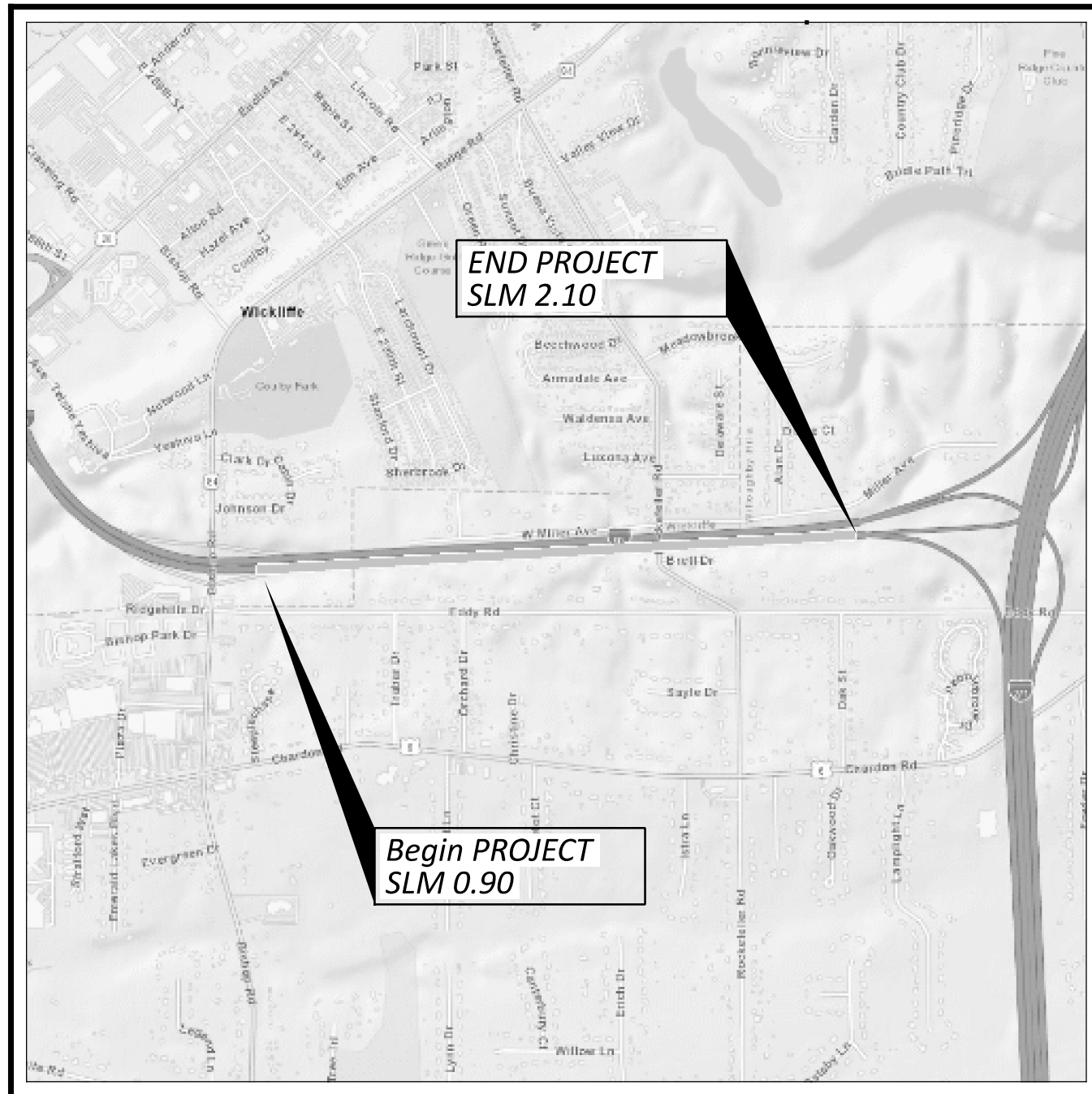


STATE OF OHIO DEPARTMENT OF TRANSPORTATION

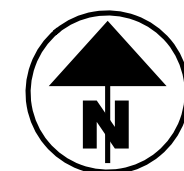
LAK-90-00.90/SAFETY

CITY OF WICKLIFFE
CITY OF WILLOUGHBY HILLS
LAKE COUNTY



LOCATION MAP

LATITUDE: 41°35'26" LONGITUDE: -81°27'48"



PORTION TO BE IMPROVED	=====
INTERSTATE HIGHWAY	=====
FEDERAL ROUTES	=====
STATE ROUTES	=====
COUNTY & TOWNSHIP ROADS	=====
OTHER ROADS	=====

DESIGN DESIGNATION	S.L.M.	
	0.960-1.080	0.960-1.080
CURRENT ADT (2023)	75,500	75,500
DESIGN YEAR ADT (2043)	86,500	85,500
DESIGN HOURLY VOLUME (2043)	11,000	10,500
DIRECTIONAL DISTRIBUTION	0.51	0.51
TRUCKS (24 HOUR B&C)	0.15	0.15
DESIGN SPEED	65 MPH	65 MPH
LEGAL SPEED	60 MPH	60 MPH
DESIGN FUNCTIONAL CLASSIFICATION:		
INTERSTATE		
NHS PROJECT		YES

DESIGN EXCEPTIONS

NONE

ADA DESIGN WAIVERS

NONE

UNDERGROUND UTILITIES
Contact Two Working Days
Before You Dig

OHIO811.org
Before You Dig

OHIO811. 8-1-1. or 1-800-362-2764
(Non members must be called directly)

PLAN PREPARED BY:
ODOT DISTRICT 12
PLANNING & ENGINEERING
5500 TRANSPORTATION BLVD.
GARFIELD HEIGHTS, OH 44125

INDEX OF SHEETS:

Title Sheet	1
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Guardrail Subsummaries	11-12
Project Site Plan	13-14
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STANDARD CONSTRUCTION DRAWINGS						SUPPLEMENTAL SPECIFICATIONS		SPECIAL PROVISIONS		
BP-3.1	1/21/22		MT-95.30	7/19/19	RM-4.2	4/17/20	TC-61.10	4/26/23	800-2023	10/20/23
			MT-95.31	7/19/19	RM-4.5	7/21/17	TC-61.30	7/19/19	808	1/18/19
MGS-1.1	7/16/21		MT-95.32	4/19/19	RM-4.6	7/19/13			821	4/20/12
MGS-2.1	1/19/18		MT-95.40	7/21/23					832	7/21/23
MGS-2.3	1/20/23		MT-95.45	7/21/23					908	10/20/17
MGS-3.1	1/19/18		MT-101.70	4/21/23					921	4/20/12
MGS-3.2	1/18/13		MT-101.75	7/21/23						
MGS-4.2	7/19/13		MT-105.10	1/17/20						
MGS-4.3	1/18/13									
MGS-5.2	7/15/16									
MGS-5.3	7/15/16									
MGS-6.1	1/19/18									
MGS-6.2	7/19/19									

ENGINEER'S SEAL



[Signature]
John Picuri, P.E., P.S.
District 12 Deputy Director

[Signature]
Jack Marchbanks, PhD
Director, Department of Transportation

FEDERAL PROJECT NUMBER

E230(999)

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

THIS PROJECT INVOLVES THE INSTALLATION OF MEDIAN GUARDRAIL ALONG IR-90 FROM APPROXIMATELY BISHOP ROAD (SR-84) TO IR-271 IN THE CITIES OF WICKLIFFE AND WILLOUGHBY HILLS IN LAKE COUNTY.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA:	1.48 Acres
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	0.25 Acre
NOTICE OF INTENT EARTH DISTURBED AREA:	2.00 Acre

LIMITED ACCESS

THIS IMPROVEMENT IS ESPECIALLY DESIGNED FOR THROUGH TRAFFIC AND HAS BEEN DECLARED A LIMITED ACCESS HIGHWAY OR FREEWAY BY ACTION OF THE DIRECTOR IN ACCORDANCE WITH THE PROVISIONS OF SECTION 5511.02 OF THE OHIO REVISED CODE.

2023 SPECIFICATIONS

THE STANDARD SPECIFICATIONS OF THE STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, INCLUDING SUPPLEMENTAL SPECIFICATIONS LISTED IN THE PLANS, CHANGES LISTED IN THE PROPOSAL, AND THE SUPPLEMENTAL SPECIFICATION 800 VERSION INDICATED ON THE PROPOSAL SHALL GOVERN THIS IMPROVEMENT.

I HEREBY APPROVE THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY EXCEPT AS NOTED ON SHEET 6, AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

TITLE SHEET

DESIGN AGENCY



DESIGNER
JDA

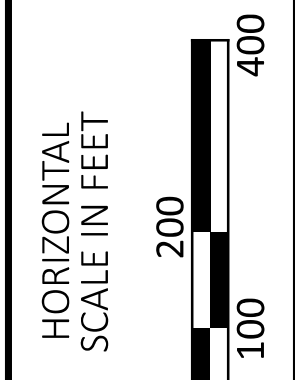
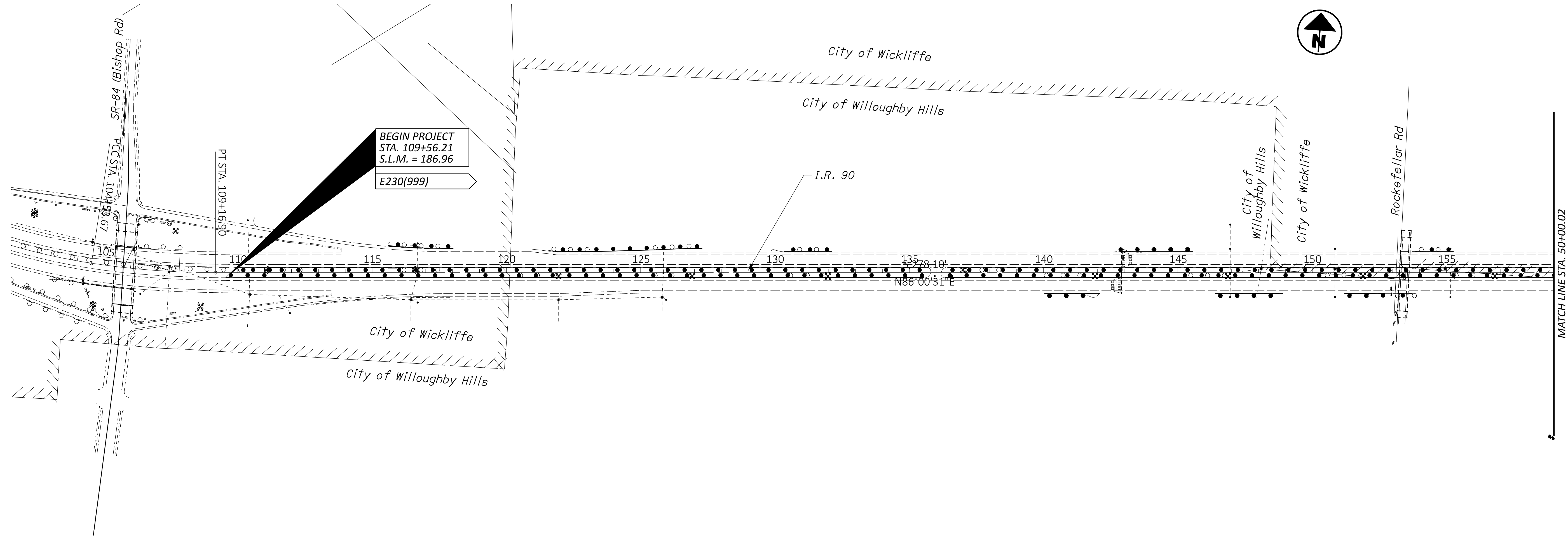
REVIEWER
DAB 10/05/23

