

Project Description

The work for this project shall consist of the replacement of damaged noise barrier panels at locations across the district. The repair for the noise barriers located at LAK-271-0.06 will consist of installing additional fasteners and replacement of damaged portions of the fiberglass noise barrier panels.

Contingency Quantities

The contractor shall not order materials or perform work for items designated by plan note to be used "as directed by the engineer" unless authorized by the engineer. The actual work locations and quantities used for such items shall be incorporated into the final change order governing completion of this project.

Equipment and Material Storage

In order to provide for the safety of the traveling public the Contractor's attention is directed to 614.03. In addition the following provisions shall apply:

1. Any removed items shall not be stored on the right of way for more than thirty (30) days.
2. The storage of equipment, materials, and vehicles within the highway right of way will be permitted. The number of areas and exact locations shall be approved by the Engineer.
3. All disturbed areas shall be returned to their original condition at no expense to the state.

Staging Areas

There are no specific areas given in the plans for the Contractor to use as a staging area(s). If the Contractor wants to use an area(s) for staging, regardless if it falls within the project limits or not, the Contractor is to use the Right of Way E-Permitting System at <https://odhcp.bemcorp.net/Accounts/Account/Account> in order to apply for a permit per Section 107.02 of the CMS. For specific permitting questions, the Contractor can contact the District Permitting Office, (Melvin Safford) at 216-584-2137 or at District12Permits@dot.ohio.gov.

If a permit is granted, all conditions of the permit shall be met in addition to the requirements of 104.04 of the CMS, at no additional cost to the State. If the Project Engineer deems that all the conditions of the permit were not met, then 10% of the Contract bid amount for mobilization shall be withheld until all the conditions of the permit are satisfied.

Right of Way

All work shall be performed within the existing right of way and easements.

Work Limits

The work limits shown on these plans are for physical construction only. Provide the installation and operation of all work zone traffic control and work zone traffic control devices required by these plans whether inside or outside these work limits.

Roadway and Erosion Control

Clearing and Grubbing

Although there are no trees or stumps specifically marked for removal within the limits of the project, a Lump Sum quantity is included in the general summary for Item 201, Clearing and Grubbing. All provisions as set forth in the specifications under this item are included in the lump sum Price bid for Item 201, Clearing and Grubbing.

Item 202 – Removal Misc.: Noise Barrier Panel Removal and Disposal

This item shall consist of any removal, storage and disposal of existing damaged noise barrier panels. The removal of post caps that would interfere with the removal of the panels will also be included in this item. It will also include the removal, storage and disposal of any clip angles and/or other appurtenances that may be in conflict with the proposed design. Disposal shall follow any applicable local, state, or federal laws regarding such disposal.

Care shall be taken with removal as to not damage any portion of the existing noise barrier post and foundation that is to remain. Replace or repair posts damaged by panel removal operations at no cost to the project. At least 7 days before performing repair work, submit a proposed repair plan developed by an Ohio registered professional engineer to the Engineer. Obtain the Engineer's approval before performing the repair.

Payment for the above work shall be made at the unit bid price for Item 202 – Removal Misc: Noise Barrier Panel Removal and Disposal.

Item 202 – Removal Misc: Steel Post Removal

This item is intended for Location 14 & 15: LAK-90-11.94/12.22

This item shall consist of the removal and disposal of existing steel noise barrier posts. It will also include the removal of the top of the noise barrier post foundation to a minimum of one foot below final grade per CMS 202.03. Disposal shall follow any applicable local, state or federal laws regarding such disposal.

This shall be paid for at the contract unit price bid per each under Item 202 – Removal Misc.: Steel Post Removal

Item 202 – Fiberglass Panels Removed and Delivered

This item is intended for Locations 2, 3, 4, 14 and 15.

