



PROJECT DESCRIPTION

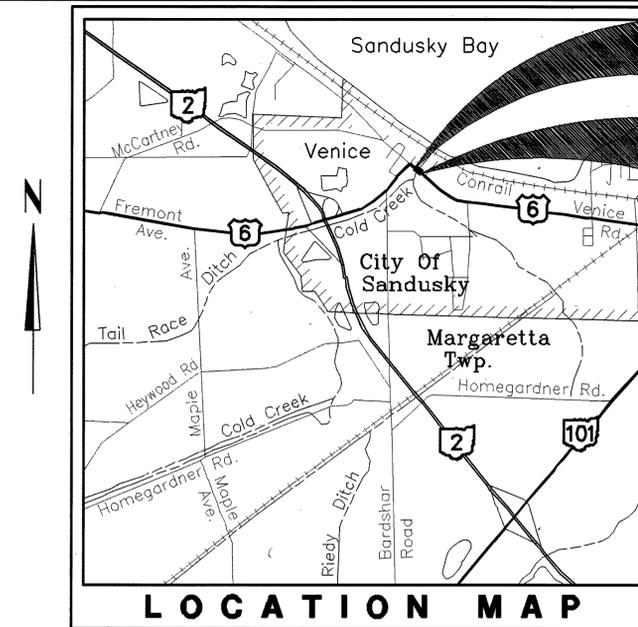
IMPROVEMENT OF 0.033 KILOMETERS OF U.S. 6 IN THE CITY OF SANDUSKY, ERIE COUNTY BY REPLACEMENT OF THE EXISTING STRUCTURE OVER COLD CREEK WITH A NON-COMPOSITE SINGLE SPAN PRESTRESSED CONCRETE BOX BEAM TYPE STRUCTURE INCLUDING MINOR APPROACH WORK.

1997 SPECIFICATIONS

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

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

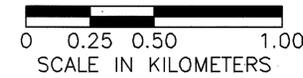
STATE OF OHIO DEPARTMENT OF TRANSPORTATION ERI-6-7.065 CITY OF SANDUSKY ERIE COUNTY



BEGIN PROJECT
STA. 7+064.790

END PROJECT
STA. 7+097.340

LATITUDE: N41°26'43" LONGITUDE: W82°46'10"



- PORTION TO BE IMPROVED
- INTERSTATE & DIVIDED HIGHWAYS
- UNDIVIDED STATE & FEDERAL ROUTES
- OTHER ROADS

DESIGN DESIGNATION

CURRENT A.D.T. (1998).....	= 8370
DESIGN YEAR A.D.T. (2018).....	= 10040
D.H.V.	= 1004
D.....	= 55%
T(24 Hour).....	= 4%
DESIGN SPEED.....	= 60 km/h
LEGAL SPEED.....	= 35 mph
FUNCTIONAL CLASSIFICATION.....	= Urban Arterial

DESIGN EXCEPTIONS

DESIGN FEATURE	APPROVAL DATES	SHEET NUMBERS
NONE REQUIRED		

INDEX OF SHEETS

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UNDERGROUND UTILITIES
TWO WORKING DAYS BEFORE YOU DIG
CALL 800-362-2764 (TOLL FREE)
OHIO UTILITIES PROTECTION SERVICE
NON MEMBERS
MUST BE CALLED DIRECTLY

ENGINEER'S SEAL:
FOR STRUCTURES
OVER 6.1m:

SIGNED: *Raymond K. Luk*
DATE: *9-14-98*

STRUCTURE PLANS REVIEWED
by
URS GREINER

SPECIAL PROVISIONS
WATERWAY PERMIT NWP# 3814 DATED: 1-28-98

PLANS PREPARED BY:
MANNIK & SMITH INC.
CONSULTING ENGINEERS AND SURVEYORS
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

ENGINEER'S SEAL:
FOR ENTIRE PLAN EXCEPT
STRUCTURES OVER 6.1m:

SIGNED: *Raymond K. Luk*
DATE: *9-14-98*

SUPPLEMENTAL PRINTS OF STANDARD CONSTRUCTION DRAWINGS

DWG	DATE	DWG	DATE	DWG	DATE	DWG	DATE	DWG	DATE
BP-2.4M	10-28-94	RM-1.1	4-29-99	TC-41.20M	7-1-94	MT-96.11M	1-30-95	AS-1-81M	10-25-94
BP-3.1M	10-28-94	RM-4.2M	10-21-97	TC-42.20M	3-31-94	MT-96.20M	1-30-95	DBR-2-73M	8-18-95
GR-1.1M	10-21-97	HW-2.1M	7-12-95	TC-52.10M	7-29-94	MT-96.21M	1-30-95	DS-1-94M	12-15-94
GR-1.2M	1-3-96	MH-1.2M	9-6-95	TC-52.20M	7-29-94	MT-96.25M	1-30-95	PCB-91M	7-6-99
GR-1.3M	11-30-94	DM-1.1M	10-21-97	TC-71.10M	9-1-93	MT-97.10M	4-25-94	PSBD-1-93M	12-19-94
GR-2.1M	4-14-98	DM-4.3	4-29-99			MT-101.20M	3-1-96		
		DM-4.4	4-29-99			MT-101.60M	4-25-94		
GR-3.4M	10-21-97					MT-105.10M	4-25-94		
GR-4.1M	11-30-94					MT-105.11M	4-25-94		
GR-4.2M	10-21-97								

SUPPLEMENTAL SPECIFICATIONS	
DWG	DATE
806	9-9-97
865	5-11-99
842	1-6-99
814	6-2-98
899	10-21-98
904	5-5-98
905	4-1-98
906	5-5-98
877	4-13-99

APPROVALS
APPROVED: *Mary Ellen Thiel* DATE: *11-2-98*
DISTRICT DEPUTY DIRECTOR

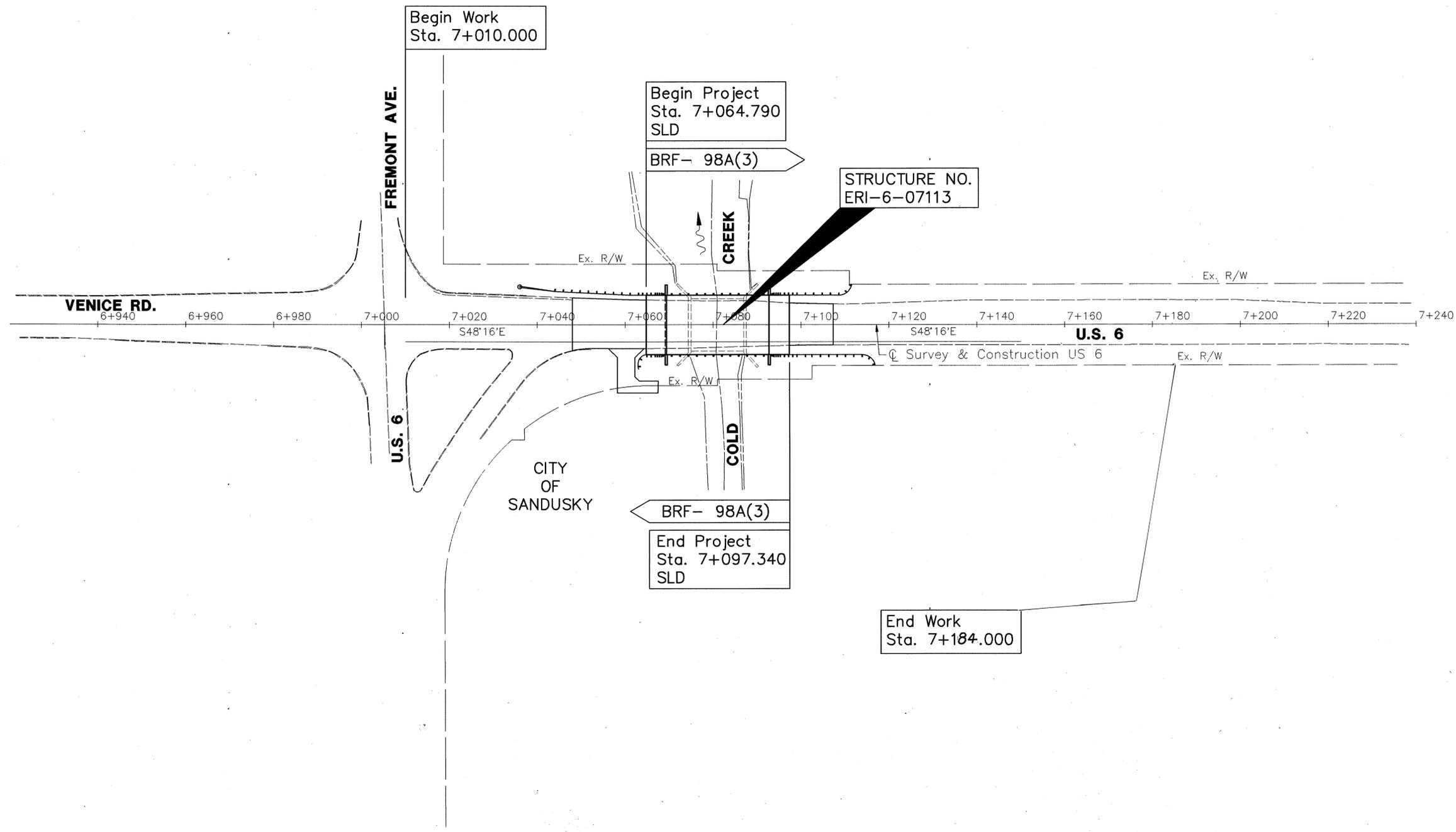
APPROVED: _____ DATE: _____
DIRECTOR, DEPARTMENT OF TRANSPORTATION

FEDERAL PROJECT NO. TE21-G990(609)
PID NO. 13355
CONSTRUCTION PROJECT NO. .
RAILROAD INVOLVEMENT NONE
ERI-6-7.065

MANIK & SMITH INC. ENGINEERS
AutoCAD, Dwg. Scale: 1/8"=1'-0"
Last Cad. Revision: 09/08/98
Description: FINAL TRACINGS



