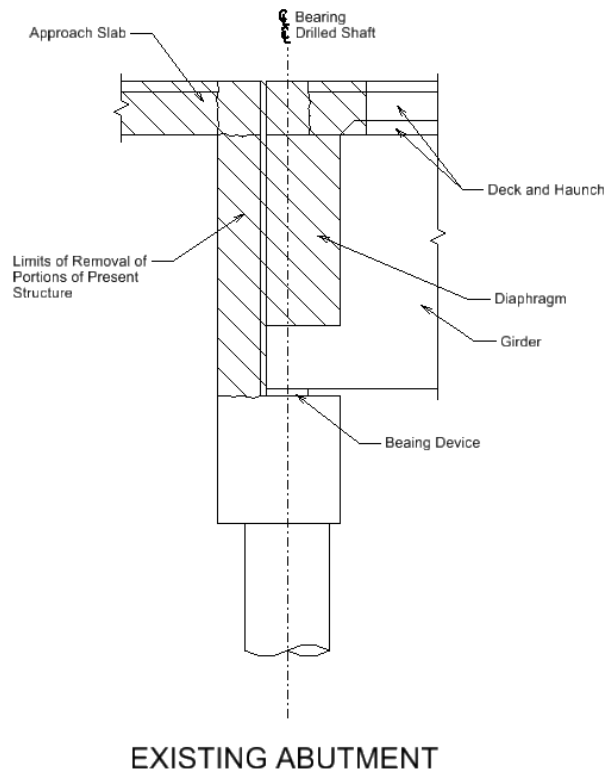
4.2 Traffic Control

The traffic control will be done in two phases. Each phase will consist of two-way traffic continuing on the opposite side of the bridge. During the first phase, traffic will shift to west bound and the sidewalk will still be available for pedestrian and bike traffic. The second phase will shift traffic to the east bound lanes and the sidewalk will be closed. An alternative route for bike and pedestrian traffic will be assigned.

4.3 Removal of Portions of Present Structure

The removal of structure will require the use of temporary shoring placed in the median of the approach slabs and potentially at the end of wingwalls to allow the approach slabs, sidewalk and bridge rails to be removed up to the expansion joint and partially onto the bridge in two phases. The mechanically stabilized backfill (MSE) will need to be excavated to approximately 2.5 ft below the top of the abutment seat. The backwall will then need to be removed with care given to avoid hitting the bridge girders and tensioned strands within the girders as well as portions of the wingwall where the backwall is currently tied into. This will allow the contractor to repair portions of the wingwall that have deteriorated. After removal of the backwall, the reinforcing in the diaphragms will need to be exposed along with portion of the deck with care given to protecting the reinforcing. Any excess concrete from when the backwall spilled past the forms during the original pour will need to be removed from the girders. See figure below.

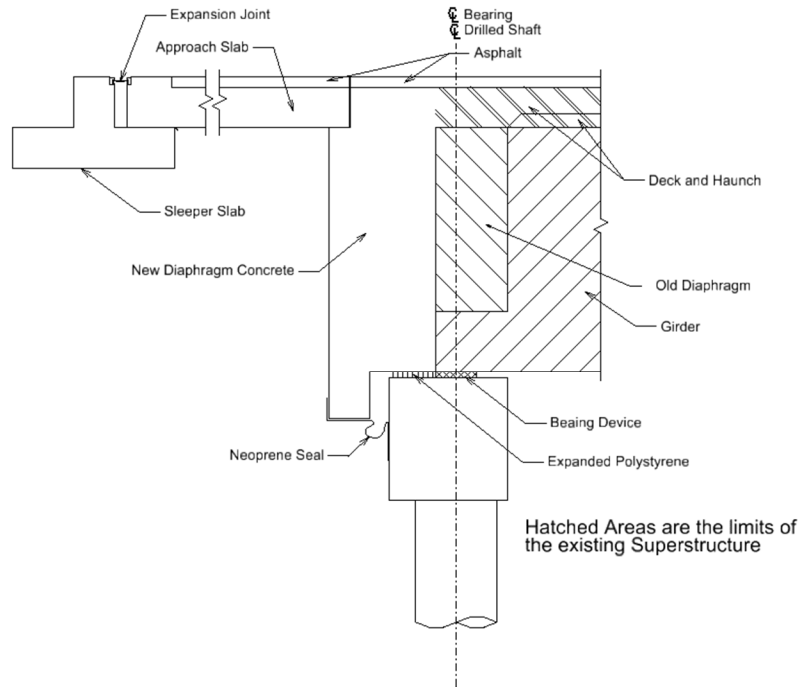
Figure 1 Removal of Portions of Existing Structure



4.4 Repair and Replacement of Deficient Components

After the backwall and portions of the wingwall have been removed, exposing the girders, diaphragms and bearing devices, the repair can begin. Due to the shear deformations in the bearing devices, the bearings at each abutment should be replaced. The contractor will be able to access the bearings from the back of the abutment and will be required to jack each girder up enough to remove and replace the bearings. The girder jacking points and procedure for the bearing replacement will be included in the design plans. The bearings should be replaced before the exposure of the existing diaphragms. When the bearings have been replaced the expanded polystyrene, new reinforcing and form work should be put into place to pour the new abutment diaphragm. The new diaphragm will overhang the abutment seat and remove the need for an expansion joint at the abutment. The new expansion joint will be moved to the end of the approach slab in accordance with CDOT standards, thereby removing any recurrence of current issues of the girder and deck pushing against backwall and will remove any future water damage to the abutment due to the expansion joint seals leaking over time. See the figure below.

Figure 2 Abutment Repair



PROPOSED ABUTMENT FIX

With the use of temporary shoring and construction phasing, access to only half the width of the bridge will occur at a time. The overhanging diaphragm, wingwall, MSE fill and approach slab will be placed in phase one leaving a gap for reinforcement. This means that the rebar from the first phase will be exposed during the second phase of the repair and will need to be protected until the second phase can be poured allowing the approach slab, diaphragm portions and deck to work as continuous units within themselves. The mechanical portions of the expansion joint will be put in place during each phase with the neoprene seal for the joint installed at the end of the project to provide a continuous seal.

Once the overhanging diaphragm has been placed the MSE backfill can be put in place. The new overhanging diaphragm will have a pinned connection to the approach slab allowing the approach slab to move without causing rotation in the diaphragm. After the approach slab has been poured the sidewalk, median and bridge rails can be replaced. The expansion joint, at the end of the approach slab, and asphalt surfacing will finish out the bridge work.

