

# STATE OF OHIO DEPARTMENT OF TRANSPORTATION FRA-317-9.20

## INDEX OF SHEETS

Title Sheet	1
Schematic Plan	2
General Notes	3-4
Pavement Planing & Resurfacing	5-7
Extra Areas Add/Deduct	8-10
Pavement/Shoulder/Median Details	11
Shoulder & Median Subsummary	12
Maintenance of Traffic Notes	13-14
Maintenance of Traffic Plan	15-16
Dropoff in Work Zones	17
Traffic Control Notes	18-19
Pavement Marking Subsummary	20-21
Raised Pavement Marker Subsummary	22
Pavement Marking Plan	23-33
Signal Detector Loop Replacement Plan	34-39
Bridge Treatments & Details	40-46
Bridge Notes & Subsummary	47
Conduit Plan	48-49
Gahanna Improvement Plan	50-70
Pavement Subsummary	71
Municipal Subsummary	72-74
General Summary	75-77

SEGMENT	COUNTY	ROUTE	SECTIONS	PROJECT TERMINI		NET LENGTH MILES	CITY
				BEGIN	END		
1	FRA	SR-317	(9.20-9.37)	9.20	9.98	0.78	COLUMBUS
2	FRA	SR-317	(9.98-10.02)	9.98	10.58	0.60	RURAL
3	FRA	SR-317	(10.58-10.89)	10.58	10.92	0.34	COLUMBUS
4	FRA	SR-317	(11.08-12.00)	11.08	12.42	1.34	COLUMBUS
5	FRA	SR-317	(12.47-12.63)	12.47	12.67	0.20	COLUMBUS
6	FRA	SR-317	15.99	15.99	16.70	0.71	COLUMBUS
7	FRA	SR-317	16.70	16.70	17.59	0.89	GAHANNA

## STANDARD DRAWINGS

STANDARD DRAWINGS								SUPPLEMENTAL SPECIFICATIONS			
BP-3.1	7/28/00	TC-65.12M	11/01/95	MT-98.13M	6/24/93	HL-30.21M	5/01/95	SS-806	9/09/97	SS-954	9/09/97
BP-5.1	7/28/00	TC-71.10M	9/01/93	MT-98.14M	6/24/93	HL-30.22M	3/3/95	SS-825	7/11/00	SS-830	10/21/98
DM-4.3	4/29/99	TC-72.20	1/19/01	MT-98.15M	6/23/93	HL-30.31M	5/01/95	SS-842	1/6/99		
DM-4.4	4/29/99	TC-82.10	1/19/01	MT-98.16M	6/24/93	AS-1-81	9/15/94	SS-863	10/12/99		
TC-41.20	1/19/01	MT-35.10	4/20/01	MT-98.17M	4/25/94	RM-1.1	4/29/99	SS-870	8/10/99		
TC-42.20	4/20/01			MT-98.18M	4/25/94	MH-1.1M	10/21/97	SS-877	4/13/99		
TC-52.10	4/20/01	MT-95.30M	4/25/94	MT-99.20M	1/30/95	MH-1.2M	9/6/95	SS-899	10/21/98	SPECIAL PROVISIONS Sub Surface Investigation April 2001	
TC-52.20	4/20/01	MT-95.31M	4/25/94	MT-105.10M	4/25/94			SS-905	4/1/98		
TC-65.10M	11/01/95	MT-95.32M	4/25/94	MT-105.11M	4/25/94			SS-906	5/05/98		
TC-65.11M	11/01/95	MT-98.12M	6/24/93	HL-30.11M	3/31/95			SS-908	11/7/00		

## PROJECT DESCRIPTION

Rehabilitation of 4.86 miles of Hamilton Road (S.R.-317) as indicated within these plans by means of planing, resurfacing and curb repair.

## 1997 SPECIFICATIONS

The Standard specifications of the State of Ohio, Department of Transportation, and the City of Columbus including changes and supplemental specifications listed in the proposal shall govern this improvement.

I hereby approve these plans and declare that these improvements will not require the closing of the highway except for the ramps and the areas as designated on the maintenance of traffic notes and plan included within these plans. The maintenance and safety of traffic shall be as set forth on these plans and estimates.

Approved: John E. Marshall  
District Deputy Director of Transportation, O.D.O.T.  
Date: 4/30/01

Approved:  Gordon Proctor  
Director of Transportation, O.D.O.T.  
Date: 5-11-01

Approved:  Pam Clausen  
City Engineer, City of Columbus  
Date: 4/13/01

Approved:  Linda K. Page  
Director of Public Services, City of Columbus  
Date: 4/18/01

Approved:  Charles H. Mayers  
Administrator Division of Traffic, City of Columbus  
Date: 4/17/01

Approved:  James F. McTeer  
Mayor, City of Gahanna  
Date: 4/12/01

Approved:  W. Frome  
Finance Director, City of Gahanna  
Date: 4/12/01

Approved:  Paul P. Hall  
Director of Public Service, City of Gahanna  
Date: 04-12-01

Approved:  Paul C. Woodhouse  
City Engineer, City of Gahanna  
Date: 4/12/01

Approved:  Steve Kunkle  
Water Resource Engineer, City of Gahanna  
Date: 4/12/01

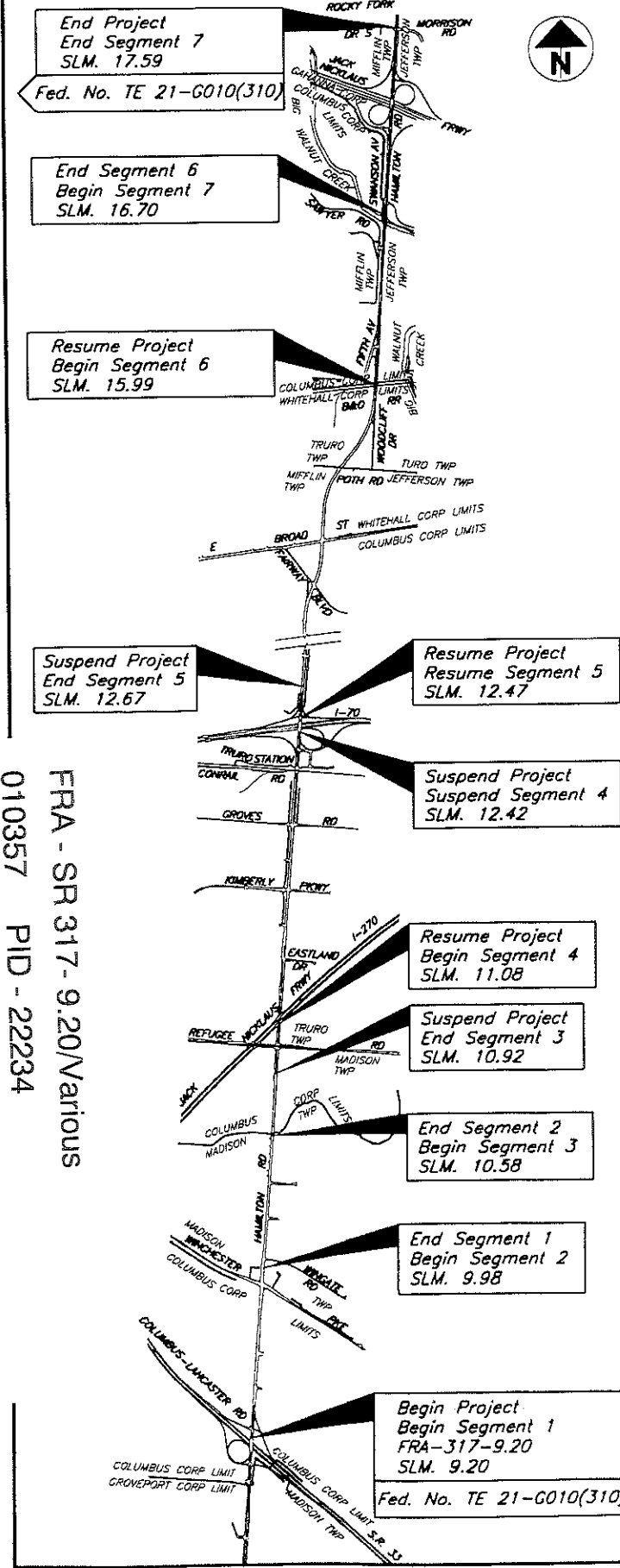
Approved:  Russell Lewis  
Streets Superintendent, City of Gahanna  
Date: 4-13-01

Plans Prepared By  
EVANS, MECHWART, HAMBLETON & TILTON, INC.  
170 Mill Street Gahanna, Ohio 43230

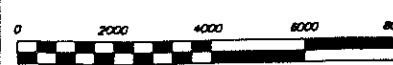
ENGINEER'S SEAL  
STATE OF OHIO  
JAMES E. MISCHLER  
REGISTERED PROFESSIONAL ENGINEER  
F-47743  
James E. Mischler No. 47743  
Date: 4/27/01

## UNDERGROUND UTILITIES

2 WORKING DAYS  
BEFORE YOU DIG  
CALL TOLL FREE 800-362-2764  
OHIO UTILITIES PROTECTION SERVICE



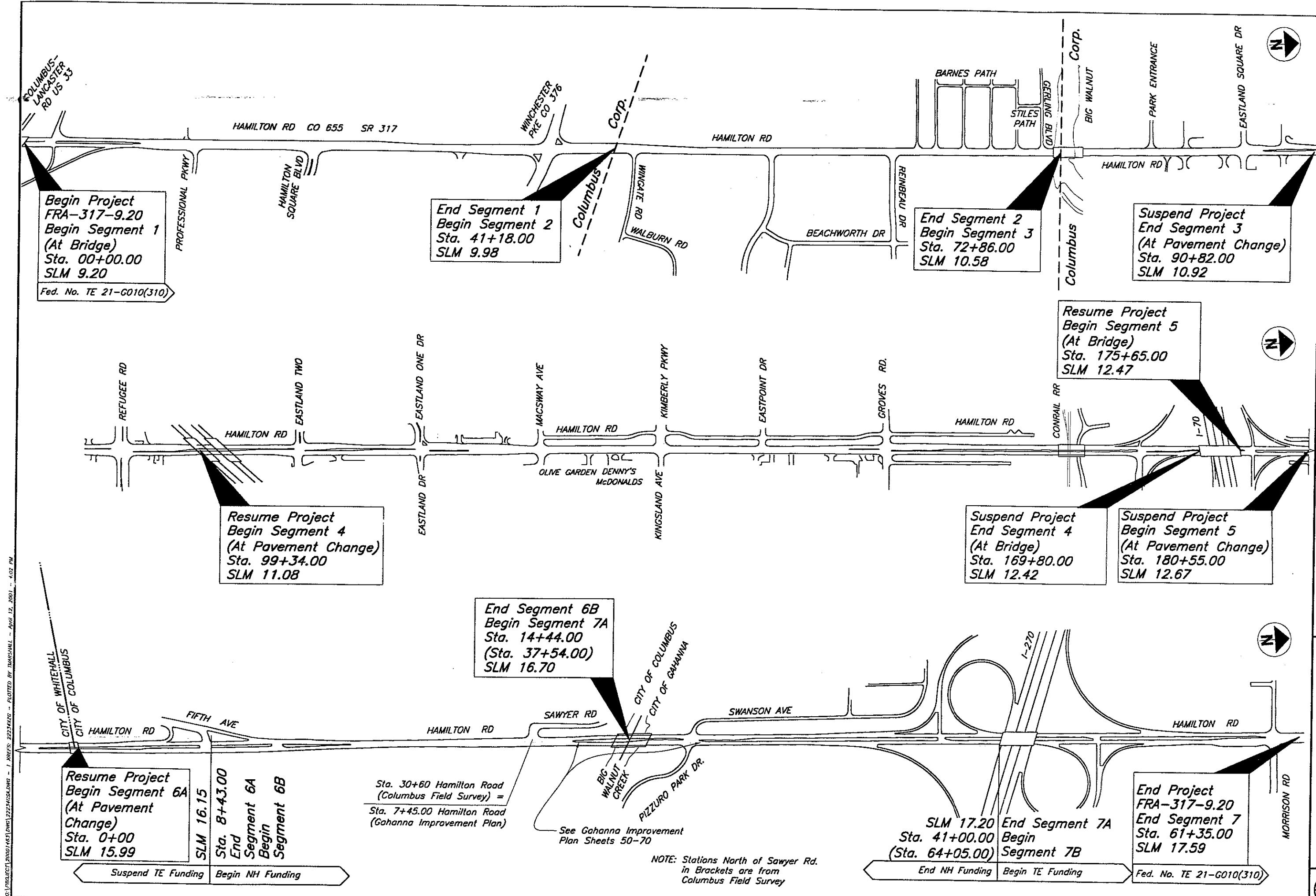
Latitude: 39°56'06" N  
Longitude: 82°52'28" W



FRA - SR 317-9.20/Various  
010357 PID - 22234  
Dist 6 7/25/01

FEDERAL PROJECT No. TE 21-G010(310)  
CALCULATED KAM  
CHECKED TJE  
PID NO. 22234  
CONSTRUCTION PROJECT NO.  
RAILROAD INVOLVEMENT NONE  
FRA-317-9.20  
1/77

Q:\PROJECTS\2000\163\DWG\2224163.DWG - J. KREBS: 2/23/2000 - PLOTTED BY: MARSHALL - April 12, 2001 - 1:09 PM



### CONSTRUCTION INITIATION:

The Contractor shall advise the district office of communications at 740-363-1251, ext. 469 or by fax at 740-369-7437 and the district traffic management engineer at 740-363-1251, ext. 323, fourteen (14) days prior to the start of construction activities. The Contractor will immediately inform the district office of communications and the district traffic management engineer of any and all delays and/or changes regarding the construction project. The project engineer will provide clarification for any questions about this notification requirement.

### GENERAL:

The Contractor shall submit in writing a schedule of operations to the Engineer (see 101.18) and receive approval in writing before work is started on this project. All traffic control devices shall be furnished, erected, maintained, and removed by the Contractor in accordance with the Ohio manual of uniform traffic control devices. The Contractor shall not order materials or perform work listed in the general summary for items designated by plan note to be used "as directed by the Engineer" unless authorized by the Engineer.

### CONVERSION OF METRIC STANDARD DRAWINGS:

The metric standard drawings referenced in this plan shall be converted to English units using the SI (metric) to English conversion factors provided in section 109.011 of the 1997 construction and materials specifications. The appendix of ASTM E-380 shall be used for any additional conversion factors required. Conversions shall be approximately precise and shall reflect standard industry English values where suitable.

### COORDINATION WITH PAVING THE WAY PROGRAM (PTWP):

The Contractor shall notify the division of traffic engineering construction coordinator (614-645-6269 or 645-5845) and the (PTWP) (614-645-3970) a minimum of five (5) working days prior to starting work and/or prior to each phase or major change in traffic patterns either permanent or temporary within the roadway right-of-way. When detours are planned, this notification shall be at the pre-construction meeting or 30 days in advance once construction has begun. Information shall include but not be limited to all construction activities that impact traffic at present and in the next 30 days. The Contractor shall designate an individual who will be responsible for preparing this report at the pre-construction meeting. Any unforeseen impacts to traffic shall be reported to the project Engineer as soon as possible. The project Engineer shall provide this information to the PTWP. All construction activities that interfere with traffic shall be reported to the PTWP. This information shall be provided to the Program Coordinator at (614) 645-3970 or by fax at (614)645-5844.

### COORDINATION WITH ODOT'S CENTRAL OHIO TRAFFIC MANAGEMENT PROGRAM (COTMP):

The Contractor shall notify the project engineer in writing of all traffic restrictions and upcoming maintenance of traffic changes on a weekly basis. When detours are planned, this notification shall be at the pre-construction meeting or 30 days in advance once construction has begun. Lane and ramp closures for 2 or more weeks shall be reported 2 weeks in advance of closure. Lane and ramp closures of less than 2 weeks duration and more than 2 days shall be reported at least 3 working days in advance. For short term lane or ramp closures (2 days or less) notification shall be made at least 1 working day in advance. Information shall include but not be limited to all construction activities that impact traffic at present and in the next 30 days. The Contractor shall designate an individual who will be responsible for preparing this report at the pre-construction meeting. Any unforeseen impacts to traffic shall be reported to the project engineer as soon as possible. The project engineer shall provide this information to COTMP. All construction activities that interfere with traffic shall be reported to COTMP. This information shall be provided to COTMP at (740) 363-1251 (ext. 323), or by fax at (740) 363-6831.

### ABBREVIATIONS REFERENCED IN PLAN:

(TBR) - TO BE REMOVED  
(F/C) - FACE OF CURB

### UNDERGROUND UTILITIES:

The identity and the location of existing underground facilities known to be located in the construction area HAVE NOT been identified. The Owner and/or Engineer assumes no responsibility as to the accuracy of the depths of the underground facilities as may be provided by the Owner, Engineer, or by others.

The Contractor shall give notice of intent to construct to the Ohio Utilities Protection Service (800) 362-2764, Producers Underground Protection Service (614) 587-0486, and Owners of underground facilities that are not members of a Registered Protection Service in accordance with Section 153.64 of the Ohio Revised Code. The above, mentioned notice shall be given at least two (2) working days prior to the start of construction. The following utilities are located within the work limits of the Project and the Owners subscribe to registered underground protection service:

The following utilities are located within the works limits of this project and the Owners do not subscribe to registered underground protection service:

Ameritech  
150 E. Gay Street  
Room 11-E  
Columbus, Ohio 43215

American Electric Power  
215 N. Front Street  
Columbus, Ohio 43215

City of Columbus  
Division of Water  
910 Dublin Road  
Columbus, Ohio 43215  
(614) 645-7788

City of Columbus  
Division of Electricity  
910 Dublin Road  
Columbus, Ohio 43215  
(614) 645-7627

Warner Cable Communications  
1266 Dublin Road  
Columbus, Ohio 43215  
(614) 481-5361

Columbia Gas of Ohio, Inc.  
920 W. Goodale Blvd.  
Columbus, Ohio 43212

City of Columbus  
Division of Sewerage & Drainage  
910 Dublin Road  
Columbus, Ohio  
(614) 645-7175

American Electric Power  
215 N. Front Street  
Columbus,  
Ohio 43215  
(614) 464-7666 or 7107

City of Columbus  
Traffic Engineering/Parking Division  
109 N. Front Street  
Columbus, Ohio 43215  
(614) 645-7393 (FAX 645-5967)

### ALIGNMENT AND PROFILE:

The work proposed by this project is for the resurfacing of the existing pavement. The alignment of the existing pavement will not be changed, and the profile of the proposed surface will be similar to that of the existing pavement except that it may be raised an amount equal to the thickness of the resurfacing course or courses specified in these plans. The centerline shown in these plans is an approximate centerline created for computation of quantities. It's the Contractor's responsibility to establish a working centerline.

### SOILS REPORT

Reference is made to the Subsurface Investigation prepared by BBC & M, Inc. The recommendations presented are provided as a part of the specifications for the improvement work. The recommendations serve as the project guidelines and are not intended to limit the design or the work product. Copies of the report shall be available as a part of the project documents.

### CONTRACTOR'S EQUIPMENT - OPERATION AND STORAGE:

The Contractor's equipment shall be operated in the direction of traffic where practical. Equipment shall have at least one amber flashing light. When parked along the highway, the equipment shall be located either a minimum of thirty feet from the edge of pavement or six feet behind guardrail with a minimum of 125 feet of guardrail preceding the equipment. All other equipment, including private vehicles, shall be stored at an approved Contractor's storage area.

### 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.

### COORDINATION BETWEEN CONTRACTORS:

The following project shall be constructed prior to the sale of FRA-317-9.20: Hamilton Road/Tech Center Drive Extension Improvement #770 for the City of Gahanna. These roadway improvements shall be located between the existing Hamilton Road Bridge over I-270 south to Sawyer Road. A northbound right turn lane on Hamilton Road from Sawyer Road to the future Tech Center Drive (Pizzuro Park) shall be constructed to the intermediate course. This plan includes paving the final surface course for the Gahanna Project #770. These plans (FRA-317-9.20) reflect the improvements to be constructed from Gahanna's Project #770.

The Contractor for FRA-317-9.20 shall move any barrels and signs as required by the City of Gahanna or for paving operations. The Contractor for FRA-317-9.20 shall coordinate all detours, working schedules, and all other requirements as described in section 105.05 of the CMS.

The Contractor may also be required to coordinate schedule with the East Freeway project at I-70 for any additional closures and paving operations.

### GAHANNA IMPROVEMENT PLAN:

This work shall consist of traffic island/median upgrades for maintenance and future southbound left turn lanes on Hamilton Road within the City of Columbus and City of Gahanna (Segment 6B & 7A) of these plans. EMH&T has established centerline control on Hamilton Road from Sawyer to Morrison Road for additional projects within the area. Field topo was performed from Sta. 7+00 to Sta. 36+35 on Hamilton Road and along Morrison Road. The City of Columbus provided all other areas in worksheet format for reference.

### AIRWAY/HIGHWAY CLEARANCE FOR AIRPORTS AND HELIPORTS:

This project has been identified as being within the influence area of a public use airport or heliport. The Contractor is advised that no temporary structures or construction equipment at maximum operating height shall exceed a height of 25 ft. [(m)]. If any temporary structures or construction equipment will exceed this height, the Contractor is advised that further coordination with the Federal Aviation Administration (FAA) will be necessary prior to erecting such temporary structures or operating such equipment on the project. The Contractor will be required to file a new FAA Form 7460-1, advising the FAA that aeronautical study no. 01-AGL-0062-OE and/or 01-AGL-0646-OE is being resubmitted and that an alteration to the original submission is requested. Copies of the alteration and Form 7460-1 shall be forwarded to the ODOT Office of Aviation. The Contractor is advised that no temporary structures or construction equipment shall exceed the permissible height, until a copy of the FAA approval and ODOT Office of Aviation permit has been furnished to the Project Engineer. When work is being performed in the vicinity of Port Columbus, the following shall apply:

The portion of any vehicle that extends above 15 feet shall be marked with red flags.

The manager of Port Columbus International Airport at 614/239-4000 shall be notified at least 48 hours prior to work being performed and again when work is completed.

The manager of Port Columbus Air Traffic Control Tower at 614/237-0970 shall be notified at least 2 hours prior to work being performed and again when work is completed.

The Contractor is further advised that the FAA approval may take up to 45 days. All submissions shall be directed to these offices:

The Federal Aviation Administration  
Great Lakes Regional Office  
Air Traffic Division AGL-520  
2300 East Devon Avenue  
Des Plaines, Illinois 60018  
(847) 294-7566

Ohio Department of Transportation  
Office of Aviation  
2829 West Dublin-Granville Road  
Columbus, Ohio 43235  
(614) 793-5046

Route	Project	Segment	Description	Location			Width Ft.	Length Ft.	Item 251 Partial Depth Pavement Replacement Sq. Yd.	Address	Side of Road
				From	To	SLM					
				STA	STA						
SR-317	FRA-317-9.20	1	Hamilton Road	0+56		9.27	27	3	9.0		East
SR-317	FRA-317-9.20	1	Hamilton Road	0+82	2+13	9.28	12	131	174.7		East
SR-317	FRA-317-9.20	1	Hamilton Road	1+56		9.29	66	3	22.0		East
SR-317	FRA-317-9.20	1	Hamilton Road	3+54		9.33	27	3	9.0		West
SR-317	FRA-317-9.20	1	Hamilton Road	5+55		9.37	26	3	8.7		East
SR-317	FRA-317-9.20	1	Hamilton Road	8+10	9+41	9.43	4	131	58.2	#4201	East
SR-317	FRA-317-9.20	1	Hamilton Road	8+10	9+50	-	3	140	46.7	#4201	West
									328.2	Subtotal Segment 1	
SR-317	FRA-317-9.20	4	Hamilton Road	132+54	-	-	11	103	125.9	#2386	West
									125.9	Subtotal Segment 4	
SR-317	FRA-317-9.20	-	Hamilton Road						60.0	Contingency Quantity	
									514.1	Subtotal	

ITEM 202 - RAISED PAVEMENT MARKER REMOVED FOR STORAGE:  
This item shall conform to section 202.71 of the CMS. All raised pavement markers within the limits of this project shall be stored on site for salvage by the State. An estimated quantity from sheet 22 has been determined. This quantity has been provided and transferred to the General Summary:  
Item 202-Raised Pavement Markers Removed for Storage = 464 each.

ITEM 202 - CONCRETE TRAFFIC ISLAND REMOVED, AS PER PLAN:  
This item shall conform to section 202.05 of the CMS. In addition, the concrete traffic island shall be deposited on the site north of Tech Center Drive as specified by the City of Gahanna Engineer. The concrete traffic island shall be removed prior to any paving operations adjacent to the medians within segments 6B, 7A or 7B of these plans. In the event the concrete traffic island is removed after paving has begun within the areas specified above, the Contractor shall remove, haul, and dispose of the concrete materials at the Contractor's cost. The concrete traffic island removed shall be free of all foreign materials including asphalt and/or rebar. All excess concrete traffic island removed that has foreign materials such as asphalt and/or rebar shall be removed, hauled and disposed of at the Contractor's expense. See the Gahanna Improvement Plan for further details on locations and quantities.

ITEM 202 - CONCRETE MEDIAN REMOVED, AS PER PLAN:  
This item shall conform to section 202.05 of the CMS. In addition, the concrete median shall be deposited on the site north of Tech Center Drive as specified by the City of Gahanna Engineer. The concrete median shall be removed prior to any paving operations adjacent to the medians within segments 6B, 7A or 7B of these plans. In the event the concrete median is removed after paving has begun within the areas specified above, the Contractor shall remove, haul, and dispose of the concrete materials at the Contractor's cost. The concrete median removed shall be free of all foreign materials including asphalt and/or rebar. All excess concrete median removed that has foreign materials such as asphalt and/or rebar shall be removed, hauled and disposed of at the Contractor's expense. See the Gahanna Improvement Plan for further details on locations and quantities.

ITEM 202 - CONCRETE CURB REMOVED, AS PER PLAN:  
This item shall conform to section 202.05 of the CMS. In addition, the concrete curb shall be deposited on the site north of Tech Center Drive as specified by the City of Gahanna Engineer. The concrete curb shall be removed prior to any paving operations adjacent to the medians within segments 6B, 7A or 7B of these plans. In the event the concrete curb is removed after paving has begun within the areas specified above, the Contractor shall remove, haul, and dispose of the concrete materials at the Contractor's cost. The concrete curb removed shall be free of all foreign materials including asphalt and/or rebar. All excess concrete curb removed that has foreign materials such as asphalt and/or rebar shall be removed, hauled and disposed of at the Contractor's expense. See the Gahanna Improvement Plan for further details on locations and quantities.

ITEM 251 - PARTIAL DEPTH PAVEMENT REPAIR:  
This item shall be used where directed. Repairs shall be located by the Engineer and performed prior to milling the pavement. Repair areas shall be a minimum of 3 feet long and the width of the existing pavement, with a depth of approximately 4 inches. The following table below has been provided for known locations of partial depth pavement repair.

The table on Sheet 3 has a Contingency Quantity of 60 Cu. Yd. and shall be installed as directed by the Engineer. The following quantity has been provided in the table on Sheet 43 and transferred to the General Summary:

Item 251 - Partial Depth Pavement Replacement = 514 Cu. Yd.

ITEM 253 - PAVEMENT REPAIR:  
This item shall be used where directed or as indicated in these plans. The edge of the pavement removal shall be sawed full depth with a diamond saw prior to removal. The depth of Item 301 shall be approximately 10 in. and placed in two equal lifts. See Sheet 11 for details. Reference Sheet 39 and 48 for additional quantities. The following contingency quantity has been provided and transferred to the General Summary:

Item 253 - Pavement Repair = 25 Cu Yd.

ITEM 254 - PAVEMENT PLANING, BITUMINOUS:  
The existing wearing course shall be removed to a depth equal to the depth of the proposed new pavement. The Contractor shall be totally responsible for any and all damage that may result from the planing operation, including castings and loop detectors not designated for replacement. The depth of planing close to the castings shall be as directed by the Engineer, to achieve a smooth riding finished pavement.

All planed pavement shall be resurfaced within seven days with 1.5 in. of Item 446 - Asphalt Concrete Surface Course, Type 1, PG-64-22, as per plan.

ITEM 407 - TACK COAT:  
The tack coat operation shall be as determined at a pre-construction conference as per 407.05 CMS and application rates shall not exceed 0.10 Gal per Sq. Yd.

ITEM 446 - ASPHALT CONCRETE SURFACE COURSE & INTERMEDIATE COURSE, TYPE 1, PG-64-22, AS PER PLAN  
This item shall meet all requirements of Item 446 with the following additions. The design shall use Type 1 Medium Gradation with design asphalt at 3.5% air voids. The aggregate angularity shall meet the requirements of type 1H per 441.02.

ITEM 623 - CONSTRUCTION LAYOUT STAKES:  
This item shall conform to the ODOT CMS. This item shall be applicable for all staking, etc. necessary to construct the medians and turn lanes necessary for the Gahanna Improvement Plan.

Construction layout stakes will be paid for at the contract lump sum bid, which price shall be full compensation for all services, materials, labor, equipment, tools, and incidentals, including the removal, necessary to complete this item.

ITEM 623 - CONSTRUCTION LAYOUT STAKES, AS PER PLAN:  
This item shall consist of stationing using 3 ft. lath stakes and paint markings. The stakes and paint markings shall be placed in areas to identify stations as directed by the Engineer. The Contractor is responsible for replacing any damaged or missing stakes or paint markings. Paint shall be placed on curbs only when directed by the Engineer in charge. The Contractor shall obtain approval by the Engineer prior to marking existing sidewalk to remain.

Construction layout stakes, as per plan will be paid for at the contract lump sum bid, which price shall be full compensation for all services, materials, labor, equipment, tools, and incidentals, including the removal, necessary to complete this item.

ITEM 870 - SEEDING AND MULCHING, AS PER PLAN:  
Seeding and mulching shall include scarifying the existing soil and shall be applied to all areas of disturbed soil as a result of this project. The limits shall be within the right-of-way lines, and within the construction limits covered by the work agreement as directed by the Engineer. Reference Gahanna Improvement Plan for additional quantities.

The following contingency item / quantity has been provided and transferred to the General Summary:

Item 870 - Seeding and Mulching, As Per Plan = 500 Sq. Yd.

ITEM 870 - COMMERCIAL FERTILIZER:  
Commercial fertilizer shall be applied as directed by the Engineer.

Calculations for Item 870 - Commercial Fertilizer are as follows:

Quantity = 500 Sq. Yds x (9 Sq. Ft./1 Sq. Yd.) x (30 Lb. / 1000 Sq. Ft.) x (1 ton/2000 lb) = 0.068 ton

The following contingency item / quantity has been provided and transferred to the General Summary:

Item 870 - Commercial Fertilizer = 0.07 ton

ITEM 870 - WATER:  
Water shall be provided in accordance with Item 870 of the Supplemental Specifications. Water shall be applied as directed by the Engineer.

Calculations for Item 870 - Water are as follows:

Quantity = 500 Sq. Yds x (9 Sq. Ft./1 Sq. Yd.) x (300 Gal./1000 Sq. Ft.) x 2 Applications x (1 Mgal/1000 Gal) = 2.70 Mgal.

The following contingency item / quantity has been provided and transferred to the General Summary:

Item 870 - Water = 3 Mgal

ITEM 877 - TEMPORARY PERIMETER FILTER FABRIC FENCE:  
Temporary perimeter filter fabric fence shall be in conformance with Item 870 of the supplemental specifications. Fence shall be installed as directed by the Engineer.

The following is a contingency item / quantity that has been provided and transferred to the General Summary:

Item 877 - Temporary Perimeter Filter Fabric Fence = 500 Lin. Ft.

ITEM 877 - TEMPORARY EROSION CONTROL MISC.:  
TEMPORARY PERIMETER FILTER FABRIC FENCE, AS PER PLAN:  
Installation of temporary perimeter filter fabric fence shall be in conformance with Item 870 of the supplemental specifications. Fence shall be installed as on Sheet 56 of the Gahanna Improvement Plan. Prior to removal of any fence or any other sediment or erosion control devices, the Contractor shall call the City of Gahanna Engineer at 471-6919 for approval. This item shall also include removal and disposal of any straw bales, dandy bags, beaver dams remaining from the Gahanna Improvement Plan #770 as requested by the City of Gahanna Engineer. Premature removal without authorization by the

City of Gahanna Engineer may require re-installation at the Contractor's expense.

The following quantity from Sheet 56 has been transferred to the General Summary:

Item 877 - Temporary Erosion Control Misc.:  
Temporary Perimeter Filter Fabric Fence, As Per Plan = 1764 Lin. Ft.

#### ITEM SPECIAL - SAWING AND SEALING BITUMINOUS CONCRETE JOINTS

##### 1) DESCRIPTION:

This work shall consist of cutting and sealing transverse joints in the new bituminous concrete adjacent to the bridges indicated on these plans. Bituminous concrete joints shall be constructed directly over, and in line with, the existing underlying transverse bus pad joints.

##### 2) MATERIALS:

The joint sealant shall meet the requirements of Item 705.04, joint sealants, hot-poured, for concrete and asphalt pavements. Acceptable alternate materials are:

A silicone sealant meeting federal specifications TT-S-001543A Class A (one-part silicone sealants) and TT-S-00230C Class A (one-component sealants), such as those manufactured by General Electric, Silicone Products Division, 4015 Executive Park Drive, Cincinnati, Ohio 45242 (513-243-1953) or Dow Corning, 400 Techne Center, Suite 103, Milford, Ohio 45150 (513-831-3586); or sof-seal, a cold-applied, low-modulus, two-component poly-meric compound horizontal sealant as manufactured by W.R. Meadows, Inc., P.O. Box 543, Elgin, Illinois 60121 (800-342-5976).

##### 3) CONSTRUCTION DETAILS:

A) General: The Contractor shall conduct his operation so that the cutting, cleaning and sealing of transverse joints is a continuous operation that will be performed as soon as practical after the paving, but no later than four (4) days after placement of the asphalt concrete surface course. Traffic shall not be allowed to knead together or damage joint cut prior to sealing.

B) Cutting of Transverse Joints: The Contractor shall saw or rout transverse joints to the dimensions shown in the details on this sheet. The cut joints shall lie directly above each transverse joint.

The blade or blades shall be of such size that the full width and depth of the cut can be made with one pass. Dry or wet cutting will be allowed. Joints shall extend the full width of the structure.

C) Cleaning Joints: Dry sawed joints shall be thoroughly cleaned with a sufficient amount of compressed air to remove any dirt, dust, or deleterious matter. Wet sawed joints shall be washed clean of all cuttings by flushing with a jet of water and with other tools as necessary. After flushing, the joint shall be blown out with compressed air. When the surfaces are thoroughly clean and dry, and just prior to placing the joint sealer, compressed air having a pressure of at least 90 psi shall be used to blow out the joint and remove all traces of dust.

In the event freshly cut joints become contaminated before they are sealed, they shall be re-cleaned of all foreign material by high pressure water jet.

D) Sealing Joints: The joint shall be thoroughly dry when the sealant is placed. After cleaning and drying, a bond-breaker material shall be applied to the bottom of the groove.

Hot-poured sealant shall be applied immediately through a nozzle, which must project into the sawed joint, filling from the bottom up. The sealant shall completely fill the joint in such a manner that, after cooling, the level of the sealant will not be higher than 1/8" below the pavement surface. Any depression in the cooled seal greater than 1/4" shall be brought up to the specified limit by further addition of hot-poured sealant. Care shall be taken in the sealing of the joints so that the final appearance will present a neat fine line.

The cold applied sealant materials (polyurethane, silicone, and polymeric compounds) shall be installed per manufacturers' recommendations, except as modified by this drawing. The sealant shall be installed when the ambient temperature is 40 degrees F or higher. Traffic shall not be allowed on the joint for one hour after application of the sealant.

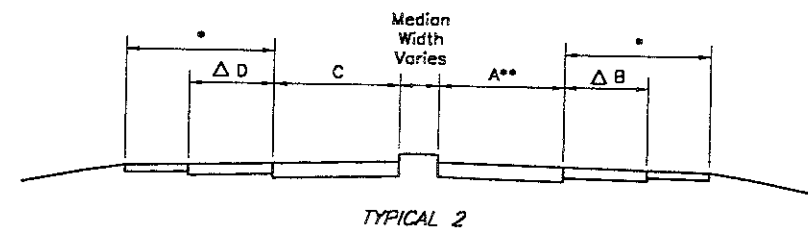
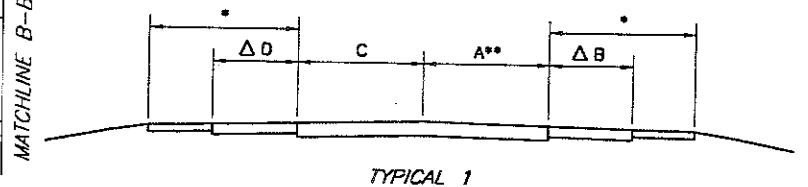
##### 4) METHOD OF MEASUREMENT:

The quantity to be paid for under this item will be the number of linear feet of joints sawed and sealed as per the above requirements.

##### 5) BASIS OF PAYMENT:

The unit price per linear foot for Item Special - "Sawing and Sealing Bituminous Concrete Joints" shall include the cost of all labor, materials, and equipment necessary to complete the work, including the furnishing and placing of the joint sealer material. See Sheet 47 for quantities.

- 1 - THE PAVEMENT COURSE SHALL BE PLACED IN ONE PASS. ALL HAND WORK SHALL BE COMPLETED IN THE FIRST PASS.
- 2 - ALL REPAIRS SHALL BE MADE WITH A PAVER BOX EXCEPT IN AREAS DESIGNATED HAND WORK AREA BY THE ENGINEER.
- 3 - PAVEMENT COURSE EDGES SHALL BE PARALLEL WITH THE EXISTING PAVEMENT EDGES. IF THE EXISTING PAVEMENT EDGE CAN NOT BE USED TO GIVE A STRAIGHT EDGE, A STRING LINE OR OTHER GUIDE WILL BE REQUIRED.
- 4 - PLANE AND REPLACE  
ALL PLANING SHALL BE AN AVERAGE OF ONE AND A HALF INCHES (1 1/2") IN DEPTH.
- 5 - SEE PAGE 11, FOR PAVEMENT DETAILS.
- 6 - SEE PAGE 2, FOR SCHEMATIC PLAN AND ADDITIONAL INFORMATION.



\* See Notes in Plan for Additional Shoulder Work Not Included in Table

\*\* For Segments 6B & 7A Pavement Planing is Not Included for Northbound Right Turn Lane

Δ Reference Sheet 11&12 For Details On Item 617 Shoulder Preparation, As Per Plan.

### PAVEMENT DATA

PAVEMENT DATA																							
ROUTE	PROJECT	SEGMENT	DESCRIPTION	LOCATION		LOCATION		LENGTH		TYPICAL	AVERAGE WIDTHS						PAVEMENT AREA (A+B)		254 PAVEMENT PLANING, BITUMINOUS 1 1/2" DEPTH	407 TACK COAT, @ 0.10 Gal per Sq. Yd.	446		REMARKS
				FROM	TO	FROM	TO														ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG-64-22 AS PER PLAN		
																					THICKNESS		
				STA	STA	SLM	SLM	MILES	FT.		A FT.	B FT.	C FT.	D FT.	SQ. FT.	SQ. YD.	SQ. YD.	GAL.	IN.	CU YD.			
SR 317	FRA-317-9.20	1	Hamilton Rd.	0+00	2+20	9.20	9.24	0.04	220	2	30.0	0.0		30.0	0.0	13,200	1,467	1,467	146.7	1.5	61	BEGIN PROJECT SEGMENT 1; BUTT JOINT	
SR 317	FRA-317-9.20	1	Hamilton Rd.	2+20	7+00	9.24	9.33	0.09	480	2	24.0	0.0		24.0	0.0	23,040	2,560	2,560	256.0	1.5	107		
SR 317	FRA-317-9.20	1	Hamilton Rd.	7+00	8+13	9.33	9.35	0.02	113	2	24.0	0.0		34.0	0.0	6,554	728	728	72.8	1.5	30		
SR 317	FRA-317-9.20	1	Hamilton Rd.	8+13	10+45	9.35	9.40	0.05	232	1	34.0	0.0		30.0	0.0	14,848	1,650	1,650	165.0	1.5	69		
SR 317	FRA-317-9.20	1	Hamilton Rd.	10+45	12+61	9.40	9.44	0.04	216	1	34.0	0.0		42.0	0.0	16,416	1,824	1,824	182.4	1.5	76		
SR 317	FRA-317-9.20	1	Hamilton Rd.	12+61	24+77	9.44	9.67	0.23	1,216	1	34.0	0.0		30.0	0.0	77,824	8,647	8,647	864.7	1.5	360		
SR 317	FRA-317-9.20	1	Hamilton Rd.	24+77	27+76	9.67	9.73	0.06	299	1	30.0	0.0		28.0	0.0	17,342	1,927	1,927	192.7	1.5	80		
SR 317	FRA-317-9.20	1	Hamilton Rd.	27+76	29+86	9.73	9.77	0.04	210	1	25.5	0.0		25.5	0.0	10,710	1,190	1,190	119.0	1.5	50		
SR 317	FRA-317-9.20	1	Hamilton Rd.	29+86	33+56	9.77	9.84	0.07	370	1	34.5	0.0		28.0	0.0	23,125	2,569	2,569	256.9	1.5	107		
SR 317	FRA-317-9.20	1	Hamilton Rd.	33+56	34+65	9.84	9.86	0.02	109	1	43.0	0.0		30.0	0.0	7,957	884	884	88.4	1.5	37		
SR 317	FRA-317-9.20	1	Hamilton Rd.	34+65	37+99	9.86	9.92	0.06	334	1	36.0	0.0		36.0	0.0	24,048	2,672	2,672	267.2	1.5	111		
SR 317	FRA-317-9.20	1	Hamilton Rd.	37+99	41+18	9.92	9.98	0.06	319	1	36.0	5.0		36.0	8.0	27,115	3,013	3,013	301.3	1.5	126		
																		29,131	2913.1		1,214	SUBTOTAL FRA-317-9.20 (SEGMENT 1) THIS SHEET, TRANS. TO GENERAL SUMMARY	



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PAVEMENT DATA

ROUTE	PROJECT	SEGMENT	DESCRIPTION	LOCATION		LOCATION		LENGTH		TYPICAL	AVERAGE WIDTHS						PAVEMENT AREA		PAVEMENT PLANING, BITUMINOUS  1 1/2" DEPTH	TACK COAT, @ 0.10 Gal per Sq. Yd.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG-64-22 AS PER PLAN		REMARKS
				FROM	TO	FROM	TO				A FT.	B FT.	C FT.	D FT.	THICK- NESS								
				STA	STA	SLM	SLM	MILES	FT.								SQ. FT.	SQ. YD.			SQ. YD.	GAL.	
SR 317	FRA-317-9.20	2	Hamilton Rd.	41+18	43+06	9.98	10.01	0.03	188	1	30.0	6.0		30.0	8.0		13,912	1,546	1,546	154.6	1.5	64	
SR 317	FRA-317-9.20	2	Hamilton Rd.	43+06	47+06	10.01	10.09	0.08	400	1	24.0	6.0		24.0	8.0		24,800	2,756	2,756	275.6	1.5	115	
SR 317	FRA-317-9.20	2	Hamilton Rd.	47+06	72+34	10.09	10.57	0.48	2,528	1	24.0	6.0		24.0	8.0		156,736	17,415	17,415	1,741.5	1.5	726	SEE BRIDGE TREATMENTS FOR SLM 10.57 TO 10.58
																		21,717	2,171.7		905	SUBTOTAL FRA-317-9.20 (SEGMENT 2)	
SR 317	FRA-317-9.20	3	Hamilton Rd.	74+44	77+55	10.61	10.67	0.06	311	1	24.5	6.0		24.5	8.0		19,593	2,177	2,177	217.7	1.5	91	SEE BRIDGE TREATMENTS FOR SLM 10.58 TO 10.61
SR 317	FRA-317-9.20	3	Hamilton Rd.	77+55	85+23	10.67	10.81	0.14	768	1	27.0	6.0		27.0	8.0		52,224	5,803	5,803	580.3	1.5	242	
SR 317	FRA-317-9.20	3	Hamilton Rd.	85+23	87+20	10.81	10.85	0.04	197	1	26.5	6.0		35.5	8.0		14,972	1,664	1,664	166.4	1.5	69	
SR 317	FRA-317-9.20	3	Hamilton Rd.	87+20	88+33	10.85	10.87	0.02	113	2	27.0	6.0		26.0	8.0		7,571	841	841	84.1	1.5	35	
SR 317	FRA-317-9.20	3	Hamilton Rd.	88+33	90+82	10.87	10.92	0.05	249	2	26.5	0.0		32.5	0.0		14,691	1,632	1,632	163.2	1.5	68	SUSPEND PROJECT; END SEGMENT 3; BUTT JOINT
																		12,117	1,211.7		505	SUBTOTAL FRA-317-9.20 (SEGMENT 3)	
SR 317	FRA-317-9.20	4	Hamilton Rd.	99+34	101+39	11.08	11.12	0.04	205	2	25.0	0.0		25.0	0.0		10,250	1,139	1,139	113.9	1.5	47	RESUME PROJECT; BEGIN SEGMENT 4; BUTT JOINT
SR 317	FRA-317-9.20	4	Hamilton Rd.	101+39	104+49	11.12	11.18	0.06	310	2	31.5	0.0		25.0	0.0		17,515	1,946	1,946	194.6	1.5	81	
SR 317	FRA-317-9.20	4	Hamilton Rd.	104+49	106+67	11.18	11.22	0.04	218	2	45.0	0.0		35.0	0.0		17,440	1,938	1,938	193.8	1.5	81	
SR 317	FRA-317-9.20	4	Hamilton Rd.	106+67	107+61	11.22	11.24	0.02	94	2	25.0	7.0		47.0	4.0		7,802	867	867	86.7	1.5	36	
SR 317	FRA-317-9.20	4	Hamilton Rd.	107+61	109+00	11.24	11.27	0.03	139	2	25.0	7.0		41.0	4.0		10,703	1,189	1,189	118.9	1.5	50	
SR 317	FRA-317-9.20	4	Hamilton Rd.	109+00	109+78	11.27	11.28	0.01	78	2	25.0	7.0		32.5	4.0		5,343	594	594	59.4	1.5	25	
SR 317	FRA-317-9.20	4	Hamilton Rd.	109+78	111+70	11.28	11.31	0.03	192	2	30.5	7.0		28.0	4.0		13,344	1,483	1,483	148.3	1.5	62	
SR 317	FRA-317-9.20	4	Hamilton Rd.	111+70	114+11	11.31	11.36	0.05	241	2	36.0	7.0		25.0	4.0		17,352	1,928	1,928	192.8	1.5	80	
SR 317	FRA-317-9.20	4	Hamilton Rd.	114+11	117+55	11.36	11.43	0.07	344	2	30.0	7.0		48.0	0.0		29,240	3,249	3,249	324.9	1.5	135	
SR 317	FRA-317-9.20	4	Hamilton Rd.	117+55	118+04	11.43	11.44	0.01	49	2	25.0	7.0		48.0	3.0		4,067	452	452	45.2	1.5	19	
SR 317	FRA-317-9.20	4	Hamilton Rd.	118+04	120+23	11.44	11.48	0.04	219	1	31.5	7.0		43.0	3.0		18,506	2,056	2,056	205.6	1.5	86	
SR 317	FRA-317-9.20	4	Hamilton Rd.	120+23	122+80	11.48	11.53	0.05	257	1	28.0	7.0		34.0	8.0		19,789	2,199	2,199	219.9	1.5	92	
SR 317	FRA-317-9.20	4	Hamilton Rd.	122+80	142+92	11.53	11.91	0.38	2,012	1	26.0	7.0		26.0	4.0		126,756	14,084	14,084	1,408.4	1.5	587	
SR 317	FRA-317-9.20	4	Hamilton Rd.	142+92	144+83	11.91	11.95	0.04	191	1	27.5	7.0		29.5	4.0		12,988	1,443	1,443	144.3	1.5	60	
SR 317	FRA-317-9.20	4	Hamilton Rd.	144+83	146+86	11.95	11.99	0.04	203	2	36.0	7.0		25.0	4.0		14,616	1,624	1,624	162.4	1.5	68	
SR 317	FRA-317-9.20	4	Hamilton Rd.	146+86	152+00	11.99	12.09	0.10	514	2	25.0	7.0		47.0	4.0		42,662	4,740	4,740	474.0	1.5	198	
SR 317	FRA-317-9.20	4	Hamilton Rd.	152+00	159+78	12.09	12.24	0.15	778	2	25.0	7.0		37.0	4.0		56,794	6,310	6,310	631.0	1.5	263	SEE BRIDGE TREATMENTS FOR SLM 12.24 TO 12.27
SR 317	FRA-317-9.20	4	Hamilton Rd.	161+67	164+52	12.27	12.32	0.05	285	2	25.0	13.0		25.0	0.0		17,955	1,995	1,995	199.5	1.5	83	
SR 317	FRA-317-9.20	4	Hamilton Rd.	164+52	165+43	12.32	12.34	0.02	91	2	25.0	9.5		25.0	10.0		6,325	703	703	70.3	1.5	29	
SR 317	FRA-317-9.20	4	Hamilton Rd.	165+43	169+80	12.34	12.42	0.08	437	2	30.5	7.0		30.5	4.0		31,464	3,496	3,496	349.6	1.5	146	
																		53,435	5,343.5		2,228	SUBTOTAL FRA-317-9.20 (SEGMENT 4)	
SR 317	FRA-317-9.20	5	Hamilton Rd.	172+65	173+76	12.47	12.49	0.02	111	2	31.0	6.0		31.0	6.0		8,214	913	913	91.3	1.5	38	REF. SHEETS 11-12 FOR SHOULDER
SR 317	FRA-317-9.20	5	Hamilton Rd.	173+76	179+56	12.49	12.60	0.11	580	2	25.0	6.0		25.0	6.0		35,960	3,996	3,996	399.6	1.5	166	REF. SHEETS 11-12 FOR SHOULDER
SR 317	FRA-317-9.20	5	Hamilton Rd.	179+56	180+45	12.60	12.62	0.02	89	1	31.0	6.0		31.0	6.0		6,586	732	732	73.2	1.5	30	REF. SHEETS 11-12 FOR SHOULDER
																		5,640	564.1		234	SUBTOTAL FRA-317-9.20 (SEGMENT 5)	
SR 317	FRA-317-9.20	6A	Hamilton Rd.	0+00	3+50	15.99	16.06	0.07	350	2	24.0	6.0		24.0	6.0		21,000	1,867	2,333	233.3	1.5	97	REF. SHEETS 11-12 FOR SHOULDER
SR 317	FRA-317-9.20	6A	Hamilton Rd.	3+50	4+35	16.06	16.08	0.02	85	2	30.0	6.0		24.0	6.0		5,610	510	623	62.3	1.5	26	REF. SHEETS 11-12 FOR SHOULDER
SR 317	FRA-317-9.20	6A	Hamilton Rd.	4+35	7+73	16.08	16.14	0.06	338	2	36.0	6.0		24.0	6.0		24,336	2,253	2,704	270.4	1.5	113	REF. SHEETS 11-12 FOR SHOULDER
SR 317	FRA-317-9.20	6A	Hamilton Rd.	7+73	8+43	16.14	16.15	0.01	70	1	47.0	6.0		35.0	6.0		6,580	638	731	73.1	1.5	30	REF. SHEETS 11-12 FOR SHOULDER
																		6,392	639.1		266	SUBTOTAL FRA-317-9.20 (SEGMENT 6A)	
SR 317	FRA-317-9.20	-	Hamilton Rd.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	99,301	9,930.1	-	4,138	SUBTOTAL FRA-317-9.20 (SEGMENTS 2 - 6A) THIS SHEET, TRANS. TO GENERAL SUMMARY	

PAVEMENT PLANING AND RESURFACING

FRA-317-9.20

PAVEMENT DATA

ROUTE	PROJECT	SEGMENT	DESCRIPTION	LOCATION		LOCATION		LENGTH		TYPICAL	AVERAGE WIDTHS						PAVEMENT AREA		PAVEMENT PLANING, BITUMINOUS  1 1/2" DEPTH	TACK COAT, @ 0.10 Gal per Sq. Yd.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG-64-22 AS PER PLAN		REMARKS
				FROM	TO	FROM	TO				A FT.	B FT.	C FT.	D FT.	THICK- NESS	CU YD.							
				STA	STA	SLM	SLM	MILES	FT.		SQ. FT.	SQ. YD.	SQ. YD.	GAL.	IN.	CU YD.							
SR-317	FRA-317-9.20	6B	Hamilton Rd.	8+43	12+71	16.15	16.23	0.08	428	2	36.0	6.0	24.0	6.0	30,816	3,424	2,853	342.4	1.5	143	REF. SHEETS 11-12 FOR SHOULDER		
SR-317	FRA-317-9.20	6B	Hamilton Rd.	12+71	13+44	16.23	16.24	0.01	73	1	42.0	6.0	33.0	6.0	6,351	706	608	70.6	1.5	29	REF. SHEETS 11-12 FOR SHOULDER		
SR-317	FRA-317-9.20	6B	Hamilton Rd.	13+44	18+14	16.24	16.33	0.09	470	2	24.0	6.0	25.0	6.0	28,670	3,186	2,559	318.6	1.5	133	REF. SHEETS 11-12 FOR SHOULDER		
SR-317	FRA-317-9.20	6B	Hamilton Rd.	18+14	23+00	16.33	16.43	0.10	486	1	24.0	6.0	24.0	6.0	29,160	3,240	2,592	324.0	1.5	135	REF. SHEETS 11-12 FOR SHOULDER		
SR-317	FRA-317-9.20	6B	Hamilton Rd.	23+00	28+40	16.43	16.53	0.10	540	1	27.0	6.0	27.0	6.0	35,640	3,960	3,240	396.0	1.5	165	REF. SHEETS 11-12 FOR SHOULDER		
SR-317	FRA-317-9.20	6B	Hamilton Rd.	28+40	30+60	16.53	16.57	0.04	220	1	28.0	6.0	32.0	6.0	15,840	1,760	1,467	176.0	1.5	73	STA 30+60 = STA 7+45 GAHANNA IMPROVEMENT PLAN; REF. SHEETS 11-12 FOR SHOULDER		
SR-317	FRA-317-9.20	6B	Hamilton Rd.	7+45	10+25	16.57	16.62	0.05	280	1	28.0	0.0	32.0	0.0	16,800	1,867	1,867	186.7	1.5	78			
SR-317	FRA-317-9.20	6B	Hamilton Rd.	10+25	13+50	16.62	16.68	0.06	325	1	41.0	0.0	34.5	0.0	24,538	2,726	2,040	272.6	1.5	114	SEE BRIDGE TREATMENTS FOR SLM 16.68 TO 16.73		
																	17,226	2086.9		870	SUBTOTAL FRA-317-9.20 (SEGMENT 6B) NOTE: PLANING HAS BEEN DEDUCTED FOR RIGHT TRAFFIC ISLAND TURN LANE. INSTALL SURFACE COURSE & TACK COAT ONLY.		
SR-317	FRA-317-9.20	7A	Hamilton Rd.	15+84	16+28	16.72	16.73	0.01	44	1	42.0	0.0	36.0	0.0	3,432	381	278	38.1	1.5	16	NOTE: PLANING HAS BEEN DEDUCTED FOR RIGHT TURN LANE AND TRAFFIC ISLAND. INSTALL SURFACE COURSE & TACK COAT ONLY.		
SR-317	FRA-317-9.20	7A	Hamilton Rd.	16+28	20+05	16.73	16.80	0.07	377	1	44.0	0.0	36.0	0.0	30,160	3,351	3,132	335.1	1.5	140	NOTE: PLANING HAS BEEN DEDUCTED FOR RIGHT TURN LANE AND TRAFFIC ISLAND. INSTALL SURFACE COURSE & TACK COAT ONLY.		
SR-317	FRA-317-9.20	7A	Hamilton Rd.	20+05	26+00	16.80	16.91	0.11	595	1	36.0	0.0	36.0	0.0	42,840	4,760	4,760	476.0	1.5	198	DEDUCT TRAFFIC ISLAND FROM PLANING.		
SR-317	FRA-317-9.20	7A	Hamilton Rd.	26+00	36+30	16.91	17.11	0.20	1,030	2	25.0	0.0	25.0	0.0	51,500	5,722	5,722	572.2	1.5	238			
SR-317	FRA-317-9.20	7A	Hamilton Rd.	36+30	37+50	17.11	17.13	0.02	120	1	36.0	0.0	36.0	0.0	8,640	960	960	96.0	1.5	40			
SR-317	FRA-317-9.20	7A	Hamilton Rd.	37+50	41+00	17.13	17.20	0.07	350	2	25.0	0.0	25.0	0.0	17,500	1,944	1,944	194.4	1.5	81			
																	16,796	1711.8		713	SUBTOTAL FRA-317-9.20 (SEGMENT 7A)		
SR-317	FRA-317-9.20	7B	Hamilton Rd.	43+42	47+00	17.25	17.32	0.07	358	2	25.0	0.0	25.0	0.0	17,900	1,989	1,989	198.9	1.5	83			
SR-317	FRA-317-9.20	7B	Hamilton Rd.	47+00	48+00	17.32	17.34	0.02	100	1	36.0	0.0	36.0	0.0	7,200	800	800	80.0	1.5	33			
SR-317	FRA-317-9.20	7B	Hamilton Rd.	48+00	55+50	17.34	17.48	0.14	750	2	25.0	0.0	25.0	0.0	37,500	4,167	4,167	416.7	1.5	174			
SR-317	FRA-317-9.20	7B	Hamilton Rd.	55+50	57+05	17.48	17.51	0.03	155	2	42.0	0.0	25.0	0.0	10,385	1,154	1,154	115.4	1.5	48			
SR-317	FRA-317-9.20	7B	Hamilton Rd.	57+05	59+71	17.51	17.56	0.05	266	2	48.0	0.0	27.0	0.0	19,950	2,217	2,217	221.7	1.5	92			
SR-317	FRA-317-9.20	7B	Hamilton Rd.	59+71	61+35	17.56	17.59	0.03	164	1	39.0	0.0	36.0	0.0	12,300	1,367	1,367	136.7	1.5	57			
																	11,693	1169.4		487	SUBTOTAL FRA-317-9.20 (SEGMENT 7B)		
SR-317	FRA-317-9.20	-	Hamilton Rd.	-	-	-	-	-	-	-	-	-	-	-	-	-	45,715	4968.1	-	2,070	SUBTOTAL FRA-317-9.20 (SEGMENTS 6B - 7B) THIS SHEET, TRANS. TO GENERAL SUMMARY		

NOTE: REFERENCE GAHANNA IMPROVEMENT PLAN - PAVEMENT DETAIL SHEETS #57-63 FOR ADDITIONAL QUANTITIES TO INTERMEDIATE COURSE FOR TRAFFIC ISLAND/MEDIAN WORK. QUANTITIES SHOWN ON THIS SHEET ARE FROM THE SURFACE COURSE TO THE INTERMEDIATE COURSE ONLY.