0 5 10 20
HORIZONTAL
SCALE IN METERS

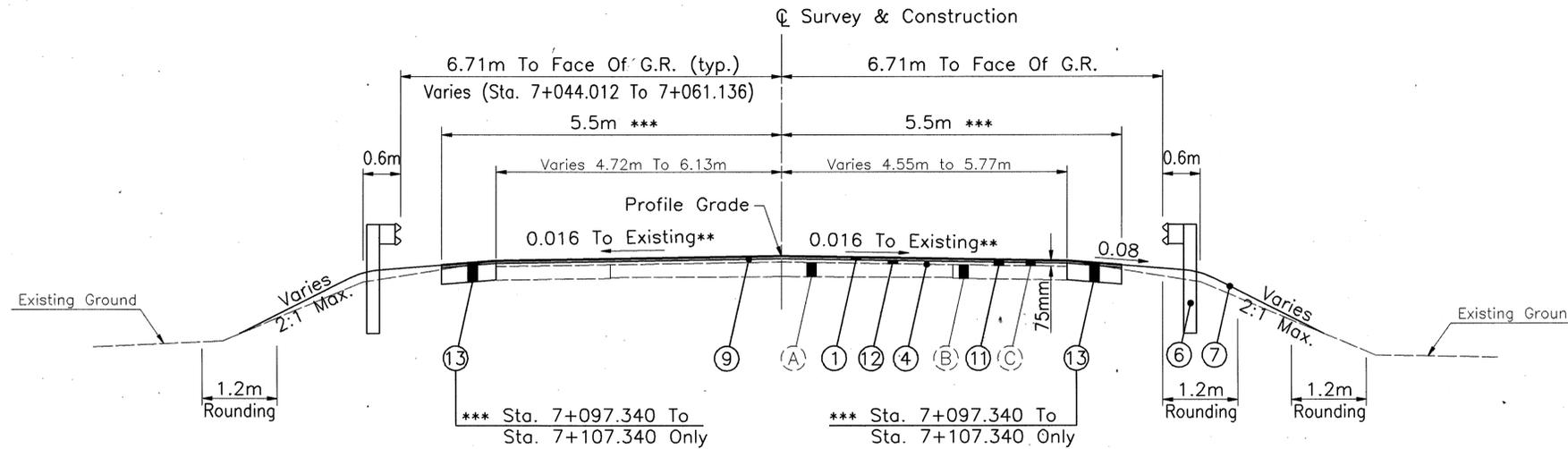


SCHEMATIC PLAN

ERI-6-7.065

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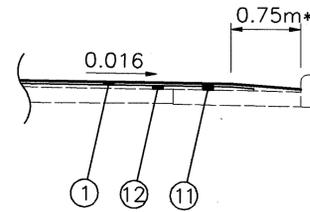
HA ROADWAY DESIGN ORDINANCE 4500
Last CAD Revision: 09/09/98
Description: FINAL TRACINGS



WEARING COURSE REMOVAL AND RESURFACING TYPICAL

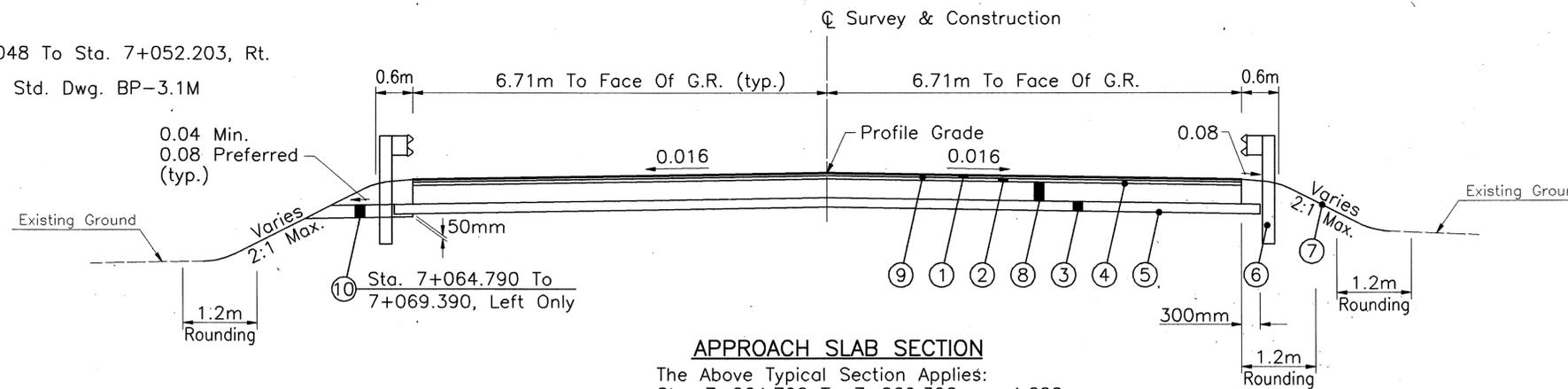
The Above Typical Section Applies:
 Sta. 7+048.000 To 7+064.790 = 16.790m
 Sta. 7+097.340 To 7+107.340 = 10.000m
 26.790m

** Cross Slope Varies: Match Existing @ Sta. 7+048.000
 To 0.016 @ Sta. 7+050.000
 0.016 @ 7+105.070 To
 Match Existing @ 7+107.340



Existing Curb From Sta. 7+048 To Sta. 7+052.203, Rt.

* See Gutter Finish Detail in Std. Dwg. BP-3.1M



APPROACH SLAB SECTION

The Above Typical Section Applies:
 Sta. 7+064.790 To 7+069.390 = 4.600m
 Sta. 7+092.740 To 7+097.340 = 4.600m
 9.200m

LEGEND

- | | |
|---|---|
| ① Item 448, 38mm Asphalt Concrete Surface Course, Type 1H | ⑨ Item 407, Tack Coat For Intermediate Course (See General Note) |
| ② Item 448, 74mm Asphalt Concrete Intermediate Course, Type 1, PG 64-2B | ⑩ Item 605, Aggregate Drain |
| ③ Item 304, 150mm Aggregate Base | ⑪ Item 202, Wearing Course Removed (See General Note) |
| ④ Item 407, Tack Coat (See General Note) | ⑫ Item 448, Varies 0mm Min. Asphalt Concrete Intermediate Course, Type 1, PG64-2B
Where Required To Adjust Existing Pavement Profile |
| ⑤ Item 203, Subgrade Compaction | ⑬ Item 615, Temporary Pavement, Class A, As Per Plan |
| ⑥ Item 606, Guardrail, Type 5 | |
| ⑦ Item 659, Seeding And Mulching (See General Note) | |
| ⑧ Item 611, Reinforced Concrete Approach Slab, T=305mm | |
| | (A) Existing Concrete Pavement, Varies From 230mm At Center To 180mm At Edge |
| | (B) Existing Concrete Shoulder, 230mm |
| | (C) Existing Asphalt Concrete, 75mm |

TYPICAL SECTIONS

ERI-6-7.065



CALCULATED
RWL
CHECKED
EGT

UNSUITABLE SOIL CONDITIONS

IF UNSUITABLE SOILS ARE ENCOUNTERED IN THE AREAS OF THE PROPOSED ROADBED, THEY SHALL BE REMOVED AND REPLACED WITH SUITABLE MATERIAL MEETING THE REQUIREMENTS OF 203.08. THE LOCATIONS AND DIMENSIONS SHALL BE AS DETERMINED BY THE ENGINEER.

THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY TO BE USED AS DIRECTED BY THE ENGINEER:

ITEM 203 10 CUBIC METERS EMBANKMENT

ITEM 203 10 CUBIC METERS EXCAVATION NOT INCLUDING EMBANKMENT CONSTRUCTION

MAINTENANCE OF BOAT TRAFFIC

BOAT TRAFFIC SHALL BE MAINTAINED AT ALL TIMES ON COLD CREEK EXCEPT FOR SHORT DURATIONS AT THE APPROVAL OF THE ENGINEER. COLD CREEK SHALL NOT BE CLOSED TO BOAT TRAFFIC BETWEEN THE HOURS OF 6PM AND 6AM. A MINIMUM OF 7 WORKING DAYS ADVANCE NOTICE SHALL BE GIVEN TO THE ENGINEER FOR ANY INTENDED CLOSURES.

CLOSURE OF COLD CREEK TO BOAT TRAFFIC IS ANTICIPATED FOR, BUT NOT LIMITED TO, BRIDGE DEMOLITION AND PLACEMENT OF THE BOX BEAMS.

DRIVEWAY ACCESS

ACCESS TO ALL DRIVES SHALL BE MAINTAINED AT ALL TIMES WITH THE EXCEPTION OF THE DRIVEWAY AT STA. 7+061± RT. ACCESS TO THIS DRIVE SHALL BE PERMITTED WHEN DIRECTED BY THE ENGINEER. TRAFFIC ACCESSING THIS DRIVE SHALL BE ESCORTED BY THE CONTRACTOR WITHIN THE WORK AREA AT ALL TIMES.

614. TEMPORARY SIGNALS

SIGNALS SHALL BE MOUNTED IN ACCORDANCE WITH THE DETAILS SHOWN ON STANDARD DRAWINGS MT-96.20M AND MT-96.21M, AND AS MODIFIED IN THE PLANS. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614, MAINTAINING TRAFFIC.

ITEM 614. MAINTAINING TRAFFIC

A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION SHALL BE MAINTAINED AT ALL TIMES BY USE OF THE EXISTING PAVEMENT, THE COMPLETED PAVEMENT, AND TEMPORARY SURFACES USING 410 AND 616.

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.

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR THE MAINTENANCE OF TRAFFIC.

410, TRAFFIC COMPACTED SURFACE, TYPE A OR B 20 CU. M.
616, CALCIUM CHLORIDE 1 M. TON
616, WATER 200 CU. M.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR CONSTRUCTION OF TEMPORARY PAVEMENT FOR MAINTENANCE OF TRAFFIC.

615, TEMPORARY PAVEMENT, CLASS A, AS PER PLAN 21 SQ. M.

TEMPORARY PAVEMENT, CLASS A, AS PER PLAN, SHALL CONSIST OF:

32MM OF ITEM 448, ASPHALT CONCRETE SURFACE COURSE, TYPE PG 64-22 ON 200MM OF ITEM 301, BITUMINOUS AGGREGATE BASE

THE TEMPORARY PAVEMENT SHALL REMAIN IN PLACE AT THE COMPLETION OF THE PROJECT.

THE CONTRACTOR SHALL PROVIDE, ERECT AND MAINTAIN SIGNS AND SIGN SUPPORTS, AS DETAILED IN THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES, AND TYPE III BARRICADES OF THE TYPE AND LOCATION AS SHOWN IN THE PLANS.