PROJECT ID
119563

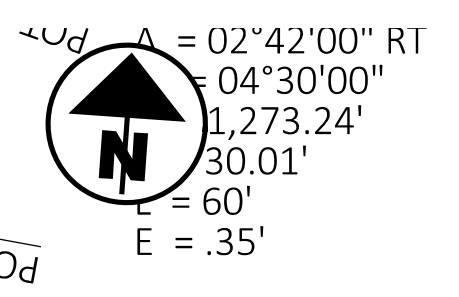
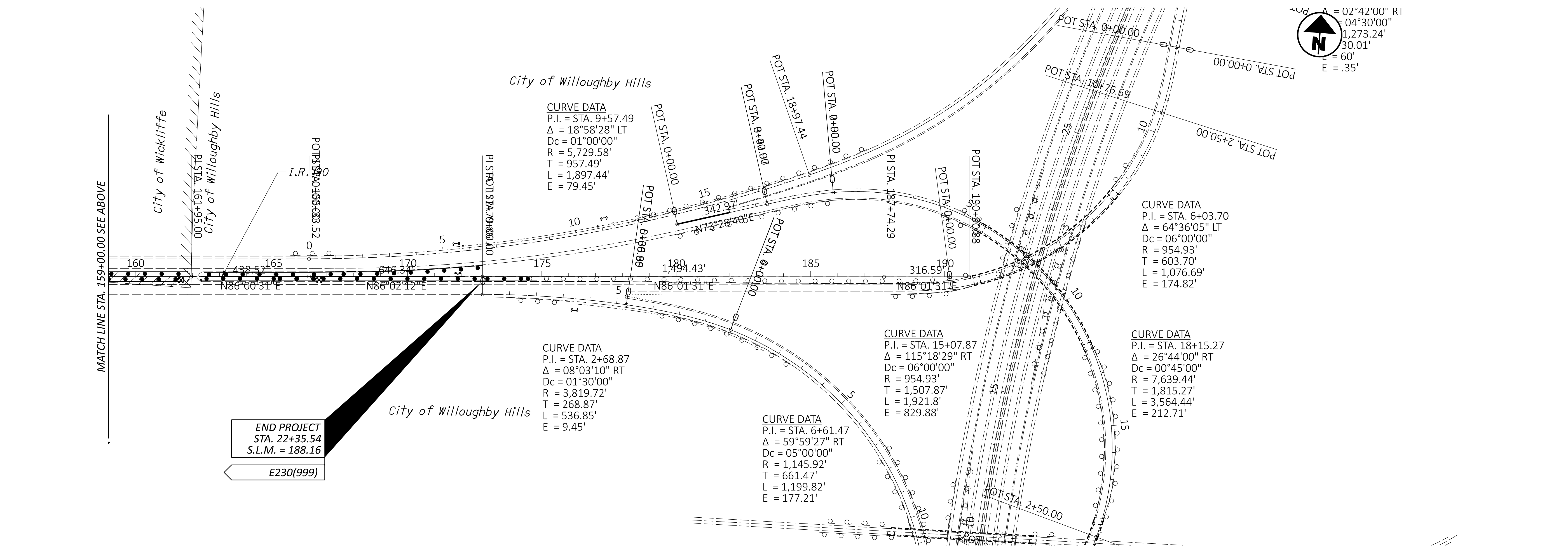
SHEET TOTAL
1 17

LAK-90-00.90

MODEL: Sheet_SurvFI PAPER SIZE: 34x22 (in.) DATE: 2/15/2024 TIME: 2:07:43 PM USER: jalbrig1 pvc:\ohiodot-pw-bentley.com\ohiodot-pw-02\Documents\01 Active Projects\District 12\Lake\119563\400-Engineering\Froadway\Sheets\119563_GT001.dgn



SCHEMATIC PLAN
BEGIN PROJECT TO END PROJECT



CURVE DATA
 P.I. = STA. 9+57.49
 $\Delta = 18^{\circ}58'28''$ LT
 Dc = $01^{\circ}00'00''$
 R = 5,729.58'
 T = 957.49'
 L = 1,897.44'
 E = 79.45'

CURVE DATA
 P.I. = STA. 6+03.70
 $\Delta = 64^{\circ}36'05''$ LT
 Dc = $06^{\circ}00'00''$
 R = 954.93'
 T = 603.70'
 L = 1,076.69'
 E = 174.82'

CURVE DATA
 P.I. = STA. 2+68.87
 $\Delta = 08^{\circ}03'10''$ RT
 Dc = $01^{\circ}30'00''$
 R = 3,819.72'
 T = 268.87'
 L = 536.85'
 E = 9.45'

CURVE DATA
 P.I. = STA. 15+07.87
 $\Delta = 115^{\circ}18'29''$ RT
 Dc = $06^{\circ}00'00''$
 R = 954.93'
 T = 1,507.87'
 L = 1,921.8'
 E = 829.88'

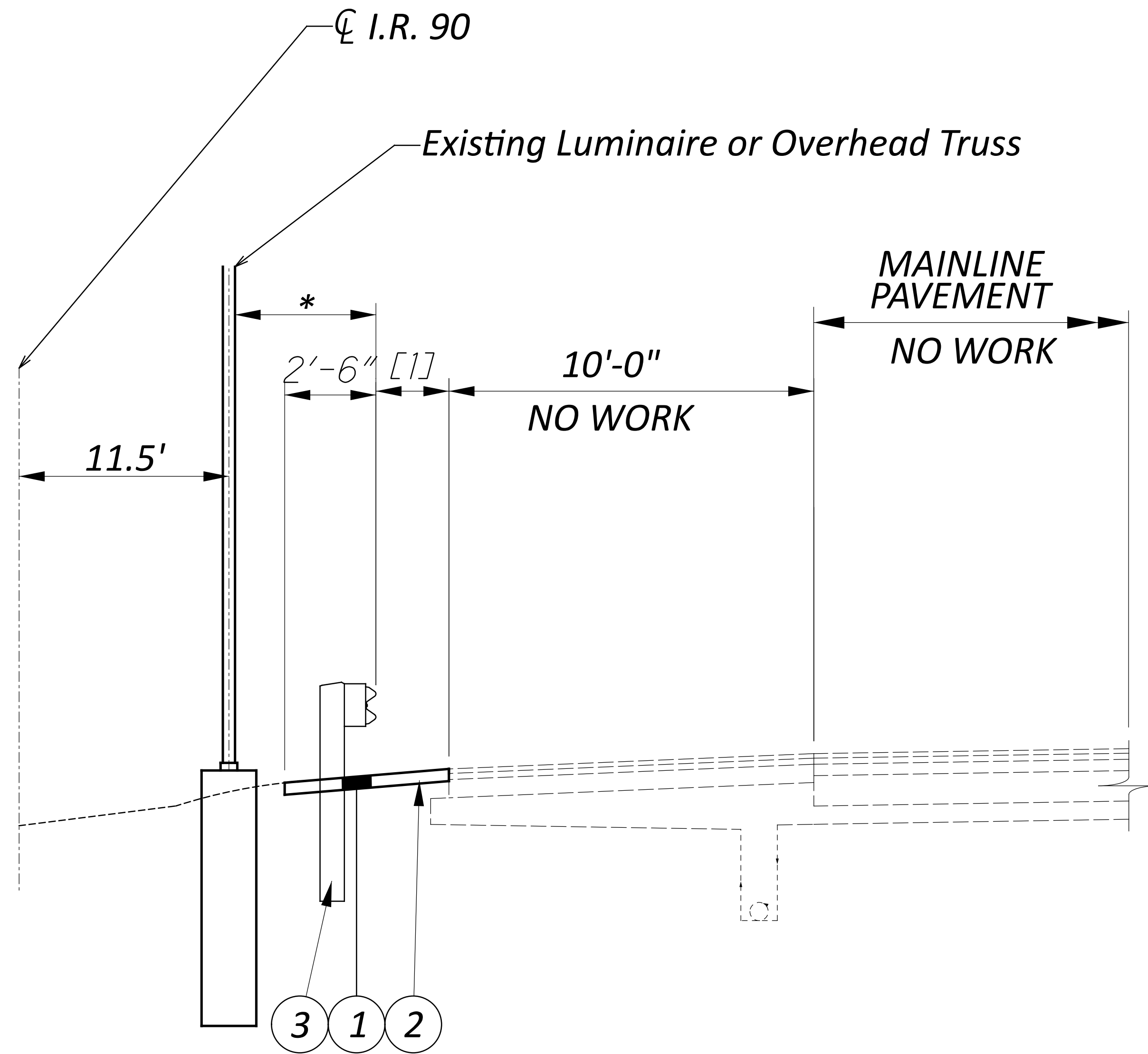
CURVE DATA
 P.I. = STA. 18+15.27
 $\Delta = 26^{\circ}44'00''$ RT
 Dc = $00^{\circ}45'00''$
 R = 7,639.44'
 T = 1,815.27'
 L = 3,564.44'
 E = 212.71'

CURVE DATA
 P.I. = STA. 6+61.47
 $\Delta = 59^{\circ}59'27''$ RT
 Dc = $05^{\circ}00'00''$
 R = 1,145.92'
 T = 661.47'
 L = 1,199.82'
 E = 177.21'

END PROJECT
 STA. 22+35.54
 S.L.M. = 188.16
 E230(999)

BEGIN PROJECT
 STA. 109+56.21
 S.L.M. = 186.96
 E230(999)

DESIGN AGENCY	
DESIGNER	JDA
REVIEWER	DAB
PROJECT ID	10-05-23
SHEET	2
TOTAL	17



I-90 SHOULDER DETAIL

[1] VARIES, MATCH EXISTING OFFSET OR 2' MIN

* FOR LUMINAIRE OFFSETS SEE TABLE A FOR OVERHEAD TRUSSES SEE TABLE B

- ① ITEM 441 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (449) (UNDER GUARDRAIL), AS PER PLAN, 2"
- ② ITEM 209 - RESHAPING UNDER GUARDRAIL, AS PER PLAN
- ③ ITEM 606- GUARDRAIL, TYPE MGS

Offset Table A	
Pole ID	Face of Guardrail to face of Pole
L-1	6'-6"
L-2	5'-0"
L-3	5'-6"
L-4	6'-6"
L-5	6'-0"
L-6	5'-6"
L-7	6'-0"
L-8	7'-0"
L-9	6'-0"
L-10	6'-6"
L-11	6'-0"
L-12	6'-0"
L-13	20'-0+

Offset Table B	
Overhead Truss ID	Face of Guardrail to face of Overhead Truss
OH-1 (Outside Shoulder)	8'-6"
(Inside Shoulder)	8'-0"
OH-2 (Outside Shoulder)	7'-0"
(Inside Shoulder)	6'-6"

TYPICAL SECTION

DESIGN AGENCY



DESIGNER

JDA

REVIEWER

DAB 10/05/23

PROJECT ID

119563

SHEET TOTAL

3 17

General

Project Description

This project consists of the replacement and placement of median guardrail along IR-90 from approximately Bishop Road (SR-84) to IR-271 in the cities of Wickliffe and Willoughby Hills in Lake County.

Location of Guardrail

The locations of guardrail runs, as described in these plans, are subject to adjustment prior to final acceptance. The Engineer shall be satisfied that all installations will afford maximum protection for traffic.

Right of Way

All work will be performed within the existing right of way.

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.

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.

Equipment and Material Storage

In order to provide for the safety of the traveling public the Contractor's attention is directed to 614.035. In addition, the following provisions shall apply:

- Any removed items shall not be stored on the right of way for more than thirty (30) days.
- 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.
- All disturbed areas shall be returned to their original condition at no expense to the state.

Cooperation Between Contractors

The Contractor shall cooperate and coordinate his operations with the Contractors on other projects that may be in force during the life of the contract. No waiver of any provisions of 105.08 of the Construction and Materials Specifications is intended.

Underground Utilities

Highway Lighting Conduit – Ohio Department of Transportation

Attn: Bill Gerber, District Lighting Engineer
O.D.O.T. District 12 – Roadway Services
(216) 584-2260

Attn: Dave Nimrichter, District Lighting Manager
O.D.O.T. District 12 – District Traffic
(216) 584-2296

Attn: Ed Newmeyer, O.D.O.T Central Office
Office of Technical Services
(614) 204-0914

The Contractor shall be responsible for contacting any utilities that may be affected by the work performed for this contract. The contractor shall notify the utilities sufficiently before work begins so that the companies can locate and mark the location of their facilities before any excavation or post driving begins. The Contractor shall also notify D12 lighting manager a minimum of 48 hours prior to any guardrail work. The contractor shall also locate and avoid underground drainage pipes not associated with a particular utility company.