## EXTRA PAVEMENT AREAS

ROUTE	SEGMENT	PROJECT	DESCRIPTION	LOCATION		SIDE	DESCRIPTION	AREA		254	407	446		REMARKS
				STA	SLM			SQ. FT.	SQ. YD.	PAVEMENT PLANING, BITUMINOUS 1 1/2" DEPTH	TACK COAT, @ 0.10 Gal. per Sq. Yd.	ASPHALT CONCRETE SURFACE COURSE TYPE 1 PG-64-22, AS PER PLAN		
										SQ. YD.	GAL.	IN.	CU YD.	
SR 317	1	FRA-317-9.20	HAMILTON RD.	2+00	9.24	LT	AT FREEWAY RAMP WEST SIDE	4,550	506	506	50.6	1.5	21	BUTT JOINT
SR 317	1	FRA-317-9.20	HAMILTON RD.	2+00	9.24	RT	AT FREEWAY RAMP EAST SIDE	270	30	30	3.0	1.5	1	BUTT JOINT
SR 317	1	FRA-317-9.20	HAMILTON RD.	6+00	9.31	RT	AT FREEWAY RAMP EAST SIDE	941	105	105	10.5	1.5	4	BUTT JOINT
SR 317	1	FRA-317-9.20	HAMILTON RD.	12+00	9.43	RT	AT PROFESSIONAL PARKWAY	2,492	277	277	27.7	1.5	12	BUTT JOINT
SR 317	1	FRA-317-9.20	HAMILTON RD.	20+25	9.58	RT	AT HAMILTON SQUARE BLVD.	7,546	838	838	83.8	1.5	35	BUTT JOINT
SR 317	1	FRA-317-9.20	HAMILTON RD.	36+20	9.89	LT	AT WINCHESTER PIKE CO 376 WEST SIDE	12,161	1351	1,351	135.1	1.5	56	BUTT JOINT
SR 317	1	FRA-317-9.20	HAMILTON RD.	36+20	9.89	RT	AT WINCHESTER PIKE CO 376 EAST SIDE	16,192	1799	1,799	179.9	1.5	75	BUTT JOINT
										4,906	490.6		204	SUBTOTAL SEGMENT 1
SR 317	2	FRA-317-9.20	HAMILTON RD.	42+50	10.00	RT	AT WINGATE ROAD	1,867	207	207	20.7	1.5	9	BUTT JOINT
SR 317	2	FRA-317-9.20	HAMILTON RD.	52+00	10.18	RT	AT HARBOR BOULEVARD	2,630	292	292	29.2	1.5	12	BUTT JOINT
SR 317	2	FRA-317-9.20	HAMILTON RD.	60+50	10.35	RT	AT REINBEAU DRIVE	2,925	325	325	32.5	1.5	14	BUTT JOINT
SR 317	2	FRA-317-9.20	HAMILTON RD.	62+50	10.38	LT	AT HOTT ROAD	1,283	143	143	14.3	1.5	6	BUTT JOINT
SR 317	2	FRA-317-9.20	HAMILTON RD.	64+00	10.41	LT	AT KATHERINE ROAD	1,549	172	172	17.2	1.5	7	BUTT JOINT
SR 317	2	FRA-317-9.20	HAMILTON RD.	66+00	10.45	LT	AT MADELINE ROAD	1,153	128	128	12.8	1.5	5	BUTT JOINT
SR 317	2	FRA-317-9.20	HAMILTON RD.	68+00	10.49	LT	AT HELEN ROAD	1,190	132	132	13.2	1.5	6	BUTT JOINT
SR 317	2	FRA-317-9.20	HAMILTON RD.	69+50	10.52	LT	AT FLOYD DRIVE	1,285	143	143	14.3	1.5	6	BUTT JOINT
SR 317	2	FRA-317-9.20	HAMILTON RD.	71+50	10.55	LT	AT GERLING BOULEVARD	1,299	144	144	14.4	1.5	6	BUTT JOINT
										1,686	168.6		71	SUBTOTAL SEGMENT 2
SR 317	3	FRA-317-9.20	HAMILTON RD.	86+00	10.83	LT	AT EASTLAND SQUARE DRIVE (WEST)	2,380	264	264	26.4	1.5	11	BUTT JOINT
SR 317	3	FRA-317-9.20	HAMILTON RD.	86+00	10.83	RT	AT EASTLAND SQUARE DRIVE (EAST)	3,559	395	395	39.5	1.5	16	BUTT JOINT
SR 317	3	FRA-317-9.20	HAMILTON RD.	88+50	10.88	LT	STREET AT STA 88+50	1,822	202	202	20.2	1.5	8	BUTT JOINT
										861	86.1		35	SUBTOTAL SEGMENT 3
SR 317	4	FRA-317-9.20	HAMILTON RD.	106+25	11.21	LT	AT EASTLAND TWO DRIVE	2,367	263	263	26.3	1.5	11	BUTT JOINT
SR 317	4	FRA-317-9.20	HAMILTON RD.	106+25	11.21	RT	AT EASTLAND TWO DRIVE	1,932	215	215	21.5	1.5	9	BUTT JOINT
SR 317	4	FRA-317-9.20	HAMILTON RD.	114+75	11.37	LT	AT EASTLAND ONE DRIVE	4,605	512	512	51.2	1.5	21	BUTT JOINT
SR 317	4	FRA-317-9.20	HAMILTON RD.	114+75	11.37	RT	AT EASTLAND DRIVE	2,846	316	316	31.6	1.5	13	BUTT JOINT
SR 317	4	FRA-317-9.20	HAMILTON RD.	123+00	11.53	LT	AT MACSWAY AVENUE	2,001	222	222	22.2	1.5	9	BUTT JOINT
SR 317	4	FRA-317-9.20	HAMILTON RD.	123+00	11.53	RT	AT MACSWAY AVENUE	2,817	313	313	31.3	1.5	13	BUTT JOINT
SR 317	4	FRA-317-9.20	HAMILTON RD.	131+50	11.69	LT	AT KIMBERLY PARKWAY	4,738	526	526	52.6	1.5	22	BUTT JOINT
SR 317	4	FRA-317-9.20	HAMILTON RD.	131+50	11.69	RT	AT KINGSLAND AVENUE	2,160	240	240	24.0	1.5	10	BUTT JOINT
SR 317	4	FRA-317-9.20	HAMILTON RD.	138+75	11.83	LT	AT EASTPOINT DRIVE	1,717	191	191	19.1	1.5	8	BUTT JOINT
SR 317	4	FRA-317-9.20	HAMILTON RD.	147+45	11.99	LT	AT GROVES ROAD	3,885	432	432	43.2	1.5	18	BUTT JOINT
SR 317	4	FRA-317-9.20	HAMILTON RD.	147+45	11.99	RT	AT GROVES ROAD	4,264	474	474	47.4	1.5	20	BUTT JOINT
SR 317	4	FRA-317-9.20	HAMILTON RD.	163+50	12.30	LT	I-70 EXIT RAMP WEST SIDE	3,336	371	371	37.1	1.5	15	BUTT JOINT
SR 317	4	FRA-317-9.20	HAMILTON RD.	165+50	12.33	LT	I-70 EXIT RAMP WEST SIDE	284	32	32	3.2	1.5	1	BUTT JOINT
SR 317	4	FRA-317-9.20	HAMILTON RD.	165+50	12.33	RT	I-70 EXIT RAMP EAST SIDE	2,856	317	317	31.7	1.5	13	BUTT JOINT
SR 317	4	FRA-317-9.20	HAMILTON RD.	168+50	12.39	RT	I-70 EXIT RAMP EAST SIDE	570	63	63	6.3	1.5	3	BUTT JOINT
										4,487	448.7		186	SUBTOTAL SEGMENT 4
SR 317	5	FRA-317-9.20	HAMILTON RD.	173+50	12.49	LT	I-70 ENTRANCE RAMP WEST SIDE	230	26	26	2.6	1.5	1	BUTT JOINT
SR 317	5	FRA-317-9.20	HAMILTON RD.	173+50	12.49	RT	I-70 EXIT RAMP EAST SIDE	362	40	40	4.0	1.5	2	BUTT JOINT
SR 317	5	FRA-317-9.20	HAMILTON RD.	175+75	12.53	RT	I-70 EXIT RAMP EAST SIDE	286	32	32	3.2	1.5	1	BUTT JOINT
SR 317	5	FRA-317-9.20	HAMILTON RD.	176+00	12.53	LT	I-70 ENTRANCE RAMP WEST SIDE	1,681	187	187	18.7	1.5	8	BUTT JOINT
										285	28.5		12	SUBTOTAL SEGMENT 5
SR 317	-	FRA-317-9.20	HAMILTON RD.	-	-	-	-	-	-	12,225	1,222.5	-	508	SUBTOTAL (SEGMENTS 1 - 5) THIS SHEET, TRANS. TO GENERAL SUMMARY

EXTRA AREAS ADD/DEDUCT

FRA-317-9.20

8  
77



## EXTRA / DEDUCT PAVEMENT AREAS

ROUTE	SEGMENT	PROJECT	DESCRIPTION	LOCATION		SIDE	DESCRIPTION	AREA		254	407	446		446		REMARKS
				STA	SLM			PAVEMENT PLANING, BITUMINOUS 1 1/2" DEPTH	TACK COAT, @ 0.10 Gal. per Sq. Yd.	ASPHALT CONCRETE SURFACE COURSE TYPE 1 PG-64-22, AS PER PLAN		ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 1 PG-64-22, AS PER PLAN				
										SQ. FT.	SQ. YD.	SQ. YD.	GAL.	IN.	CU YD.	
SR 317	6A	FRA-317-9.20	HAMILTON RD.	5+00	16.08	LT	AT FIFTH AVENUE	3,771	419	419	41.9	1.5	17			BUTT JOINT
SR 317	6A	FRA-317-9.20	HAMILTON RD.	8+00	16.14	LT	AT FIFTH AVENUE	3,255	362	362	36.2	1.5	15			BUTT JOINT
										781	78.1		32			SUBTOTAL SEGMENT 6A
SR 317	6B	FRA-317-9.20	HAMILTON RD.	11+50	16.21	LT	AT FIFTH AVENUE	5,329	592	592	59.2	1.5	25			BUTT JOINT
SR 317	6B	FRA-317-9.20	HAMILTON RD.	31+00	16.58	LT	AT SAWYER ROAD	7,940	882	882	88.2	1.5	37			BUTT JOINT
SR 317	6B	FRA-317-9.20	HAMILTON RD.	31+00	16.58	RT	AIRPORT GOLF COURSE ENTRANCE	1,295	144	144	28.8	1.5	6	3	12	BUTT JOINT; 2 TACK COATS
										1,618	176.2		68			SUBTOTAL SEGMENT 6B
SR 317	7A	FRA-317-9.20	HAMILTON RD.	19+00	16.79	LT	AT SWANSON AVENUE	1,926	214	214	21.4	1.5	9			BUTT JOINT
SR 317	7A	FRA-317-9.20	HAMILTON RD.	19+00	16.79	RT	AT TECH CENTER DRIVE	11,972	1330	0	133.0	1.5	55			BUTT JOINT; END AT STA 2+75; NO PLANING - SURFACE COURSE ONLY
SR 317	7A	FRA-317-9.20	HAMILTON RD.	31+00	17.02	RT	I-270 ENTRANCE RAMP EAST SIDE	5,045	561	561	56.1	1.5	23			BUTT JOINT
SR 317	7A	FRA-317-9.20	HAMILTON RD.	33+00	17.05	LT	I-270 EXIT RAMP WEST SIDE	5,775	642	642	64.2	1.5	27			BUTT JOINT
SR 317	7A	FRA-317-9.20	HAMILTON RD.	36+50	17.12	LT	I-270 EXIT RAMP WEST SIDE	258	29	29	2.9	1.5	1			BUTT JOINT
SR 317	7A	FRA-317-9.20	HAMILTON RD.	40+00	17.17	LT	I-270 ENTRANCE RAMP WEST SIDE	2,567	285	285	28.5	1.5	12			BUTT JOINT
										1,731	306.1		127			SUBTOTAL SEGMENT 7A
SR 317	7B	FRA-317-9.20	HAMILTON RD.	45+00	17.28	RT	AT I-270 RAMP EAST SIDE	2,373	264	264	26.4	1.5	11			BUTT JOINT
SR 317	7B	FRA-317-9.20	HAMILTON RD.	47+75	17.33	RT	AT I-270 RAMP EAST SIDE	208	23	23	2.3	1.5	1			BUTT JOINT
SR 317	7B	FRA-317-9.20	HAMILTON RD.	51+50	17.40	LT	AT I-270 RAMP WEST SIDE	5,848	650	650	65.0	1.5	27			BUTT JOINT
SR 317	7B	FRA-317-9.20	HAMILTON RD.	51+50	17.40	RT	AT I-270 RAMP EAST SIDE	3,561	396	396	39.6	1.5	16			BUTT JOINT
SR 317	7B	FRA-317-9.20	HAMILTON RD.	60+50	17.57	LT	AT ROCKY FORK DRIVE SOUTH	2,600	289	289	28.9	1.5	12			BUTT JOINT
SR 317	7B	FRA-317-9.20	HAMILTON RD.	60+50	17.57	RT	AT MORRISON ROAD	3,722	414	414	41.4	1.5	17			BUTT JOINT
										2,036	203.6		84			SUBTOTAL SEGMENT 7B
SR 317	2	FRA-317-9.20	HAMILTON RD.	42+50	10.00	RT	AT WINGATE ROAD	-419	-47	-47	-4.7	-1.5	-2			SHOULDER DEDUCT
SR 317	2	FRA-317-9.20	HAMILTON RD.	52+00	10.18	RT	AT HARBOR BOULEVARD	-553	-61	-61	-6.1	-1.5	-3			SHOULDER DEDUCT
SR 317	2	FRA-317-9.20	HAMILTON RD.	60+50	10.35	RT	AT REINBEAU DRIVE	-567	-63	-63	-6.3	-1.5	-3			SHOULDER DEDUCT
SR 317	2	FRA-317-9.20	HAMILTON RD.	62+50	10.38	LT	AT HOTT ROAD	-412	-46	-46	-4.6	-1.5	-2			SHOULDER DEDUCT
SR 317	2	FRA-317-9.20	HAMILTON RD.	64+00	10.41	LT	AT KATHERINE ROAD	-473	-53	-53	-5.3	-1.5	-2			SHOULDER DEDUCT
SR 317	2	FRA-317-9.20	HAMILTON RD.	66+00	10.45	LT	AT MADELINE ROAD	-393	-44	-44	-4.4	-1.5	-2			SHOULDER DEDUCT
SR 317	2	FRA-317-9.20	HAMILTON RD.	68+00	10.49	LT	AT HELEN ROAD	-445	-49	-49	-4.9	-1.5	-2			SHOULDER DEDUCT
SR 317	2	FRA-317-9.20	HAMILTON RD.	69+50	10.52	LT	AT FLOYD DRIVE	-452	-50	-50	-5.0	-1.5	-2			SHOULDER DEDUCT
SR 317	2	FRA-317-9.20	HAMILTON RD.	71+50	10.55	LT	AT GERLING BOULEVARD	-384	-43	-43	-4.3	-1.5	-2			SHOULDER DEDUCT
										-456	-45.6		-20			SUBTOTAL SEGMENT 2
SR 317	3	FRA-317-9.20	HAMILTON RD.	86+00	10.83	LT	AT EASTLAND SQUARE DRIVE (WEST)	-639	-71	-71	-7.1	-1.5	-3			SHOULDER DEDUCT
SR 317	3	FRA-317-9.20	HAMILTON RD.	86+00	10.83	RT	AT EASTLAND SQUARE DRIVE (EAST)	-578	-64	-64	-6.4	-1.5	-3			SHOULDER DEDUCT
SR 317	3	FRA-317-9.20	HAMILTON RD.	88+50	10.88	LT	AT UNKNOWN	-596	-66	-66	-6.6	-1.5	-3			SHOULDER DEDUCT
										-201	-20.1		-9			SUBTOTAL SEGMENT 3
SR 317	-	FRA-317-9.20	HAMILTON RD.	-	-	-	-			5,509	698		282			12 SUBTOTAL (SEGMENTS 6A, 6B, 7A, 7B, 2 & 3) THIS SHEET, TRANS. TO GENERAL SUMMARY

EXTRA AREAS ADD/DEDUCT

FRA-317-9.20

9/77

EXTRA / DEDUCT PAVEMENT AREAS

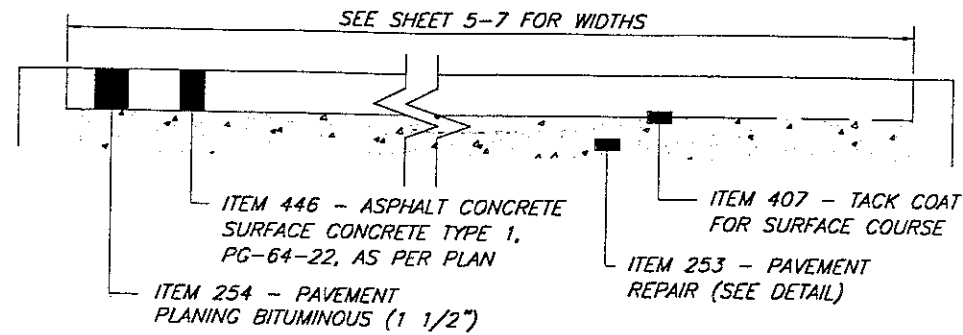
ROUTE	SEGMENT	PROJECT	DESCRIPTION	LOCATION		SIDE	DESCRIPTION	AREA		254	407	446		REMARKS
				STA	SLM			SQ. FT.	SQ. YD.	PAVEMENT PLANING, BITUMINOUS 1 1/2" DEPTH	TACK COAT, @ 0.10 Gal. per Sq. Yd.	ASPHALT CONCRETE SURFACE COURSE TYPE 1 PG-64-22, AS PER PLAN		
										SQ. YD.	GAL.	IN.	CU YD.	
SR 317	4	FRA-317-9.20	HAMILTON RD.	106+25	11.21	LT	AT EASTLAND TWO DRIVE	-101	-11	-11	-1.1	-1.5	-1	
SR 317	4	FRA-317-9.20	HAMILTON RD.	114+75	11.37	RT	AT EASTLAND DRIVE	-686	-76	-76	-7.6	-1.5	-3	SHOULDER DEDUCT
SR 317	4	FRA-317-9.20	HAMILTON RD.	123+00	11.53	LT	AT MACSWAY AVENUE	-372	-41	-41	-4.1	-1.5	-2	SHOULDER DEDUCT
SR 317	4	FRA-317-9.20	HAMILTON RD.	123+00	11.53	RT	AT MACSWAY AVENUE	-699	-78	-78	-7.8	-1.5	-3	SHOULDER DEDUCT
SR 317	4	FRA-317-9.20	HAMILTON RD.	131+50	11.69	LT	AT KIMBERLY PARKWAY	-488	-54	-54	-5.4	-1.5	-2	SHOULDER DEDUCT
SR 317	4	FRA-317-9.20	HAMILTON RD.	131+50	11.69	RT	AT KINGSLAND AVENUE	-691	-77	-77	-7.7	-1.5	-3	SHOULDER DEDUCT
SR 317	4	FRA-317-9.20	HAMILTON RD.	138+75	11.83	LT	AT EASTPOINT DRIVE	-320	-36	-36	-3.6	-1.5	-1	SHOULDER DEDUCT
SR 317	4	FRA-317-9.20	HAMILTON RD.	147+45	11.99	LT	AT GROVES ROAD	-407	-45	-45	-4.5	-1.5	-2	SHOULDER DEDUCT
SR 317	4	FRA-317-9.20	HAMILTON RD.	147+45	11.99	RT	AT GROVES ROAD	-738	-82	-82	-8.2	-1.5	-3	SHOULDER DEDUCT
SR 317	4	FRA-317-9.20	HAMILTON RD.	165+50	12.33	LT	AT I-70 RAMP WEST SIDE	-71	-8	-8	-0.8	-1.5	0	SHOULDER DEDUCT
SR 317	4	FRA-317-9.20	HAMILTON RD.	165+50	12.33	RT	AT I-70 RAMP EAST SIDE	-922	-102	-102	-10.2	-1.5	-4	SHOULDER DEDUCT
SR 317	4	FRA-317-9.20	HAMILTON RD.	168+50	12.39	RT	AT I-70 RAMP EAST SIDE	-651	-72	-72	-7.2	-1.5	-3	SHOULDER DEDUCT
										-682	-68.2		-27	SUBTOTAL SEGMENT 4
SR 317	5	FRA-317-9.20	HAMILTON RD.	173+50	12.49	LT	AT I-70 RAMP WEST SIDE	-116	-13	-13	-1.3	-1.5	-1	SHOULDER DEDUCT
SR 317	5	FRA-317-9.20	HAMILTON RD.	173+50	12.49	RT	AT I-70 RAMP EAST SIDE	-186	-21	-21	-2.1	-1.5	-1	SHOULDER DEDUCT
SR 317	5	FRA-317-9.20	HAMILTON RD.	175+75	12.53	RT	AT I-70 RAMP EAST SIDE	-667	-74	-74	-7.4	-1.5	-3	SHOULDER DEDUCT
										-108	-10.8		-5	SUBTOTAL SEGMENT 5
										-790	-79		-32	SUBTOTAL (SEGMENTS 4 & 5) THIS SHEET, TRANS. TO SUBSUMMARY

EXTRA AREAS DEDUCT

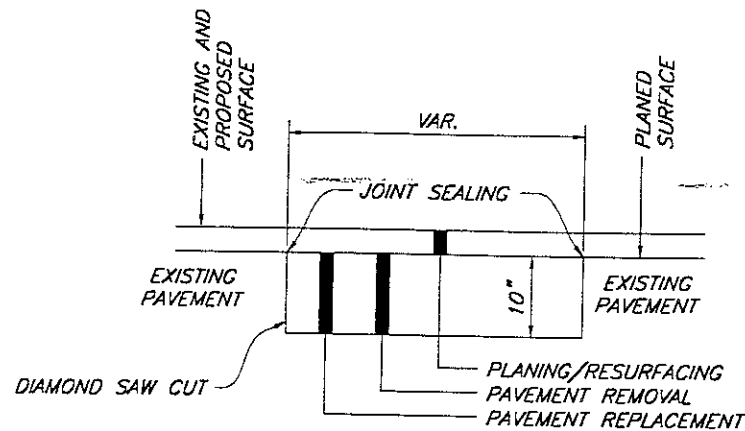
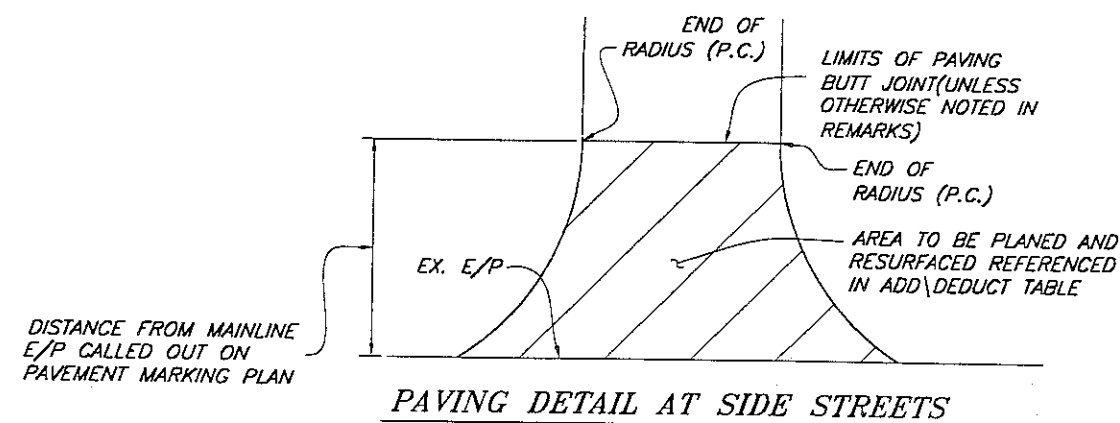
FRA-317-9.20

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\* ITEM 254 - PAVEMENT PLANING, BITUMINOUS:  
SEE SHEETS 5-7 FOR CALCULATIONS.



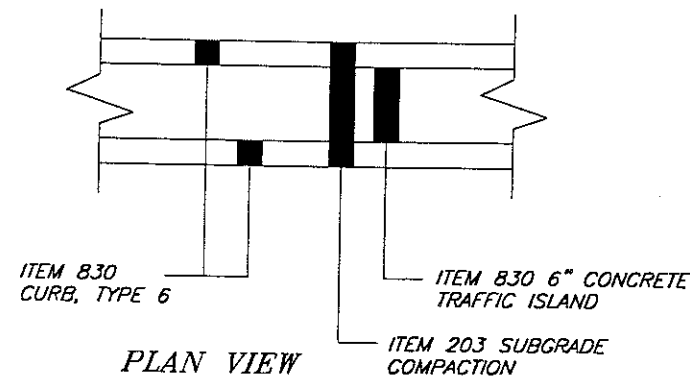
MAINLINE TYPICAL SECTION



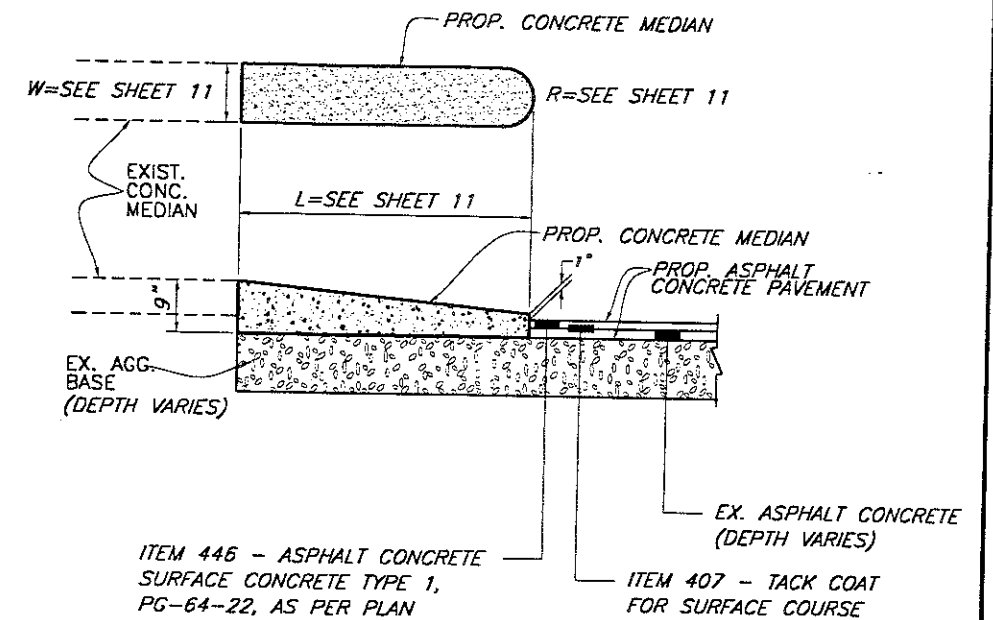
ITEM 253 PAVEMENT REPAIR DETAIL

ITEM 253, PAVEMENT REPAIR

THIS WORK SHALL BE PERFORMED ONLY WHEN DEEMED NECESSARY AND ONLY IN AREAS AS DETERMINED BY THE ENGINEER. AN ESTIMATED QUANTITY OF 25 CU. YDS. HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR THIS PURPOSE.



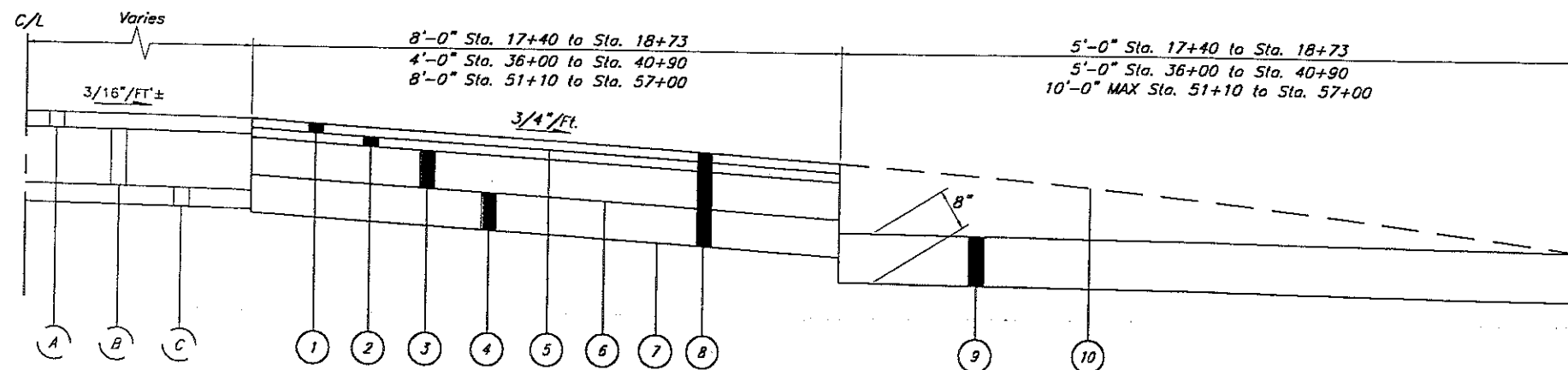
CONCRETE TRAFFIC ISLAND DETAILS



CONCRETE MEDIAN DETAILS

(SEE RM-3.1M FOR ADDITIONAL DETAILS)

SHOULDER DETAILS SEGMENTS 7A/7B



- |  |   |   |
|--|---|---|
| (A) 2 1/2" of Asphalt Concrete   | (3) Item 301 - 6" Bituminous Aggregate Base | (8) Item 203 - Excavation                         |
| (B) 9" of Bituminous Aggregate Base  | (4) Item 304 - 6" Aggregate Base            | (9) Item 605 - Aggregate Drain (Spaced Every 50') |
| (C) 3" of Subbase  | (5) Item 407 - Tack Coat                    | (10) Item 870 - Seeding & Mulching, As Per Plan   |
| (1) Item 446 - 1 1/2" Asphalt Concrete Surface Course, Type 1, PG-64-22, APP | (6) Item 408 - Bituminous Prime Coat        |   |
| (2) Item 446 - 1 1/2" Asphalt Concrete Int. Course, Type 1, PG-64-22, APP    | (7) Item 203 - Subgrade Compaction          |   |

ITEM 617 - SHOULDER PREPARATION, AS PER PLAN

The existing shoulders located in Segment 5 (SLM 12.47 to 12.62) and Segment 6A/6B (SLM 16.15 to 16.57) require reconditioning as referenced in item 617 - Reconditioning Shoulders, As Per Plan. The shoulders within the above referenced limits vary in width and will require adequate preparation before the surface course is applied. Prior to paving, the existing shoulders shall have a minimum 3" removal of existing material and replaced with 1.5" of Item 301 - Bituminous Aggregate Base in lieu of the aggregates on page 466 of the ODOT CMS (cost for this work and materials have not been itemized separately and are included in Item 617 Shoulder Preparation, As Per Plan). Upon removal of the existing material and placement of the 301, the remaining area shall be paved with the surface course under Item 446 - Asphalt Concrete, Type 1, PG-64-22, As Per Plan. These plans have included quantities to pave the shoulders to a width of 6 feet. In the event that this width is not achievable, the Contractor shall install a minimum 4 foot wide shoulder. Prior to any earthwork, the Contractor shall submit a plan with proposed shoulder widths in the areas outlined above the Engineer including a thorough review of the area with referenced to any obstructions, including but not limited to utility poles, etc. During the event that an underground utility or other obstruction is found within these limits during construction, the Contractor shall consult the Engineer prior to removal of any additional existing materials. At any time, in the event that premature removal of the existing shoulder occurs without approval by the Engineer, the Contractor shall be responsible for reinstallation at the Contractor's expense. This item shall include all tools, labor, materials necessary and specifications as outlined in sections 203, 301 and 617 of the CMS, necessary to construct a proposed paved shoulder.

SEE SHEET 12 FOR SHOULDER & MEDIAN QUANTITIES.

SHOULDER ADD AREAS FOR SEGMENTS 7A/7B

ROUTE	SEGMENT	PROJECT	DESCRIPTION	LOCATION		SIDE	DESCRIPTION	203	203	301	304	407	408	446	446	605	870	870	870	COMMENTS
								EXCAVATION	SUBGRADE BITUMINOUS COMPACTION	6" AGGREGATE BASE	6" AGGREGATE BASE	TACK COAT, @ 0.10 Gal. per Sq. Yd.	BITUMINOUS PRIME COAT (APPLIED AT 0.40 GAL/S.Y.)	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG-64-22, APP 1 1/2" THICKNESS	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG-64-22, APP 1 1/2" THICKNESS	AGGREGATE DRAIN	SEEDING & MULCHING A.P.P.	WATER	COMM. FERTILIZER	
				STA	STA			CU. YD.	SQ. YD.	CU. YD.	CU. YD.	GAL.	GAL.	CU. YD.	CU. YD.	LIN. FT.	SQ. YD.	MGAL.	TON	
SR-317	7A	FRA-317-9.20	HAMILTON ROAD	16+90	18+73	LT	8' SHOULDER	68	194	27		16.3	65.1	7	7	20	102	0.60	0.02	SEE SHEET 11 FOR TYPICAL
SR-317	7A	FRA-317-9.20	HAMILTON ROAD	36+00	40+90	RT	4' SHOULDER	91	300	37	37	21.8	87.1	3	3	50	228	0.12	0.03	SEE SHEET 11 FOR TYPICAL
SR-317	7B	FRA-317-9.20	HAMILTON ROAD	51+10	57+00	RT	8' SHOULDER	219	623	88	88	52.4	209.8	22	22	130	656	3.50	0.09	SEE SHEET 11 FOR TYPICAL
			TOTAL TRANS. TO G.S.					378	1117	152	152	90.5	362.0	32	32	200	986	5	0.14	

MEDIAN CURB QUANTITIES FOR SEGMENTS 1-5

ROUTE	PROJECT	SEGMENT	REFERENCE NO.	LOCATION				SIDE	MEDIAN DESIGN INFORMATION			202				203	604	620	630	630	830			COMMENTS	
									LENGTH	WIDTH	RADIUS	CONCRETE MEDIAN REMOVED	TRAFFIC ISLAND REMOVED	CURB REMOVED	REMOVAL MISC.: REBOUNDABLE TRAFFIC POST REMOVED	SUBGRADE COMPACTION	MANHOLE ADJUSTED TO GRADE	DELINATOR MISCELLANEOUS REBOUNDABLE TRAFFIC POST	REMOVAL OF GROUND MOUNTED POST SUPPORT AND DISPOSAL	REMOVAL OF GROUND MOUNTED SIGN AND DISPOSAL	CURB, TYPE 6	6" CONCRETE TRAFFIC ISLAND	CONCRETE MEDIAN		
				FROM	TO	FROM	TO																		
				STA	STA	SLM	SLM																		FT.
SR 317	FRA-317-9.20	1	1	2+21	2+28	9.24	9.24	LI - RI				7		22							22				
SR 317	FRA-317-9.20	1	2	7+30	7+81	9.34	9.35	LI - RI	51	VARIES		2	70		6		70								
													70	0	28	0	70	0	0	0	0	22	0	70	SUBTOTAL SEGMENT 1
SR 317	FRA-317-9.20	3	4	87+20	87+22	10.85	10.85	LI																	
SR 317	FRA-317-9.20	3	5	87+20	88+75	10.85	10.88	LI - RI	155	VARIES	2	154			3			3							
SR 317	FRA-317-9.20	3	6	88+75	91+15	10.88	10.90	LI - RI	240	VARIES				270	480		270					480	270	154	
												154	270	480	3	270	0	3	0	0	480	270	154	SUBTOTAL SEGMENT 3	
SR 317	FRA-317-9.20	4	9, 10, 11	101+41	103+51	11.12	11.16	LI - RI	210	VARIES		210				210								210	SEE PLAN FOR WIDTH. VARIES FROM 14' TO 4'.
SR 317	FRA-317-9.20	4	12	103+51	105+90	11.16	11.21	LI	239	4		107					107	1						107	
SR 317	FRA-317-9.20	4	13	109+78	112+00	11.28	11.32	LI - RI	222	VARIES		211					211							211	
SR 317	FRA-317-9.20	4	14	112+00	114+30	11.32	11.36	LI	230	4		103					103							103	
SR 317	FRA-317-9.20	4	16	145+86	146+86	11.96	11.98	LI	100	3	2	34					34			1	1			34	
SR 317	FRA-317-9.20	4	17	147+76	152+00	12.00	12.08	LI - RI	424	VARIES	2		180	792		213			1	1				213	
SR 317	FRA-317-9.20	4	18	152+00	159+54	12.08	12.22	LI - RI	754	11			838	1,508		922					1,508	838			
SR 317	FRA-317-9.20	4	23, 24	161+91	164+88	12.26	12.28	LI - RI	297	VARIES			322	594		355						594	322		
SR 317	FRA-317-9.20	4	25	165+10	165+35	12.28	12.29	LI - RI							5			5							
												665	1,340	2,894	5	2,155	1	5	2	2	2,102	1,160	878	SUBTOTAL SEGMENT 4	
SR 317	FRA-317-9.20	5	26	173+75	173+85	12.49	12.49	LI - RI							5			5							
SR 317	FRA-317-9.20	5	27	173+75	177+75	12.49	12.57	LI - RI	400	13		623				623			1	1				623	
SR 317	FRA-317-9.20	5	28	177+75	179+45	12.57	12.61	LI	170	VARIES		155				155							155		
												778	0	0	5	778	0	5	1	1	0	0	778	SUBTOTAL SEGMENT 5	
												1,667	1,610	3,402	13	3,273	1	13	3	3	2,604	1,430	1,880	TOTAL THIS SHEET SEGMENTS 1, 3, 4, 5	

SHOULDER RECONDITIONING SEGMENTS 5, 6A, 6B

ROUTE	PROJECT	SEGMENT	DESCRIPTION	LOCATION				LENGTH FROM STA TO STA		REFER SHEET 5 FOR TYPICAL		AREA	ITEM 617 SHOULDER PREPARATION, AS PER PLAN	COMMENTS	
				FROM	TO	FROM	TO			B	D				
				STA	STA	SLM	SLM	MILES	FT.	FT.	FT.	SQ. FT.	SQ. YD.		
SR-317	FRA-317-9.20	5	Hamilton Rd.	172+65	180+45	12.47	12.62	0.15	780	6.0	6.0	9,360	1,040		
SR-317	FRA-317-9.20	6A	Hamilton Rd.	0+00	8+43	15.99	16.15	0.16	843	6.0	6.0	10,116	1,124		
SR-317	FRA-317-9.20	6B	Hamilton Rd.	8+43	30+60	16.15	16.57	0.42	2,217	6.0	6.0	26,604	2,956		
														5,120	Total Transferred to the General Summary

NOTE: Item 304 - Aggregate Base:  
A contingency quantity of 180 CY of Item 304 - Aggregate Base has been transferred to the general summary. This quantity shall be used as a leveling course where required for installation of medians. This quantity is not intended for all medians and shall only be used where directed by the Engineer.

NOTE: See Gahanna Improvement Plan for Additional Curb Median Quantities.

# ITEM 614 MAINTAINING TRAFFIC, AS PER PLAN: GENERAL:

All temporary traffic control devices shall be furnished, erected, maintained and removed by the CONTRACTOR in accordance with the OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR CONSTRUCTION AND MAINTENANCE OPERATIONS (Current Edition), copies of which are available from the Ohio Department of Transportation, Bureau of Traffic, 1980 West Broad Street, Columbus, Ohio 43223. A minimum of one lane of traffic in each direction plus a left turn slot at signalized intersections shall be maintained at all times by use of the existing and completed pavement.

The Contractor shall install temporary markings on all pavement that has been planed or is in the process of being resurfaced prior to being opened to traffic.

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.

During the median removals, the Contractor may close the adjacent lane to traffic during permitted hours as discussed in the following notes. No open trench shall be permitted adjacent to a travel lane during non-working hours. All trenches shall be backfilled or securely plated during non-working hours. The Contractor shall backfill all median areas exposed prior to completion of each work day.

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

Construction operations shall not begin until all temporary traffic control devices are in place and approved by the Construction Inspection Division.

A flashing arrow panel, (48" x 96"-Type C) shall be used in all lane closures in accordance with the OMUTCD, and where shown in the plan.

No excavation shall be made within five (5) feet of any pole that supports traffic signal displays or signs by mast arm or signal span. Excavation within eight (8) feet, but more than five (5) feet shall require additional support (down guy, head guy, base guy, etc.). The CONTRACTOR shall contact the Traffic Engineering and Parking Division Signals Management Engineer (645-7790) at least forty-eight (48) hours, not including Saturday and Sunday, prior to the beginning of such excavation, so that the City could approve the stabilization setup by the Contractor. Stabilization will be done by the CONTRACTOR at the OWNER'S/CONTRACTING AGENCY'S expense.

The Traffic Engineering and Parking Division shall locate and mark all underground traffic control cables within the City of Columbus. The Traffic Engineering Shop shall be notified (645-7393, fax 645-5967) at least forty-eight (48) hours, not including Saturday and Sunday, prior to the beginning of any work within 400 feet of any signalized intersection(s), or within any posted area where the Division has underground cable. The Signals Management Engineer (645-7790) shall be notified six (6) weeks in advance for signal revisions or pole relocations. The Contractor shall contact the City of Gahanna Engineer (614) 471-6919 prior to any signal work.

Any work done by the Traffic Engineering and Parking Division, including installation, relocation, removal and/or replacement of temporary traffic control devices as a result of work done by the Contractor or as a result of negligence of the Contractor shall be at the expense of the Contractor.

All permanent traffic controls not in conflict with the temporary traffic controls shall be maintained throughout this project by the Contractor. Permanent traffic controls may be temporarily relocated, as approved by the Engineer. The Contractor shall assume all liability for missing, damaged and improperly placed signs. Where the plans call for a permanent sign to be covered, the Contractor shall do in such a manner as to avoid damaging the permanent sign when the cover is removed. The cover shall be totally opaque. The use of adhesive tape applied directly to a sign face is strictly prohibited.

The Contractor shall submit for approval, to the District Six Maintenance of Traffic Coordinator and the City of Columbus Division of Traffic Construction Coordinator (614) 645-6269 or 645-5845, and the City of Gahanna Engineer (614) 471-6919 the Contractor's maintenance of traffic plan with construction phasing descriptions a minimum of ten (10) days, prior to beginning work.

Reference sheet 47 for additional notes for Bridge Work maintenance of traffic.

## GENERAL (Continued):

The Contractor shall be responsible for the protection and safe movement of pedestrians through, around, or detoured away from the construction site. Traffic control for pedestrian movement shall be as per figures TA-28 and TA-29 of Part VI of the Federal Manual of Uniform Traffic Control Devices.

Drums shall be placed at 20' center-to-center on tapers and 40' center-to-center on tangents.

No work shall be performed between the hours of 6:00 a.m. to 9:00 a.m. and 4:00 p.m. to 7:00 p.m. M-F (no restrictions on Saturday or Sunday if approved by the Director of Public Service as noted above). Work may be performed in the "off peak" direction at the discretion of the Engineer and the Traffic Engineering Construction Coordinator. A minimum of one lane plus a turn slot (at signalized intersections) shall be maintained at all times in each direction.

Any changes in working hours or the number of lanes to be closed shall be approved by the Traffic Engineering Construction Coordinator at (614) 645-6269 and the Project Engineer.

Lane closures for median repairs and curb work will be necessary for the median on, and adjacent to the Hamilton Road bridge over the Big Walnut Creek and I-270 within the City of Columbus and City of Gahanna. Additional signs, drums, and arrow panels at exit ramps will be necessary. All lanes shall be opened to traffic, and ramps shall be fully operational 6:00 a.m. to 9:00 a.m. and 4:00 p.m. to 7:00 p.m. (Monday through Friday with no restrictions on Saturday or Sunday) (See Maintenance of Traffic Plan for additional details). All lane closures shall be coordinated with the Columbus Division of Traffic Construction Coordinator and the City of Gahanna Engineer. All operations including, but not limited to signs, barrels and flashing arrow panels shall be included within Item 614 - Maintaining Traffic, As Per Plan.

