



FLOYD COUNTY BOARD OF EDUCATION
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Linda C. Gearheart, Board Chair - District 1
William Newsome, Jr., Vice-Chair - District 3
Dr. Chandra Varia, Member - District 2
Keith Smallwood, Member - District 4
Steve Slone, Member - District 5

Consent Agenda Item (Action Item): Consider/Approve bids for custom design of inside and outside of FCS STEAM Mobile Classroom.

Applicable State or Regulations: BOE Policy 01.11, 04.32; KRS 45A.345-460

Fiscal/Budgetary Impact: ARP ESSER covers the cost of design, fabrication, and installation of inside and outside of STEAM bus to create a mobile classroom.

History/Background: The board approved advertisement for bids during the October regular board meeting. We lost our previous STEAM bus in the Transportation building fire and this project will be the replacement of that bus. Our STEAM Mobile Classroom will help to ensure no barriers exist and equity is provided in STEAM education across our district from any location. By stimulating interest in STEAM learning our students can gain experience for possible future jobs and/or post-secondary education.

Recommended Action: Consider/Approve bids when presented.

Contact Person(s): Wesley Turner, District Technology Coordinator, 606-886-2354

Director

Superintendent

Date: 11/14/2023



Floyd County Schools

STEAM Mobile Classroom Request Bid Information

Members of the Floyd County Board of Education,

The following information has been provided upon request from the 2 entities who submitted bids for the design and fabrication of the new Floyd County Schools STEAM Mobile Classroom. Both have submitted further breakdowns of items such as item cost, fabrication, labor, and hours needed to complete the bus for use. Below you will find their communication to you in blue lettering. Pages 2-11 will be the responses from NoMi Design. Pages 12-14 will be the responses of Abbico Contracting.

Thank you again for taking the time to review both. The STEAM Mobile Classroom is something that will be used to enhance core content to close gaps in Math and Science, expose our students to careers in Science, Technology, Engineering, the Arts, and Math, and provide equity for STEAM education across our district. Our last STEM Bus was a highlight for our students, and teachers, and was something many districts around us wanted for their students. We appreciate you and your call to give our students the best educational experience possible.

Mike Bell

Digital Learning Coach
Floyd County Schools

Wesley Turner

District Technology Coordinator
Floyd County Schools



Floyd County Schools

STEAM Mobile Classroom bid from NoMi Design

Re: *Further information needed concerning **Nomi Design** Bid for FCS STEAM Mobile Classroom.*

The Floyd County Board of Education Members request a breakdown of item cost, labor, and/or fabrication for each amount submitted for the bid listed below. Also, please provide a written explanation underneath each of the question(s). You can put question responses on separate sheets and send them if necessary.

Nomi's Response in Blue:

Thank you for taking the time last week to explain why the board needs clarifications required for a better understanding of the bid and the ability to compare our bid with others. In some cases, I will be able to give information as you requested but there is some information that either we do not break out, or that is more proprietary that we cannot break out, but in both cases I will attempt to explain our position. We know that **this project will require approximately 1,400 hours of fabrication time** in our shop not including the time of our two sub-contractors for the generator and bus wrap. In my opinion, there are many potential differences to what we are proposing and what other bidders proposed so I have included in a separate PDF document **6 other mobile projects** we have completed of which **5 were specifically K-12 mobile classrooms**. This establishes our expertise in this type of mobile classroom but also to the quality and copyrighted design of our mobile spaces. We have applied our 20 years of designing K12 buildings and 10 years of custom fabrication into our mobile classrooms and I would hate for the Board of Education to expect a Cadillac and possibly get a Yugo.

We bid what we know you need for demanding mobile environments. We matched the quality of your previous bus completed in 2019 by my company. In addition, we are providing a 2-year warranty (see our bid).

Below you will find details about the breakouts you requested on the FCS Breakdown that we received during our call. Our total cost for this project includes Design, Overhead & Profit totaling 25%. If we compare that to a design-bid-build for a school building, for the equivalent construction amount, the Design, Overhead & Profit would be approximately 33%.