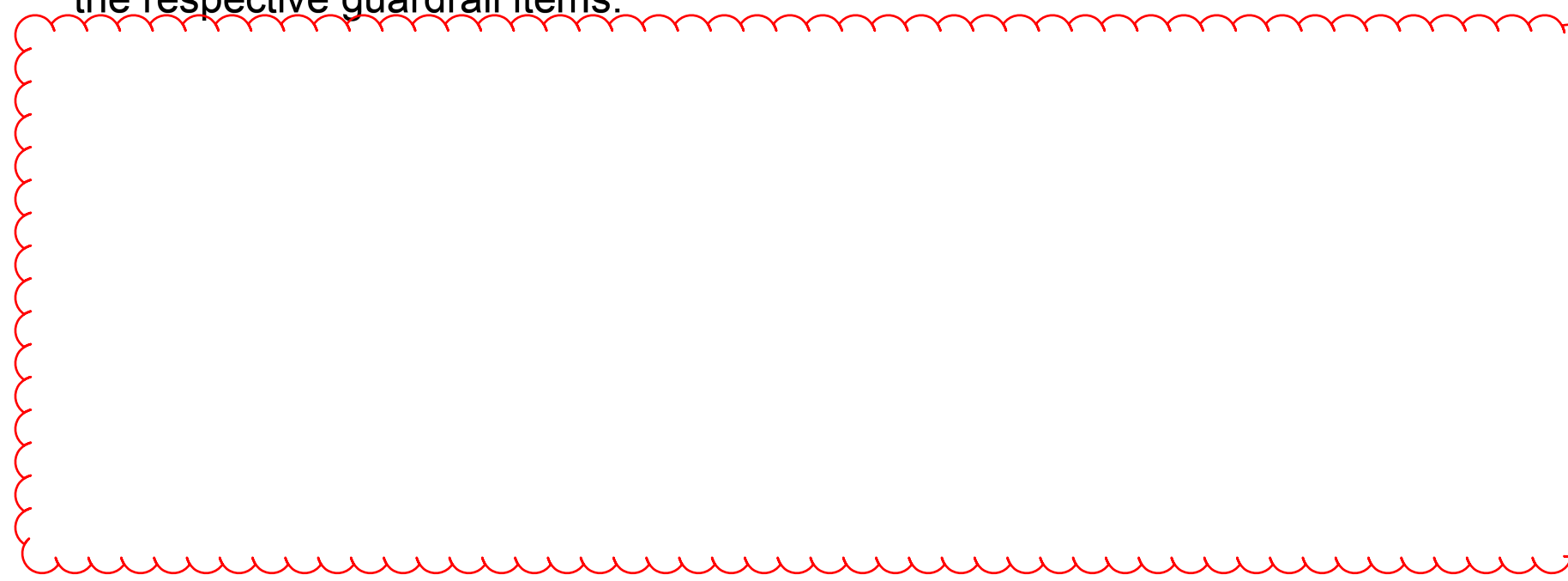
If any conflicts occur the Engineer shall determine whether the position of the guardrail can be adjusted to avoid the utility.

The Contractor shall be responsible for any buried utilities and lighting circuits that may be damaged installing posts and end points of the guardrail.

Ed Newmeyer must be present when contractor is placing guardrail post at the ATR station located at Sta. 143+00.

Connection Between Existing And Proposed Guardrail

When it is necessary to splice proposed guardrail to existing guardrail, only the existing guardrail shall be cut, drilled, or punched. The connection shall be made using a "W-Beam Rail Splice" as shown in AASHTO M 180-12, except the beam washers are not to be used. Payment shall be included in the contract price for the respective guardrail items.



Protection Of Right-Of-Way Landscaping

Prior to beginning work, the contractor, the project engineer, and a representative of the maintaining agency will review and record all landscaping items within the right-of-way (both within and outside the construction limits). A record of this review will be kept in the project engineer's files. Prior to final acceptance, a final review of landscaping items will be made.

Constrict all activities, equipment storage, and staging to within the construction limits. Unless otherwise identified in the plans or proposal, the construction limits are identified as 30 feet from the edge of pavement.

Submit a written request to the project engineer to use any area outside these limits. The document submitted must clearly identify the area and explain the proposed use and restoration of the area. Use of these areas for disposal of waste material and construction debris, excavation of borrow material and placement of portable plants is prohibited. The request must be approved, in writing, before the contractor has permission to use the area.

Any items damaged beyond the construction limits, as defined above, will be replaced in kind or as approved by the project engineer.

MGS Rail Spanning Drainage Structures

When MGS rail is required to span over a drainage structure, the below procedures are to be followed:

1. If inlet requires 1 post to be missing, MGS rail shall be nested and a post located on either side of the inlet.
2. If inlet requires 2 posts to be missing, MGS rail shall be connected to the posts with triple blockouts and a post shall be located on either side of the inlet.

DESIGN AGENCY



DESIGNER

JDA

REVIEWER

DAB 10/05/23

PROJECT ID

119563

SHEET TOTAL

4 17

Utilities

Listed below are all known utilities located within the project construction limits together with their respective owners. The Ohio Department of Transportation has used the best available information to determine the utility companies serving this area but cannot guarantee that this utility company list is complete.

AT&T
13630 Lorain Ave. 2nd Floor
Cleveland, Ohio 44111
Attn: James Janis
Design Manager
Phone: (216) 476-6142
pj8191@att.com

Charter Communications
7 Severance Circle
Cleveland Heights, Ohio 44118
Attn: Emil Symister
Phone: (216) 575-8016
Cell: (440)-343-1530
Emil.Symister@charter.com

Dominion East Ohio Gas Co.
320 Springside Dr.
Akron, Ohio 44333
Phone: (330) 664-2409
Relocation@dominionenergy.com

Illuminating Company (First Energy)
6896 Miller Rd, Suite 101
Brecksville, Ohio 44141
Attn: John M. Zassick
Office: (440) 546-8706
Cell: (216) 538-1580
jmzassick@firstenergycorp.com

Lake County - Water
105 Main St.
Painesville, OH 44077
Attn: Sarah A. Cerovski
Phone: (440) 350-2652
Sarah.Cerovski@lakecountyoio.gov

Verizon
120 Ravine St.
Akron, Ohio 44303
Attn: Al Guest
Office: (330) 622-5967
Cell: (330) 329-5495
Allan.guest@verizon.com

Breezeline
105 Blaze Industrial Parkway
Berea, Ohio 44017
Attn: Larry Burruel
Construction Coordinator
Phone: (440) 216-9256
LBurruel@Breezeline.com

City of Willoughby Hills
35405 Chardon Rd
Willoughby Hills, Ohio 44094
Attn: Mark Grubiss
Office: (440) 918-8742
Fax: (440) 918-8744
markgrubiss@willoughbyhills-oh.gov

Everstream Solutions
1228 Euclid Avenue, Suite 250
Cleveland, Ohio 44113
Attn: David Chappell, OSP manager
Cell: (330) 461-1083
dchappell@everstream.net

Lake County- Department of Utilities
105 Main St.
Painesville, Ohio 44077
Attn: Randy Rothlisberger
Cell: (440)-350-2652
Randy.rothlisberger@lakecountyoio.gov

**Ohio Department of Transportation
ITS**
ODOT Central Office
Attn: Bryan Comer,
ITS Engineer
Phone: (614) 387-1253
Bryan.Comer@dot.ohio.gov

**Ohio Department of Transportation
Lighting**
ODOT District 12
Attn: David Nimrichter,
Lighting Manager
Phone: (216) 584-2296
David.Nimrichter@dot.ohio.gov

Roadway

Item 209 – Reshaping Under Guardrail, As Per Plan

This item of work shall be used to prepare proposed and existing guardrail runs for paving under guardrail, including the removal and disposal of existing asphalt under guardrail.

A sawcut will be performed, when applicable, to assist the removal of existing asphalt under guardrail and minimize damage to existing shoulder asphalt. Payment for sawcutting will be included in the bid price for Item 209 – Reshaping Under Guardrail, As Per Plan.

Fill all holes remaining after removal of guardrail posts and anchor assemblies with granular material. Do not use fill material containing sod. All fill material shall be approved by the engineer and shall be compacted as directed by the Engineer. Payment for the above is included in the applicable guardrail item.

Reshape and compact subgrade to ensure positive drainage. Establish a cross-slope of 0.042 (half inch per foot). grade to a maximum width of 6' to provide positive drainage away from the travel lanes.

All collected debris and topsoil shall be removed and disposed of as specified in section 105.17 of the CMS.

In areas where asphalt under guardrail will not be replaced, the removed material shall be replaced with compactable granular material conforming to 703.16 and placed to grade as approved by the Engineer. Seed and mulch these areas according to section 659.

Payment for the above work shall be made at the unit bid price for Item 209 – Reshaping Under Guardrail, As Per Plan and shall include all labor, tools, equipment and materials necessary to perform the work.

Item 441 – Asphalt Concrete Intermediate Course, Type 1, (449), (Under Guardrail), As Per Plan

This operation shall include preparation of the graded shoulder using Item 209 – Reshaping Under Guardrail, As Per Plan and paving under the guardrail using Item 441 – Asphalt Concrete Intermediate Course, Type 1,(449), (Under Guardrail), As Per Plan.

Herbicide shall be EPA approved for paving under guardrail. It shall be applied to the prepared area after final leveling and grading has been completed. The application shall be just prior to paving and shall strictly adhere to the manufacturer's instructions.

Each successful bidder must be licensed by the Ohio Department of Agriculture as a commercial applicator and all persons involved in the actual spraying shall be licensed as commercial operators in the appropriate spray category.

Herbicide label, material safety data sheet and copy of applicators licenses shall be submitted to the Engineer for verification prior to commencing work.

Paving under guardrail shall consist of placing Item 441 to a depth of 2" and a maximum width of 4' using one of the following methods:

- METHOD A:
1.Set guardrail posts
2.Place Item 441

METHOD B:

- 1.Place Item 441
- 2.Bore asphalt at post locations (may be omitted if steel posts are used)
- 3.Set guardrail posts
- 4.Patch around posts. The materials used for patching shall be an asphalt concrete approved by the Engineer. Patched areas shall be compacted using either hand or mechanical methods. Finished surfaces shall be smooth and sloped to drain away from the posts.

All labor, equipment, and materials required to perform the work outlined above, with the exception of setting guardrail posts, shall be included for payment under Item 441 – Asphalt Concrete Intermediate Course, Type 1,(449), (Under Guardrail), As Per Plan.

Item 606 –Anchor Assembly, MGS Type E

This item shall consist of furnishing and installing any of the guardrail end terminals for type MGS guardrail as listed on Roadway Engineering's web page under Roadside Safety Devices for Approved Guardrail End Treatments. Installation shall be at the locations specified in the plans, in accordance with the manufacturer's specifications.

The face of the Type E impact head shall be covered with a sheet of Type G reflective sheeting per CMS 730.19.

Refer to the manufacturer's instructions regarding the installation of, and the grading around the foundation tubes and ground strut. The top of any foundation tube should be less than 4" above the ground. The placement of the foundation tubes should be an appropriate depth below the level line in order to maintain the finished guardrail height of 31" from the edge of the shoulder.

On-site grading is required if the foundation tubes or top of the ground strut does project more than 4" above the ground line.

Payment for the above work shall be made at the unit bid price for Item 606, Anchor Assembly, MGS Type E, Each, and shall include all labor, tools, equipment and materials necessary to construct a complete and functional anchor assembly system, including all related transitions, reflective sheeting, hardware, grading, embankment and excavation not separately specified, as required by the manufacturer.

Item 606 –Anchor Assembly, MGS Type B

This item shall consist of furnishing and installing any of the guardrail end terminals for type MGS guardrail as listed on Roadway Engineering's web page under Roadside Safety Devices for Approved Guardrail End Treatments. Installation shall be at the locations specified in the plans, in accordance with the manufacturer's specifications.

Refer to the manufacturer's instructions regarding the installation of, and the grading around the foundation tubes and ground strut. The top of any foundation tube should be less than 4" above the ground. The placement of the foundation tubes should be an appropriate depth below the level line in order to maintain the finished guardrail height of 31" from the edge of the shoulder.

On-site grading is required if the foundation tubes or top of the ground strut does project more than 4" above the ground line.

The face of the Type B impact head shall be covered with a sheet of Type G reflective sheeting per CMS 730.19.

Payment for the above work shall be made at the unit bid price for Item 606, Anchor Assembly, MGS Type B, Each, and shall include all labor, tools, equipment and materials necessary to construct a complete and functional anchor assembly system, including all related transitions, reflective sheeting, hardware, grading, embankment and excavation not separately specified, as required by the manufacturer.



Item 201 – 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.