By moving the expansion joint to the back of the approach slab, only one section of the current pedestrian rail may need to be fixed, where the section spanned the existing expansion joint location. The buckling of this section may not allow for the rail to be reused and potentially could require replacement at each of the 4 locations.

Some repairs along the wingwalls and the base of the pilasters are required, areas where the top of ground is below the bottom of wall and pilaster will need to be filled to prevent water from getting

behind the abutment. Shear cracking in the wingwalls will need to be inspected to see if additional repairs are needed as the project moves towards the construction phase.

4.5 Maintenance and Durability

The maintenance and durability of the bridge repair will greatly impact the long-term performance of the structure and significantly impact the overall lifecycle costs of the structure. Ultimately, the long-term success of any structure is dependent on timely and routine maintenance.

Deicing salts and chemicals can cause reinforcing and structural steel to corrode in the event of consistent exposure. Both approach slabs will feature a 3" wearing surface of hot bituminous pavement (HBP) asphalt with waterproofing directly on the approach slabs and portions of deck involved in the repair work. This system will be the most effective and limiting the steel reinforcing exposure to deicing salts and chemicals. Additionally, all concrete in the bridge deck, approach slabs, sidewalk, type 7 bridge rails, abutments and wingwalls in accordance with CDOT design criteria and existing plans will utilize epoxy-coated reinforcing which will provide another layer of protection for the steel reinforcing.

A list of anticipated maintenance activities within the first 75 years of operation after the repair and for the repaired items only along with the anticipated frequency of maintenance items are summarized below. The maintenance items over the first 75 years of operations can be reasonably expected as follows:

- Mill and Overlay the existing HBP asphalt every 25 years.
- Reapply a structural coating on the outside of the bridge every 30 years.
- Recoat all barrier railing and pedestrian railing every 30 years.
- Replace the expansion device glands once, at approximately 15 years.
- Routine inspections every two years for the duration of the bridge in service.

4.6 Environmental

There were no anticipated environmental issues known for this project at the time this report has been written.

4.7 Constructability

The primary constructability challenge will be the removal of concrete portions on the abutment and wingwall while keeping rebar and girders protected. Protection of existing reinforcement during the removal of concrete will save time and cost during the repair. These challenges should be within the means and methods of an experienced General Contractor.

4.8 Initial Construction Costs

The construction cost for the repair options are summarized below. These construction costs include material costs, final design engineering, and materials testing. Additionally, mobilization has been estimated at 10% of the construction cost and a 15% contingency has been applied to the overall cost. Pricing in construction costs came from looking at the last five years of CDOT Cost Data. A detailed breakdown of each cost and design fee is included in Appendix A.

- Total Estimated Construction Cost with Traffic Control **\$762,220**
- Total Estimated Design Fee with Traffic Control **\$65,200**

5 Structure Rehabilitation Recommendation

5.1 Conclusion

The structure repair at Community Center Drive for the City of Northglenn will entail a two phased approach with traffic being moved to one half of the bridge for each phase of the construction. Temporary shoring will be required during both phases of the construction of project to allow traffic to continue crossing I-25 while the bridge repairs are completed. The removal of the approach slabs, and the removal of the median, bridge rail, sidewalk and portions of deck past the existing expansion joint will be required in the bridge repair work. Once these have been removed the MSE backfill will be removed to provide access to the abutment backwall. The backwall will be removed down to the abutment bearing seat and any removal of wingwall for repair and replacement will be done at this stage of construction. Each girder will be jacked vertically off their seat slightly and the bearing devices under each girder will be replaced. Once this has occurred portions of the diaphragm concrete will be removed and any excess concrete that spilled during the placement of the original backwall will be cleaned. Reinforcing and formwork for the overhanging diaphragm (semi-integral diaphragm) will be placed and the diaphragm will be poured in place. The MSE backfill will be installed and the new approach slab with the expansion joint at the end of the approach slab will be poured in place.

During phase one construction the reinforcing will extend past the new concrete with the required lap distance installed and will to be protected in place. The traffic will switch sides of the bridge and the repair work for the second phase will occur in the same manner as described for phase one. Once both sides of the abutment and approach slabs have been replaced, the neoprene seal for the expansion joints will be put in place and the bridge will reopen all lanes.

Appendix A: Quantities & Cost Breakdown

Community Center Drive Bridge

Preliminary Construction Cost Estimate

<u>Description</u>	<u>Quantity</u>	<u>Unit</u>	<u>Unit price</u>	<u>Cost</u>
Earthwork				
Remove Portions of Present Structure	1	LS	\$ 60,000.00	\$ 60,000.00
Structure Excavation	997	CY	\$ 25.00	\$ 24,925.00
Structure Backfill (MSE)	997	CY	\$ 53.00	\$ 52,841.00
Shoring	1	LS	\$ 15,000.00	\$ 15,000.00
			SUBTOTAL	\$ 152,766.00
Bridge				
Asphalt (HMA)	58	TON	\$ 100.00	\$ 5,814.88
Concrete (Class D)	299	CY	\$ 750.00	\$ 224,328.02
Reinforcing Steel Epoxy	11328	LB	\$ 1.35	\$ 15,292.67
Structural Concrete Coating	106	SY	\$ 9.00	\$ 954.00
Bearing Device (Type I)	20	EA	\$ 1,200.00	\$ 24,000.00
Expansion Joint (0-4in)	157	LF	\$ 265.00	\$ 41,671.25
Waterproofing (Membrane)	261	SY	\$ 20.00	\$ 5,219.81
Bridge Rail Type 7	139	LF	\$ 105.00	\$ 14,586.26
Pedestrian Rail (Special)	34	LF	\$ 100.00	\$ 3,400.00
			SUBTOTAL	\$ 335,266.90
Contractor				
Mobilization	1	LS	\$ 48,803.29	\$ 48,803.29
Contingencies	1	LS	\$ 73,204.93	\$ 73,204.93
			SUBTOTAL	\$ 122,008.22
			TOTAL	\$ 611,000.00
Design Fee				\$ 60,000.00