Temporary lane closures at the entrance/exit ramp at the US-33/Hamilton Rd. interchange and I-270/Hamilton Rd. interchange (See Maintenance of Traffic Plan for additional details) shall be permitted for evening paving work adjacent to the ramp. Ramp closures shall only be permitted 8 P.M. - 5 A.M. and shall be coordinated with the City of Columbus and Gahanna respectively. Payment for any additional traffic control devices or law enforcement officers for these ramp closures shall be included in Item 614 Maintaining Traffic, As Per Plan.

The Contractor shall provide, at the contractor's expense, 2 Special-Duty City of Columbus Police Officers with 2 Cruisers for the purpose of controlling traffic during any total closure, if required by the Engineer-in-Charge. The Contractor shall make arrangements for the services through the Deputy Chief Service Sub-division, Columbus Police Division, (614) 645-4795. Special Duty Police Officers are considered to be employed by the Contractor, and the Contractor shall be responsible for their actions. They shall conform to all plan notes, drawings and permit conditions which apply to the Contractor.

Prior to the closure of any portion of a street or highway within the City of Columbus or City of Gahanna, the Contractor shall submit "The Permit for Street Occupancy and/or Excavation," as contained in the contract documents, to the City Engineer(s) for completion and issuance a minimum of five (5) working days prior to starting work. The contractor's Foreman shall have an original permit on the project site at all times. The Project Engineer shall have a copy of the permit.

The Contractor shall cooperate with the Central Ohio Transit Authority (COTA) at (614) 275-5800 to facilitate bus movements 24 hours a day. Seventy-two (72) hours advance notice shall be given to COTA for total street closures.

Access to adjoining properties shall be maintained at all times.

The Contractor shall not work at on two consecutive intersection, except for planing and paving operations on the mainline. All exceptions must be approved by the Engineer, prior to construction.

The Contractor shall give written notification on the Contractor's letterhead to property owners at least one (1) week for minor projects and two (2) weeks for major projects prior to the first day of work, informing them road work will be done in their area.

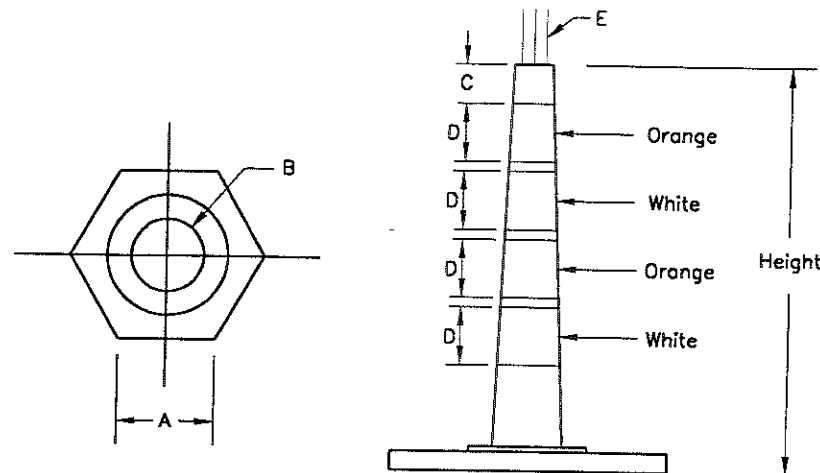
A minimum of one lane shall be operational at all times during trenching operations for conduit installations and/or pavement repair. The Contractor shall secure steel plates over all trenches within the roadway during non working hours.

## WORK ON SUNDAYS

Work on Sunday is acceptable through written permission from the Director of Public Service, City of Columbus. The Contractor can not perform any work on Sunday unless authorization is granted from the Director of Public Service and approved by the City Engineer. The Director of Public Service can be contacted at (614) 645-8290.

## 42" CONE WITH HANDLE AND DETACHABLE BASE

This work shall consist of the furnishing and maintaining traffic cones as required in the plans. This item shall include all related hardware, not separately specified, as required by the manufacturer to construct a complete and functional cone. These cones shall be in accordance with section 614.05 CMS and be placed at the locations shown on the plans. Cones shall only be used in the tangent sections of temporary lane closures, or illustrated in this plan. Cones shall be permitted for use at night, unless otherwise directed by the Engineer.



Height 42"± .50 inches

A. Side Dimension at base	10" min.
B. Inside Diameter at Base	7.5" min.
C. Cone Section Height	4" min.
D. Reflective Tape	6" width
E. Handle	Per Manufacturers Design

The cone is to be of the 2 piece breakaway design consisting of a 16 lb. recycled rubber base and a 3-lb. low-density polyethylene stem. The cone is to meet all Federal (MUTCD) standards and additionally have a handle that is integrally molded as part of the stem. The handle is to be doorknob shaped and have an outside diameter of three inches. This handle is to be set on top of a one and a half inch diameter stem that is three inches tall and extends above the actual 42" cone body. The handle shall be designed to accommodate easy handling when approached from any angle. The handle shall also act as an anti-sticking feature for stacked cones by creating a 1/4" space between the sides of these cones when stacked. The stem is to be highway orange in color and the base is to be black in color.

Reflectorization, each cone is to have both four(4) - 6" reflective bands(2 orange, 2 white). Bands are to be applied in a recessed area on the cone and are to be applied in conformance with Federal Standards for "Cones used at Night". Cones shall be placed at 20' center-to-center on tapers and 40' center-to-center on tangents.

Payment shall be included within the lump sum of Item 614 Maintaining Traffic, As Per Plan.

All work and traffic control devices shall be in accordance with Item 614 and other applicable portions of the specifications, as well as the Ohio Manual of Uniform Traffic Control devices. In addition, all detours shall be set up and maintained by the Contractor. Payment for all labor, equipment and materials, including materials for maintenance of detours and signs, shall be included in the lump sum contract price for Item 614 - Maintaining Traffic, As Per Plan unless separately itemized in the plan.



#### ITEM 614 - LAW ENFORCEMENT OFFICER WITH PATROL CAR:

In addition to the requirements of 614 and latest edition of the Ohio manual of uniform traffic control devices (OMUTCD), an uniformed law enforcement officer and official patrol car with working top mounted emergency flashing lights shall be provided for controlling traffic for the following tasks:

1. Ramp Closures at the US-33 Entrance and Exit Ramps for resurfacing operations.
2. Ramp Closures at the I-270 Ramps for resurfacing operations.

The LEO's with patrol cars are considered to be employed by the Contractor and the Contractor shall be responsible for their actions. Although they are employed by the Contractor, the project Engineer shall have control over their placement. The official patrol car shall be a public safety vehicle as required by the Ohio revised code.

The Contractor shall make arrangements for these services through the Columbus Police Division at (614) 645-4795 at the Contractor's expense.

Flaggers and L.E.O.'s shall be equipped according to the standards for flagging traffic contained in the OMUTCD. Flagging operations shall only be permitted as long as all traffic control is in place according to C-18 of the Ohio Manual. This applies to both flaggers and L.E.O.'s.

Law enforcement officers 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.

The following estimated quantities have been provided:

Item 614 - L.E.O. with Patrol Car = 40 hours

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

If the Contractor wishes to utilize LEO's with patrol cars for flagging, traffic control, or for total closure as discussed in the previous notes or other than for that required in these plans, the Contractor may do so at the Contractor's own expense. Payment for the excess above the contract requirements will be included under Item 614 - Maintaining Traffic, As Per Plan.

#### ITEM 614 - LAW ENFORCEMENT OFFICER:

In addition to the requirements of 614 and the latest edition of the Ohio Manual of Uniform Traffic Control Devices, a uniformed law enforcement officer shall be provided for controlling traffic under the following conditions:

1. Work being conducted on arterial roadways under the following conditions:
  - a. On two-way, two-lane streets with one lane closed and/or restricted by equipment, two L.E.O.'s shall be utilized.
  - b. On two-way streets consisting of three or more lanes and if two-way, two-lane traffic can NOT be achieved, L.E.O.'s shall be utilized.
  - c. L.E.O.'s shall be utilized to assist in controlling traffic while equipment is entering or exiting any intersection or a work zone.
2. Where the OMUTCD intends flaggers to be used as directed per the City of Columbus Traffic Engineer.

If a hazard develops the Safety Director or Service Director may assign additional off duty police officers to the project at the Contractor's expense.

When an L.E.O. is required, the Contractor shall maintain a daily log of all times that the L.E.O.(s) have worked. The Contractor shall only be paid for the amount of time the L.E.O.(s) have accumulated on this project.

The L.E.O.'s are considered to be employed by the Contractor and the Contractor shall be responsible for their actions. Although they are to be employed by the Contractor, the project Engineer shall have control over their placement.

The Contractor shall make arrangements through the Columbus Police Division at (614) 645-4795 at the Contractor's expense.

Law enforcement officers required by the traffic maintenance tasks described above shall be paid for on a unit price (hourly) basis under Item 614 Law Enforcement Officer. The following estimated hours include the two officers with a total as indicated:

Item 614 - Law Enforcement Officer = 500 Hours

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

If the Contractor wished to utilize L.E.O.'s for traffic control other than for that required in these plans, he may do so at his own expense. Payment for excess L.E.O. services above the plan and contract requirements will must be authorized by the Engineer-in-Charge prior to usage and payment.

#### ITEM 614 - WORK ZONE MARKING SIGNS:

The following quantity has been provided as per section 614.04 of the CMS:

OW-171-48	"UNEVEN LANES"	= 10 each
R-33-30	"DO NOT PASS"	= 10 each
R-34-30	"PASS WITH CARE"	= 10 each
OW-167-36	"NO EDGE LINES"	= 10 each
Item 614 - Work Zone Marking Signs		= 40 each

#### ITEM 614 - PORTABLE CHANGEABLE MESSAGE SIGN:

The Contractor shall furnish, install, maintain, and remove when no longer needed, changeable message signs, on site, for the duration of the project. The sign shall be of a type shown on a list of approved PCMS units maintained by the director. Only Class I or II signs will be permitted.

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

PCMS units shall be placed as directed by the Engineer for ramp closures / detours during resurfacing operations at the US-33 Entrance and Exit Ramps and the I-270 Entrance and Exit Ramps intersections with Hamilton Rd. The messages shall be as directed by the Engineer. If the Contractor wishes to use message boards for other operations other than listed above, he may do so at his own expense.

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 will be off, facing away from all traffic, and shall display one or more high intensity yellow reflective sheeting surfaces of 9 inch by 15 inch minimum, facing 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 trouble shoot the unit and to revise sign messages, if needed.

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 should be supported, but normally, not more than two messages phases should be employed, although three phases may be used in unusual conditions. PCMS format shall permit the complete message for each phase to be read at least once. 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 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 614.03. The Contractor shall, prior to activation the unit, make arrangements with an authorized service agent for the PCMS to assure prompt service in the event of a failure. Any failure shall not result in an order to stop work and open all traffic lanes and/or in the department taking appropriate action to safely control traffic and the entire cost to control traffic accrued by the department will be deducted from moneys due, or to become due the Contractor on the contract.

The Contractor shall be responsible for 24 hours per day operations and maintenance of these signs of the project for the duration of the phases when the plan requires their use.

The requirement to furnish, install, maintain, move to various locations of the project as resurfacing progresses to another location in the project, and remove a PCMS unit on this project shall not in any way relieve the Contractor of its responsibilities as outlined in 104.04.

Payment for the above described item shall be at the contract bid price per month for each Item 614 - Portable Changeable Message Sign, to be provided for all phases of work and shall include all labor, materials, equipment, fuels, lubrication oils, software, hardware, and incidentals to perform the above described work.

The following quantity has been provided and transferred to the general summary:

4 signs x 0.25 month = 1 Sign Mnth (US 33/Hamilton Road)
4 signs x 0.25 month = 1 Sign Mnth (I-70/Hamilton Road)
4 signs x 1.5 month = 6 Sign Mnth (I-270/Hamilton Road)
Item 614 - Portable Changeable Message Sign = 8 Sign Mnth

#### CLASS II TEMPORARY STRIPING SHALL BE AS PER ITEM 614.10

Work Zone Pavement Markings and placed to within one foot (1') longitudinal tolerance of the permanent stripe/s. All temporary striping not within the one foot tolerance shall be removed and replaced in the proper location by the Contractor.

If weather restricts the installation of Temporary Striping, the Contractor shall place drums with lights for temporary centerline(s) with "Keep Right" signs at all intersections for both directions.

All permanent pavement markings as shown on this plan shall be installed by the Contractor. The Traffic Engineering and Parking Division Operations Engineer shall be notified at (614) 645-7790 a minimum of forty-eight (48) hours (not including Saturday and Sunday) prior to the installation of permanent markings to inspect and approve the pavement marking layout prior to placing the permanent markings.

The CONTRACTOR is responsible for notification of Traffic Engineering, Operations Engineer (614) 645-7790, for the removal, relocation, or replacement of permanent traffic controls. The Operations Engineer shall, also, be notified when curb ramps are to be installed outside of the limits of the "crosswalk", as defined by the City Code. Notification shall be a minimum of two (2) working days prior to construction.

Any work done by the Traffic Engineering and Parking Division, including the installation, relocation, removal and/or replacement of permanent traffic control devices as a result of negligence on the part of the CONTRACTOR shall be at the expense of the CONTRACTOR.

Traffic Engineering and Parking Division shall locate and mark all underground traffic control cables. The Traffic Engineering and Parking Maintenance Shop (614) 645-7393 (fax 645-5967) shall be notified at least two (2) working days (6 weeks for signal revisions and/or pole relocations) prior to the beginning of any work within 450' of any signalized intersections or within any posted area where the Division has underground cable. Message shall be left on the voice mail system, if necessary.

#### ITEM 614 - TEMPORARY LANE LINE, CLASS II:

The following quantity has been provided on Sheet 18 and transferred to the general summary:

ITEM 614 - TEMPORARY LANE LINE, CLASS II = 20.00 MILES

#### ITEM 614 - TEMPORARY CENTER LINE, CLASS II:

The following quantity has been provided on sheet 18 and transferred to the general summary:

ITEM 614 - TEMPORARY CENTER LINE, CLASS II = 8.02 MILES

The following quantities has been provided on sheets 16&18 and transferred to the general summary:

SHEET 16: ITEM 614 - TEMPORARY EDGE LINE, CLASS I = 00.70 MILES
SHEET 18: ITEM 614 - TEMPORARY EDGE LINE, CLASS I = 19.42 MILES
20.12 MILES TOTAL

SHEET 16: ITEM 614 - TEMPORARY CENTER LINE, CLASS I = 0.01 MILES

SHEET 16: ITEM 614 - TEMPORARY CHANNELIZING LINE, CLASS I = 400 FEET

SHEET 16: ITEM 614 - TEMPORARY DOTTED LINE, CLASS I = 400 FEET

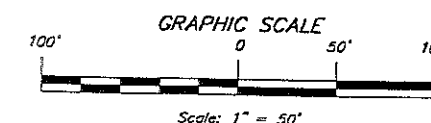
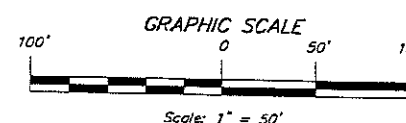
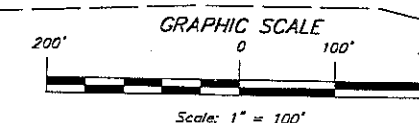
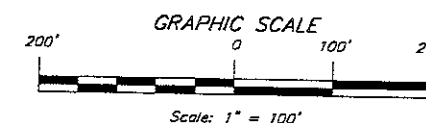
SHEET 16: ITEM 614 - TEMPORARY LANE LINE, CLASS I = 0.58 MILES

# CONSTRUCTION PHASE LEGEND

(Reference Bid Documents for Additional Details)

Start: August, 2001  
Finish: September, 2001

Start: August, 2001  
Finish: September, 2001  
(Median Removal and Cleanup for Paving. Proposed median shall be constructed during or after completion of paving.)

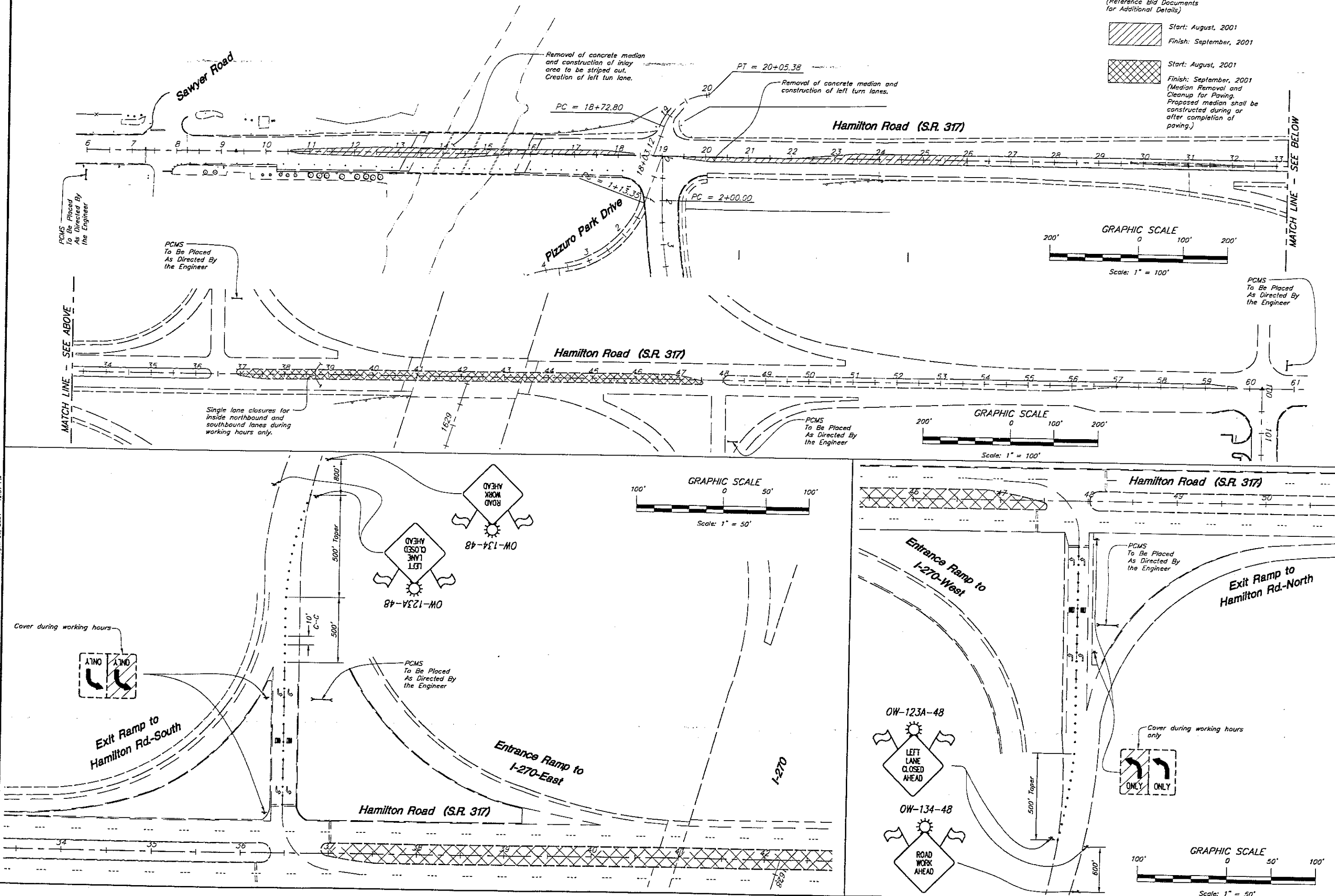


MAINTENANCE OF TRAFFIC PLAN

FRA-317-9.20

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PROJECT: 20011431.DWG: 2221420 HUBBARD - PLOTTED BY: TENDERS - April 23, 2001 - 12:31 PM



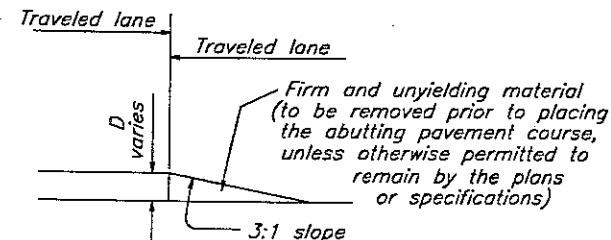


## GENERAL NOTES

- It is intended that this drawing be used for treatment of drop-offs that develop during construction operations, and that are not otherwise provided for in the construction plans. Where the plans do not provide specific items for labor, equipment, or materials to implement the drop-off treatments specified hereon, they shall be included for payment in the lump sum bid for Item 614 - Maintaining Traffic, As-Per Plan.
- While the need for certain advisory signing is noted hereon, it is not intended that this be indicative of all signing that may be required to advise or warn motorists, and all requirements of the Ohio Manual of Uniform Traffic Control Devices (OMUTCD) must be fulfilled.
- In urban or otherwise heavily developed areas where pedestrians and/or bicyclists may be present in significant numbers, additional signing and protective measures other than those shown hereon may be required.
- The drop-off treatment selected for use at any given location shall be as appropriate for the prevailing conditions at the site.
- Where concrete barrier is specified, it shall be in accordance with Standard Construction Drawing MC-9.2 and Item 622.
- When drums are specified for a dropoff condition, a minimum number of four drums shall be used. Spacing shall be as indicated in the plans or as specified in the OMUTCD.
- When OW-151-48 (Low Shoulder) signs or OW-171-48 (Uneven Lanes, as shown) and OWP-171-48 signs are required, they shall be placed 750' in advance of the condition, on all intersecting entrance ramps within the limits of the condition and immediately beyond all intersecting roadways within the limits of the condition. When the dropoff condition extends more than one-half mile, additional signs should be erected at intervals of one mile or less.
- For locations, such as at ramps, lane shifts, lane closures, etc., where traffic is required to negotiate any difference in elevation between pavements, a 3:1 slope treatment similar to the Optional Wedge Treatment shall be provided.
- Portable concrete barrier shall be placed on the same level as the traffic surface and shall not encroach on lane width(s) designated as the minimum required for traffic use. Where drums are used, and their presence would reduce traveled lane widths to less than 10', drums may be placed on the opposite level from that of traffic provided the dropoff depth does not exceed 5" and approval is granted by the Project Engineer.
- Pavement Repairs (or similar work):
  - Lengths greater than 60 feet - utilize appropriate treatment from Condition I.
  - Lengths of 60 feet or less - repairs shall be effected in accordance with 255.08. Drums may be used as a separator adjacent to the traveled lane.

### OPTIONAL WEDGE TREATMENT (MILLING OR RESURFACING)

- This treatment may be used when permitted for Condition I only.
- OW-171 and OWP-171 signs required.

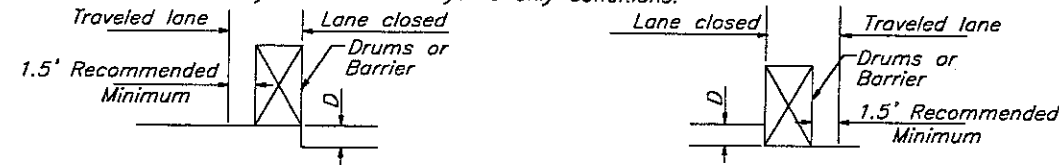


## CONDITION I DROPOFFS BETWEEN TRAVELED LANES

- These treatments are to be used for resurfacing, pavement planing, excavation, etc. between or within traveled lanes.

D (In.)	Treatment
≤ 1 1/2"	Erect OW-171 and OWP-171 signs.
> 1 1/2 - 3"	1) Lane closure utilizing drums * as shown below OR 2) Optional Wedge Treatment
> 3 - 5"	Lane closure utilizing drums as shown below.
> 5"	Lane closure utilizing portable concrete barrier as shown below.

\* Cones may be used for daytime only conditions.

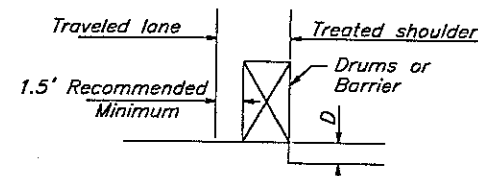


## CONDITION II DROPOFFS WITHIN GRADED SHOULDER AREA

- The treatments indicated below are for use in conjunction with resurfacing, planing, or excavations within the graded shoulder area.
- The graded shoulder area is that flat or gradually sloping area between the edge of a normally traveled lane and the more steeply sloping ditch foreslope or embankment slope. Its surface may be soil or turf, and/or it may be inclusive of a "treated" area (improved with aggregates, asphaltic materials, or concrete). For the purposes herein, its maximum width shall be considered to be twelve (12) feet.

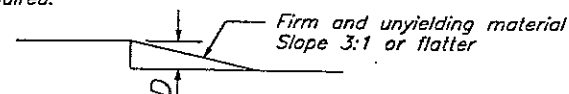
D (In.)	Treatment
≤ 1 1/2"	1) If edgelines are present, no treatment necessary OR 2) Erect OW-171 and OWP-171 signs.
> 1 1/2 - 5"	1) If min. lane width* requirements can be met, maintain lanes utilizing drums as shown below OR 2) If min. lane width* requirements cannot be met, close adjacent lane utilizing drums OR 3) Optional Shoulder Treatment.
> 5 - 12" Daylight only	If min. lane width* requirements can be met, maintain lanes utilizing drums as shown below.
> 5 - 24"	1) If min. lane width* requirements can be met, maintain lanes utilizing portable concrete barrier as shown below. OR 2) If min. lane width* requirements cannot be met, close adjacent lane utilizing drums.
> 24"	Lane closure utilizing portable concrete barrier as shown below.

\* Minimum lane widths shall be 10' unless otherwise specified in the plans.



### OPTIONAL SHOULDER TREATMENT

- This treatment may not be used within a bituminous shoulder where a hot longitudinal joint per 401.15 is required.
- OW-151-48 signs required.

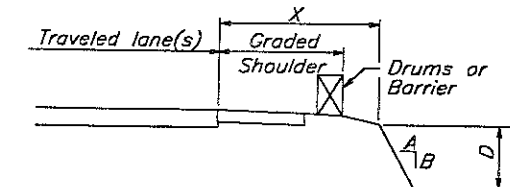


## CONDITION III DROPOFFS BEYOND GRADED SHOULDER OR BACK OF CURB

- See Note 2 under Condition II.
- Use Chart A or B below, as applicable.

### CHART A

- USE FOR:
- Uncurbed Facilities.
  - Curbed Facilities, where:
    - Curbs are less than 6" in height.
    - Curbs are 6" or greater in height and the legal speed is greater than 40 mph.

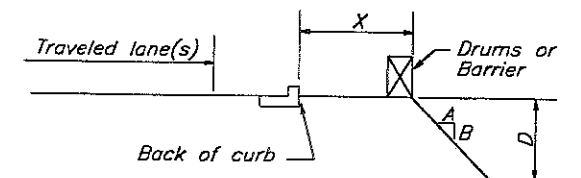


X (Ft.)	D (In.)	A/B	Treatment Required	
			Day	Night
0-4	Any	Any	(a)	(a)
4-30	Any	3:1 or flatter	None	None
4-12	≤ 3	Steeper than 3:1	None	None
4-12	> 3 - < 12	Steeper than 3:1	Drums	Drums
4-12	> 12	Steeper than 3:1	Drums	Barrier
> 12-20	< 12	Steeper than 3:1	None	None
> 12-20	> 12 - < 24	Steeper than 3:1	Drums	Drums
> 12-20	> 24	Steeper than 3:1	Drums	Barrier
> 20-30	< 24	Steeper than 3:1	None	Drums
> 20-30	> 24	Steeper than 3:1	Drums	Barrier
> 30	Any	Any	None	None

(a) Use treatment specified under Condition II.

### CHART B

- USE FOR: Curbed facilities, where the curb is 6" or greater in height and the legal speed is 40 mph or less.



X (Ft.)	D (In.)	A/B	Treatment Required	
			Day	Night
0-10	< 12	Any	None	Drums
0-10	> 12	Any	Drums	Drums
> 10	Any	Any	None	None

All traffic control devices shall be furnished, erected, maintained and removed by the Contractor in accordance with the OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES FOR CONSTRUCTION AND MAINTENANCE OPERATIONS (Current Edition), copies of which are available from the Ohio Department of Transportation, Bureau of Traffic, 1980 West Broad Street, Columbus, Ohio 43223.

The Contractor shall submit for approval by the Chief Traffic Engineer (Attn. Signals Management Engineer) City of Columbus, Division of Traffic Engineering, 109 North Front Street, Columbus, Ohio 43215-9024, one (1) complete set of catalog cuts, diagrams, shop drawings, brochures or other descriptive material for the signal items the Contractor intends to furnish that have not been specifically named by the product number. The Contractor shall also provide a detailed list of all variances from Odot Specifications and from the specifications contained herein for each non-specified item that does not comply 100% with these specifications. Unless otherwise stated by the Contractor, the supplied items will be considered as being in strict accordance with all specifications.

TRAFFIC SIGNALS

a) The Contractor shall provide the Traffic Engineering representative prior to the commencement of work, the IMSA (International Municipal Signal Association) certification papers for all signal technicians working on this project.

b) Locations of the replacement detection shall be field marked or dimensioned drawings submitted to the Construction Inspection Division by Traffic Engineering and Parking Division personnel. Location of final pavement markings or the markings themselves shall be clearly indicated on the asphalt prior to detector locations being marked. The contractor shall layout the loops on the pavement if drawings are submitted. Contact the Signals Management Section (614) 645-7790 at least two working days prior to needing the location marked if drawings are not provided.

c) The sawslot depth for loop wire installation shall be four (4) inches with six (6) inches at the conduit entrance. If adverse pavement conditions warrant, depth may be increased to six (6) inches throughout. This would be determined by the Traffic Engineering representative on a per location basis.

d) Each loop shall have it's own conduit from edge of pavement to pull box unless specified otherwise by the Traffic Engineering representative.

When a pullbox is not used, the soldered splice shall be made in an anchor base strain pole or a conduit riser specified by the Traffic Engineering representative, except where a controller cabinet is mounted on that pole in which case the lead-in cable shall be routed directly into the cabinet.

When any traffic control device, conduit, or cable gets damaged, the Contractor shall notify the Traffic Engineering Signals Management Section at 645-7790 between 8:00 am and 4:30 pm, Monday through Friday. At other times or if the Signals Management Section can not be reached, contact the Traffic Engineering Maintenance Shop at 645-7393, leaving a message on the answering machine if necessary.

The CONTRACTOR shall not make any wiring connections or adjustments inside the Control Cabinet. When such connections are required, the CONTRACTOR shall notify the Traffic Engineering Maintenance Shop (645-7393, Monday through Friday, 8 am to 4 pm) to schedule CITY forces for making the actual connections. The CONTRACTOR shall be available at the agreed time. The CONTRACTOR will be billed for any time that CITY forces are required to wait for the CONTRACTORS' work to be completed.

All wiring or cabinet adjustments shall be made at the City's request.

## ACCEPTANCE OF SIGNAL INSTALLATIONS

The Contractor shall notify the Signals Management Section at 645-7790 after all Loops have been installed at each intersection. The Traffic Engineering Division shall inspect all sensors and test as necessary. The contractor shall replace at contractors cost any loops not meeting specifications.

ITEM 621 - RAISED PAVEMENT MARKER, INSTALL ONLY:

Materials supplied by the department:

All materials are to be Contractor furnished, except that the department shall supply RPM materials in the quantities shown herein to the Contractor. Pay items for the department supplied materials shall be indicated as "installation only". The quantity and type of department supplied materials are shown on the raised pavement marker sub-summary sheet of this plan.

The Contractor shall pick up the department supplied RPM materials at the OPI Warehouse, 315 Phillippi Road, Columbus, Ohio 43228. For some projects having quantities of less than 20 RPMs, the Contractor may pick up RPM materials at the district offices. Quantities over 20 RPMs will be picked up at the recycler's warehouse or as arranged with the district. The Contractor shall pick up department supplied RPM materials at the specified location(s) for transport to the work site or to the Contractor's storage facility. The recycled raised pavement marker (RPM) authorization form is to be signed by the district construction Engineer prior to pick up of the department supplied materials. The Contractor shall store the RPMs without damage or contamination with foreign matter. A deduction in the amount of the actual cost to the department shall be made for materials damaged by the Contractor or for castings received by the Contractor which were not installed and were not returned to the department.

Return of non-performed raised pavement marker materials supplied by the department: Raised pavement marker materials supplied by the department, that are non-performed shall be carefully repacked or packed in the boxes in the same style and quantity as originally received from the department.

Casting styles shall not be mixed within any one container. The Contractor shall clearly mark on the outside of each container, the color of the prismatic retro-reflector, the style of casting. Boxes shall be placed on skids or pallets in the same style (low profile or conventional, reflectorised or non reflectorised) and no more than 420 RPMs (or 21 boxes) on one skid.

Stake body trucks are appropriate to load less than 4 pallets, provided the truck is rated for the load and the load can be safely secured for transport by chaining or strapping down as needed.

Pickup trucks are appropriate for loads of approximately one pallet, provided the pickup truck is rated for the load and the load can be safely secured for transport.

Dump trucks, tilt bed trucks, and non-commercial moving vans will not be loaded by the recycler's warehouse.

The warehouse supervisor will refuse to load any truck that is unsafe to load or unsuitable for the load being placed on the truck.

Only use the boxes supplied by the raised pavement marker recycler. Boxes must be marked with the recycler's part or catalog number and the project number. The recycler's catalog or part numbers may be obtained from the office of Traffic Engineering in Columbus, Ohio or from the recycler. Boxes not marked with the proper recycler's catalog or part numbers, and the department's project number will not be accepted at the recycler's warehouse. Non performed materials will be returned to the location as specified by the district construction Engineer within 30 days of the completion of the project.

The above work including all labor, equipment and material needed to perform the work, shall be considered incidental to the respective pay item.

If the department has to repackage the RPMs correctly, the Contractor will be assessed the actual cost for repackaging the materials by the department's forces.

Loading of materials supplied by the department at the recycler's warehouse:

Trucks shall have a loading height of 48 inches and be able to back up flush to the loading dock.

Trucks shall not have any obstructions or protrusions that prevent the loading by a standard forklift or lift truck.

Semi trucks or 20 foot commercial trucks are the most appropriate trucks for loads in excess of 4 pallets (one pallet = 21 boxes = 2100 lbs.).

SEE SHEET 14 FOR TOTAL QUANTITIES

CHECKED TJE	CALCULATED GB
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ITEM 625 - PULL BOX MISC.: PULLBOX (SIZE AS SPECIFIED), 713.08, AS PER PLAN

In "Right of Way" areas that may bare traffic, ODOT 713.08 pull boxes shall be used, size to be determined by previous existing or damaged enclosure or as referenced if specifically called out on the plan sheet. In areas that would never encounter traffic, a modified ODOT 713.08 may be used. The modified ODOT 713.08 pullbox assembly shall be rated as medium to heavy duty, to be installed in concrete walkways, and shall have all stainless steel hardware. The pullbox cover shall have the word "TRAFFIC" on it. The cover shall be bolted to the box and shall be polymer concrete. The cover plus housing as a unit shall be rated to withstand a 20,000 lb. static load over a 10"x10" area. The box depth shall be 18 inches minimum to 30 inches maximum. The supplied assembly shall be a: CDR Systems model SA32-1015-18, or Synertech model 11"x18". Six (6) inches of #4 aggregate shall be placed at the bottom of the pullbox. No conduit shall protrude more than three (3) inches inside the pullbox. Conduit ells or extensions may be used to align the conduit with the housing. The cost for extensions or ells if needed shall be incidental to the per unit price.

ITEM 625 - CONDUIT 2", 713.07, AS PER PLAN

Conduit shall be polyvinyl chloride schedule 40. Any field bending shall be done at the manufacturer's specifications. A No. 10 AWG copper clad or galvanized pulling wire shall be installed in all conduits to pull future cables.

Payment shall be as per Item 625.

ITEM 632 DETECTOR LOOP, AS PER PLAN

Loop wire shall be identified with a plastic tag (WBLT, EBRT, etc.) at the splice point or at entrance to the cabinet if lead-in cable is not used. The work to install the detection shall conform to Ohio Department of Transportation Standard Construction Drawing (ODOT SCD) TC-82.10 (dated 1/19/01 or later).

The four conductor probe cable shown in these plans (where applicable) shall be removed from the existing conduit and replaced with two conductor loop cables. If required, the cost for removal of any magnetometers during planing operations, etc. shall be included in Item 632 - Detector Loop, As Per Plan.

ITEM 632 LOOP DETECTOR LEAD-IN CABLE, AS PER PLAN

Loop lead-in and homerun cables shall be soldered within an epoxy encapsulated splice enclosure. Cost for splices between loop wire and lead-in cables shall be included in the bid price for loop wire. Cost for splices required between lead-in cables shall be incidental to the lead-in cable.

Conduit for detector lead in placed in "right of way" areas bearing no traffic may be 713.07 SCH 40, DB. Conduit in areas that may bear traffic (or at above ground locations) shall be ODOT 713.04. Sizes and type to be determined by Traffic Engineering representative on a per location basis. All conduit shall be placed at a minimum depth of 24 inches.

Payment shall be as per Item 632

ITEM 644 - THERMOPLASTIC PAVEMENT MARKING

During the placement of thermoplastic pavement markings, the lane shall be closed as per applicable standard drawings. Line types and widths shall conform to section 641.08 of the ODOT CMS. The cost of these closures shall be included in the cost of Item 614 - Maintaining Traffic, As Per Plan.

CONTINGENCY ITEMS

The following items listed below are Contingency items to be used only as directed by the Engineer in Charge:

ITEM	QUANTITY	UNIT	DESCRIPTION
625	100	LF	TRENCH IN PAVED AREA, TYPE B
625	100	LF	TRENCH IN PAVED AREA, TYPE A
625	5	EA	PULL BOX MISC.: PULLBOX, (18"), 713.08, AS PER PLAN
632	1000	LF	LOOP DETECTOR LEAD-IN CABLE, AS PER PLAN
632	5	EA	CONDUIT RISER, 1" DIAMETER
632	6	EA	CONDUIT RISER, 2" DIAMETER

CALCULATED  
CB  
CHECKED  
TJE

TRAFFIC CONTROL NOTES

FRA-317-9.20

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ROUTE	PROJECT	SEGMENT	LOCATION		LOCATION		SIDE	DESCRIPTION	HWY MILE	ITEM 644														COMMENTS	CALCULATED JMG	CHECKED TJE	
			FROM	TO	FROM	TO				LANE LINE		EDGE LINE		CENTER LINE		TRANSVERSE LINE	STOP LINE	CROSSWALK LINE	LANE ARROWS	WORD ON PAVEMENT "ONLY", 72"							
										NUMBER OF LINES	LENGTH TRANSFERRED TO G.S.	WHITE 4"	YELLOW 4"	DOUBLE YELLOW 4"	CENTER SOLID DASHED 4"						CHANNELIZING LINE 8"	DOTTED LINE WHITE 4"	YELLOW 24"				WHITE 24"
STA	STA	SLM	SLM			MILES	EACH	MILES	MILES	MILES	MILES	MILES	MILES	FT.	FT.	FT.	FT.	FT.	FT.	EACH	EACH						
SR 317	FRA-317-9.20	1	0+00	1+42	9.20	9.23	LT-RT	Hamilton Road	0.03	2	0.06	0.06	0.06				142			36		1	1				
SR 317	FRA-317-9.20	1	1+42	7+60	9.23	9.34	LT-RT	Hamilton Road	0.11	2	0.22	0.22	0.24				145			40				Includes: 105' YE, 145' CH @ Ramp West Side; 16' SL @ Ramp East Side			
SR 317	FRA-317-9.20	1	7+60	12+61	9.34	9.43	LT-RT	Hamilton Road	0.09	2	0.18	0.18	0.02				483					5	2				
SR 317	FRA-317-9.20	1	12+61	16+86	9.43	9.51	LT-RT	Hamilton Road	0.08	2	0.16	0.16					345					3	1				
SR 317	FRA-317-9.20	1	16+86	19+74	9.51	9.56	LT-RT	Hamilton Road	0.05	2	0.10	0.10					200										
SR 317	FRA-317-9.20	1	19+47	29+86	9.56	9.76	LT-RT	Hamilton Road	0.20	2	0.40	0.40					433					5	1	Includes: 16' WT, 59' CH, 2 Arrows @ Hamilton Square Blvd.			
SR 317	FRA-317-9.20	1	29+86	32+88	9.76	9.82	LT-RT	Hamilton Road	0.06	2	0.12	0.12					98										
SR 317	FRA-317-9.20	1	32+88	41+18	9.82	9.98	LT-RT	Hamilton Road	0.16	2	0.40	0.34	0.06				1,980			68	196		20	12	Includes: 213' DY, 633' CH, 68' WT, 120 SL, 8 Arrows, 8 Only's, 441' LL @ Winchester Pike Co 376		
											1.64	1.58	0.38				1.05	0.00	3,528	0	650	84	272	0	34	17	Subtotal for FRA-317-9.20 Segment 1
SR 317	FRA-317-9.20	2	41+18	72+86	9.98	10.58	LT-RT	Hamilton Road	0.60	2	1.20	1.20					30			82			2			Includes: 23' DY, 23' CH, 34' SL, 2 Arrows @ Harbor Blvd.	
											1.20	1.20	0.00				0.60	0.00	30	0	0	0	82	0	2	0	Subtotal for FRA-317-9.20 Segment 2
SR 317	FRA-317-9.20	3	72+86	78+90	10.58	10.69	LT-RT	Hamilton Road	0.11	2	0.22	0.22					60			98			1	1			
SR 317	FRA-317-9.20	3	78+90	81+50	10.69	10.74	LT-RT	Hamilton Road	0.05	2	0.10	0.10					77			42	90		1	1			
SR 317	FRA-317-9.20	3	81+50	87+20	10.74	10.85	LT-RT	Hamilton Road	0.11	2	0.22	0.22					415			74	146	130	7	4		Includes: 56' DY, 56' CH, 60' SL, 2 Arrows @ Eastland Square Drive	
SR 317	FRA-317-9.20	3	87+20	90+82	10.85	10.92	LT-RT	Hamilton Road	0.07	2	0.14	0.14	0.14				168										
											0.68	0.68	0.14				0.56	0.00	720	0	140	164	146	130	9	6	Subtotal for FRA-317-9.20 Segment 3
SR 317	FRA-317-9.20	4	99+34	105+78	11.08	11.20	LT-RT	Hamilton Road	0.12	2	0.24	0.24	0.24				210						3	1			
SR 317	FRA-317-9.20	4	105+78	112+04	11.20	11.32	LT-RT	Hamilton Road	0.12	2	0.24	0.24	0.24				270			50	110		5	2		Includes: 20' DY, 30' CH, 60' SL, 1 Arrow @ Eastland Two Drive	
SR 317	FRA-317-9.20	4	112+04	114+10	11.32	11.36	LT-RT	Hamilton Road	0.04	2	0.08	0.08	0.08				205			50	36		3	1			
SR 317	FRA-317-9.20	4	114+10	121+00	11.36	11.49	LT-RT	Hamilton Road	0.13	2	0.26	0.26	0.14				1,120			83	92	161	13	2		Includes: 160' YE, 265' CH, 58' SL, 5 Arrows @ Eastland One Drive	
SR 317	FRA-317-9.20	4	121+00	122+62	11.49	11.52	LT-RT	Hamilton Road	0.03	2	0.06	0.06					142			50	31		2	1			
SR 317	FRA-317-9.20	4	122+62	126+21	11.52	11.59	LT-RT	Hamilton Road	0.07	2	0.14	0.14					200			20	65	101	258	7	5	Includes: 30' DY, 30' CH, 70' SL, 4 Arrows @ MacSway Avenue	
SR 317	FRA-317-9.20	4	126+21	131+14	11.59	11.68	LT-RT	Hamilton Road	0.09	2	0.18	0.18					198			46	90	40		3	2		
SR 317	FRA-317-9.20	4	131+14	138+33	11.68	11.82	LT-RT	Hamilton Road	0.14	2	0.28	0.28					636	107		25	106	140		9	6	Includes: 35' DY, 97' CH, 49' SL, 4 Arrows @ Kimberly Parkway; 10' DY, 9' CH, 20' SL @ Kingsland Ave.	
SR 317	FRA-317-9.20	4	138+33	144+83	11.82	11.94	LT-RT	Hamilton Road	0.12	2	0.24	0.24					568						6	1		Includes: 63' CH, 9' WT, 1 Arrow @ Eastpoint Drive	
SR 317	FRA-317-9.20	4	144+83	146+86	11.94	11.98	LT-RT	Hamilton Road	0.04	2	0.08	0.08	0.08				180			40	35		3	1			
SR 317	FRA-317-9.20	4	146+86	150+47	11.98	12.05	LT-RT	Hamilton Road	0.07	2	0.14	0.14	0.14				605			35	134	451		9	2	Includes: 60' DY, 75' CH, 82' SL, 3 Arrows, 308' XW @ Groves Road	
SR 317	FRA-317-9.20	4	150+47	159+78	12.05	12.23	LT-RT	Hamilton Road	0.18	3	0.54	0.36	0.36														
SR 317	FRA-317-9.20	4	159+78	169+80	12.27	12.46	LT-RT	Hamilton Road	0.19	2	0.38	0.38	0.38				635				232	122		4	1	Includes: 15' CH, 15' DY, 28' SL @ I-70 Ramp East Side; 18' SL I-70 Ramp West Side,	
											2.86	2.68	1.66				0.55	0.00	4,969	107	149	721	857	1,010	67	25	Subtotal for FRA-317-9.20 Segment 4
SR 317	FRA-317-9.20	-	-	-	-	-	-	Hamilton Road			5.18	4.94	2.18				2.16	0.00	9,217	107	939	969	1,275	1,140	110	48	Subtotal for Seg. 1,3,4
SR 317	FRA-317-9.20	-	-	-	-	-	-	Hamilton Road			6.38	6.14	2.18				2.76	0.00	9,247	107	939	969	1,357	1,140	112	48	Subtotal for Seg. 1-4 this sheet-Trans. to G.S.

$$\frac{21}{77}$$

0:\PROJECT\20001463\DWG\2234TSE.DWG ~ 1 XREFS: 22234XZG - PLOTTED BY OBASKIN - April 27, 2001 - 1:03 PM

G:\PROJECT\2001\461\DWG\222\475\TSC.DWG -- 1 XREFS: 222\475 -- PLOTTED BY DBASHIN -- April 27, 2001 -- 1:02 PM

ROUTE	PROJECT	SEGMENT	LOCATION		OF LINES	SIDE	DETAIL	DESCRIPTION	HWY MILE	PRISMATIC RETRO-REFLECTOR COLORS						202 RAISED PAVEMENT MARKER REMOVED FOR STORAGE EACH	621 RAISED PAVEMENT MARKER INSTALLATION ONLY EACH		
			FROM SLM	TO SLM						ONE-WAY		TWO-WAY							
										WHITE EACH	YELLOW EACH	WHITE/ WHITE EACH	YELLOW/ YELLOW EACH	WHITE/ RED EACH	YELLOW/ RED EACH				
	LANE LINE																		
SR-317	FRA-317-9.20	1	9.20	9.35	2	LT-RT	1	HAMILTON ROAD	0.15	20									
SR-317	FRA-317-9.20	1	9.35	9.90	2	LT-RT	2	HAMILTON ROAD	0.55	74					20	20			
SR-317	FRA-317-9.20	1	9.90	9.98	2	LT-RT	2	HAMILTON ROAD	0.08	12					74	74			
								SUBTOTAL SEGMENT 1		106	0	0	0	0	106	106			
SR-317	FRA-317-9.20	2	9.98	10.57	2	LT-RT	2	HAMILTON ROAD	0.59	78					78	78			
								SUBTOTAL SEGMENT 2		78	0	0	0	0	78	78			
SR-317	FRA-317-9.20	7B	17.40	17.56	1	LT		HAMILTON ROAD	0.16	11						11			
								SUBTOTAL SEGMENT 7B		11	0	0	0	0	0	11	INSTALL NEW RPM'S FROM STA 50+70 TO 59+50		
	CENTERLINE																		
SR-317	FRA-317-9.20	1	9.34	9.37	2	LT-RT	3	HAMILTON ROAD	0.03										
SR-317	FRA-317-9.20	1	9.37	9.41	2	LT-RT	4	HAMILTON ROAD	0.04				4		4	4			
SR-317	FRA-317-9.20	1	9.41	9.57	2	LT-RT	4	HAMILTON ROAD	0.16				6		6	6			
SR-317	FRA-317-9.20	1	9.59	9.73	2	LT-RT	4	HAMILTON ROAD	0.14				22		22	22			
SR-317	FRA-317-9.20	1	9.73	9.76	1	LT-RT	2	HAMILTON ROAD	0.14				20		20	20			
SR-317	FRA-317-9.20	1	9.76	9.82	2	LT-RT	4	HAMILTON ROAD	0.03				2		2	2			
SR-317	FRA-317-9.20	1	9.82	9.88	1	LT-RT	4	HAMILTON ROAD	0.06				8		8	8			
SR-317	FRA-317-9.20	1	9.82	9.88	1	LT-RT	4	HAMILTON ROAD	0.06				4		4	4			
SR-317	FRA-317-9.20	1	9.90	9.98	1	LT-RT	4	HAMILTON ROAD	0.08				6		6	6			
								SUBTOTAL SEGMENT 1		0	0	0	72	0	0	72	72		
SR-317	FRA-317-9.20	2	9.98	10.01	1	LT-RT	4	HAMILTON ROAD	0.03				2		2	2			
SR-317	FRA-317-9.20	2	10.01	10.57	1	LT-RT	2	HAMILTON ROAD	0.56				37		37	37			
								SUBTOTAL SEGMENT 2		0	0	0	39	0	0	39	39		
	EDGE LINE																		
SR-317	FRA-317-9.20	1	9.35	9.98	2	LT-RT	2	HAMILTON ROAD	0.63	84					84	84			
								SUBTOTAL SEGMENT 1		84					84	84			
SR-317	FRA-317-9.20	2	9.98	10.02	2	LT-RT	2	HAMILTON ROAD	0.04	6					6	6			
								SUBTOTAL SEGMENT 2		6	0	0	0	0	6	6			
	CHANNELIZING																		
SR-317	FRA-317-9.20	1	9.20	9.23	1	RT	4	HAMILTON ROAD	0.03										
SR-317	FRA-317-9.20	1	9.37	9.41	1	RT	4	HAMILTON ROAD	0.04					4	4	4			
SR-317	FRA-317-9.20	1	9.40	9.42	1	RT	2	HAMILTON ROAD	0.02					6	6	6			
SR-317	FRA-317-9.20	1	9.43	9.50	1	LT	4	HAMILTON ROAD	0.07					8	8	8			
SR-317	FRA-317-9.20	1	9.59	9.67	1	LT	4	HAMILTON ROAD	0.08					11	11	11			
SR-317	FRA-317-9.20	1	9.83	9.88	1	RT	4	HAMILTON ROAD	0.05					11	11	11			
SR-317	FRA-317-9.20	1	9.83	9.88	1	RT	2	HAMILTON ROAD	0.05					7	7	7			
SR-317	FRA-317-9.20	1	9.90	9.98	2	LT	2,4	HAMILTON ROAD	0.08					10	10	10			
								SUBTOTAL SEGMENT 1		0	0	0	0	22	0	22	22		
								TOTAL SEGMENT 1		190	0	0	72	79	0	341	341		
								TOTAL SEGMENT 2		84	0	0	39	0	0	123	123		
								TOTAL SEGMENT 7B		11	0	0	0	0	0	11			
								TOTAL (SEGMENTS 1 & 2 & 7B) THIS SHEET, TRANS. TO GENERAL SUMMARY		285	0	0	111	79	0	464	475		

DETAIL	
1	MULTI-LANE DIVIDED
2	4 LANE UNDIVIDED
3	4 LANE DIVIDED TO 4 LANE UNDIVIDED TRANSITION
4	APPROACH WITH LEFT TURN LANE

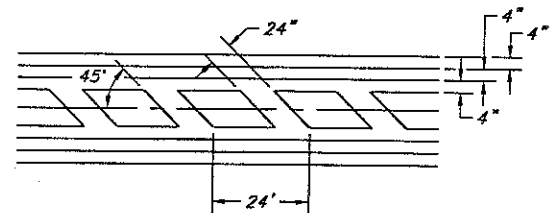
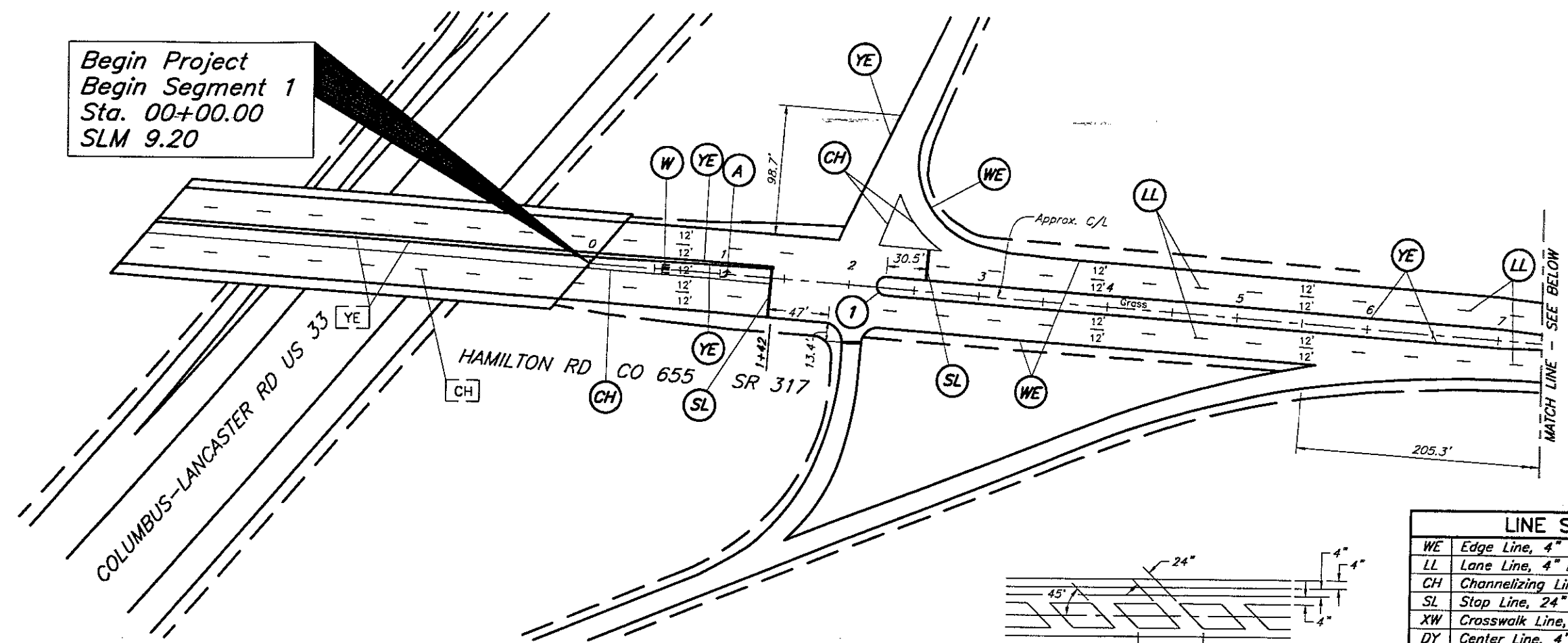
RAISED PAVEMENT MARKERS SUBSUMMARY

FRA-317-9.20

22  
77

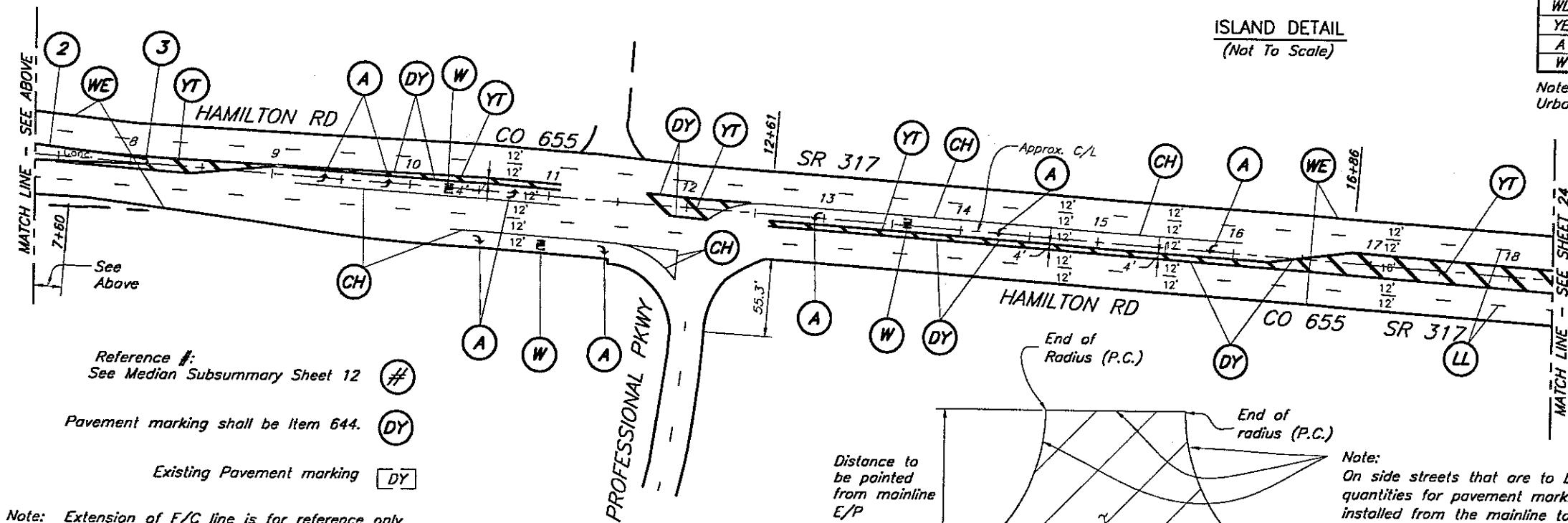
CALCULATED  
JMG  
CHECKED  
TJE

Begin Project  
Begin Segment 1  
Sta. 00+00.00  
SLM 9.20



LINE SPECIFICATIONS	
WE	Edge Line, 4" White
LL	Lane Line, 4" Dashed White
CH	Channelizing Line, 8" White
SL	Stop Line, 24" White
XW	Crosswalk Line, 12" White
DY	Center Line, 4" Solid Double Yellow
YT	Transverse Line, 24" Yellow
WD	Dotted Line, 4" White
YE	Edge Line, 4" Yellow
A	Lane Arrow
W	Word on Pavement, 72"

Note: The word "ONLY" on pavement shall be the Urban size 72" as shown on Standard Drawing TC-71.10M.