General

It is the responsibility of the Contractor to provide through vehicular access in both directions at all times throughout the project area. The project shall be constructed in phases in order to minimize traffic disruption and inconvenience to the general public. The Contractor shall be responsible for providing all equipment, materials and manpower needed to adequately maintain traffic as provided for in the plans and specifications.

The Contractor is reminded that, in the conduct of this project, the sequence of operations shall be planned in a fashion which minimizes the number of lane reductions and/or lane width reductions required to maintain traffic through the project.

Permitted lane closures shall be as shown on the “Schedule of Through Lanes to be Maintained” table. The time limits shown in this table shall be adhered to or road user costs will be assessed.

Construction Sequence

No permanent maintenance of traffic zones are detailed in these plans. Traffic shall be maintained in accordance to the “Schedule of Through Lanes to be Maintained” note. All work zone closures shall comply with the appropriate Standard Construction Drawings.

Prior to opening all lanes to normal traffic, the Contractor shall ensure that the pavement is in a drivable condition with no potholes or dust and that all longitudinal drop-offs greater than 1-1/2” and transverse drop-offs are ramped as per the “Maintaining Traffic and Sequence of Operations” note.

Maintenance of Traffic Control Zones

The Contractor shall be responsible to maintain the signs, drums or cones specified in the Standard Construction Drawings. When the Contractor is notified of deficiencies, he shall correct the deficiencies as soon as possible, preferably within 12 hours and no later than 24 hours. If any noted deficiencies are not corrected within 24 hours the Engineer shall deduct one day pay for Item 614 – Maintaining Traffic, not as a penalty but as road user costs. The Contractor shall be subject to these road user costs for each and every day that these provisions are not met. All costs for maintaining the work zones as described above shall be included under Item 614 – Maintaining Traffic.

Suspension of Work

If the Contractor fails to comply with the provisions for traffic control as set forth in these plans or with provisions of the OMUTCD, the Engineer shall suspend work until the Contractor complies with the necessary requirements.

Lane Closure/Reduction Required

Length and duration of lane closures and restrictions shall be at the approval of the Engineer. It is the intent to minimize the impact to the traveling public. Lane closures or restrictions over segments of the project in which no work is anticipated within a reasonable time frame, as determined by the Engineer, shall not be permitted. The level of utilization of maintenance of traffic devices shall be commensurate with the work in progress.

Payment

All work and traffic control devices shall be in accordance with CMS 614 and other applicable portions of the specifications, as well as the Ohio Manual of Uniform Traffic Control Devices. Payment for all labor, equipment, and materials shall be included in the lump sum contract price for Item 614 – Maintaining Traffic unless separately itemized in the plans.

Schedule of Through Lanes to be Maintained

All lane closures may only be implemented at the times permitted by the “District 12 Permitted Lane Closure Times” list, which is located on the ODOT website:

www.dot.state.oh.us/districts/D12/HighwayManagement/Pages/PermittedLaneClosures.aspx

The latest revision, at 14 days prior to the bid date, shall be in effect for this project.

No lane or shoulder closures shall be in place when no work is being performed. Shoulder closures shall only be allowed at the times specified for lane closures. Only the shoulder closures required to construct the Type D barrier wall shall be allowed outside of these times.

Any roadway not listed shall not have any lane closures on weekdays from 6:30am to 9:00am and 3:00pm to 6:00pm. Contact Troy Onesti, District 12 Work Zone Traffic Manager, at (216) 379-5337 if there are any questions.

Construction Traffic

All construction traffic shall use acceptable truck routes to access the construction area. Use of local residential streets is strictly prohibited unless allowed in writing by the local enforcement authorities.

Lane Value Contract Table

Description of Critical Lane/Ramp to be Maintained	Direction	Lanes	Restricted Time Period	Time Unit	Disincentive (per time unit per lane)
IR-90:					
IR-90	EB	3	As Per the Permitted Lane Closure Schedule	Each Minute	\$270
IR-90	WB	3	As Per the Permitted Lane Closure Schedule	Each Minute	\$270

The Contractor shall be assessed a disincentive in the amount of the largest disincentive within all sections impacted by the physical lane restriction, including the Transition Area, Activity Area, and Termination Area as defined by the OMUTCD.

DESIGN AGENCY



DESIGNER

JDA

REVIEWER

DAB 10/05/23

PROJECT ID

119563

SHEET TOTAL

6 17

Maintaining Traffic – General Provisions

- Traffic shall be maintained in accordance with the “Schedule of Through Lanes to be Maintained.” the Contractor shall set up and operate his equipment in such a manner as to minimize encroachment upon the traveled width of pavement
- The Contractor shall notify the Engineer, the responsible law enforcement agency and the Ohio Department of Transportation, District 12 Public Information Officer ((216) 584-2007) not less than 24 hours prior to a scheduled disruption of traffic.
- Nighttime work shall be permitted in accordance with these plans and notes. The Contractor shall provide flood lighting of the work area in accordance with CMS 401.15 in order to assure the safest conditions during nighttime work. A lighting plan for nighttime operations shall be presented to and approved by the Engineer.
- The Contractor shall furnish, erect and maintain all warning and information signs necessary for maintaining traffic. The sign faces shall be reflectorized with type G sheeting complying with the requirements of CMS 730.19. The Contractor shall determine what signs are needed and advise the Engineer two weeks in advance of his detailed plans. See the OMUTCD and standard drawings for the minimum signage required.
- Traffic control devices shall be set up prior to the start of construction and shall be properly maintained during the time special conditions exist. They shall remain in place only as long as they are needed and shall be immediately removed thereafter. Where operations are performed in stages, there shall be in place only those devices that apply to the condition present during the stage in progress. All signs with messages which do not apply during a certain period shall be covered or set aside out of the view of traffic.
- During non-working periods, open excavations shall be delineated with warning flashers and/or other approved devices as deemed appropriate by the Engineer.
- Existing signs located within the road work areas which are necessary for interim or permanent traffic control shall be removed and re-erected in locations as approved by the Engineer.
- For any operation not specifically mentioned in these plans, the traffic shall be maintained in accordance with the OMUTCD.

642-58 Notification of Traffic Restrictions

Throughout the duration of the project, the Contractor shall notify the project engineer in writing of all traffic restrictions and upcoming maintenance of traffic changes. The Contractor shall ensure the written notification is submitted in a timely manner to allow the project engineer to meet the required time frames set forth in the table below to inform the Special Hauling Permits Section (Hauling.Permits@dot.ohio.gov) and the **District Public Information Office (PIO)**. This notification shall be received by the project engineer prior to the physical setup of any applicable signs or message boards.

Information should include, but is not limited to, all construction activities that impact or interfere with traffic and shall list the specific location, type of work, road status, date and time of restriction, duration of restriction, number of lanes maintained, number of lanes closed, minimum vertical clearance, minimum width of drivable pavement, detour routes, if applicable, and any other information requested by the project engineer.

Any unforeseen conditions not specified in the plans requiring traffic restrictions shall also be reported to the project engineer using the Notification Time Table.

Holiday Closures

No work shall be performed and all existing lanes shall be open to traffic during the following designated holidays or events:

Christmas	New Year's	Mother's Day
Memorial Day	Fourth of July	Easter
Labor Day	Thanksgiving	Solar Eclipse (4/8/24)

The period of time that the lanes are to be open depends on the day of the week on which the holiday or event falls. The following schedule shall be used to determine this period:

<u>Day of the Week</u>	<u>Times All Lanes Must Be Open</u>
Sunday	12 noon Friday Through 6:00AM Monday
Monday	12 noon Friday Through 6:00AM Tuesday
Tuesday	12 noon Monday Through 6:00AM Wednesday
Wednesday	12 noon Tuesday Through 6:00AM Thursday
Thursday	12 noon Wednesday Through 6:00AM Monday
Thursday (Thanksgiving Only)	6:00AM Wednesday through 6:00AM Monday
Friday	12 noon Thursday Through 6:00AM Monday
Saturday	12 noon Friday Through 6:00AM Monday

Should the Contractor fail to meet any of these requirements, the Contractor shall be assessed a disincentive per the Lane Value Contract (PN 127).

Floodlighting

Floodlighting of the work site for operations conducted during nighttime periods shall be accomplished so that the lights do not cause glare to the drivers on the roadway. To ensure the adequacy of the floodlight placement, the Contractor and the Engineer shall drive through the work site each night when the lighting is in place and operative prior to commencing any work. If glare is detected, the light placement and shielding shall be adjusted to the satisfaction of the Engineer before work proceeds.

Payment for all labor, equipment and materials shall be included in the lump sum contract price for Item 614 – Maintaining Traffic.

Item 614 – Portable Changeable Message Signs, As Per Plan

The Contractor shall furnish, install, maintain and remove, when no longer needed, a changeable message sign. The sign shall be of a type shown on a list of approved PCMS units available on the Office of Materials Management web page. The list contains Class A and B units with minimum legibility distances of 800 feet and 650 feet, respectively.

Each sign shall be trailer-mounted and equipped with a functional dimming mechanism, to dim the sign during darkness, and a tamper and vandal proof enclosure. Each sign shall be provided with appropriate training and operation instructions to enable on-site personnel to operate and troubleshoot the unit. The sign shall also be capable of being powered by an electrical service drop from a local utility company. The PCMS shall be delineated in accordance with CMS 614.03.

Placement, operation, maintenance and all activation of the signs by the Contractor shall be as directed by the Engineer. The PCMS shall be located in a highly visible position yet protected from traffic. The Contractor shall, at the direction of the Engineer, relocate the PCMS to improve visibility or accommodate changed conditions. When not in use, the PCMS shall be turned off. Additionally, when not in use for extended periods of time, the PCMS shall be turned away from all traffic.

The Engineer shall be provided access to each sign unit and shall be provided with appropriate training and operation instructions to enable ODOT personnel to operate and troubleshoot the unit, and to revise sign messages, if necessary.

All messages to be displayed on the sign will be provided by the Engineer. A list of all required pre-programmed messages will be given to the Contractor at the project preconstruction conference. The sign shall have the capability to store up to 99 messages. Message memory or pre-programmed displays shall not be lost as a result of power failures to the on-board computer. The sign legend shall be capable of being changed in the field. Three-line presentation formats with up to six message phases shall be supported. PCMS format shall permit the complete message for each phase to be read at least twice.

The PCMS shall contain an accurate clock and programming logic which will allow the sign to be activated, deactivated or messages changed automatically at different times of the day for different days of the week.

The PCMS shall have a Web-Based Communication System that will allow the message board to be changed or programmed remotely. This system shall be password protected and may be operated from a computer or have an application that can be operated from a cell phone, android or I-phone. The Web Based Communication System shall be able show the location of each message board on a map. The PCMS unit shall be maintained in good working order by the Contractor in accordance with the provisions of CMS 614.07. The Contractor shall, prior to activating the unit, make arrangements, with an authorized service agent for the PCMS, to assure prompt service in the event of failure. Any failure shall not result in the sign being out of service for more than 12 hours, including weekends. Failure to comply may result in an order to stop work and open all traffic lanes and/or in the Department taking appropriate action to safely control traffic. The entire cost to control traffic, accrued by the Department due to the Contractor's noncompliance, will be deducted from moneys due, or to become due the Contractor on his contract.

The Contractor shall be responsible for 24-hour-per-day operation and maintenance of these signs on the project for the duration of the phases when the plan requires their use. Payment for the above described item shall be at the contract unit price. Payment shall include all labor, materials, equipment, fuels, lubricating oils, software, hardware and incidentals to perform the above described work.

The estimated quantity provides for four PCMS units at 3 months each.

Item 614 – Portable Changeable Message Sign,
As Per Plan **12 SNMT**

MOT NOTES

DESIGN AGENCY



DESIGNER
JDA

REVIEWER
DAB 10/05/23

PROJECT ID
119563

SHEET TOTAL
7 17

Portable Changeable Message Signs for Lane Closure(s)

The Contractor shall place a PCMS 0.5 to 2 miles in advance of any lane closures or as directed by the Engineer. The PCMS shall read: ROAD WORK AHEAD/RIGHT (LEFT) (2) LANE(S) CLOSED. If traffic becomes congested and there is stopped traffic, the message board shall be changed to: STOPPED TRAFFIC AHEAD/PREPARE TO STOP. The WTS shall be responsible for monitoring traffic during lane closures and changing the message signs as necessary. The message shall be changed when there is no lane closure (e.g. ROAD WORK AHEAD/NIGHTLY LANE CLOSURES), or per the Engineer.