ALL WORK AND TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH 614 AND OTHER APPLICABLE PORTIONS OF THE SPECIFICATIONS. AS WELL AS THE OHIO MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES. PAYMENT FOR ALL LABOR, EQUIPMENT AND MATERIALS SHALL BE INCLUDED IN THE LUMP SUM CONTRACT PRICE FOR 614, MAINTAINING TRAFFIC, UNLESS SEPARATELY ITEMIZED IN THE PLAN.

SEQUENCE OF CONSTRUCTION

THE FOLLOWING IS THE PROPOSED SEQUENCE OF CONSTRUCTION. ITEMS NOT SPECIFICALLY NOTED IN THE PHASES BELOW MAY BE PERFORMED AT THE CONTRACTORS DISCRETION, PROVIDED THAT NO ADDITIONAL INCONVENIENCE TO THE TRAVELLING PUBLIC IS INCURRED.

PHASE I

INSTALL TEMPORARY SIGNAL AND TEMPORARY TRAFFIC CONTROL DEVICES. SET UP THE EXISTING STRUCTURE FOR SINGLE LANE TRAFFIC AS SHOWN IN PHASE I IN THE PLAN. REMOVE NORTHERN PORTION OF THE EXISTING STRUCTURE AND CONSTRUCT NORTHERN PORTION OF THE PROPOSED STRUCTURE AND ALL APPROACH WORK NECESSARY FOR MAINTAINING TRAFFIC IN THE NEXT PHASE.

PHASE II

SET UP THE STRUCTURE FOR SINGLE LANE TRAFFIC AS SHOWN IN PHASE II IN THE PLAN. REMOVE THE REMAINING PORTION OF THE EXISTING STRUCTURE AND CONSTRUCT THE REMAINING PORTION OF THE PROPOSED STRUCTURE. RESTORE TWO LANE, TWO WAY TRAFFIC ON THE PROPOSED STRUCTURE. PERFORM PAVEMENT RESURFACING UNDER FLAGGER CONTROL AFTER COMPLETION OF THE STRUCTURE.

REMOVE TEMPORARY SIGNAL AND TRAFFIC CONTROL DEVICES. INSTALL PERMANENT TRAFFIC CONTROL DEVICES AND RESTORE EXISTING PAVEMENT MARKINGS REMOVED FOR MAINTENANCE OF TRAFFIC.

OVERNIGHT TRENCH CLOSING

THE BASE WIDENING SHALL BE COMPLETED TO A DEPTH OF NO MORE THAN 92 MILLIMETERS BELOW THE EXISTING PAVEMENT BY THE END OF EACH WORK DAY. NO TRENCH SHALL BE LEFT OPEN OVERNIGHT EXCEPT FOR A SHORT LENGTH (7.5 METERS OR LESS) OF A WORK SECTION AT THE END OF THE TRENCH. IN CASE WORK MUST BE SUSPENDED BECAUSE OF INCLEMENT WEATHER OR OTHER REASONS, THE TRENCH FOR THE UNCOMPLETED BASE WIDENING SHALL BE BACKFILLED AT THE DIRECTION OF THE ENGINEER.

GUARDRAIL REPLACEMENT

NO HAZARD SHALL BE LEFT UNPROTECTED EXCEPT FOR THE ACTUAL TIME NECESSARY TO REMOVE THE EXISTING GUARDRAIL, PREPARE THE SITE, AND INSTALL NEW GUARDRAIL IN A CONTINUOUS OPERATION. THE REMOVAL OF ALL GUARDRAIL SHALL AT ALL TIMES BE AS DIRECTED BY THE ENGINEER. NO GUARDRAIL SHALL BE REMOVED UNTIL THE REPLACEMENT MATERIAL IS ON THE SITE, READY FOR INSTALLATION. FAILURE TO COMPLY WITH THIS REQUIREMENT SHALL BE DEEMED SUFFICIENT CAUSE TO ORDER WORK SUSPENDED UNTIL SUCH TIME AS THE ENGINEER IS ASSURED OF COMPLIANCE.

DUST CONTROL

THE CONTRACTOR SHALL FURNISH AND APPLY WATER AND CALCIUM CHLORIDE FOR DUST CONTROL AS DIRECTED BY THE ENGINEER. THE FOLLOWING CONTINGENCY QUANTITIES HAVE BEEN INCLUDED FOR DUST CONTROL PURPOSES.

616, WATER 40 CU. M.
616, CALCIUM CHLORIDE 1 M. TON

TEMPORARY WORK ZONE MARKINGS

THE FOLLOWING ESTIMATED QUANTITIES HAVE BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR TEMPORARY WORK ZONE PAVEMENT MARKINGS PER THE REQUIREMENTS OF THE STANDARD CONSTRUCTION DRAWINGS:

614, TEMPORARY CENTER LINE, CLASS II, 740.06 * 0.09 KILOMETERS
614, TEMPORARY EDGE LINE, CLASS I, 740.06 * 0.04 KILOMETERS
614, TEMPORARY STOP LINE, CLASS I, 740.06 * 27 METERS

* TYPE I

IN ADDITION, THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY FOR USE AS DIRECTED BY THE ENGINEER FOR TEMPORARY PAVEMENT MARKINGS FOR TWO LANE, TWO WAY TRAFFIC ON COMPLETED PAVEMENT PRIOR TO THE APPLICATION OF THE PERMANENT PAVEMENT MARKING.

614, TEMPORARY CENTER LINE, CLASS II 0.18 KILOMETERS

ITEM 622. PORTABLE CONCRETE BARRIER

IT IS ANTICIPATED THAT THE SAME BARRIER WILL BE USED IN VARIOUS PHASES OF CONSTRUCTION. MOVEMENT OF THE CONCRETE BARRIER BETWEEN PHASES SHALL BE ACCOMPLISHED IN ONE WORKING DAY. FLAGGERS SHALL BE UTILIZED FOR PROTECTION OF VEHICULAR TRAFFIC UNTIL MOVEMENT OF THE BARRIER IS COMPLETE.

THE FOLLOWING ESTIMATED QUANTITY HAS BEEN CARRIED TO THE GENERAL SUMMARY:

622, PORTABLE CONCRETE BARRIER, 813MM 111 METERS
622, PORTABLE CONCRETE BARRIER, 813MM, BRIDGE MOUNTED 48 METERS

ITEM 614. BARRIER REFLECTORS AND OBJECT MARKERS

BARRIER REFLECTORS AND OBJECT MARKERS SHALL BE INSTALLED ON ALL PORTABLE CONCRETE BARRIER USED FOR TRAFFIC CONTROL. BARRIER REFLECTORS, OBJECT MARKERS AND THEIR INSTALLATION SHALL CONFORM TO THE APPROPRIATE PROPOSAL NOTE AND ITEM 626 EXCEPT THAT THE SPACING SHALL BE 7.6 METERS. AN ESTIMATED QUANTITY OF 22 EACH OF ITEM 614 BARRIER REFLECTOR, TYPE B, AND 22 EACH OF ITEM 614 OBJECT MARKERS HAVE BEEN PROVIDED AND CARRIED TO THE GENERAL SUMMARY.

COVERING OF SIGNS

WHERE THE PLANS CALL FOR A PERMANENT SIGN TO BE COVERED, THE CONTRACTOR SHALL DO SO 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.

614. TEMPORARY RAISED PAVEMENT MARKERS

TEMPORARY RAISED PAVEMENT MARKERS SHALL BE AS PER STANDARD CONSTRUCTION DRAWING MT-101.20M. THE FOLLOWING ESTIMATED QUANTITY HAS BEEN INCLUDED IN THE GENERAL SUMMARY FOR USE IN THE MAINTENANCE OF TRAFFIC.

ITEM 614, TEMPORARY RAISED PAVEMENT MARKERS 452 EACH

TEMPORARY RAISED PAVEMENT MARKERS (TRPM'S)

PHASE I:

LEFT SIDE: STA. 7+060 TO STA. 7+099= 39 METERS
39 m ÷ 1.5 = 26 + 1 = 27 X 2 = 54 EACH

RIGHT SIDE: STA. 7+017 TO STA. 7+138= 121 METERS
121 m ÷ 1.5 = 81 + 1 = 82 X 2 = 164 EACH

SUBTOTAL PHASE I = 218 EACH

PHASE II:

LEFT SIDE: STA. 7+018 TO STA. 7+138= 120 METERS
120 m ÷ 1.5 = 80 + 1 = 81 X 2 = 162 EACH

RIGHT SIDE: STA. 7+046 TO STA. 7+099= 53 METERS
53 m ÷ 1.5 = 35 + 1 = 36 X 2 = 72 EACH

SUBTOTAL PHASE II = 234 EACH

TOTAL PHASES I AND II= 452 EACH (CARRIED TO ABOVE)

PROJECT TIME LIMITATIONS

THIS PROJECT HAS A LIMITED TIME OF CONSTRUCTION DUE TO THE ECONOMIC IMPACTS THIS PROJECT HAS ON THE AREA. THE OHIO DEPARTMENT OF TRANSPORTATION HAS COMMITTED TO THE AREA COMMUNITIES AND BUSINESSES TO LIMIT THE CONTRACTOR TO BEGIN CONSTRUCTION THE FIRST DAY AFTER LABOR DAY IN THE YEAR 2000 AND SHALL HAVE ALL EXISTING LANES OPEN TO TRAFFIC MAY 1, 2001. THE CONTRACTOR SHALL ADHERE TO THIS SCHEDULE.

THERE SHALL NOT BE ANY EXTENSIONS DUE TO MATERIAL DELAYS WHATSOEVER.

SHOULD THE CONTRACTOR FAIL TO MEET ANY OF THESE REQUIREMENTS, THE CONTRACTOR SHALL BE ASSESSED LIQUIDATED DAMAGES IN THE AMOUNT OF \$10,000 PER DAY.

THE CONTRACTOR WILL BE REQUIRED TO PARTICIPATE IN ALL CURRENT MEETINGS OF THE ERIE 2 RECONSTRUCTION FOCUS GROUP DUE TO THE IMPACT OF THIS PROJECT ON THE COMMUNITY. DETAILS OF THE FOCUS GROUP FUNCTIONS AND MEETING SCHEDULES CAN BE OBTAINED FROM THE DISTRICT THREE CONSULTANT ADMINISTRATOR (1-419-281-0513 EXTENSION 200).

