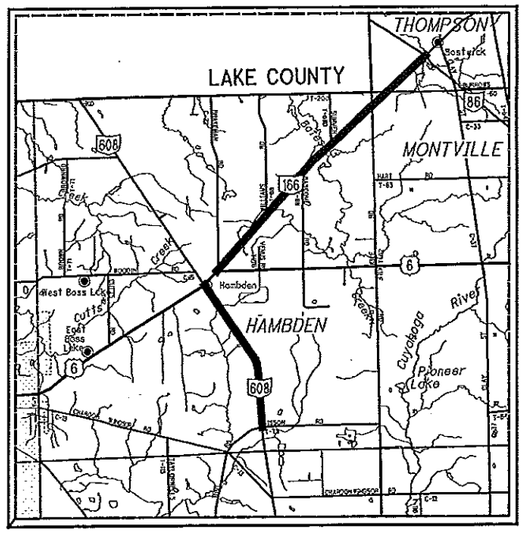
GEA - SR 166-00.00/VAR
180166 PID - 99634
Dist 12 3/8/2018

Contract Proposal Available @
www.contracts.dot.state.oh.us/home

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LOCATION MAP

See Sheet 2 for Multiple Locations LATITUDE and LONGITUDE Information

SCALE IN MILES
0 1 2 3 4

N

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

DESIGN DESIGNATION

See Sheet 2 for Design Designation for:

Location 1 - GEA-166-00.00

Location 2 - GEA-608-10.68

DESIGN EXCEPTIONS

NONE

UNDERGROUND UTILITIES

CONTACT BOTH SERVICES TWO WORKING DAYS BEFORE YOU DIG.

OHIO Utilities Protection Service — *Call Before You Dig* 1-800-362-2764
(Non-members must be called directly)

OIL & GAS PRODUCERS UNDERGROUND PROTECTION SERVICE 1-800-925-0988

PLAN PREPARED BY:
O.D.O.T. DISTRICT 12
PLANNING AND ENGINEERING
5500 TRANSPORTATION BLVD.
GARFIELD HEIGHTS, OH 44125

ENGINEERS SEAL:

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

SIGNED: E M. Kallio
Eric M. Kallio
DATE: 11/27/17

STATE OF OHIO

DEPARTMENT OF TRANSPORTATION

GEA-166-00.00
GEA-608-10.68

HAMDEN TOWNSHIP
MONTVILLE TOWNSHIP
THOMPSON TOWNSHIP

GEAUGA COUNTY

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Pavement Details - Intersection & Driveway Aprons	*30*

PROJECT DESCRIPTION:

Preventive Maintenance Resurfacing of The Below Locations:

Location 1 :
Resurface S.R.-166 (Rock Creek Rd.) from U.S.-6 to S.R.-86 in Hamden and Thompson Townships

Location 2 :
Resurface S.R.-608 (Old State Rd.) from Claridon-Troy Rd. to U.S.-6 in Hamden Township

PROJECT EARTH DISTURBED AREA:	*N/A (MAINTENANCE PROJECT)*
ESTIMATED CONTRACTOR EARTH DISTURBED AREA:	*N/A (MAINTENANCE PROJECT)*
NOTICE OF INTENT EARTH DISTURBED AREA:	*N/A (MAINTENANCE PROJECT)*

2016 SPECIFICATIONS

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

STANDARD CONSTRUCTION DRAWINGS

BP-3.1	7/18/14	MT-97.10	7/18/14	TC-41.20	10/18/13		
		MT-97.12	1/20/17	TC-65.10	1/17/14		
		MT-99.20	7/21/17	TC-65.11	7/21/17		
		MT-105.10	7/19/13				
				TC-71.10	1/20/17		

SUPPLEMENTAL SPECIFICATIONS		*SPECIAL PROVISIONS*
800	01/19/18	
821	4/20/12	
832	1/17/14	
875	1/17/14	
897	1/16/15	
921	4/20/12	

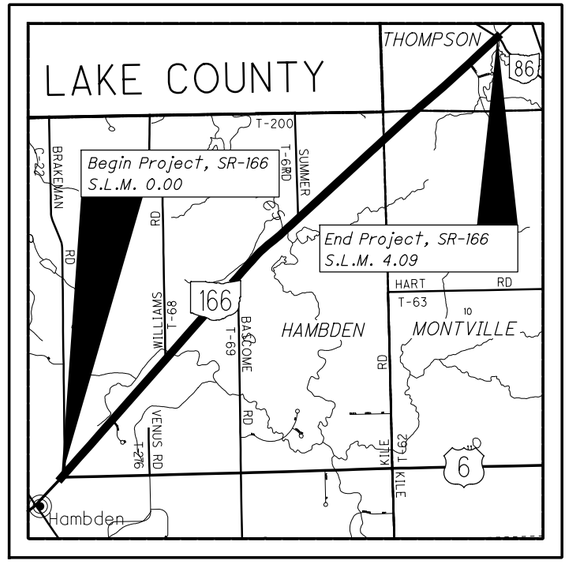
I HEREBY APPROVED THESE PLANS AND DECLARE THAT THE MAKING OF THIS IMPROVEMENT WILL NOT REQUIRE THE CLOSING TO TRAFFIC OF THE HIGHWAY AND THAT PROVISIONS FOR THE MAINTENANCE AND SAFETY OF TRAFFIC WILL BE AS SET FORTH ON THE PLANS AND ESTIMATES.

APPROVED [signature] *DISTRICT DEPUTY DIRECTOR*
DATE 11-22-17

APPROVED [signature] *DIRECTOR, DEPARTMENT OF TRANSPORTATION*
DATE 12-21-17

FEDERAL PROJECT NO. E170(363)
PID NO. 99634
CONSTRUCTION PROJECT NO.
RAILROAD INVOLVEMENT NONE
GEA-166-0.00/VAR
1/30

LOCATION 1
GEA-166-0.00



LOCATION MAP

LATITUDE: 41°36'25" LONGITUDE: -81°08'34"

SCALE IN MILES

0 .5 1 2

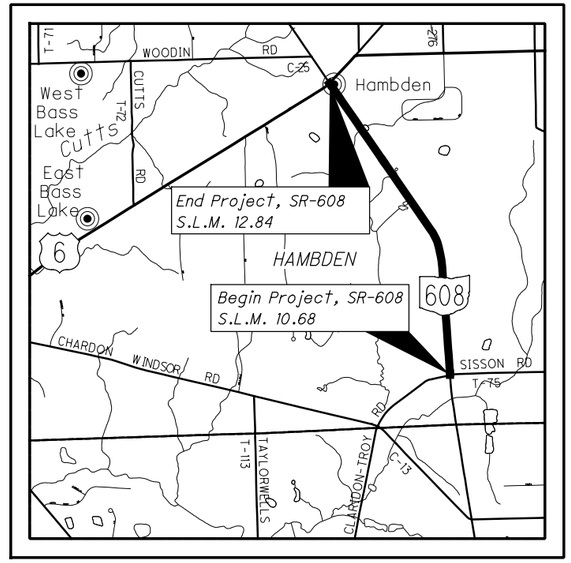
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PORTION TO BE IMPROVED
INTERSTATE HIGHWAY
FEDERAL ROUTES
STATE ROUTES
COUNTY & TOWNSHIP ROADS
OTHER ROADS

DESIGN DESIGNATION

	S.R.-166 S.L.M. 00.00-00.03	S.R.-166 S.L.M. 00.03-03.84	S.R.-166 S.L.M. 03.84-04.09
CURRENT ADT (2015)	2,869	2,869	2,869
OPENING ADT (2018)	2,900	2,900	2,900
DESIGN YEAR ADT (2038)	3,100	3,000	3,000
DESIGN HOURLY VOLUME (2038)	280	300	300
DIRECTIONAL DISTRIBUTION	52%	63%	65%
TRUCKS (24 HOUR B&C)	9%	9%	8%
DESIGN SPEED	55 MPH	55 MPH	55 MPH
LEGAL SPEED	55 MPH	55 MPH	55 MPH
DESIGN FUNCTIONAL CLASSIFICATION: (Rural)	Major Collector	Major Collector	Major Collector
NHS PROJECT:	No	No	No

LOCATION 2
GEA-608-10.68



LOCATION MAP

LATITUDE: 41°34'34" LONGITUDE: -81°07'54"

SCALE IN MILES

0 .5 1 2

N

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

DESIGN DESIGNATION

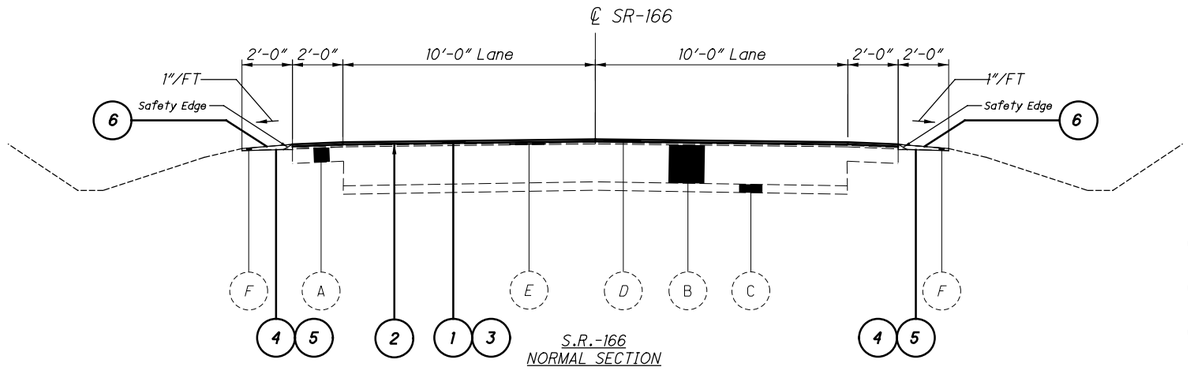
	S.R.-608 S.L.M. 09.72-12.84
CURRENT ADT (2015)	2,559
OPENING ADT (2018)	2,600
DESIGN YEAR ADT (2038)	2,600
DESIGN HOURLY VOLUME (2038)	260
DIRECTIONAL DISTRIBUTION	52%
TRUCKS (24 HOUR B&C)	7%
DESIGN SPEED	45 MPH
LEGAL SPEED	45 MPH
DESIGN FUNCTIONAL CLASSIFICATION: (Rural)	Major Collector
NHS PROJECT:	No

CALCULATED JAG
CHECKED EMK

LOCATION MAPS

GEA-166-0.00/ VAR

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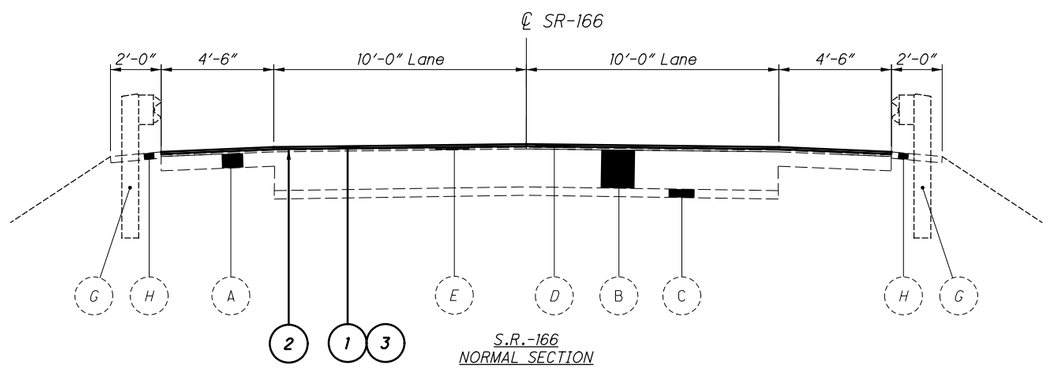


S.R.-166
NORMAL SECTION

SLM 0.00 (US-6) to SLM 2.17
(Approx. 4+00± to 112+88±)
SLM 2.24 to SLM 4.09 (SR-86)
(Approx. 116+39± to 214+42±)

Existing Legend

- (A) Asphalt Shoulder (2"±)
- (B) Asphalt Concrete (Varies 12" to 18")
- (C) Cinder Base (4"±)
- (D) Item 446 - 1 ½" Asphalt Concrete Surface Course
- (E) Item 448 - ¾" Asphalt Concrete Intermediate Course
- (F) Item 617 - Compacted Aggregate
- (G) Item 606 - Guardrail, Type 5, Using 9 Foot Posts
- (H) Item 448 - 3" Asphalt Concrete Intermediate Course, Type 1, Under Guardrail,



S.R.-166
NORMAL SECTION

SLM 2.17 TO SLM 2.24
(Approx. 112+88± to 116+39±)

Proposed Legend

- (1) Item 897- Pavement Planing, Asphalt Concrete, Class A, (1")
- (2) Item 407 - Non-Tracking Tack Coat
- (3) Item 424 - Fine Graded Polymer Asphalt Concrete, Type B, As Per Plan (1")
- (4) Item 209 - Preparing Subgrade for Shoulder Paving, As Per Plan
- (5) Item 209 - Linear Grading, As Per Plan
- (6) Item 617 - Compacted Aggregate, As Per Plan

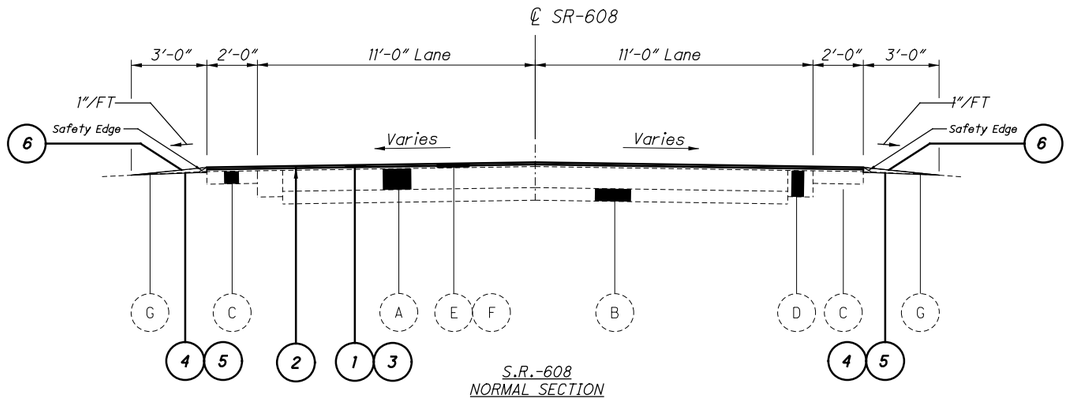
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TYPICAL SECTIONS - S.R.-166 - LOCATION 1