Item 614 – Law Enforcement Officer with Patrol Car for Assistance

Use of Law Enforcement Officers (LEOs) by contractors other than the uses specified below will not be permitted at project cost. LEOs should not be used where the OMUTCD intends that flaggers be used.

In addition to the requirements of CMS 614 and the latest edition of the OMUTCD, a uniformed LEO with an official patrol car (car with top-mounted emergency flashing lights and complete markings of the appropriate law enforcement agency) shall be provided for the following traffic control tasks:

- During the entire advance preparation and closure sequence where complete blockage of traffic is required.
- During a traffic signal installation when impacting the normal function of the signal or the flow of traffic or when traffic needs to be directed through an energized traffic signal contrary to the signal display (e.g., directing motorists through a red light).

In addition to the requirement of CMS 614 and the OMUTCD, a uniformed LEO with an official patrol car (car with top-mounted emergency flashing lights and complete markings of the appropriate law enforcement agency) may be provided for the following traffic control tasks as approved by the Engineer:

- For lane closures: during initial set-up periods, tear down periods, substantial shifts of a closure point or when new lane closure arrangements are initiated for long-term lane closures/shifts (for the first and last day of major changes in traffic control setup).

In general, LEOs should be positioned in advance of and on the same side as the lane restriction or at the point of road closure, and to manually control traffic movements through intersections in work zones.

LEOs should not forgo their traffic control responsibilities to apprehend motorists for routine traffic violations. However, if a motorist's actions are considered to be reckless, then pursuit of the motorist is appropriate.

The LEOs work at the direction of the Contractor. The Contractor is responsible for securing the services of the LEOs with the appropriate agencies and communicating the intentions of the plans with respect to duties of the LEOs. The Engineer shall have final control over the LEOs' duties and placement, and will resolve any issues that may arise between the two parties.

The LEO shall report in to the Contractor prior to the start of the shift, in order to receive instructions regarding specific work assignments during his/her shift. The LEO is expected to stay at the project site for the entire duration of his/her shift. The LEO shall report to the Contractor at the end of his/her shift. Should it be necessary to leave the project site, the LEO shall notify the Engineer. The Contractor shall provide the LEO with a two-way communication device which shall be returned to the Contractor at the end of his/her shift.

LEOs (with patrol car) required by the traffic maintenance tasks above shall be paid for on a unit price (hourly) basis under Item 614, Law Enforcement Officer (With Patrol Car) for Assistance. The following estimated quantities have been carried to the General Summary.

Item 614 – Law Enforcement Officer
With Patrol Car for Assistance **80 Hours**

The hours paid shall include any minimum show-up time required by the law enforcement agency involved.

Any additional costs (administrative or otherwise) incurred by the Contractor to obtain the services of an LEO are included with the bid price for Item 614, Law Enforcement Officer with Patrol Car for Assistance.

Item 614 - Worksite Traffic Supervisor

Subject to approval of the Engineer, the Contractor shall employ and identify (someone other than the superintendent) a certified Worksite Traffic Supervisor (WTS) before starting work in the field. The WTS shall be trained in accordance with CMS 614.03, shall have successfully completed ODOT administered WTS testing (and re-testing when applicable) and be listed on the ODOT prequalified WTS roster. Prequalification expires every 5 years. Re-testing shall be successfully repeated every 5 years to remain prequalified.

The name of the prequalified WTS and related 24-hour contact information shall be provided to the Engineer at the preconstruction conference. If the designated WTS will not be available full time (24/7), the Contractor may designate an alternate (secondary) WTS to be available when the primary is off duty; however the primary WTS shall remain the point of contact at all times. Any alternate (secondary) WTS is subject to the same training, prequalification and other requirements outlined within this plan note. At all times the Engineer, or Engineer's representatives, must be informed of who the primary WTS (and secondary WTS, if applicable) is at the current time.

The WTS position has the responsibility of implementing the Traffic Management Plan (TMP), monitoring the safety and mobility of the entire work zone, and correcting Temporary Traffic Control (TTC) deficiencies for the entire work zone. The WTS, and alternate WTS when on duty, shall have sufficient authority to effectively carry out the identified WTS responsibilities and duties. The duties of the WTS are as follows:

1. Be available on a 24-hour per day basis.
2. Be on site for all emergency TTC needs within one hour of notification by police or project staff, and effect corrective measures immediately on existing work zone TTC devices.
3. Attend preconstruction meeting and all project meetings where TTC management is discussed.
4. Be available on site for meetings or discussions with the Engineer upon request.
5. Be aware of all existing and proposed TTC operations of the contractor, subcontractors and suppliers, and ensure coordination occurs between them to eliminate conflicting temporary and/or permanent traffic control.
6. Coordinate project activities with all Law Enforcement Officers (LEOs). The WTS shall also be the main contact person with the LEOs while LEOs are on the project.
7. Coordinate and facilitate meetings with ODOT personnel, LEOs and other applicable entities before each plan phase switch to discuss work zone TTC for implementing the phase switch. Submit a written detail of MOT operations and schedule of events to implement the switch between phase plans to the Engineer 5 calendar days prior to this meeting.
8. Be present, on site for, and involved with, each TTC set up/take down and each phase change in accordance with CMS 614.03.
9. On a continual basis ensure that the TTC zone and all related devices are

installed, maintained, and removed in compliance with the contract documents.

10. On a continual basis, facilitate corrective action(s) necessary to bring deficient TTC zones and all related devices into compliance with contract documents in the timeframe determined by the Engineer.

11. Inspect, evaluate, propose necessary modifications to, and document the effectiveness of, the TTC devices and traffic operations on a DAILY BASIS (7 days a week). In addition, perform one weekly night inspection of the work zone setup for daytime work operations; and one daytime inspection per week for nighttime projects. This shall include (but not be limited to) documentation on the following project events:

- a. Initial TTC setup (day and night review).
- b. Daily TTC setup and removal.
- c. When construction staging causes a change in the TTC setup.
- d. Crash occurrences within the construction area and within the influence area(s) approaching the work zone.
- e. Removal of TTC devices at the end of a phase or project.
- f. All other emergency TTC needs.

12. Complete the Department approved Long Term Inspection form (CA-D-8) after each inspection as required in #11 and submit it to the Engineer the following work day. These reports shall include a checklist of all TTC maintenance items to be reviewed. A copy of the form will be provided at the pre-construction meeting. Any deficiencies observed shall be noted, along with recommended or completed corrective actions and the dates by which such corrections were, or will be, completed. A copy of the current CA-D-8 document can be found on the Office of Construction Administration's Inspection Forms website

13. Have copies of the ODOT Temporary Traffic Control Manual and contract documents available at all times on the project.

14. The Department will deduct:
 - A. The prorated daily amount of Item 614 Maintaining Traffic for any day in which the WTS fails to perform the duties set forth above. The prorated daily amount will be equal to the original bid amount for Item 614 Maintaining Traffic divided by the difference between the original completion date and the first day of work, in calendar days.
 - B. 1% of the original bid amount for Item 614 Maintaining Traffic for any day that a TTC issue is identified in the field and is not corrected in the given timeframe per the Engineer. Deduction B shall not apply to situations covered by Deduction C.
 - C. 1% of the original bid amount for Item 614 Maintaining Traffic for any day that a lane or ramp is blocked (fully or partially) without TTC, as determined by the Engineer. This deduction shall be in addition to any other disincentives established for unauthorized lane use.

For days in which more than one deduction listed above occur, the highest deduction amount will apply.

If three or more total days result in TTC issues described in Deduction B or C above, the primary WTS shall be immediately removed from the work in accordance with CMS 108.05. Upon removal the Engineer shall notify ODOT Central Office (WTSPrequalification@dot.ohio.gov) to register a removal against the statewide prequalification for the primary WTS. Three removals shall cause statewide disqualification for any previously prequalified WTS.

Payment for the above requirements, responsibilities, and duties shall be included in the lump sum price bid for Item 614, Maintaining Traffic.

MOT NOTES

DESIGN AGENCY



DESIGNER
JDA

REVIEWER
DAB 10/05/23

PROJECT ID
119563

SHEET	TOTAL
8	17

Item 630 – Signing Misc.: Additional Signs, Ground Mounted, As Directed by the Engineer

When additional signing is needed to maintain traffic, the Contractor shall furnish the sign or signs as directed by the Engineer. These signs shall be ground mounted and meet all the specifications of the plan, proposal and current year CMS.

Payment for this item shall include, but not be limited to, the cost to furnish and erect the sign, including driving posts or other approved methods of sign support, maintaining the sign and removal of the sign.

This item of work shall be used to provide signs that are beyond the requirements of the signage detailed in the Standard Construction Drawings and the OMUTCD.

The following estimated quantity has been carried to the General Summary to be used as directed by the Engineer:

Item 630 – Signing Misc.: Additional Signs, Ground Mounted, As Directed by the Engineer..... **50 Sq Ft**

Covering of Ground-Mounted Signs--General

When required by other items or incidentally to Item 614 – Maintaining Traffic, cover existing ground-mounted signs with plywood or OSB blanks (1/2" minimum thickness) covering 80% of the sign area and all of the sign legend. The use of low quality materials such as duct tape and black plastic is not permitted.

Item 614 – Work Zone Increased Penalties Sign

R11-H5A-48 signs shall be furnished, erected, and maintained in good condition and/or replaced as necessary and subsequently removed by the Contractor. Signs shall be mounted at the appropriate offsets and elevations as prescribed by the Ohio Manual of Uniform Traffic Control Devices. They shall be maintained on supports meeting current safety criteria.

The signs may be erected or uncovered no more than four hours before the actual start of work. The signs shall be removed or covered no later than four hours following restoration of all lanes to traffic with no restricts, or sooner as directed by the Engineer. Temporary sign covering and uncovering due to temporary lane restorations shall be guided by the four hour limitations stated above. Such lane restorations should be expected to remain in effect for 30 or more consecutive calendar days, such as during winter shut-downs.

The R11-H5a-48 signs shall be mounted on 2 No. 3 posts when located within clear zones.

The Contractor may use signs and supports in used, but good, condition provided the signs meet current ODOT specifications. Sign faces shall be retroreflectorized with Type G sheeting complying with the requirements of C&MS 730.19.

Work Zone Increased Penalties signs and supports will be measured as the number of sign installations, including the sign and necessary supports. If a sign and support combination is removed and re-erected at another location as directed by the Engineer, it shall be considered another unit.

Payment for accepted quantities, complete, in place will be made at the contract unit price. Payment shall be full compensation for all materials, labor, incidentals and equipment for furnishing, erecting, maintaining, covering during suspension of work, and removal of the sign and support.

Item 614 – Work Zone Increased Penalties Sign **4 SNMT**

Item 614 Maintaining Traffic – Work Zone Speed Zone Signs for Freeway Resurfacings

The following Work Zone Speed Zone (WZSZ) Speed Limit Revision(s) have been approved for use on this project when work zone conditions and factors are met as described below:

WZSZ Revision Number	County & Route	Direction
WZ-65261	LAKE IR-90	WB & EB

Potential WZSZ locations shall have an original (pre-construction) posted speed limit of ≥55 mph, a qualifying work zone condition of at least 0.5 mile in length, an expected work duration of at least three hours, and a work zone condition in place that reduces the existing functionality of the travel lanes or shoulders (i.e., lane closure, lane shift, crossover, contraflow and/or shoulder closure). The length of the work zone condition is measured from the beginning of the taper for the subject work zone condition impacting the travel lanes and/or shoulder to the end of the downstream taper, where drivers are returned to typical alignment. An expected work duration of at least three hours is required to balance the additional exposure created by installing and removing WZSZ signing with the time needed to complete the work.

If the work zone meets these minimum criteria, it shall be analyzed further using Table 1 below to determine if and when it qualifies for a speed limit reduction. Depending on the original posted speed limit, the type of temporary traffic control used, and whether or not workers are present, a warranted WZSZ will vary in the approved speed limit to be posted over time.

C&MS Item 614, Paragraph 614.02(B), indicates that two directions of a divided highway are considered separate highway sections. Therefore, if the work on a multi-lane divided highway is limited to only one direction, a speed limit reduction in the direction of the work does not automatically constitute a speed limit reduction in the opposite direction. Each direction shall be analyzed independently from each other.

All WZSZs fluctuate between two approved reduced speed limits or between an approved reduced speed limit and the original posted speed limit. Only one of two signing strategies shall be used to implement a WZSZ.