Locations 2, 3, 4

The contractor shall remove existing fiberglass noise barrier panels. Panels that are determined to be in salvageable condition as determined by the project engineer shall be delivered to the following location: Cleveland FSMF, 3263 E 44th Street Cleveland, Ohio 44127. Contractor shall contact Brian Kirskey (216-584-2308), a minimum of 48 hours prior to the removal of the fiberglass panels to coordinate delivery of the panels. Panels that will not be delivered to ODOT shall be handled in accordance with Item 202 – Removal Misc.: Noise Barrier Panel Removal and Disposal

Locations 14 and 15

The contractor shall remove existing fiberglass noise barrier panels. The panels shall be delivered to the following location: Vrooman Road Yard, 6073 Vrooman Road, Leroy Ohio 44077. Contractor shall contact Tom Henderson, ODOT – Lake County Manager (216-584-2053), a minimum of 48 hours prior to the removal of the fiberglass panels to coordinate delivery of the panels.

Contractor shall take care to prevent damage to the fiberglass panels during removal and transportation.

Payment for item shall be paid for at the contract unit price bid per square foot under item Removal Misc.: Fiberglass Panels Removed And Delivered unless otherwise noted, and shall include all labor, equipment, materials and incidentals necessary to complete the above work.

Noise Barriers

Follow standard drawing NBS-1-09 and the details of these plans.

Barrier Pattern and Color

The Contractor must maintain uniformity of barrier type, texture, joints and color at each location.

Location 1: CUY-90-1.71

- Residential – Architectural Polymer ID 905 Small Aged Ashlar or Engineer Approved Equal – Federal Color #595B-20219 (Cocoa)
- Roadway – Architectural Polymer ID 905 Small Aged Ashlar or Engineer Approved Equal – Federal Color #595B-20219 (Cocoa)
- Post and Cap - Federal Color #595B-20219 (Cocoa)

The pattern on the residential side shall be a full depth pattern. The pattern on the roadway side shall have a relief not less than one-half the depth of the façade on the residential side.

Location 2: CUY-90-5.29 – Fiberglass

- Residential – Federal Color #595B-20219 (Cocoa)
- Roadway – Federal Color #595B-20219 (Cocoa)

Location 3: CUY-90-5.34 - Fiberglass

- Residential – Federal Color #595B-20219 (Cocoa)
- Roadway – Federal Color #595B-20219 (Cocoa)

Location 4: CUY-90-5.44 – Fiberglass

- Residential – Federal Color #595B-20219 (Cocoa)
- Roadway – Federal Color #595B-20219 (Cocoa)

Location 5: CUY-71-12.83 NB

- Residential – Architectural Polymers #111 Ohio Sand Brick Relief – Federal Color #595B-20109 (Red Brown)
- Roadway – Architectural Polymers #111 Ohio Sand Brick Relief – Federal Color #595B-20109 (Red Brown)
- Post and Cap – Federal Color #595-27722 (Buff)

Location 6: CUY-71-12.83 SB

- Residential – Architectural Polymers #111 Ohio Sand Brick Relief – Federal Color #595B-20109 (Red Brown)
- Roadway – Architectural Polymers #111 Ohio Sand Brick Relief – Federal Color #595B-20109 (Red Brown)
- Post and Cap – Federal Color #595-27722 (Buff)

Location 7: CUY-90-27.18

- Residential – Architectural Polymers #111 Ohio Sand Brick Relief – Federal Color #595B-20109 (Red Brown)
- Roadway – Architectural Polymers #111 Ohio Sand Brick Relief – Federal Color #595B-20109 (Red Brown)
- Post and Cap – Federal Color # 595B-27722 (Buff)

Location 8: CUY-90-28.67

- Residential – Architectural Polymers #111 Ohio Sand Brick Relief – Federal Color #595B-20109 (Red Brown)
- Roadway – Architectural Polymers #111 Ohio Sand Brick Relief – Federal Color #595B-20109 (Red Brown)
- Post and Cap – Federal Color # 595B-27722 (Buff)