COMMUNITY CENTER DRIVE BRIDGE
ESTIMATE OF PHASING COSTS
December 11, 2019

CDOT ITEM NO.	ITEM DESCRIPTION	UNIT	UNIT PRICE	SHIFT TRAFFIC	
				QUANTITY	COST
614-70010	MODIFICATION OF SIGNAL FACE	EA	\$ 1,000.00	4	\$ 4,000.00
627-00005	EPOXY PAVEMENT MARKING	GAL	\$ 160.00	10	\$ 1,600.00
630-00000	FLAGGING	HR	\$ 30.00	40	\$ 1,200.00
630-00003	UNIFORMED TRAFFIC CONTROL	HR	\$ 100.00	20	\$ 2,000.00
630-00007	TRAFFIC CONTROL INSPECTION	DAY	\$ 200.00	50	\$ 10,000.00
630-00012	TRAFFIC CONTROL MANAGEMENT	DAY	\$ 830.00	150	\$ 124,500.00
630-80335	BARRICADE (TYPE 3 M-A)	EA	\$ 180.00	4	\$ 720.00
630-80341	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A)	EA	\$ 50.00	20	\$ 1,000.00
630-80358	ADVANCE WARNING OR SEQUENCING ARROW PANEL (C TYPE)	EA	\$ 1,600.00	2	\$ 3,200.00
630-80359	PORTABLE MESSAGE SIGN PANEL	DAY	\$ 65.00		\$ -
630-80360	DRUM CHANNELIZING DEVICE	EA	\$ 30.00	100	\$ 3,000.00
TOTAL					\$151,220

DESCRIPTION OF OPTIONS:

The "Shift Traffic" option will divide the project into two phases with two-way traffic on the opposite side of the bridge during construction. It is assumed each phase will take 2.5 months for a total of 5 months of construction. This option will require some traffic signal head modifications to put proper signal heads types over for the shifted traffic.

DESIGN FEE ESTIMATE:

The design fee to produce plans for the work shown above is estimated at \$5200.

SPONSORED BY: MAYOR LEIGHTY

COUNCIL MEMBER'S RESOLUTION

RESOLUTION NO.

No. CR-113
Series of 2022

Series of 2022

A RESOLUTION APPROVING A PROFESSIONAL SERVICES AGREEMENT BETWEEN THE CITY OF NORTHGLENN AND COLLINS ENGINEERS, INC. FOR ENGINEERING SERVICES FOR THE COMMUNITY CENTER DRIVE BRIDGE REHABILITATION PROJECT

BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF NORTHGLENN, COLORADO THAT:

Section 1. The Professional Services Agreement between the City of Northglenn and Collins Engineers, Inc., attached hereto, in an amount not to exceed \$142,355.00 for engineering services for the Community Center Drive Bridge Rehabilitation Project is hereby approved and the Mayor is authorized to execute same on behalf of the City of Northglenn.

DATED, at Northglenn, Colorado, this _____ day of _____, 2022.

MEREDITH LEIGHTY
Mayor

ATTEST:

JOHANNA SMALL, CMC
City Clerk

APPROVED AS TO FORM:

COREY Y. HOFFMANN
City Attorney

AGREEMENT FOR PROFESSIONAL SERVICES

THIS AGREEMENT is made and entered into this _____ day of _____, 20____, by and between the City of Northglenn, State of Colorado (hereinafter referred to as the "City") and Collins Engineers Inc. (hereinafter referred to as "Consultant").

RECITALS:

A. The City requires professional services.

B. Consultant has held itself out to the City as having the requisite expertise and experience to perform the required work for the Project.

NOW, THEREFORE, it is hereby agreed for the consideration hereinafter set forth, that Consultant shall provide to the City, professional consulting services for the Project.

I. SCOPE OF SERVICES

Consultant shall furnish all services to perform the services required for the complete execution and performance of all duties, obligations, and responsibilities for the Project which are described or reasonably implied from **Exhibit A** which is attached hereto and incorporated herein by this reference in accordance with the Standard of Care.

II. THE CITY'S OBLIGATIONS/CONFIDENTIALITY

The City shall provide Consultant with reports and such other data as may be available to the City and reasonably required by Consultant to perform hereunder. The Consultant may rely upon any information provided to it by the City. No project information shall be disclosed by Consultant to third parties without prior written consent of the City or pursuant to a lawful court order directing such disclosure. All documents provided by the City to Consultant shall be returned to the City. Consultant is authorized by the City to retain copies of such data and materials at Consultant's expense.

III. OWNERSHIP OF WORK PRODUCT

The City acknowledges that the Consultant's work product is an instrument of professional service ("Instruments of Service"). Nevertheless, the products prepared under this Agreement shall become the property of the City following payment to the Consultant and upon completion of the work. The City or other for whom it is legally liable shall not modify the Consultant's Instruments of Service without the written consent of the Consultant.

IV. COMPENSATION

A. In consideration for the completion of the services specified herein by Consultant, the City shall pay Consultant an amount not to exceed one hundred forty-two thousand three hundred fifty-five dollars (\$142,355). Payment shall be made in accordance with the schedule of charges in **Exhibit B** which is attached hereto and incorporated herein by this reference. Invoices will be itemized and include hourly breakdown for all personnel and other charges. The maximum fee specified herein shall include all fees and expenses incurred by Consultant in performing all services hereunder.

B. Consultant may submit monthly or periodic statements requesting payment. Such request shall be based upon the amount and value of the work and services performed by Consultant under this Agreement except as otherwise supplemented or accompanied by such supporting data as may be required by the City.

1. All invoices, including Consultant's verified payment request, shall be submitted by Consultant to the City no later than the twenty-fourth (24th) day of each month for payment pursuant to the terms of this Agreement. In the event Consultant fails to submit any invoice on or before the twenty-fourth (24th) day of any given month, Consultant defers its right to payment pursuant to said late invoice until the twenty-fourth (24th) day of the following month.

2. Progress payments may be claimed on a monthly basis for reimbursable costs actually incurred to date as supported by detailed statements, including hourly breakdowns for all personnel and other charges. The amounts of all such monthly payments shall be paid within thirty (30) days after the timely receipt of invoice as provided by this Agreement.

C. The City has the right to ask for clarification on any Consultant invoice after receipt of the invoice by the City.

D. In the event payment for services rendered has not been made within forty-five (45) days from the receipt of the invoice for any uncontested billing, interest will accrue at the legal rate of interest. In the event payment has not been made within ninety (90) days from the receipt of the invoice for any uncontested billing, Consultant may, after giving seven (7) days written notice and without penalty or liability of any nature, suspend all work on all authorized services specified herein. In the event payment in full is not received within thirty (30) days of giving the seven (7) days written notice, Consultant may terminate this Agreement. Upon receipt of payment in full for services rendered, Consultant will continue with all authorized services.

E. Final payment shall be made within sixty (60) calendar days after all data and reports (which are suitable for reproduction and distribution by the City) required by this Agreement have been turned over to and approved by the City and upon receipt by the City of Consultant's certification that services required herein by Consultant have been fully completed in accordance with this Agreement and all data and reports for the Project.