Reference #:  
See Median Subsummary Sheet 12

Pavement marking shall be Item 644.

Existing Pavement marking

Note: Extension of F/C line is for reference only.  
The Contractor shall notify the Signals Management Engineer at (614) 645-7790 before all loops have been installed at each intersection. The Traffic Engineering and Parking Division shall inspect all sensors and test as necessary. The Contractor shall replace any loops not meeting specifications.

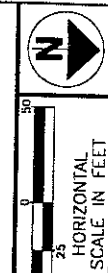
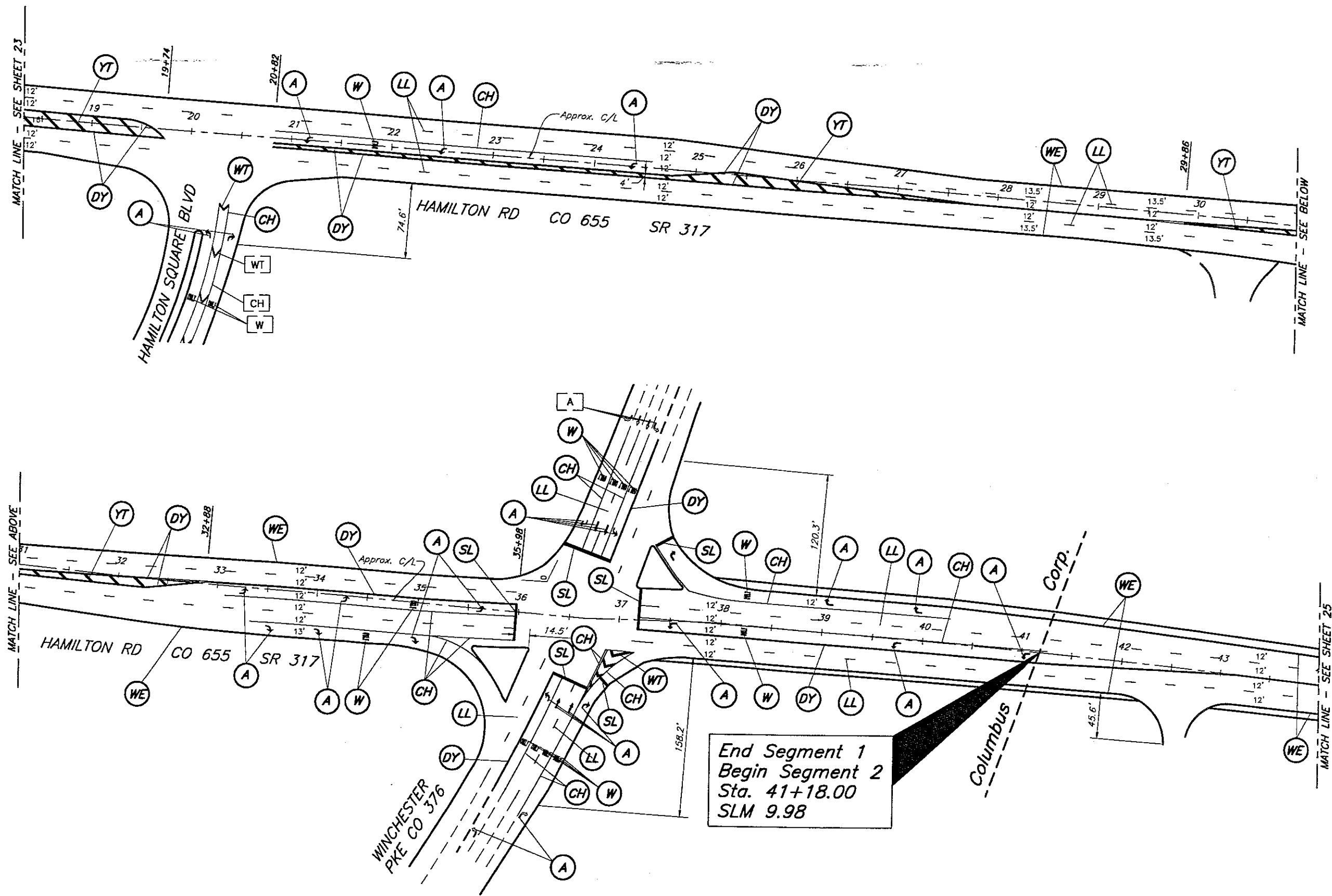
Area to be planed and resurfaced  
(See sheets 8-10 for pavement quantities)

Note:  
On side streets that are to be resurfaced, quantities for pavement markings to be installed from the mainline to the PC (end of radius) have been included on the pavement markings subsummary, sheets 20 & 21.  
See plan for proposed marking callouts. All pavement markings should terminate at the PC of the side street, unless otherwise noted on plan with symbol or note.

SIDE STREET PAVEMENT MARKING DETAIL  
(Not To Scale)



G:\PROJECT\2000\1461\DWG\222\1710.DWG - 2 XREFS: 222\1460 222\1461 - PLOTTED BY TEPENT - April 13, 2001 - 2:00 PM

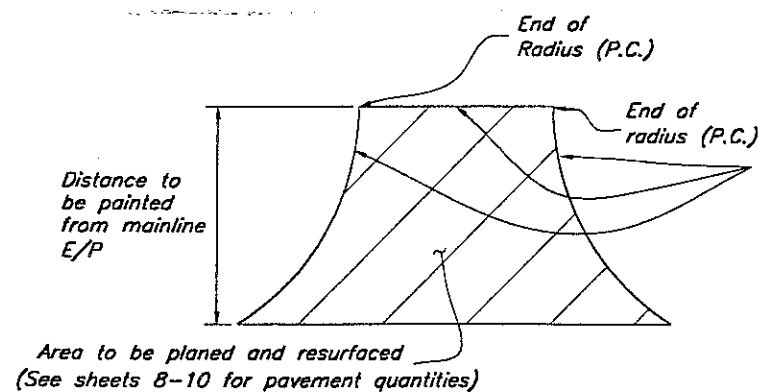


CALCULATED  
GB  
CHECKED  
TJE

HAMILTON ROAD: SEGMENTS 1 & 2  
PAVEMENT MARKING

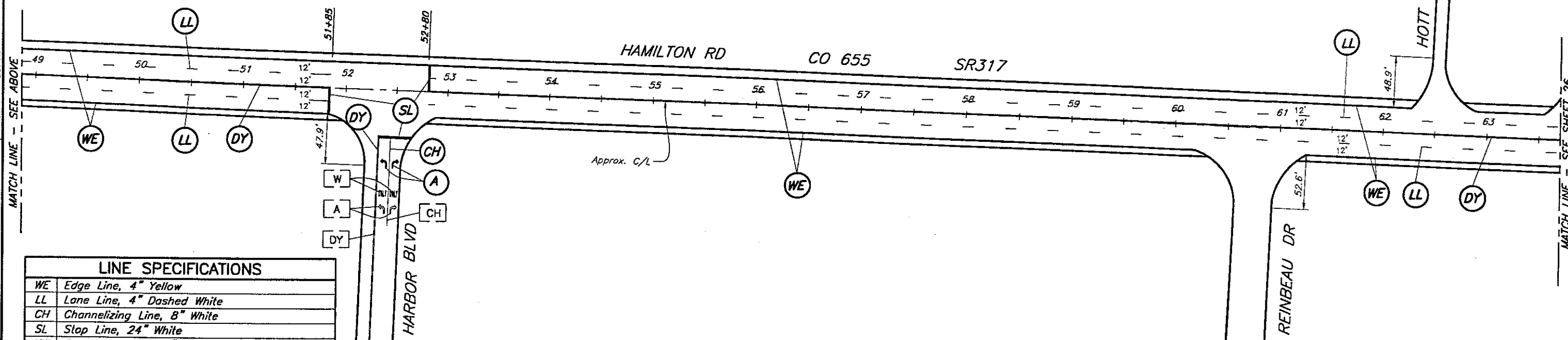
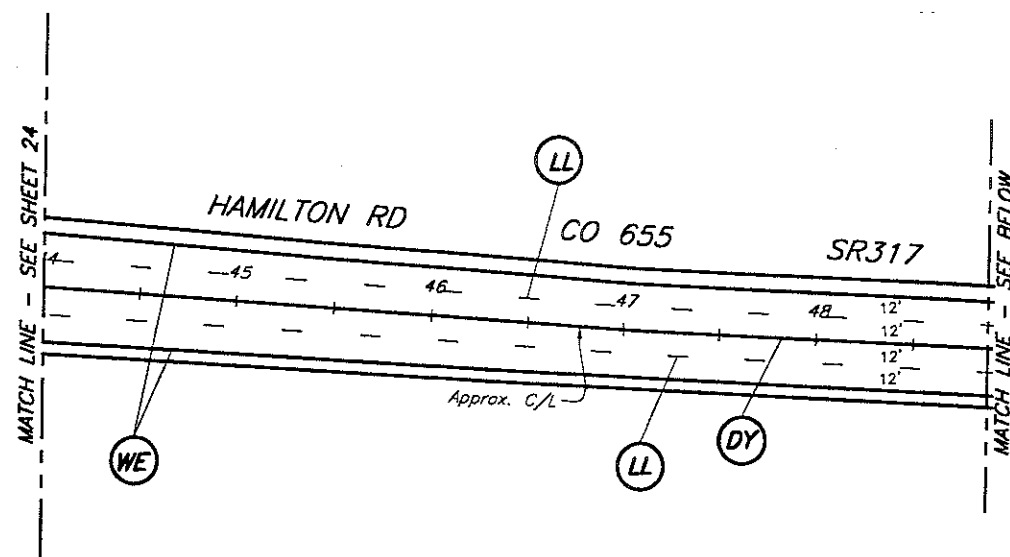
FRA-317-9.20

24  
77



Note:  
On side streets that are to be resurfaced, quantities for pavement markings to be installed from the mainline to the PC (end of radius) have been included on the Pavement Markings Subsummary, sheets 20 & 21. See plan for proposed marking callouts. All pavement markings should terminate at the PC of the side street, unless otherwise noted on plan with symbol or note.

SIDE STREET PAVEMENT MARKING DETAIL  
(Not To Scale)

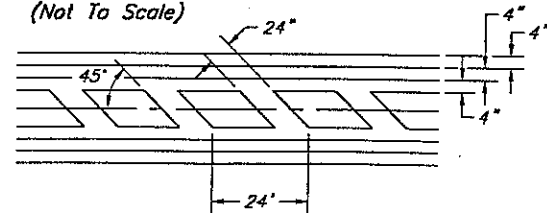


LINE SPECIFICATIONS

WE	Edge Line, 4" Yellow
LL	Lane Line, 4" Dashed White
CH	Channelizing Line, 8" White
SL	Stop Line, 24" White
XW	Crosswalk Line, 12" White
DY	Center Line, 4" Solid Double Yellow
WT	Transverse Line, 24" White
YT	Transverse Line, 24" Yellow
YIM	Island Marking, Yellow
WD	Dotted Line, 4" White
A	Lane Arrow
W	Word On Pavement, 72"

Note: The word "ONLY" on pavement shall be the Urban size 72" as shown on Standard Drawing TC-71.10M.

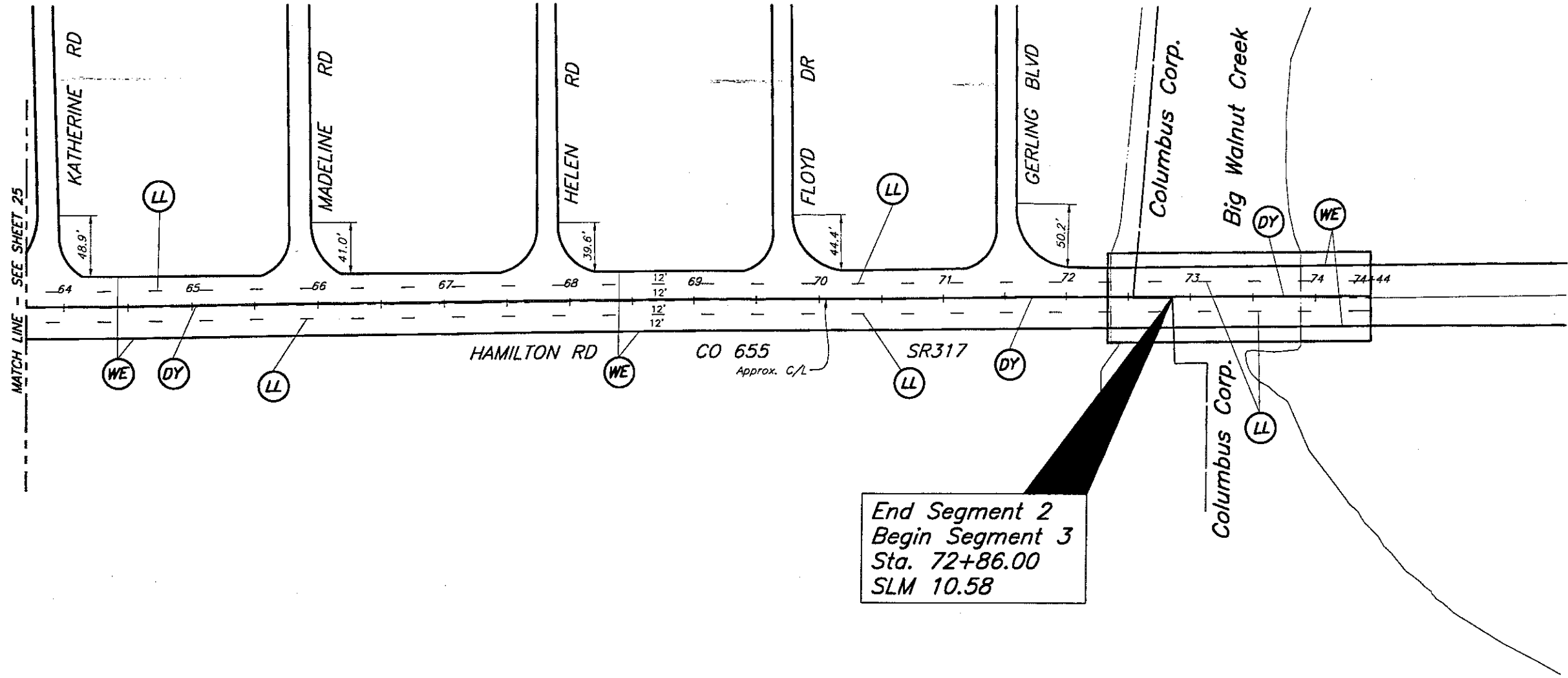
ISLAND DETAIL  
(Not To Scale)



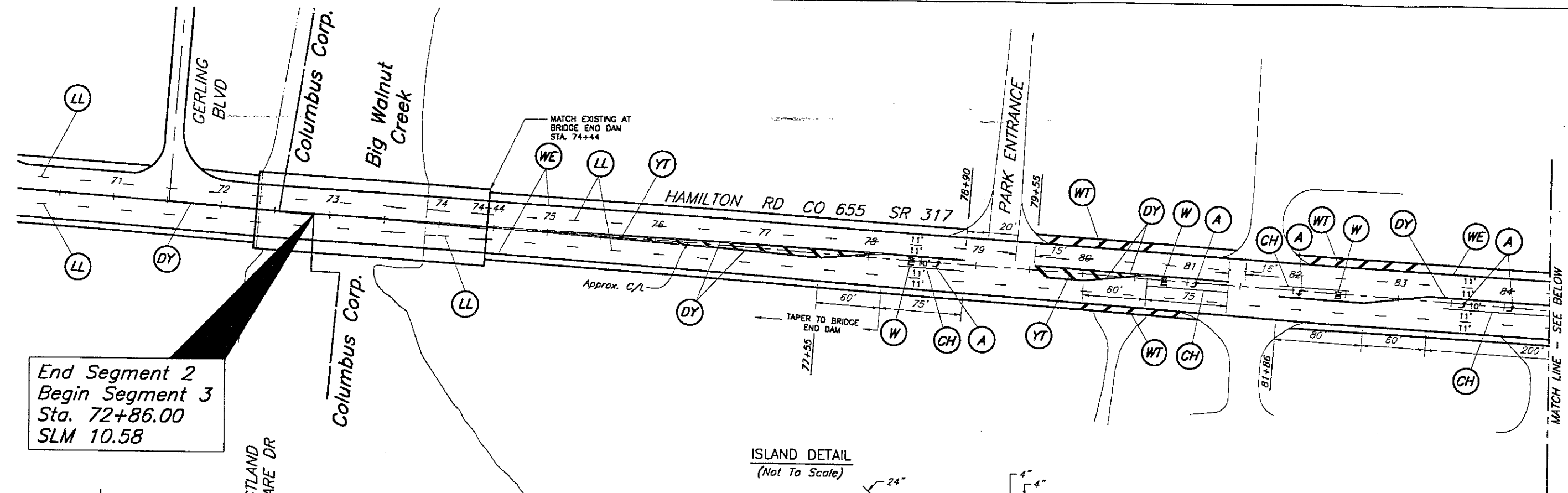
Pavement marking shall be Item 644. (DY)

Existing Pavement marking (DY)

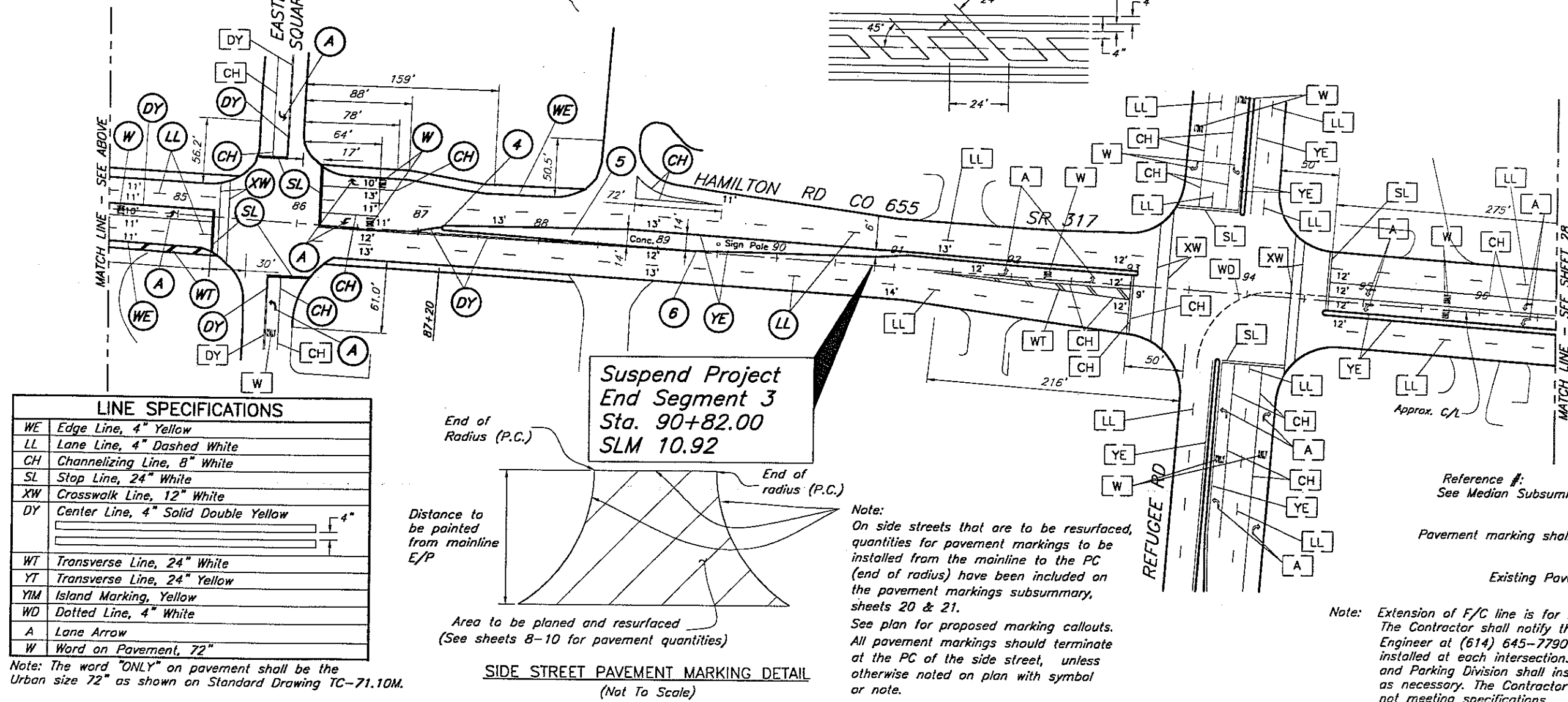
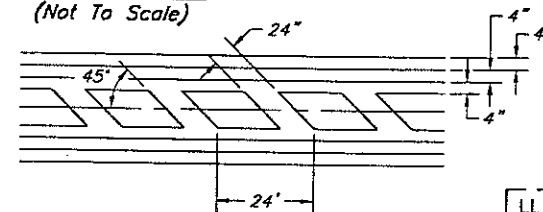
Note: Extension of F/C line is for reference only. The Contractor shall notify the Signals Management Engineer at (614) 645-7790 before all loops have been installed at each intersection. The Traffic Engineering and Parking Division shall inspect all sensors and test as necessary. The Contractor shall replace any loops not meeting specifications.



Q:\PROJECTS\2000\461\DWG\2224\TPE.DWG - 2 XREFS: 2224\TPE.DWG - PLOTTED BY TAMSUNG - April 24, 2001 - 4:53 PM



ISLAND DETAIL  
(Not To Scale)



LINE SPECIFICATIONS

WE	Edge Line, 4" Yellow
LL	Lane Line, 4" Dashed White
CH	Channelizing Line, 8" White
SL	Stop Line, 24" White
XW	Crosswalk Line, 12" White
DY	Center Line, 4" Solid Double Yellow
WT	Transverse Line, 24" White
YT	Transverse Line, 24" Yellow
YM	Island Marking, Yellow
WD	Dotted Line, 4" White
A	Lane Arrow
W	Word on Pavement, 72"

Note: The word "ONLY" on pavement shall be the Urban size 72" as shown on Standard Drawing TC-71.10M.

End of Radius (P.C.)

Distance to be painted from mainline E/P

Area to be planed and resurfaced  
(See sheets 8-10 for pavement quantities)

SIDE STREET PAVEMENT MARKING DETAIL  
(Not To Scale)

End of radius (P.C.)

Note:  
On side streets that are to be resurfaced, quantities for pavement markings to be installed from the mainline to the PC (end of radius) have been included on the pavement markings subsummary, sheets 20 & 21.

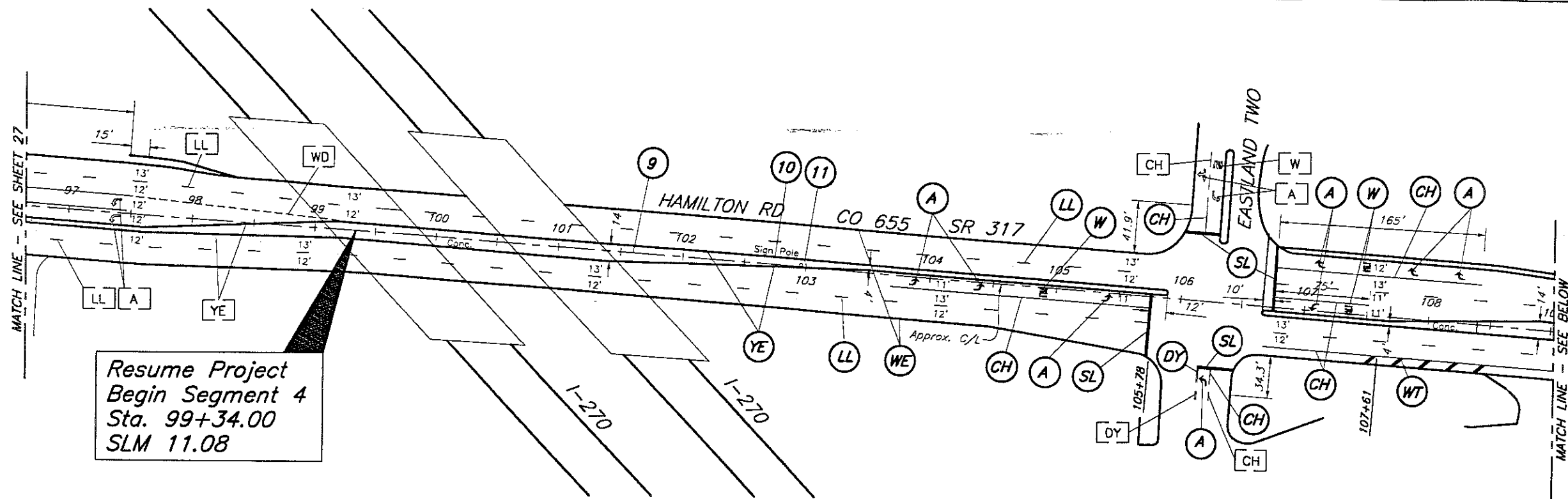
See plan for proposed marking callouts. All pavement markings should terminate at the PC of the side street, unless otherwise noted on plan with symbol or note.

Reference #:  
See Median Subsummary Sheet 12

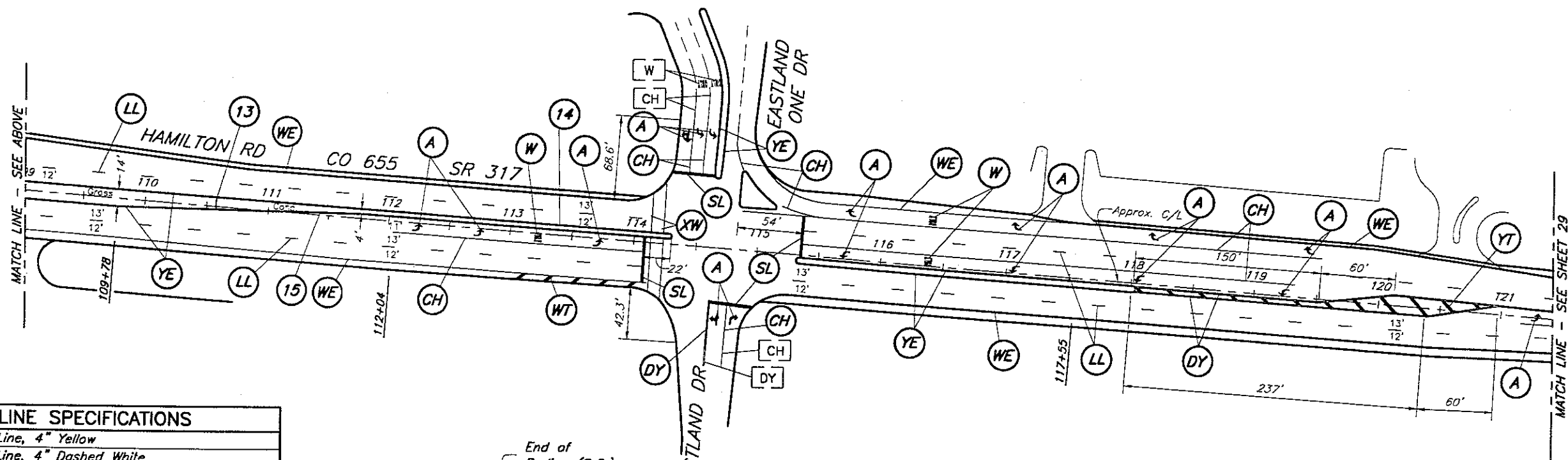
Pavement marking shall be Item 644.

Existing Pavement marking

Note: Extension of F/C line is for reference only. The Contractor shall notify the Signals Management Engineer at (614) 645-7790 before all loops have been installed at each intersection. The Traffic Engineering and Parking Division shall inspect all sensors and test as necessary. The Contractor shall replace any loops not meeting specifications.



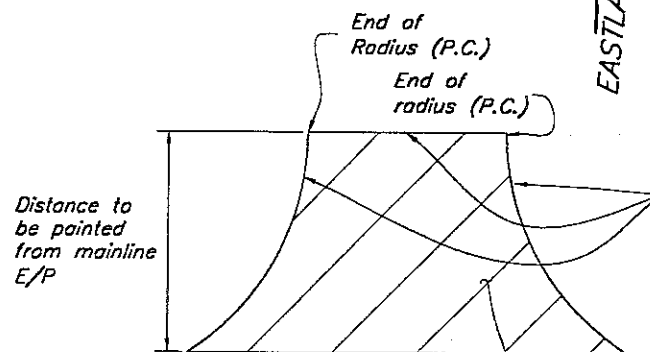
Resume Project  
Begin Segment 4  
Sta. 99+34.00  
SLM 11.08



#### LINE SPECIFICATIONS

WE	Edge Line, 4" Yellow
LL	Lane Line, 4" Dashed White
CH	Channelizing Line, 8" White
SL	Stop Line, 24" White
XW	Crosswalk Line, 12" White
DY	Center Line, 4" Solid Double Yellow
WT	Transverse Line, 24" White
YT	Transverse Line, 24" Yellow
WD	Dotted Line, 4" White
A	Lane Arrow
W	Word on Pavement, 72"

Note: The word "ONLY" on pavement shall be the Urban size 72" as shown on Standard Drawing TC-71.10M.



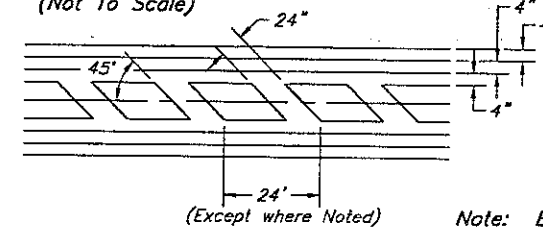
Area to be planed and resurfaced  
(See sheets 8-10 for pavement quantities)

#### SIDE STREET PAVEMENT MARKING DETAIL (Not To Scale)

Note:  
On side streets that are to be resurfaced, quantities for pavement markings to be installed from the mainline to the PC (end of radius) have been included on the pavement markings subsummary, sheets 20 & 21.

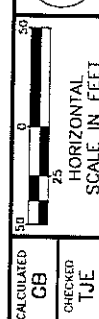
See plan for proposed marking collouts.  
All pavement markings should terminate at the PC of the side street, unless otherwise noted on plan with symbol or note.

#### ISLAND DETAIL (Not To Scale)



Note: Extension of F/C line is for reference only.  
The Contractor shall notify the Signals Management Engineer at (614) 645-7790 before all loops have been installed at each intersection. The Traffic Engineering and Parking Division shall inspect all sensors and test as necessary. The Contractor shall replace any loops not meeting specifications.

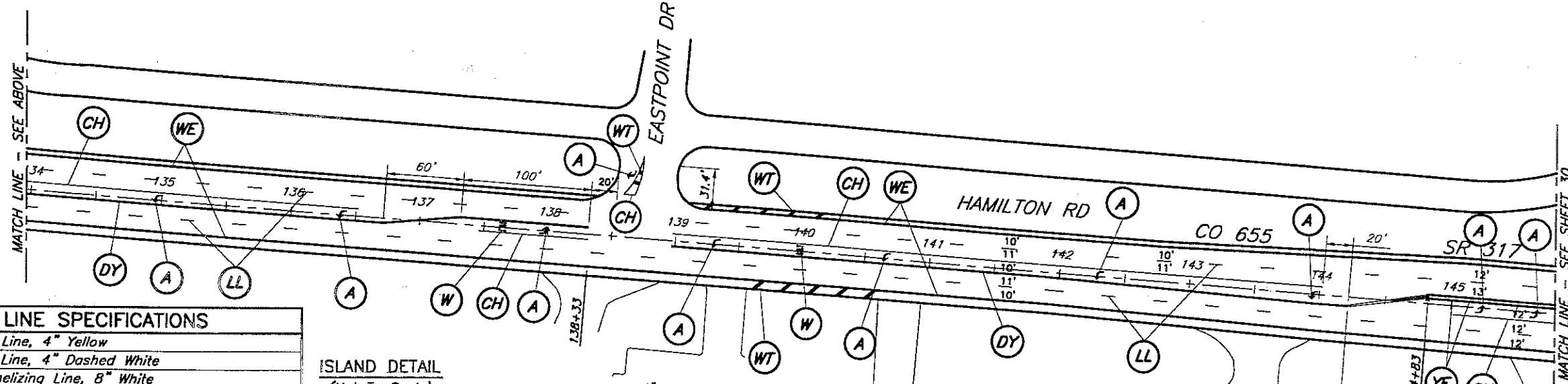
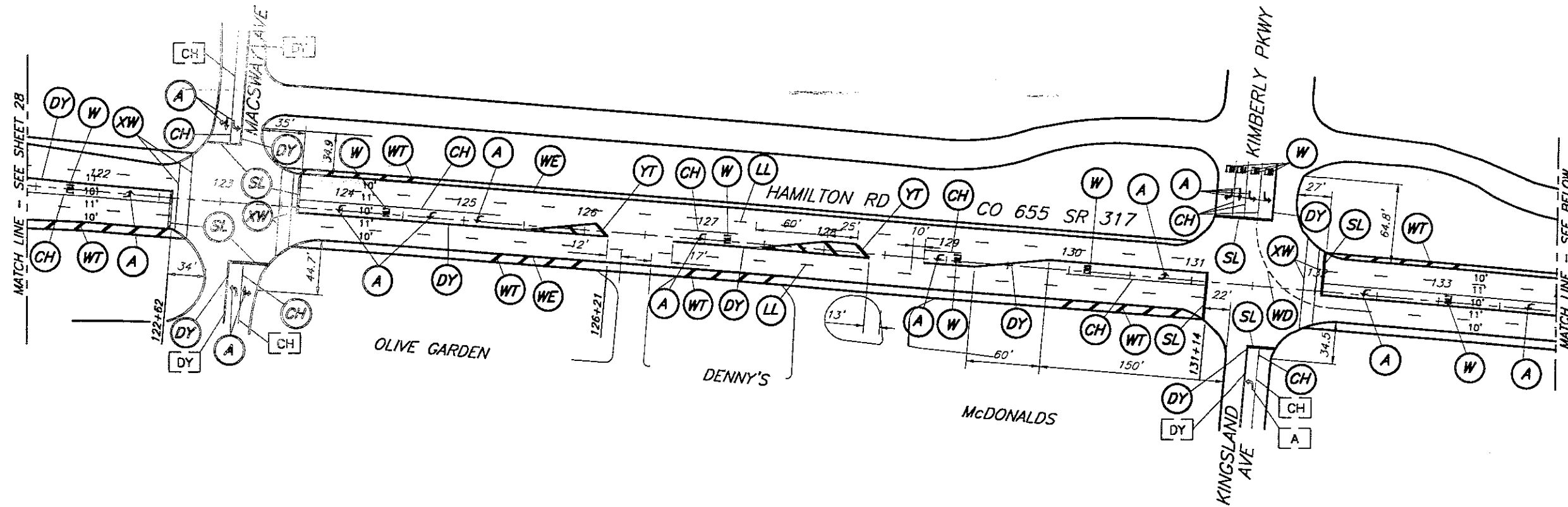
Reference #:  
See Median Subsummary Sheet 12 #  
Pavement marking shall be Item 644. DY  
Existing Pavement marking DY



HAMILTON ROAD: SEGMENT 4  
PAVEMENT MARKING

FRA-317-9.20



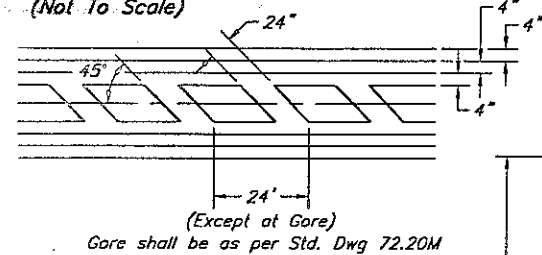


#### LINE SPECIFICATIONS

WE	Edge Line, 4" Yellow
LL	Lane Line, 4" Dashed White
CH	Channelizing Line, 8" White
SL	Stop Line, 24" White
XW	Crosswalk Line, 12" White
DY	Center Line, 4" Solid Double Yellow
WT	Transverse Line, 24" White
YT	Transverse Line, 24" Yellow
WD	Dotted Line, 4" White
A	Lane Arrow
W	Word on Pavement, 72"

Note: The word "ONLY" on pavement shall be the Urban size 72" as shown on Standard Drawing TC-71.10M.

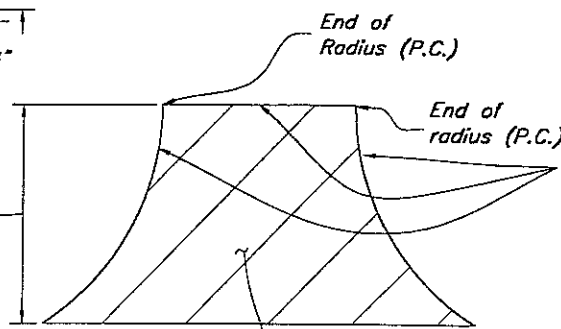
#### ISLAND DETAIL (Not To Scale)



Distance to be painted from mainline E/P

Area to be planed and resurfaced  
(See sheets 8-10 for pavement quantities)

#### SIDE STREET PAVEMENT MARKING DETAIL (Not To Scale)



#### Note:

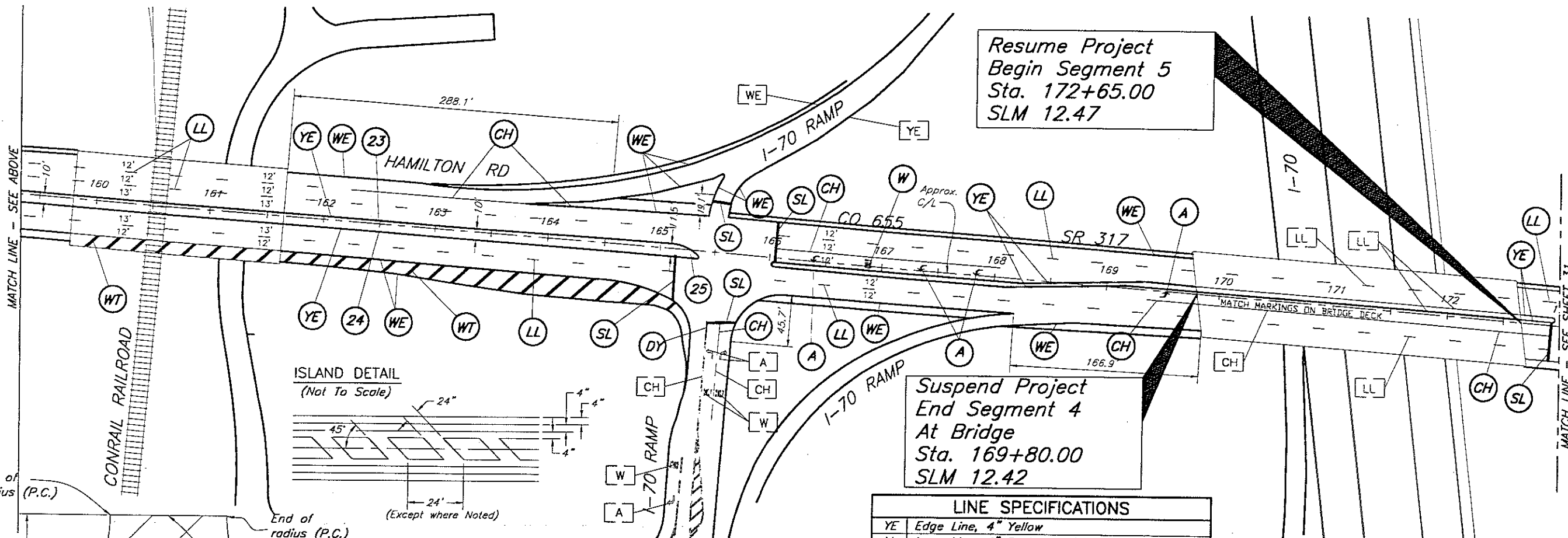
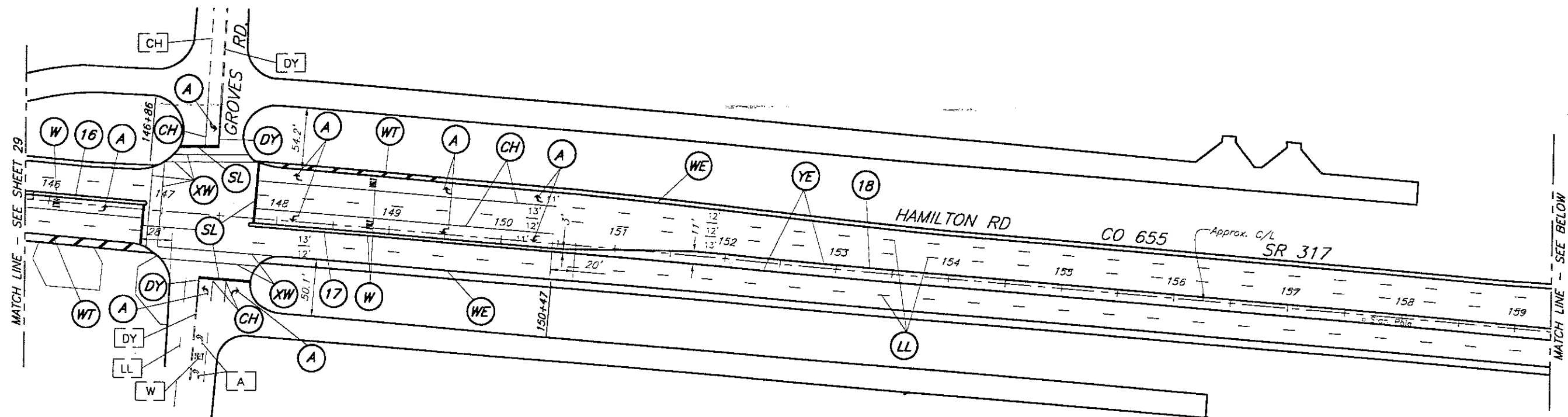
On side streets that are to be resurfaced, quantities for pavement markings to be installed from the mainline to the PC (end of radius) have been included on the pavement markings subsummary, sheets 20 & 21.

See plan for proposed marking callouts. All pavement markings should terminate at the PC of the side street, unless otherwise noted on plan with symbol or note.

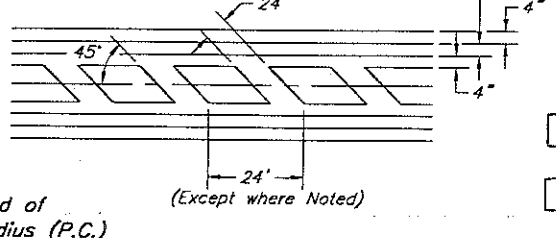
Pavement marking shall be Item 644. (DY)

Existing Pavement marking (DY)

Note: Extension of F/C line is for reference only. The Contractor shall notify the Signals Management Engineer at (614) 645-7790 before all loops have been installed at each intersection. The Traffic Engineering and Parking Division shall inspect all sensors and test as necessary. The Contractor shall replace any loops not meeting specifications.



ISLAND DETAIL  
(Not To Scale)



Note:  
On side streets that are to be resurfaced, quantities for pavement markings to be installed from the mainline to the PC (end of radius) have been included on the pavement markings subsummary, sheets 20 & 21.  
See plan for proposed marking callouts. All pavement markings should terminate at the PC of the side street, unless otherwise noted on plan with symbol or note.

Note: The word "ONLY" on pavement shall be the Urban size 72" as shown on Standard Drawing TC-71.10M.