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3
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S.R.-608
NORMAL SECTION

SLM 10.68 to SLM 12.84
(Approx. 166+50± to 279+37±)

Existing Legend

- (A) Asphalt Concrete (8"±)
- (B) Asphalt Concrete Base (6")
- (C) Bituminous Aggregate Base
- (D) Bituminous Aggregate Base (12-1/2"±)
- (E) Item 446 - Asphalt Concrete Surface Course, Type 1H (1-1/2")
- (F) Item 448 - Asphalt Concrete Intermediate Course, Type 1 (1/2"±)
- (G) Item 617 - Compacted Aggregate

Proposed Legend

- (1) *Item 897- Pavement Planing, Asphalt Concrete, Class A, (1")*
- (2) *Item 407 - Non-Tracking Tack Coat*
- (3) *Item 424 - Fine Graded Polymer Asphalt Concrete, Type B, As Per Plan (1")*
- (4) *Item 209 - Preparing Subgrade for Shoulder Paving, As Per Plan*
- (5) *Item 209 - Linear Grading, As Per Plan*
- (6) *Item 617 - Compacted Aggregate, As Per Plan*

CALCULATED JAG
CHECKED EMK

TYPICAL SECTIONS - S.R.-608 - LOCATION 2

GEA-166-0.00/VAR

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General

Project Description

This project consists of the Preventive Maintenance Resurfacing in Geauga County of:
S.R.-166 (Rock Creek Rd.) from U.S.-6 (SLM 0.00) to S.R.-86 (SLM 4.09) in Hambden, Montville, and Thompson Townships
and
S.R.-608 (Old State Rd.) from Sisson Rd. (SLM 10.68) to U.S.-6 (SLM 12.84) in Hambden Township

Existing Typical Sections

Existing typical sections have been taken from the records and are believed to represent the existing pavement, but the State of Ohio does not guarantee the accuracy of the same.

For further information in regard to the existing typical sections and drainage details, the Contractor shall refer to the previous construction plans.

These plans may be reviewed at the following location:

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

Plan Sheet Stationing

The roadway was not surveyed prior to the preparation of these resurfacing plans. Record drawings were used to prepare plan sheets and calculate estimated pavement area quantities and pavement marking quantities.

Right of Way

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

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.

Construction Noise

Activities and land use adjacent to this project may be affected by construction noise. In order to minimize any adverse construction noise impacts, do not operate power-operated construction-type devices between the hours of 9:00pm and 7:00am. In addition, do not operate at any time any device in such a manner that the noise created substantially exceeds the noise customarily and necessarily attendant to the reasonable and efficient performance of such equipment.

Cooperation Between Contractors

The Contractor shall cooperate and coordinate his/her operations with the contractors on other projects that may be in force during the life of the contract. No waiver of any provisions of 105.07 of the Construction and Material Specifications is intended.

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 contact Jill Powers at 216-584-2195 at District 12 in order to apply for a permit per Section 107.02 of the CMS.

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.

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.

The Illuminating Co.
6896 Miller Rd.
Brecksville, Ohio 44141
Attn: Timothy Denzler
Supervising Engineer
Phone: (440) 346-8711
tjdenzler@firstenergycorp.com

Windstream
560 Ternes Ave.
Elyria, Ohio 44035
Attn: Geoffrey Hamm
Phone: (440) 329-4245
Cell: (330) 256-6133
geoffrey.p.hamm@windstream.com

Dominion East Ohio Gas Co.
320 Springside Dr.
Akron, Ohio 44333
Attn: Mike Antonius
Project Manager – Gas Design
Phone: (330) 664-2488
Fax: (330) 664-2686

G4S Technology, LLC
4 Walker Way, Suite 1
Albany, New York 12205
Attn: Dale French
Cell: (518) 527-5064
dale.french@usa.g4s.com

Ohio Department of Transportation
District 12 – Roadway Services
5500 Transportation Boulevard
Garfield Heights, Ohio 44125
Attn: Tony Toth
District Traffic Engineer
Phone: (216) 584-2220
anthony.toth@dot.state.oh.us

Zito Media
P.O. Box 45
Rock Creek, Ohio 44084
Attn: Mike Piccoli
Cell: (304) 224-3956
mike.piccoli@zitomedia.com

Charter Communications
(Time Warner Cable)
7920 Division Dr.
Mentor, Ohio 44060
Attn: Charles Sullivan
Phone: (440) 974-3401,Ext 125

EnerVest Operating, LLC
(fka Belden & Blake)
Troy Valasek
125 State Route 43, Suite #100
Hartville, Ohio 44632
Phone: 330-587-1009
Fax: 330-877-6129
tvalasek@EnerVest.net

There are no underground utilities shown on this plan. The nature of the work required by this project will not affect any known underground utilities that exist under or adjacent to the work area.

CALCULATED JAG
CHECKED EMK

GENERAL NOTES

GEA-166-0.00/VAR

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CALCULATED JAG
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Roadway and Erosion Control

Item 209 – Preparing Subgrade for Shoulder Paving, As Per Plan

Prepare the shoulder for paving a consistent safety edge in both thickness and width.

Prior to paving the safety edge, grade an area 10 inches wide, beginning at the edge of the paved roadway, to provide a level surface free of vegetation for construction of the safety edge. If necessary, excavate the graded area to the depth necessary to construct the safety edge. Compact the graded shoulder according to 617.05, or as directed by the Engineer.

For estimated quantities, see Pavement Sub-Summary Sheets.

Item 209 – Linear Grading, As Per Plan

This item of work shall consist of grading along the outside edge of the paved shoulder to back up the safety edge, eliminate high spots, fill in low areas 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 excess debris collected shall be removed and disposed of as specified in section 105.16 & 105.17 of the CMS.

A contingency quantity of Item 617 – Compacted Aggregate, As Per Plan, has been provided to be used as directed by the Engineer to fill in any remaining low areas after Item 209 – Linear Grading, As Per Plan, has been completed.

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

For estimated quantities, see Pavement Sub-Summary Sheets.

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 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. When performing this work, the pavement shall be sawcut prior to removal and hook bolts shall be used where practical to connect existing pavement to new concrete.

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

(SR-166 – 1 Each), (SR-608 – 1 Each)
Item 611 – Catch Basin Adjusted to Grade, As Per Plan..... **2 Each**

(SR-166 – 1 Each), (SR-608 – 1 Each)
Item 623 – Monument Box Adjusted to Grade, As Per Plan..... **2 Each**

Pavement

Profile and Alignment

Place the proposed pavement to follow the alignment of the existing pavement. Place the proposed asphalt concrete as shown on the typical sections. The intent of the plans is to increase the existing profile by not more than 1/4".

Planed Surfaces

The duration of time between milling and placement of the surface course shall be no longer than fourteen (14) days. The time limit shall begin on the first day of planing, and shall continue based on calendar days, minus any bad weather days, until completion of the asphalt concrete surface course. Failure to meet this time constraint shall result in the assessment of liquidated damages per CMS 108.07.

Asphalt Concrete Surface Course Sealing Requirements

In addition to the gutter sealing requirements specified on SCD BP-3.1 and in CMS 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 width of the sealer shall be 2 to 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 251 – Partial Depth Pavement Repair (441)

Perform repairs prior to resurfacing.

Use this item to repair unsound, cold-patch, or pop-out areas of longitudinal and transverse joints As Directed By The Engineer. Make standard repairs at a depth of 4" and at a minimum width of 12". Center the repair over the existing joint.

Use Type 2 material for this item.

For estimated quantities, see Pavement Sub-Summary Sheets.

Item 617 – Compacted Aggregate, As Per Plan

This item is a contingency that shall be used as directed by the Engineer to fill any remaining low areas after Item 209 – Linear Grading, As Per Plan, has been completed. Material shall be limited to reclaimed asphalt concrete pavement.

The actual depth used will vary depending upon existing conditions. For estimating purposes, an average depth of one inch (1.0") at one foot width will be used. Water, if needed, shall be applied as per 617.05 and included for payment under Item 617 – Compacted Aggregate, As Per Plan.

GENERAL NOTES

GEA-166-0.00/VAR

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Pavement (cont'd)

Safety Edge

In addition to the requirements of 401.12, attach a device to the screed of the paver that confines the material at the end gate and extrudes the asphalt material in such a way that results in a compacted wedge shape pavement edge of approximately 30 degrees (not steeper than 40 degrees). Ensure the device maintains contact with the existing surface, and allow for automatic transition to cross roads, driveways and obstructions. Do not use conventional single plate strike off.

Construction of safety edge can be omitted at locations where existing width of graded shoulder or berm is less than 12". Projects with varying conditions should use safety edge where possible. Plan preparation has made every reasonable attempt to identify possible safety edge locations.

Use the TransTech Shoulder Wedge Maker, the Carlson Safety Edge End Gate, the Advant-Edger, the Troxler SafeTSlope or a similar approved-equal device that produces the same wedge consolidation results. Contact information for these wedge shape compaction devices is the following:

TransTech Systems, Inc
1594 State St.
Schenectady, NY 12304
1-800-724-6306
www.transtechsys.com

Advant-Edge Paving Equipment LLC
P.O. Box 9163
Niskayuna, NY 12309
(518) 280-6090
www.advantedgepaving.com

Carlson Safety Edge End Gate
18425 50th Avenue East
Tacoma, WA 98446
(253) 875-8000

Troxler Electronic Laboratories, Inc.
3008 E. Cornwallis Rd.
Research Triangle Park, NC 22709
1-877-TROXLER
www.troxlerlabs.com

If electing to use a similar device, provide proof that the device has been used on previous projects with acceptable results or construct a test section prior to the beginning of work and demonstrate wedge compaction to the satisfaction of the Engineer. Short sections of handwork will be allowed when necessary for transitions and turnouts or otherwise authorized by the Engineer.

In addition to the requirements of 401.16, make the first roller pass 8 to 12 inches (200 to 300 mm) away from tapered edge. Do not roll the taper.

Item 424 – Fine Graded Polymer Asphalt Concrete, Type B, As Per Plan

The coarse aggregate for this item shall be limited to a blend of air cooled blast furnace slag (ACBFS) or trap rock from Ontario and limestone. The Contractor shall use a minimum of 50% of ACBFS or trap rock from Ontario with limestone comprising the remaining percentage.

Section 424.08 shall be revised to read "For Type B mixes comply with all requirements of 446".

Item 441 – Asphalt Concrete Surface Course, Type 1, (448), As Per Plan, PG64-22

The use of gravel for the coarse virgin aggregate is prohibited.

Traffic Control

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. 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:
(SR-166 - LS), (SR-608 - LS)

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

Item 621 – Raised Pavement Marker Removed

This item shall include the removal and disposal of RPMs.

The following estimated quantity has been carried to the General Summary:
(SR-166: 220), (SR-608: 120)

Item 621 – Raised Pavement Marker Removed..... **340 Each**

Item 621 – Raised Pavement Marker (RPM)

The following is an estimated quantity to be used, as directed by the Engineer, to place proposed raised pavement markers.

For estimated quantities, see Traffic Control Sub-Summary Sheets.

Item 646 – Epoxy Pavement Marking

The contractor must lay out all center lines using the most recent copy of the center line log. Copies of the center line log may be obtained from the District 12 Roadway Services Department.

A minimum of 48 hours prior to placement of the permanent school symbol markings on the pavement, the contractor will contact Tony Toth, District 12 Traffic Engineer, at (216) 584-2220, for the placement locations of the markings. The District 12 Traffic Engineer shall concur with the locations of the school symbol pavement markings.

An estimated quantity is carried to the General Summary in order to place pavement markings within the limits of this project:

For estimated quantities, see Traffic Control Sub-Summary Sheets.

CALCULATED JAG
CHECKED EMK

GENERAL NOTES

GEA-166-0.00/ VAR

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Maintenance of Traffic

Item 614 – Maintaining Traffic

Generally the Contractor shall conduct his operations as to complete the proposed improvement with a minimum of hazard, delay and inconvenience to the motorists using the highway affected by the work done under this contract. In addition to the construction and material specifications, the following specific provisions are mandatory.

I. Notification

Since functional traffic control is a major concern on this project, it is essential that the motoring public be adequately forewarned of future lane closures and traffic constrictions. Therefore, the Contractor shall submit a written schedule to the Engineer, responsible law enforcement agencies, and the ODOT Public Information Office (216-584-2007) indicating the locations and dates of the lane closures at least 3 days prior to the implementation of any such closures.

Use portable changeable message signs to alert motorists 3 days prior to the implementation of any changes such as lane closures or other restrictions.

II. Work Hours

The Contractor is not permitted to work at night. Limit work hours to daylight hours between 7:00 AM and 9:00 PM, Monday through Friday or between 8:30 AM and 7:00 PM on Saturday and Sunday.

III. Lane Closure, Planing and Paving Restrictions

1. All closures shall be in accordance with the applicable Standard Construction Drawing(s).
2. All through traffic lanes shall be kept open at all times except during hours of construction. Maintain a minimum of two 10 foot lanes when a flagger or temporary signal is not present.
3. Pedestrian traffic shall be permitted and accommodated on at least one side at all times.

No lane closures shall be implemented or in place during increased traffic volumes caused by special events or when the Engineer deems the climatological conditions too hazardous.