V. COMMENCEMENT AND COMPLETION OF WORK

Within seven (7) days of receipt from the City of a Notice to Proceed, Consultant shall commence work on all its obligations as set forth in the Scope of Services or that portion of such obligations as is specified in said Notice. Except as may be changed in writing by the City, the Project shall be complete, and Consultant shall furnish the City the specified deliverables as provided in **Exhibit A**.

VI. CHANGES IN SCOPE OF SERVICES

A change in the Scope of Services shall constitute any material change or amendment of services or work which is different from or additional to the Scope of Services specified in Section I of this Agreement. No such change, including any additional compensation, shall be effective, or paid unless authorized by written amendment executed by both parties. If Consultant proceeds without such written authorization, then Consultant shall be deemed to have waived any claim for additional compensation, including a claim based on the theory of unjust enrichment, quantum merit or implied contract. Except as expressly provided herein, no agent, employee, or representative of the City shall have the authority to enter into any changes or modifications, either directly or implied by a course of action, relating to the terms and scope of this Agreement.

VII. PROFESSIONAL RESPONSIBILITY

A. Consultant hereby represents it is qualified to assume the responsibilities and render the services described herein and has all requisite corporate authority and professional licenses in good standing, required by law.

B. The work performed by Consultant shall be in accordance with generally accepted professional practices and the level of competency presently maintained by other practicing professional firms in the same or similar type of work in the applicable community.

C. Consultant shall be responsible for the professional quality, technical accuracy, timely completion, and the coordination of all designs, drawings, specifications, reports, and other services furnished by Consultant under this Agreement all in accordance with the Standard of Care. Consultant shall, without additional compensation, correct or resolve any errors or deficiencies in his designs, drawings, specifications, reports, and other services, which fall below the Standard of Care, and indemnify the City for construction costs caused by negligent errors and omissions which fail to comply with the Standard of Care.

D. Approval by the City of drawings, designs, specifications, reports, and incidental work or materials furnished hereunder shall not in any way relieve Consultant of responsibility for technical adequacy of the work. Neither the City's review, approval or acceptance of, nor payment for, any of the services shall be construed to operate as a waiver of any rights under this Agreement or of any cause of action arising out of the performance of this Agreement, and Consultant shall be and remain liable in accordance with applicable performance of any of the services furnished under this Agreement.

E. The rights and remedies of the City provided for under this Agreement are in addition to any other rights and remedies provided by law.

VIII. WORKER WITHOUT AUTHORIZATION

A. Certification. By entering into this Agreement, Consultant hereby certifies that, at the time of this certification, it does not knowingly employ or contract with a worker without authorization who will perform work under the Agreement and that Consultant will participate in either the E-Verify Program administered by the United States Department of Homeland Security and Social Security Administration or the Department Program administered by the Colorado Department of Labor and Employment in order to confirm the employment eligibility of all employees who are newly hired for employment to perform work under the Agreement.

B. Prohibited Acts. Consultant shall not:

1. Knowingly employ or contract with a worker without authorization to perform work under this Agreement; or

2. Enter into a contract with a subcontractor that fails to certify to Consultant that the subcontractor shall not knowingly employ or contract with a worker without authorization to perform work under this Agreement.

C. Verification.

1. Consultant has confirmed the employment eligibility of all employees who are newly hired for employment to perform work under this Agreement through participation in either the E-Verify Program or the Department Program.

2. Consultant shall not use the E-Verify Program or the Department Program procedures to undertake pre-employment screening of job applicants while this Agreement is being performed.

3. If Consultant obtains actual knowledge that a subcontractor performing work under this Agreement knowingly employs or contracts with a worker without authorization who is performing work under the Agreement, Consultant shall:

a. Notify the subcontractor and the City within three (3) days that Consultant has actual knowledge that the subcontractor is employing or contracting with a worker without authorization who is performing work under the Agreement; and

b. Terminate the subcontract with the subcontractor if within three (3) days of receiving the notice required pursuant to subparagraph (a) hereof, the subcontractor does not stop employing or contracting with the worker without authorization who is performing work under the Agreement; except that Consultant shall not terminate the contract with the subcontractor if during such three (3) days the subcontractor provides information to establish that the subcontractor has not knowingly employed or contracted with a worker without authorization who is performing work under the Agreement.

D. **Duty to Comply with Investigations.** Consultant shall comply with any reasonable request by the Colorado Department of Labor and Employment made in the course of an investigation conducted pursuant to C.R.S. § 8-17.5-102(5)(a) to ensure that Consultant is complying with the terms of this Agreement.

E. If Consultant does not currently employ any employees, Consultant shall sign the NO Employee Affidavit attached hereto.

F. If Consultant wishes to verify the lawful presence of newly hired employees who perform work under the Agreement via the Department Program, Consultant shall sign the Department Program Affidavit attached hereto.

IX. INDEMNIFICATION

A. **INDEMNIFICATION – GENERAL:** The City cannot and by this Agreement does not agree to indemnify, hold harmless, exonerate or assume the defense of the Consultant or any other person or entity whatsoever, for any purpose whatsoever. Provided that the claims, demands, suits, actions or proceedings of any kind are not the result of professional negligence, the Consultant, to the fullest extent permitted by law, shall defend, indemnify and hold harmless the City, its Council members, officials, officers, directors, agents and employees from any and all claims, demands, suits, actions or proceedings of any kind or nature whatsoever, including worker's compensation claims, in any way resulting from or arising from the services rendered by Consultant, its employees, agents or subconsultants, or others for whom the Consultant is legally liable, under this Agreement; provided, however, that the Consultant need not indemnify or save harmless the City, its Council members, its officers, agents and employees from damages resulting from the negligence of the Council members, officials, officers, directors, agents and employees.

B. **INDEMNIFICATION FOR PROFESSIONAL NEGLIGENCE:** The Consultant shall, to the fullest extent permitted by law, indemnify and hold harmless the City, its Council members, and any of its officials, officers, directors, and employees from and against damages, liability, losses, costs and expenses, including reasonable attorneys fees, but only to the extent caused by or arising out of the negligent acts, errors or omissions of the Consultant, its employees, agents or subconsultants, or others for whom the Consultant is legally liable, in the performance of professional services under this Agreement. The Consultant is not obligated under this subparagraph IX.B. to indemnify the City for the negligent acts of the City, its Council members, or any of its officials, officers, directors, agents and employees.

D. To the extent this Agreement is subject to C.R.S. § 13-50.5-102(8), Contractor's liability under this provision shall be to the fullest extent of, but shall not exceed, that amount represented by the degree or percentage of negligence or fault attributable to Contractor, any subcontractor of Contractor, or any officer, employee, representative, or agent of Contractor or of any subcontractor of Contractor. If Contractor is providing architectural, engineering, surveying or other design services under this Agreement, the extent of Contractor's obligation to defend, indemnify and hold harmless the City may be determined only after

Contractor's liability or fault has been determined by adjudication, alternative dispute resolution or otherwise resolved by mutual agreement of the Parties, as provided by C.R.S. § 13-50.5-102(8)(c).