Resume Project  
Begin Segment 5  
Sta. 172+65.00  
SLM 12.47

Suspend Project  
End Segment 4  
At Bridge  
Sta. 169+80.00  
SLM 12.42

LINE SPECIFICATIONS	
YE	Edge Line, 4" Yellow
LL	Lane Line, 4" Dashed White
CH	Channelizing Line, 8" White
SL	Stop Line, 24" White
XW	Crosswalk Line, 12" White
DY	Center Line, 4" Solid Double Yellow
WT	Transverse Line, 24" White
YT	Transverse Line, 24" Yellow
YIM	Island Marking, Yellow
WD	Dotted Line, 4" White
A	Lane Arrow
W	Word on Pavement, 72"

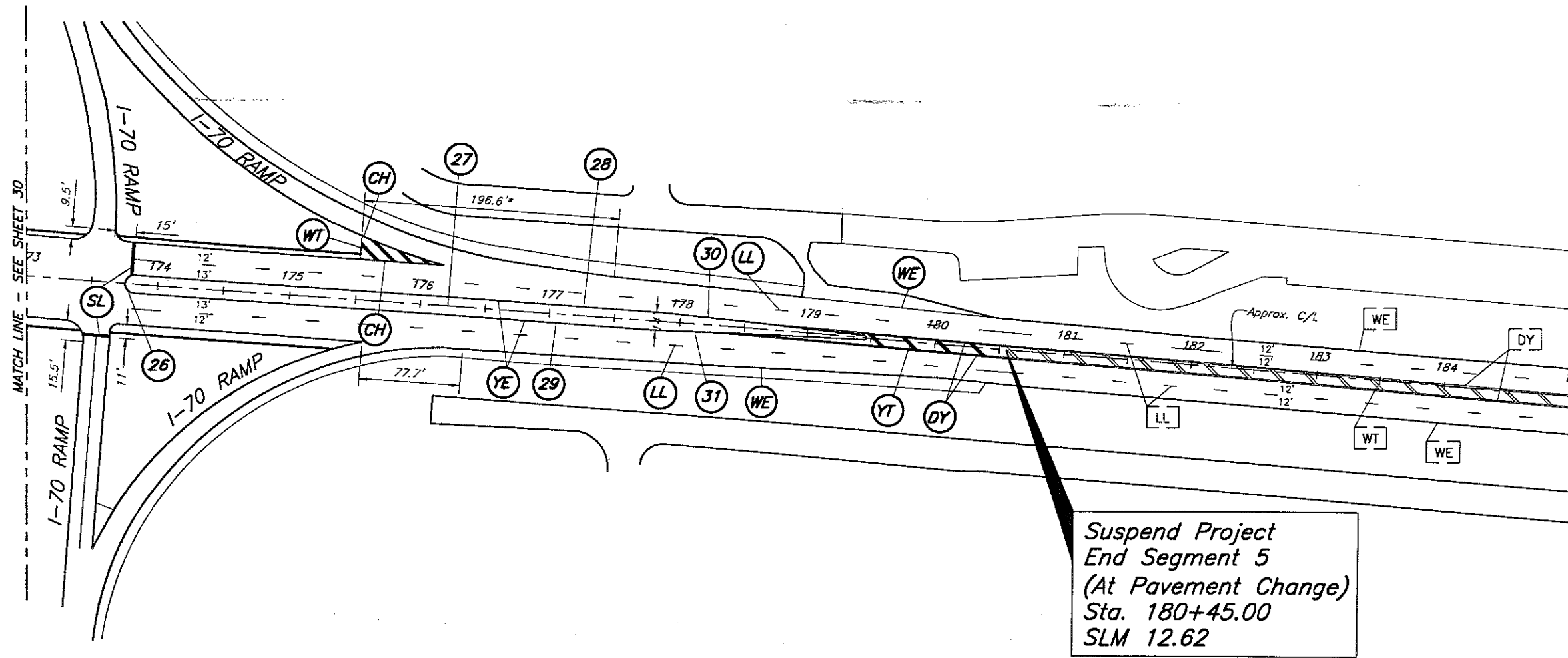
Pavement marking shall be Item 644. (DY)  
Existing Pavement marking (DY)

Note: Extension of F/C line is for reference only. The Contractor shall notify the Signals Management Engineer at (614) 645-7790 before all loops have been installed at each intersection. The Traffic Engineering and Parking Division shall inspect all sensors and test as necessary. The Contractor shall replace any loops not meeting specifications.

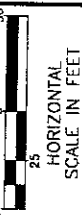
PROJECT 20001463 (JMS) 222MPLDING - 2 MRES: 222MKG 222MKT - PLOTTED BY TENDARDS - April 25, 2007 - 11:52 AM

SIDE STREET PAVEMENT MARKING DETAIL  
(Not To Scale)

\\SERVERS3\HIGHWAY\PROJECT\20001463\DWG\22241PM.DWG - 2 SHEETS: 22241AZG 22241ABT - PLOTTED BY DORAWFORD - April 12, 2001 - 12:38 PM



\* = End pavement resurfacing at end of paved gore.



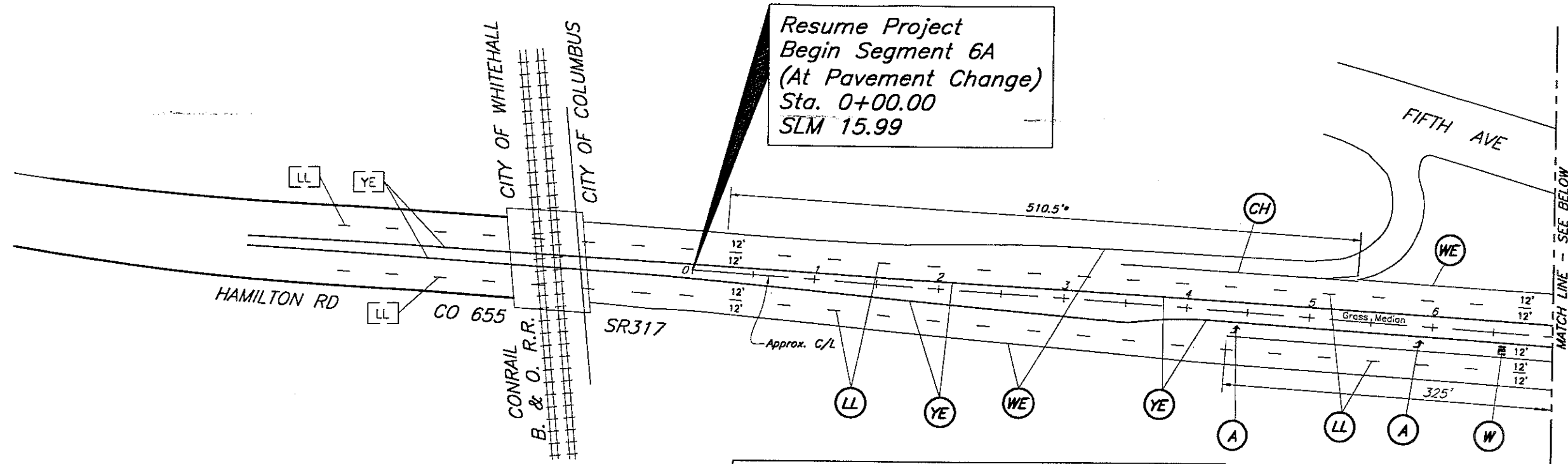
CALCULATED  
CB  
CHECKED  
TJE

HAMILTON ROAD: SEGMENT 5  
PAVEMENT MARKING

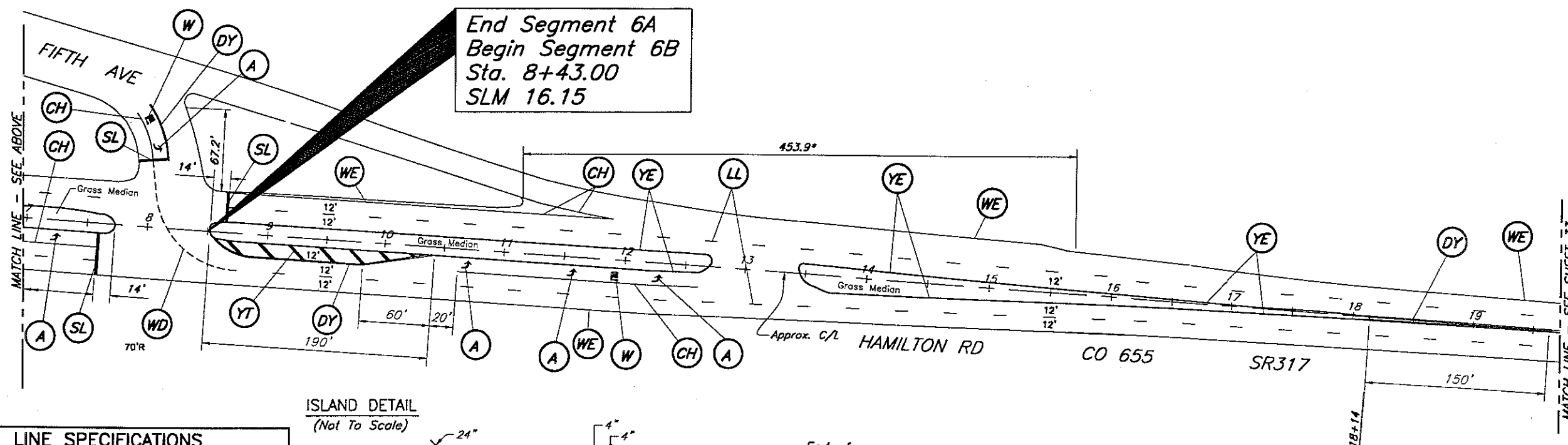
FRA-317-9.20

31  
77

\\SERVER1\HIGHWAY\PROJECT\2000\461\DWG\222147.DWG - 2 XREFS: 222147ZC 222147BS - PLOTTED BY: DCRW/PROB - April 12, 2001 - 12:39 PM



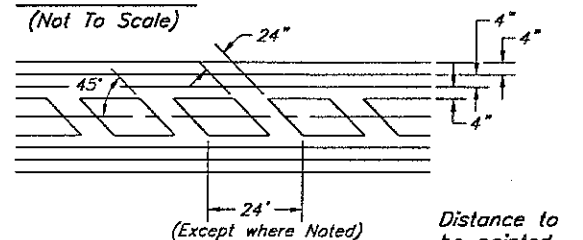
Note: Stations begin at zero to match City of Columbus records.



LINE SPECIFICATIONS	
WE	Edge Line, 4" Yellow
LL	Lane Line, 4" Dashed White
CH	Channelizing Line, 8" White
SL	Stop Line, 24" White
XW	Crosswalk Line, 12" White
DY	Center Line, 4" Solid Double Yellow
YT	Transverse Line, 24" Yellow
WD	Dotted Line, 4" White
A	Lane Arrow
W	Word on Pavement, 72"

Note: The word "ONLY" on pavement shall be the Urban size 72" as shown on Standard Drawing TC-71.10M.

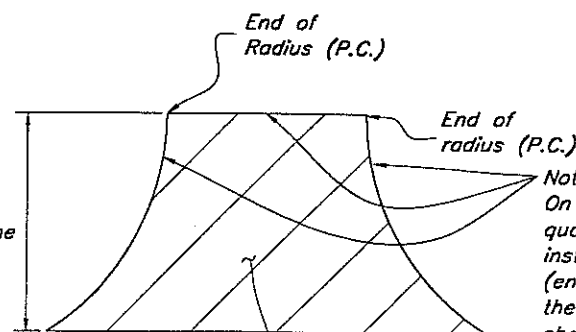
ISLAND DETAIL  
(Not To Scale)



Distance to be painted from mainline E/P.

Area to be planed and resurfaced  
(See sheets 8-10 for pavement quantities)

SIDE STREET PAVEMENT MARKING DETAIL  
(Not To Scale)



Note:

On side streets that are to be resurfaced, quantities for pavement markings to be installed from the mainline to the PC (end of radius) have been included on the pavement markings subsummary, sheets 20 & 21.

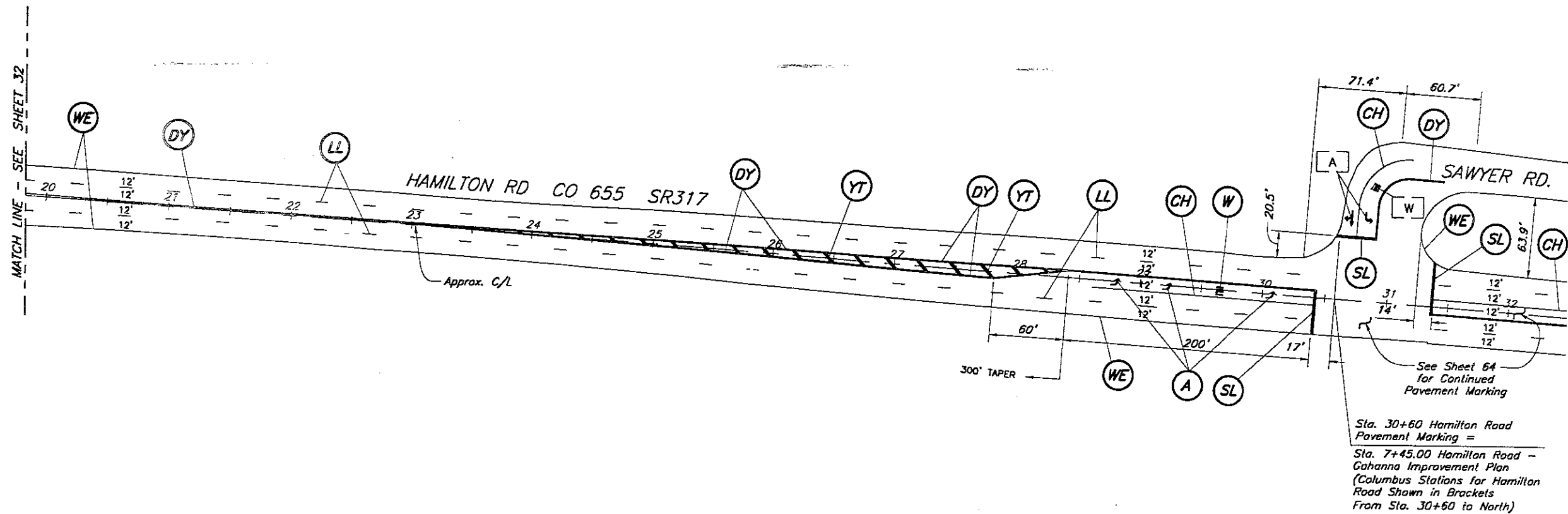
See plan for proposed marking callouts. All pavement markings should terminate at the PC of the side street, unless otherwise noted on plan with symbol or note.

Pavement marking shall be Item 644. (DY)

Existing Pavement marking (DY)

Note: Extension of F/C line is for reference only. The Contractor shall notify the Signals Management Engineer at (614) 645-7790 before all loops have been installed at each intersection. The Traffic Engineering and Parking Division shall inspect all sensors and test as necessary. The Contractor shall replace any loops not meeting specifications.

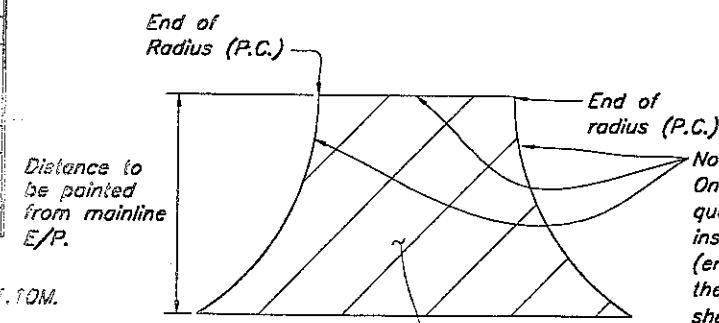
\* = End pavement resurfacing at end of paved gore.



### LINE SPECIFICATIONS

YE	Edge Line, 4" Yellow
LL	Lane Line, 4" Dashed White
CH	Channelizing Line, 8" White
SL	Stop Line, 24" White
XW	Crosswalk Line, 12" White
DY	Center Line, 4" Solid Double Yellow
YT	Transverse Line, 24" Yellow
WD	Dotted Line, 4" White
A	Lane Arrow
W	Word on Pavement, 72"

Note: The word "ONLY" on pavement shall be the Urban size 72" as shown on Standard Drawing TC-71.10M.

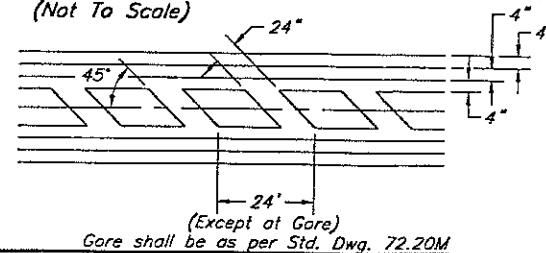


Area to be planed and resurfaced  
(See sheets 8-10 for pavement quantities)

**SIDE STREET PAVEMENT MARKING DETAIL**  
(Not To Scale)

Note:  
On side streets that are to be resurfaced, quantities for pavement markings to be installed from the mainline to the PC (end of radius) have been included on the pavement markings subsummary, sheets 20 & 21.  
See plan for proposed marking callouts. All pavement markings should terminate at the PC of the side street, unless otherwise noted on plan with symbol or note.

### ISLAND DETAIL (Not To Scale)



Pavement marking shall be Item 644. **DY**

Existing Pavement marking **DY**

Note: Extension of F/C line is for reference only. The Contractor shall notify the Signals Management Engineer at (614) 645-7790 for all loops from segments 1-6B before all loops have been installed at each intersection. The Columbus Traffic Engineering and Parking Division shall inspect all sensors and test as necessary for segments 1-6B. The Contractor shall replace any loops not meeting specifications.



25  
HORIZONTAL  
SCALE IN FEET

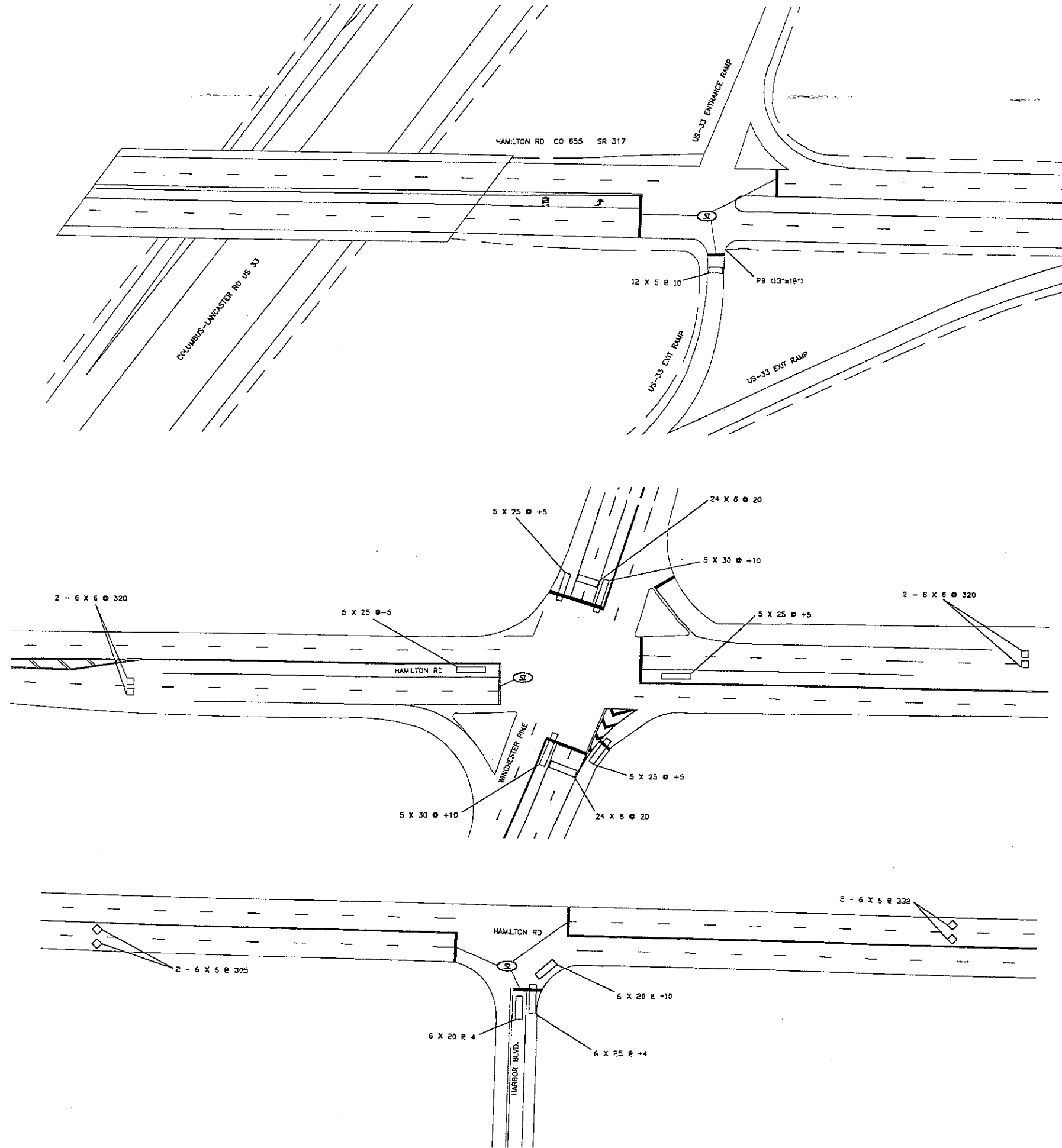
CALCULATED  
GB  
CHECKED  
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HAMILTON ROAD: SEGMENT 6B  
PAVEMENT MARKING

FRA-317-9.20

33  
77

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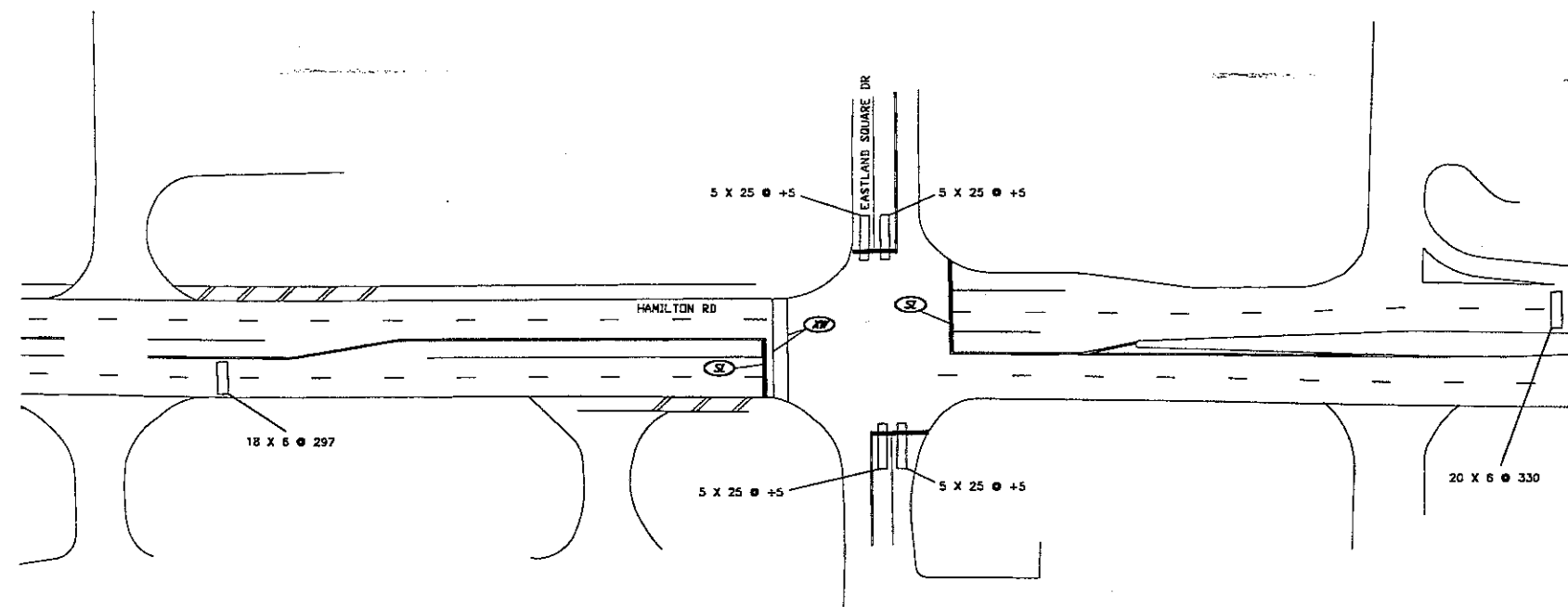
SUB-SUMMARY OF TRAFFIC SIGNAL ITEMS AT HAMILTON RD. & US-33 EXIT RAMP INTERSECTION			
ITEM	QTY	UNIT	DESCRIPTION
625	1	EA	PULLBOX MISC.: PULL BOX, (18"), 713.08, AS PER PLAN
632	1	EA	DETECTOR LOOP, AS PER PLAN
632	1	EA	LOOP DETECTOR TIE IN

SUB-SUMMARY OF TRAFFIC SIGNAL ITEMS AT HAMILTON RD. & WINCHESTER PIKE INTERSECTION			
ITEM	QTY	UNIT	DESCRIPTION
632	12	EA	DETECTOR LOOP, AS PER PLAN
632	12	EA	LOOP DETECTOR TIE IN

SUB-SUMMARY OF TRAFFIC SIGNAL ITEMS AT HAMILTON RD. & HARBOR BLVD. INTERSECTION			
ITEM	QTY	UNIT	DESCRIPTION
632	7	EA	DETECTOR LOOP, AS PER PLAN
632	7	EA	LOOP DETECTOR TIE IN



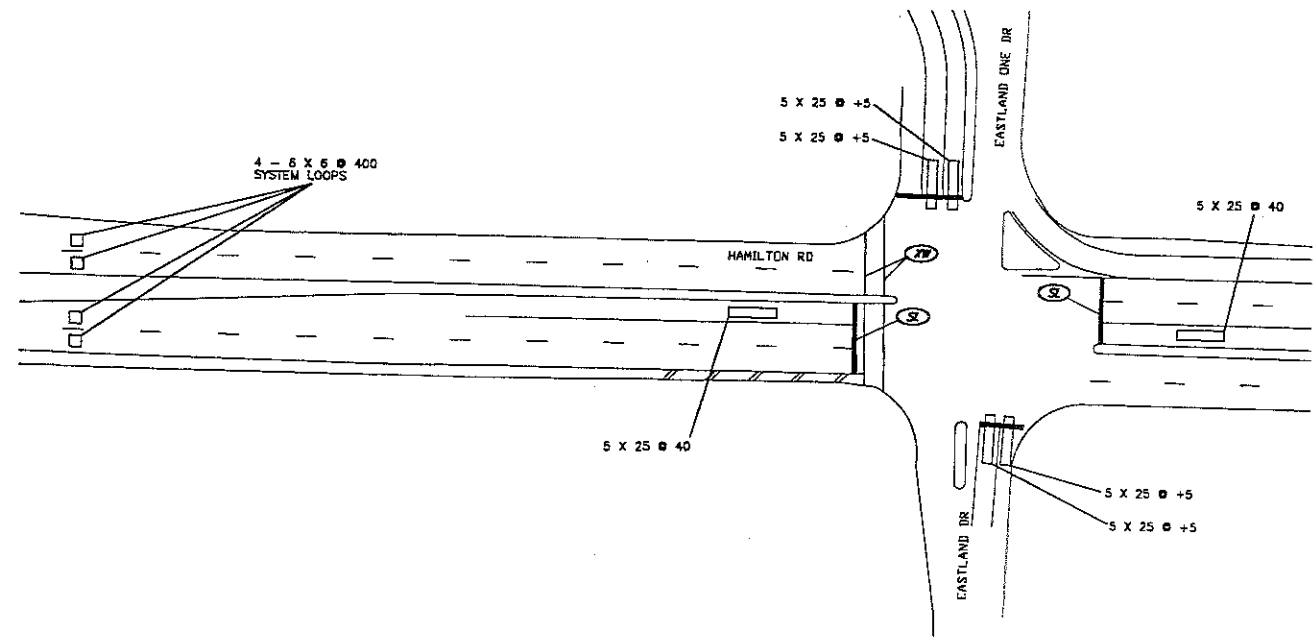
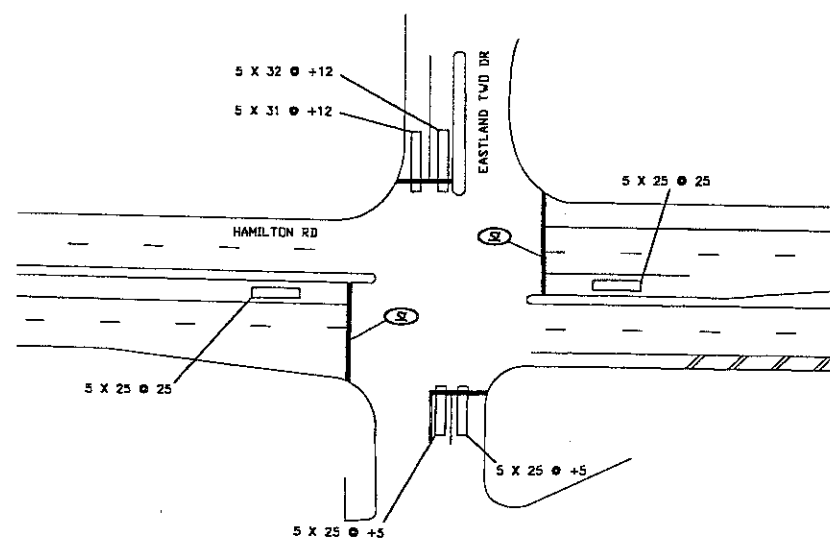
\\SERVER1\WGNM\PROJECT\2001\463\DWG\2223A\2223A.DWG - 1 INETS: 2223A\2223A.DWG - PLOTTED BY DEANWFOOD - April 12, 2001 - 12:40 PM



SUB-SUMMARY OF TRAFFIC SIGNAL ITEMS AT HAMILTON RD. & EASTLAND SQUARE DR. INTERSECTION			
ITEM	QTY	UNIT	DESCRIPTION
632	6	EA	DETECTOR LOOP, AS PER PLAN
632	6	EA	LOOP DETECTOR TIE IN

SUB-SUMMARY OF TRAFFIC SIGNAL ITEMS AT HAMILTON RD. & EASTLAND TWO DR. INTERSECTION			
ITEM	QTY	UNIT	DESCRIPTION
632	6	EA	DETECTOR LOOP, AS PER PLAN
632	6	EA	LOOP DETECTOR TIE IN

SUB-SUMMARY OF TRAFFIC SIGNAL ITEMS AT HAMILTON RD. & EASTLAND ONE DR. INTERSECTION			
ITEM	QTY	UNIT	DESCRIPTION
632	10	EA	DETECTOR LOOP, AS PER PLAN
632	10	EA	LOOP DETECTOR TIE IN



50  
0  
25  
HORIZONTAL  
SCALE IN FEET

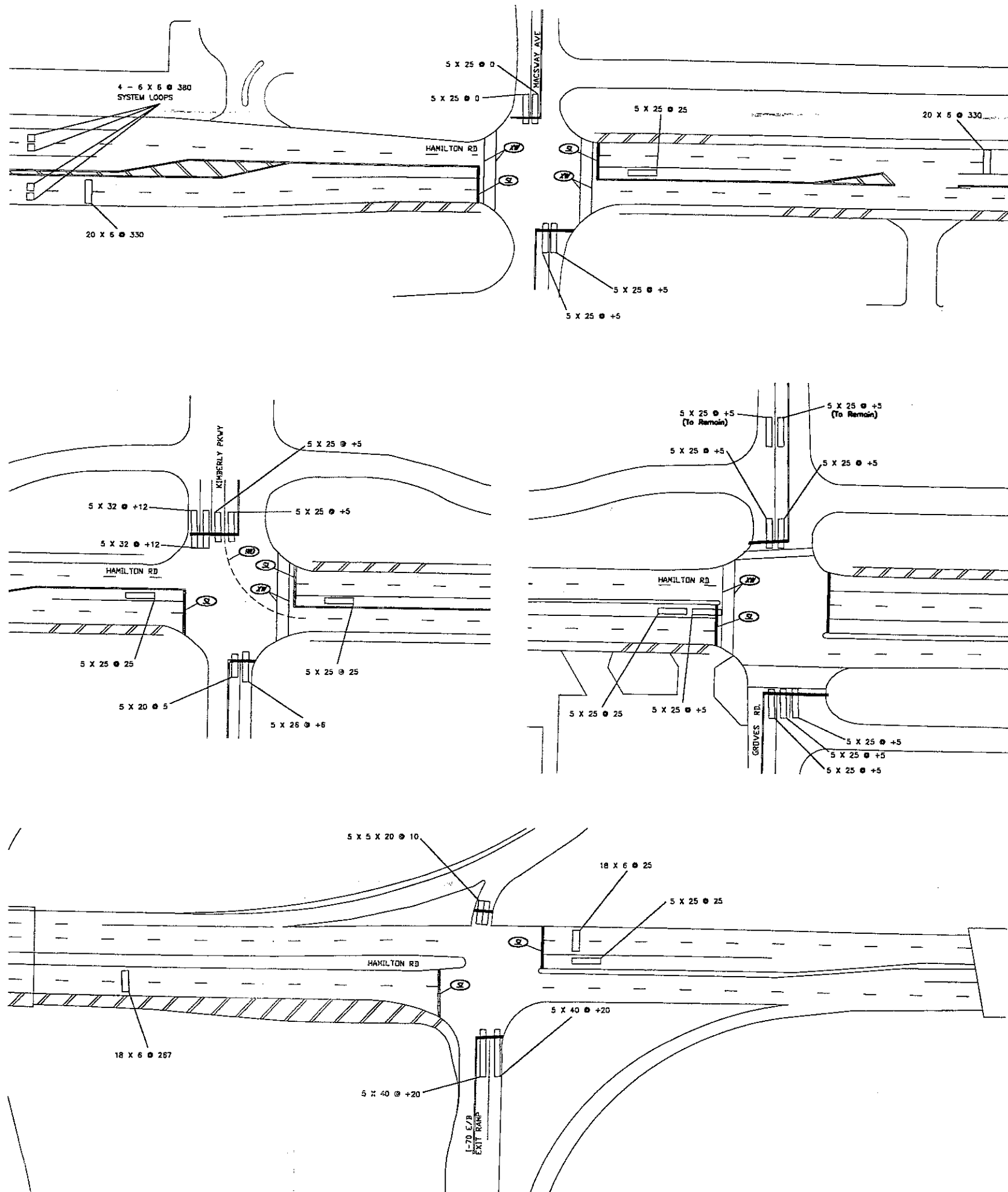
CALCULATED  
MDH  
CHECKED  
TJE

HAMILTON ROAD SEGMENT 3 & 4:  
SIGNAL LOOP REPLACEMENT PLAN

FRA-317-9.20

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77

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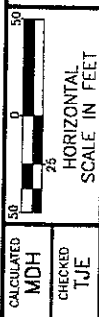


SUB-SUMMARY OF TRAFFIC SIGNAL ITEMS AT HAMILTON RD. & MACSWAY AVE. INTERSECTION			
ITEM	QTY	UNIT	DESCRIPTION
632	11	EA	DETECTOR LOOP, AS PER PLAN
632	11	EA	LOOP DETECTOR TIE IN

SUB-SUMMARY OF TRAFFIC SIGNAL ITEMS AT HAMILTON RD. & KIMBERLY PKWY. INTERSECTION			
ITEM	QTY	UNIT	DESCRIPTION
632	8	EA	DETECTOR LOOP, AS PER PLAN
632	8	EA	LOOP DETECTOR TIE IN

SUB-SUMMARY OF TRAFFIC SIGNAL ITEMS AT HAMILTON RD. & GROVES RD. INTERSECTION			
ITEM	QTY	UNIT	DESCRIPTION
632	7	EA	DETECTOR LOOP, AS PER PLAN
632	7	EA	LOOP DETECTOR TIE IN

SUB-SUMMARY OF TRAFFIC SIGNAL ITEMS AT HAMILTON RD. & I-70 RAMPS INTERSECTION			
ITEM	QTY	UNIT	DESCRIPTION
632	7	EA	DETECTOR LOOP, AS PER PLAN
632	7	EA	LOOP DETECTOR TIE IN



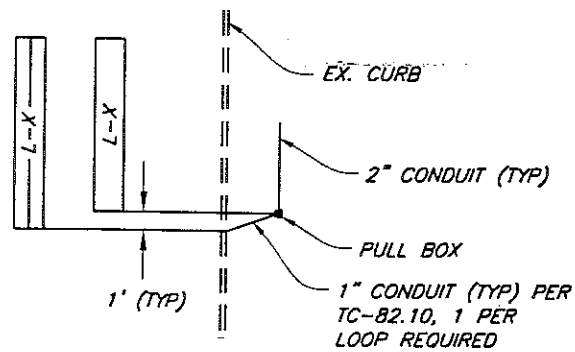
CALCULATED  
MDH  
CHECKED  
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HAMILTON ROAD SEGMENT 4:  
SIGNAL LOOP REPLACEMENT PLAN

FRA-317-9.20



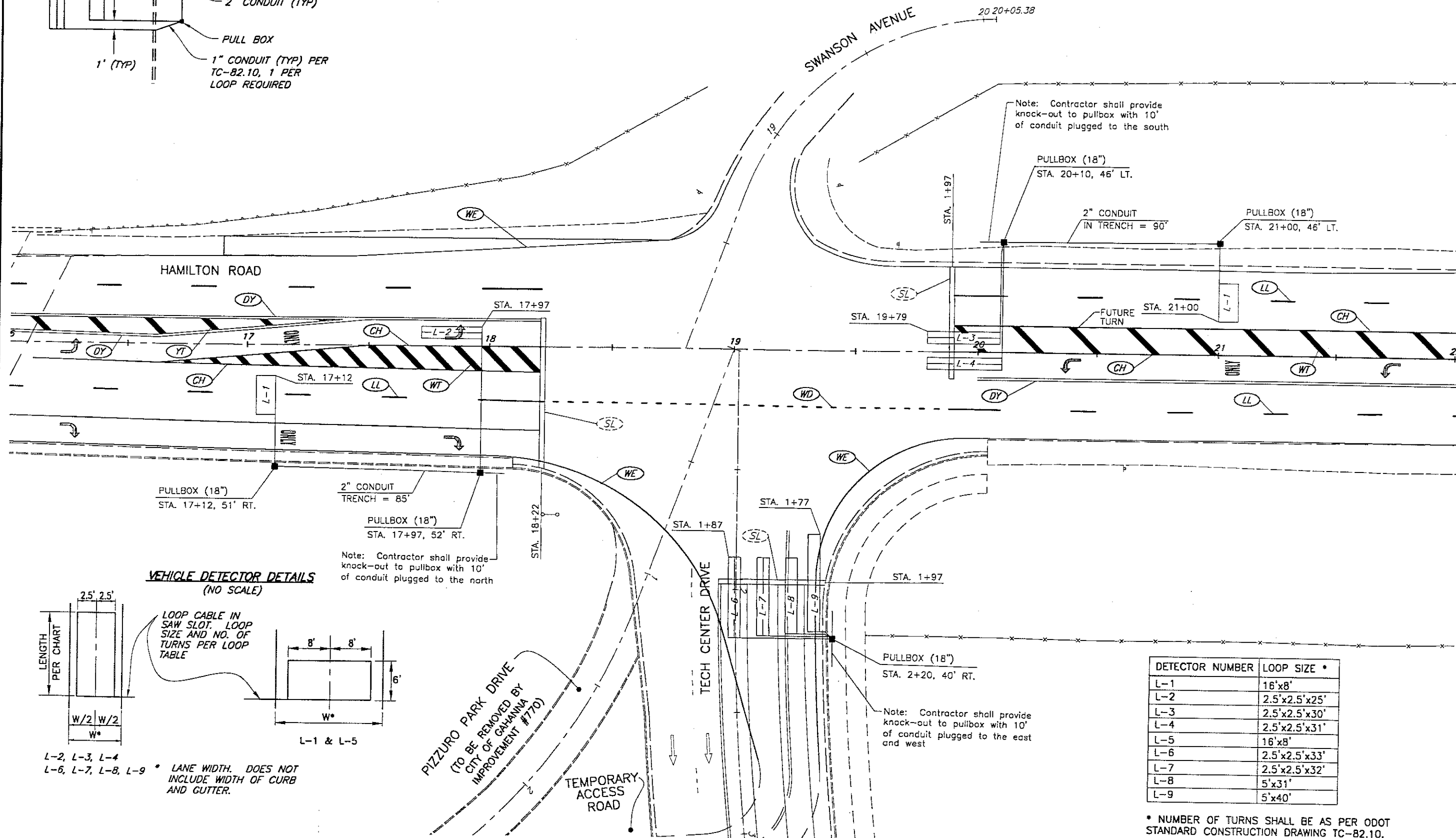
# **MULTIPLE LOOP DETECTOR INSTALLATION DETAIL**



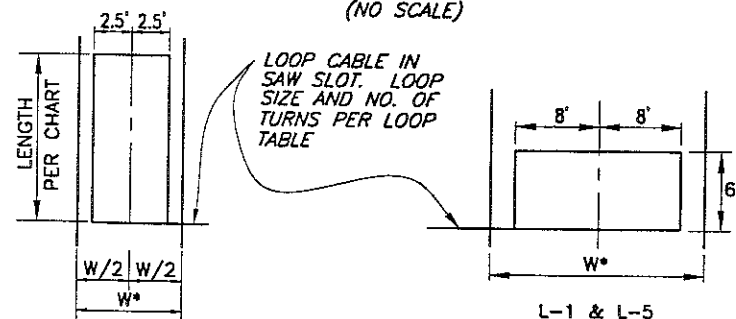
SUB-SUMMARY OF TRAFFIC SIGNAL ITEMS AT HAMILTON RD. & TECH CENTER DR INTERSECTION			
ITEM	QTY	UNIT	DESCRIPTION
625	5	EA	PULL BOX MISC.: PULLBOX, 18", 713.08, AS PER PLAN
625	215	LF	CONDUIT 2", 713.07, AS PER PLAN
625	215	LF	TRENCH
632	9	EA	DETECTOR LOOP, AS PER PLAN

(SL) To be installed with this project FRA-317-9.20

(SL) To be installed with signal by others



## **VEHICLE DETECTOR DETAILS (NO SCALE)**



L-2, L-3, L-4  
L-6, L-7, L-8, L-9 \* LANE WIDTH. DOES NOT INCLUDE WIDTH OF CURB AND GUTTER.

DETECTOR NUMBER	LOOP SIZE *
L-1	16'x8'
L-2	2.5'x2.5'x25'
L-3	2.5'x2.5'x30'
L-4	2.5'x2.5'x31'
L-5	16'x8'
L-6	2.5'x2.5'x33'
L-7	2.5'x2.5'x32'
L-8	5'x31'
L-9	5'x40'

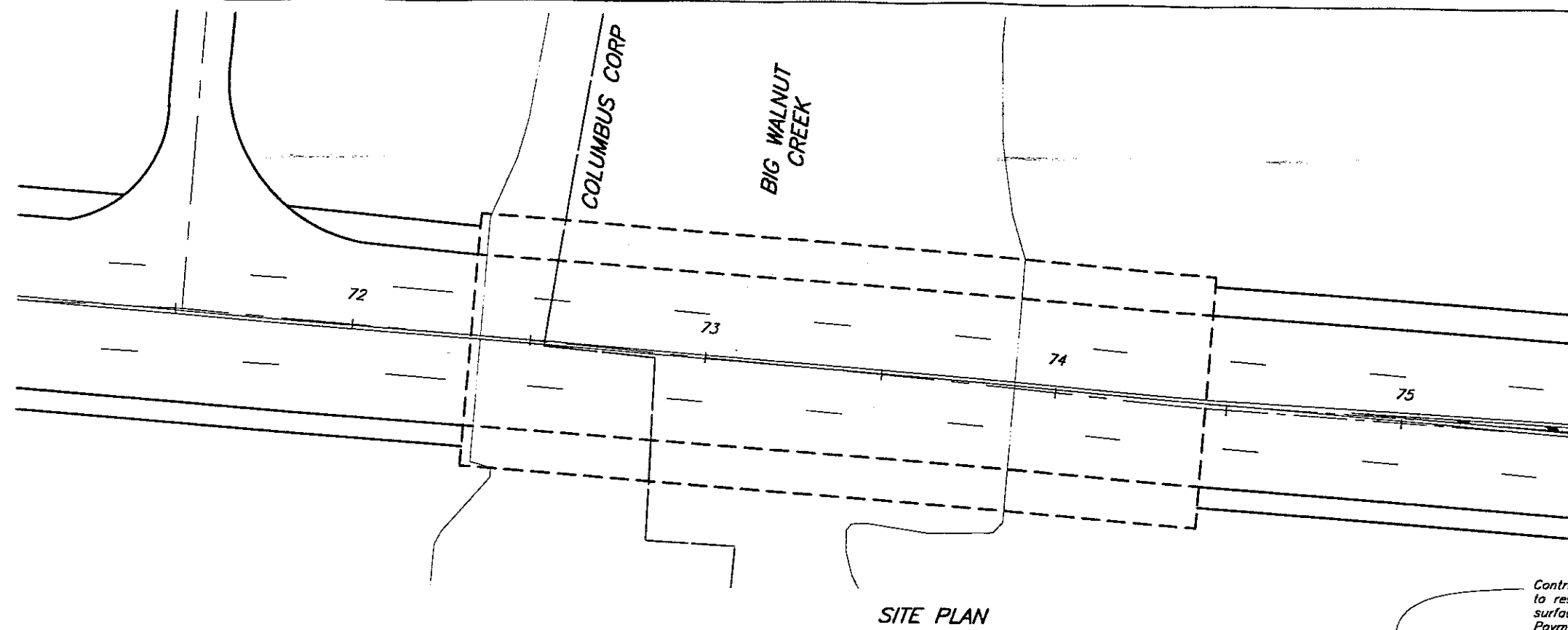
\* NUMBER OF TURNS SHALL BE AS PER ODOT STANDARD CONSTRUCTION DRAWING TC-82.10.

HAMILTON ROAD SEGMENT 7A:  
SIGNAL LOOP REPLACEMENT PLAN

FRA-317-9.20

38  
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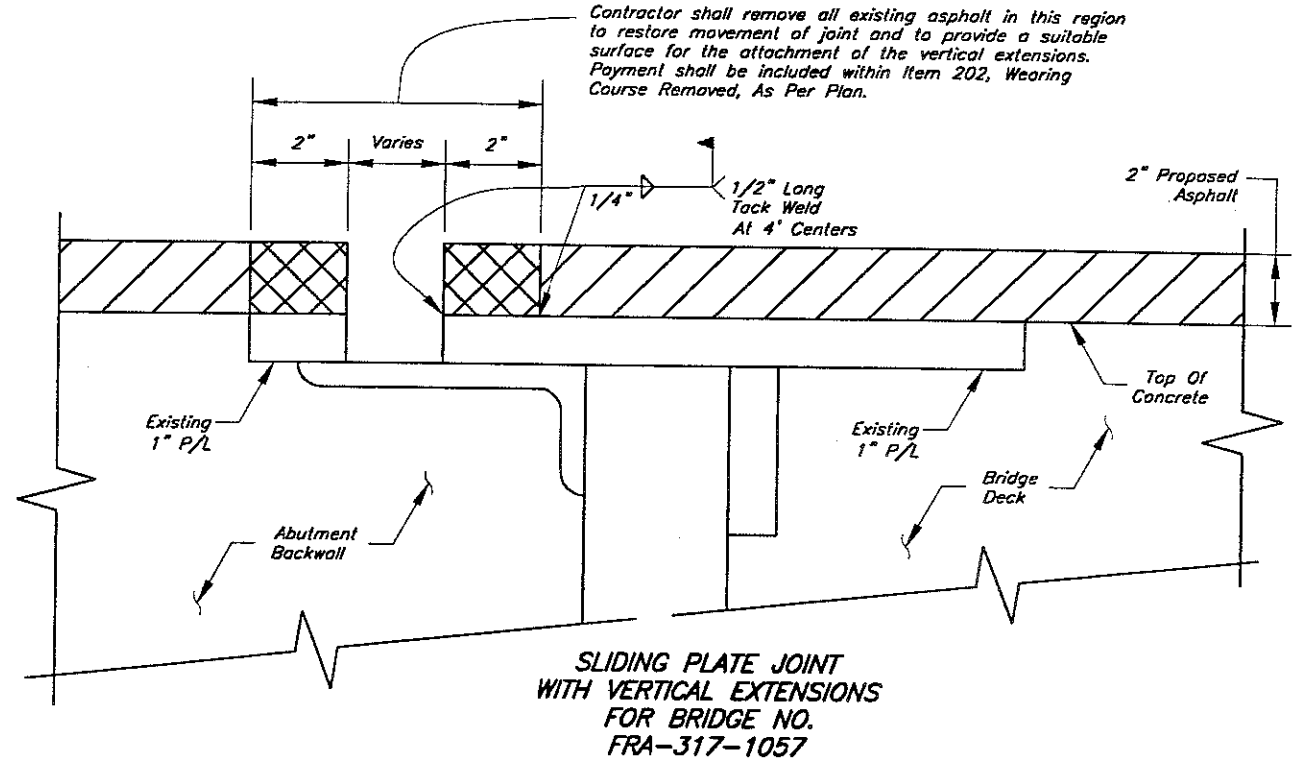
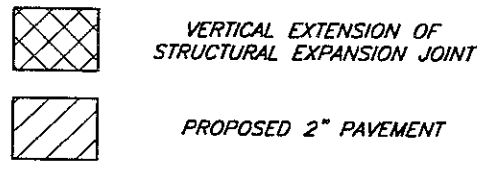




SITE PLAN

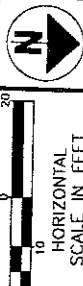
STRUCTURE: FRA-317-1057 210' 3 SPAN STEEL BEAM OVER BIG WALNUT CREEK

- (1) REMOVE EXISTING ASPHALT OVERLAY FROM DECK, APPROACH SLABS AND EXPANSION JOINTS. (APPROXIMATELY 2").
- (2) INSTALL 2"x2" STEEL RISERS OVER EXPANSION JOINTS AT EACH END OF BRIDGE.
- (3) PATCH VARIABLE DEPTH AREAS WITH ASPHALT UP TO 2" DEEP, ASSUME 5% OF DECK AREA.
- (4) PATCH VARIABLE DEPTH AREAS WITH TYPE B, QUICK SETTING CONCRETE WHERE REINFORCING STEEL IS EXPOSED, ASSUME 5% OF DECK AREA.
- (5) RESURFACE OVER DECK AND APPROACH SLAB USING ITEM 407 - TACK COAT AND PLACEMENT OF 2" OF ITEM 446 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1 PG-64-22.