EXTERIOR (BASE)			
Item	Item Cost	Labor/Fabrication hrs:	Description/Responses to Questions
Carefree 16' Awning with Wind Retraction & Interior Controls	\$2,400	60hrs	When we install awnings on any bus, we need to have additional parts made to bridge over obstructions or a curve of the exterior. This includes all wiring to operate the canopy from the interior with a switch in addition to auto-retraction in high wind conditions.
30 Amp shore Line & Reel (plug configuration TBD)	\$1,650	30hrs	The reel will be installed in one of the underfloor compartments accessed from the outside of the bus on the driver's side. The reel must have the correct plug installed and is wired to the interior. The reel we are pricing is electrically retractable instead of manually operated and is run off the 12v system. The shoreline is 50 feet long. Electrical retraction and length of the line were not specified and are included in our price.
Electrical (Exterior) <ul style="list-style-type: none"> (3) Exterior 110v Outlets w/ 2 USB Ports Type A Each Outlet 	See Electrical (Internal) Below		
Full Bus Wrap & Design	\$18,650	45hrs	The bus wrap cost includes our time to design the graphics and a direct cost to our sub-contractor. The bus wrap from our vendor is all-inclusive including perforated material for all windows which was not a requirement but necessary for the design.

INTERIOR (BASE)			
Item	Item Cost	Labor/Fabrication hrs:	Question(s)
Any Necessary Interior demolition	\$ Covered in our total cost		Additional demolition can include having to remove and re-install parts, modify parts etc. This is as needed and regardless of the scope is at no additional cost to FCS.
Electrical (Internal) <ul style="list-style-type: none"> Battery Charger 30 Amp Panel with GFCI Breakers LED Ambient Lighting HDMI Switch 	\$15,000	450hrs	The electrical price includes interior and exterior line and low voltage work including the Cradlepoint cellular access and exterior antenna. The generator is separately priced. Our price includes all electrical integrated and hidden from view. We only use armored cable and associated accessories for our line voltage wiring in addition to heat-shrink-tubing for

<ul style="list-style-type: none"> • All Line Voltage and Low Voltage Components not in Other Options • Smoke & Carbon Monoxide Detector • Cradlepoint LTE WiFi Hardware (SIM card by Owner) 			<p>most connections. Everything goes back to a full panel protected with Arc-Fault & GFCI breakers for each circuit. Integrated and hidden, armored, Arc-Fault & GFCI and exterior antenna were not requirements but are included in our price along with a combination smoke/carbon monoxide alarm. We take great care and pride in how all the electrical components are displayed behind the clear acrylic door including carefully organizing and labeling all components for easy maintenance but also the opportunity for learning.</p>
<p>Interior Fitup</p> <ul style="list-style-type: none"> • Custom Birch Slot Wall Panels Wainscot • (6) Custom Mobile Cabinets that Lock into Slot Wall for Travel 	<p>\$20,250</p>	<p>650hrs</p>	<p>Our interiors are designed and built for the demanding mobile environment including our wall system with integrated locking rail for cabinets, custom mobile workstations and general design 3 principals including organizing and labeling all wiring behind the acrylic door as a tool for teaching. All these components are priced to the same specifications as your last STEAM bus fabricated by our shop. I have selected a few of the major interior fitup items below to show more detail of how we have designed mobile classroom interiors, custom made for each project in our digital fabrication shop to our exacting standards.</p> <ul style="list-style-type: none"> • NOMI Slot Wall System – Our copyrighted design for the slot wall system has a variety of uses and in mobile environments it is particularly beneficial. We have modified our standard wall system to include a locking rail for mobile components for the safety of the driver and occupants. This rail system allows ultimate flexibility in the interior space of the bus allowing multiple configurations. The wall and structure are digitally designed and cut on our shop CNC mill to fit your bus. In addition, the slot wall is the way we integrate and hide all line and low voltage wiring and components making a truly clean and custom interior. • NOMI Mobile Workstations – Our copyrighted design for a mobile workstation includes several elements not enumerated in your original RFP but are included in our bid. This includes the locking system into our slot wall rail, magnetic white board tops, RV latching for all doors and drawers, interior shelving with lips to keep objects on the shelf while the bus is moving, and a large drawer with adjustable dividers for STEAM teaching manipulatives. Our mobile workstations are specifically designed for all age groups and have heavy duty locking casters and handles so that they can be moved on and off the bus. And new for this design, the mobile workstations will have integrated power for the flexible arm-mounted LCD screen therefore allowing ultimate flexibility inside and out. As with our slot wall system, the cabinets are digitally designed and cut on our shop CNC mill to precise standards using high quality Baltic birch cabinet grade plywood with heavy duty backs. Finally, you will have your choice of laminate color for the drawer front