X. INSURANCE

A. Consultant agrees to procure and maintain, at its own cost, a policy or policies of insurance sufficient to insure against all liability, claims, demands, and other obligations assumed by Consultant pursuant to Section IX, above. Such insurance shall be in addition to any other insurance requirements imposed by this Agreement or by law. Consultant shall not be relieved of any liability, claims, demands, or other obligations assumed pursuant to Section IX, above, by reason of its failure to procure or maintain insurance, or by reason of its failure to procure or maintain insurance in sufficient amounts, durations or types.

B. Consultant shall procure and maintain and shall cause any subcontractor of Consultant to procure and maintain, the minimum insurance coverages listed below. Such coverages shall be procured and maintained with forms and insurers reasonably acceptable to the City. All coverages shall be continuously maintained to cover liability, claims, demands, and other obligations assumed by Consultant pursuant to Section IX, above. In the case of any claims-made policy, the necessary retroactive dates and extended reporting periods shall be procured to maintain such continuous coverage.

1. Worker's Compensation Insurance to cover obligations imposed by applicable laws for any employee engaged in the performance of work under this Contract, and Employer's Liability Insurance with minimum limits of five hundred thousand dollars (\$500,000) each incident, five hundred thousand dollars (\$500,000) disease - policy limit, and five hundred thousand dollars (\$500,000) disease - each employee.

2. Commercial general liability insurance with minimum combined single limits of one million dollars (\$1,000,000) each occurrence and two million dollars (\$2,000,000) general aggregate. The policy shall be applicable to all premises and operations. The policy shall include coverage for bodily injury, broad form property damage (including completed operations), personal injury (including coverage for contractual and employee acts), blanket contractual, products, and completed operations. The policy shall contain a severability of interests provision.

3. Professional liability insurance with minimum limits of six hundred thousand dollars (\$600,000) each claim and one million dollars (\$1,000,000) general aggregate.

C. The policy required by paragraph 2. above shall be endorsed to include the City and the City's officers, employees, and consultants as additional insureds. Every policy required above shall be primary insurance, and any insurance carried by the City, its officers, its employees, or its consultants shall be excess and not contributory insurance to that provided by Consultant. No additional insured endorsement to the policy required by paragraph 1. above shall contain any exclusion for bodily injury or property damage arising from completed operations. Consultant shall be solely responsible for any deductible losses under any policy required above.

D. The certificate of insurance provided for the City shall be completed by Consultant's insurance agent as evidence that policies providing the required coverages, conditions, and minimum limits are in full force and effect, and shall be reviewed and approved by the City prior to commencement of the Agreement. No other form of certificate shall be used. If the City is named as an additional insured on any policy which does not allow for the automatic addition of additional insureds, the Consultant's insurance agent shall also provide a copy of all accompanying endorsements recognizing the City as an additional insured. The certificate shall identify this Agreement and shall provide that the coverages afforded under the policies shall not be cancelled, terminated or materially changed until at least thirty (30) days prior written notice has been given to the City. The completed certificate of insurance shall be sent to:

City of Northglenn
Attn: Kathy Kvasnicka
11701 Community Center Drive
Northglenn, Colorado 80233-8061

E. Failure on the part of Consultant to procure or maintain policies providing the required coverages, conditions, and minimum limits shall constitute a material breach of agreement upon which the City may immediately terminate this Agreement, or at its discretion, the City may procure or renew any such policy or any extended reporting period thereto and may pay any and all premiums in connection therewith, and all monies so paid by the City shall be repaid by Consultant to the City upon demand, or the City may offset the cost of the premiums against any monies due to Consultant from the City.

F. The City reserves the right to request and receive a certified copy of any policy and any endorsement thereto with proprietary insurer information redacted.

G. The parties hereto understand and agree that the City, its officers, and its employees, are relying on, and do not waive or intend to waive by any provision of this Agreement, the monetary limitations (presently three hundred fifty thousand dollars (\$350,000) per person and nine hundred ninety thousand dollars (\$990,000) per occurrence) or any other rights, immunities, and protections provided by the Colorado Governmental Immunity Act, Colo. Rev. Stat., §§ 24-10-101, et seq., as from time to time amended, or otherwise available to the City, its officers, or its employees.

XI. NON-ASSIGNABILITY

Neither this Agreement, nor any of the rights or obligations of the parties hereto, shall be assigned by either party without the written consent of the other.

XII. TERMINATION

This Agreement shall terminate at such time as the work in Section I is completed and the requirements of this Agreement are satisfied, or upon the City's providing Consultant with seven (7) days advance written notice, whichever occurs first. In the event the Agreement is terminated by the City's issuance of said written notice of intent to terminate, the City shall pay Consultant for all work previously authorized and completed prior to the date of termination. If, however, Consultant has substantially or materially breached the standards and terms of this Agreement, the City shall have any remedy or right of set-off available at law and equity. If the Agreement is terminated for any reason other than cause prior to completion of the Project, any use of documents by the City thereafter shall be at the City's sole risk, unless otherwise consented to by Consultant.

XIII. CONFLICT OF INTEREST

The Consultant shall disclose any personal or private interest related to property or business within the City. Upon disclosure of any such personal or private interest, the City shall determine if the interest constitutes a conflict of interest. If the City determines that a conflict of interest exists, the City may treat such conflict of interest as a default and terminate this Agreement.

XIV. VENUE

This Agreement shall be governed by the laws of the State of Colorado, and any legal action concerning the provisions hereof shall be brought in the County of Adams, State of Colorado.

XV. INDEPENDENT CONTRACTOR

Consultant is an independent contractor. Notwithstanding any provision appearing in this Agreement, all personnel assigned by Consultant to perform work under the terms of this Agreement shall

be, and remain at all times, employees or agents of Consultant for all purposes. Consultant shall make no representation that it is the employee of the City for any purposes.

XVI. NO WAIVER

Delays in enforcement or the waiver of any one or more defaults or breaches of this Agreement by the City or the Consultant shall not constitute a waiver of any of the other terms or obligation of this Agreement.

XVII. ENTIRE AGREEMENT

This Agreement and the attached **Exhibits A and B** is the entire Agreement between Consultant and the City, superseding all prior oral or written communications. None of the provisions of this Agreement may be amended, modified, or changed, except as specified herein.