MAINTENANCE OF TRAFFIC
GENERAL NOTES

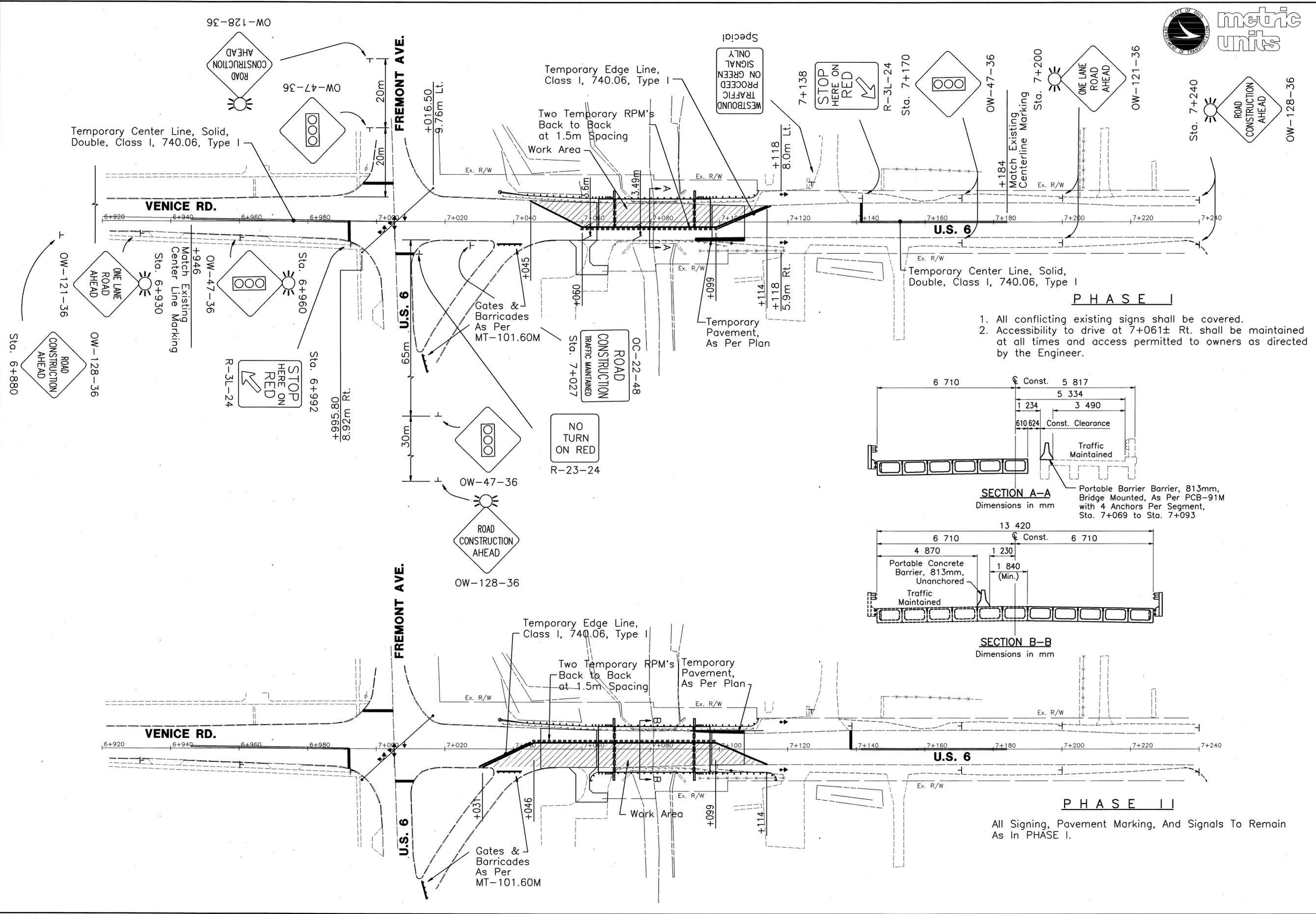
ERI-6-7.065



MAINTENANCE OF TRAFFIC
PLAN VIEW

ERI-6-7.065

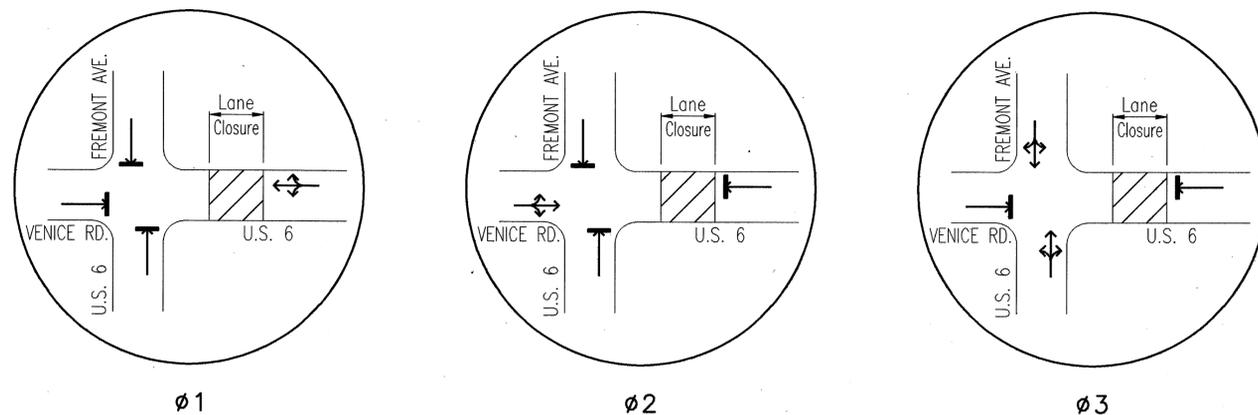
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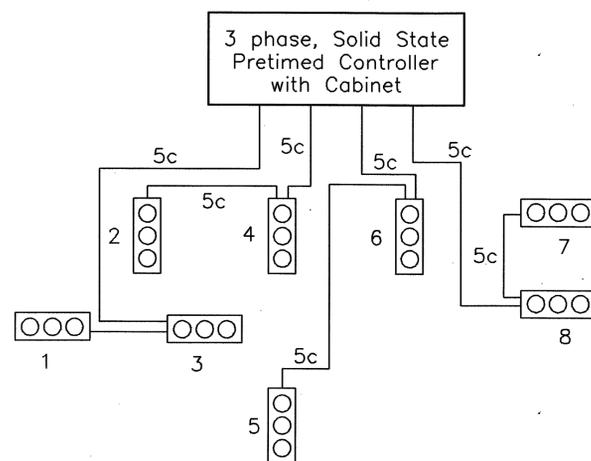
ALL DIMENSIONS UNLESS OTHERWISE NOTED ARE IN METERS.
Last CAD Revision: 09/05/98
Description: FINAL TRACINGS



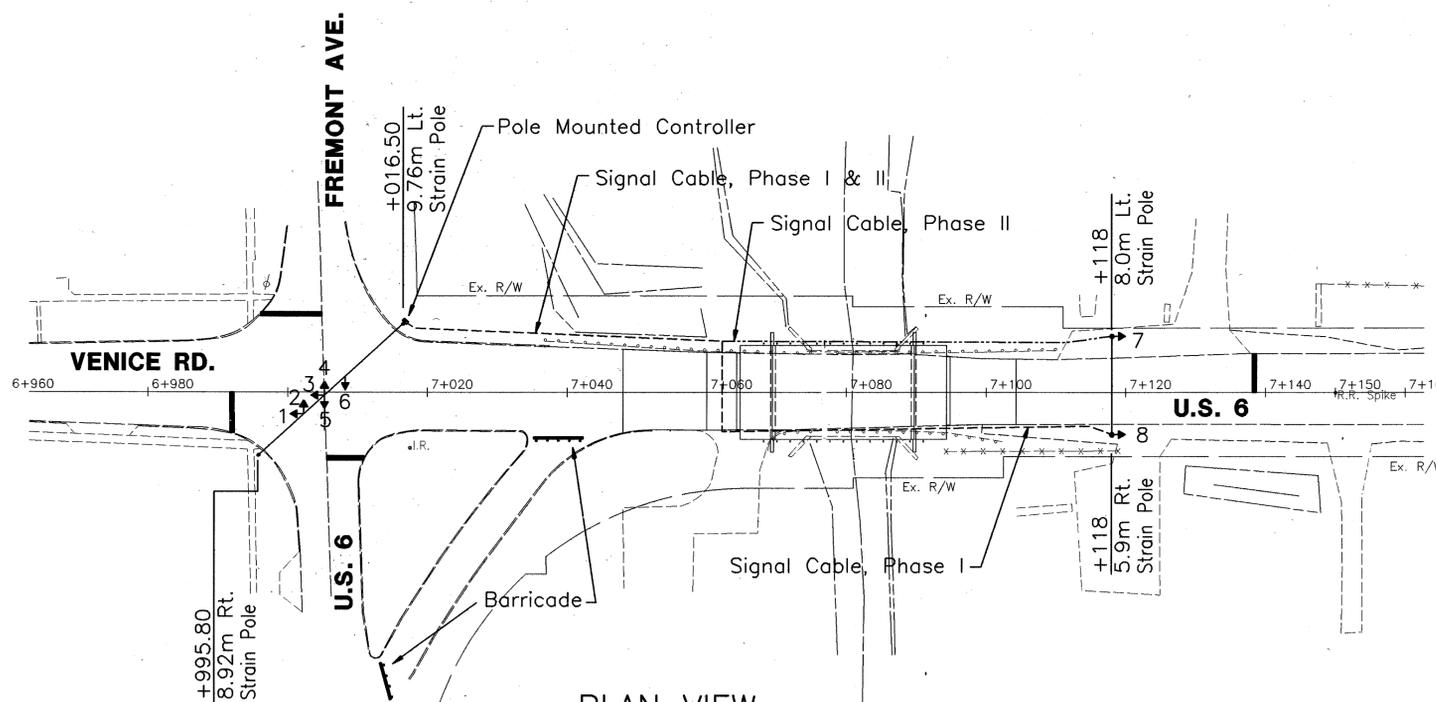
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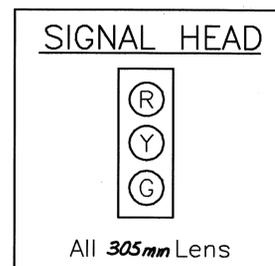
PHASE DIAGRAM



WIRING DIAGRAM



PLAN VIEW



SIGNAL TIMING				
PHASE	1	2	3	
GREEN	34	10	34	
YELLOW	3	3	3	
ALL RED	20	20	23	
Cycle Length = 150s				