			<p>and cabinet doors. Doors and drawers are installed with heavy-duty soft close hinges and sliders respectively.</p> <ul style="list-style-type: none"> NOMI Interiors General –Every bus we design and fabricate is different, therefore we take great pride and care to make sure the interior looks as integrated as possible. One example is the heating for the back of the bus. We will design solutions to integrate components like these, so they are not an afterthought.
Overall Total Base Bid		\$150,300	

ALTERNATE #1 - GENERATOR			
Item	Item Cost	Labor/Fabrication hrs:	Question(s)
<p>Generator</p> <ul style="list-style-type: none"> Cummins/Onan Diesel 4KW Gas Tie into the existing gas tank & exhaust piped to the exterior Installed in the existing under-bus compartment Slide out for maintenance 30 amp Transfer Switch All wiring to interior related to generator 	\$23,650	55hrs	<p>The cost for our gasoline generator is fixed by the authorized dealer and installer of this component. The price for the alternate includes integrating it into the bus as seamlessly as possible. Yes, the generator item may be a small portion of the overall cost it requires expertise and highly qualified companies to incorporate the generator into the existing configuration. Included in this price from the authorized installer is tying into the existing bus gas tank so that a separate container does not have to be added and the installation of interior controls so the user does not have to access the exterior panel to operate. Our work includes the addition of a transfer switch and the associated conduit and wiring between the generator and transfer switch and panel. In this case we use all Liqueatite (or equal) components for exterior routing of the 30amp rated wiring. This price also includes approximately \$3,000 for a slide out for easier access and maintenance.</p>
Generator with labor/fabrication.		\$27,250	

ALTERNATE #2 - CONSTELLATION LIGHTS W/ RGB			
Item	Item Cost	Labor/Fabrication hrs:	Question(s)
Removing from project			

ALTERNATE #3 - AUDIO / VISUAL			
Item	Item Cost	Labor/Fabrication hrs:	Question(s)
Audio / Visual <ul style="list-style-type: none"> • Exterior HDMI (connected to interior HDMI switch) • (2) Exterior Speakers for AV sound system and LCD on a mobile cart • (6) Monitors for each workstation • Crestron AV Control System for all Monitors and Speakers 	\$8,500	75hrs	<ul style="list-style-type: none"> • Our cost for the A/V system includes Crestron components, a commercial grade system that we use on some K-12 and post-secondary education projects. It allows the flexibility required in the RFP. The timing of the RFP being over the Thanksgiving holiday did not allow us to fully design the system so our number is at-risk meaning we were locking into a price with the "risk" of it being more or the possibility of it being less. We would recommend that this alternate be designed, and the price negotiated, after acceptance as a change order. • Other components included in this price are exterior speakers, LCD monitors per your specification, fixed LCD monitor brackets mounted to our mobile workstations and NOMI custom iPad/tablet holders for other types of pedagogical technology. • This price includes all 110v and low voltage wiring integrated and concealed in the design.
Audio/Visual with labor/fabrication.	\$14,600		

ALTERNATE #4 - EXTERIOR REAR STEPS

Item	Item Cost	Labor/Fabrication hrs:	Question(s)
Manual exterior rear steps and railing.	\$2,800	35hrs	As stated in the bid this is a budget number. At this time, we have not designed the rear steps and although there are several options on the market, we have not been able to find a solution that works off-the-shelf for this application and therefore are assuming we will need to fabricate a custom solution or modify an off-the-shelf product.
Rear Steps with labor/fabrication.	\$5,800		

MOBILE ARCHITECTURE + FABRICATION

NO MI Design



WHO WE ARE:

ARCHITECTS. DESIGNERS. MAKERS.