XVIII. SUBJECT TO ANNUAL APPROPRIATION

Consistent with Article X, Section 20 of the Colorado Constitution, any financial obligations of the City not to be performed during the current fiscal year are subject to annual appropriation, and thus any obligations of the City hereunder shall extend only to monies currently appropriated.

XIX. NOTICE

Any notice or communication between Consultant and the City which may be required, or which may be given, under the terms of this Agreement shall be in writing, and shall be deemed to have been sufficiently given when directly presented or sent pre-paid, first class United States Mail, addressed as follows:

The City: City of Northglenn
11701 Community Center Drive
Northglenn, Colorado 80233-8061

Consultant: Collins Engineers Inc.
455 Sherman Street, Suite 160
Denver, CO 80203

IN WITNESS WHEREOF, the parties hereto each herewith subscribe the same in duplicate.

CITY OF NORTHGLENN, COLORADO

By: _____

Meredith Leighty
Print Name

Mayor
Title Date

ATTEST:

Johanna Small, CMC Date
City Clerk

APPROVED AS TO FORM:

Corey Y. Hoffmann Date
City Attorney

CONSULTANT:

By: Bryant Walters

BRYANT WALTERS
Print Name

SUP. VICE PRESIDENT 6/10/22
Title Date

ATTEST:

By: Becky Cossmann

Becky Cossmann
Print Name

Administrative Asst. 06/10/2022
Title Date

May 25, 2022

Ms. Kiran Bhusal
Civil Engineer I
City of Northglenn
12301 Claude Court
Northglenn, CO 80241

RE: Community Center Drive Rehabilitation Project, Northglenn, CO

Dear Ms. Bhusal:

Collins Engineers, Inc. (Collins) would like to thank the City of Northglenn requesting our professional engineering services for the rehabilitation of Community Center Drive Bridge in Northglenn, Colorado.

Proposal Basis

The following documents serve as the basis for this proposal:

- Atkins City of Northglenn Structure Rehabilitation Report dated 12/20/2019
- Community Center Drive and Bridge over I-25 Construction Plans issued 09/05/2002
- NGLN-CCDR-I25 Inspection Report issued 1/28/2020
- Inspection by Collins Engineers Inc. on 01/31/2022. Report for NGLN-CCDR-I25 for 2022 not yet CDOT approved & issued.
- Site Visit to Community Center Drive Bridge on 04/12/2022

Scope of Work & Submittals

It is Collins understanding that the City of Northglenn would like to conduct bridge rehabilitation repairs at the Community Center Drive Bridge in Northglenn, Colorado. The Community Center Drive Bridge Final Construction/Rehabilitation Plans will be prepared to a level that is acceptable for Local Agency submittal to CDOT for federally funded construction phase. All work will be performed under the direct supervision of and sealed by a Licensed Professional Engineer in the State of Colorado. See Appendix A for the complete Scope of Work and associated deliverables.

Schedule & Fee

Upon receiving an executed Professional Services Agreement, Collins will begin work on each task based on a mutually agreed upon schedule. Invoices will be submitted on a monthly basis, and payment is due within 30 calendar days of the invoice date.

Collins proposes to perform the work described above on a Time & Materials basis in accordance with the attached Table of Rates (Attachment A), with a maximum estimated cost not-to-exceed of **One Hundred Forty-two Thousand Three Hundred and Fifty-five Dollars (\$142,355)** A break-down of the maximum estimated cost is as follows:

- Task 1 – Project Start-Up – **\$6,199**

- Task 2 – Data Collection – **\$10,108**
- Task 3 – Field Inspection Review (FIR) Plans – **\$69,943**
- Task 4 – Final Office Review (FOR) Plans – **\$28,285**
- Task 5 – Design Phase Completion – **\$13,020**
- Task 6 – Sub-consultant: Survey, Utility Locates, & Topo Exhibit – **\$14,800**

Assumptions & Services Not Included

The maximum estimated cost is based on the following assumptions. If any of these assumptions are found to be incorrect, a cost adjustment may be necessary.

Collins' scope of work does not include the following:

- Collecting Geotechnical Data. The geotechnical data obtained for this structure is assumed to be sufficient for submittal to CDOT for this project.
- Environmental Clearance. The environmental report previously prepared for this bridge is assumed to be sufficient for submittal to CDOT for this project.
- Inspection of the structure. Collins Inspection Team has already inspected the structure as part of the routine inspection requirements performed in January 2022 under a separate contract.
- Rehabilitation of structure elements outside the scope of rehabilitation as outlined in the Atkins Structure Rehabilitation Report dated 12/20/2019. Additional elements found to be in need of rehabilitation at the time of construction shall be done under change order.

If you have any questions regarding this proposal, please do not hesitate to contact me at 312.236.7195 or estump@collinsengr.com. We appreciate the opportunity to offer our services to the City of Northglenn and look forward to working with you on this project.

Respectfully Submitted,

COLLINS ENGINEERS, INC.



Elisabeth C. Stump, P.E.
Project Manager

Appendix A: Detailed Scope of Work
Appendix B: Table of Rates

APPENDIX A
SCOPE OF WORK

Community Center Drive Bridge Rehabilitation

Northglenn, Colorado

Project Scope of Work

May 25, 2022

The rehabilitation of the Community Center Drive Bridge over I-25 intends to improve the approach slabs and substructure elements of the bridge from damage caused by settlement beneath the approaches. The scope of work for this project includes the steps to achieve the design of the structure rehabilitation project as a result of active collaboration between Collins Engineers, Inc. (Collins), the City of Northglenn (the City), and the Colorado Department of Transportation Region 1 (CDOT).

1. General

1.1. Project Management

The project management team shall consist of the City of Northglenn Project Manager, also referred to by CDOT as the Resident Engineer, and the Collins Project Manager, sometimes referred to as the Consultant.

1.2. Project Communication and Billing

1.2.1. The regular working contact will be between the City of Northglenn Project Manager and Collins Project Manager. The Collins Project Manager and the City Project Manager will provide each other with copies of pertinent written communications.

1.2.2. Collins will provide the City Project Manager with periodic project updates and reports, monthly billings, and minutes of all meetings on a routine basis.

1.3. Project Coordination

1.3.1. Responsibilities from Collins as the Consultant

1.3.1.1. Collins will be responsible for planning and holding meetings, identifying potential problems, assistance with, but not entirely responsible for, keeping the City of Northglenn up to date with all Local Agency deliverables needed to acquire CDOT approval and federal funding (keep up with forms and requirements).