WZSZs using DSL Sign Assemblies shall be in accordance with this note, Approved List, Supplemental Specification (SS) 808 and 908, and Traffic SCD MT-104.10.

When looking up the warranted work zone speed limits, always use the original, preconstruction, posted speed limit. Do not use a prior or current work zone speed limit as a look up value in the table. Positive Protection is generally regarded as portable barrier or other rigid barrier in use along the work area within the subject warranted work zone condition. Without Positive Protection is generally regarded as using drums, cones, shadow vehicle, etc., along the work area within the subject warranted work zone condition. Workers are considered as being present when on-site, working within the subject warranted work zone condition. When the work zone condition reducing the existing functionality of the travel lanes or shoulders is removed, the speed limit displayed shall return to the original posted speed limit.

Table 1: Warranted Work Zone Speed Limits (MPH) for Work Zones on High-Speed (≥55 mph) Multi-Lane Highways

Original Posted Speed Limit	WITH Positive Protection		WITHOUT Positive Protection	
	Workers Present	Workers NOT Present	Workers Present	Workers NOT Present
70	60	65	55	65
65	55	60	50	60
60	55	60	50	60
55	50	55	45	55

The following estimated quantity has been carried to the General Summary.

Item 614 – Digital Speed Limit (DSL) Sign Assembly **12 SNMT**
Assuming 4 DSL Sign Assemblies for 3 Months

DESIGN AGENCY



DESIGNER

JDA

REVIEWER

DAB 10/05/23

PROJECT ID


119563

SHEET TOTAL

9 | 17

SHEET NUM.										PART.		ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
4-5	6-9	11	12							01/SAF/21	02/IMS/21						
LS										LS		201	11000	LS		CLEARING AND GRUBBING	
		320								80	240	202	30700	320	FT	CONCRETE BARRIER REMOVED	
		3,777								2,068.5	1,708.5	202	38000	3,777	FT	GUARDRAIL REMOVED	
		23.76								5.94	17.82	203	20000	23.76	CY	EMBANKMENT	
		142.95								124.28	18.67	209	15001	142.95	STA	RESHAPING UNDER GUARDRAIL, AS PER PLAN	5
		150								150		606	13000	150	FT	GUARDRAIL, TYPE 5	
		13,425								12,087.5	1,337.5	606	15050	13,425	FT	GUARDRAIL, TYPE MGS	
		25								1	25	606	15150	25	FT	GUARDRAIL, TYPE MGS HALF POST SPACING	
		2								1	1	606	26050	2	EACH	ANCHOR ASSEMBLY, MGS TYPE B	
		12								5	7	606	26150	12	EACH	ANCHOR ASSEMBLY, MGS TYPE E (MASH)	
		11								4	7	606	26550	11	EACH	ANCHOR ASSEMBLY, MGS TYPE T	
		2								2		606	35002	2	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 1	
		1								1		606	35102	1	EACH	MGS BRIDGE TERMINAL ASSEMBLY, TYPE 2	
		50								50		622	10160	50	FT	CONCRETE BARRIER, SINGLE SLOPE, TYPE D	
		1								1		622	25000	1	EACH	CONCRETE BARRIER END SECTION, TYPE D	
		3								3		622	25050	3	EACH	CONCRETE BARRIER, END ANCHORAGE, REINFORCED, TYPE D	
			600							600		622	41100	600	FT	PORTABLE BARRIER, UNANCHORED	
										LS		832	15000	LS		EROSION CONTROL	
										LS		832	15002	LS		STORM WATER POLLUTION PREVENTION PLAN	
										LS		832	15010	LS		STORM WATER POLLUTION PREVENTION INSPECTIONS	
										1,000		832	30000	1,000	EACH	STORM WATER POLLUTION PREVENTION INSPECTION SOFTWARE	
										LS		832	30000	1,000	EACH	EROSION CONTROL	
		397.15								345.29	51.86	441	70801	397.15	CY	PAVEMENT	
		36.3									36.3	609	24510	36.3	FT	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (449), (UNDER GUARDRAIL), AS PER PLAN, 2"	5
												609	24510	36.3	FT	CURB, TYPE 4-C	
												620	00500	5	EACH	TRAFFIC CONTROL	
		5								5		620	00500	5	EACH	DELINEATOR, POST GROUND MOUNTED, TYPE D	
		7									7	620	00501	7	EACH	DELINEATOR, POST GROUND MOUNTED, AS PER PLAN, TYPE C	
		139								122	17	626	00110	139	EACH	BARRIER REFLECTOR, TYPE 2, ONE WAY	
		50								50		630	97800	50	SF	BARRIER REFLECTOR, TYPE 2, ONE WAY	
												630	97800	50	SF	SIGNING, MISC.:ADDITIONAL SIGNS, GROUND MOUNTED, AS DIRECTED BY THE ENGINEER	
												614	11110	80	hour	MAINTENANCE OF TRAFFIC	
		80								80		614	11110	80	hour	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
			2								2	614	12380	2	EACH	WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	
										4		614	12484	4	EACH	WORK ZONE INCREASED PENALTIES SIGN	
			13								13	614	13310	13	EACH	BARRIER REFLECTOR, TYPE 1, ONE WAY	
			13								13	614	13350	13	EACH	OBJECT MARKER, ONE WAY	
		12								12		614	18601	12	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	7
		12								12		808	18700	12	SNMT	DIGITAL SPEED LIMIT (DSL) SIGN ASSEMBLY	
										LS		614	11000	LS		INCIDENTALS	
										LS		623	10000	LS		MAINTAINING TRAFFIC	
										LS		624	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
												624	10000	LS		MOBILIZATION	

GENERAL SUMMARY


DESIGN AGENCY

 DESIGNER
 JDA
 REVIEWER
 DAB 10/05/23
 PROJECT ID
 119563
 SHEET TOTAL
 10 | 17

LAK-90-00.90

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REF. NO.	SHEET NO.	PLAN SPLIT NO.	STATION TO STATION		202	209	441	606	606	606	606	606	606	606	626	203	606	622	622	622	620	620	609	202
			FROM	TO	FT	STA	CY	FT	FT	EACH	EACH	EACH	EACH	EACH	EACH	CY	FT	FT	EACH	EACH	EACH	EACH	FT	FT
Eastbound (Inside Shoulder)																								
GR-1	15, 16	1	109+56.21	135+52.65	24	66.68	2337.5								24									
GR-2	16, 17	1	136+33.00	161+72.21	25.5	70.85	2487.5								25	2.97								40
GR-3	17	1	10+38.95	22+86.60	12.5	34.73	1200.0								12									
Westbound (Inside Shoulder)																								
GR-4	15, 16	1	109+88.89	135+64.73	26.38	73.28	2587.5								26	2.97	150							40
GR-5	16, 17	1	136+42.20	161+87.49	25.5	70.85	2487.5								25									
GR-6	17	1	10+47.50	20+78.41	10.4	28.9	987.5		1						10									
Eastbound (Outside Shoulder)																								
GR-7	16	2	140+04.18	141+68.79	165	2.13	5.91	150.0							2	2.97								40
GR-8	16	2	146+40.00	148+89.73	250	2.5	6.95	187.5							2									
GR-9	16	2	151+22.31	153+74.87	212.5	1.63	4.52	75.0	25				1	1	2.97		20		2			1	18.15	40
Westbound (Outside Shoulder)																								
GR-10	15	2	116+01.73	118+01.51	200	2.5	6.95	187.5							2	2.97								40
GR-11	15	2	121+58.00	127+29.74	381	3.9	10.84	337.5		1					4									
GR-12	16	2	130+74.00	132+11.50	137.5	1.88	5.21	125.0							2	2.97								40
GR-13	16	2	143+30.00	145+55.13	225	2.75	7.65	212.5							3	2.97								40
GR-14	16, 17	2	153+88.00	155+25.28	137.5	1.38	3.83	62.5					1		2.97		30		1	1		1	18.15	40
Guardrail Removal Eastbound (Inside Shoulder)																								
R-7	15	1	120+35.00	121+97.58	162.5																			
R-8	15	1	125+36.00	127+06.00	170																			
R-9	15	1	130+41.00	132+05.95	168																			
R-10	16	1	139+92.47	141+66.13	175																			
R-11	16	1	145+30.00	146+96.79	165																			
R-12	16	1	150+37.50	152+04.00	166																			
R-13	17	1	155+18.00	156+85.00	167																			
R-14	17	1	160+06.00	161+72.00	166																			
R-15	17	1	13+15.41	14+76.57	162.5																			
Guardrail Removal Westbound (Inside Shoulder)																								
R-16	15	1	110+89	112+65	225.5																			
R-17	15	1	116+01	117+76	175																			
R-18	16	1	136+91	138+56	166																			
TOTALS CARRIED TO GENERAL SUMMARY					3777	142.95	397.15	13425	25	2	12	11	2	1	139	23.76	150	50	3	1	5	7	36.3	320

SUBSUMMARY

DESIGN AGENCY

 DESIGNER
JDA
 REVIEWER
DAB 10/05/23
 PROJECT ID
119563
 SHEET TOTAL
 11 | 17

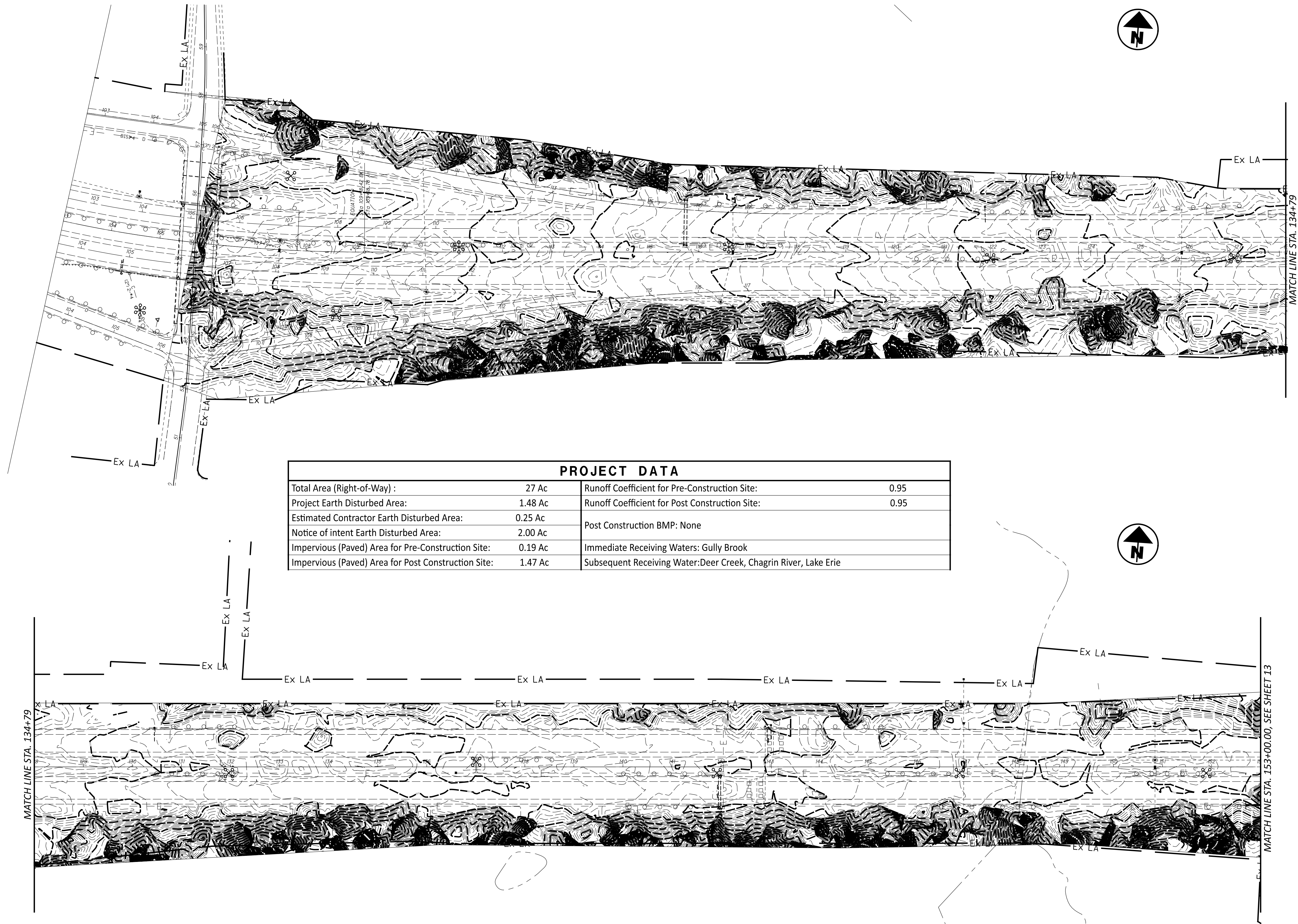
REF. NO.	SHEET NO.	PLAN SPLIT NO.	STATION TO STATION			614	614	614	622												
			WORK ZONE IMPACT ATTENUATOR, 24" WIDE HAZARDS, (UNIDIRECTIONAL)	BARRIER REFLECTOR, TYPE 1, ONE WAY		OBJECT MARKER, ONE WAY	PORTABLE BARRIER, UNANCHORED	FROM	TO												EACH
GR-9	16	2	151+22.31	153+74.87		1	6	6	290												
GR-14	16, 17	2	153+88.00	155+25.28		1	7	7	310												
TOTALS CARRIED TO GENERAL SUMMARY						2	13	13	600												