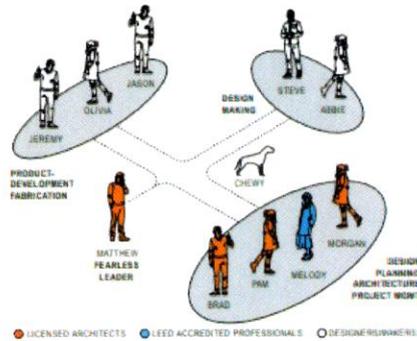
AWARD-WINNING, NATIONALLY RECOGNIZED DESIGN FIRM BASED IN CENTRAL KENTUCKY



"THEIR OFFICE(S) ARE LIKE BIG THINK TANKS FULL OF PEOPLE YOU CAN SEE GENUINELY LOVE THEIR WORK..."

AMY MORGESON
DIRECTOR
MARION CO. LIBRARY

Holding licenses in Kentucky, Indiana, Tennessee and New York we practice locally, regionally and nationally. Originally founded in 1989 as Lucas Schwering Architects, our company re-branded as Nomi in 2015. Since then we have won two **design awards** from the American Institute of Architects (AIA) Kentucky Chapter and have been featured in **ARCHITECT Magazine**, the premier trade journal for the design and construction industry in the country.



Top: ARCHITECT Magazine article featuring Nomi Design as "Kentucky Innovators" in their Next Progressives column.

Left: Diagram of Nomi's company structure

Right: Nomi's fabrication shop

WHAT WE DO:

WE DESIGN. WE CREATE. WE FABRICATE.

- | | |
|-----------------------|----------------------|
| ARCHITECTURE | CUSTOM FABRICATION |
| MOBILE DESIGN | BRANDED ENVIRONMENTS |
| NEW-BUILDING DESIGN | VISIONING |
| ADDITIONS | STRATEGIC PLANNING |
| RENOVATION | PROGRAMMING |
| ADAPTIVE-REUSE | CODE EVALUATION |
| HISTORIC PRESERVATION | FEASIBILITY STUDIES |
| INTERIOR DESIGN | GRAPHIC DESIGN |

VARIETY IS THE SPICE OF LIFE

We work successfully on multiple project types of varying scope and scale. This diversity is a cornerstone of our practice; it means we must remain humble and continue to learn, research and develop. The experience we gain from one type of project often affects others in unexpected and exciting ways. Sharing of knowledge allows us to develop truly innovative solutions for our clients.

DESIGN THINKING

Design projects can seem overwhelming. They are huge puzzles filled with moving pieces. Tone, space, light, gravity, structure, electricity, function, comfort, cost, legality, psychology, communication, health and safety all come into play and are all equally important components of a successful project.

That's where we come in. Our training and nature as architects and designers enables us to simultaneously envision all of these elements coming together in different ways, creating multiple outcomes. This unique skill set is our most valuable asset. It is our job to not only predict all of these scenarios but to critique and evaluate them, guiding you toward the best possible solution for your needs.

PEOPLE-FIRST APPROACH

It's not about us. It's about you.

Throughout the process our focus remains on you and the people who will ultimately be using the building or product we are designing. Our job is to be your advocate, guiding you through the design and construction process and delivering a completed project that will help your organization be successful in meeting its goals. For us the health, safety and experience of the user is paramount. It is not enough for our projects to be functional and comfortable; they must also inspire the people who use them.

"OUR IN HOUSE FABRICATION SHOP PROVIDES US THE ABILITY TO EXCEED PROJECT TIMELINES WHILE MAINTAINING THE HIGHEST QUALITY OF DESIGN. WE ARE A ONE-STOP SHOP."



Floyd County Public Schools S.T.E.M. Bus

The last twenty years have revolutionized how we learn. The evolution of digital technology has led to the Information Age and we can now access billions of bits of knowledge and perform previously unattainable computations due to developments like algorithms and silicon chips. These learning tools have transformed modern classrooms into environments very different from the one-room schoolhouses of the 19th Century and even from late 20th Century classrooms.