IV. Maintenance of Traffic Systems

A. When Required

Whenever any part of the traveled surface is being worked upon or is otherwise not suitable for safe and convenient use by vehicles, traffic control devices sufficient to protect such areas to assure the safe and convenient passage of vehicular traffic shall be installed and maintained. Such traffic control devices and the manner in which they are used shall be consistent with these plans and the Ohio Manual of Uniform Traffic Control Devices for Streets and Highways, hereinafter referred to as the OMUTCD. The traffic control device system shall constitute the minimum provisions for traffic control for each particular situation. Whenever the Engineer deems it necessary especially where a grade, curve, or merge conditions exists, he may direct that additional or alternative devices be used.

B. Conditions

During all parts of this project, flaggers, signing, barricades, flashing arrows, etc. shall be located as indicated in the OMUTCD or as shown in the Standard Construction Drawings. Two-way traffic shall be maintained at all times.

C. Advance Warning Signs

All advance warning signs for any condition which restricts traffic shall be erected before any such restriction is put into effect. All such signs shall be covered or removed from the view of traffic whenever they are not applicable.

D. Flashing Arrow Requirement

2-Lane roads – Not Used

E. Flaggers and Law Enforcement Officers

At least two flaggers are required for each closure. The Contractor shall furnish additional flaggers as directed by the Engineer. Law Enforcement Officers (LEO's) shall be required for traffic direction only under the following circumstances: (1) if signals are non-operational, or (2) if traffic must move against signal phasing.

F. Protection of Public

Personal cars shall not be parked within the R/W.

G. Failure to Comply

If there is any failure to comply with provisions for traffic control set out in these plans and notes, or with the provisions of the OMUTCD, the highway in the vicinity of the work area shall not be considered in a condition for the safe and convenient use by the traveling public. Any failure to keep the highway, in the vicinity of the work area, in a condition for the safe and convenient use by the traveling public shall be considered a breach of this contract. Work shall be suspended until the Contractor complies with the provisions of the aforementioned items.

V. Maintenance of Traffic Materials

A. Signs

Sign dimensions and specifications, including letter sizes, shall be as provided in the OMUTCD or in design drawings provided by the Department of Transportation. The signs shall be subject to approval of the Engineer prior to the start of the project.

B. Sign Supports

Sign supports shall be of sufficient size and mass as to support the signs at the appropriate height. Supports shall be as shown on the Standard Construction Drawings.

C. Flashing Arrows

2-Lane roads – Not Used

D. Drums

Drums shall be in accordance with pertinent sections of the OMUTCD. All costs for installing, maintaining and subsequent removal of said drums shall be included in the lump sum bid price for Item 614 – Maintaining Traffic.

E. Cones

Cones, if utilized, shall be located as shown in the OMUTCD and the Standard Construction Drawings.

F. Flashers

Flashers shall be 12 volt battery-operated models with 7 inch diameter yellow lenses illuminated by rapid intermittent flashers of short duration and shall be placed on all signs at all times as required by the OMUTCD and the Standard Construction Drawings.

VI. Payment

Payment for providing, erecting, maintaining and removing temporary maintenance of traffic control devices shall be made under the lump sum price bid for Item 614 – Maintaining Traffic.

Lanes Open During Holidays or Special Events

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

Christmas	New Years	Mother's Day
Memorial Day	Fourth of July	Easter
Labor Day	Thanksgiving	

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:

Day	Times All Lanes Must Be Open
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
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 in the amount of $50 for each minute the above described lane closure restrictions are violated.

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.

Maintenance of Traffic Control Zones

The Contractor shall be responsible to maintain the signs, drums and temporary pavement markings at the locations detailed in the plans or specified in the Standard 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.

MAINTENANCE OF TRAFFIC NOTES

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Maintenance of Traffic (cont'd)

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 authority.

Contractor's Equipment – Operation and Storage

Vehicles and equipment shall always move with, and not across or against the flow of traffic. Vehicles and other equipment shall not park or stop except within designated work areas; and shall not enter and leave work areas in a manner which will be hazardous to, or interfere with the normal traffic flow. Personal vehicles will not be permitted to park within the right-of-way except in specific areas designated by the Engineer.

Equipment, vehicles and materials shall not be stored or parked within 30 feet of the traveled way unless 6 feet behind PCB or guardrail.

All work vehicles and equipment that enters the work zone more than once a day must be equipped with at least one flashing, rotating, or oscillating amber light that is visible in all directions of traffic for at least one quarter of a mile, day or night.

Alternate Methods

If the Contractor so elects, he may submit alternate methods for the maintenance of traffic, provided the intent of the provisions is followed and no additional inconvenience to the traveling public results there from. No alternate plan shall be placed into effect until approval has been granted in writing, by the Director.

All items proposed for use under these provisions must comply with current Department standards for their use when the plan detail, Standard Construction Drawing or other bid document governing their use is not provided as part of the bid package.

Major Work Items

The following major work items will require traffic maintenance which shall be incorporated into the Contractor's sequence of operations.

A. Completion of pavement repairs
B. Removal of existing raised pavement markers
C. Planing of asphalt concrete
D. Adjustment of existing castings if needed, As Directed By The Engineer
E. Placing of asphalt concrete surface course
F. Placing proposed pavement markings and raised pavement markers

Continuous Access

The Contractor shall maintain safe and adequate driveways and walkways in order to provide continuous access for pedestrians, passenger vehicles, trucks, and safety equipment to all adjoining properties.

Work Zone Markings

The following estimated quantities have been carried to the General Summary for use at locations identified by the Engineer for work zone pavement markings per the requirements of CMS 614.04 and 614.11. Place temporary markings at the same locations as the proposed permanent markings.

(LOCATION 1 – SR-166)
After the planing is completed, use the following temporary markings:

Item 614 – Work Zone Center Line, Class I, 642 Paint ..... **4.14 Mile**
Item 614 – Work Zone Edge Line, Class I, 4", 642 Paint..... **8.27 Mile**
Item 614 – Work Zone Stop Line, Class I, 642 Paint..... **129 Ft**

After the surface course is placed, use the following temporary markings:

Item 614 – Work Zone Center Line, Class III, 642 Paint ..... **4.14 Mile**
Item 614 – Work Zone Edge Line, Class III, 4", 642 Paint..... **8.27 Mile**
Item 614 – Work Zone Stop Line, Class III, 642 Paint..... **129 Ft**

(LOCATION 2 – SR-608)
After the planing is completed, use the following temporary markings:

Item 614 – Work Zone Center Line, Class I, 642 Paint ..... **2.14 Mile**
Item 614 – Work Zone Edge Line, Class I, 4", 642 Paint..... **4.28 Mile**
Item 614 – Work Zone Stop Line, Class I, 642 Paint..... **14 Ft**

After the surface course is placed, use the following temporary markings:

Item 614 – Work Zone Center Line, Class III, 642 Paint ..... **2.14 Mile**
Item 614 – Work Zone Edge Line, Class III, 4", 642 Paint..... **4.28 Mile**
Item 614 – Work Zone Stop Line, Class III, 642 Paint..... **14 Ft**

Work Zone Marking Signs

The following estimated quantity has been carried to the General Summary for use as directed by the Engineer.
(SR-166 – 14 EACH), (SR-608 – 4 EACH)

Item 614 – Work Zone Marking Signs ..... **18 Each**

Permanent Pavement Markings

After placing the surface course, the Contractor may place permanent pavement markings instead of placing work zone pavement markings, which shall be non-performed at these locations.

Maintaining Traffic and Sequence of Operations – Asphalt Concrete

All asphalt concrete operations shall be conducted in a manner that will assure minimum danger and inconvenience to highway users. The procedure for the removal or placement of any existing or proposed asphalt course shall be such that no greater than 1-1/2" discontinuity in the elevation of the travelled surface shall be exposed to traffic.

Traffic shall not be permitted to cross any partial-width removal or resurfacing joint during the actual removal or paving operation except as necessary. Any partial-width longitudinal joints which must be exposed to traffic shall be ramped using Item 614 – Asphalt Concrete for Maintaining Traffic at a rate not steeper than 6:1.

Temporary transverse removal or paving joints which must be exposed to traffic shall be ramped using Item 614 – Asphalt Concrete for Maintaining Traffic at a rate not to exceed 1" in 10'.

For removal of existing overlays, a transition may be planed into the existing overlay and may be substituted for the asphalt ramps previously described, provided the transition is removed in a subsequent operation within 24 hours.

Whenever traffic is subject to partial width removals or overlays prior to full width completion, the Contractor shall provide W8-11-48 "UNEVEN LANES" signs (dual sign installation). Placement shall be as directed by the Engineer and included in the lump sum payment for Item 614 – Maintaining Traffic.

Whenever any part of the traveled surface is closed, the motorists shall be warned and diverted by the Contractor through the use of a flashing arrow, in addition to those provisions set forth in the OMUTCD, the Traffic Engineering Manual and the applicable Standard Construction Drawings.

The cost for all materials, equipment, and labor necessary to provide continuous access shall be included in the lump sum price for Item 614 – Maintaining Traffic.

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 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.

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

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

(SR-166 – 300 SF), (SR-608 – 300 SF)
Item 630 – Signing Misc.: Additional Signs, Ground Mounted, As Directed by the Engineer..... **600 Sq Ft**

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Maintenance of Traffic (cont'd)

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 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 determined and pre-approved by the Engineer. Any LEO hours which are not pre-approved for the following purposes shall not be compensable:

- 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 determined and pre-approved by the engineer. Any LEO hours which are not pre-approved for the following purposes shall not be compensable:

- 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. Once the LEO has completed the duties described above and still has time remaining on his/her shift, the LEO may be asked to patrol through the work zone (with flashing lights off) or be placed at a location to deter motorists from speeding. 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 quantity has been carried to the General Summary.

(SR-166 – 40 HRS), (SR-608 – 40 HRS)

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 unit price for Item 614 – Law Enforcement Officer with Patrol Car for Assistance.

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 ft. and 650 ft., 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, facing 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 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 or her 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.

The estimated quantity provides for two PCMS units at 1 SNMT (30 days) each per Work Location. **(SR-166 – 2 SNMT), (SR-608 – 2 SNMT)**

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 Contractor shall only be paid for PCMS units when they are in operation on the project as specified in the plans or by the Engineer.

Item 614 – Portable Changeable Message Sign,
As Per Plan..... **4 SNMT**

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SHEET NUM.													PART.	ITEM	ITEM EXT	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
6	7	9	10	12	13	23	24						01/STR/PV						
																		ROADWAY	
				8.12		4.28							12.4	209	60501	12.4	MILE	LINEAR GRADING, AS PER PLAN	6
				8.12		4.28							12.4	209	72051	12.4	MILE	PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN	6
2													2	623	39501	2	EACH	MONUMENT BOX ADJUSTED TO GRADE, AS PER PLAN	6
																		EROSION CONTROL	
													2,000	832	30000	2,000	EACH	EROSION CONTROL	
																		DRAINAGE	
2													2	611	98631	2	EACH	CATCH BASIN ADJUSTED TO GRADE, AS PER PLAN	6
																		PAVEMENT	
				110		810							920	251	01000	920	SY	PARTIAL DEPTH PAVEMENT REPAIR (441)	
				5,365		2,789							8,154	407	20000	8,154	GAL	NON-TRACKING TACK COAT	
				1,673		879							2,552	424	12001	2,552	CY	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B, AS PER PLAN, (1")	
				20									20	441	50101	20	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG64-22 , (1")	7
				12		7							19	441	50400	19	CY	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS), (1" AVG)	
				133		70							203	617	10101	203	CY	COMPACTED AGGREGATE, AS PER PLAN	6
				3,572		1,881							5,453	875	10000	5,453	LB	LONGITUDINAL JOINT ADHESIVE	
				58,450		30,363							88,813	897	01010	88,813	SY	PAVEMENT PLANING, ASPHALT CONCRETE, CLASS A, (1")	
																		TRAFFIC CONTROL	
					289		157						446	621	00100	446	EACH	RPM	
	340												340	621	54000	340	EACH	RAISED PAVEMENT MARKER REMOVED	
		600											600	630	97800	600	SF	SIGNING, MISC.:ADDITIONAL SIGNS, GROUND MOUNTED, AS DIRECTED BY THE ENGINEER	9
					8.28		4.28						12.56	646	10010	12.56	MILE	EDGE LINE, 6", WHITE	
					4.14		2.14						6.28	646	10200	6.28	MILE	CENTER LINE	
					129		14						143	646	10400	143	FT	STOP LINE	
	LS												LS	SPECIAL	69098400	LS		INVENTORY EXISTING PAVEMENT MARKINGS	7
																		MAINTENANCE OF TRAFFIC	
			80										80	614	11110	80	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR FOR ASSISTANCE	
		18											18	614	12460	18	EACH	WORK ZONE MARKING SIGN	
			4										4	614	18601	4	SNMT	PORTABLE CHANGEABLE MESSAGE SIGN, AS PER PLAN	10
		6.28											6.28	614	21100	6.28	MILE	WORK ZONE CENTER LINE, CLASS I, 642 PAINT	
		6.28											6.28	614	21550	6.28	MILE	WORK ZONE CENTER LINE, CLASS III, 642 PAINT	
		12.55											12.55	614	22100	12.55	MILE	WORK ZONE EDGE LINE, CLASS I, 4", 642 PAINT	
		12.55											12.55	614	22350	12.55	MILE	WORK ZONE EDGE LINE, CLASS III, 4", 642 PAINT	
		143											143	614	26200	143	FT	WORK ZONE STOP LINE, CLASS I, 642 PAINT	
		143											143	614	26610	143	FT	WORK ZONE STOP LINE, CLASS III, 642 PAINT	
																		INCIDENTALS	
													LS	614	11000	LS		MAINTAINING TRAFFIC	
													LS	623	10000	LS		CONSTRUCTION LAYOUT STAKES AND SURVEYING	
													LS	624	10000	LS		MOBILIZATION	

