

STATE OF OHIO DEPARTMENT OF TRANSPORTATION

GEA-87-12.51/VAR

VILLAGE OF BURTON

GEAUGA COUNTY

FEDERAL PROJECT NUMBER

E161612

RAILROAD INVOLVEMENT

NONE

PROJECT DESCRIPTION

Resurface SR-87 from the WCL to the ECL in the Village of Burton.
Work includes resurfacing SR-87DA through Burton square.

EARTH DISTURBED AREAS

PROJECT EARTH DISTURBED AREA: N/A
ESTIMATED CONTRACTOR EARTH DISTURBED AREA: N/A
NOTICE OF INTENT EARTH DISTURBED AREA: N/A



LOCATION MAP

LATITUDE: 41°28'14" LONGITUDE: 81°08'44"



INDEX OF SHEETS:

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

DESIGN DESIGNATION

| | | | | | | | | |
|-----------------------------------|---------------|---------------|---------------|---------------|---------------|---------------|-----------------|-----------------|
| | 12.51 - 13.04 | 13.04 - 13.06 | 13.06 - 13.09 | 13.09 - 13.22 | 13.22 - 13.29 | 13.29 - 13.56 | 0.00DA - 0.21DA | 0.21DA - 0.33DA |
| CURRENT ADT (2021) | 8200 | 6600 | 6600 | 6600 | 6300 | 6300 | 6400 | 6200 |
| DESIGN YEAR ADT (2021) | 9400 | 7600 | 7500 | 6600 | 6500 | 6500 | 6500 | 6800 |
| DESIGN HOURLY VOLUME (2021) | 950 | 750 | 700 | 600 | 600 | 650 | 600 | 700 |
| DIRECTIONAL DISTRIBUTION | 52.4% | 100% | 100% | 52% | 52.3% | 52.3% | 100% | 100% |
| TRUCKS (24 HOUR B&C) | 7% | 6% | 6% | 4% | 7% | 7% | 6% | 6% |
| DESIGN SPEED | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| LEGAL SPEED | 35 | 35 | 35 | 35 | 35 | 35 | 35 | 35 |
| DESIGN FUNCTIONAL CLASSIFICATION: | | | | | | | | |
| RURAL MAJOR COLLECTOR | | | | | | | | |
| NHS PROJECT | | | | | | | | N/A |

DESIGN EXCEPTIONS

NONE

ADA DESIGN WAIVERS

REQUIRED

UNDERGROUND UTILITIES
Contact Two Working Days
Before You Dig

OHIO811.org
Before You Dig

OHIO 811, 8-1-1, or 1-800-362-2764
(Non members must be called directly)

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

ENGINEER'S SEAL:

STATE OF OHIO
REGISTERED
PROFESSIONAL ENGINEER
ERIC M. KALLIO
E-59990

SIGNED: *E.M. Kallio*
DATE: 9/30/2021

| STANDARD CONSTRUCTION DRAWINGS | | | | SUPPLEMENTAL SPECIFICATIONS | SPECIAL PROVISIONS |
|--------------------------------|---------|----------|----------|-----------------------------|--------------------|
| BP-2.1 | 7/17/15 | TC-41.20 | 10/18/13 | 800-2019 10/15/21 | |
| BP-3.1 | 1/17/20 | TC-61.10 | 1/17/20 | 821 4/20/12 | |
| | | TC-74.10 | 7/16/21 | 832 10/19/18 | |
| CB-2-3, 2-4 | 7/16/21 | TC-82.10 | 7/19/19 | 875 1/18/19 | |
| | | | | 921 4/20/12 | |
| BP-4.1 | 7/19/13 | | | | |
| BP-5.1 | 7/16/21 | | | | |
| BP-7.1 | 7/17/20 | | | | |
| RM-1.1 | 1/15/21 | | | | |
| MT-95.31 | 7/19/19 | | | | |
| MT-95.32 | 4/19/19 | | | | |
| MT-99.20 | 4/19/19 | | | | |
| MT-101.90 | 7/17/20 | | | | |
| MT-105.10 | 1/17/20 | | | | |

2019 SPECIFICATIONS

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

APPROVED _____
DATE 9/30/21 DISTRICT DEPUTY DIRECTOR

APPROVED _____
DATE _____ DIRECTOR, DEPARTMENT OF TRANSPORTATION

TITLE SHEET

DESIGN AGENCY



DESIGNER
KHD

REVIEWER
EMK 09-24-21

PROJECT ID
99706

SHEET TOTAL

P.1 | 21

GEA-87-12.51/VAR

MODEL: Sheet PAPER: 17x11 (in.) DATE: 12/28/2021 TIME: 11:22:14 AM USER: kdrcchma
p:\ohiodot\pwr\benley.com\shado\pwr-02\Documents\01 Active Projects\District 12\Geauga\99706\040-Engineering\Roadway\Sheets\99706_GT001.dgn

Drainage

Review of Drainage Facilities

Before any work is started on the project and again before final acceptance by the State, representatives of the State and the Contractor, along with local representatives, shall make an inspection of all existing sewers which are to remain in service and which may be affected by the work. The condition of the existing conduits and their appurtenances shall be determined from field observations. Records of the inspection shall be kept in writing by the State.