Location 9: CUY-90-29.39

- Residential – Architectural Polymers #111 Ohio Sand Brick Relief – Federal Color #595B-20109 (Red Brown)
- Roadway – Architectural Polymers #111 Ohio Sand Brick Relief – Federal Color #595B-20109 (Red Brown)
- Post and Cap – Federal Color # 595B-27722 (Buff)

Location 10: CUY-271-11.25 - Fiberglass

- Residential – Federal Color # 595B-36492 (Grey)
- Roadway – Federal Color # 595B-36492 (Grey)

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DESIGNER
KJD

REVIEWER
EMK 08-03-20

PROJECT ID
113319

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Barrier Pattern and Color Continued

Location 11: CUY-77-1.90

- Residential – Architectural Polymers Large Stone Ohio Drystack #9110 or Engineer Approved Equal – Federal Color #595B-36440 (Medium Grey)
- Roadway – Architectural Polymers #111 Ohio Sand Brick Relief – Federal Color #595B-20109 (Red Brown)
- Post and Cap – Federal Color #595B-25630 (Light Grey)

Location 12: CUY-71-7.30

- Residential – Architectural Polymer ID 905 Small Aged Ashlar or Engineer Approved Equal - Federal Color #595B-30450 (Tan)
- Roadway – Architectural Polymer ID 905 Small Aged Ashlar or Engineer Approved Equal – Federal Color #595B-30450 (Tan)

The pattern on the residential side shall be a full depth pattern. The pattern on the roadway side shall have a relief not less than one-half the depth of the façade on the residential side.

Location 13: LAK-271-0.60 - Fiberglass

- Residential – Federal Color #595B-36492 (Grey)
- Roadway – Federal Color #595B-36492 (Grey)

Field Verification of Panel and Cap Dimensions

Prior to the fabrication of casting of all new panels and post caps, contractor is to field verify the existing dimensions. Field verification of existing dimensions shall be included in the unit price bid for their respective bid items.

Item 606 – Special – Noise Barrier (Reflective), Concrete or Fiberglass

This item will be used to install reflective concrete and fiberglass noise panels.

Noise wall construction shall adhere to NBS-1-09.

Payment for all of the above shall be include in the unit price bid per square foot for Item 606 – Special – Noise Barrier (Reflective), Concrete or Fiberglass unless otherwise noted, and shall include all labor, equipment, materials and incidentals necessary to complete the above work.

Item 606 – Special – Noise Barrier, Concrete Post Cap

This item is intended for the following Locations, CUY-71-12.80 SB (Location 6), CUY-77-1.90 (Location 11) and CUY-71-12.83 NB (Location 12).

This item shall consist furnishing and installing a concrete post cap on existing noise barrier posts. It will also include connection materials to attach the cap to the existing post. The cap shall be sealed to match the existing post color.

This item shall be paid for at the contract price Each under Item 606 – Special – Noise Barrier, Concrete Post Cap

Item 606 – Special – Noise Barrier, Concrete Post Cap, Finial

This item is intended for the Location 9, CUY-90-29.39.

This item shall consist of furnishing and installing a concrete post cap with a finial on existing noise barrier posts. It will also include connection materials to attach the cap to the existing post. The cap shall be sealed to match the existing post color.

This item shall be paid for at the contract price Each under Item 606 – Special – Noise Barrier, Concrete Post Cap, Finial

Item 606 – Removal Misc: Noise Barrier Panel Removal and Reuse

This item shall consist of any removal, on-site storage, and re-installation of existing non-damaged concrete noise barrier panels. It will also include the removal, storage, disposal and replacement of any clip angles, supports, and/or other appurtenances that may be in conflict with the proposed design. Disposal shall follow any applicable local, state or federal laws regarding such disposal.