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GENERAL SUMMARY

GEA-166-0.00/ VAR

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REF. NO.	SHEET NO.	PLAN SPLIT NO.	LOG POINT TO LOG POINT				LENGTH	LENGTH	BEGIN WIDTH	ENDING WIDTH	AVERAGE WIDTH	AREA	209	209	251	897	407	424	617	875	441	441
													LINEAR GRADING, AS PER PLAN	PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN	PARTIAL DEPTH PAVEMENT REPAIR (441)	PAVEMENT PLANING, ASPHALT CONCRETE, CLASS A, (1")	NON-TRACKING TACK COAT	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B, AS PER PLAN, (1")	COMPACTED AGGREGATE, AS PER PLAN	LONGITUDINAL JOINT ADHESIVE	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), AS PER PLAN, PG64-22 , (1")	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS), (1" AVG)
			SLM	STA.	SLM	STA.	MILE	FT.	FT.	FT.	FT.	SQ. YD.	MILE	MILE	SY	SY	GAL	CY	CY	LB	CY	CY
			S.R.-166																			
			BEGIN PROJECT - LOCATION 1																			
		1	0.00	4+00.0	0.01	4+74.5	0.01	74.5	24	24	24	199	0.03	0.03		199	18	6	0.5	12		
			STATION EQUATION:4+75 BK=0+00 AH																			
		1	0.01	0+00.0	2.15	112+88.8	2.14	11288.8	24	24	24	30104	4.28	4.28		30104	2709	836	69.7	1881		
		1	2.15	112+88.8	2.16	113+21.3	0.01	32.5	24	29	27	98	0.01	0.01		98	9	3	0.2	5		
		1	2.16	113+21.3	2.17	114+06.3	0.01	85.0	29	29	29	274	0.03	0.03		274	25	8	0.5	14		
			114+06.33 (SUSPEND WORK)																			
			STRUCTURE: GEA-166-2.19 - NO WORK												110							
			115+22.33 (RESUME WORK)																			
		1	2.19	115+22.3	2.21	116+07.3	0.02	85.0	29	29	29	274	0.03	0.03		274	25	8	0.5	14		
		1	2.21	116+07.3	2.22	116+39.8	0.01	32.5	29	24	27	98	0.01	0.01		98	9	3	0.2	5		
		1	2.22	116+39.8	4.07	214+42.2	1.85	9802.4	24	24	24	26140	3.71	3.71		26140	2353	726	60.5	1634		
			STATION EQUATION:214+42.23 BK=0+00 AH																			
		1	4.07	0+00.0	4.08	0+42.7	0.01	42.7	24	24	24	114	0.02	0.02		114	10	3	0.3	7		
			SAFETY EDGE (BOTH SIDES)																			
		1	0.00	4+00.0	2.15	112+88.8	2.15	10888.8	0.5	0.5	0.5	605					54	42				
		1	2.21	116+07.3	4.07	214+42.2	1.86	9834.9	0.5	0.5	0.5	546					49	38				
			END PROJECT - LOCATION 1																			
			INTERSECTION EXTRA AREAS																			
		1	Brakeman Rd.					15			CAD AREA	69				69	6				2	
		1	Grantham Ln.					15			CAD AREA	89				89	8				2	
		1	Williams Rd.					15			CAD AREA	152				152	14				4	
		1	Bascome Rd.					15			CAD AREA	93				93	8				3	
		1	Sumner Rd.					15			CAD AREA	128				128	12				4	
		1	Woodhill Dr.					15			CAD AREA	187				187	17				5	
			DRIVEWAYS EXTRA AREAS																			
		1	Driveways					5' Avg.			25	431				431	39					12
			SUBTOTALS										8.12	8.12	110	58450	5365	1673	133	3572	20	12
			TOTALS CARRIED TO GENERAL SUMMARY										8.12	8.12	110	58450	5365	1673	133	3572	20	12
			PLAN SPLIT #1 TOTAL										8.12	8.12	110	58450	5365	1673	133	3572	20	12

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LOCATION 1 - S.R.-166-0.00
PAVEMENT SUBSUMMARY

GEA-166-0.00/ VAR

I:\Project Data\GEA\99634\Design\Roadway\Sheets\099634_GS001.dgn Sheet 10/4/2017 1:13:56 PM jgrmovse

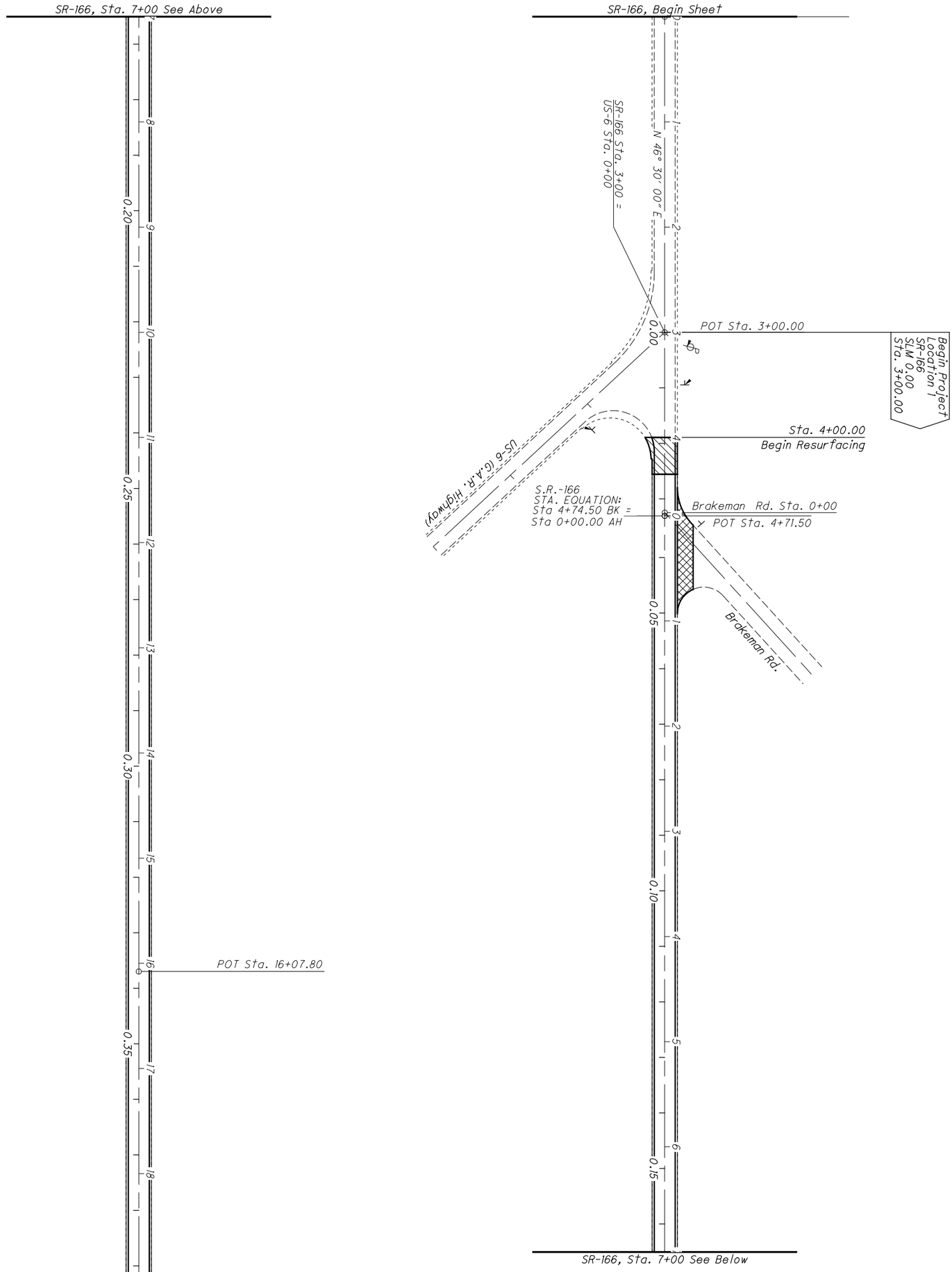
SHEET NO.	PLAN SPLIT NO.	LOCATION	STATION FROM	STATION TO	646 EDGE LINE, 6", WHITE FT	646 CENTER LINE FT			646 STOP LINE FT			621 RPM, (WHITE) EACH	621 RPM, (YELLOW/YELLOW) EACH
		SR-166											
		Begin Project-Location 1											
	1		*4+00*	*0+00*	*800*	*400*			*14*				
			STATION EQUATION:										
			4+75 BK = 0+00 AH									*16*	*273*
	1		*0+00*	*214+42*	*42,884*	*21,442*							
		End Project-Location 1											
		INTERSECTIONS											
	1	*Brakeman Rd.*							*20*				
	1	*Grantham Ln.*							*14*				
	1	*Williams Rd.*							*14*				
	1	*Bascome Rd.*							*18*				
	1	*Sumner Rd.*							*23*				
	1	*Woodhill Dr.*							*26*				
		SUBTOTALS			*43684.5*	*21842.2*			*129*			*16*	*273*
		TOTALS TO GENERAL SUMMARY			*8.27 MI*	*4.14 MI*			*129*			*289*	
		PLAN SPLIT #1 TOTAL			*8.27 MI*	*4.14 MI*			*129*			*289*	

CALCULATED JAG
CHECKED EMK

LOCATION 1 - S.R.-166-0.00
TRAFFIC CONTROL SUBSUMMARY

GEA-166-0.00/ VAR

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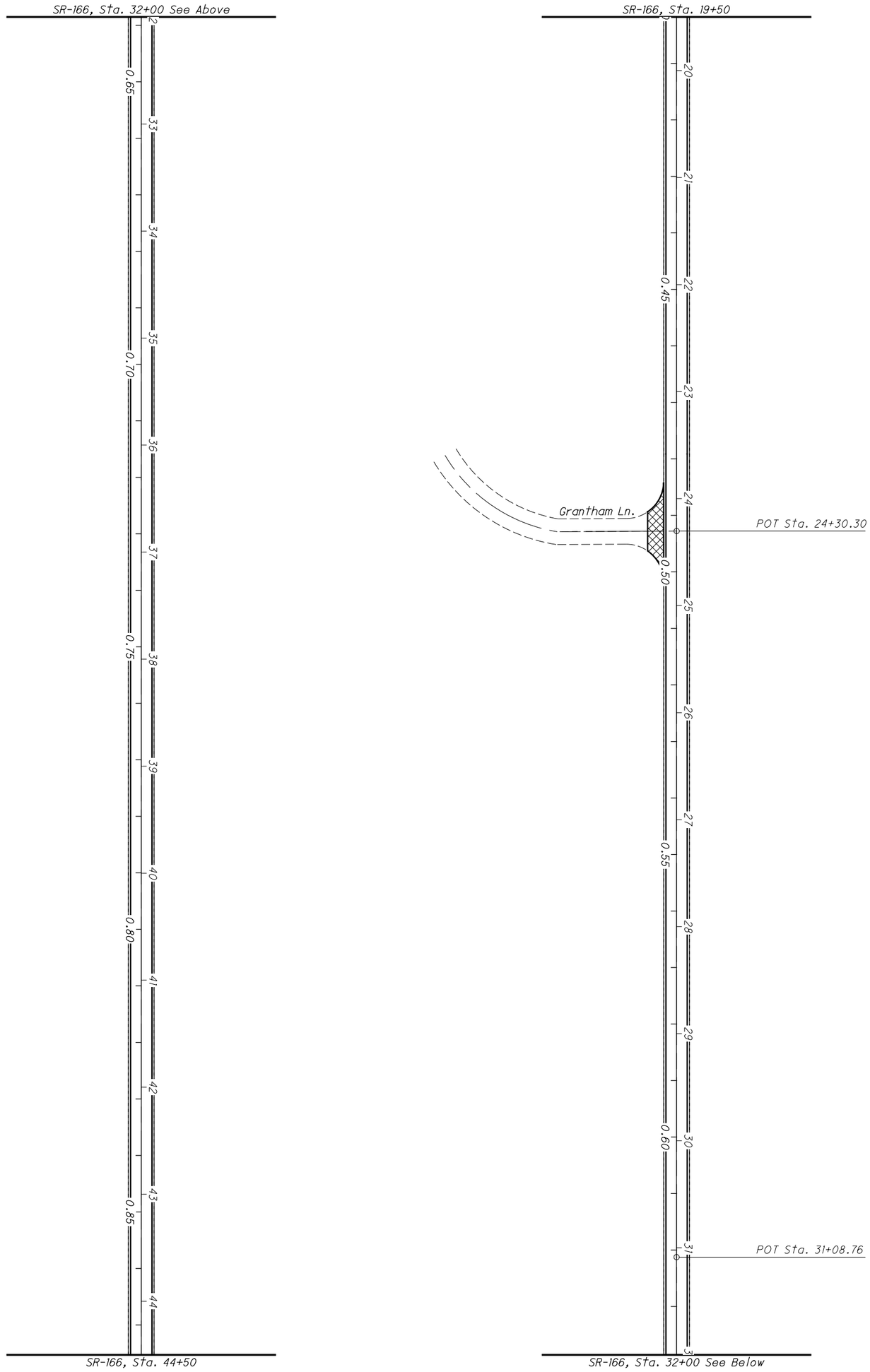
- Butt Joint as per SCD BP-3.1
- Butt Joint as per Sheet 30

For Typical Sections, See Sheet 3

For Pavement Subsummary, See Sheet 12

For Traffic Control Subsummary, See Sheet 13

14/30	GEA-166-0.00/VAR	GENERAL PLAN - LOCATION 1 SR-166, STA. 0+00 TO STA. 19+50	CALCULATED JAG CHECKED EMK	0 50 25 100 HORIZONTAL SCALE IN FEET