1.3.2. Responsibilities from the City of Northglenn as the Local Agency and Client

1.3.2.1. The City of Northglenn is responsible for coordinating with CDOT and calling all their Local Agency meetings together, submitting and filing all required paperwork, and providing Collins with as much existing information as possible. Northglenn is also responsible for all final decisions regarding the rehabilitation of the structure in question.

1.4. Schedule Preparation, Tracking, and Coordination

1.4.1. Collins will prepare a schedule and see to it that it is followed. Cooperation from the City of Northglenn is required for schedule success.

1.4.2. Deliverables:

- Project Schedule

1.5. Project, Stakeholder, and Public Meetings

Progress Meetings will be arranged and conducted by the Consultant to review the following:

- Latest project developments
- Activities required to be completed since the last meeting
- Coordination and tracking of work effort
- Problems encountered/anticipated and resolution/potential solutions
- Project schedule update

- Action items
- Coordination required with other agencies
- Revised construction cost estimates

These meetings should coincide with important project milestones; however, the type and number of meetings, documents, etc., will depend on the category and characteristics of the project work.

It is anticipated that the following meetings will be required:

- Project Kickoff Meeting
- FIR Meeting
- FOR Meeting
- Meetings with adjacent property owners?
- Utility Coordination Meetings?

Project Meeting Minutes shall be completed and provided to the Project Manager within five (5) working days of the actual meeting. When a definable task is discussed during a meeting, the minutes will identify the "Action Item," the party responsible for accomplishing it, and the proposed completion date

2. Project Start-Up

2.1. Kickoff meeting

Before the meeting, the Consultant will provide the following;

- Kickoff meeting agenda
- Develop questions for The City
- Develop a list of documents or data to be requested from the City and from CDOT

The Team, inclusive of subconsultants, will meet virtually with The City of Northglenn to discuss the Project Scope and Project Schedule. The meeting will cover the state of the project and the original intended repairs to the bridge. The scope of the work of the repairs may change slightly after the Collins Inspection visit in Phase 3.1 of the project.

2.1.1. Deliverables:

- Kickoff Meeting minutes with Action Items

2.2. Development of Project Standards and Design Criteria

2.2.1. Bridge Design Criteria: The Team (Key Individuals) will develop project standards and guidance documents based on their review of the project site in the 2.1 Kickoff Meeting and in coordination with Colorado Department of Transportation Standards

2.2.2. Deliverables:

- Provide a list of guidance documents (PDF)

2.3. Municipality, Utility, Stakeholder, and Public Notification List

2.3.1. Deliverables

- Property Owner/Stakeholder List (Excel format)

2.4. Right of Entry (ROE)

2.4.1. Right of Entry forms are not required for this project. The bridge location is within the confines of the City of Northglenn property.

2.5. Utility Notification

2.5.1. The Team will notify Registered Utility Providers, pending engineering design and investigation, as listed on the Utility Notification of Colorado (811).

2.5.2. Deliverables

- 811 Engineering Design Utility Notification
- Memo of Utility Contacts and information obtained

3. Data Collection

3.1. Collins Inspection

3.1.1. In-depth field visit to verify all defects and verify scope of work. Scope may change at this stage.

3.1.2. Deliverables:

- Any critical Inspection Report updates discovered
- Memo: Summary of findings and general scope of repair work planned

3.2. Geotechnical Data

3.2.1. No additional borings are required for this project.

3.3. Environmental Clearance

3.3.1. Northglenn to initiate this process with CDOT with existing environmental reports previously prepared under a separate contract cover.

3.3.1.1. Includes: environmental, cultural resource, threatened & endangered species

3.4. Right of Way (ROW) Clearance

3.4.1. Northglenn to initiate this process with CDOT with existing ROW clearance documents previously prepared under a separate contract cover. No additional ROW is required if all Construction Activities can be performed within the ROW Clearance.

3.5. Utility Clearance

3.5.1. Once all utilities within the bridge vicinity are contacted and verified, Northglenn to initiate this process with CDOT to submit SUE plan they already have.

3.6. Initial survey

3.6.1. Though an original survey was performed and plans were previously submitted (10/22/2021), a Professional Land Surveyor (PLS) will need to be obtained under this contract to prepare plans that will be sufficient for submittal with the rest of this package. Collins will obtain a surveying subconsultant for this work.

3.6.2. Deliverables:

- Land Survey Control Diagram and Topographic Exhibit

4. Field Inspection Review (FIR) Plans

4.1. FIR Preliminary Plan Set

Collins will develop FIR level plans (60% level) using CDOT Drawing Standards to complete an on-site review of preliminary construction plans. The rehabilitation plans will be based on established project design criteria and will be 22"x34" in size. The plans will include preliminary structure rehabilitation plans, preliminary roadway improvement plans inclusive of stormwater management for the mainline and connecting roadway (if applicable), and construction phasing plans inclusive of traffic control. Necessary variances and design decisions will be identified with justification and concurrence by The City of Northglenn. The following items will be submitted at this Phase:

4.1.1. Deliverables:

- FIR Preliminary Plans

- Index of anticipated CDOT Standard Specifications and Special Project Provisions and Specifications
- Preliminary opinion of probable cost for the work described in the 60% plans based on estimated quantities
- Quality Assurance Review Certification Memo

4.2. FIR Meeting

The FIR plan package will be submitted to the City for review prior to the meeting. A meeting agenda will be prepared and submitted to the City prior to the Meeting. Collins will conduct a project review meeting with the Collins team, the City of Northglenn Resident Engineer, and CDOT Representative.

4.2.1. Deliverables:

- FIR Meeting Minutes

4.3. Quality Control Review and Audit

Collins will perform a quality review and audit on the 4.1.1 Deliverable Package before submission to the City.

4.4. Local Agency (LA) Requirements

Collins will assist the City of Northglenn with all Local Agency clearances and other requirements to submit prior to the following Final Office Review (Phase 5). All clearances shall be completed and signed by CDOT representative during this Phase.

5. Final Office Review (FOR) Construction Documents

5.1. FOR Deliverable Package

Collins will develop FR level Construction Documents (90% level) to complete an office review of the plans, details, specifications, cost estimates, and other elements pertinent to the final design. Design decisions and variances will be finalized at this phase and submitted for final review prior to 100% Construction Documents. The following items will be submitted in this Phase:

5.1.1. Deliverables:

- FOR Final Construction Plans
- Final Project Special Provisions and Specifications
- Final Opinion of Probable Cost
- Local Agency Clearance Letters and other required forms.
- Utility Plans
- ROW Plans

5.2. FOR Meeting

The FR plan package will be submitted to the City for review prior to the meeting. A meeting agenda will be prepared and submitted to the City prior to the Meeting. Collins will conduct a final project review meeting with the Collins team, the City of Northglenn Resident Engineer, and CDOT Representative.