Care shall be taken with removal as to not damage any portion of the existing noise barrier post and foundation that is to remain. Replace or repair posts damaged by panel removal operations at no cost to the project. At least 7 days before performing repair work, submit a proposed repair plan developed by an Ohio registered professional engineer to the Engineer. Obtain the Engineer's approval before performing the repair.

Removed and Reinstalled noise barrier panels shall be reinstalled within 1 week of the removal of the panels.

This item shall be paid for at the contract unit price bid per square foot under item 606 – Removal Misc.: Noise Barrier Panel Removal and Reuse.

Item 606 – Special – Noise Barrier (Reflective), With Integral Cap

This item shall consist of furnishing and installing a reflective concrete panel with an integral cap. The panel with a cap shall be installed as the top panel within a bay. The cap will be sealed to match the existing post color.

This item shall be paid for at the contract price per Square Foot under Item 606 – Special – Noise Barrier (Reflective), With Integral Cap

Item 606 – Special – Noise Barrier: Fiberglass Panel Repair

This item is intended for the Location 12, LAK-271-0.06

This item will be for re-installation of existing "J" shaped Panel Backers and installing fasteners according to manufacturer's detail.

"J" Shaped Panel Backers were previously installed as part of the fiberglass panel retrofit project (PID 94367). In numerous locations the shims have become dislodged and have fallen to the ground. Contractor will need to locate existing shims and place Panel Backers per provided details against the existing fiberglass panels. In addition, the contractor shall install additional fasteners for all J shaped Panel Backers such that a minimum of one fastener is installed in each fiberglass panel on each side of the panel. Currently there are fasteners in every other panel.

Contractor shall take care to prevent damage to existing Panel Backers. Any damage to existing Panel Backers due to contractor negligence shall be replaced at the contractors expense.

Any Panel Backers that are deemed to be unusable by the Project Engineer shall be replaced with a quantity of Item 606 – Special – Noise Barrier – J Shaped Panel Backers, by foot.

Payment for this work shall be included in the unit price Linear Foot under Item 606 – Special – Noise Barrier, Fiberglass Panel Repair unless otherwise noted, and shall include all labor, equipment, materials and incidentals necessary to complete the above work

Item 606 – Special – Noise Barrier (Reflective), Fiberglass - Retrofit

This item will be used to replace the existing reflective concrete noise barrier panels defined at Location 10 with reflective fiberglass noise barrier panels.

Follow standard drawing NBS-1-09 and the details of these plans.

The contractor is directed to closely match the existing top of wall elevation. It is our intent to maintain a uniform top of wall within existing posts while still meeting the existing acoustic profile. Elevations may be adjusted to accommodate the Contractor supplied panels. The adjusted elevation shall be discussed for each location with the Engineer prior to the approval of the shop drawings.

Fiberglass reinforced polymer composite panels (reflective) shall be used. The panels shall be designed to fit within the existing posts and shall be kept tight to the highway face. The Contractor shall provide supports to hold the panels in place both in elevation and laterally based on the manufacturer's recommendations and that are acceptable to the Engineer; however, wood shims/blocks shall not be used. The designed supports shall be detailed in the shop drawings.

The tongue and groove joints between adjoining posts must be maintained at constant elevations. Any joint that is offset from the joint in the adjacent panel shall be adjusted in the field to provide an uninterrupted joint line between adjacent panels.

Any additional embankment that is required to obtain the minimum 6" bury depth and fill any voids remaining from the previous panels is included in this item for payment.

Seeding and mulching is required per standard drawing NBS-1-09. For areas adjacent to a residential property, use CMS 659 lawn mixture.

If the Contractor removes a portion of an existing right-of-way fence for access to the noise barriers or worksite, he is required to restore the fence to its original condition (at minimum). All costs for removal and restoration of the right-of-way fence are included with this item.

Install drainage for sloped sections per the standard drawing, with a minimum of one (1) outlet installed at this location.

Acceptance requirements shall be per the standard drawing.