All new conduits, inlets, catch basins and manholes constructed as part of the project shall be free of all foreign matter and in a clean condition before the project will be accepted by the State.

All existing sewers inspected initially by the above mentioned parties shall be maintained and left in a condition reasonably comparable to that determined by the original inspection. Any change in the condition resulting from the Contractor's operations shall be corrected by the Contractor to the satisfaction of the Engineer.

Payment for all operations described above shall be included in the contract price for the pertinent 611 drainage items.

Castings Adjusted to Grade, As Per Plan

All castings, within the asphalt overlay section, shall be adjusted to the finished roadway elevation by the Contractor. The time between adjusting the castings and resurfacing shall be kept to an absolute minimum. No adjusting rings shall be permitted.

The following estimated quantities have been carried to the General Summary:

- Item 611 – Catch Basin Adjusted to Grade, As Per Plan..... **19 Each**
- Item 623 – Monument Box Adjusted to Grade, As Per Plan..... **1 Each**
- Item 638 – Valve Box Adjusted to Grade, As Per Plan..... **21 Each**

Catch Basins and Manholes Reconstructed to Grade

The existing catch basins and manholes, as identified by the engineer, found that exhibit substantial deterioration and require more work than is specified under "Casting Adjusted to Grade, As Per Plan" shall be reconstructed to grade as directed by the engineer. The catch basin shall be constructed at the same elevation as the existing catch basin. The contractor shall field verify all flowline elevations prior to commencing field work.

This item will include any saw cutting, removal of concrete around casting, placing of dowels, curb work, etc.

The following estimated quantities have been carried to the General Summary:

- Item 611 – Catch Basin Reconstructed to Grade, As Per Plan..... **20 Each**
- Item 611 – Manhole Reconstructed to Grade, As Per Plan..... **10 Each**

Item Special – Miscellaneous Metal

Existing castings may prove to be unsuitable for reuse, as determined by the Engineer. It shall be the Contractor's responsibility to provide the castings of the required type, size, and strength (heavy duty) for the particular structure in question. All materials must meet Item 611 of the CMS and shall have the prior approval of the Engineer.

The Contractor is cautioned to use extreme care in the removal, storage, and replacement of all existing castings. Castings damaged by the negligence of the Contractor, as determined by the Engineer, shall be replaced with the proper new castings at the expense of the Contractor.

The Contractor shall not order materials until authorized by the Engineer, and if none are needed, the item shall be non-performed.

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

- Item Special – Miscellaneous Metal..... **5000 Lbs**

Pavement

Profile and Alignment

Place the proposed pavement to follow the alignment of the existing pavement. Previous construction plans showing the original alignment are available for inspection at the ODOT District 12 office. Place the proposed asphalt concrete as shown on the typical sections. The intent of the plans is to maintain the existing profile.

Asphalt Concrete Surface Course Sealing Requirements

In addition to the gutter sealing requirements specified in SCD BP-3.1 and C&MS 401.15, after completion of the surface course, the contractor shall use a certified 702.01 PG binder to seal the following locations:

- All castings including but not limited to monuments, manholes, water valves, catch basins, curb inlets.
- Butt joints and feather joints including bridge approaches.
- Forward joint for driveway asphalt and trailing joint when butting to existing asphalt drive.
- Perimeter of all pavement repairs or other asphalt inlays when pavement repairs/inlays are not overlaid with an asphalt concrete surface course.
- All cold longitudinal joints between paved shoulders and guardrail asphalt.

The material used shall be a certified 702.01 PG binder. The width of the sealer shall be 2-3 inches.

Any additional costs associated with the work identified in this note shall be included in the appropriate asphalt concrete surface course item of work.

Item 209 - Linear Grading, As Per Plan

This item of work shall consist of grading along the outside edge of the paved shoulder to eliminate high spots and provide positive sheet flow off the pavement and shoulder into roadside ditches or drainage structures. This item is not intended to be used to excavate a uniform depth to place Item 617 – Compacted Aggregate, As Per Plan.