5.2.1. Deliverables:

- FOR Meeting Minutes

5.3. Quality Control Review and Audit

Collins will perform a quality review and audit on the 5.1.1 Deliverable Package before submission to the City.

6. Design Phase Completion (100% CD)

6.1. Revise Construction Documents from FOR Meeting

The original plan sheets and the specifications shall be revised per the 90% design review meeting comments and submitted to the City.

6.2. Revise and Amend Final Reports

The City shall finalize and procure copies of final reports.

6.3. Revise and Finalize Rehabilitation Exceptions and Variances

Finalize and procure copies of variances, design decisions, and variance approvals.

6.4. Quality Assurance / Quality Control (QA/QC) Review and Audit

6.5. Review Design Phase Completion

6.6. Review Design Phase Completion (100% CDs)

6.7. Review Audit and Certification Memo

6.8. Deliverables:

6.8.1. Construction Plan Package

- Revised final plans
- Project standard and special provisions
- Final Opinion of Probable Cost
- Final bid schedule

6.8.2. Final Engineering Package

- Project calculations or worksheets
- Copies of variances, design decisions, and variance approvals
- Project meeting minutes

APPENDIX B
TABLE OF RATES



Engineering Services Table of Rates
(Effective 01/01/2022)

<u>Classification</u>	<u>Rate / Hour</u>	<u>Overtime Rate / Hour</u>
Principal Engineer (E8)	\$342.00	\$342.00
Principal Engineer (E7)	\$320.00	\$320.00
Senior Engineer (E6)	\$268.00	\$268.00
Senior Engineer (E5)	\$235.00	\$235.00
Engineer (E4)	\$193.00	\$193.00
Engineer (E3)	\$168.00	\$168.00
Junior Engineer (E2)	\$144.00	\$144.00
Junior Engineer (E1)	\$116.00	\$116.00
Senior Engineering Technician, Designer (T3)	\$149.00	\$186.25
Senior CAD Technician (D3)	\$137.00	\$171.25
Technician (T2)	\$105.00	\$131.25
CAD Technician (D2)	\$108.00	\$135.00
Junior Technician (T1)	\$69.00	\$86.25
Junior CAD Technician (D1)	\$80.00	\$100.00
Project Administrator	\$125.00	\$125.00
Project Planner	\$137.00	\$171.25
Clerical (C2)	\$89.00	\$111.25
Clerical (C1)	\$74.00	\$92.50

<u>Underwater Investigation</u>	<u>Rate / Day</u>	<u>Overtime Rate / Day</u>
Diver - All Classifications (Additional Labor Cost Per Day at diving site in diving or standby capacity.)	\$150.00	\$150.00

<u>Rope Access Investigation</u>	<u>Rate / Day</u>	<u>Rate / Day</u>
Rope Access Technician - All Classifications (Additional Labor Cost Per Day at site where Rope Access Techniques are used.)	\$150.00	\$150.00

Expenses will be billed as follows:

Travel, Lodging, and Subsistence	Actual Cost
Printing and Reproduction	Actual Cost
Long Distance Telephone and Shipping	Actual Cost
Equipment Rental	Actual Cost
Expendable Supplies	Actual Cost
Individual Diving Equipment	\$40.00 per day
15-19 ft. Boat, Motor, and Trailer	\$110.00 per day
20-21 ft. Boat, Motor, and Trailer	\$150.00 per day
22-25 ft. Boat, Motor, and Trailer	\$190.00 per day
Mileage: Automobile	\$0.585 per mile plus tolls

Testimony and Preparation for Testimony before Courts, Commissions, etc.

Officer-Principal Engineer	At Above Standard Rates
All Other Classifications	

Payment is due within thirty days after submission of invoices.

Collins Engineers, Inc.
Direct Labor Rates
(Effective 01/01/2022)

Classification	Average	Min	Max
Principal Engineer (E8)	\$ 117.04	\$ 98.21	\$ 127.14
Principal Engineer (E7)	\$ 112.35	\$ 100.00	\$ 123.60
Senior Engineer (E6)	\$ 89.72	\$ 78.64	\$ 113.00
Senior Engineer (E5)	\$ 69.47	\$ 62.46	\$ 79.94
Engineer (E4)	\$ 56.77	\$ 49.52	\$ 61.68
Engineer (E3)	\$ 47.01	\$ 40.00	\$ 54.32
Junior Engineer (E2)	\$ 39.35	\$ 32.35	\$ 45.32
Project Planner	\$ 34.14	\$ 32.69	\$ 35.58
Junior Engineer (E1)	\$ 31.02	\$ 27.00	\$ 38.63
CAD Technician (D2)	\$ 30.74	\$ 29.51	\$ 31.97
Senior Engineering Technician (T3)	\$ 50.12	\$ 33.44	\$ 94.09
Senior CAD Technician (D3)	\$ 35.98	\$ 32.96	\$ 40.38
Technician (T2)	\$ 27.42	\$ 24.32	\$ 31.83
Junior Technician (T1)	\$ 20.31	\$ 18.00	\$ 26.06
Junior CAD Technician (D1)	\$ 23.84	\$ 23.41	\$ 24.26
Project Administrator	\$ 53.95	\$ 28.85	\$ 123.20
Clerical (C1)	\$ 23.79	\$ 18.00	\$ 28.37
Clerical (C2)	\$ 28.03	\$ 26.81	\$ 29.44

**PROSPECTIVE CONTRACTOR'S CERTIFICATE REGARDING EMPLOYING OR
CONTRACTING WITH A WORKER WITHOUT AUTHORIZATION**

FROM: Collins Engineers, Inc.
(Prospective Contractor)

TO: City of Northglenn
11701 Community Center Drive
Northglenn, Colorado 80233-8061

Project Name Community Center Drive Bridge Rehabilitation Project

Bid Number _____

Project No. PR-00535.22

As a prospective Contractor for the above-identified bid, I (we) do hereby certify that, as of the date of this certification, I (we) do not knowingly employ or contract with a worker without authorization who will perform work under the Agreement and that I (we) will confirm the employment eligibility of all employees who are newly hired for employment to perform work under the Agreement through participation in either the E-Verify Program administered by the United States Department of Homeland Security and Social Security Administration or the Department Program administered by the Colorado Department of Labor and Employment.

Executed this 10 day of June , 2022

Prospective Contractor Collins Engineers, Inc.

By: 

Title: Senior Vice President-Human Resources

To be completed if contractor is providing services and has employees.