Payment for all of the above shall be included in the unit price bid per square foot for Item Special – Noise Barrier (Reflective), Fiberglass – Retrofit unless otherwise noted, and shall include all labor, equipment, materials and incidentals necessary to complete the above work.

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DESIGNER
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REVIEWER
EMK 08-03-20

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Item 606 – Special – Noise Barrier – J Shaped Panel Backer

The following quantity has been carried forward to the general summary for new J Shaped Panel Backer to replace damaged pieces.

ITEM 606 – J Shaped Panel Backer **100 Feet**

Fence Lengths

The lengths of fence in the plans are horizontal dimensions. Measurements of the final quantities will be in accordance with Item 607.

Item 619 – Field Office, Type B, As Per Plan

A Type B Field Office is required for this project. The following revisions to equipment supplied with the Type B Field Office, as specified in Table 619.02-1, Field Office, shall apply:

- The broadband internet connection must meet a minimum upload speed of 5MB per second.
- Contractor shall furnish and set up a Wi-Fi router meeting the requirements of IEEE 802.11ac for the exclusive use of the Department.

All other field office items supplied shall meet the requirements of a Type B, Field Office.

Item 619 – Field Office, Type B, As Per Plan **6 Months**

Existing Plans

Existing plan sheets were used to estimate the location of the noise barrier bays. These existing plan sheets have been taken from the records and are believed to represent the existing noise barrier alignments and positions, but the State of Ohio does not guarantee the accuracy of the same.

For further information in regard to the plan sheets, the contractor shall refer the previous construction plans.

These plans may be reviewed at the following location:

Ohio Department of Transportation
District 12 Office
5500 Transportation Boulevard
Garfield Height, Ohio 44125

DESIGN AGENCY



DESIGNER

KJD

REVIEWER

EMK 08-03-20

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113319

SHEET TOTAL


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D12 NOISE BARRIER REPAIR

MODEL: Sheet PAPER SIZE: 17x11 (in.) DATE: 2/22/2021 TIME: 10:39:10 AM USER: kcohen
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SHEET NUM.											PART.	ITEM	ITEM	GRAND	UNIT	DESCRIPTION	SEE SHEET NO.
4	6	7	10	11							01/IMS/OT	EXT	TOTAL				
ROADWAY																	
LS											LS	201	11000	LS		CLEARING AND GRUBBING	
			250								250	202	75000	250	FT	FENCE REMOVED	
			3								3	202	98100	3	EACH	REMOVAL MISC.: STEEL POST REMOVAL	4
			1,165								1,165	202	98400	1,165	SF	REMOVAL MISC.: FIBERGLASS PANELS REMOVED AND DELIVERED	4
			4,204								4,204	202	98400	4,204	SF	REMOVAL MISC.: NOISE BARRIER PANEL REMOVAL AND DISPOSAL	4
			1,332								1,332	SPECIAL	60610210	1,332	SF	NOISE BARRIER (REFLECTIVE), CONCRETE	5
			943								943	SPECIAL	60610210	943	SF	NOISE BARRIER (REFLECTIVE), FIBERGLASS	5
			1,142								1,142	SPECIAL	60610210	1,142	SF	NOISE BARRIER (REFLECTIVE), FIBERGLASS REFRONT	5
			550								550	SPECIAL	60610210	550	SF	NOISE BARRIER (REFLECTIVE), WITH INTEGRAL CAP	5
			6								6	SPECIAL	60610810	6	EACH	NOISE BARRIER CONCRETE POST CAP	5
			2								2	SPECIAL	60610810	2	EACH	NOISE BARRIER CONCRETE POST CAP, FINAL	5
			120								120	SPECIAL	60610920	120	SF	NOISE BARRIER, REMOVAL AND REUSE	5
			1,324								1,324	SPECIAL	60610930	1,324	FT	NOISE BARRIER FIBERGLASS PANEL REPAIR	5
	100			1,324							100	SPECIAL	60610930	100	FT	NOISE BARRIER: J SHAPED PANEL BACKER	6
			290								290	607	15000	290	FT	FENCE, TYPE 47	
EROSION CONTROL																	
											5,000	832	30000	5,000	EACH	EROSION CONTROL	
MAINTENANCE OF TRAFFIC																	
		100									100	614	11110	100	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
INCIDENTALS																	
											LS	614	11000	LS		MAINTAINING TRAFFIC	
	6										6	619	16011	6	MNTH	FIELD OFFICE, TYPE B, AS PER PLAN	6
											LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
											LS	624	10000	LS		MOBILIZATION	