Any debris collected shall be removed and disposed of as specified in Section 105.16 & 105.17 of the Construction and Material Specifications.

Payment for the above work shall be made at the unit bid price for Item 209, Station, Linear Grading, As Per Plan and shall include all labor, tools, equipment and materials necessary to perform this item of work.

Item 251 – Partial Depth Pavement Repair (441)

This item shall be used to repair unsound, cold patch, or pop-out areas of pavement joints as directed by the Engineer. This work shall be performed after the planing operation prior to resurfacing. The depth of the repair shall be 3" below the top of the milled asphalt surface. The width of the repair shall be 12" centered over the existing joint.

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

- Item 251 – Partial Depth Pavement Repair..... **500 SY**



Item 254 – Pavement Planing, Asphalt Concrete, As Per Plan

This item shall be used to remove the existing asphalt overlay full width at an average depth of two and a half (2.5”) inches on the mainline and one and a half inches (1.5”) on side streets, except as required for pavement transitions as specified in the plans on SR-87. Areas which have transverse wedges (butt joints) are to be removed in two passes as required for maintaining traffic. No additional payment shall be made for the second pass.

The depth of pavement planing may be variable across the pavement width, however, the depth may be adjusted, by the Engineer, in order to achieve appropriate pavement crown for drainage and/or to minimize removal of material in areas with less than typical or average structural strength. All provisions stated in Item 254 – Pavement Planing shall be followed.

Item 441 – Asphalt Concrete Surface Course, Type 1, (446), As Per Plan

The coarse virgin aggregate for this item shall consist of a blend of 60% min. air cooled blast furnace slag (ACBFS) or Trap Rock from Ontario with limestone comprising the remaining percentage.

Use a PG70-22M binder for this item.

Item 608 - Curb Ramp, As Per Plan

This item shall be used to construct American with Disabilities Act (ADA) compliant curb ramps and landings that comply with the requirements of ODOT Standard Construction Drawing BP-7.1. Curb ramp types are indicated on the plans for estimating purposes only. The type of curb ramp is subject to change due to field conditions, and shall be determined in the field to fit best. No additional payment will be made if a curb ramp of a type other than the type indicated on the plans is used.

Payment shall include any additional costs for surveying, construction layout and formwork necessary to comply with the requirements of ODOT C&MS, Std. Dwg. BP-7.1 and project plans. The detectable warnings for the curb ramps shall be cast iron. Acceptable manufacturers for the cast iron can be found on the Office of Roadway Engineering Services Detectable Warnings Approved List.

The time between the walk removal and new curb ramp placement shall not exceed 14 calendar days. Any curb ramp not meeting ADA and ODOT requirements will be removed and replaced by the contractor, at his/her cost, to the satisfaction of District 12.

The Department will pay for accepted quantities at the contract price for Item 608 – Curb Ramp, By Type, As Per Plan, Square Foot.

Item 617 – Compacted Aggregate, As Per Plan

This item shall be used to place compacted aggregate at a variable depth only where needed to fill in low spots and eliminate drop offs along shoulders. Material shall be limited to reclaimed asphalt pavement (RAP).

The actual depth of compacted aggregated placed will vary depending upon existing conditions. For estimating purposes, an average depth of one inch (1”) at a two foot width has been used. Water, if needed, shall be applied according to 617.05 and shall be included with Item 617 – Compacted Aggregate, As Per Plan.

Planing Requirements

The duration of time between planing the asphalt and placing the intermediate asphalt overlay shall be kept to a minimum. In no instance shall this time exceed 7 calendar days. The time limit shall begin on the first day of planing and shall continue based on calendar days, minus any weather days, until the completion of the asphalt concrete surface course. This is to ensure the potential degradation of the exposed pavement due to traffic is kept to a minimum.

In the event that the time between exposing the existing pavement and placing the intermediate asphalt course exceeds 7 calendar days, liquidated damages as per 108.07 of C&MS shall be assessed.

ADA Waiver

An approved ADA Design Waiver is required on this project. The following features listed below cannot feasibly be constructed to meet ADA guidelines.