SUBSUMMARY

DESIGN AGENCY	
DESIGNER	
REVIEWER	DAB
PROJECT ID	119563
SHEET	12
TOTAL	17

USGS Map: Mayfield Heights
 Latitude: 41°-35'-24.69" N *
 Longitude: 81°-27'-59.73" W *

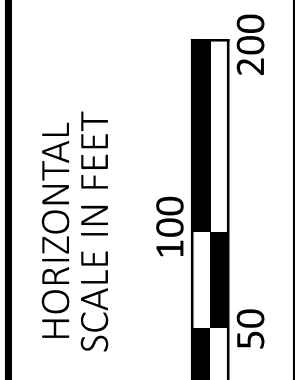
* Longitude and Latitude to Approx. Center of Project



PROJECT DATA			
Total Area (Right-of-Way) :	27 Ac	Runoff Coefficient for Pre-Construction Site:	0.95
Project Earth Disturbed Area:	1.48 Ac	Runoff Coefficient for Post Construction Site:	0.95
Estimated Contractor Earth Disturbed Area:	0.25 Ac	Post Construction BMP:	None
Notice of intent Earth Disturbed Area:	2.00 Ac	Immediate Receiving Waters:	Gully Brook
Impervious (Paved) Area for Pre-Construction Site:	0.19 Ac	Subsequent Receiving Water:	Deer Creek, Chagrin River, Lake Erie
Impervious (Paved) Area for Post Construction Site:	1.47 Ac		

PROJECT DESCRIPTION:

The project consists of the installation and replacement of median and shoulder guardrail along IR-90 from approximately Bishop Road (SR-84) to IR-271 in the cities of Wickliffe and Willoughby Hills.



Project Site Plan
 Begin Project to Sta. 153+00.00

DESIGN AGENCY



DESIGNER
 JDA

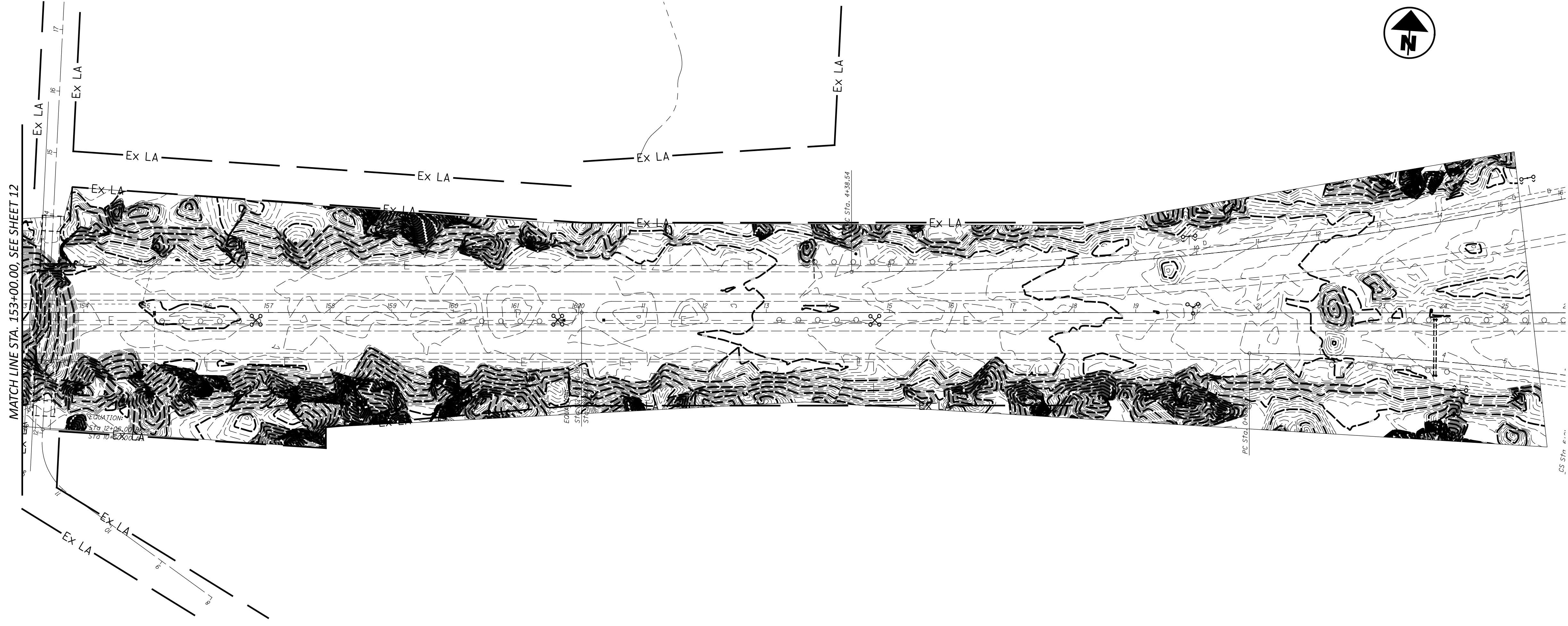
REVIEWER
 DAB 10-27-23

PROJECT ID
 119563

SHEET	TOTAL
13	17

LAK-90-00.90

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DESIGN AGENCY



DESIGNER

JDA

REVIEWER

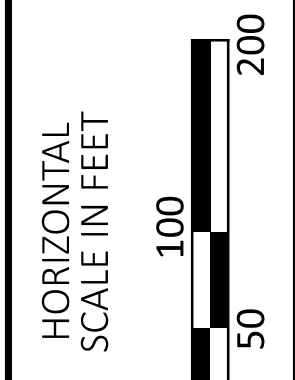
DAB 10-27-23

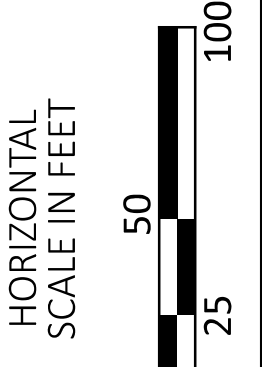
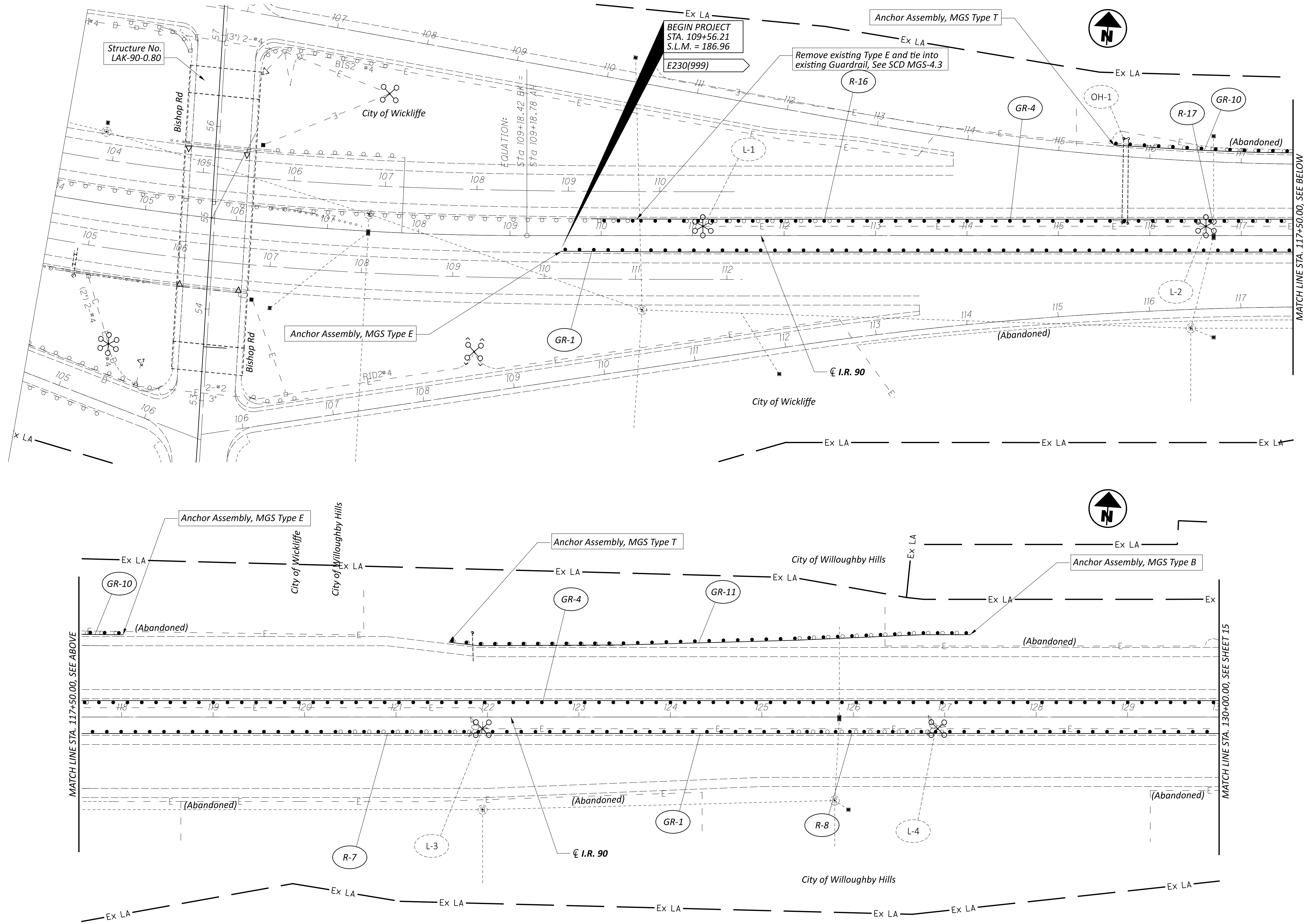
PROJECT ID