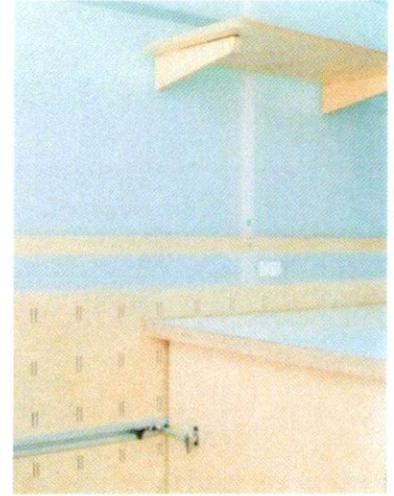
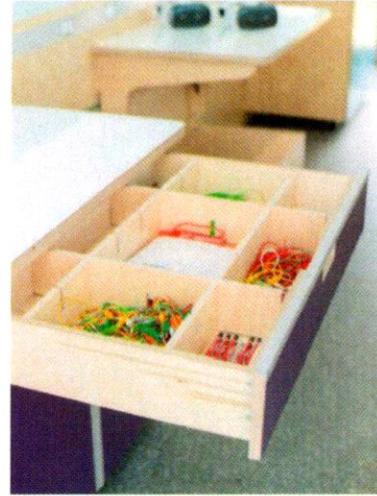
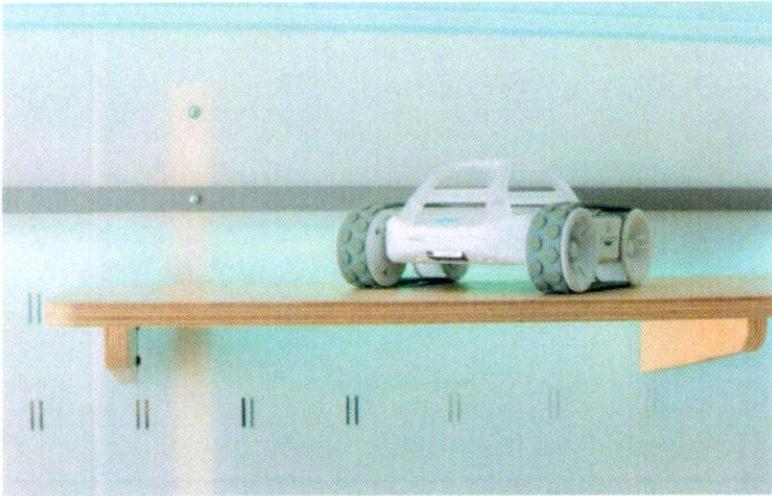
Today's classrooms are outfitted with laptop computers, smart boards and tablets. Modern teaching styles engage students in hands-on learning activities that demonstrate curriculum content in practical ways. As a result, students can connect abstract theories and concepts with tangible, real-life examples. The FCPS bus is a next-generation learning environment that immerses students in STEM curriculum through participation, observation, engagement, and creativity.

Flexibility is a crucial requirement of the Twenty-first century mobile classroom. Just as the designers of historic one-room schoolhouses could have never imagined the exponential advances in technology and teaching that occurred during the 20th Century, we cannot fully anticipate the future needs of our current learning environments. It is essential, therefore that the design of the STEM Bus be as flexible and adaptable as possible.

Upper Right: Bus on the go
 Lower Right: Exterior bus wrap
 Left: Outdoor classroom under bus canopy

Next Page
 Upper Right: Detail of mobile components
 Lower Right: Interior of partially loaded bus
 Upper Left: Mobile shelf
 Lower Left: Detail of mobile casework and latching devices







Floyd County Schools

STEAM Mobile Classroom bid from Abbico Contracting

Re: Further information needed concerning **Abbico Contracting** Bid for FCS STEAM Mobile Classroom.

The Floyd County Board of Education Members request a breakdown of item cost, labor, and/or fabrication for each amount submitted for the bid listed below. Also, please provide a written explanation underneath each of the question(s). You can put question responses on separate sheets and send them if necessary.