ADA Design Waiver

| ADA Feature | Approval Date |
|-------------|---------------|
| RMP0007901 | 11/29/2021 |
| RMP0007902 | 11/29/2021 |
| RMP0007903 | 11/29/2021 |

Traffic Control

Pavement Markings

Auxiliary markings shall be located and installed as per Standard Drawing TC-71.10

Item Special – Misc.: Inventory Existing Pavement Markings

Prior to planing and paving operations, the Contractor is responsible for conducting a field survey of the existing permanent markings excluding center line markings. This inventory shall be used for the placement of temporary markings and proposed final pavement markings. It is the intent of this plan to replace the pavement markings in the same location as the existing pavement markings excluding center line markings. Any staking or marking required to establish control points to ensure that markings are accurately placed is the responsibility of the Contractor.

The field survey shall be provided to the Engineer at least two weeks prior to the disturbance of the existing pavement markings for verification and approval. The Engineer will provide written concurrence once the inventory has been approved. The Engineer will also verify all permanent marking locations prior to the actual installation.

The Contractor must lay out all center lines using the most recent copy of the No Passing Zone log. Copies of the No Passing Zone log can be obtained from the District 12 Roadway Services Department or can be found on the web at: <http://www.dot.state.oh.us/districts/D12/HighwayManagement/Pages/NoPassingZones.aspx>

Install transverse lines at the spacing indicated on SCD TC-71.10.