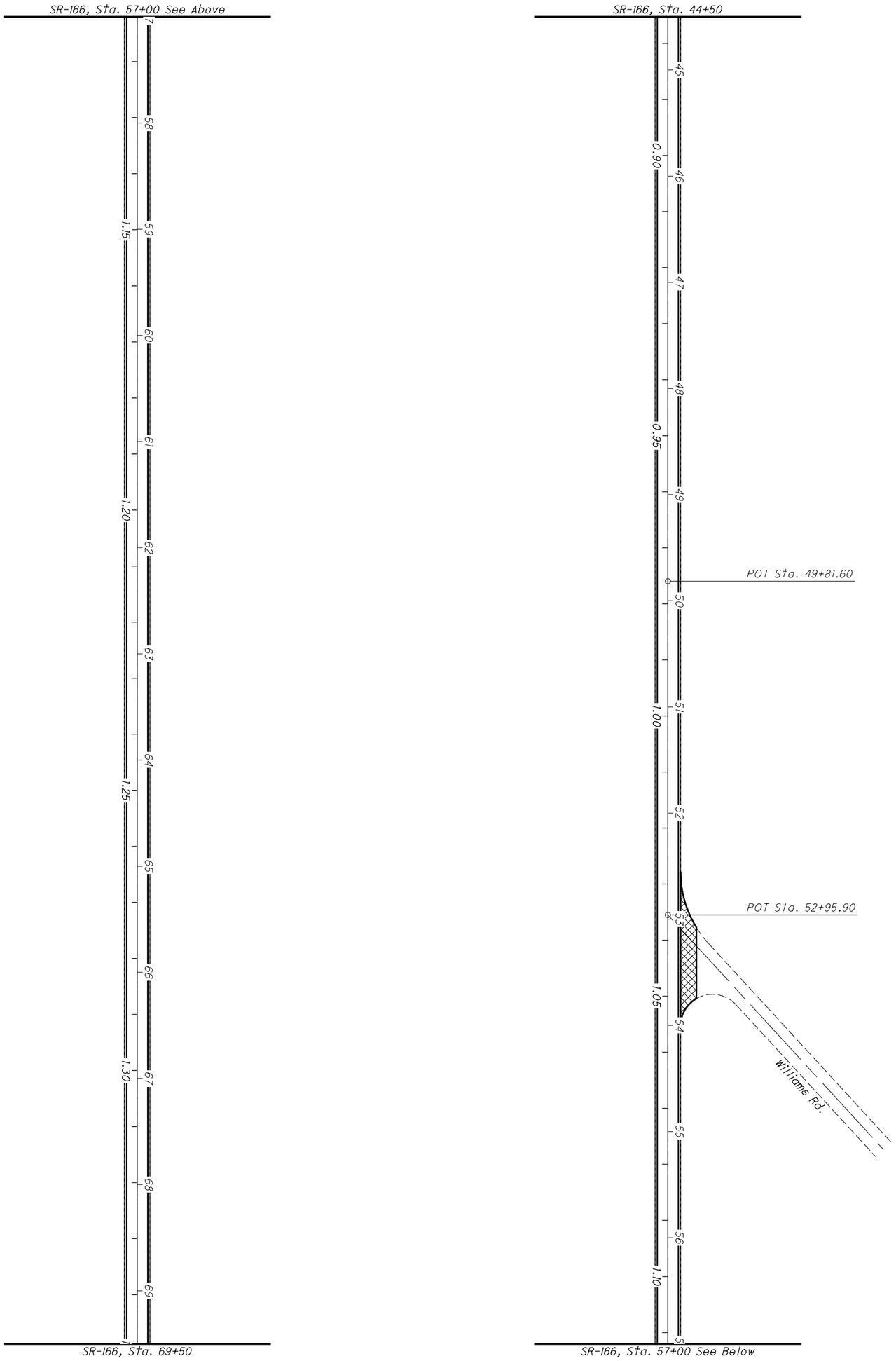


GEA-166-0.00/VAR

GENERAL PLAN - LOCATION 1
SR-166, STA. 19+50 TO STA. 44+50

CALCULATED JAG
CHECKED EMK

0 25 50 100
HORIZONTAL SCALE IN FEET

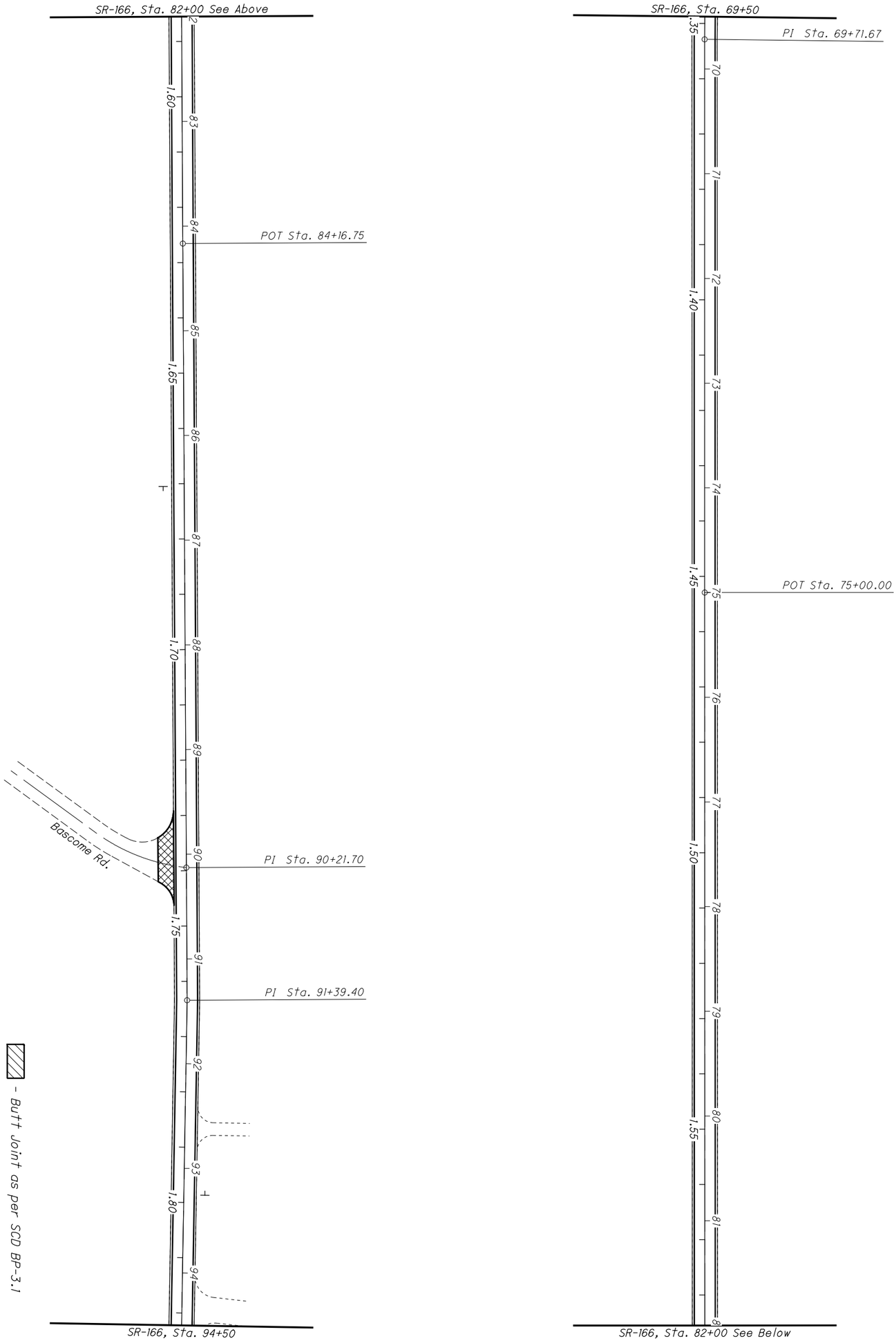


GEA-166-0.00/VAR

GENERAL PLAN - LOCATION 1
SR-166, STA. 44+50 TO STA. 69+50

CALCULATED JAG
CHECKED EMK

0 25 50 100
HORIZONTAL SCALE IN FEET



- Butt Joint as per SCD BP-3.1
- Butt Joint as per Sheet 30

For Typical Sections, See Sheet 3
For Pavement Subsummary, See Sheet 12
For Traffic Control Subsummary, See Sheet 13

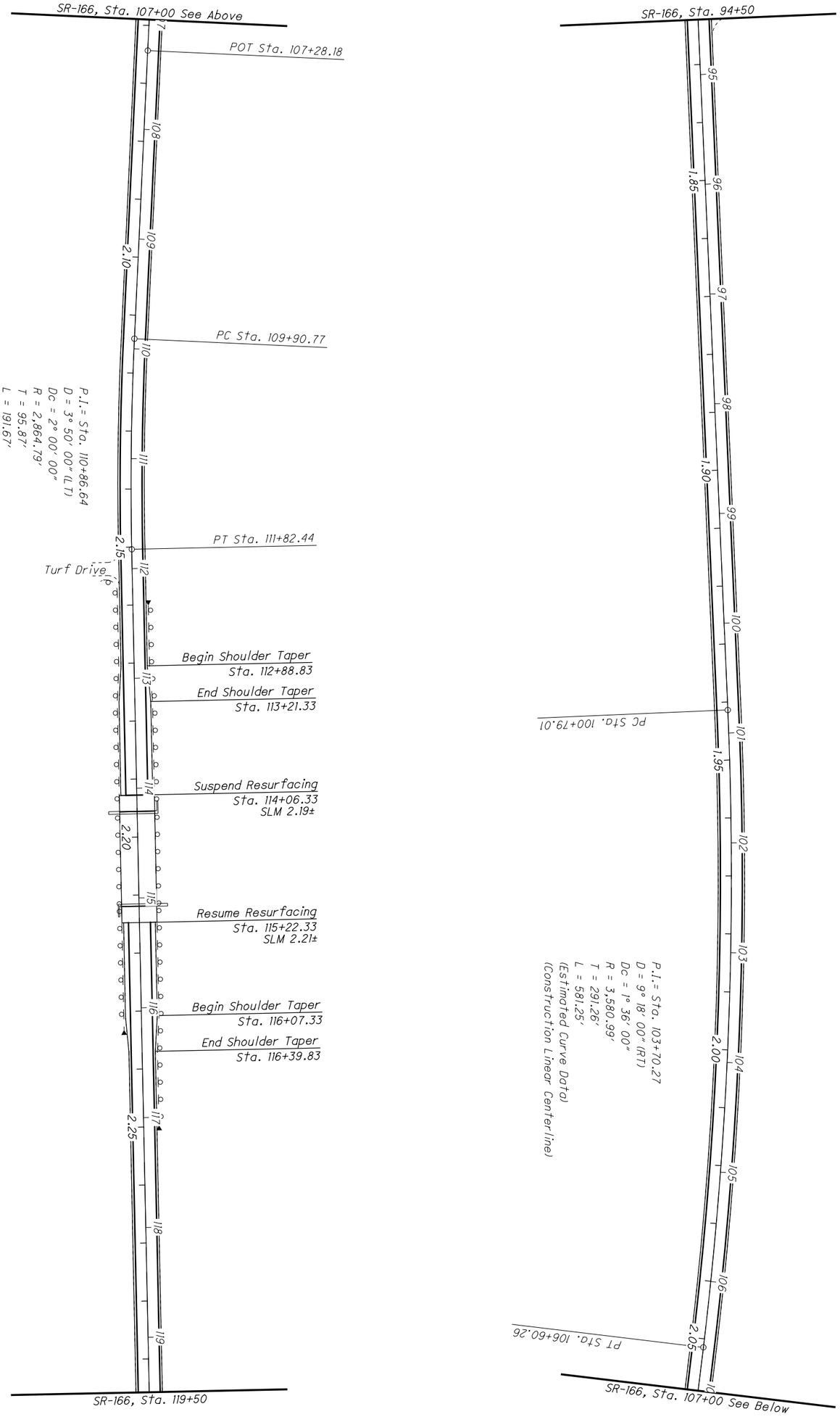
17
30

GEA-166-0.00/VAR

GENERAL PLAN - LOCATION 1
SR-166, STA. 69+50 TO STA. 94+50

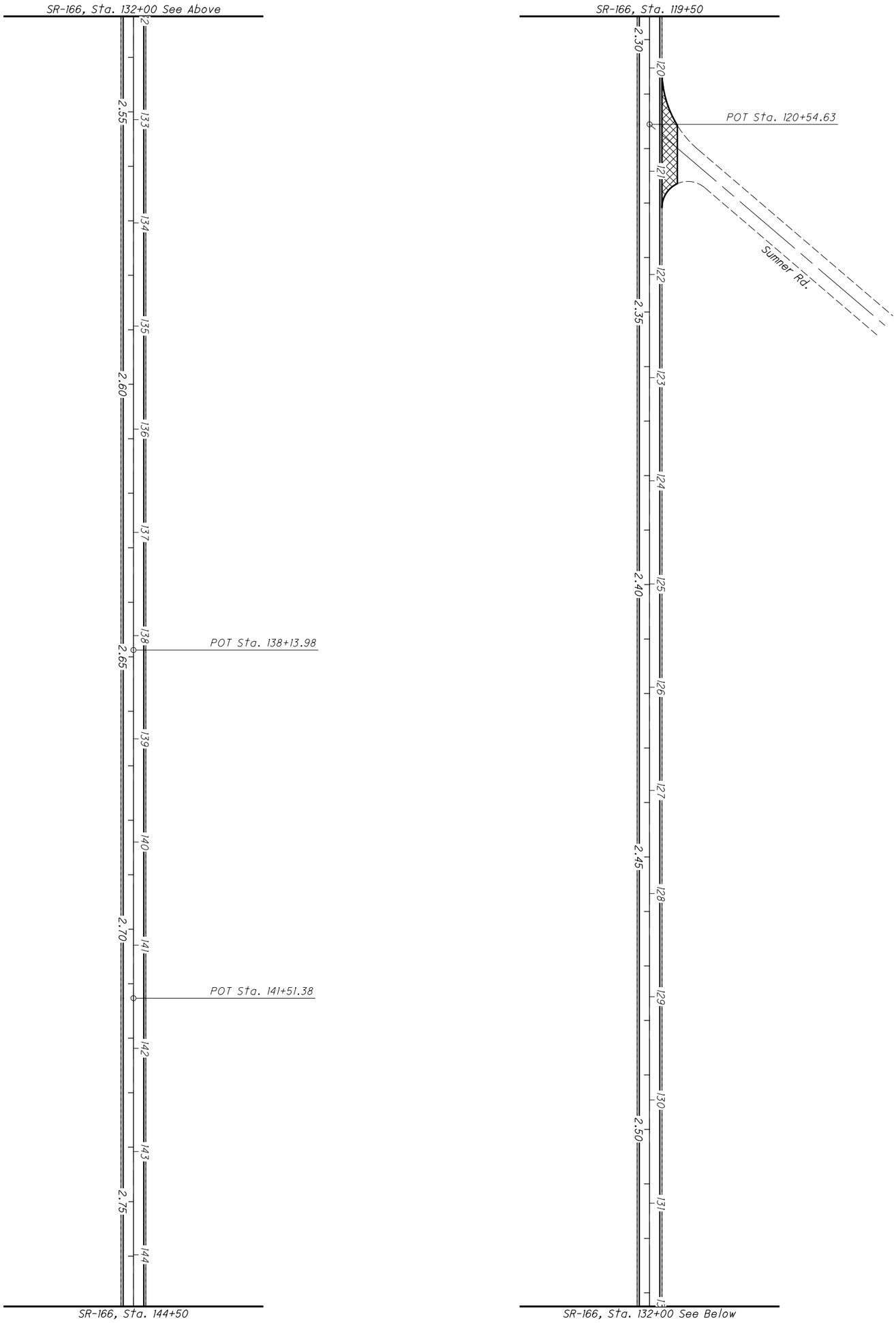
CALCULATED JAG
CHECKED EMK

0 25 50 100
HORIZONTAL SCALE IN FEET



For Typical Sections, See Sheet 3
For Pavement Subsummary, See Sheet 12
For Traffic Control Subsummary, See Sheet 13