SIGNAL INDICATIONS									
Signal Head #	phi 1			phi 2			phi 3		
7,8	G	Y	R	R	R	R	R	R	R
1,3	R	R	R	G	Y	R	R	R	R
2,4,5,6	R	R	R	R	R	R	G	Y	R

MAINTENANCE OF TRAFFIC
TEMPORARY SIGNAL DETAILS

ERI-6-7.065

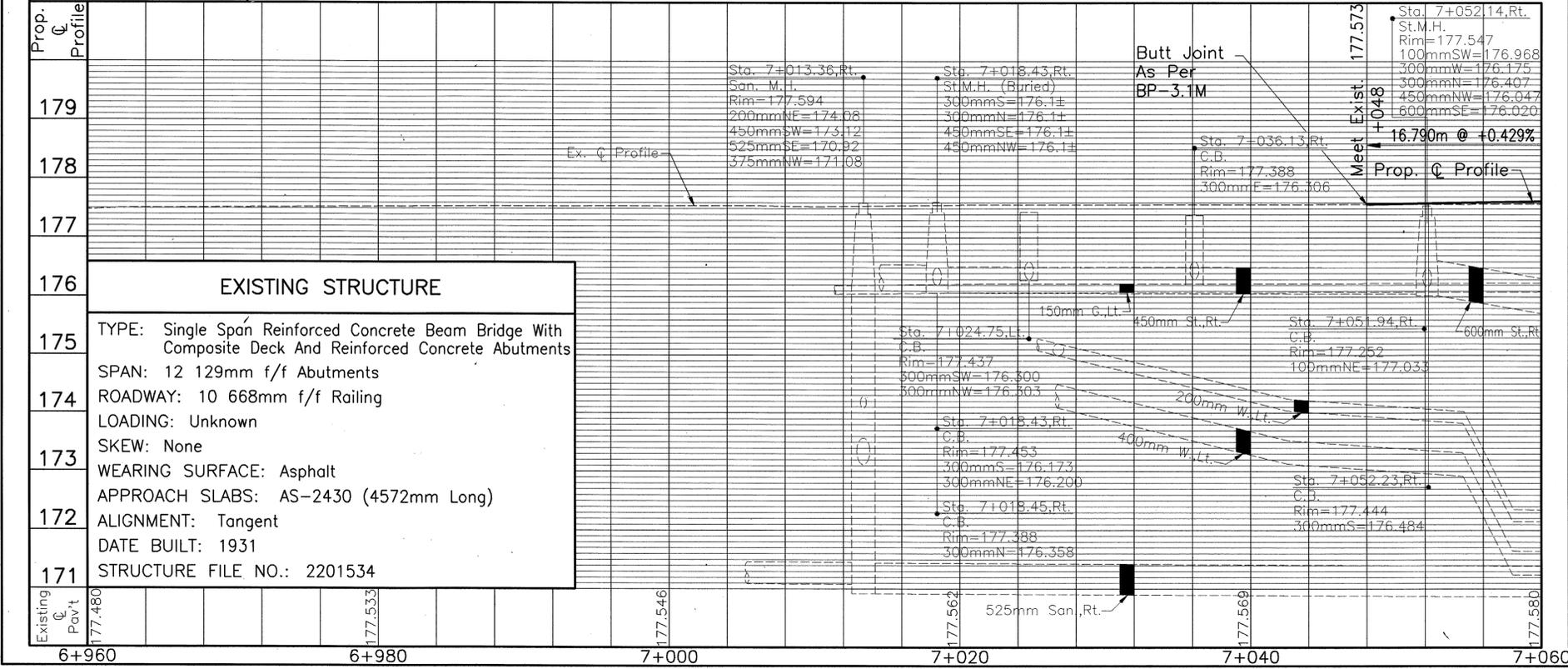
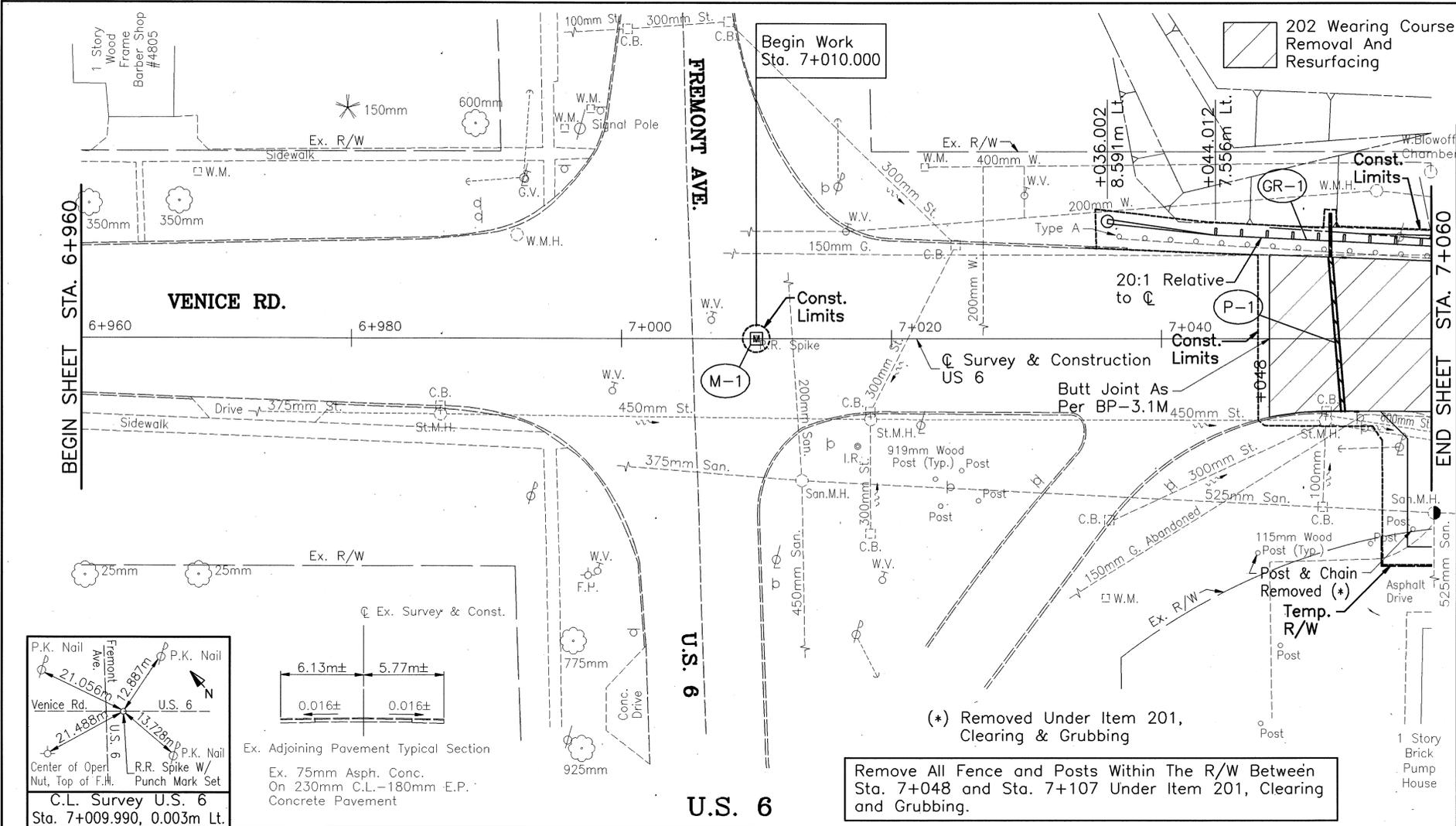


CALCULATED
E.G.T.
CHECKED
R.W.L.

**PLAN & PROFILE U.S. 6
STA. 6+960 TO STA. 7+060**

ERI-6-7.065

10
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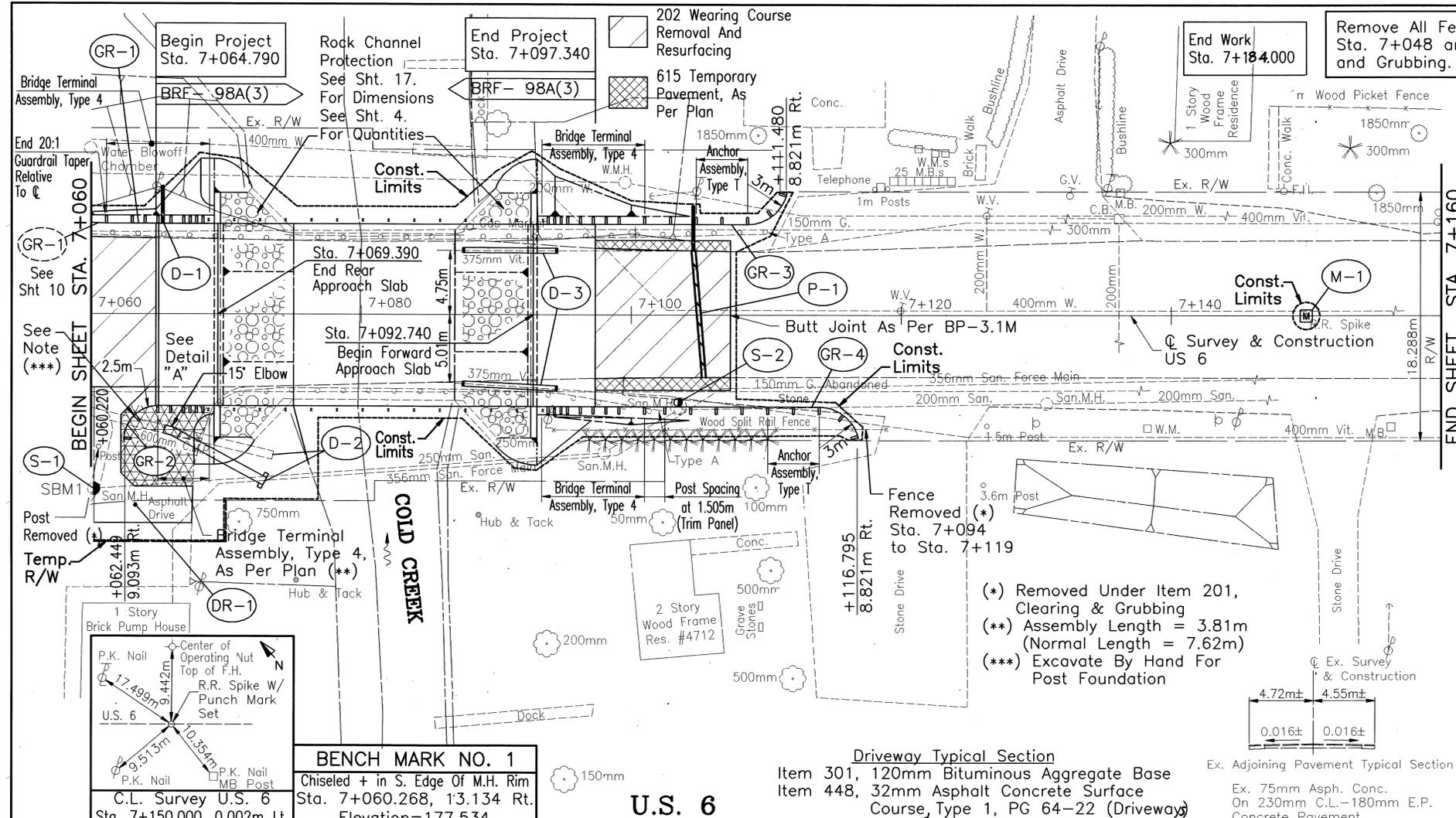


++ Aggregate Drains left of centerline only.