Qu	Description	Submitted Cost	Cost of Item	Labor/Profit	Question(s)
External					
1	Fabricated stairs w/ railing that are permanently attached, and can be extended in place once the door is opened and remain in place where the door can close for rear exit door.	\$3,000.00 Solid Step Camping World	1,000	2,000	Will these steps work with the bumper and handrail? <i>The steps that I've looked at will possibly work with the bumper. If for some reason we can't make those work we will fabricate a set that will. Either way handrails will be fabricated for the steps.</i>
1	16' Awning for passenger side extended from passenger door to wheelchair lift door.	\$6,700.00 Camping World	3,000	3,700	Will this awning be electric or manual, and does this awning have a wind retraction sensor? <i>The awning will be a programmable 12v with a smart arm (sensor).</i>
1	Outdoor mount for 55" LCD Monitor	\$1,000.00	500	500	Is this for the mount? <i>This will include the mount , wiring and labor</i>
1	HDMI port for outdoor 55" LCD Monitor on passenger side between passenger entrance door and wheel chair lift door	\$750.00	375	375	Is this for cabling and port? <i>Yes, ready for use</i>
3	Outdoor Electrical Outlets with usb ports on passenger side between passenger entrance door and wheelchair lift door for LCD, charging of devices, etc.	\$1,500.00	500	1,000	

2	Outdoor speakers for use with 55" LCD with capability to stand alone or connect to the entire audio system.	\$1,000.00	250	750	
1	Gas generator to run all internal and external components.	\$12,000.00 Onan model 4.0KY/6747	6,500	5,500	Will this control all internal components, and will this tie into the current fuel system or be stand alone? <i>This generator should be enough for your usage on the bus. If we have to go bigger it will require modifications to the exterior of the vehicle. It will be stand alone. I would recommend putting the generator on the driver's side to eliminate any noise problems while students are outside working</i>
1	30/50 Amp RV Plug with retractable reel to run all internal and external components.	\$2,500.00	1,000	1,500	Will this be a 30 or 50 amp plug, and will this be located on the driver side? <i>RV plug. I personally think 30 amp is plenty</i>
1	External Wrap	\$20,500.00	5,000	15,500	Will this be completed in house for the wrap or will you be looking for an outside vendor? <i>Wrap - will be done in house</i>
Internal					
6	27" M50A FHD Smart Monitor with Streaming TV in White	\$2,400.00	1,800	600	Is this the unit cost or total with wiring and labor? <i>Monitors - this price is complete</i>
1	Casting system that allows for simultaneous streaming to all monitors (including outdoor) as well as allow for individual use for each monitor.	\$5,000.00	2,500	2,500	What is the brand of the system and component compatibility? <i>Casting - there are so many options with casting. I would want you to tell us what you would prefer</i>
6	Mobile workstations	\$9,000.00	6,000	3,000	Please provide an example of what these will look like. <i>Workstations - I'll send pics of what I had in mind in different email</i>
1	Clear faced Cabinets to display all internal electrical workings.	\$2,000.00	1,000	1,000	

1	Stationary storage cabinet with internal charging stations on each shelf	\$1,000.00	500	500	
10-15	Electrical outlets with usb charging capabilities.	\$3,000.00	1,000	2,000	
1	Themed LED lighting with sounds activation, and multiple control options	\$1,000.00	250	750	What would this look like on the bus? <i>Lighting - we have many options with all the led available. I would prefer you to tell me what you are looking for.</i>
1	Cellular Access Point with internal antennas	\$2,500.00	500	2,000	Was this to provide a device as well? We just need external antennas run and we will provide the device and setup of the device. The device will be a Cradlepoint brand access point. <i>Access point - complete</i>
1	Railing and secure system to hold workstations and materials in place.	\$5,000.00	2,000	3,000	Is this a slot wall system or just added fasteners to the existing wall? <i>This will be a slot system which will allow stations to be moved instead of one single location.</i>
		Total	\$33,675	\$46,175	
		Overall Total	\$79,850		