18 / 30	GEA-166-0.00/ VAR	GENERAL PLAN - LOCATION 1 SR-166, STA. 94+50 TO STA. 119+50	CALCULATED JAG CHECKED EMK	0 50 25 100 HORIZONTAL SCALE IN FEET

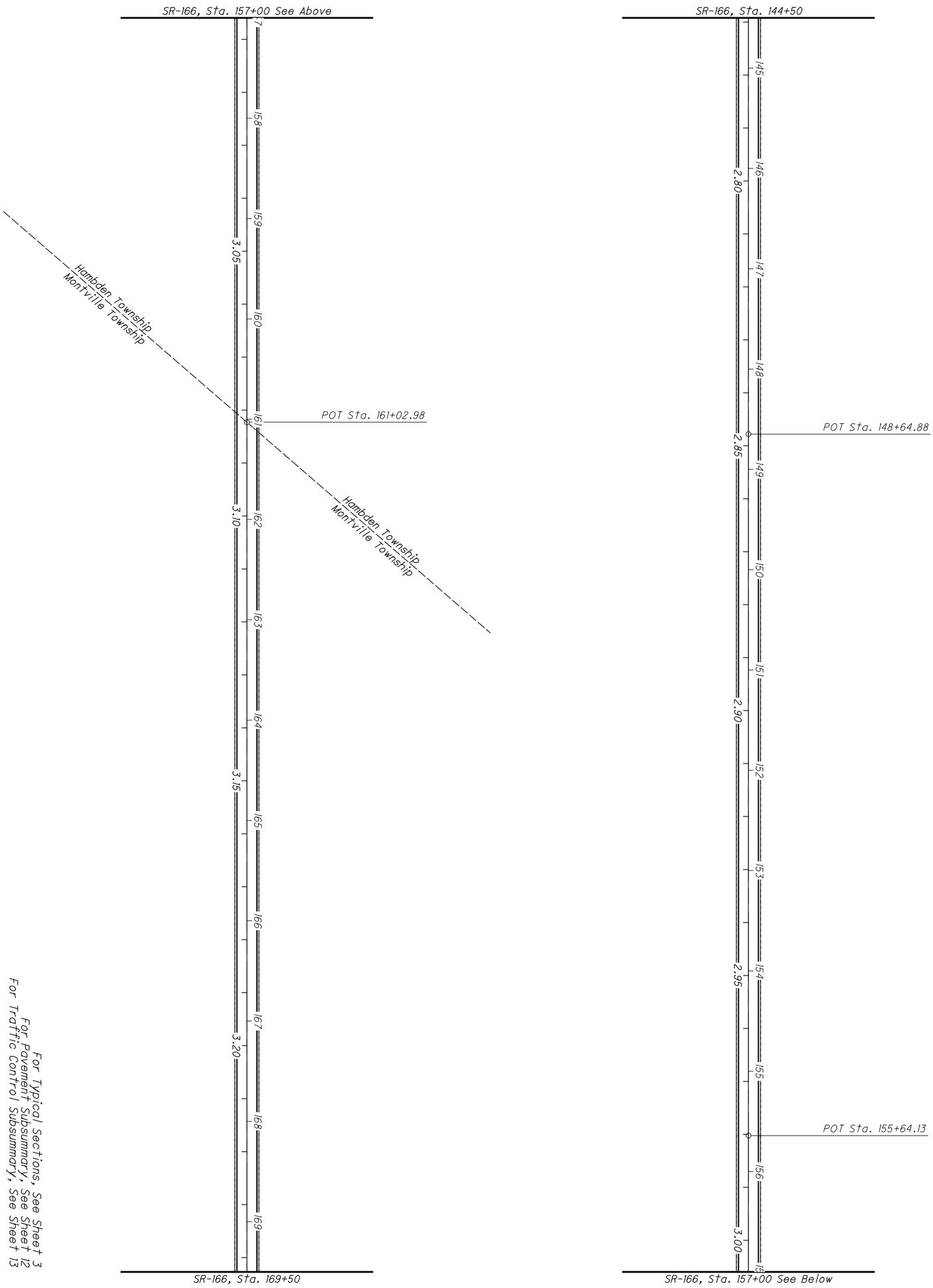


GEA-166-0.00/VAR

GENERAL PLAN - LOCATION 1
SR-166, STA. 119+50 TO STA. 144+50

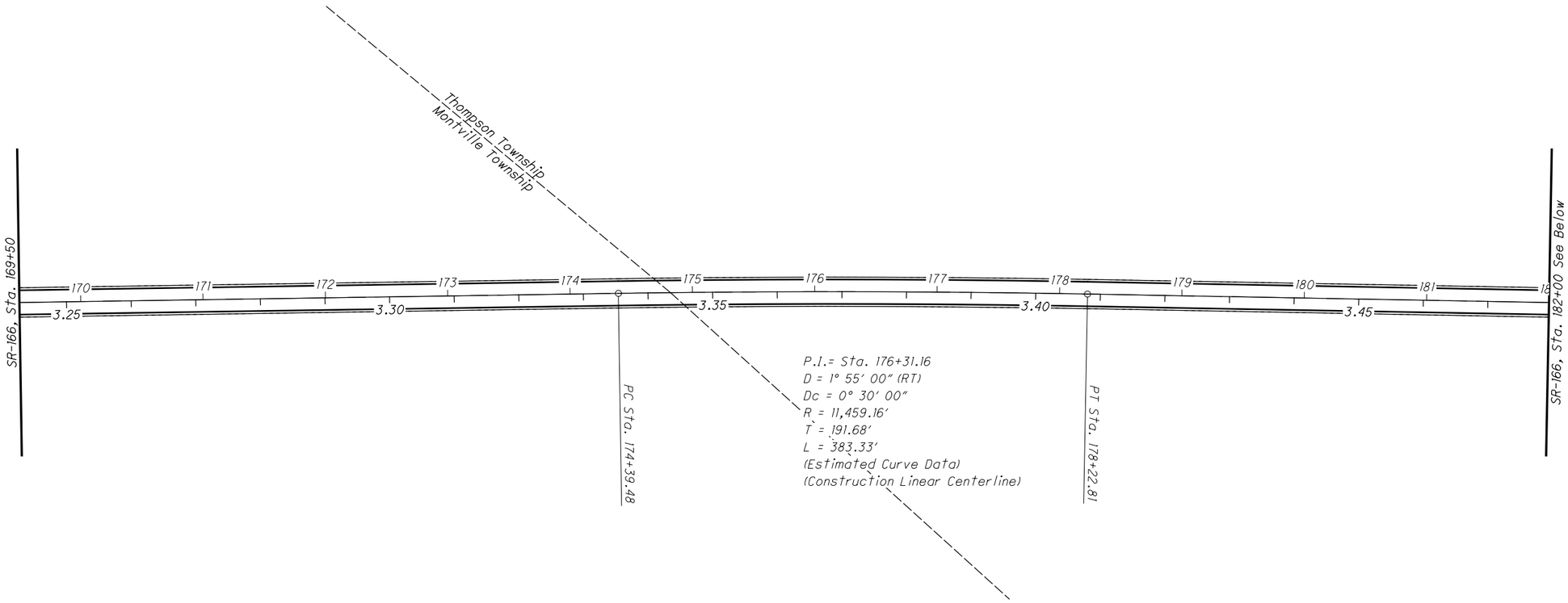
CALCULATED JAG
CHECKED EMK

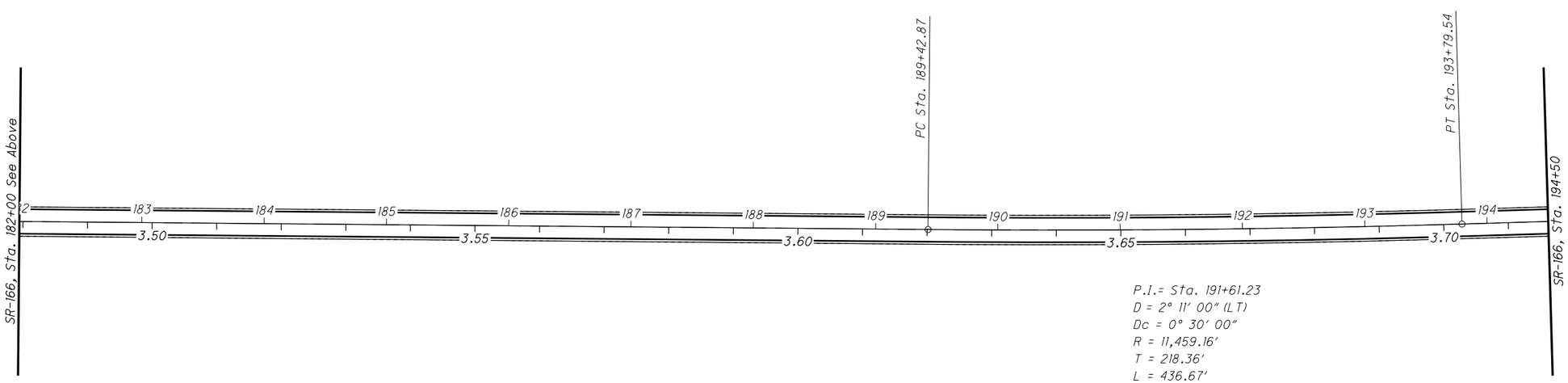
0 25 50 100
HORIZONTAL SCALE IN FEET



For Typical Sections, See Sheet 3
For Pavement Subsummary, See Sheet 12
For Traffic Control Subsummary, See Sheet 13

20/30	GEA-166-0.00/ VAR	GENERAL PLAN - LOCATION 1 SR-166, STA. 144+50 TO STA. 169+50	CALCULATED JAG CHECKED EMK	0 50 25 100 HORIZONTAL SCALE IN FEET





For Typical Sections, See Sheet 3
For Pavement Subsummary, See Sheet 12
For Traffic Control Subsummary, See Sheet 13