SLIDING PLATE JOINT WITH VERTICAL EXTENSIONS FOR BRIDGE NO. FRA-317-1057

ROUTE	PROJECT	SEGMENT	DESCRIPTION	WIDTH	LENGTH	AREA		202	407	446				516	SPECIAL
								WEARING COURSE REMOVED AS PER PLAN (2")	TACK COAT, @ 0.10 Gal. per Sq. Yd.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG-64-22, AS PER PLAN		PATCHING		VERTICAL EXTENSION OF STRUC-TURAL EXPANSION JOINT	PATCH-ING CONC-RETE BRIDGE DECK, TYPE B
												THICKNESS			
				FT.	FT.	SQ. FT.	SQ. YD.	SQ. YD.	GAL.	IN.	CU. YD.	IN.	CU. YD.	LIN. FT.	SQ. YD.
SR-317	FRA-317-9.20	2/3	FRA-317-1057 BRIDGE DECK SOUTHBOUND	36	210	7560	840	840	84.0	2.0	47	2	3	72	24
SR-317	FRA-317-9.20	2/3	FRA-317-1057 BRIDGE DECK NORTHBOUND	36	210	7560	840	840	84.0	2.0	47	2	3	72	24
SR-317	FRA-317-9.20	2/3	FRA-317-1057 APPROACH SLAB SOUTHBOUND	24	25	600	67	67	6.7	2.0	4	2	1	0	0
SR-317	FRA-317-9.20	2/3	FRA-317-1057 APPROACH SLAB NORTHBOUND	24	25	600	67	67	6.7	2.0	4	2	1	0	0
			SUBTOTALS CARRIED TO BRIDGE SUBSUMMARY					1,814	181.4		102		8	144	48



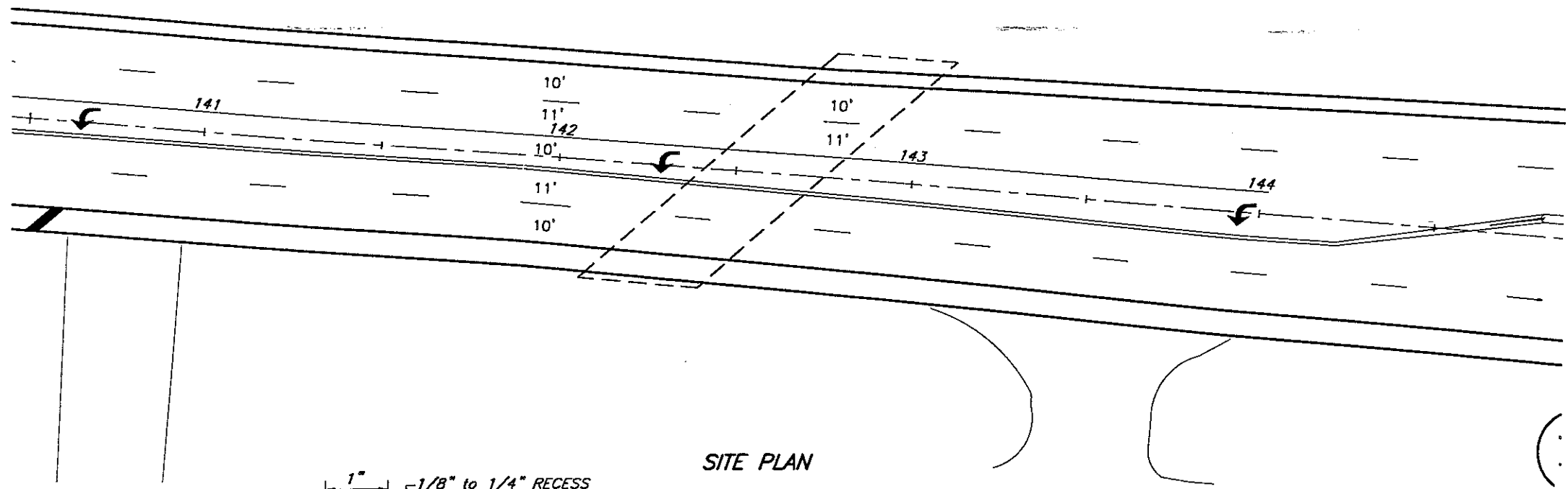
BRIDGE TREATMENTS: FRA-317-1057

FRA-317-9.20

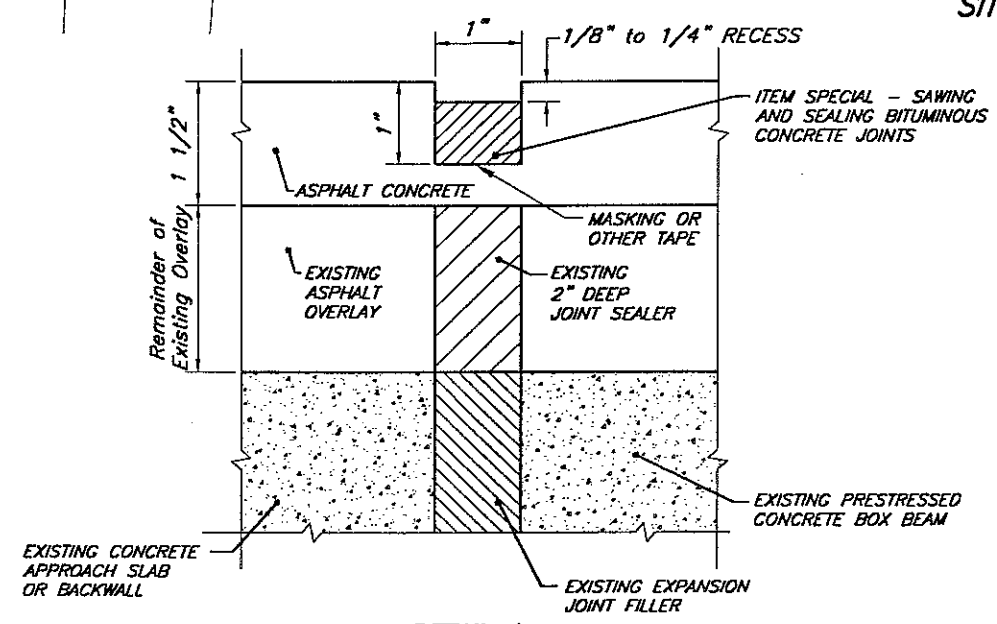
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SITE PLAN



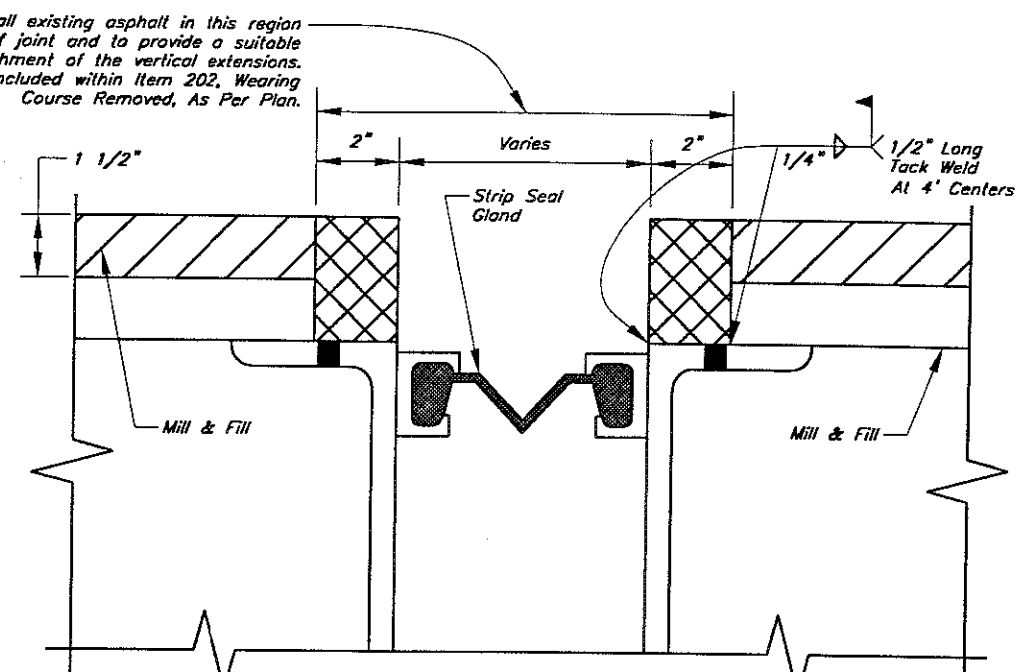
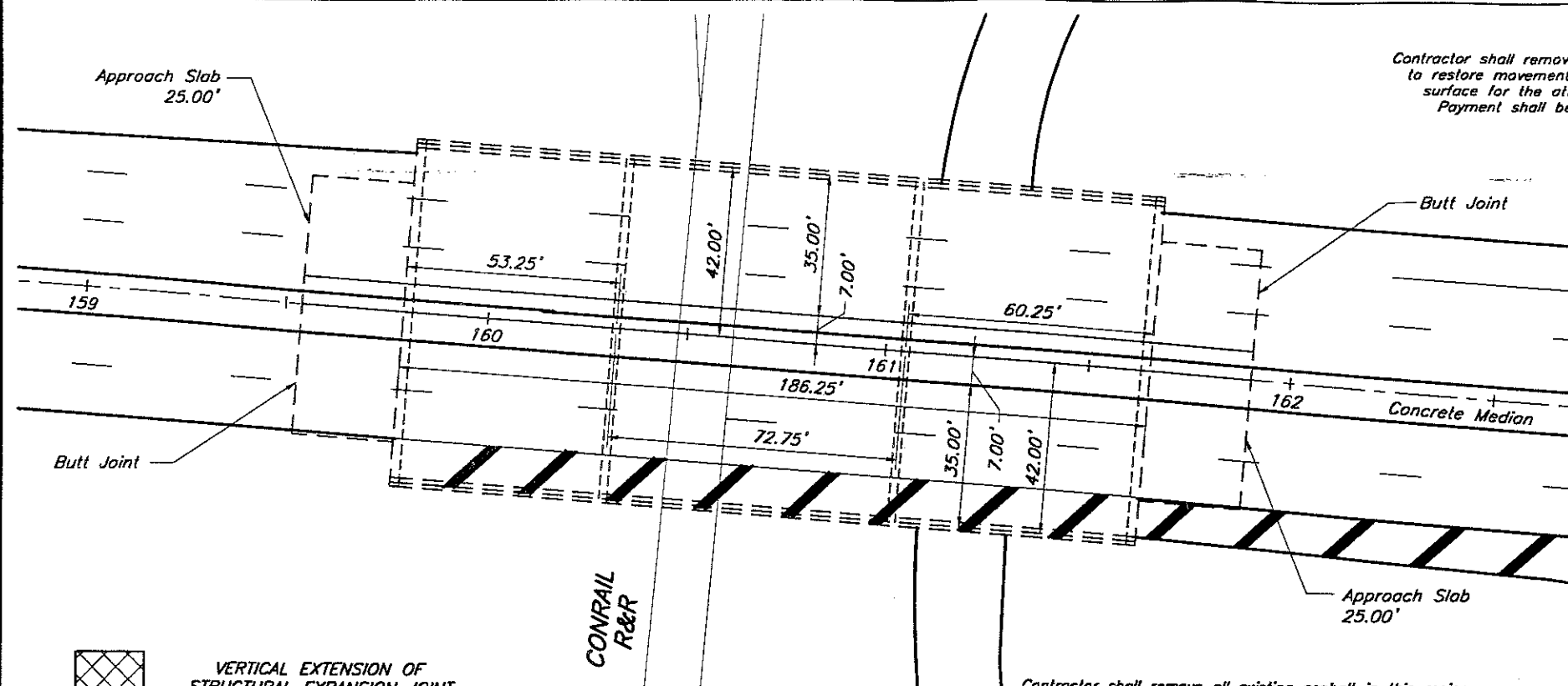
DETAIL A  
SEALING OF JOINTS AT ABUTMENTS  
FOR BRIDGE NO. FRA-317-1190

STRUCTURE: FRA-317-1190 34' ONE SPAN CONCRETE BOX BEAM OVER MILLER DITCH

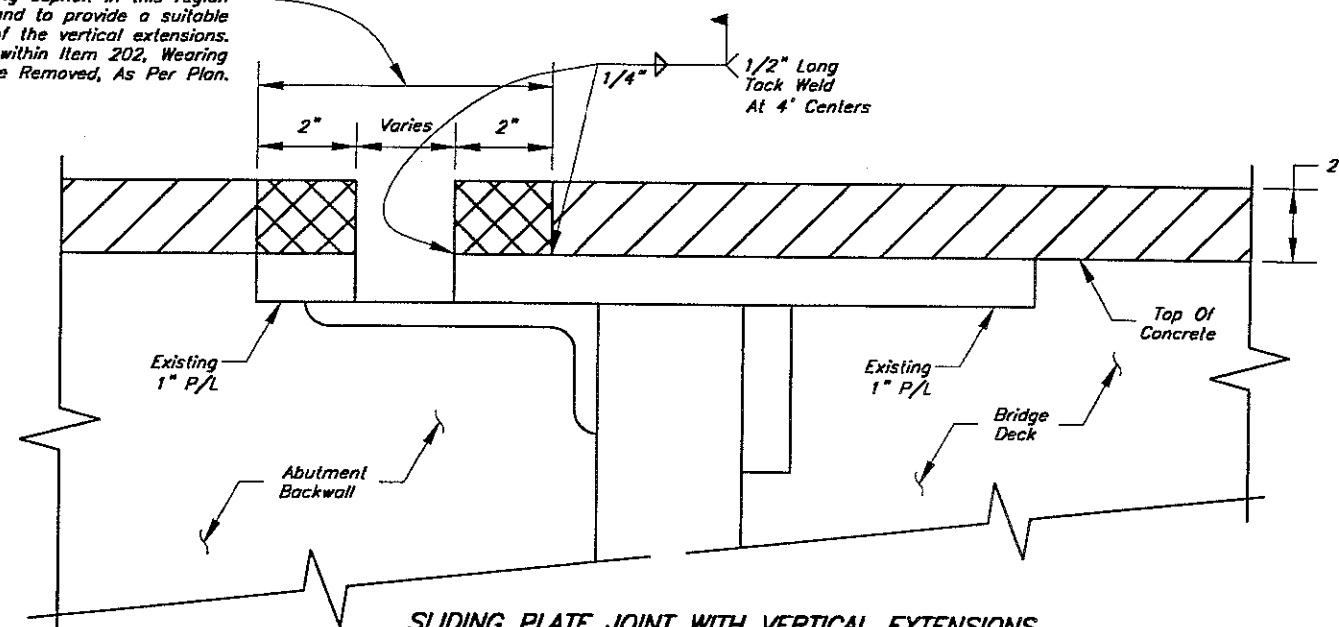
- (1) MILL AND FILL APPROXIMATELY 1.5" FROM BIDGE DECK AND APPROACH SLABS USING ITEM 407 -- TACK COAT AND PLACEMENT OF 1.5" OF ITEM 446 -- ASPHALT CONCRETE SURFACE COURSE, TYPE 1 PG-64-22.
- (2) "SAW AND SEAL" JOINTS AT BOTH ENDS OF BRIDGE BETWEEN DECK AND APPROACH SLAB.

ROUTE	PROJECT	SEGMENT	DESCRIPTION	WIDTH FT.	LENGTH FT.	AREA		202	407	446		SPECIAL
						SQ. FT.	SQ. YD.	WEARING COURSE REMOVED AS PER PLAN (1 1/2") SQ. YD.	TACK COAT, @ 0.10 Gal. per Sq. Yd. GAL.	THICKNESS IN.	CUR. YD.	SAWING & SEALING BITUMINOUS CONCRETE JOINTS LIN. FT.
SR-317	FRA-317-9.20	4	FRA-317-1190 BRIDGE DECK N/S BOUND	70	34	2380	264	264	26.4	1.5	11	140
SR-317	FRA-317-9.20	4	FRA-317-1190 APPROACH SLABS N/S BOUND	70	21	1470	163	163	16.3	1.5	7	
			SUBTOTALS CARRIED TO BRIDGE SUBSUMMARY					427	42.7		18	140

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STRIP SEAL WITH VERTICAL EXTENSIONS  
FOR BRIDGE NO. FRA-317-1223 (SOUTHBOUND)



SLIDING PLATE JOINT WITH VERTICAL EXTENSIONS  
FOR BRIDGE NO. FRA-317-1223 (NORTHBOUND)

STRUCTURE: FRA-317-1223 186' 3 SPAN STEEL BEAM OVER CONRAIL  
SOUTHBOUND

- (1) MILL AND FILL EXISTING ASPHALT WEARING SURFACE APPROXIMATELY 1.5" FROM BRIDGE DECK AND APPROACH SLABS USING ITEM 407 - TACK COAT AND PLACEMENT OF 1.5" OF ITEM 446 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1 PG-64-22.
- (2) INSTALL 2"x2" STEEL RISERS OVER EXPANSION JOINTS AT EACH END OF BRIDGE.
- (3) RESURFACE OVER DECK AND APPROACH SLAB USING ITEM 407- TACK COAT AND PLACEMENT OF 2" OF ITEM 446 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1 PG-64-22.
- (4) PATCH VARIABLE DEPTH AREAS WITH ASPHALT UP TO 2" DEEP. ASSUMED 10% OF BRIDGE DECK AND APPROACH.
- (5) PATCH VARIABLE DEPTH AREAS WITH TYPE B, QUICK SETTING CONCRETE WHERE REINFORCING STEEL IS EXPOSED.

NORTHBOUND

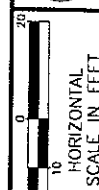
- (1) MILL 1" OF EXISTING CONCRETE OVERLAY FROM APPROACH SLAB AND DECK.
- (2) INSTALL 2"x2" STEEL RISERS OVER EXPANSION JOINTS AT EACH END OF BRIDGE.
- (3) RESURFACE OVER DECK AND APPROACH SLAB USING ITEM 407- TACK COAT AND PLACEMENT OF 2" OF ITEM 446 - ASPHALT CONCRETE SURFACE COURSE, TYPE 1 PG-64-22.
- (4) PATCH VARIABLE DEPTH AREAS WITH ASPHALT UP TO 2" DEEP. ASSUMED 10% OF BRIDGE DECK AND APPROACH.
- (5) PATCH VARIABLE DEPTH AREAS WITH TYPE B, QUICK SETTING CONCRETE WHERE REINFORCING STEEL IS EXPOSED.

ROUTE	PROJECT	SEGMENT	DESCRIPTION	WIDTH	LENGTH	AREA		202	202	407	446				516	SPECIAL
								WEARING COURSE REMOVED AS PER PLAN (1 1/2")	WEARING COURSE REMOVED AS PER PLAN (1")	TACK COAT, @ 0.10 Gal. per Sq. Yd.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG-64-22, AS PER PLAN		PATCHING		VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINTS	PATCHING CONCRETE BRIDGE DECK, TYPE B
											THICKNESS		THICKNESS			
				FT.	FT.	SQ. FT.	SQ. YD.	SQ. YD.	SQ. YD.	GAL.	IN.	CU. YD.	IN.	CU. YD.	LIN. FT.	SQ. YD.
SR-317	FRA-317-9.20	4	FRA-317-1223 BRIDGE DECK SOUTHBOUND	35	187	6,545	727	727		72.7	1.5	30	2	4	84	40
SR-317	FRA-317-9.20	4	FRA-317-1223 BRIDGE DECK NORTHBOUND	35	187	6,545	727		727	72.7	2.0	40	2	4	84	40
SR-317	FRA-317-9.20	4	FRA-317-1223 APPROACH SLAB SOUTHBOUND	29	25	725	81	81		8.1	2.0	5	2	1	0	
SR-317	FRA-317-9.20	4	FRA-317-1223 APPROACH SLAB NORTHBOUND	29	25	725	69		81	8.1	1.5	4	2	1	0	
			SUBTOTALS CARRIED TO BRIDGE SUBSUMMARY					808	808	161.6		79		10	168	80

BRIDGE TREATMENTS: FRA-317-1223

FRA-317-9.20

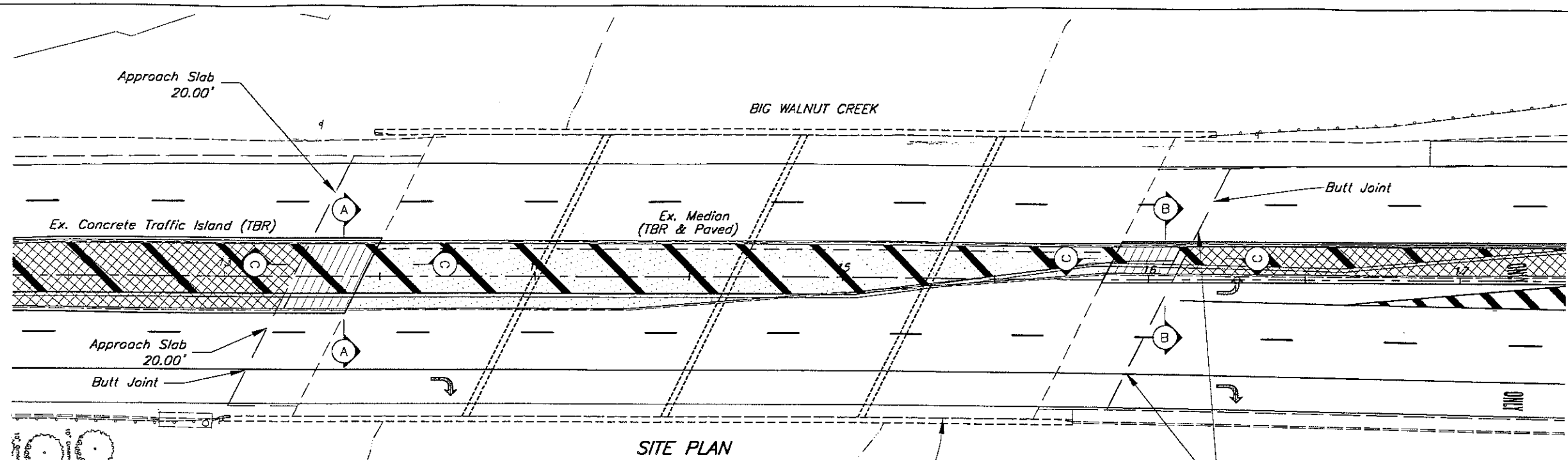
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CALCULATED  
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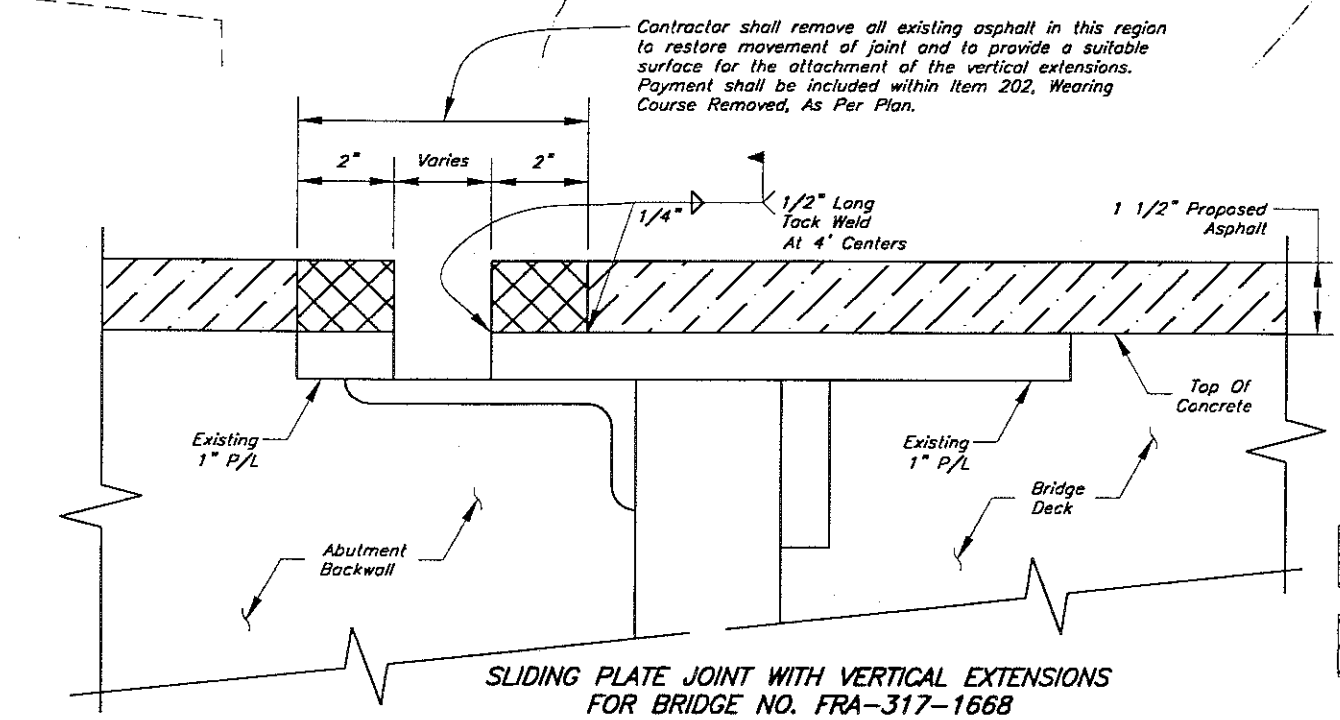
BRIDGE TREATMENTS: FRA-317-1668

FRA-317-9.20



- ITEM 202 - CONCRETE TRAFFIC ISLAND MEDIAN REMOVED
- ITEM 202 - PORTIONS OF STRUCTURE REMOVED, A.P.P.
- ITEM 611 - CONCRETE APPROACH SLAB

SITE PLAN



Contractor shall remove all existing asphalt in this region to restore movement of joint and to provide a suitable surface for the attachment of the vertical extensions. Payment shall be included within Item 202, Wearing Course Removed, As Per Plan.

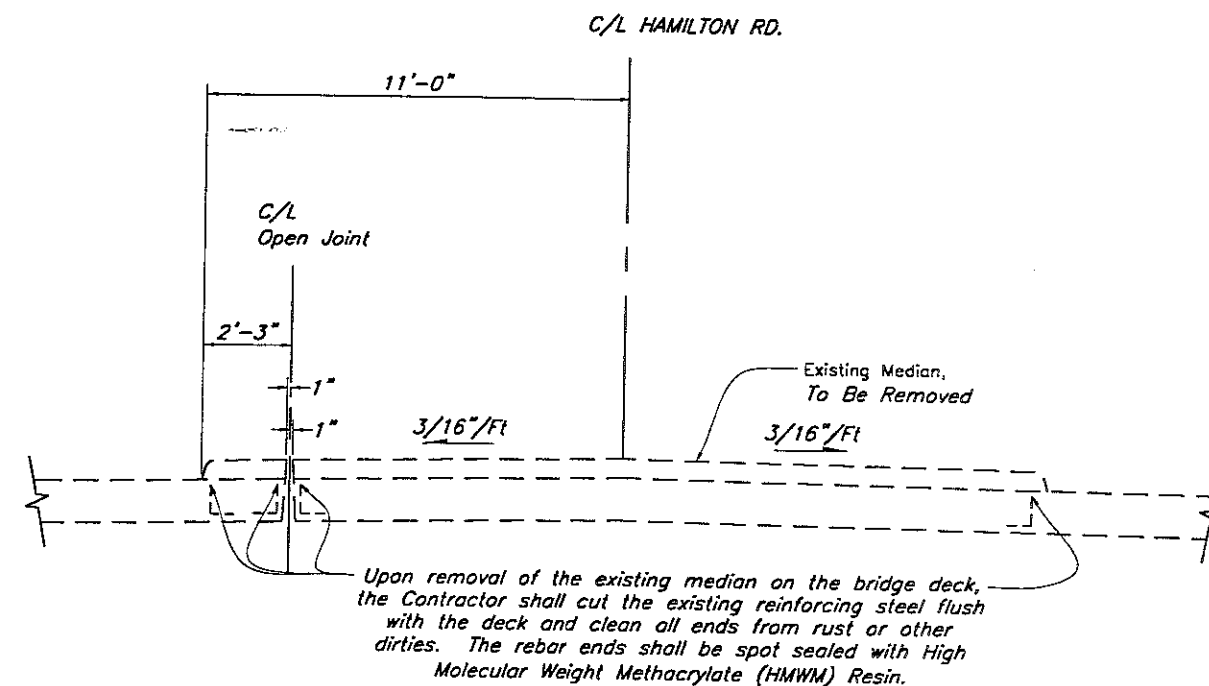
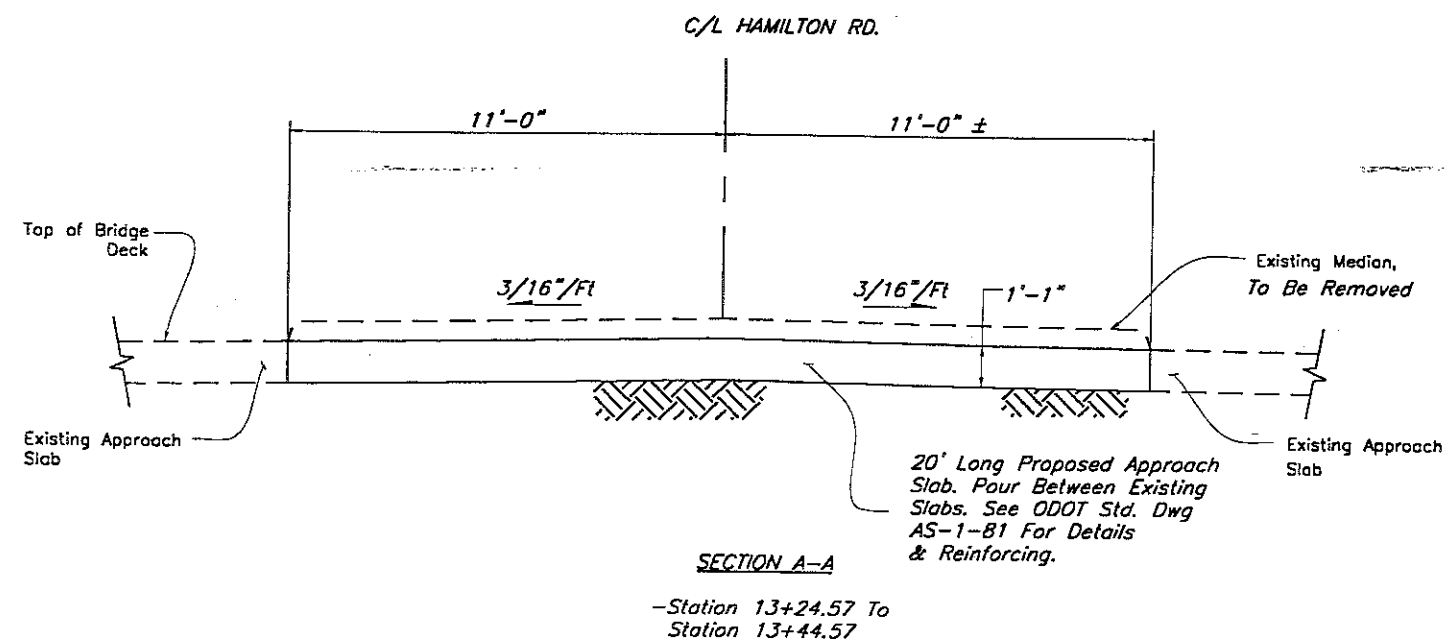
Entire wearing course to be removed and scuppers to be cleaned. Scuppers should be covered temporarily during paving operations.

Structure FRA-317-1668 241' 4 SPAN PRESTRESSED BEAM OVER BIG WALNUT CREEK.

- (1) INSTALL APPROACH SLAB (SEE DETAILS SHEET 44)
- (2) REMOVE EXISTING MEDIAN ON BRIDGE DECK IN ACCORDANCE WITH DETAILS ON SHEET 44.
- (3) PLANE APPROXIMATELY 1.5" FROM BRIDGE DECK AND APPROACH SLABS.
- (4) INSTALL 2"x2" STEEL RISERS OVER EXPANSION JOINTS AT EACH END OF THE BRIDGE.
- (5) PATCH VARIABLE DEPTH AREAS WITH ASPHALT UP TO 2".
- (6) PATCH VARIABLE DEPTH AREAS WITH TYPE B, QUICK SETTING CONCRETE WHERE REINFORCING STEEL IS EXPOSED.
- (7) INSTALL WATERPROOFING MEMBRANE SHEET TYPE 3 OVER DECK WITHIN AREAS TO HAVE A PAVED SURFACE COURSE INCLUDING AREA OF MEDIAN REMOVAL TO BE PAVED. DO NOT COVER EXPANSION JOINTS.
- (8) REMOVE EXISTING DETEIORATION ON EAST PARAPET TO A SOUND SURFACE AND PATCH IN ACCORDANCE WITH ENGINEER IN CHARGE.
- (9) RESURFACE OVER DECK AND APPROACH SLAB USING 1.5" OF ITEM 446-ASPALT CONCRETE SURFACE COURSE, TYPE 1 PG-64-22.

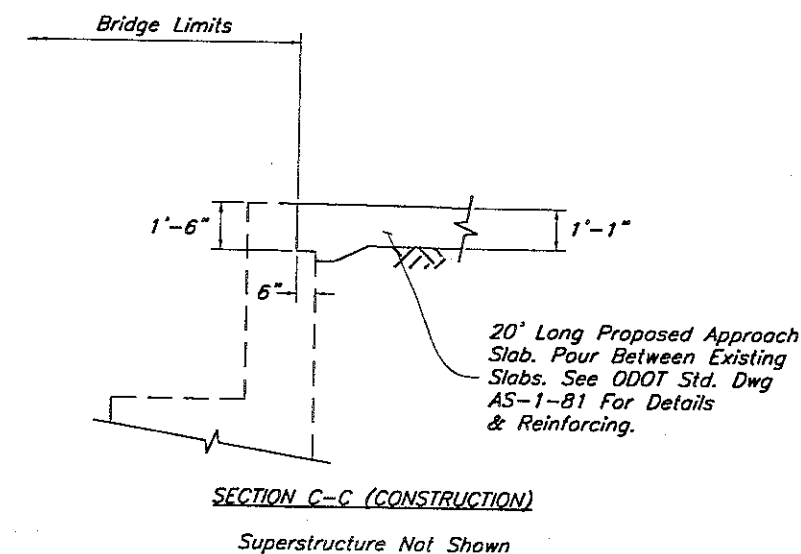
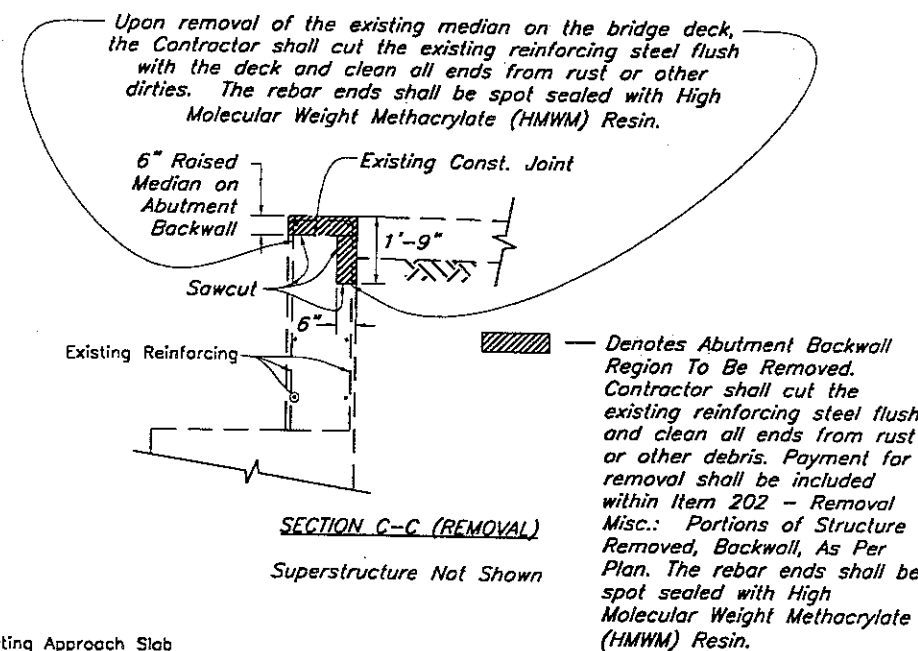
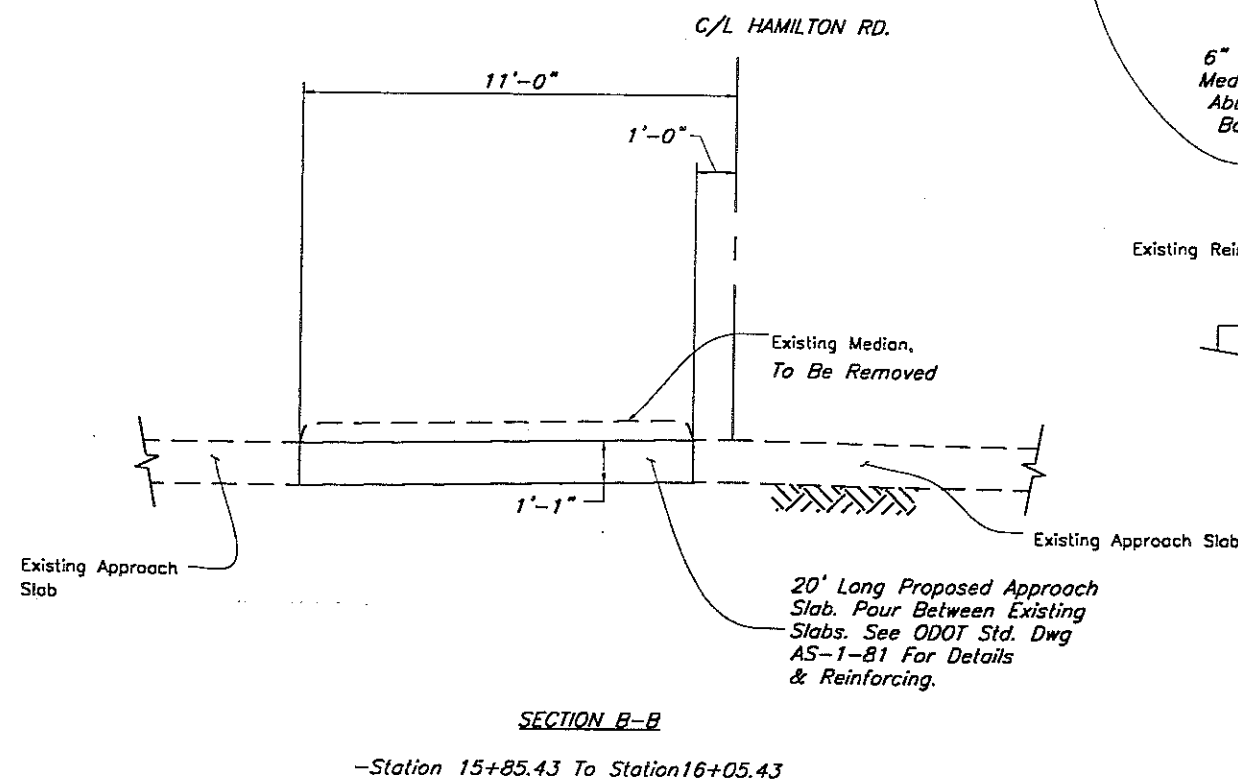
- VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT
- PROPOSED PAVEMENT (SEE DETAILS FOR DEPTHS)

ROUTE	PROJECT	SEGMENT	DESCRIPTION	WIDTH	LENGTH	AREA		202			407	446				512	516	519	SPECIAL
								PORTIONS OF STRUCTURE REMOVED, AS PER PLAN (6")	PORTIONS OF STRUCTURE REMOVED, BACKWALL, AS PER PLAN	WEARING COURSE REMOVED, AS PER PLAN (1 1/2")	TACK COAT, @ 0.10 Gal. per Sq. Yd.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG-64-22, AS PER PLAN				TYPE 3 WATER- PROOFING	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT	PATCHING CONCRETE STRUCTURE	PATCHING CONCRETE BRIDGE DECK,  TYPE B
												THICK- NESS		THICK- NESS					
FT.	FT.	SQ. FT.	SQ. YD.	CU. YD.	LUMP	SQ. YD.	GAL.	IN.	CU. YD.	IN.	CU. YD.	SQ. YD.	LIN. FT.	SQ. FT.	SQ. YD.				
SR-317	FRA-317-9.20	6B/7A	FRA-317-1668 BRIDGE DECK NORTHBOUND	46	241	11086	1232			1232	93.7	1.5	39	2.0	10	1232	92		94
SR-317	FRA-317-9.20	6B/7A	FRA-317-1668 BRIDGE DECK SOUTHBOUND	46	241	8435	937			1232	93.7	1.5	39	2.0	10	937	92		94
SR-317	FRA-317-9.20	6B/7A	FRA-317-1668 APPROACH SLAB NORTHBOUND	25	20	500	56			56	5.6	1.5	2	2.0	3	0	0		0
SR-317	FRA-317-9.20	6B/7A	FRA-317-1668 APPROACH SLAB SOUTHBOUND	25	20	500	56			56	5.6	1.5	2	2.0	3	0	0		0
SR-317	FRA-317-9.20	6B/7A	FRA-317-1668 MEDIAN AREA			4337	482	81	LUMP							482			
SR-317	FRA-317-9.20	6B/7A	FRA-317-1668 EAST PARAPET			65	7											65	
			SUBTOTALS CARRIED TO BRIDGE SUBSUMMARY					81	LUMP	2,576	198.6		82		26	2,651	184	65	188

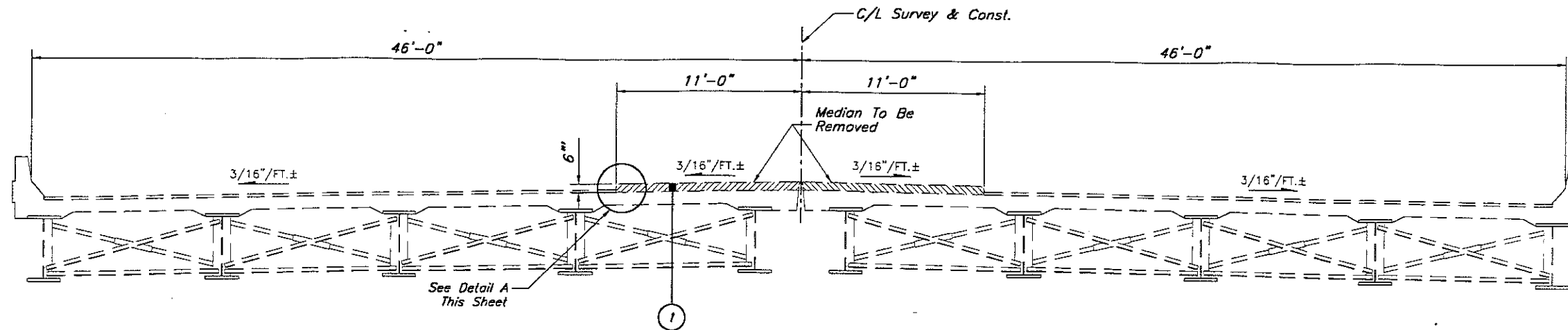


TYPICAL SECTION-BRIDGE

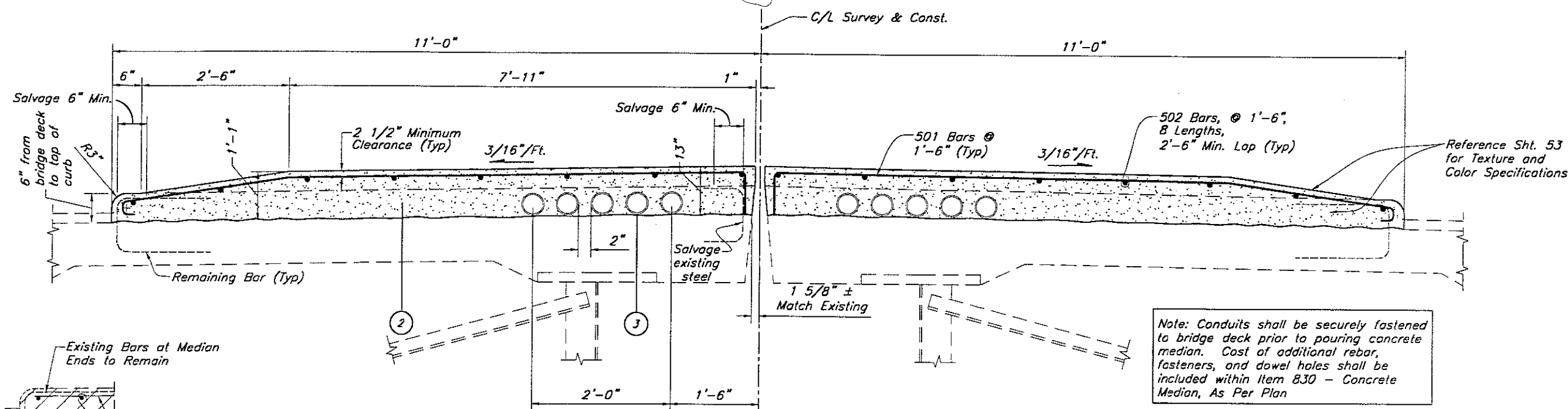
-Station 13+44.57 To 15+85.43  
-Beams Not Shown For Clarity







### REMOVAL SECTION



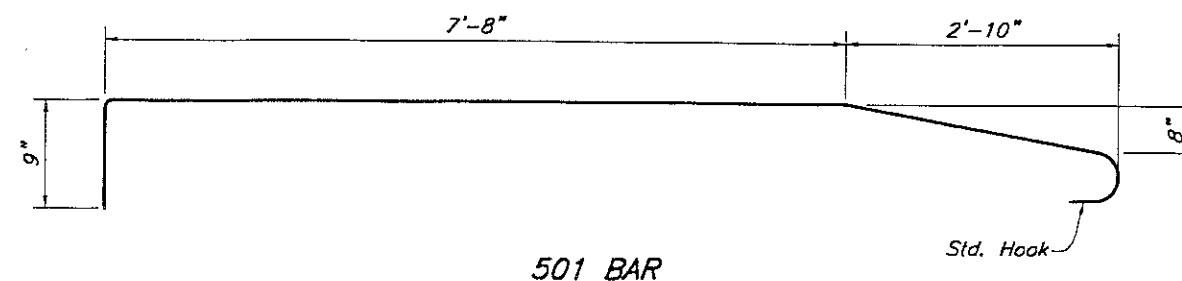
### PROPOSED MEDIAN SECTION OVER I-270 STA. 41+00.24 TO STA. 43+40.98

### DETAIL A

REINFORCING LIST			
MARK	NO.	LENGTH	TYPE
501	335	11'-4"	BENT
502	128	33'-5"	STR

- Bar dimensions shown are out to out
- All reinforcing to be epoxy coated
- STR = Straight

- 1 Item 202 - Portions of Structure Removed, As Per Plan
- 2 Item 830 - Concrete Median, As Per Plan
- 3 Item 625 - Conduit Misc.: Conduit Bank, 4", 713.07, As Per Plan





$$\frac{47}{77}$$

2: PROJECT 200014631.DWG: 22234GNC.DWG - 1 XREFS: 22234YZG - PLOTTED BY GRASKIN - April 27, 2001 - 12:54 PM



ITEM 625 - CONDUIT MISC.:CONDUIT BANK, 4", 713.07, AS PER PLAN  
The conduit shall be installed as detailed on these plans. Conduit banks shall be arranged in 5x2 and 5x1 arrangements as per plan sheet 48/76 and encased where required. Encasement and trench will be paid for under separate items. Reference Conduit Installation Notes and Conduit Bank Details for additional details.

Conduit shall be polyvinyl chloride schedule 40. Any field bending of conduit shall be done with manufacturer recommended conduit bending equipment and procedures.

Conduits within bridge limits from Sta. 41+00 to Sta. 43+42 shall be encased during installation of median. Encasement of these conduits shall be included within Item 830 - Concrete Median, As Per Plan.

Payment for Item 625 - Conduit Misc.:Conduit Bank, 4", 713.07, As Per Plan shall be made at the contract unit price bid per linear foot of trench including all tools, labor, conduits, spacers, supports, pulling wire, removal of excess fill or debris, and cleaning to provide a complete conduit bank with 5 or 10 ducts in place and accepted.

ITEM 625 - CONDUIT MISC.:CONDUIT BANK, 4", 713.04, AS PER PLAN  
The conduit shall be installed as detailed on these plans. Conduit banks shall be arranged in 5x2 and 5x1 arrangements as per plan sheet 48/76 and encased where required. Encasement and trench have been included under separate items. Reference Conduit Installation Notes and Conduit Bank Details for additional details

Galvanized steel conduit shall meet specifications as set forth in section 713.04 of the CMS.

Payment for Item 625 - Conduit Misc.:Conduit Bank, 4", 713.04, As Per Plan shall be made at the contract unit price bid per linear foot of trench including all tools, labor, conduits, spacers, supports, pulling wire, removal of excess fill or debris, and cleaning to provide a complete conduit bank with 5 or 10 ducts in place and accepted.

ITEM 625 - CONDUIT JACKED OR DRILLED, AS PER PLAN  
Specifications shall be in accordance with 625.131 of the CMS including payment for the installation of a complete conduit bank with 10 ducts jacked or drilled in place and accepted.

Payment for Item 625 - Conduit Jacked or Drilled, As Per Plan shall be made at the contract unit price bid per linear foot of duct bank, (10 ducts), including all tools, labor, conduits, spacers, supports, pulling wire, removal of excess fill or debris, and cleaning to provide a complete conduit bank with 10 ducts in place and accepted.

ITEM 625 - CONDUIT CONCRETE ENCASED, AS PER PLAN  
Specifications shall be in accordance with section 625 of the CMS including payment for the installation of a complete conduit duct bank with 5 ducts in place and accepted.

Conduits shall be in accordance with Item 625 - Conduit Misc.: Conduit Bank, 4", 713.07, As Per Plan as defined in these plans. Payment for the duct bank where referenced to be Concrete Encased, As Per Plan shall be paid for under Item 625 - Conduit, Concrete Encased, As Per Plan.

Payment for Item 625 - Conduit Concrete Encased, As Per Plan shall be made at the contract unit price bid per linear foot of trench including all tools, labor, conduits, spacers, encasement, supports, pulling wire, removal of excess fill or debris, and cleaning to provide a complete encasement of the entire conduit bank with 5 or 10 ducts in place and accepted. There shall be no payment for encasement of conduit between Sta. 41+00 to Sta. 43+42 where encasement shall be incidental to Item 830 Concrete Median, As Per Plan.

ITEM 625 - PULL BOX, MISC.: COMMUNICATION MANHOLE, AS PER PLAN  
A. MATERIAL

The precast concrete communication manhole shall be in accordance with Item 604 - Manholes as per the CMS including the standard drawings MH-1.2M and MH-2.1M with the following additional specifications:

1. The manhole shall be a minimum of 5' wide and 5'-6" deep from the bottom of the manhole riser section.
2. A solid lid, similar to Neenah Foundry Co. R-1752, or approved equal shall be provided and installed at each manhole. Covers shall be lettered 'COMM'.
3. The Contractor shall submit shop drawings to the City of Gahanna Engineer for approval prior to ordering or installation.
4. The Contractor may reference Mr. Mike Jeffers at United Precast (614-837-8444) for further information on this pre-cast structure, or obtain from an approved equal source.

#### B. INSTALLATION

1. Contractor shall provide all excavation and backfill necessary for manholes, vaults and underground conduit ducts installation.
2. Excavation for manholes shall extend to 6" below bottom of manhole or vault base or as necessary for proper installation and completion of work. This area shall be backfilled with compacted granular base in accordance with section 603.08 of the CMS.
3. Excavation for underground conduit ducts shall extend to profile of lower side of the conduit encasement. Conduits shall have a minimum of 48" cover entering the manhole. Adjustments to the profile to entering the manhole shall be made as necessary.
4. Profile between manholes shall be set so those conduits are level or sloped to one of the manholes. Where conduits enter manholes at a lower level than the approaching profile of the conduit, the conduit shall be sloped down to the manhole or vault window at a rate not exceeding 30 degrees from the horizontal.
5. After manholes are set and conduits are installed, backfill shall be brought to proper level and shall be compacted as per 603.08 Type C conduit as outlined in section 604 of the CMS. All surplus from excavation shall be in accordance with Item 203 and be included as payment for Item 625: Pull Box Misc.: Communication Manhole, As Per Plan.
6. Finished grade shall be replaced in kind, i.e. sod, gravel, blacktop, concrete, etc.
7. Seeding shall be in accordance with the supplemental specifications SS-870.
8. Work shall be so planned that excavations are open for a minimum of time. No load or backfill shall be applied or other work conducted that would damage new concrete or interfere, with its curing.
9. Open trenches in open areas shall be barricaded and properly protected.

#### C. BASIS OF PAYMENT

The work included in this item, including excavation, backfill, seeding, additional tools, labor, and any other materials necessary for the complete installation of each manhole shall be paid for at the contract price, complete in place for: ITEM 625 - PULL BOX, MISC.: COMMUNICATION MANHOLE, AS PER PLAN

#### ITEM 625 - TRENCH, AS PER PLAN:

This item shall conform to section 625 of the CMS, except that the minimum depth of the trench shall be 30 inches from the top of the duct bank to the finished (surface) grade and the depth of the trench shall increase as the duct bank enters the manhole (reference General: Installation - 4" Conduit 713.04 and 713.07 for additional notes). The width of the trench shall be a minimum of 4' wide to accommodate the installation of the duct bank as shown on the details on sheet 48. All trenches within the right-of-way shall be securely plated or backfilled at the end of each workday. Any additional excavation required and disposal of excess materials shall be included.

Payment shall be as per Item 625.