119563

SHEET	TOTAL
14	17

Project Site Plan
Sta. 153+00.00 to End Project





PLAN SHEET
BEGIN PROJECT TO STA. 130+00.00

DESIGN AGENCY

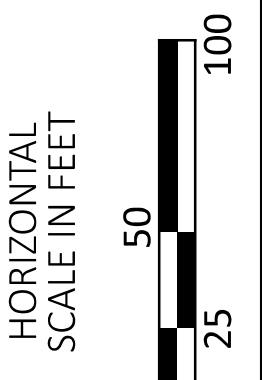
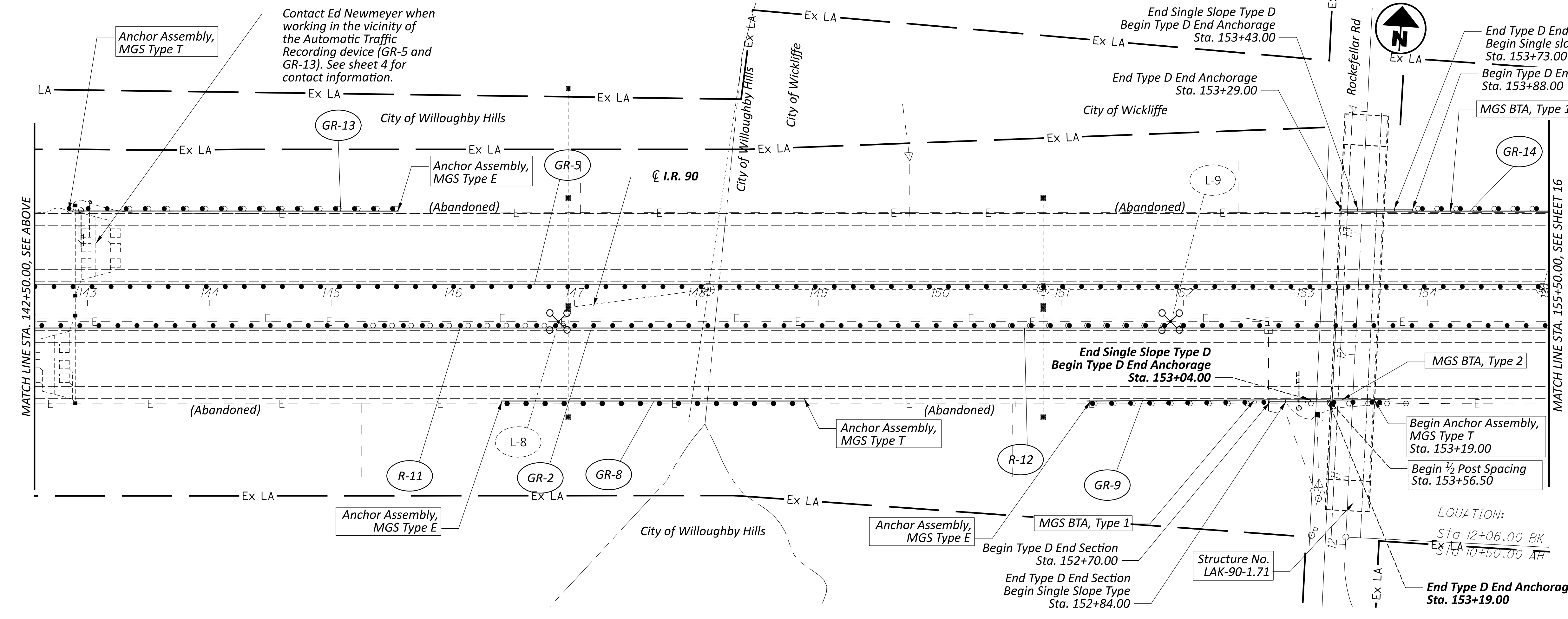
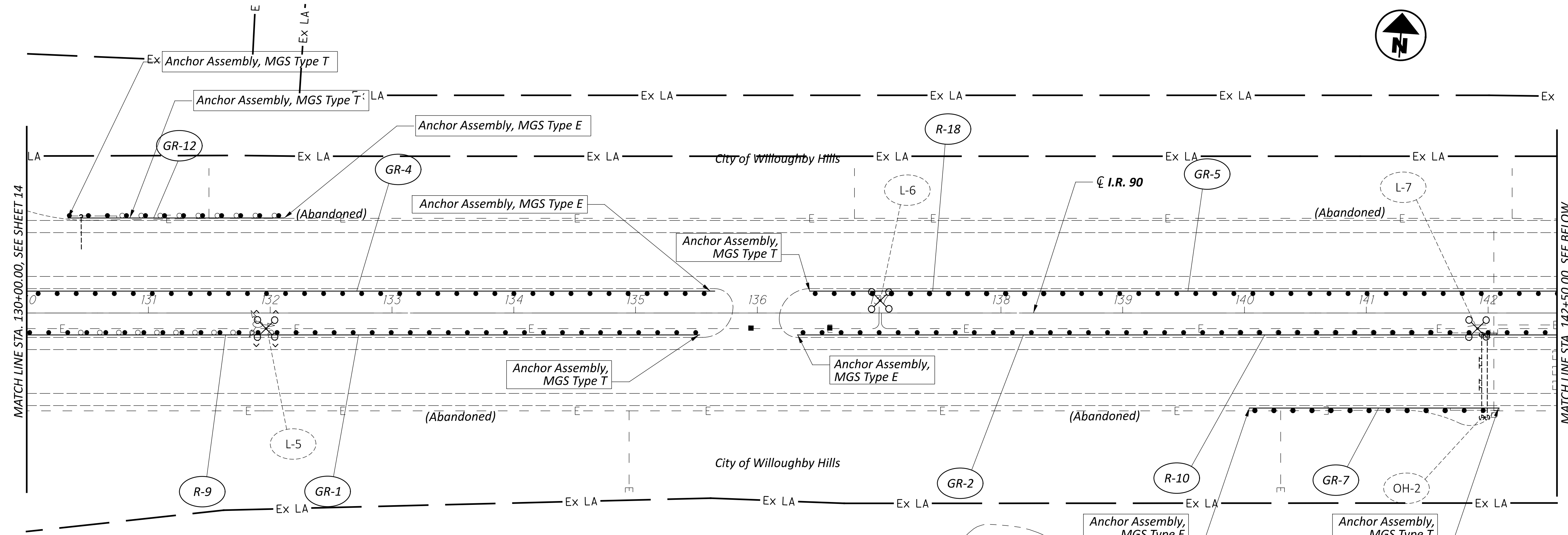


DESIGNER
JDA

REVIEWER
DAB 10/05/23

PROJECT ID
119563

SHEET	TOTAL
15	17



PLAN SHEET
STA. 130+00.00 TO STA. 155+50.00

DESIGN AGENCY

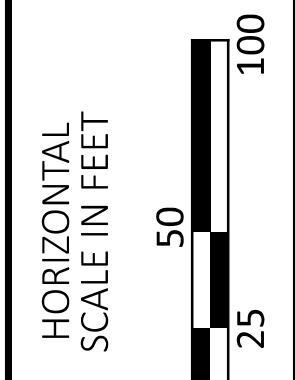
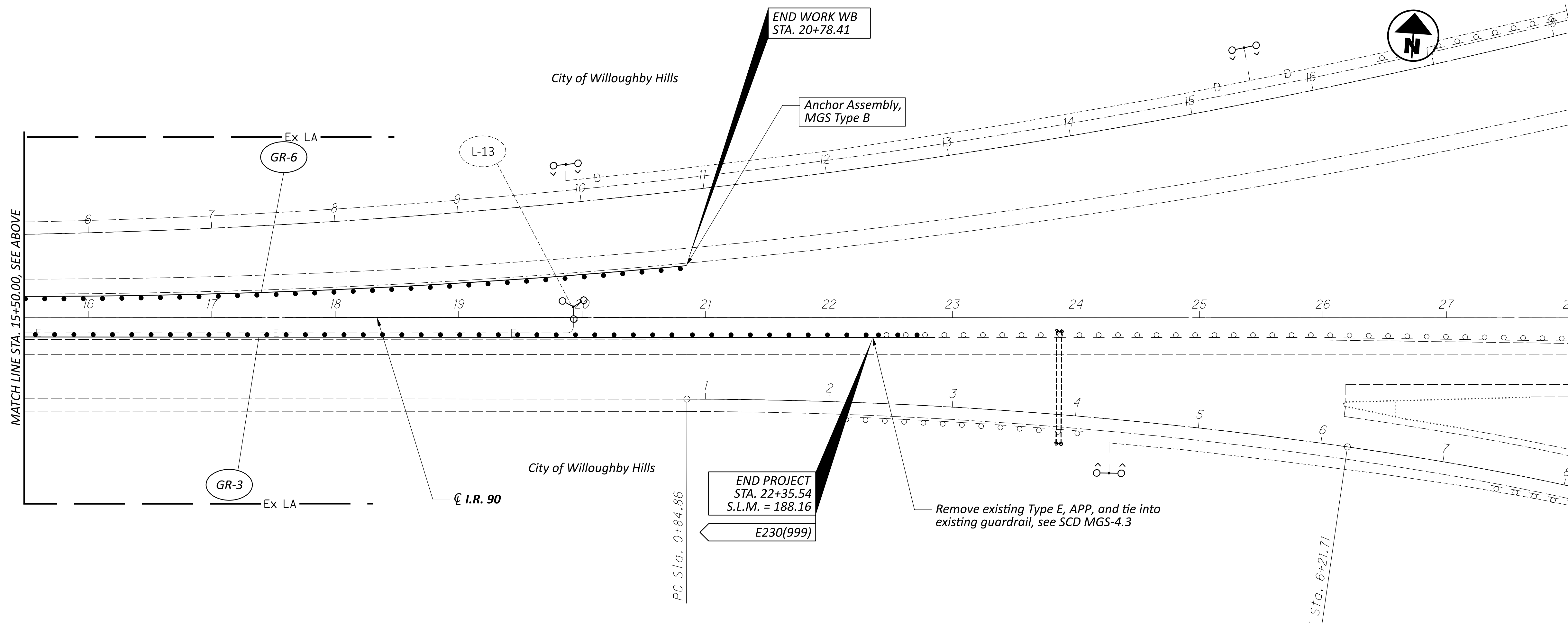
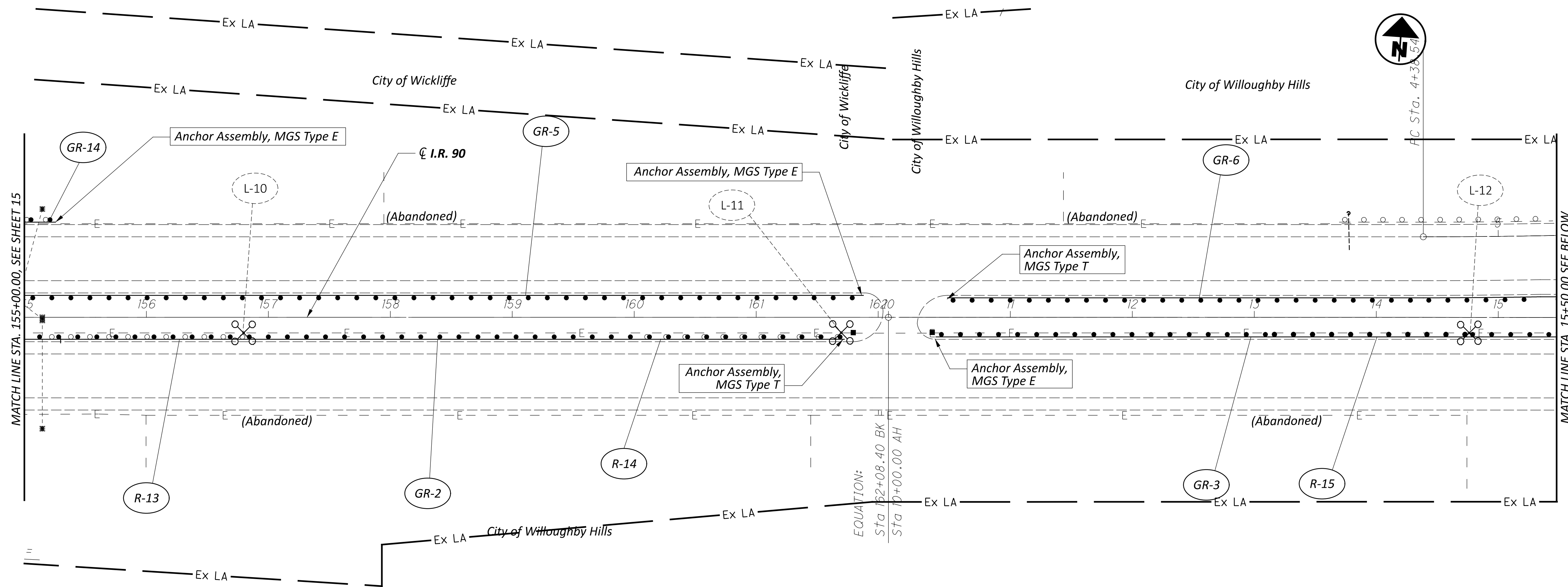


DESIGNER	JDA
REVIEWER	DAB
DATE	10/05/23
PROJECT ID	119563
SHEET	16
TOTAL	17

EQUATION:
Sta 12+06.00 BK
Sta 10+50.00 AH
End Type D End Anchorage
Sta. 153+19.00

Contact Ed Newmeyer when working in the vicinity of the Automatic Traffic Recording device (GR-5 and GR-13). See sheet 4 for contact information.

Structure No. LAK-90-1.71



PLAN SHEET
STA. 155+50.00 TO END PROJECT

DESIGN AGENCY	
DESIGNER	JDA
REVIEWER	DAB
DATE	10/05/23
PROJECT ID	119563
SHEET	TOTAL
17	17