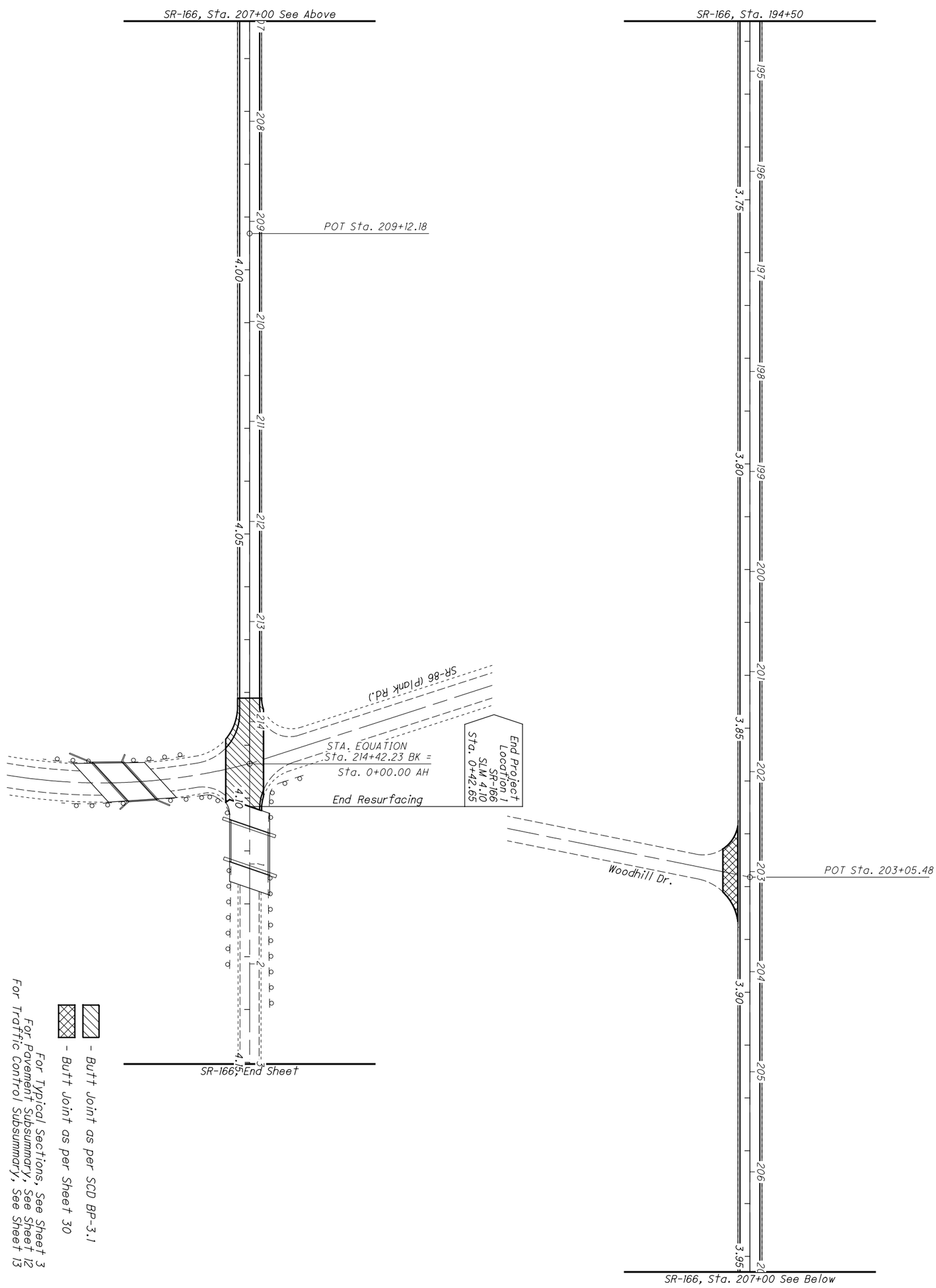
0 25 50 100
HORIZONTAL SCALE IN FEET

CALCULATED JAG
CHECKED EMK

GENERAL PLAN - LOCATION 1
SR-166, STA. 169+50 TO STA. 194+50

GEA-166-0.00/ VAR

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GEA-166-0.00/ VAR

GENERAL PLAN - LOCATION 1
SR-166, STA. 194+50 TO STA. 3+00

CALCULATED JAG
CHECKED EMK

0 25 50 100
HORIZONTAL SCALE IN FEET

REF. NO.	SHEET NO.	PLAN SPLIT NO.	LOG POINT TO LOG POINT				LENGTH	LENGTH	BEGIN WIDTH	ENDING WIDTH	AVERAGE WIDTH	AREA	209	209	251	897	407	424	617	875	441
													LINEAR GRADING, AS PER PLAN	PREPARING SUBGRADE FOR SHOULDER PAVING, AS PER PLAN	PARTIAL DEPTH PAVEMENT REPAIR (441)	PAVEMENT PLANING, ASPHALT CONCRETE, CLASS A, (1")	NON-TRACKING TACK COAT	FINE GRADED POLYMER ASPHALT CONCRETE, TYPE B, AS PER PLAN, (1")	COMPACTED AGGREGATE, AS PER PLAN	LONGITUDINAL JOINT ADHESIVE	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, (448), (DRIVEWAYS), (1" AVG)
			SLM	STA.	SLM	STA.	MILE	FT.	FT.	FT.	FT.	SQ. YD.	MILE	MILE	SY	SY	GAL	CY	CY	LB	CY
			S.R.-608																		
			BEGIN PROJECT - LOCATION 2																		
		1	10.68	166+50.0	12.82	279+37.0	2.14	11287.0	24	24	24	30099	4.28	4.28	810	30099	2709	836	69.7	1881	
			SAFETY EDGE (BOTH SIDES)																		
		1	10.68	166+50.0	12.82	279+37.0	2.14	11287.0	0.5	0.5	0.5	627					56	43			
			END PROJECT - LOCATION 2																		
			DRIVEWAYS EXTRA AREAS																		
		1	Driveways				5' Avg				25	264				264	24				7
			SUBTOTALS										4.28	4.28	810	30363	2789	879	70	1881	7
			TOTALS CARRIED TO GENERAL SUMMARY										4.28	4.28	810	30363	2789	879	70	1881	7
			PLAN SPLIT #1 TOTAL										4.28	4.28	810	30363	2789	879	70	1881	7

CALCULATED JAG
CHECKED EMK

LOCATION 2 - S.R.-608-10.68
PAVEMENT SUBSUMMARY

GEA-166-0.00/ VAR

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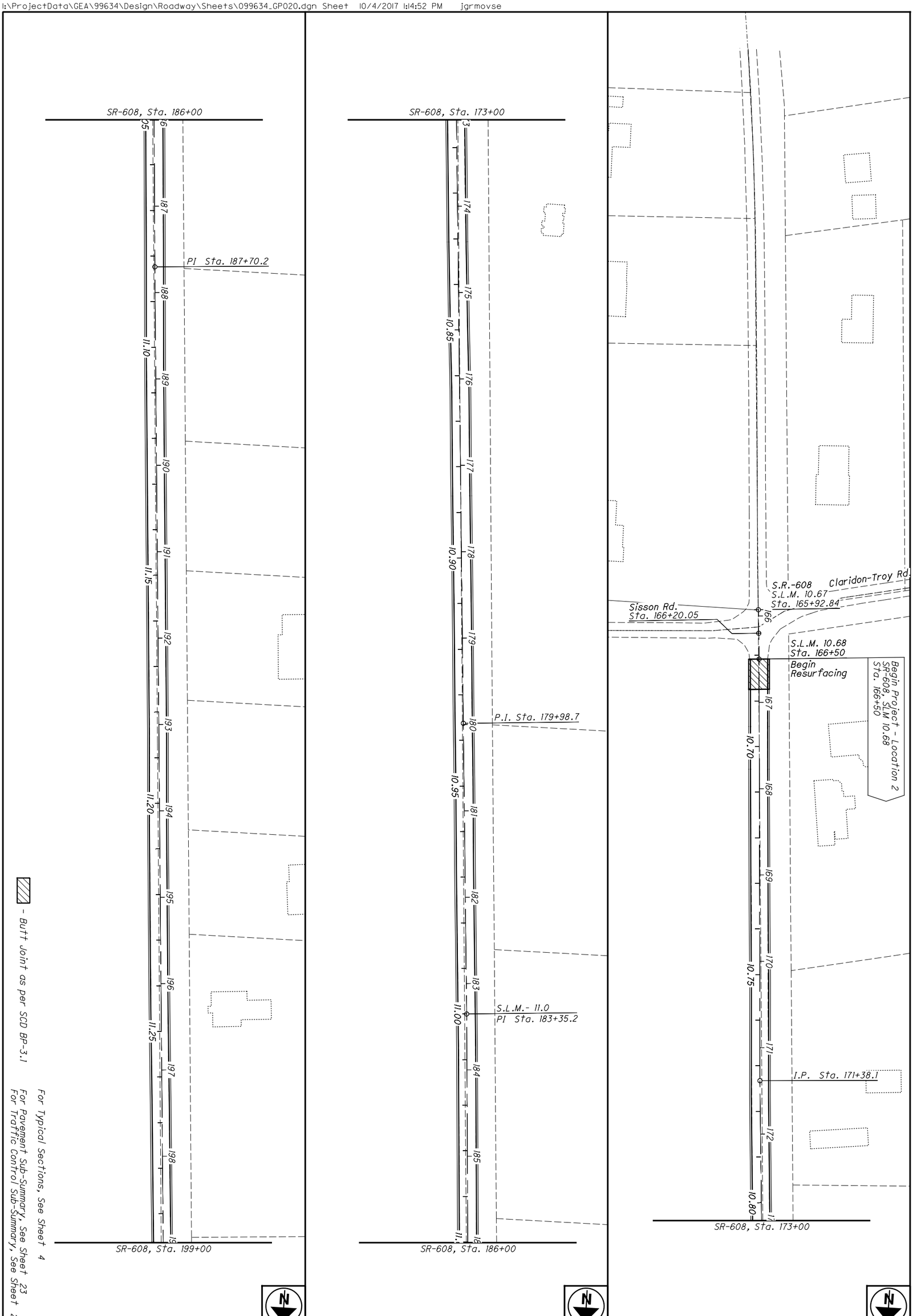
SHEET NO.	PLAN SPLIT NO.	LOCATION	STATION FROM	STATION TO	646 EDGE LINE, 6", WHITE	646 CENTER LINE			646 STOP LINE			621 RPM, (WHITE)	621 RPM, (YELLOW/YELLOW)
					FT	FT			FT			EACH	EACH
		SR-608											
		Begin Project-Location 2											
	1		166+50	279+37	22,574	11,287			14			16	141
		End Project-Location 2											
		SUBTOTALS			22574.0	11287.0			14			16	141
		TOTALS TO GENERAL SUMMARY			4.28 MI	2.14 MI			14			157	
		PLAN SPLIT #1 TOTAL			4.28 MI	2.14 MI			14			157	

CALCULATED JAG
CHECKED EMK

LOCATION 2 - S.R.-608-10.68
TRAFFIC CONTROL SUBSUMMARY

GEA-166-0.00/VAR

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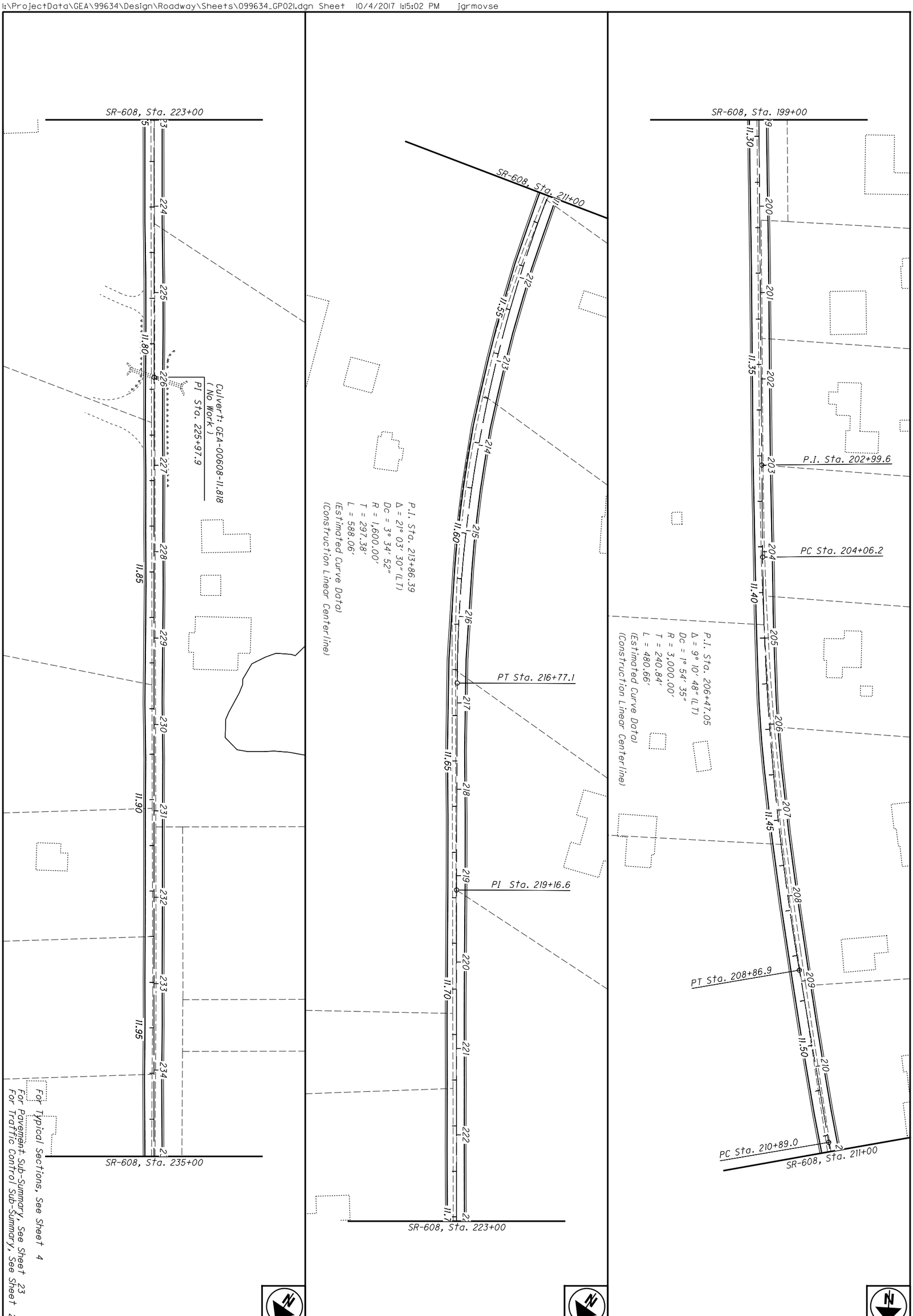
25
30