#### ITEM 625 - TRENCH, TYPE B, AS PER PLAN:

This item shall conform to section 625 of the CMS, except that the minimum depth of the trench shall be 30 inches from the top of the duct bank to the finished (surface) grade and the depth of the trench shall increase as the duct bank enters the manhole (reference General: Installation - 4" Conduit 713.04 and 713.07 for additional notes). The width of the trench shall be a minimum of 4' wide to accommodate the installation of the duct bank as shown on the details on sheet 48. All trenches within the right-of-way shall be securely plated or backfilled at the end of each workday. Any additional excavation required or disposal of excess materials shall be included.

Any work for maintenance of traffic during roadway cuts, including steel plates or temporary backfill, shall be paid for under Item 614- Maintaining Traffic, As Per Plan.

Payment shall be as per Item 625, except for maintenance of traffic costs.

ITEM 624 - CONDUIT 1", 713.07, AS PER PLAN:

Four 1" conduits shall be installed within each four inch conduits where indicated on the plans (reference plan details on sheet 48). Each 1" conduit shall be a different color per each 4" conduit. The 1" Conduit shall be in conformance with specifications from PINPOINT (1-800-847-7661) including a tracer wire or approved equal. The Contractor shall submit shop drawings to the City of Gahanna Engineer for this conduit prior to purchase or installation. For clarification, a total length of 1" conduits has been included in the subsummary on sheet 48.

Payment shall be as per Item 625.

#### GENERAL: INSTALLATION - 4" CONDUIT (713.04 and 713.07)

The conduit shall be installed as detailed in the plan. If the conduit is installed in an area to be paved under this or another contract, backfill shall be appropriate as defined in the specifications for ITEM 625 - TRENCH, AS PER PLAN or ITEM 625 - TRENCH IN PAVED AREAS, TYPE B, AS PER PLAN.

The depth of burial shall be minimum of 30 inches from the top of the duct bank to the finished (surface) grade. Adjustments to the profile will be necessary in order for the duct bank to enter the manhole (See detail on sheet 48 for conduit bank location in the manhole). The trench shall be dug so that any curve radius will be as large as possible. The trench shall be dug wider than necessary to accommodate the conduit and concrete envelope where required as indicated. The bottom of the trench shall be undisturbed, tamped, and relatively smooth earth. Trenches which have been dug too deep at any point are to be partially refilled and tamped solid. The sides of the trench will be trimmed smooth to provide for a uniform sheath of concrete around the conduits. The sides of the excavation are to be shored where necessary to maintain a uniform trench. Excess material shall be removed from the job site.

Where a conduit crosses an underground utility line the clearance between them will need to be large enough to permit maintenance of the system without damage to the existing utilities or structures. The clearances will need to be determined by the utilities involved. A suitable support on each side of the underground structure/utility will be built to avoid transferring any direct load onto that structure. Please note the only utilities discovered during research of this area that could be in the influence of the duct alignment are traffic or lighting conduit.

The conduit run shall be as straight as possible. The radius of any curve shall be as large as possible to facilitate the pulling in of cable. Precast plastic base and intermediate spacers will be placed at 5-foot intervals that shall separate the conduits a minimum of 2 inches apart and provide a 3-inch minimum outside encasement. Burrs on the end of the conduit, as the result of sawing, must be removed prior to completing a joint. Joints shall form a continuous smooth interior surface between duct sections so that cable will not be damaged when pulled past the joint. Surfaces to be joined will be clean and free from dirt, foreign materials and moisture. The joints will be sealed with the proper cement specified by the duct manufacturer. Ducts are to be tied together with heavy cord as to securely hold the ducts in place. The open ends of the duct are to be closed with tight fitting plugs to prevent the entrance of mud or foreign material into the duct. After conduit is installed it shall be inspected.

The concrete is to be poured as soon as possible after conduits have been placed (See plan for ducts to be encased). Ducts are to be restrained to hold them in position while the concrete is poured. The concrete shall have a slump of 4 to 5 inches. The concrete delivery chute shall be adjusted so that the fall of the concrete into the trench is minimal. A splashboard will be used to divert the flow of concrete away from the trench sides to avoid dislodging soil and stones. Concrete shall be placed always from one end of the duct section to the other end of the section. Continuous spading is to be done to ensure a flow of concrete between and under the individual ducts. A long flat tool or spatula will be worked carefully up and down between each vertical line of ducts to eliminate voids. The top of the concrete is then to be smoothed.

After the concrete has taken its initial set the trench can be backfilled. A piece of caution buried electric tape is to be placed above the duct during backfilling. The plastic warning tape shall be acid and alkali resistant polyethylene film, 3 inches wide with minimum thickness of 0.004 of an inch. The tape shall be of a type specifically manufactured for marking and locating underground utilities. Tape color shall be orange and shall bear a continuous printed inscription "Caution Underground Cable". After the ducts are installed the Contractor shall check each conduit run that is not rigid nor concrete encased by radding or by pushing a mandrel through the conduit run. Any obstructions which may develop in the conduit shall be removed. After the mandrel has been pulled thru, a stiff 5-inch circular wire brush and a swab shall then be pulled thru the duct to remove any bits of concrete, etc.

A No. 10 AWG copper-clad aluminum-clad or galvanized pulling wire shall be installed in all spare ducts. Ends of the conduit shall be sealed in an approved manner to keep all moisture and foreign matter out of the conduit manner to keep all moisture and foreign matter out of the conduit.



HORIZONTAL  
SCALE IN FEET

CHECKED  
TJE

SCALE IN FEET

SCALE IN FEET

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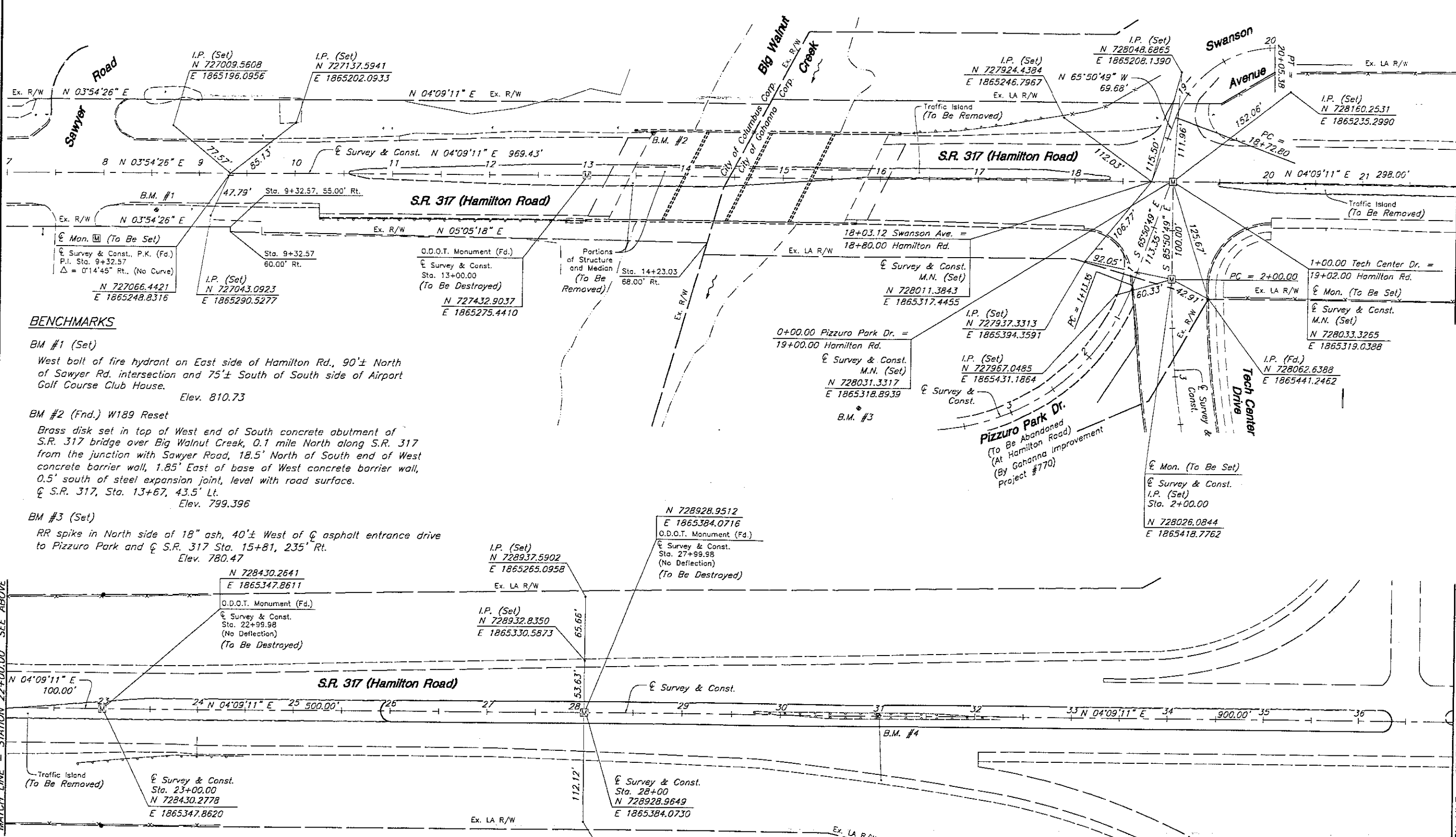
SCALE IN FEET

SCALE IN FEET

GAHANNA IMPROVEMENT PLAN:  
SCHEMATIC PLAN 3 PT. REFERENCES

FRA-317-9.20

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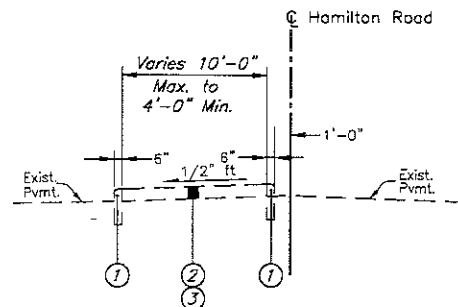
**BENCHMARKS**

- BM #1 (Set)**  
West bolt of fire hydrant on East side of Hamilton Rd., 90'± North of Sawyer Rd. intersection and 75'± South of South side of Airport Golf Course Club House.  
Elev. 810.73
- BM #2 (Fnd.) W189 Reset**  
Brass disk set in top of West end of South concrete abutment of S.R. 317 bridge over Big Walnut Creek, 0.1 mile North along S.R. 317 from the junction with Sawyer Road, 18.5' North of South end of West concrete barrier wall, 1.85' East of base of West concrete barrier wall, 0.5' south of steel expansion joint, level with road surface.  
C S.R. 317, Sta. 13+67, 43.5' Lt.  
Elev. 799.396
- BM #3 (Set)**  
RR spike in North side of 18" ash, 40'± West of C asphalt entrance drive to Pizzuro Park and C S.R. 317 Sta. 15+81, 235' Rt.  
Elev. 780.47

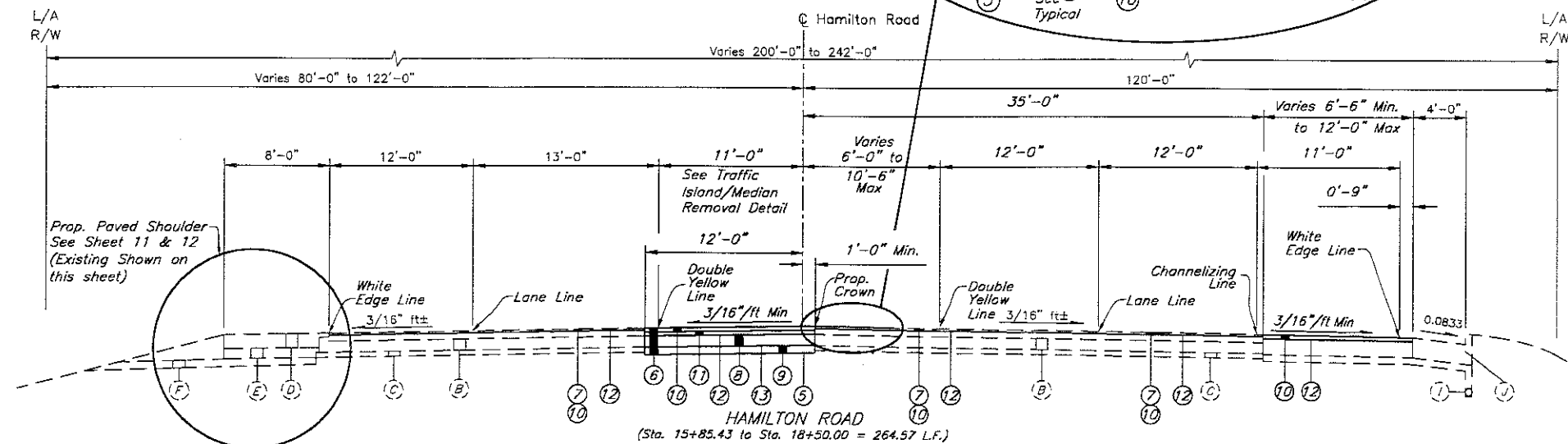
Centerline Reference Monuments (•, □, •) To Be Set During Construction				
Station	Dist. from C of Survey		C Reference Mon. Rmvd.	Adjustable C Monument
	Left	Right		
9+32.57			202	604
13+00.00			1	1
19+02.00		100.00'	2	2
23+00.00	117.52'	120.00'	1	2
38+00.00			1	1
Totals			3	4



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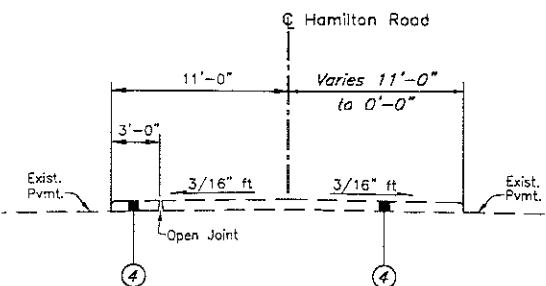


HAMILTON ROAD (S.R. 315)  
TRAFFIC ISLAND/MEDIAN REMOVAL DETAIL  
(Sta. 15+85.43 to Sta. 18+37)



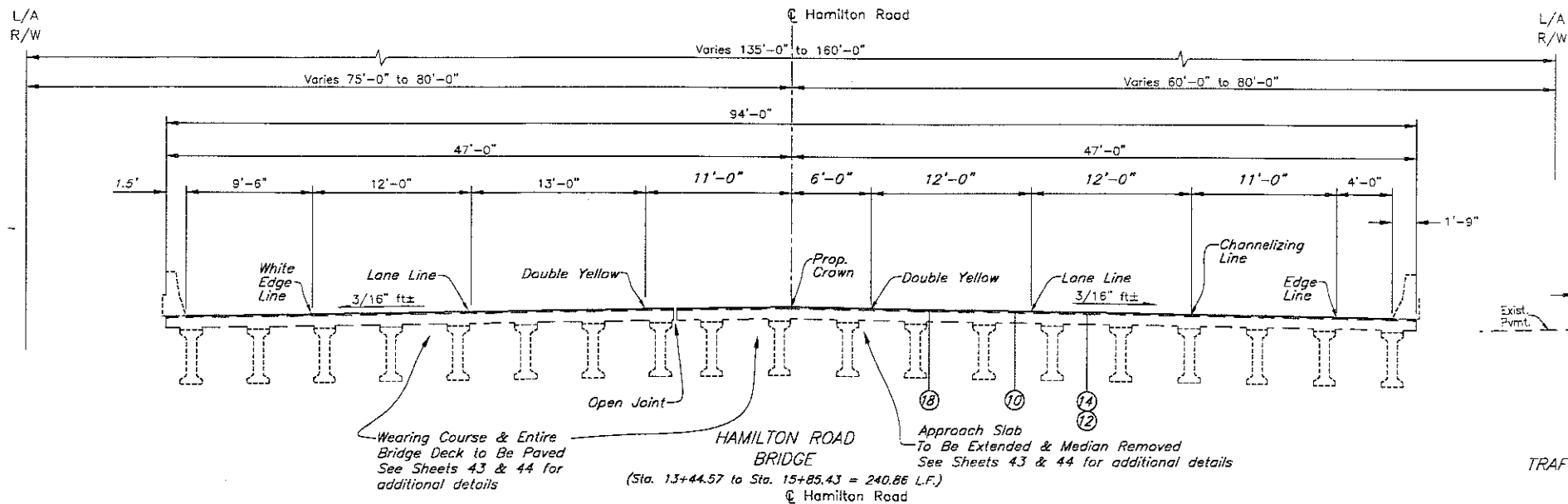
Prop. Paved Shoulder  
See Sheet 11 & 12  
(Existing Shown on  
this sheet)

HAMILTON ROAD  
(Sta. 15+85.43 to Sta. 18+50.00 = 264.57 L.F.)



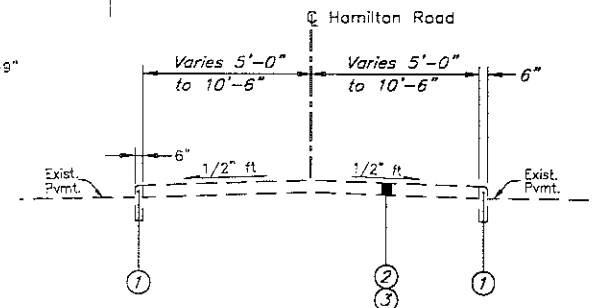
HAMILTON ROAD (S.R. 315)  
BRIDGE MEDIAN REMOVAL DETAIL  
(Sta. 13+44.57 to Sta. 15+85.43)

Concrete Median To Be Removed and Area To Be Paved  
(See Sheets 44-45 for Details)

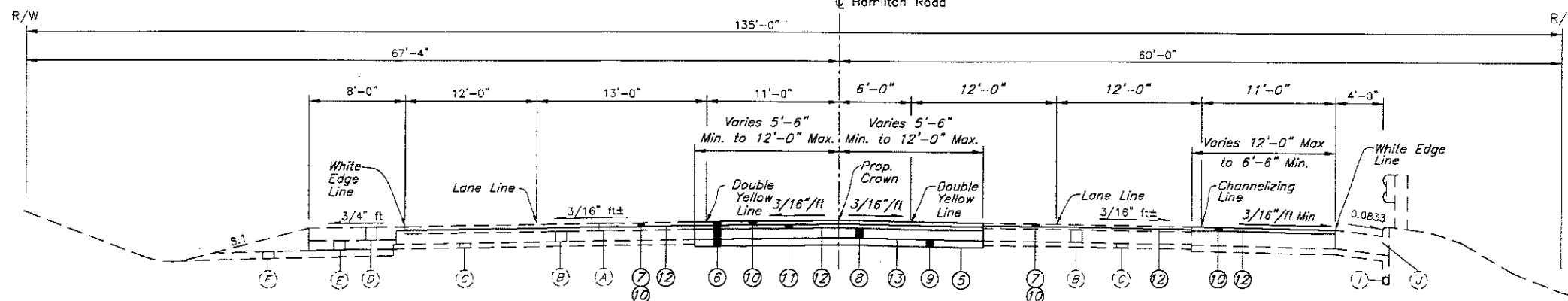


Wearing Course & Entire  
Bridge Deck to Be Paved  
See Sheets 43 & 44 for  
additional details

HAMILTON ROAD  
BRIDGE  
(Sta. 13+44.57 to Sta. 15+85.43 = 240.66 L.F.)  
Hamilton Road  
Approach Slab  
To Be Extended & Median Removed  
See Sheets 43 & 44 for additional details



HAMILTON ROAD (S.R. 315)  
TRAFFIC ISLAND/MEDIAN REMOVAL DETAIL  
(Sta. 10+75 to Sta. 13+44.57)



HAMILTON ROAD  
(Sta. 10+50.00 to Sta. 13+44.57 = 294.57 L.F.)

Begin Surface Course on turn Lane at Sta.  
10+25. Surface course was not installed by  
previous project. Surface Course to be  
installed by Contractor for Fra-317-9.20.

- LEGEND**
- Item 202 ~ Curb Removed, As Per Plan
  - Item 202 ~ Removal Misc.: Traffic Island Removed, As Per Plan
  - Item 202 ~ Concrete Median Removed, As Per Plan
  - Item 202 ~ Portions of Structures Removed, As Per Plan
  - Item 203 ~ Subgrade Compaction
  - Item 203 ~ Excavation (15" Average)
  - Item 254 ~ Pavement Planning (1 1/2")
  - Item 301 ~ 9" Bituminous Aggregate Base
  - Item 304 ~ 4" Aggregate Base
  - Item 445 ~ 1 1/2" Asphalt Concrete, Surface Course, Type 1, PG-64-22, As Per Plan
  - Item 445 ~ 1 1/2" Asphalt Concrete, Intermediate Course, Type 1, PG-64-22, As Per Plan
  - Item 407 ~ Tack Coat (0.1 Gal./S.Y.)
  - Item 408 ~ Bituminous Prime Coat (0.4 Gal./S.Y.)
  - Item 512 ~ Type 3 Waterproofing
  - Item 830 ~ Curb, Type 6, As Per Plan
  - Item 830 ~ Concrete Median, As Per Plan
  - Item 830 ~ Median Misc.: Traffic Island, As Per Plan
  - Item 202 ~ Wearing Course Removed (1 1/2" Average - See Sheet 43)
- (A) Existing 5" Asphalt Concrete  
(B) Existing 9" Bituminous Aggregate Base  
(C) Existing 3" Aggregate Base  
(D) Existing 8" Aggregate Base  
(E) Existing 4" Subbase  
(F) Existing Aggregate Drain  
(G) Existing Concrete Median  
(H) Existing Curb, Type 6  
(I) Existing Pipe Underdrain  
(J) Existing Curb and Gutter

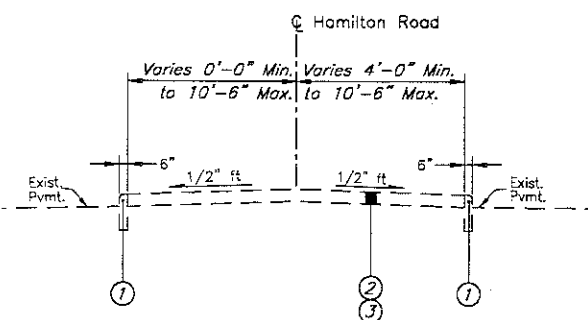
NOT TO SCALE

TYPICAL SECTIONS

FRA-317-9.20

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**HAMILTON ROAD (S.R. 315)**  
**TRAFFIC ISLAND/MEDIAN REMOVAL DETAIL**  
(Sta. 19+48.00 to Sta. 26+00.00)  
&  
(Sta. 37+00 to Sta. 41+00.24 &  
Sta. 43+40.86 to Sta. 47+42.00)

#### CONCRETE MEDIAN/TRAFFIC ISLAND GENERAL NOTES

The median from Sta. 36+50 to Sta. 48+00 shall be colored concrete and stamped in accordance with these plans and per acceptance of the samples approved by the City of Gahanna Engineer. The Contractor shall submit shop drawings and samples to the City of Gahanna Engineer prior to construction of any proposed curb or median within the above defined area.

The east and west sides of the median shall have a Herringbone pattern consistent throughout. The northern and southern nose of the median shall have a European Fan pattern (see details provided on this sheet). The color of the concrete shall be similar to the EATON color specifications. The Contractor shall reference PAVELOCK at 614-438-5889 for patterns and color samples.

Additional tools, labor, materials necessary to perform stamping patterns shall be included withing Item 830-Concrete Median, As Per Plan or Item 830-Median Misc.:Traffic Island As Per Plan.

#### ITEM 830 - CONCRETE MEDIAN, AS PER PLAN

This item applies to the proposed median work on the Bridge over I-270 and median noses (see plan for locations & see this sheet for details). This item shall conform to the specifications of Item 830 of the supplemental specifications in addition to the General Notes listed on this sheet.

All equipment, labor, and materials, including reinforcing, required to complete the median shall be included with this item for payment. Quantities are on sheet 63 of these plans.

#### ITEM 830 - MEDIAN MISC.: TRAFFIC ISLAND, AS PER PLAN

This item applies to the proposed traffic island work outside of the bridge limits for the bridge over I-270 between Sta. 37+78 to Sta. 41+00.24 & Sta. 43+40.86 to Sta. 46+63.

This item shall conform to the specifications of Item 830 of the supplemental specifications in addition to the General Notes listed on this sheet.

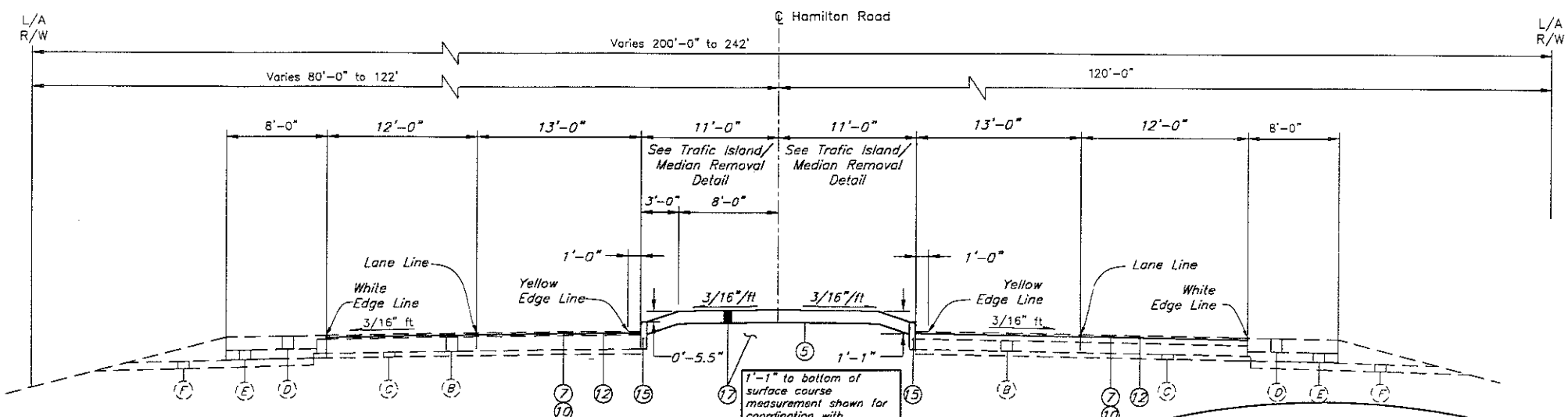
All equipment, labor, and materials, including additional embankment in conformance with Item 203 specifications required to complete the traffic island to the height as shown in the typical shall be included with this item for payment. Quantities are on sheet 63 of these plans.

#### ITEM 830 - CURB, TYPE 6, AS PER PLAN

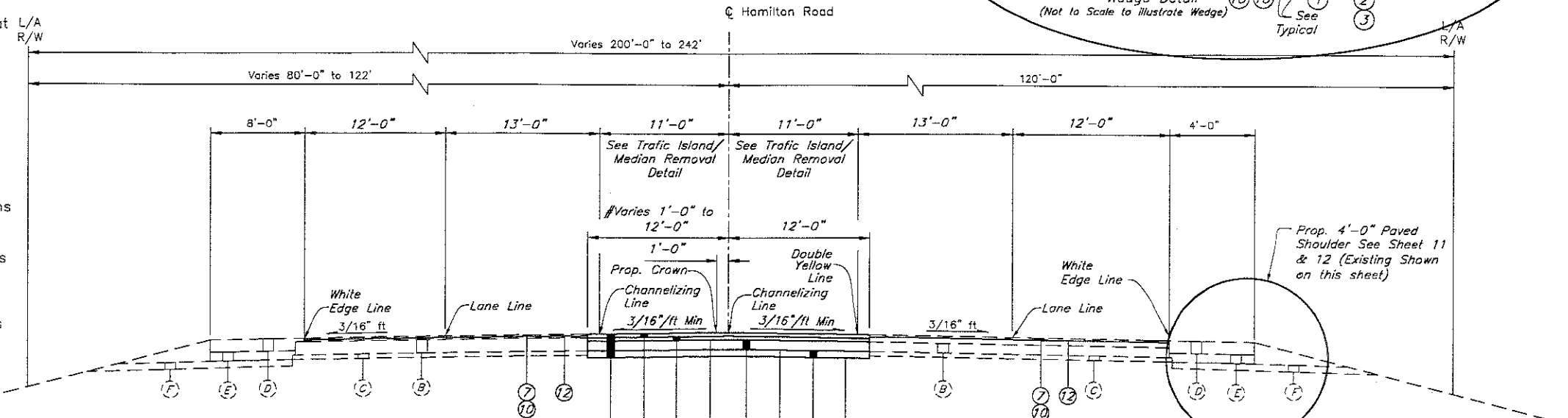
This item applies to the proposed curb work necessary to construct the proposed traffic outside of the bridge limits for the bridge over I-270 between Sta. 37+78 to Sta. 41+00.24 & Sta. 43+40.86 to Sta. 46+63.

This item shall conform to the specifications of Item 830 of the supplemental specifications in addition to the General Notes listed on this sheet. Curb shall be colored with the same specifications as the median and traffic island.

All equipment, labor, and materials, specifications required shall be included with this item for payment.

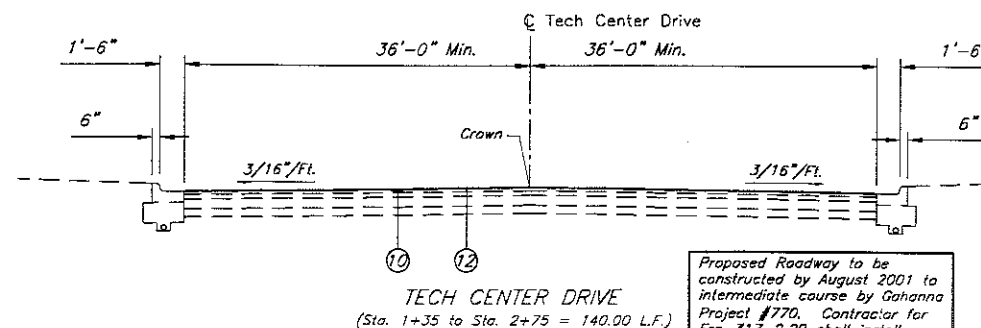


**HAMILTON ROAD (S.R. 315)**  
(Sta. 37+00 to Sta. 41+00.24 = 400.24 L.F.  
Sta. 43+40.86 to Sta. 47+42.00 = 400.83 L.F.)



# Sta. 19+40 to Sta. 21+95 = 1'-0"  
# Sta. 21+95 to Sta. 26+00 = 12'-0"

**HAMILTON ROAD (S.R. 315)**  
(Sta. 19+40.00 to Sta. 26+00.00 = 660.00 L.F.)  
See below for wedge detail.



**TECH CENTER DRIVE**  
(Sta. 1+35 to Sta. 2+75 = 140.00 L.F.)

Proposed Roadway to be constructed by August 2001 to intermediate course by Gahanna Project #770. Contractor for Fra-317-9.20 shall install intermediate course as shown.

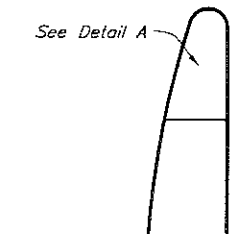
Note to Contractor: See Sheet 5 for Planning Typical



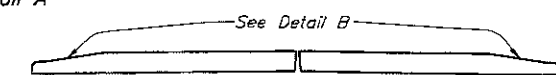
European Fan Pattern  
Detail A



Herringbone Pattern  
Detail B

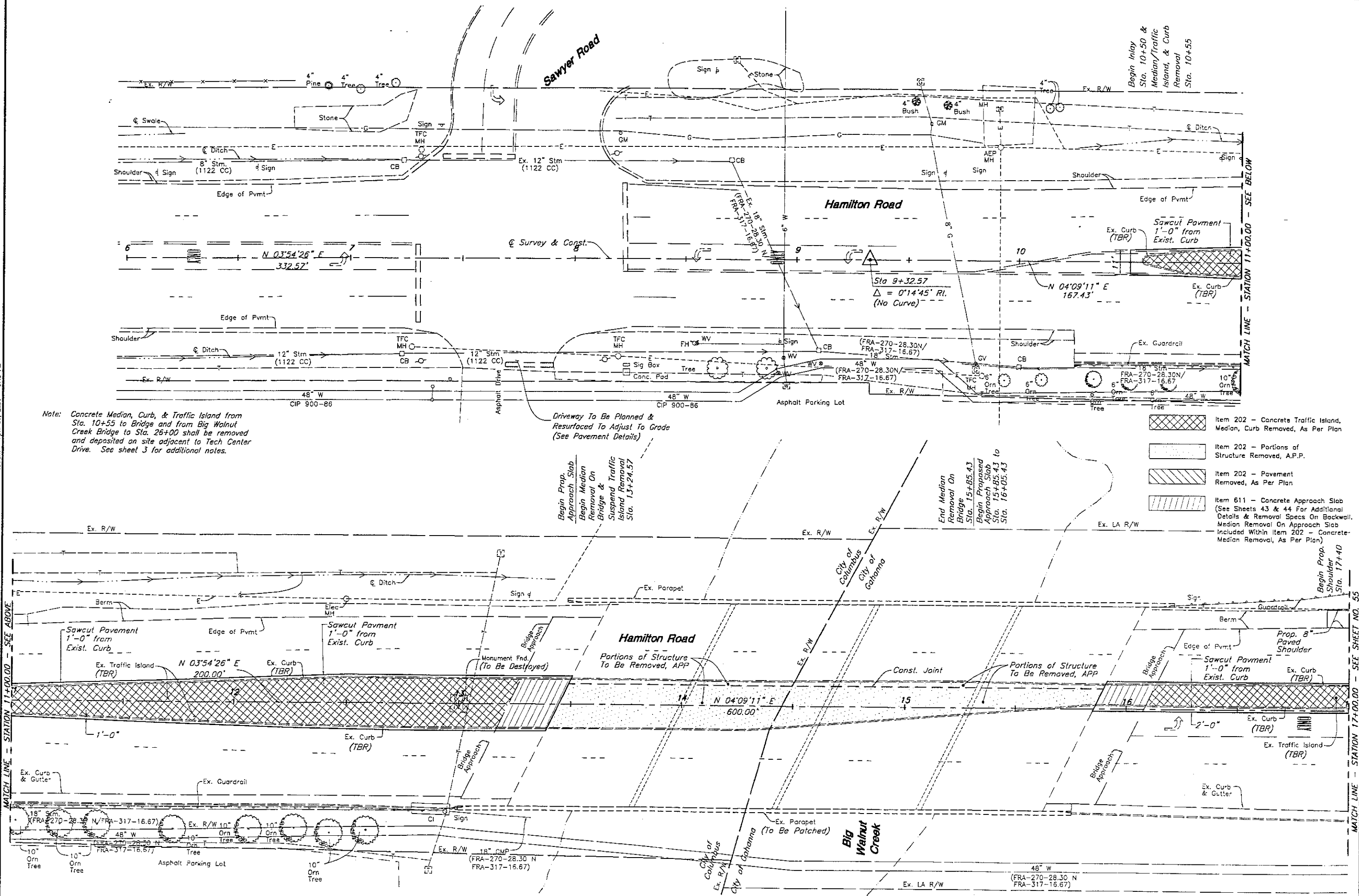



**PLAN VIEW**  
(Sta. 37+01.30 to Sta. 37+36.00)  
(Sta. 47+12.00 to Sta. 47+41.95)



**SECTION VIEW**  
(Sta. 37+36.00 to Sta. 47+12.00)

**MEDIAN DETAILS**  
Not To Scale



CALCULATED GB	 <p>HORIZONTAL SCALE IN FEET</p>
CHECKED TJE	

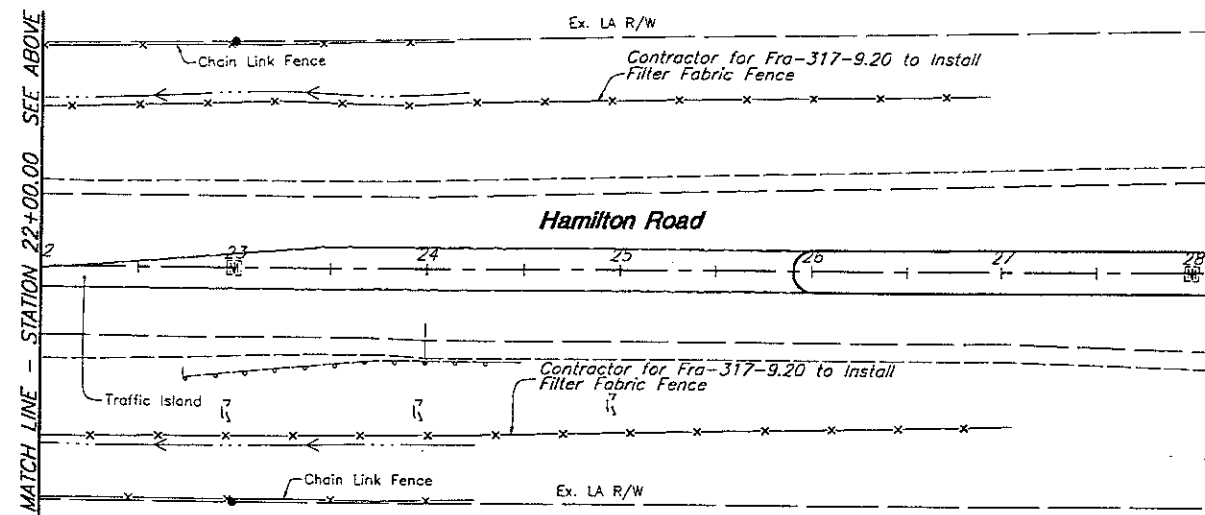
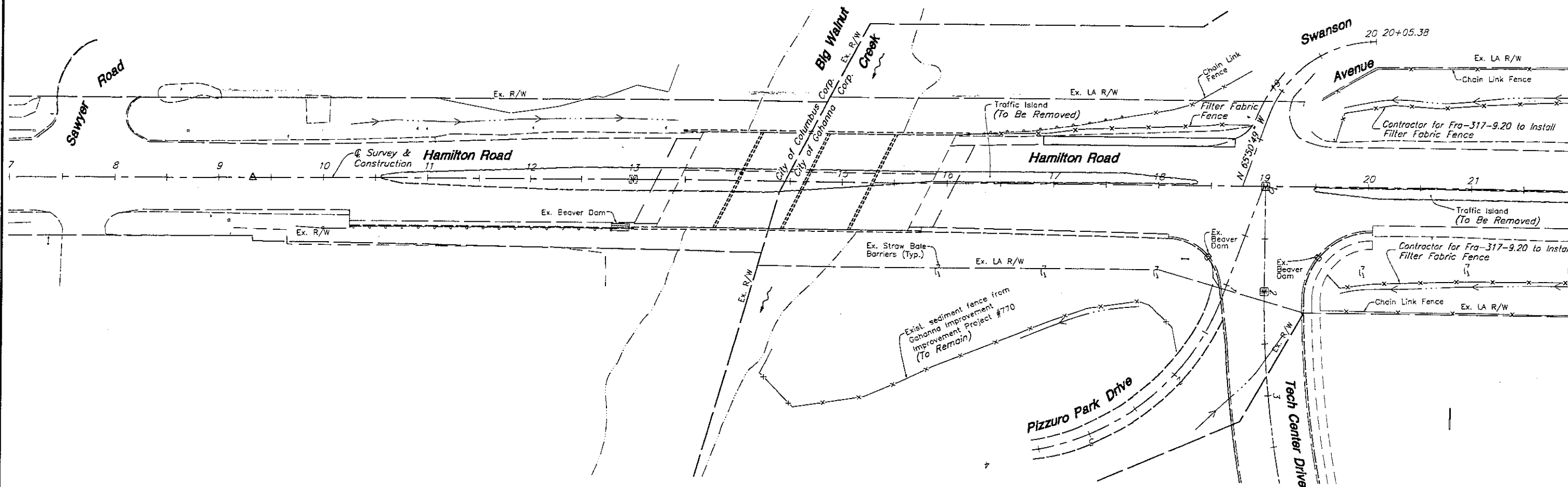
GAHANNA IMPROVEMENT PLAN  
STA. 6+00 TO STA. 17+00

FRA-317-9.20

$$\frac{54}{77}$$



D:\PROJECT\2001\4631\ONE\HAMBURGER.DWG - 7 XREFS: HAMBURGER 22234XZG HAMBURGER HAMBURGER - PLOTTED BY TEDIWIKOS - April 23, 2001 - 12:05 PM



SEDIMENT AND EROSION CONTROL QUANTITIES

ITEM	QUANTITY	UNIT	DESCRIPTION
877	1764	Lin. Ft.	Temporary Erosion Control Misc.: Temporary Perimeter Filter Fabric Fence, As Per Plan

Reference Sheet 4 for description of  
Item 877 - Temporary Erosion Control Misc.:  
Temporary Perimeter Filter Fabric Fence, As Per Plan

LEGEND

- Exist. Straw Bale Barriers  
(To Be Removed Upon Completion of Project)  
From Gahanna Improvement Project #770
- Exist. Beaver Dam  
From Gahanna Improvement Project #770
- FILTER FABRIC FENCE  
(See Plan Location for Fence to be  
Installed by FRA-317-9.20 Contractor)

56  
77

FRA-317-9.20

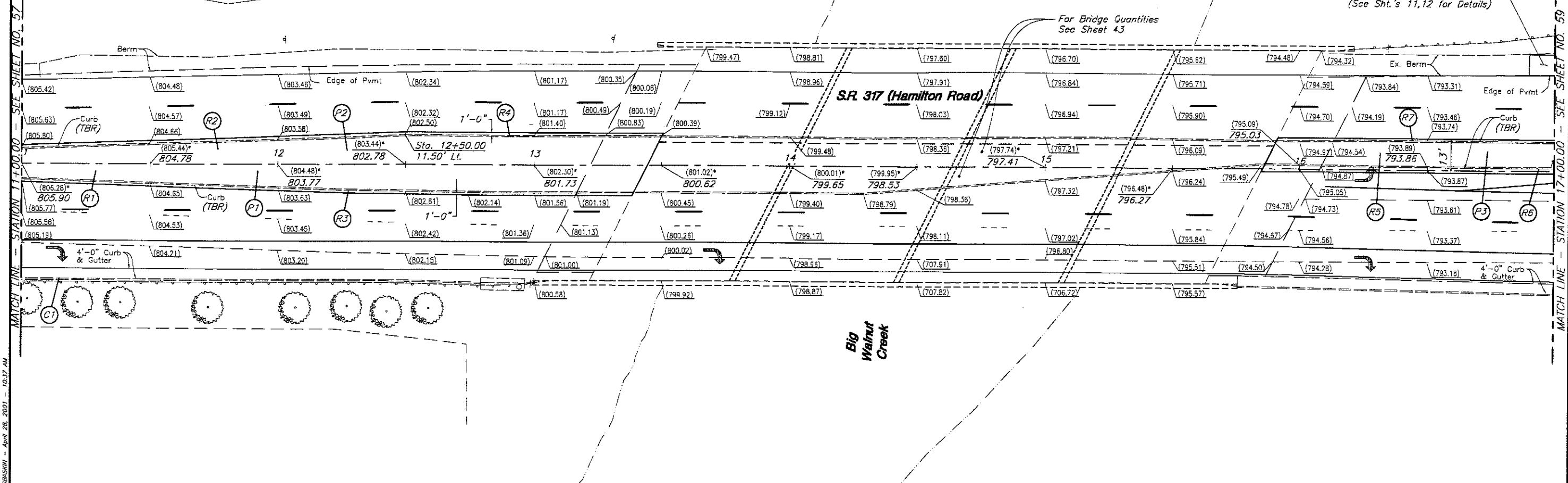
GAHANNA IMPROVEMENT PLAN:  
SEDIMENTATION AND EROSION CONTROL PLAN

CALCULATED  
AAE  
CHECKED  
TJE

STATION 22+00.00 - SEE BELOW  
MATCH LINE - STATION 22+00.00

HORIZONTAL  
SCALE IN FEET  
0 25 50



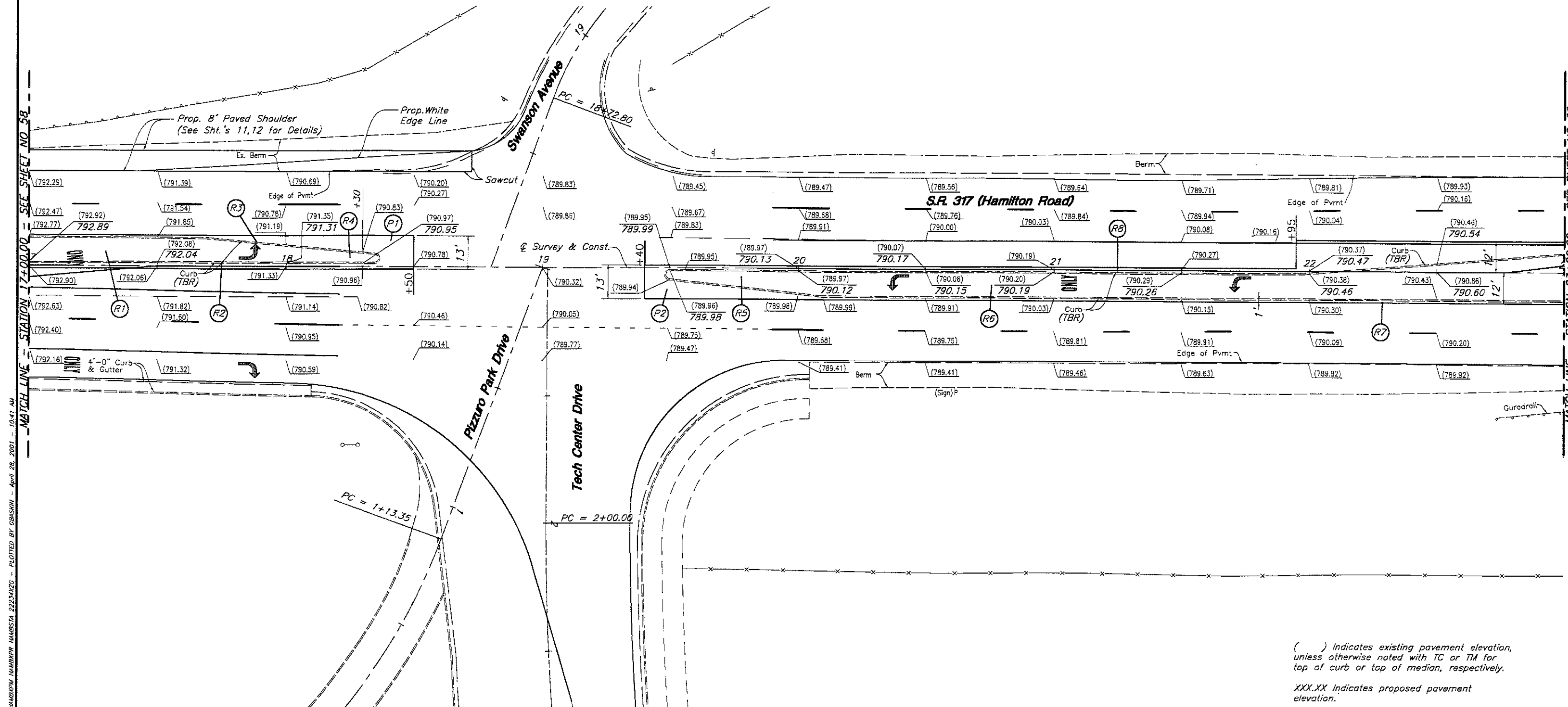


REF. NO.	STATIONS		SIDE	202			203		301	304	408		446		830		COMMENTS
				CURB REMOVED AS PER PLAN	REMOVAL MISC.: TRAFFIC ISLAND REMOVED AS PER PLAN	CONCRETE MEDIAN REMOVED AS PER PLAN	EXCAVATION (16")	SUBGRADE COMPACTION	9" BITUMINOUS AGGREGATE BASE	4" AGGREGATE BASE	BITUMINOUS PRIME COAT (0.4 Gal./ S.Y.)		1-1/2" ASPH. CONC., INTERMEDIATE COURSE TYPE 1, PG-64-22, AS PER PLAN		CURB TYPE 6	CONCRETE MEDIAN	
	FROM	TO		L.F.	S.Y.	S.Y.	C.Y.	S.Y.	C.Y.	C.Y.	GAL.		C.Y.		L.F.	S.Y.	
R1	11+00	13+45	Rt.		227.8												
R2	11+00	13+50	Lt.		212.2												
R3	11+00	13+29	Rt.	239													
R4	11+00	13+50	Lt.	250													
R5	15+85	17+00	Lt.		113.1												
R6	15+86	17+00	Lt.		114												
R7	15+91	17+00	Lt.	109													
P1	11+00	13+45	Rt.				123.3	274.4	69.4	30.8	112.0		11.6				
P2	11+00	13+50	Lt.				132.1	297.2	74.3	33.1	118.9		12.4				
P3	15+85	17+00	Lt.-Rt.				71.8	161.6	40.4	18.0	64.6		6.7				
				712	553.1	0	327.2	733.2	184.1	81.9	295.5		30.7				SUBTOTAL SHEFT 5R

**NOTES:**

1. Elevations shown at Existing Curb pertains to Pavement Elevations.
2. Elevations shown at Concrete Median with (\*) pertains to Top Concrete Median.
3. Elevations with Parenthesis are Existing and Elevations without Parenthesis are Proposed.
4. For Surface Courses and Tack Coat See Sheets 6, 7 & 9 For Quantities.

*Pavement Marking Shown For Reference  
to Existing lanes only. See Sheets 64-70  
for Pavement Marking.*



REF. NO.	STATIONS		SIDE	202			203		301	304	408		446		830		COMMENTS
				CURB REMOVED AS PER PLAN	REMOVAL MISC.: TRAFFIC ISLAND REMOVED AS PER PLAN	CONCRETE MEDIAN REMOVED AS PER PLAN	EXCAVATION (16")	SUBGRADE COMPACTION	9" BITUMINOUS AGGREGATE BASE	4" AGGREGATE BASE	BITUMINOUS PRIME COAT (0.4 Gal./ S.Y.)	1-1/2" ASPH. CONC., INTERMEDIATE COURSE TYPE 1, PG-64-22, AS PER PLAN	CURB TYPE 6	CONCRETE MEDIAN			
	FROM	TO		L.F.	S.Y.	S.Y.	C.Y.	S.Y.	C.Y.	C.Y.	GAL.	C.Y.	L.F.	S.Y.			
R1	17+00	18+07	LI.		99.8												
R2	17+00	18+07	LI.	107													
R3	17+00	18+07	LI.	107													
R4	18+07	18+37	LI.	0		16.9											
R5	19+48	19+78	RI.	0		18.4											
R6	19+78	23+00	RI.		370.1												
R7	19+78	23+00	RI.	322													
R8	19+78	23+00	RI.	322													
P1	17+00	18+50	LI.-RI.				96.3	216.7	54.2	24.1	86.7		9				
P2	19+40	23+00	LI.-RI.				288.1	648.2	162.1	72	259.3		27				
				858	469.9	35.3	384.4	864.9	216.3	96.1	346		36			SUBTOTAL SHEET 59	

( ) Indicates existing pavement elevation, unless otherwise noted with TC or TM for top of curb or top of median, respectively.

XXX.XX Indicates proposed pavement elevation.

**NOTES:**

1. Elevations shown at Existing Curb pertains to Pavement Elevations.
2. Elevations shown at Concrete Median with (\*) pertains to Top Concrete Median.
3. Elevations with Parenthesis are Existing and Elevations without Parenthesis are Proposed.
4. For Surface Courses and Tack Coat See Sheets 6, 7 & 9 For Quantities.