GENERAL SUMMARY

DESIGN AGENCY

 DESIGNER
 KJD
 REVIEWER
 EMK 08-03-20
 PROJECT ID
 113319
 SHEET TOTAL
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D12 NOISE BARRIER REPAIR

MODEL: Sheet PAPER: 17x11 (in.) DATE: 2/22/2021 TIME: 10:37:35 AM USER: kcohen
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SHEET NO.	PLAN SPLIT NO.	NOISE BARRIER REPAIR LOCATIONS	Location	202	202	202	202	SPECIAL	SPECIAL	SPECIAL	SPECIAL	SPECIAL	SPECIAL	SPECIAL	607									
				FENCE REMOVED FT	REMOVAL MISC.: STEEL POST REMOVAL EACH	REMOVAL MISC.: NOISE BARRIER PANEL REMOVAL AND DISPOSAL SF	REMOVAL MISC.: FIBERGLASS PANELS REMOVED AND DELIVERED SF	NOISE BARRIER, REMOVAL AND REUSE SF	NOISE BARRIER (REFLECTIVE), CONCRETE SF	NOISE BARRIER (REFLECTIVE), WITH INTEGRAL CAP SF	NOISE BARRIER (REFLECTIVE), FIBERGLASS SF	NOISE BARRIER (REFLECTIVE), FIBERGLASS - RETROFIT SF	NOISE BARRIER: CONCRETE POST CAP EACH	NOISE BARRIER: CONCRETE POST CAP, FINIAL EACH	FENCE, TYPE 47 FT									
B-1	1	CUY-90-1.71	1			384				288	96													
B-2	1	CUY-90-5.29	2			69	230					299												
B-3	1	CUY-90-5.34	3			69	230					299												
B-4	1	CUY-90-5.44	4			72	273					345												
B-5	1	CUY-71-12.83 NB	5			192				64	128			2										
B-6	1	CUY-71-12.80 SB	6			192				64	128			2										
B-7	1	CUY-90-27.18	7			240				216	24													
B-8	1	CUY-90-28.67	8			168				144	24													
B-9	1	CUY-90-29.39	9			150		120	150						2									
B-10	1	CUY-271-11.25 - Brainard Road Exit Ramp	10			2,112						2,112												
B-11	1	CUY-77-1.90 NB	11			300				150	150			2										
B-12	1	CUY-71-7.83 SB	12			256				256														
B-14	1	LAK-90-11.94 - EB Rest Area	14		1		144								20									
F-1	1	Station 7+00 Station 9+50		250											250									
B-15	1	LAK-90-12.22 - EB Rest Area	15		2		288								20									
TOTALS CARRIED TO GENERAL SUMMARY				250	3	4204	1165	120	1332	550	943	2112	6	2	290									

Approximate Noise Barrier Bay(s) Dimensions	
Height	Width
16'	24'
13'	23'
13'	23'
15'	23'
12'	16'
12'	16'
20'	12'
14'	12'
18'	15'
See Sheet 11	
20'	15'
16'	16'
8'	18'
8'	18'

SUB-SUMMARY

DESIGN AGENCY

 DESIGNER
 KJD
 REVIEWER
 EMK 08-03-20
 PROJECT ID
 113319
 SUBSET TOTAL
 0 0
 SHEET TOTAL
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