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

Item Special – Misc.: Inventory Existing Pavement Markings..... **Lump Sum**

DESIGN AGENCY



DESIGNER

KHD

REVIEWER

EMK 09-24-21

PROJECT ID


99706

SHEET TOTAL

P.6 | 21

| SHEET NO. | PLAN SPLIT NO. | STATION TO STATION | LENGTH FT. | BEGIN WIDTH FT. | ENDING WIDTH FT. | AVERAGE WIDTH FT. | AREA SY | 209 | 254 | 254 | 407 | 441 | 441 | 441 | 202 | 608 | 608 | 617 | 875 | | |
|-----------------------------------|----------------|---|---------------|--------------------|---------------------|----------------------|------------|-----------------------------|---|---|------------------------|---|---|--|--------------|------------------|------------------------|----------------------------------|-----------------------------|--|--|
| | | | | | | | | LINEAR GRADING, AS PER PLAN | PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN, 2.5" | PAVEMENT PLANING, ASPHALT CONCRETE, AS PER PLAN, 1.5" | NON-TRACKING TACK COAT | ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (446), AS PER PLAN, PG70-22M, 1.5" | ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), PG64-22, 1.5" | ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, (448), PG64-22, 1.0" | WALK REMOVED | 4" CONCRETE WALK | CURB RAMP, AS PER PLAN | COMPACTED AGGREGATE, AS PER PLAN | LONGITUDINAL JOINT ADHESIVE | | |
| | | | | | | | | STA | SY | SY | GAL | CY | CY | CY | SF | SF | SF | CY | LB | | |
| | | SR-87 | | | | | | | | | | | | | | | | | | | |
| 1 | | 0+00.00 3+41.05 | 341.05 | 16.0 | 16.0 | 16.0 | 606.31 | 6.83 | 606 | | 91 | 26 | | 17 | | | | 9 | 85.27 | | |
| 1 | | 3+41.05 4+42.53 | 101.48 | CADD AREA | | | 345.49 | | 345 | | 52 | 15 | | 10 | | | | | 25.37 | | |
| 1 | | 4+42.53 26+52.47 | 2209.94 | 25.0 | 25.0 | 25.0 | 6138.72 | | 6139 | | 921 | 256 | | 171 | | | | | 552.49 | | |
| 1 | | 26+52.47 28+38.58 | 186.11 | CADD AREA | | | 1455.83 | | 1456 | | 218 | 61 | | 41 | | | | | 46.53 | | |
| 1 | | 28+38.58 32+30.93 | 392.35 | 25.0 | 25.0 | 25.0 | 1089.86 | | 1090 | | 163 | 46 | | 31 | | | | | 98.09 | | |
| 1 | | 32+30.93 33+90.83 | 159.90 | CADD AREA | | | 1088.9 | | 1089 | | 163 | 46 | | 31 | | | | | 39.98 | | |
| 1 | | 33+90.83 55+69.58 | 2178.75 | 25.0 | 25.0 | 25.0 | 6052.08 | | 6052 | | 908 | 253 | | 169 | | | | | 544.69 | | |
| 1 | | 55+69.58 55+84.58 | 15.00 | CADD AREA | | | 41.67 | | 42 | | 6 | 2 | | 2 | | | | | 3.75 | | |
| | | SR-87DA | | | | | | | | | | | | | | | | | | | |
| 1 | | 0+33.09 6+10.07 | 576.98 | 25.0 | 25.0 | 25.0 | 1603 | | 1603 | | 240 | 67 | | 45 | | | | | 144.25 | | |
| 1 | | 6+10.07 7+72.96 | 162.89 | CADD AREA | | | 678 | | 678 | | 102 | 29 | | 19 | | | | | 40.73 | | |
| 1 | | 7+72.96 13+59.06 | 586.10 | 25.0 | 25.0 | 25.0 | 1628 | | 1628 | | 244 | 68 | | 46 | | | | | 146.53 | | |
| | | Intersections | | | | | | | | | | | | | | | | | | | |
| 1 | | Rapids Rd S | CADD AREA | | | | 89.80 | | | | 8 | | | 4 | | | | | | | |
| 1 | | Rapids Rd N | CADD AREA | | | | 58.83 | | | | 5 | | | 3 | | | | | | | |
| 1 | | Elmar Blvd | CADD AREA | | | | 66.95 | | | | 6 | | | 3 | | | | | | | |
| 1 | | Garden St | CADD AREA | | | | 54.78 | | | | 5 | | | 3 | | | | | | | |
| 1 | | Baird Rd | CADD AREA | | | | 39.91 | | | | 4 | | | 2 | | | | | | | |
| 1 | | Hickox St | CADD AREA | | | | 62.20 | | | | 6 | | | 3 | | | | | | | |
| 1 | | Evergreen Dr | CADD AREA | | | | 71.01 | | | | 6 | | | 3 | | | | | | | |
| | | Curb Ramps | | | | | | | | | | | | | | | | | | | |
| 1 | | CR-1 | | | | | | | | | | | | | 75 | 25 | 50 | | | | |
| 1 | | CR-2 | | | | | | | | | | | | | 125 | 50 | 75 | | | | |
| 1 | | CR-3 | | | | | | | | | | | | | 75 | 25 | 50 | | | | |
| 1 | | CR-4 | | | | | | | | | | | | | 125 | 50 | 75 | | | | |
| 1 | | CR-5 | | | | | | | | | | | | | 125 | 50 | 75 | | | | |
| 1 | | CR-6 | | | | | | | | | | | | | 50 | | 50 | | | | |
| 1 | | CR-7 | | | | | | | | | | | | | 180 | 130 | 50 | | | | |
| 1 | | CR-8 | | | | | | | | | | | | | 125 | 75 | 50 | | | | |
| 1 | | CR-9 (No Work, Waiver Needed) RMP0007901 | | | | | | | | | | | | | | | | | | | |
| 1 | | CR-10 | | | | | | | | | | | | | 125 | 75 | 50 | | | | |
| 1 | | CR-11 (No Work, Waiver Needed) RMP0007902 | | | | | | | | | | | | | | | | | | | |
| 1 | | CR-12 (Waiver Needed) RMP0007903 | | | | | | | | | | | | | 150 | 100 | 50 | | | | |
| 1 | | CR-13 | | | | | | | | | | | | | 150 | 100 | 50 | | | | |
| 1 | | CR-14 | | | | | | | | | | | | | 50 | | 50 | | | | |
| 1 | | CR-15 | | | | | | | | | | | | | 50 | | 50 | | | | |
| 1 | | CR-16 | | | | | | | | | | | | | 75 | 25 | 50 | | | | |
| 1 | | CR-17 | | | | | | | | | | | | | 150 | 100 | 50 | | | | |
| 1 | | CR-18 | | | | | | | | | | | | | 50 | | 50 | | | | |
| 1 | | CR-19 | | | | | | | | | | | | | 75 | 25 | 50 | | | | |
| 1 | | CR-20 | | | | | | | | | | | | | 25 | | 25 | | | | |
| 1 | | CR-21 | | | | | | | | | | | | | 25 | | 25 | | | | |
| SUBTOTALS | | | | | | | | 7 | 20728 | 444 | 3148 | 869 | 21 | 582 | 1805 | 830 | 975 | 9 | 1728 | | |
| TOTALS CARRIED TO GENERAL SUMMARY | | | | | | | | 7 | 20728 | 444 | 3148 | 869 | 21 | 582 | 1805 | 830 | 975 | 9 | 1728 | | |
| PLAN SPLIT #1 TOTAL | | | | | | | | 7 | 20728 | 444 | 3148 | 869 | 21 | 582 | 1805 | 830 | 975 | 9 | 1728 | | |
| PLAN SPLIT #2 TOTAL | | | | | | | | | | | | | | | | | | | | | |

PAVEMENT SUBSUMMARY

DESIGN AGENCY

 DESIGNER
 KHD
 REVIEWER
 EMK 09-24-21
 PROJECT ID
 99706
 SHEET TOTAL
 P.11 21