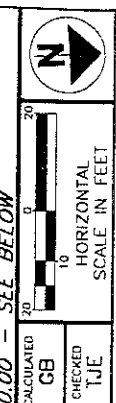
*Pavement Marking Shown For Reference  
to Existing lanes only. See Sheets 64-70  
for Pavement Marking.*







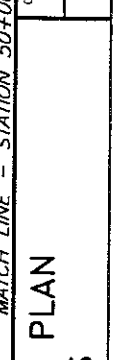
②  $\Delta = 159^{\circ}48'11''$   
 $R = 5.50'$   
 $T = 30.88'$   
 $L = 15.34'$



No Curb/Median Work Beyond Sta. 47+50.  
Work To Be Performed by City of Gahanna.

For Surface Courses and Tack Coat  
See Sheets 6, 7 & 9 For Quantities

*Pavement Marking Shown For Reference  
to Existing lanes only. See Sheets 64-70  
for Pavement Marking.*



# GAHANNA IMPROVEMENT PLAN PAVEMENT DETAILS

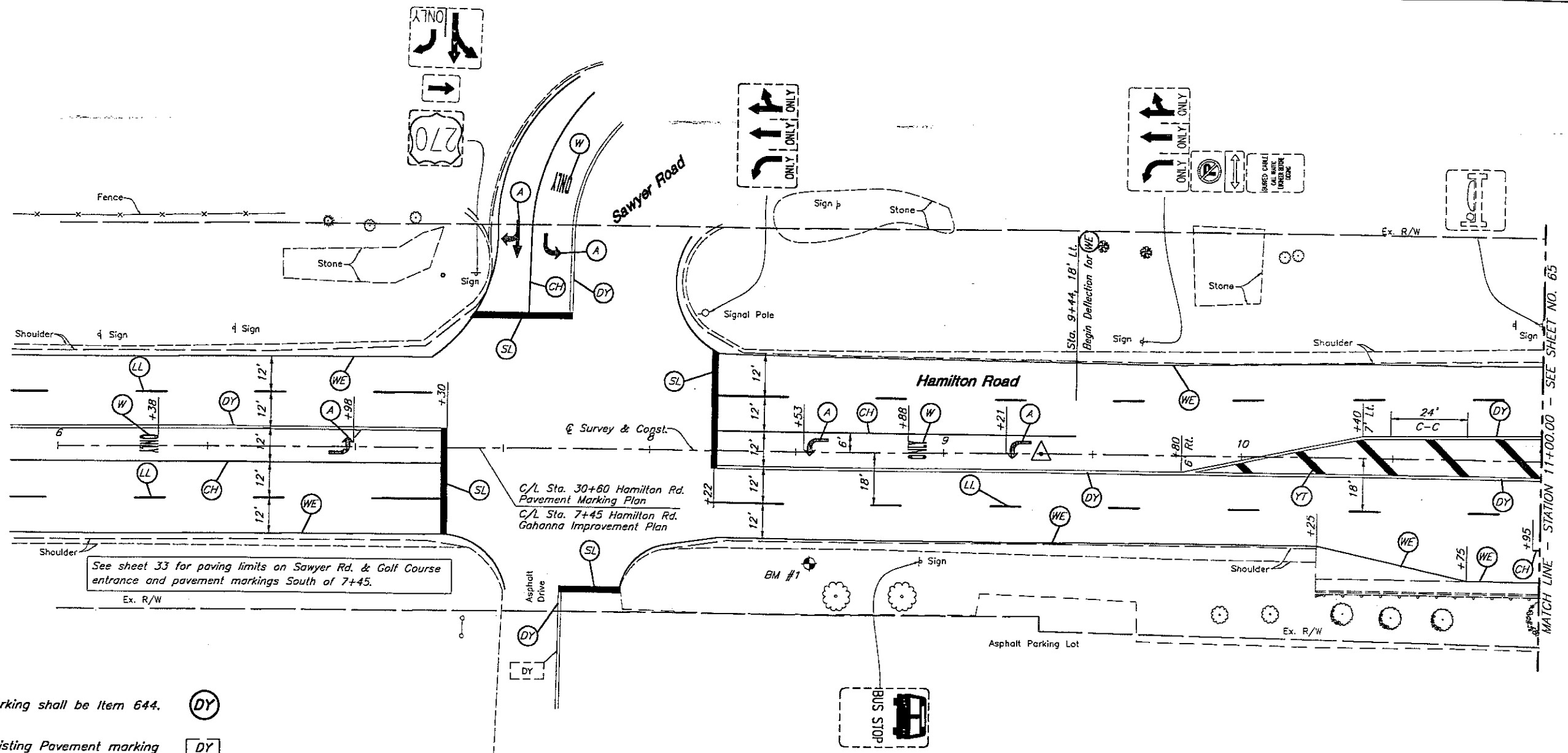
FRA-317-9.20

PROJECT: 2001-1461 [LONG] HAUBREEM HAUBRPR HAUBSTIA 222-KKZC - PLOTTED BY TEKENT - April 29, 2001 - 9:35 PM  
MATCH LINE - STATION 50+00.00 - SEE ABOVE

SUB-SUMMARY FOR SHEETS 57 TO 62

SHEET NUMBER	202			203		301	304	408		446		830				
	CURB REMOVED AS PER PLAN	REMOVAL MISC.: TRAFFIC ISLAND REMOVED AS PER PLAN	CONCRETE MEDIAN REMOVED AS PER PLAN	EXCAVATION (16")	SUBGRADE COMPACTION	9" BITUMINOUS AGGREGATE BASE	4" AGGREGATE BASE	BITUMINOUS PRIME COAT (0.4 Gal./ S.Y.)		1-1/2" ASPH. CONC. INTERMEDIATE COURSE TYPE 1, PG-64-22, AS PER PLAN		CURB TYPE 6	CONCRETE MEDIAN	CONCRETE MEDIAN, AS PER PLAN	MEDIAN MISC.: TRAFFIC ISLAND, AS PER PLAN	CURB TYPE 6, AS PER PLAN
	L.F.	S.Y.	S.Y.	C.Y.	S.Y.	C.Y.	C.Y.	GAL.		C.Y.		L.F.	S.Y.	S.Y.	S.Y.	L.F.
57	50	28.6	11.2	31	70	17.3	7.6	28		3						
58	712	553.1		327.2	733.2	184.1	81.9	295.5		30.7						
59	858	469.9	35.3	384.4	864.9	216.3	96.1	346		36						
60	1800	701.2		354.7	800	200	88.9	320		33.3	1200	10.6				
61	1397	164.4	66.4	1443	197.6	9.2	4.4	14.6		1.5	528		155	1479.3	763	
62	624	728	59.9	10	795.1	5.6	2.5	9		0.9			159	613.7	526	
TOTAL TO G.S.	5441	2645.2	172.8	2,551	3,455	633	282	1013.1		106	1728	10.6	314	2093	1289	

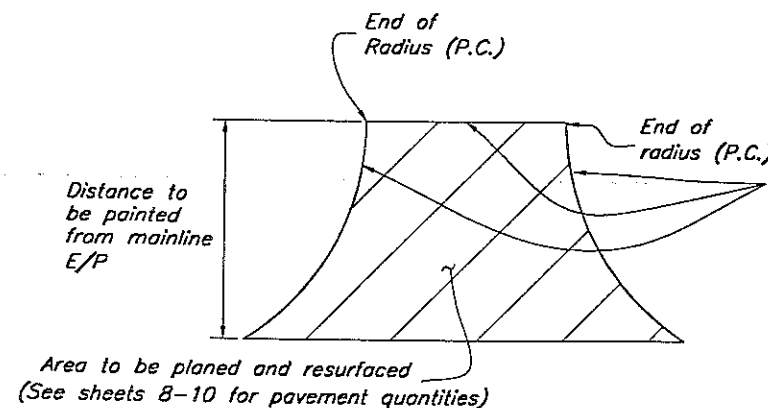
D:\PROJECT\2001\63\DWG\HAUBER\HAUBER.DWG - 8 XREFS: HAUBER\HAUBER.DWG 2234222 HAUBER - PLOTTED BY MARSHALL - April 23, 2001 - 3:12 PM



Pavement marking shall be Item 644. **DY**

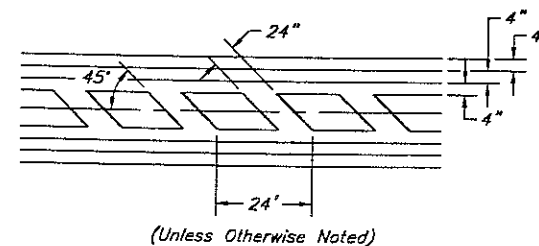
Existing Pavement marking **DY**

Note: Extension of F/C line is for reference only.  
The Contractor shall notify the Signals Management Engineer at (614) 645-7790 before all loops have been installed at each intersection. The Traffic Engineering and Parking Division shall inspect all sensors and test as necessary to Sta. 14+44. The City of Gahanna shall inspect all loops north of Sta. 14+44.



**SIDE STREET PAVEMENT MARKING DETAIL**  
(Not To Scale)

Note:  
On side streets that are to be resurfaced, quantities for pavement markings to be installed from the mainline to the PC (end of radius) have been included on the pavement markings subsummary, sheets 20 & 21.  
See plan for proposed marking callouts.  
All pavement markings should terminate at the PC of the side street, unless otherwise noted on plan with symbol or note.



**ISLAND DETAIL**  
(Not To Scale)

LINE SPECIFICATIONS	
WE	Edge Line, 4" White
YE	Edge Line, 4" Yellow
LL	Lane Line, 4" Dashed White
CH	Channelizing Line, 8" White
SL	Stop Line, 24" White
XW	Crosswalk Line, 12" White
DY	Center Line, 4" Solid Double Yellow
WT	Transverse Line, 24" White
YT	Transverse Line, 24" Yellow
WD	Dotted Line, 4" White
YE	Edge Line, 4" Yellow
A	Lane Arrow
W	Word on Pavement, 72"

Note: The word "ONLY" on pavement shall be the Urban size 72" as shown on Standard Drawing TC-71.10M.



HORIZONTAL  
SCALE IN FEET

CALCULATED  
DEC  
CHECKED  
TJE

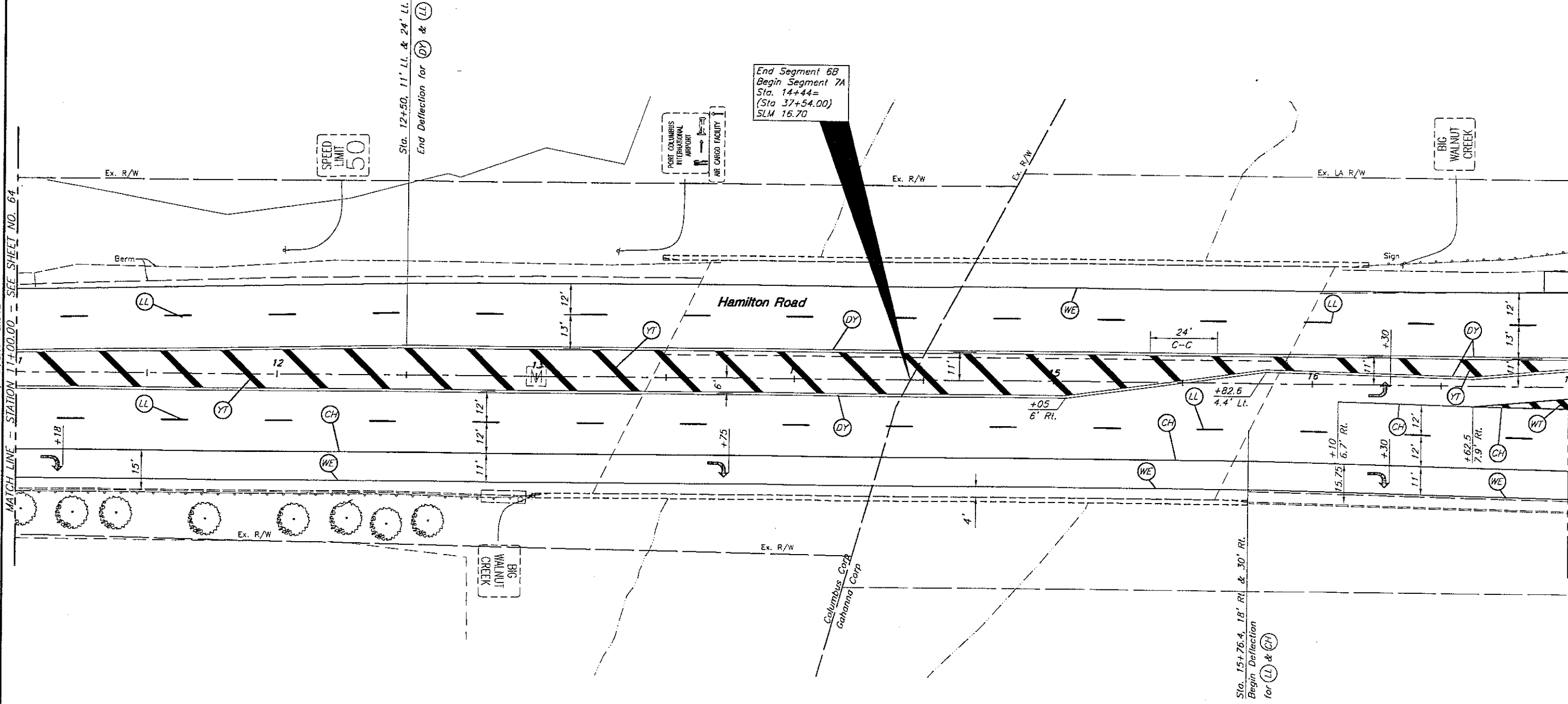
GAHANNA IMPROVEMENT PROJECT  
PAVEMENT MARKING PLAN STA 7+50 TO STA 11+00

FRA-317-9.20

64  
77

G:\PROJECT\2000\461\DWG\PAVIMPRD.DWG - 7 XREFS: HAMBXCL HAMBKRW HAMBKICR HAMBKPR HAMBSTA 22234XZC - PLOTTED BY TEFERT - April 28, 2001 - 3:43 PM

MATCH LINE - STATION 11+00.00 - SEE SHEET NO. 64

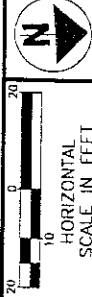


MATCH LINE - STATION 17+00.00 - SEE SHEET NO. 66

FRA-317-9.20

GAHANNA IMPROVEMENT PROJECT  
PAVEMENT MARKING PLAN STA 11+00 TO STA 17+00

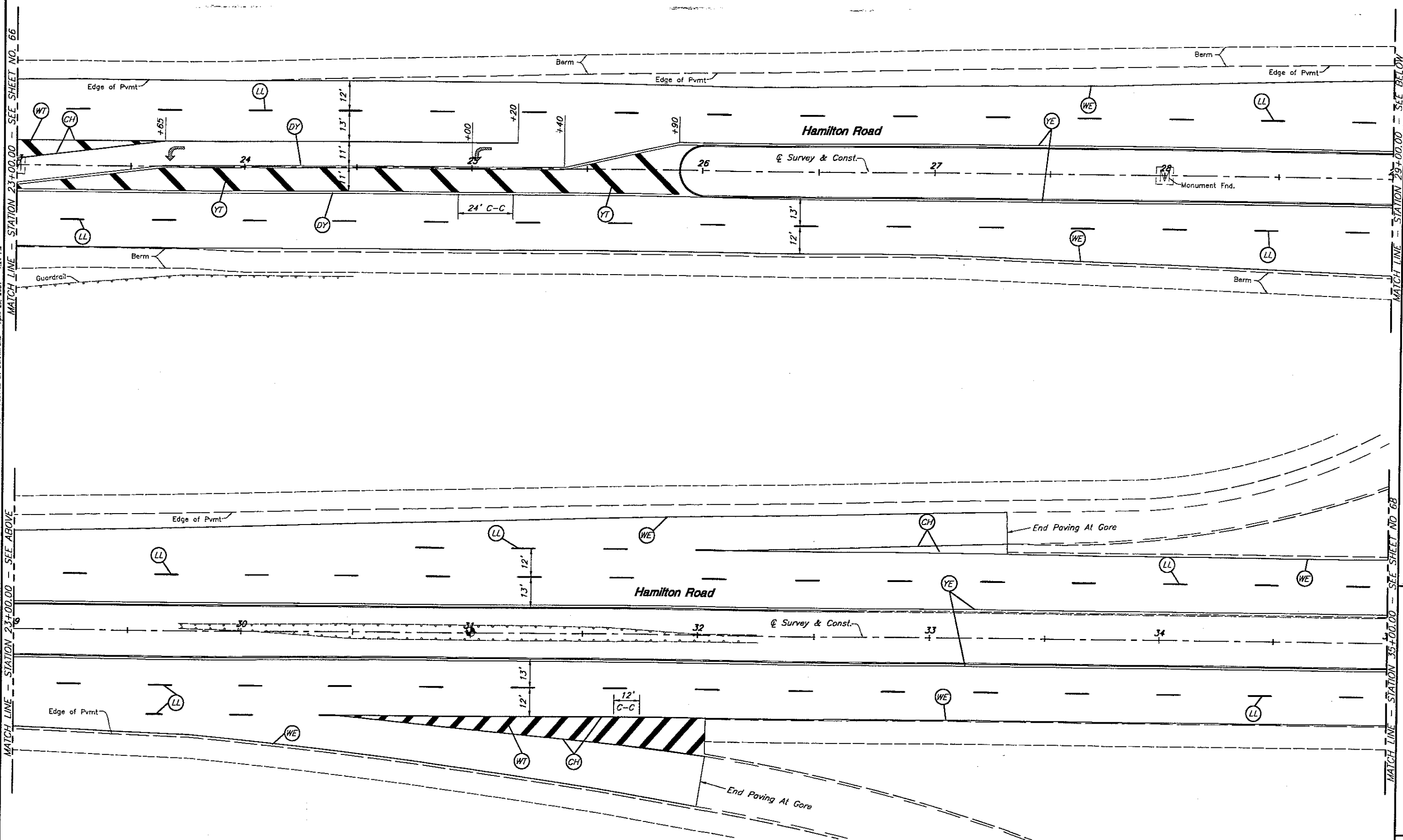
CALCULATED  
DEC  
CHECKED  
TJE







||SERVERS\HIGHWAY\PROJECT\20001463\DWG\HAMBTPD.DWG -- 6 XREFS: HAMBXCL HAMBXEN HAMBXER HAMBXPW HAMBXPR HAMBXRW HAMBST222X4XC -- PLOTTED BY DCRAWFORD - April 21, 2001 - 1:24 PM

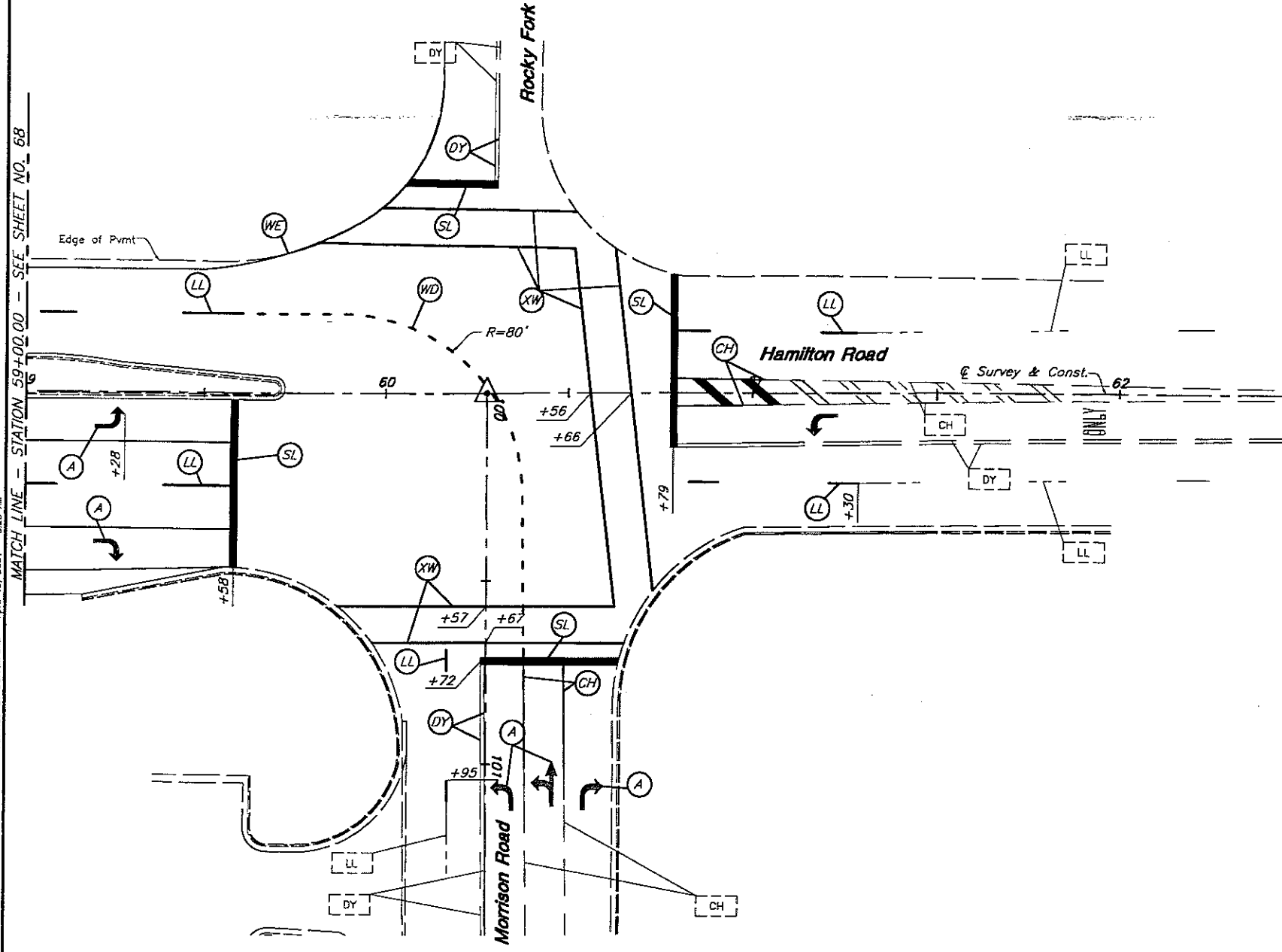






\\SERVERS\HIGHWAY\PROJECT\2001\451\ONE\HAUTRELOG.DWG - B. KRYSZ, HAUTRELOG - PLOTTED BY DCRANFORD - April 19, 2001 - 8:23 AM

MATCH LINE - STATION 59+00.00 - SEE SHEET NO. 68



PAVEMENT SUBSUMMARY SHEETS 5-10

ROUTE	SEGMENT	PROJECT	DESCRIPTION	SHEET NO.		254	407	446	446	REMARKS
						PAVEMENT PLANING, BITUMINOUS 1 1/2" DEPTH	TACK COAT, @ 0.10 Gal. per Sq. Yd.	ASPHALT CONCRETE SURFACE COURSE TYPE 1, PG-64-22, AS PER PLAN 1 1/2" DEPTH	ASPHALT CONCRETE INTERMEDIATE COURSE TYPE 1, PG-64-22, AS PER PLAN 1 1/2" DEPTH	
						SQ. YD.	GAL.	CU YD.	CU YD.	
SR 317	1	FRA-317-9.20	Hamilton Rd.	5		29,131	2,913.1	1,214		
SR 317	1	FRA-317-9.20	Hamilton Rd.	8		4,906	490.6	204		
						34,037	3,403.7	1,418		SUBTOTAL FRA-317-9.20 (SEGMENT 1)
SR 317	2	FRA-317-9.20	Hamilton Rd.	6		21,717	2,171.7	905		
SR 317	2	FRA-317-9.20	Hamilton Rd.	8		1,686	168.6	71		
SR 317	2	FRA-317-9.20	Hamilton Rd.	9		-456	-45.6	-20		
						22,947	2,294.7	956		SUBTOTAL FRA-317-9.20 (SEGMENT 2)
SR 317	3	FRA-317-9.20	Hamilton Rd.	6		12,117	1,211.7	505		
SR 317	3	FRA-317-9.20	Hamilton Rd.	8		861	86.1	35		
SR 317	3	FRA-317-9.20	Hamilton Rd.	9		-201	-20.1	-9		
						12,777	1,277.7	531		SUBTOTAL FRA-317-9.20 (SEGMENT 3)
SR 317	4	FRA-317-9.20	Hamilton Rd.	6		53,435	5,343.5	2,228		
SR 317	4	FRA-317-9.20	Hamilton Rd.	8		4,487	448.7	186		
SR 317	4	FRA-317-9.20	Hamilton Rd.	10		-682	-68.2	-27		
						57,240	5,724.0	2,387		SUBTOTAL FRA-317-9.20 (SEGMENT 4)
SR 317	5	FRA-317-9.20	Hamilton Rd.	6		5,640	564.1	234		
SR 317	5	FRA-317-9.20	Hamilton Rd.	8		285	28.5	12		
SR 317	5	FRA-317-9.20	Hamilton Rd.	10		-108	-10.8	-5		
						5,817	581.8	241		SUBTOTAL FRA-317-9.20 (SEGMENT 5)
SR 317	6A	FRA-317-9.20	Hamilton Rd.	6		6,392	639.1	266		
SR 317	6A	FRA-317-9.20	Hamilton Rd.	9		781	78.1	32		
						7,173	717.2	298		SUBTOTAL FRA-317-9.20 (SEGMENT 6A)
SR 317	6B	FRA-317-9.20	Hamilton Rd.	7		17,226	2,086.9	870		
SR 317	6B	FRA-317-9.20	Hamilton Rd.	9		1,618	176.2	68	12	
						18,844	2,263.1	938	12	SUBTOTAL FRA-317-9.20 (SEGMENT 6B)
SR 317	7A	FRA-317-9.20	Hamilton Rd.	7		16,796	1,711.8	713		
SR 317	7A	FRA-317-9.20	Hamilton Rd.	9		1,731	306.1	127		
						18,527	2,017.9	840		SUBTOTAL FRA-317-9.20 (SEGMENT 7A)
SR 317	7B	FRA-317-9.20	Hamilton Rd.	7		11,693	1,169.4	487		
SR 317	7B	FRA-317-9.20	Hamilton Rd.	9		2,036	203.6	84		
						13,729	1,373.0	571		SUBTOTAL FRA-317-9.20 (SEGMENT 7B)
						191,091	19,653.1	8,180		SUBTOTAL FRA-317-9.20 CARRIED TO GENERAL SUMMARY

PAVEMENT SUBSUMMARY SHEETS: 5-10

FRA-317-9.20

D:\PROJECT\2000163\DWG\2224606.DWG - I XREFS: 2224606.DWG - PLOTTED BY GRASCH - April 27, 2001 - 12:56 PM

CL:\PROJECT\2000\1461\DWG\222\222\MUNICIPAL.DWG - I:\RPS\222\222 - PLOTTED BY TERRY - April 29, 2001 - 9:42 PM

ITEM	SHEET NUMBERS (TOTALS BELOW REFLECT TOTALS PER SHEET. SEE GENERAL SUMMARY FOR FINAL TOTALS FOR THIS PROJECT)								MUNICIPAL FUNDING (SEE GENERAL SUMMARY FOR FINAL TOTALS FOR SHEETS 72-74)								ITEM	ITEM EXT	COLUMBUS TOTAL	GAHANNA TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	
	4	12	39	47	48	50	63	71	STP STATE/CITY OF COLUMBUS COL. REQ. (20% STP STATE)	STP STATE/CITY OF GAHANNA GAH. REQ. (20% STATE)	100% CITY OF COLUMBUS	100% CITY OF GAHANNA	NH STATE/CITY OF COLUMBUS COL. REQ. (20% NH STATE)	NH STATE/CITY OF GAHANNA GAH. REQ. (20% NH STATE)										
202		1,667									1,667				202	30600	1,667	-	SQ. YD.	ROADWAY				
202							172.8					172.8			202	30601	-	173	SQ. YD.	CONCRETE MEDIAN REMOVED				
202		1,610										1,610			202	30800	-	1,610	SQ. YD.	CONCRETE MEDIAN REMOVED, AS PER PLAN	4			
202		3,402										3,402			202	32000	-	3,402	SQ. YD.	CONCRETE TRAFFIC ISLAND REMOVED				
202															202	32001	-	3,402	LIN. FT.	CURB REMOVED				
202							5,441					5,441			202	32001	-	5,441	LIN. FT.	CURB REMOVED, AS PER PLAN	4			
202	464							341	68						202	54100	68	-	EACH	RAISED PAVEMENT MARKER REMOVED FOR STORAGE	4, 22			
202						3						3			202	60010	-	3	EACH	MONUMENT ASSEMBLY REMOVED				
202		13										13			202	98100	13	-	EACH	REMOVAL MISC.:REBOUNDABLE TRAFFIC POST REMOVED & DISPOSED OF				
202							2,645.2					2,645.2			202	98300	-	2,645	SQ. YD.	REMOVAL MISC.:TRAFFIC ISLAND REMOVED, AS PER PLAN	4			
203		378					2,551					2,929			203	12000	-	2,929	CU. YD.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION				
203		4,390					3,455				3,273	4,572			203	50000	3,273	4,572	SQ. YD.	SUBGRADE COMPACTION				
604						6						6			604	40500	-	6	EACH	REFERENCE MONUMENT				
251	514										514				251	01002	514	-	CU. YD.	PAVEMENT				
253	25		5		20						25	25			253	02000	25	25	CU. YD.	PARTIAL DEPTH PAVEMENT REPAIR				
254								191,091	117,044	23,409	13,729	2,746		18,844	3,769	18,527	3,705	254	01000	27,178	6,451	SQ. YD.	PAVEMENT REPAIR	
																				PAVEMENT PLANING, BITUMINOUS				
301		152					633					785			301	46000	-	785	CU. YD.	BITUMINOUS AGGREGATE BASE, PG-64-22				
304		332					282				180	434			304	20000	180	434	CU. YD.	AGGREGATE BASE				
407		90.5		806.3			19,653.1	13999.1	2800	1425	285		2,263.1	453	2,056	411	407	10000	3,253	696	GALLON	TACK COAT		
408		362					1,013.1					1,375.1			408	10000	-	1,375	GALLON	BITUMINOUS PRIME COAT				
446		32					106	12			12	138			446	46021	12	138	CU. YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG-64-22, AS PER PLAN	4			
446		32		451			8,180	4,875	975	593	119		938	188	850	170	446	47021	1,163	289	CU. YD.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG-64-22,AS PER PLAN	4	
617		5,120									5,120				617	20001	5,120	-	SQ. YD.	SHOULDER PREPARATION, AS PER PLAN	11			
830		2,604					1,728				2,604	1,728			830	26000	2,604	1,728	LIN. FT.	CURB, TYPE 6				
830							1,289					1,289			830	26001	-	1,289	LIN. FT.	CURB, TYPE 6, AS PER PLAN				
830		1,430									1,430				830	54000	1,430	-	SQ. YD.	6" CONCRETE TRAFFIC ISLAND				
830		1,880					10.6				1,880	10.6			830	72000	1,880	11	SQ. YD.	CONCRETE MEDIAN				
830							314.0					314.0			830	72001	-	314	SQ. YD.	CONCRETE MEDIAN, AS PER PLAN				
830							2,093					2,093			830	96000	-	2,093	SQ. YD.	MEDIAN MISC.: TRAFFIC ISLAND, AS PER PLAN				
604		1									1				604	34500	1	-	EACH	DRAINAGE				
605		200									200				605	31100	-	200	LIN. FT.	MANHOLE ADJUSTED TO GRADE				
																				AGGREGATE DRAIN				
870	500	986									500	986			870	10001	500	986	SQ. YD.	EROSION CONTROL				
870	0.07	0.14									0.07	0.14			870	20000	0.07	0.14	TON	SEEDING & MULCHING, AS PER PLAN	4			
870	3	5									3	5			870	35000	3	5	M. GAL.	COMMERCIAL FERTILIZER	4			
877	500										500				877	30100	500	-	LIN. FT.	WATER	4			
877	1,764											1764			877	98200	-	1,764	LIN. FT.	TEMPORARY PERIMETER FILTER FABRIC FENCE	4			
															877	98200	-	1,764	LIN. FT.	TEMPORARY EROSION CONTROL MISC: TEMPORARY PERIMETER FILER FABRIC FENCE, AS PER PLAN	56			
202							LUMP								202	98000	LUMP	LUMP		STRUCTURES				
																				REMOVAL MISC: PORTIONS OF STRUCTURES REMOVED, BACKWALL, AS PER PLAN	44, 47			

FRA-317-9.20

7277

MUNICIPAL SUBSUMMARY

MUNICIPAL SUBSUMMARY

FRA-317-9.20

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ITEM	SHEET NUMBERS					MUNICIPAL SUBSUMMARY										ITEM	ITEM EXT	COLUMBUS TOTAL	GAHANNA TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	12	14	20	21	22	STP STATE/CITY OF COLUMBUS	COL. REQ. (20% STP STATE)	STP STATE/CITY OF GAHANNA	GAH. REQ. (20% STATE)	100% CITY OF COLUMBUS	100% CITY OF GAHANNA	NH STATE/CITY OF COLUMBUS	COL. REQ. (20% NH STATE)	NH STATE/CITY OF GAHANNA	GAH. REQ. (20% NH STATE)							
614		40														614	11100	-	-	HOUR	MAINTENANCE OF TRAFFIC	
614		500				300	60	200	40							614	11200	60	40	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
614		40				20	4	20	4							614	12460	4	4	EACH	LAW ENFORCEMENT OFFICER	
614		8				4	1	4	1							614	18600	1	1	SIGN	WORK ZONE MARKING SIGN	
																				MONTH	PORTABLE CHANGEABLE MESSAGE SIGN	
614		0.58								0.26	0.32					614	20000	0.26	0.32	MILE	TEMPORARY LANE LINE, CLASS I	
614		20.00				11.60	2.32	1.60	0.32			2.20	0.44	2.20	0.44	614	20400	2.76	0.76	MILE	TEMPORARY LANE LINE, CLASS II	
614		0.01								0.01						614	21000	0.01	-	MILE	TEMPORARY CENTER LINE, CLASS I	
614		8.02				4.48	0.90	0.02	0.01			1.64	0.33	0.68	0.14	614	21400	1.22	0.15	MILE	TEMPORARY CENTER LINE, CLASS II	
614		20.12				11.12	2.22	1.56	0.31	0.21	0.49	2.20	0.44	2.14	0.43	614	22000	2.87	1.23	MILE	TEMPORARY EDGE LINE, CLASS I	
614		400								180	220					614	23000	180	220	LIN. FT.	TEMPORARY CHANNELIZING LINE, CLASS I	
614		400								300	100					614	24000	300	100	LIN. FT.	TEMPORARY DOTTED LINE, CLASS I	
620	13						13	2.6								621	00200	2.60	-	EACH	TRAFFIC CONTROL	
621					475	341	68.2				11					630	84900	68	11	EACH	DELINEATOR MISC.REBOUNDABLE TRAFFIC POST	
630	3									3						630	86002	3	-	EACH	RAISED PAVEMENT MARKER, INSTALLATION ONLY	18
630	3									3						630	86002	3	-	EACH	REMOVAL OF GROUND MOUNTED SIGN & DISPOSAL	
																				EACH	REMOVAL OF GROUND MOUNTED POST SUPPORT & DISPOSAL	
644			8.32	5.85		8.32	1.66	1.56	0.31			1.46	0.29	1.63	0.33	644	00100	1.95	0.64	MILE	EDGE LINE	
644			6.38	3.62		5.80	1.16	0.80	0.16			1.10	0.22	1.10	0.22	644	00200	1.38	0.38	MILE	LANE LINE	
644			2.76	1.25		2.24	0.45	0.01	0.01			0.82	0.16	0.34	0.07	644	00300	0.61	0.08	MILE	CENTER LINE	
644			9,247	5,595		10,017	2003	1,329	266			1100	220	2,366	473	644	00400	2,223	739	LIN. FT.	CHANNELIZING LINE	
644			1,357	592		1,422	284	244	49			151	30	50	10	644	00500	314	59	LIN. FT.	STOP LINE	
644			1,140	474		1,140	228	474	95			0	0	0	0	644	00600	228	95	LIN. FT.	CROSSWALK LINE	
644			1908	2453		2056	411	725	145			602	120	978	196	644	00700	531	341	LIN. FT.	TRANSVERSE LINE	
644			112	34		114	23	10	2			12	2	8	2	644	01300	25	4	EACH	LANE ARROW	
644			48	12		50	10	2	1			4	1	4	1	644	01400	11	2	EACH	WORD ON PAVEMENT, 72" "ONLY"	
644			107	617		212	42	180	36			23	5	309	62	644	01500	47	98	LIN. FT.	DOTTED LINE, 4"	

FRA-317-9.20

7377

MUNICIPAL SUBSUMMARY

MUNICIPAL SUBSUMMARY

FRA-317-9.20

73  
77



ITEM	SHEET NUMBERS								MUNICIPAL SUBSUMMARY								ITEM	ITEM EXT.	COLUMBUS TOTAL	GAHANNA TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.		
	19	34	35	36	37	38	39	48	STP STATE/ CITY OF COLUMBUS	COL. REQ. (20% STP STATE)	STP STATE/ CITY OF GAHANNA	GAH. REQ. (20% STATE)	100% CITY OF COLUMBUS	100% CITY OF GAHANNA	NH STATE/ CITY OF COLUMBUS	COL. REQ. (20% NH STATE)								NH STATE/ CITY OF GAHANNA	GAH. REQ. (20% NH STATE)
625						215	579									794	159	625	25403	-	159	LIN. FT.	TRAFFIC SIGNALS		
625							90									90	18	625	25920	-	18	LIN. FT.	CONDUIT 2", 713.07, AS PER PLAN	19	
625						215	579									794	159	625	29000	-	159	LIN. FT.	CONDUIT MISC.: 2", 713.04, CONCRETE ENCASED		
625	100							100	20									625	29500	20	-	LIN. FT.	TRENCH		
625	100						90	100	20							90	18	625	29600	20	18	LIN. FT.	TRENCH IN PAVED AREA, TYPE B		
625	5	1				5	3	6	1.2							35	7	625	31600	1	7	EACH	PULL BOX MISC.: PULL BOX (18"), 713.08, AS PER PLAN	19	
625							1									1	0	625	31600	-	0	EACH	PULL BOX MISC.: PULL BOX (24"), 713.08, AS PER PLAN	19	
632		20	22	33	16	9	12	72	15	8	2				12	4	13	3	632	26501	15	4	EACH	DETECTOR LOOP, AS PER PLAN	
632		20	22	33	16		8	72	15	8	2				12	4			632	27200	19	2	EACH	LOOP DETECTOR TIE IN	16
632	1,000							1000	200										632	65201	204	-	LIN. FT.	LOOP DETECTOR LEAD-IN CABLE, AS PER PLAN	16
632	5							5	1										632	70200	1	-	EACH	CONDUIT RISER, 1" DIAMETER	
632	6							6	1.2										632	70400	1	-	EACH	CONDUIT RISER, 2" DIAMETER	
625							22,040																		
625							932											22,040	625	25103	-		LIN. FT.	LIGHTING	
625							50											932	625	25803	-		LIN. FT.	CONDUIT, CONCRETE ENCASED, AS PER PLAN	
625							964											50	625	25901	-		LIN. FT.	CONDUIT, JACKED OR DRILLED, AS PER PLAN	
																		964	625	25920	-		LIN. FT.	CONDUIT MISC. CONDUIT BANK 4", 713.07, AS PER PLAN	
625							65											65	625	25920	-		LIN. FT.	CONDUIT MISC. CONDUIT BANK 4", 713.04, AS PER PLAN	
625							1,377											1,377	625	29001	-		LIN. FT.	TRENCH, AS PER PLAN	
625							100											100	625	29601	-		LIN. FT.	TRENCH IN PAVED AREA, TYPE B, AS PER PLAN	
625							2											2	625	31600	-		EACH	PULL BOX, MISC.: COMMUNICATIONS MANHOLE, AS PER PLAN	
											</														

ITEM	SHEET NUMBERS								FUNDING						ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	CALCULATED JMG	CHECKED TJE
	4	12	39	47	48	50	63	71	STP STATE/CITY	STP STATE	100% CITY		NH STATE/CITY	NH STATE								
																			ROADWAY			
202		1,667									1,667				202	30600	1,667	SQ. YD.	CONCRETE MEDIAN REMOVED			
202							172.8				172.8				202	30601	172.8	SQ. YD.	CONCRETE MEDIAN REMOVED, AS PER PLAN	4		
202		1,610									1,610				202	30800	1,610	SQ. YD.	TRAFFIC ISLAND REMOVED			
202		3,402									3,402				202	32000	3,402	LIN. FT.	CURB REMOVED			
202							5,441				5,441				202	32001	5,441	LIN. FT.	CURB REMOVED, AS PER PLAN	4		
202	464								341	123					202	54100	464	EACH	RAISED PAVEMENT MARKER REMOVED FOR STORAGE	4, 22		
202						3					3				202	60010	3	EACH	MONUMENT ASSEMBLY REMOVED			
202		13									13				202	98100	13	EACH	REMOVAL MISC.:REBOUNDABLE TRAFFIC POST REMOVED & DISPOSED OF			
202							2,645				2,645				202	98300	2,645	SQ. YD.	REMOVAL MISC.:TRAFFIC ISLAND REMOVED, AS PER PLAN	4		
203		378					2,551				2,929				203	12000	2,929	CU. YD.	EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION			
203		4,390					3,455				7,845				203	50000	7,845	SQ. YD.	SUBGRADE COMPACTION			
604						6					6				604	40500	6	EACH	REFERENCE MONUMENT			
																			PAVEMENT			
251	514										514				251	01002	514	CU. YD.	PARTIAL DEPTH PAVEMENT REPAIR			
253	25		5	20							50				253	02000	50	CU. YD.	PAVEMENT REPAIR			
254								191,091	130,773	22,947			37,371		254	01000	191,091	SQ. YD.	PAVEMENT PLANING, BITUMINOUS			
301		152					633				785				301	46000	785	CU. YD.	BITUMINOUS AGGREGATE BASE, PG-64-22			
304		332					282				614				304	20000	614	CU. YD.	AGGREGATE BASE			
407		90.5		806.3				19,653.1	13,129.9	2,879.0			4,319.1	222.0	407	10000	20,550	GALLON	TACK COAT			
408		362					1,013.1				1,375.1				408	10000	1,375.1	GALLON	BITUMINOUS PRIME COAT			
446		32					106	12			150				446	46021	150	CU. YD.	ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG-64-22, AS PER PLAN	4		
446		32		451				8,180	5,468	325			1,788	1,082	446	47021	8,663	CU. YD.	ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG-64-22,AS PER PLAN	4		
617		5,120									5,120				617	20001	5,120	SQ. YD.	SHOULDER PREPARATION, AS PER PLAN	11		
830		2,604					1,728				4,332				830	26000	4,332	LIN. FT.	CURB, TYPE 6			
830							1,289				1,289				830	26001	1,289	LIN. FT.	CURB, TYPE 6, AS PER PLAN			
830		1,430									1,430				830	54000	1,430	SQ. YD.	6" CONCRETE TRAFFIC ISLAND			
830		1,880					10.6				1,891				830	72000	1,891	SQ. YD.	CONCRETE MEDIAN			
830							314.0				314.0				830	72001	314.0	SQ. YD.	CONCRETE MEDIAN, AS PER PLAN			
830							2,093				2,093				830	96000	2,093	SQ. YD.	MEDIAN MISC.: TRAFFIC ISLAND, AS PER PLAN			
																			DRAINAGE			
604		1									1				604	34500	1	EACH	MANHOLE ADJUSTED TO GRADE			
605		200									200				605	31100	200	LIN. FT.	AGGREGATE DRAIN			
																			EROSION CONTROL			
870	500	986							500		986				870	10001	1,486	SQ. YD.	SEEDING & MULCHING, AS PER PLAN	4		
870	0.07	0.14							0.07		0.14				870	20000	0.21	TON	COMMERCIAL FERTILIZER	4		
870	3	5							3		5				870	35000	8	M. GAL.	WATER	4		
877	500								500						877	30100	500	LIN. FT.	TEMPORARY PERIMETER FILTER FABRIC FENCE	4		
877	1,764										1,764				877	98200	1,764	LIN. FT.	TEMPORARY EROSION CONTROL MISC: TEMPORARY PERIMETER FILTER FABRIC FENCE, AS PER PLAN	56		
																			STRUCTURE REPAIR			
202				179						81				98	202	11301	179	CU. YD.	PORTIONS OF STRUCTURES REMOVED, AS PER PLAN	47		
202				8,653						6,433				2,220	202	23501	8,653	SQ. YD.	WEARING COURSE REMOVED, AS PER PLAN	47		
202				LUMP							LUMP				202	98000	LUMP	LUMP	REMOVAL MISC: PORTIONS OF STRUCTURES REMOVED, BACKWALL, AS PER PLAN	44, 47		
512				2,651						2,651					512	33010	2,651	SQ. YD.	TYPE 3 WATERPROOFING			
516				528						496				32	516	11800	528	LIN. FT.	VERTICAL EXTENSION OF STRUCTURAL EXPANSION JOINT			
519				65						65					519	11100	65	SQ. FT.	PATCHING CONCRETE STRUCTURE			
SPECIAL				140						140					SPECIAL	51631200	140	LIN. FT.	SAWING AND SEALING BITUMINOUS CONCRETE JOINTS	4		
SPECIAL				816						316				500	SPECIAL	51912300	816	SQ. YD.	PATCHING CONCRETE BRIDGE DECK, TYPE B			

GENERAL SUMMARY

FRA-317-9.20

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ITEM	SHEET NUMBERS						FUNDING						ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.	
	12	14	20		21	22	STP STATE/CITY	STP STATE		100% CITY		NH STATE/CITY							NH STATE
614		40						40						614	11100	40	HOUR	MAINTENANCE OF TRAFFIC	
614		500					500							614	11200	500	HOUR	LAW ENFORCEMENT OFFICER WITH PATROL CAR	
614		40					40							614	12460	40	EACH	LAW ENFORCEMENT OFFICER	
614		8					8							614	18600	8	SIGN MONTH	WORK ZONE MARKING SIGN	
																		PORTABLE CHANGEABLE MESSAGE SIGN	
614		0.58							0.58					614	20000	0.58	MILE	TEMPORARY LANE LINE, CLASS I	16
614		20.00					13.20	2.40				4.40		614	20400	20.00	MILE	TEMPORARY LANE LINE, CLASS II	18
614		0.01							0.01					614	21000	0.01	MILE	TEMPORARY CENTER LINE, CLASS I	16
614		8.02					4.50	1.20				2.32		614	21400	8.02	MILE	TEMPORARY CENTER LINE, CLASS II	18
614		20.12					12.68	2.40		0.70		4.34		614	22000	20.12	MILE	TEMPORARY EDGE LINE, CLASS I	16, 18
614		400								400				614	23000	400	LIN. FT.	TEMPORARY CHANNELIZING LINE, CLASS I	16
614		400								400				614	24000	400	LIN. FT.	TEMPORARY DOTTED LINE, CLASS I	16
620	13									13				620	70000	13	EACH	TRAFFIC CONTROL	
621					475		341	123		11				621	00200	475	EACH	DELINEATOR MISC:REBOUNDABLE TRAFFIC POST	
630	3									3				630	84900	3	EACH	RAISED PAVEMENT MARKER, INSTALLATION ONLY	
630	3									3				630	86002	3	EACH	REMOVAL OF GROUND MOUNTED SIGN & DISPOSAL	
																		REMOVAL OF GROUND MOUNTED POST SUPPORT & DISPOSAL	
644			8.32		5.85		9.88	1.20				3.09		644	00100	14.17	MILE	EDGE LINE	
644			6.38		3.62		6.60	1.20				2.20		644	00200	10.00	MILE	LANE LINE	
644			2.76		1.25		2.25	0.60				1.16		644	00300	4.01	MILE	CENTER LINE	
644			9,247		5,595		11,346	30				3,466		644	00400	14,842	LIN. FT.	CHANNELIZING LINE	
644			1,357		592		1,666	82				201		644	00500	1,949	LIN. FT.	STOP LINE	
644			1,140		474		1,614							644	00600	1,614	LIN. FT.	CROSSWALK LINE	
644			1,908		2,453		2,781					1,580		644	00700	4,361	LIN. FT.	TRANSVERSE LINE	
644			112		34		124	2				20		644	01300	146	EACH	LANE ARROW	
644			48		12		52					8		644	01400	60	EACH	WORD ON PAVEMENT, 72" "ONLY"	
644			107		617		392					332		644	01500	724	LIN. FT.	DOTTED LINE, 4"	
																		</	

GENERAL SUMMARY

FRA-317-9.20

76  
77

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ITEM	SHEET NUMBERS								FUNDING						ITEM	ITEM EXT.	GRAND TOTAL	UNIT	DESCRIPTION	SEE SHEET NO.
	19	34	35	36	37	38	39	48	STP STATE/CITY	STP STATE	100% CITY	NH STATE/CITY	NH STATE							
625						215	579						794	625	25403	794	LIN. FT.	TRAFFIC SIGNALS		
625							90						90	625	25920	90	LIN. FT.	CONDUIT 2", 713.07, AS PER PLAN	19	
625						215	579						794	625	29000	794	LIN. FT.	CONDUIT MISC.: 2", 713.04, CONCRETE ENCASED		
625	100								100					625	29500	100	LIN. FT.	TRENCH		
														625			LIN. FT.	TRENCH IN PAVED AREA, TYPE A		
625	100						90		100				90	625	29600	190	LIN. FT.	TRENCH IN PAVED AREA, TYPE B		
625	5	1				5	3		6				8	625	31600	14	EACH	PULL BOX MISC.: PULL BOX (18"), 713.08, AS PER PLAN	19	
625							1						1	625	31600	1	EACH	PULL BOX MISC.: PULL BOX (24"), 713.08, AS PER PLAN	19	
632		20	22	33	16	9	12		79	7			26	632	26501	112	EACH	DETECTOR LOOP, AS PER PLAN		
632		20	22	33	16		8		79	7			13	632	27200	99	EACH	LOOP DETECTOR TIE IN	16	
632	1000								1,000					632	65201	1,000	LIN. FT.	LOOP DETECTOR LEAD-IN CABLE, AS PER PLAN		
632	5								5					632	70200	5	EACH	CONDUIT RISER, 1" DIAMETER	16	
632	6								6					632	70400	6	EACH	CONDUIT RISER, 2" DIAMETER		
625							22,040				22,040			625	25103	22,040	LIN. FT.	LIGHTING		
625							932				932			625	25803	932	LIN. FT.	CONDUIT 1", 713.07, AS PER PLAN		
625							50				50			625	25901	50	LIN. FT.	CONDUIT, CONCRETE ENCASED, AS PER PLAN		
625							964				964			625	25920	964	LIN. FT.	CONDUIT, JACKED OR DRILLED, AS PER PLAN		
														625	25920	964	LIN. FT.	CONDUIT MISC. CONDUIT BANK 4", 713.07, AS PER PLAN		
625							65				65			625	25920	65	LIN. FT.	CONDUIT MISC. CONDUIT BANK 4", 713.04, AS PER PLAN		
625							1,377				1,377			625	29001	1,377	LIN. FT.	TRENCH, AS PER PLAN		
625							100				100			625	29601	100	LIN. FT.	TRENCH IN PAVED AREA, TYPE B, AS PER PLAN		
625							2				2			625	31600	2	EACH	PULL BOX, MISC.: COMMUNICATIONS MANHOLE, AS PER PLAN		
614										LUMP				614	11001	LUMP		MAINTAINING TRAFFIC, AS PER PLAN	13 - 17	
623											LUMP			623	10000	LUMP		CONSTRUCTION LAYOUT STAKES	4	
623										LUMP				623	10001	LUMP		CONSTRUCTION LAYOUT STAKES, AS PER PLAN	4	
624										LUMP				624	10000	LUMP		MOBILIZATION		
806										LUMP				806	16010	4	MONTH	FIELD OFFICE, TYPE B		