Ref. No.	Station	Side	To Or At		Quantity	Unit	Remarks
			From	To			
GR-1	7+036.002	Lt.	7+061.136	C.	1	Meter	Pressure Relief Joint, Type C, As Per Plan ++
M-1	7+010.000	C.			2	Each	Barrier Reflector, Type A
P-1	7+052.500	Lt. & Rt.	7+053.450		1	Each	Anchor Assembly, Type A
					1	Meter	Guardrail, Type 5
					3	Meter	Aggregate Drains
					1	Each	Monument Assembly
					1	Each	Anchor Assembly Removed, Type A
					1	Meter	Guardrail Removed
Totals To General Summary					17.145		

H:\ROADWAY\OHDA\OHDA\GPA...
 Last CAD Revision: 09/09/08
 Last Revision By: LUK
 Description: FINAL TRACKS

ALL ROADWAY DESIGN AND CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE AASHTO MANUAL OF PRACTICES FOR HIGHWAY DESIGN AND CONSTRUCTION, AND THE AASHTO MANUAL OF PRACTICES FOR HIGHWAY MATERIALS.



Remove All Fence and Posts Within The R/W Between Sta. 7+048 and Sta. 7+107 Under Item 201, Clearing and Grubbing.

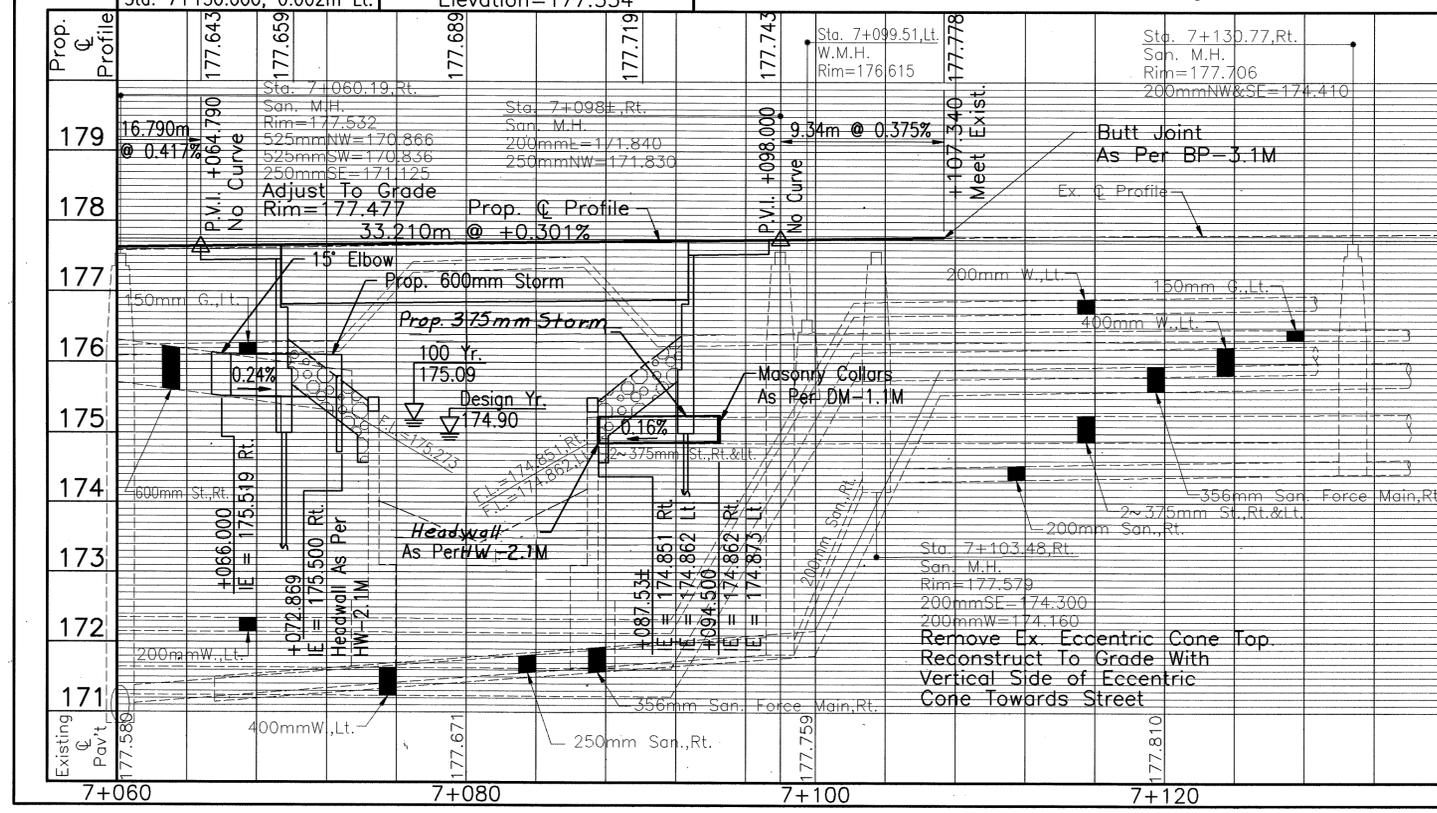
+ Includes 3.81m on radius
 ++ Aggregate Drain left of centerline only.



**PLAN & PROFILE U.S. 6
STA. 7+060 TO STA. 7+160**

ERI-6-7.065

11
25



See Sheet 15 for Existing Structure Data

PROPOSED STRUCTURE

TYPE: Non-Composite Single Span Prestressed Concrete Box Beam Bridge On Capped Pile Abutments

SPAN: 23 000mm c/c Bearings
 ROADWAY: 13 420mm f/f Guardrail
 LOADING: MS-18 And Alternate Military Loading

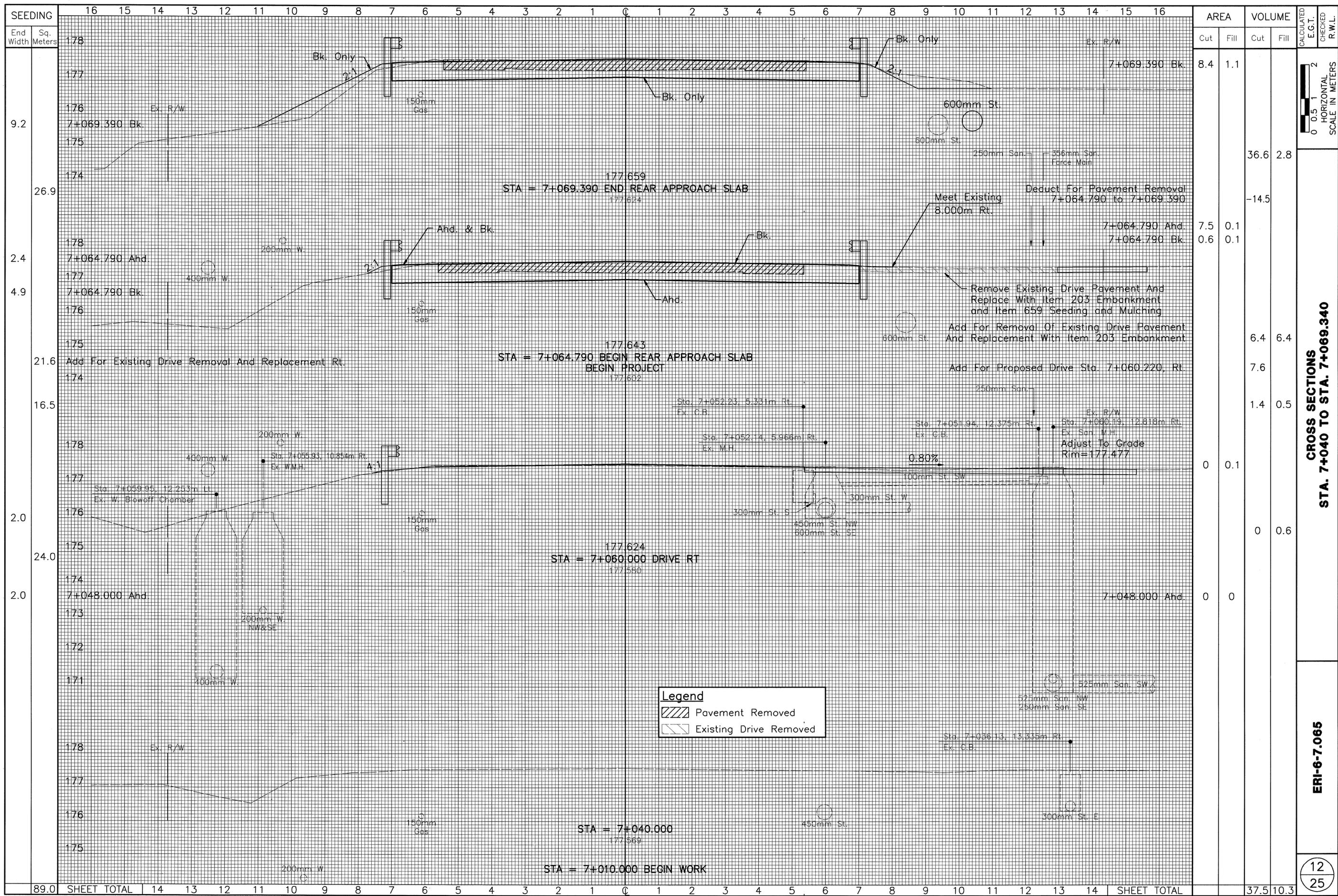
SKEW: None
 WEARING SURFACE: 77mm Asphalt (Min.)
 APPROACH SLABS: AS-1-81M (4600mm Long)