GEA-166-0.00/ VAR

GENERAL PLAN - LOCATION 2
SR-608, STA. 166+50 TO STA. 199+00

CALCULATED JAG
CHECKED EMK

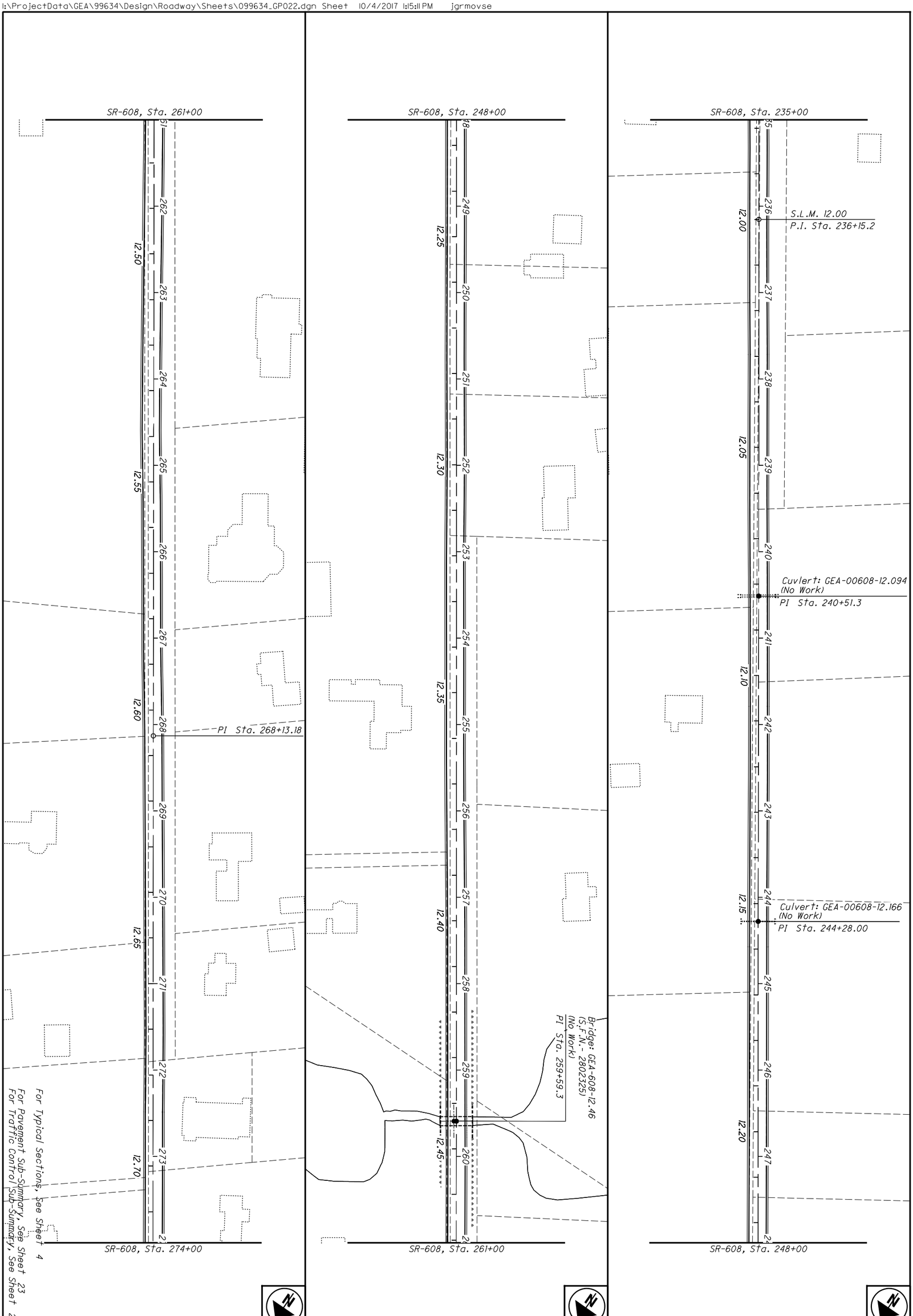
0 50
25 100
HORIZONTAL SCALE IN FEET



For Typical Sections, See Sheet 4
For Pavement Sub-Summary, See Sheet 23
For Traffic Control Sub-Summary, See Sheet 24

GENERAL PLAN - LOCATION 2
SR-608, STA. 199+00 TO STA. 235+00

CALCULATED JAG
CHECKED EMK
0 25 50 100
HORIZONTAL SCALE IN FEET



For Typical Sections, See Sheet 4
For Pavement Sub-Summary, See Sheet 23
For Traffic Control Sub-Summary, See Sheet 24

GEA-166-0.00/ VAR

GENERAL PLAN - LOCATION 2
SR-608, STA. 235+00 TO STA. 274+00

CALCULATED JAG
CHECKED EMK

0 50
25 100
HORIZONTAL SCALE IN FEET

HORIZONTAL SCALE IN FEET
0 25 50 100

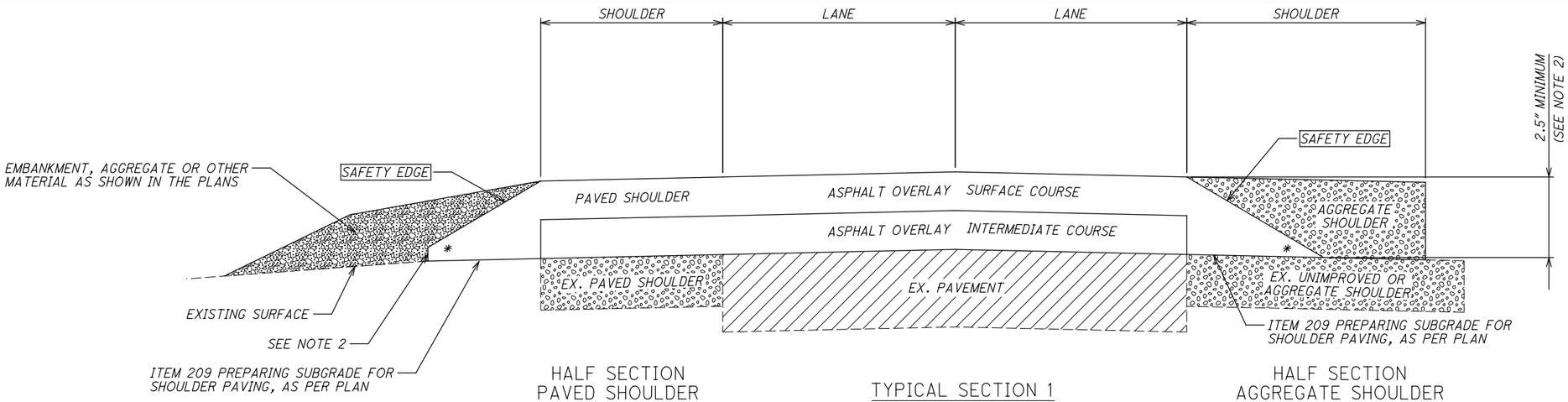
CALCULATED JAG
CHECKED EMK

GENERAL PLAN - LOCATION 2
SR-608, STA. 274+00 TO STA. 279+52.7

GEA-166-0.00/VAR

28
30

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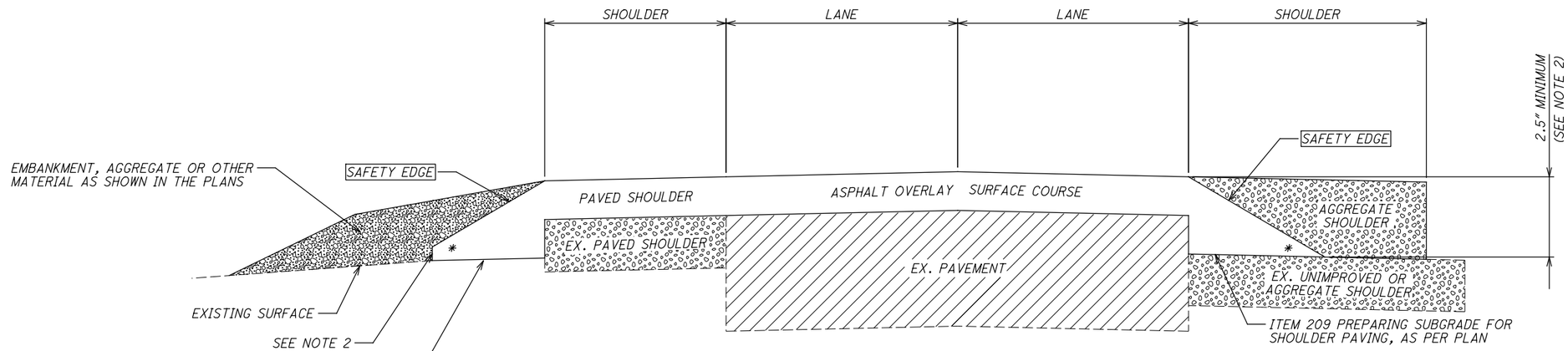


HALF SECTION
PAVED SHOULDER

TYPICAL SECTION 1

N.T.S.

HALF SECTION
AGGREGATE SHOULDER

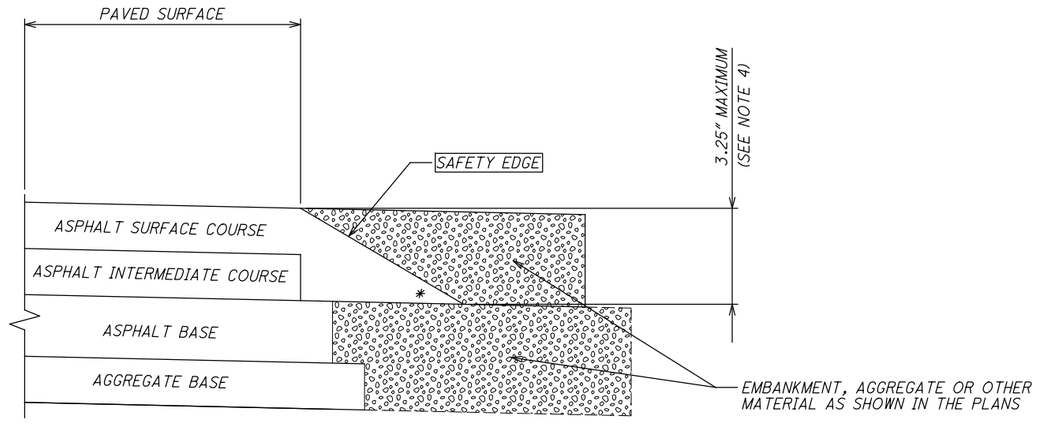


HALF SECTION
PAVED SHOULDER

TYPICAL SECTION 2

N.T.S.

HALF SECTION
AGGREGATE SHOULDER



HALF SECTION
NEW CONSTRUCTION

TYPICAL SECTION 3

N.T.S.

NOTES:

1.) SAFETY EDGES ARE REQUIRED AT THE OUTSIDE EDGES OF THE PAVED ROADWAY (EDGE OF TRAVEL LANE OR EDGE OF PAVED SHOULDER).

2.) CONSTRUCT THE SAFETY EDGE THE FULL ASPHALT CONCRETE OVERLAY THICKNESS OR 2.5" (63MM) WHICHEVER IS GREATER, NOT TO EXCEED THE MAXIMUM SAFETY EDGE THICKNESS OF 6" (150MM). CONSTRUCT A NEAR-VERTICAL FACE BELOW THE SAFETY EDGE FOR THICKNESS GREATER THAN 6" (150 MM).

3.) BLADE AND SHAPE EXISTING SHOULDER MATERIAL TO FORM A UNIFORM SURFACE UNDER THE SAFETY EDGE PRIOR TO PLACEMENT OF THE ASPHALT CONCRETE OVERLAY.

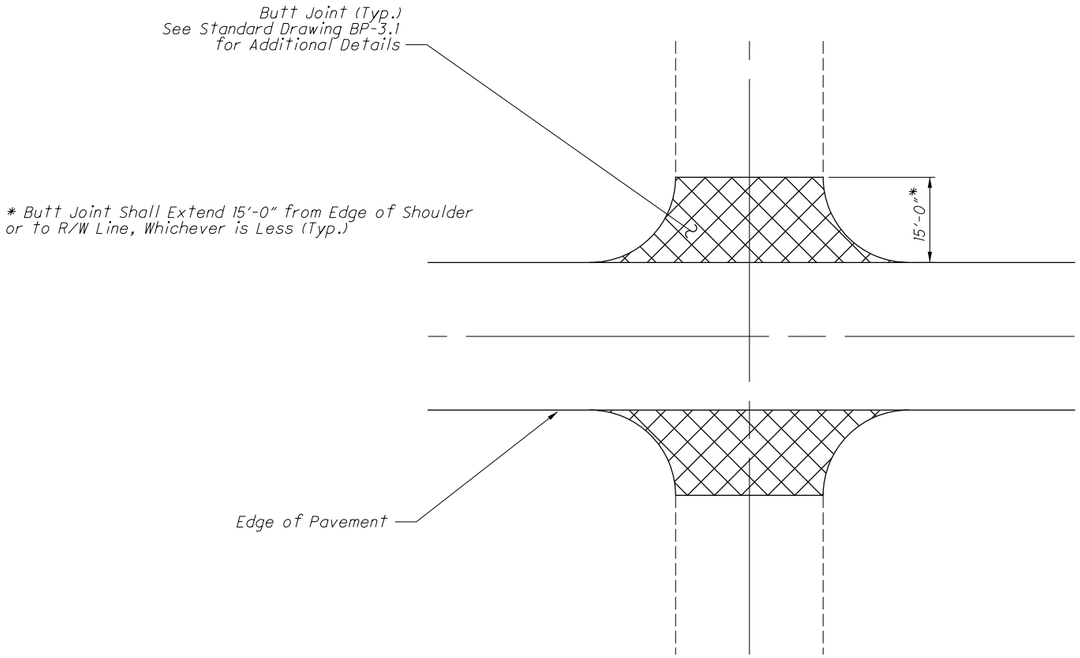
4.) FOR NEW PAVEMENT CONSTRUCT THE SAFETY EDGE THE FULL THICKNESS OF THE SURFACE AND INTERMEDIATE COURSES, NOT TO EXCEED 3.25" (82 MM).

** 40° MAX*

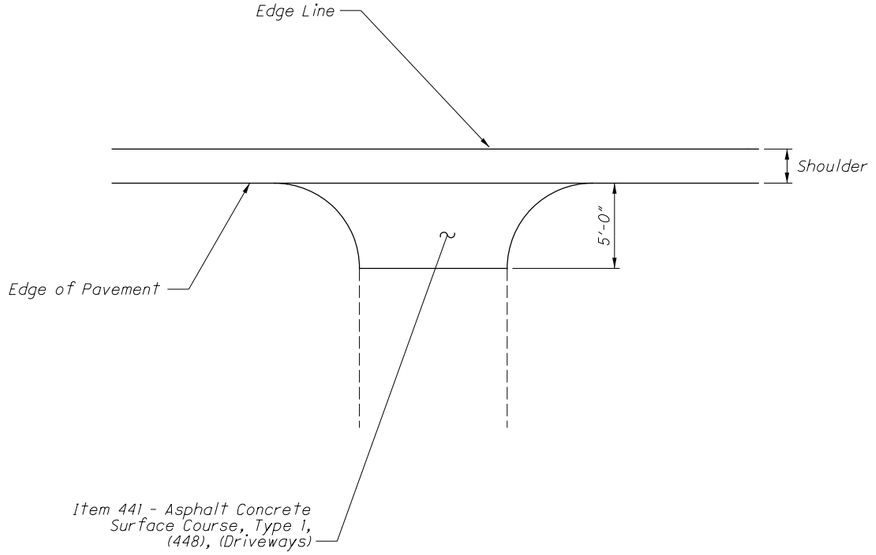
ASPHALT SAFETY EDGE DETAIL

GEA-166-0.00/VAR

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TYPICAL ASPHALT INTERSECTION DETAIL



DRIVEWAY APRON DETAIL

INTERSECTIONS & DRIVEWAY APRON DETAILS

GEA-166-0.00/ VAR

30
30

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