ALIGNMENT: Tangent
 CROWN: 0.016

Detail A

ESTIMATED QUANTITIES	Ref. No.	Description	Station		Unit	Quantity	Unit Price	Total Price
			From	To Or At				
626		Pressure Relief Joint Type C, As Per Plan ++			Each			9
		Barrier Reflector, Type A			Each			11
		Bridge Terminal Assembly, Type 4, As Per Plan			Each			1
		Bridge Terminal Assembly, Type 4			Each			3
		Anchor Assembly Type T			Each			3
		Guardrail Type 5			Meter			47,225
		Aggregate Drains			Meter			6
		Monument Assembly			Each			1
		Manhole Reconstructed To Grade, As Per Plan			Each			1
		Manhole Adjusted To Grade			Each			1
		600mm Conduit, Type C, 707.12			Meter			8
		375mm Conduit, Type B, 706.02			Meter			14.0
		Concrete Masonry			Cu. M.			0.39
		32mm Asphalt Concrete Surface Course, Type 1, PG 64-22 (Driveway)			Cu. M.			2
		Bituminous Aggregate Base PG 64-22			Cu. M.			7
		Pipe Removed 600mm And Under			Meter			22
		Anchor Assembly Removed			Each			1
		Anchor Assembly Removed, Type A			Each			2
		Guardrail Removed			Meter			40,005
		Totals To General Summary						

ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED
 AutoCAD Drawn Scale 1:50
 Last CAD Revision: 09/09/98
 Description: FINAL TRACKING



**CROSS SECTIONS
 STA. 7+040 TO STA. 7+069.340**

ERI-6-7.065

12
 25

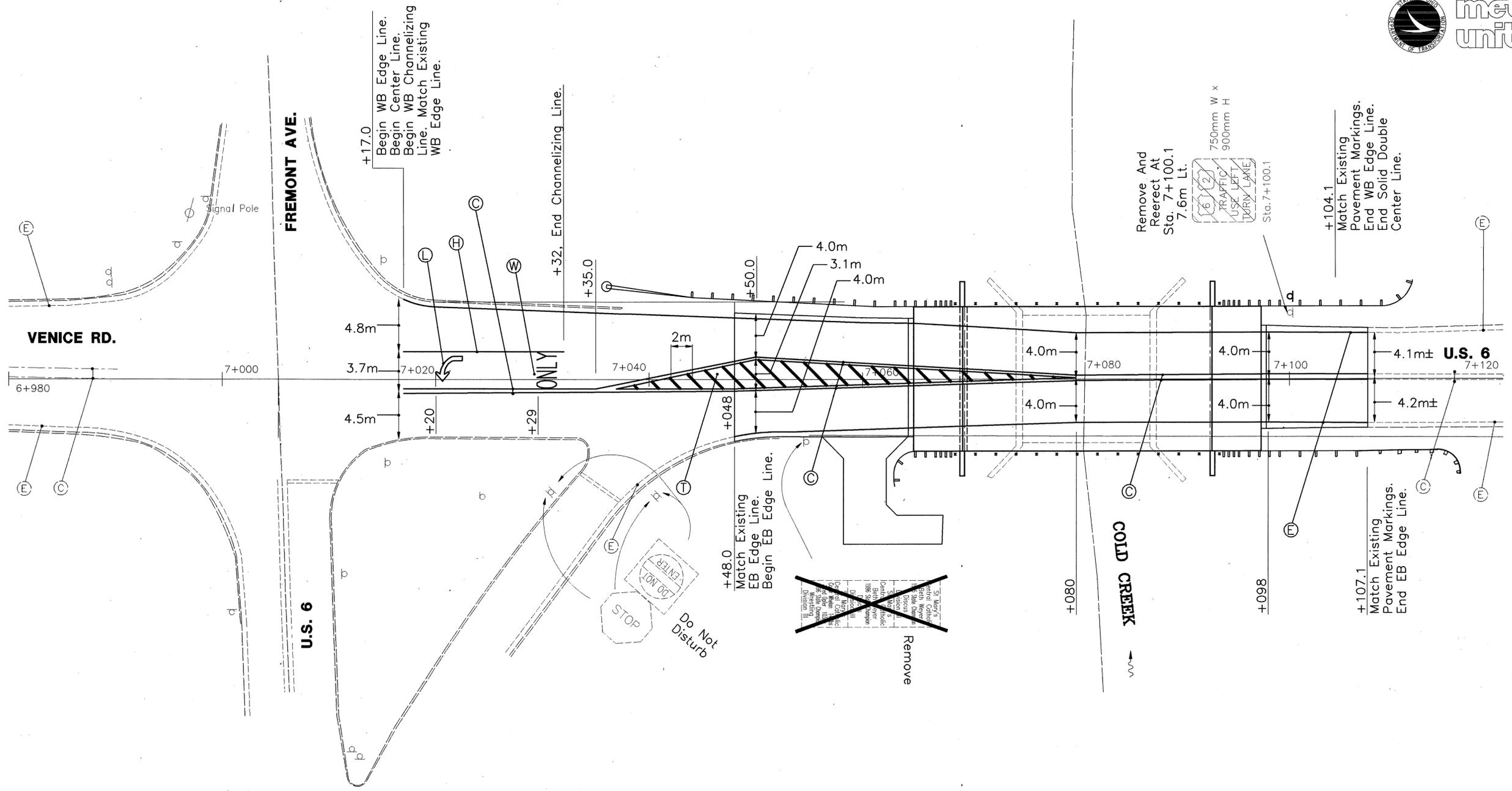
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CALCULATED
D.M.V.
CHECKED
E.G.T.

TRAFFIC CONTROL PLAN & SUBSUMMARY

ERI-6-7.065



LÉGEND

○	PROPOSED
○	EXISTING
—	100mm CENTER LINE, SOLID, DOUBLE
E	100mm EDGE LINE, WHITE
H	200mm CHANNELIZING LINE
T	300mm TRANSVERSE LINE, TYPE 2
W	WORD ON PAVEMENT, 2500mm, TYPE 2
L	LANE ARROW, TYPE 2

SUBSUMMARY

	630			642		
	Each	m	km	m	Each	m
Removal Of Ground Mounted Sign And Reerection						
Removal Of Ground Mounted Sign And Storage						
Removal Of Ground Mounted Post Support And Disposal						
Ground Mounted Support, No. 3 Post						
Edge Line, Type 2			0.077			
Center Line, Type 2			0.212			
Channelizing Line, Type 2		15				
Transverse Line, Type 2		49				
Lane Arrow, Type 2	1					
Word On Pavement, 2500mm, Type 2	1					
Removal Of Pavement Marking		59				
<i>Center Line Sta. 7+107.1 to Sta. 7+184 *</i>						
Totals To The General Summary	1	1	1	4.8	0.150	0.212

* To match existing markings



HYDRAULIC DATA	
V ₂₅ =1.40 m/s	Q ₂₅ =24.89 m ³ /s
V ₁₀₀ =1.59 m/s	Q ₁₀₀ =33.13 m ³ /s
Drainage Area = 22.710 km ²	

DESIGN TRAFFIC	
1998 ADT = 8,370	2018 ADT = 10,040
2018 ADTT = 402	

NOTE: All Dimensions Are In Millimeters Unless Otherwise Noted. Elevations And Stations Are In Meters.

NOTES & LEGEND:

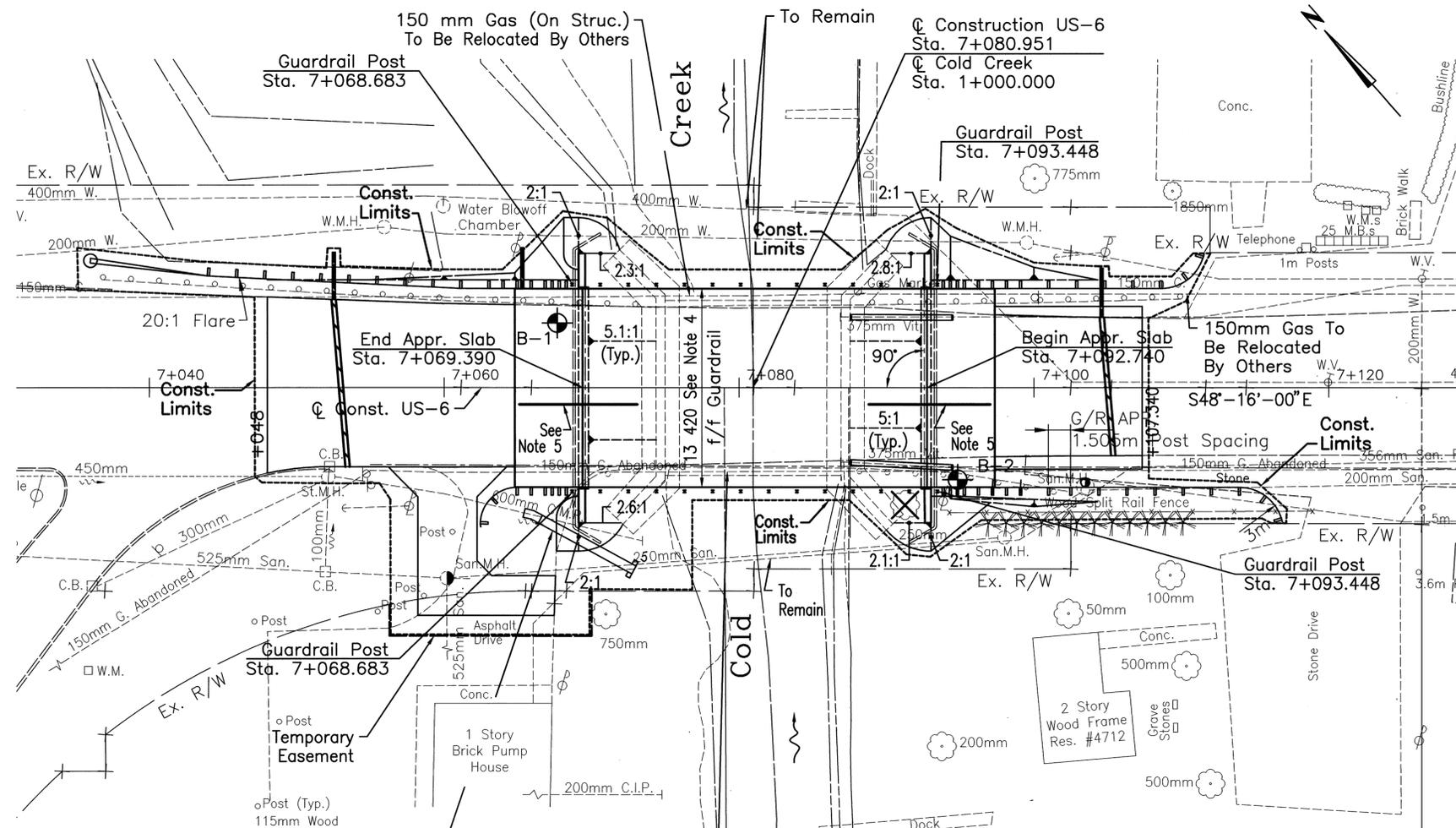
- 1. See Roadway Sheets For Reference Points.
- 2. Earthwork Limits Shown Are Approximate. Actual Slopes Shall Conform To Plan Cross Sections.
- 3. Abutments And Superstructure Will Be Constructed In Two Phases For The Maintenance Of Traffic. See Sheets **4/8** & **6/8**
- 4. * Plus Beam Fit-Up.
- 5. ** Approximate Location For Temporary Shoring Required For Phase Construction. See Sht. **3/8**
- 6. The Bottom Of The Superstructure Clears The Design Year Flood Elevation By 1826 mm.
- 7. For Portions Of Abutment Removal Details See Sheet **5/8**
- 8. Note That The Bridge Identification Number Does Not Correlate With The Stationing Established For This Project.

ESTIMATED PILE (HP250x62) PAY LENGTH

Rear Abutment.....	7 Meters
Forward Abutment.....	7 Meters

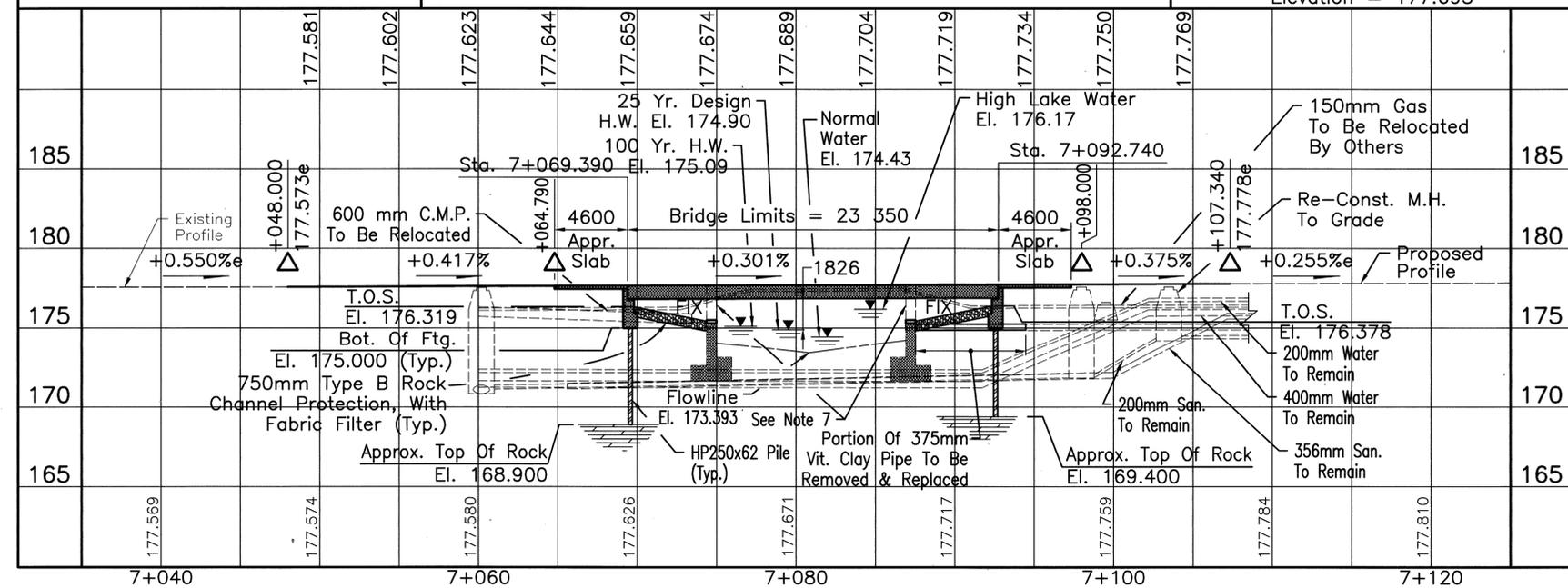
EXISTING STRUCTURE (To Be Removed As Per Item 202)	
TYPE:	Single Span Reinforced Concrete Beam Bridge With Composite Deck And Reinforced Concrete Abutments
SPAN:	12 129mm f/f Abutments
ROADWAY:	10 668mm f/f Railing
LOADING:	Unknown
SKEW:	None
WEARING SURFACE:	Asphalt
APPROACH SLABS:	AS-2430 (4572mm Long)
ALIGNMENT:	Tangent
DATE BUILT:	1931
STRUCTURE FILE NO.:	2201534

PROPOSED STRUCTURE	
TYPE:	Non-Composite Single Span Prestressed Concrete Box Beam Bridge On Capped Pile Abutments
SPAN:	23 000mm c/c Bearings
ROADWAY:	13 420mm + Fit-Up f/f Guardrail
LOADING:	MS-18 And Alternate Military Loading
SKEW:	None
WEARING SURFACE:	77mm Asphalt (Minimum)
APPROACH SLABS:	AS-1-81M (4600mm Long)
ALIGNMENT:	Tangent
CROWN:	0.016
LATITUDE:	N41°-26'-43"
LONGITUDE:	W82°-46'-10"



BENCH MARK NO. 1
Chiseled + in S. Edge Of M.H. Rim
Sta. 7+060.268, 13.134 Rt.
Elevation=177.534

BENCH MARK NO. 2
Chiseled + On W. Side of Concrete Slab
For Telephone Equipment
Sta. 7+172.716, 10.405 Lt.
Elevation = 177.693



PROFILE ALONG CENTERLINE CONSTRUCTION

DESIGN AGENCY: **MANNIK & SMITH INC.**
 CONSULTING ENGINEERS & SURVEYORS
 1800 INDIAN WOOD DRIVE
 MAUMEE, OH 43537

DATE	9/98
REVIEWED	R.F.B.
DRAWN	J.P.M.
CHECKED	R.C.H.
STRUCTURE FILE NUMBER	2201542
REVISION	

ERIE
 STA. 7+069.390
 STA. 7+092.740

SITE PLAN
 ERI-6-07113
 OVER COLD CREEK

ERI-6-7.065

1 / 8

15
25

AutoCAD 2000
 Last CAD Revision: 10/05/98
 Description: FINAL TRACING PLOT

GENERAL NOTES

1. **STANDARD DRAWINGS AND SUPPLEMENTAL SPECIFICATIONS:**
REFERENCE SHALL BE MADE TO STATE OF OHIO, DEPARTMENT OF TRANSPORTATION, DIVISION OF HIGHWAYS STANDARD DRAWINGS:

AS-1-81M DATED 10-25-94
DS-1-94M DATED 12-15-94
DBR-2-73M DATED 08-18-95
PSBD-1-93M DATED 12-19-94
PCB-91M DATED 07-6-99

SUPPLEMENTAL SPECIFICATIONS:

865 DATED 5-11-99

2. **DESIGN SPECIFICATIONS:**

THIS STRUCTURE CONFORMS TO "STANDARD SPECIFICATIONS FOR HIGHWAY BRIDGES" ADOPTED BY THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS 1996 AND THE ODOT BRIDGE DESIGN MANUAL.

3. **DESIGN DATA:**

DESIGN LOADING

- MS18 AND THE ALTERNATE MILITARY LOADING.

CONCRETE CLASS C

- COMPRESSIVE STRENGTH 27.5 MPa

REINFORCING STEEL

- ASTM A615M, A616M OR A617M GRADE 400, MINIMUM YIELD STRENGTH 400 MPa

MILD REINFORCING STEEL FOR THE CONCRETE PRESTRESSED BEAMS WILL BE GRADE 400, MINIMUM YIELD STRENGTH 400 MPa

CONCRETE FOR PRESTRESSED BEAMS

- COMPRESSIVE STRENGTH 38 MPa
- UNIT STRESS: 15.2 MPa COMPRESSION, 3.1 MPa TENSION.

PRESTRESSING STRAND ASTM A416M

- f's - 1860 MPa
INITIAL STRESS - 0.75 f's (LOW RELAXATION STRANDS)

DECK PROTECTION METHOD

- MEMBRANE WATERPROOFING AND ASPHALT CONCRETE OVERLAY
- STEEL DRIP STRIP

4. **ITEM 202. PORTIONS OF STRUCTURES REMOVED, AS PER PLAN:**

THIS ITEM SHALL INCLUDE THE ELEMENTS INDICATED IN THE PLANS AND GENERAL NOTES AND ARE NOT SEPARATELY LISTED FOR PAYMENT, EXCEPT FOR WEARING COURSE REMOVAL. ITEMS TO BE REMOVED INCLUDE ALL EXISTING MATERIALS BEING REPLACED BY NEW CONSTRUCTION AND MISCELLANEOUS ITEMS THAT ARE NOT SHOWN TO BE INCORPORATED INTO THE FINAL CONSTRUCTION AND ARE DIRECTED TO BE REMOVED BY THE ENGINEER. ALL WORK SHALL BE DONE IN A MANNER THAT WILL NOT CUT, ELONGATE, OR DAMAGE THE EXISTING REINFORCING STEEL TO BE PRESERVED. PNEUMATIC HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. CHIPPING HAMMERS SHALL NOT BE PLACED IN DIRECT CONTACT WITH REINFORCING STEEL THAT IS TO BE RETAINED IN THE REBUILT STRUCTURE. THE METHOD OF REMOVAL SHALL COINCIDE WITH PHASE CONSTRUCTION DETAILS HEREIN, AND SHALL PROVIDE A SMOOTH, STRAIGHT EDGE ALONG THE EXISTING DECK. THE METHOD OF REMOVAL, EQUIPMENT USED, AND WEIGHT OF HAMMERS SHALL BE APPROVED BY THE ENGINEER.

THE EXISTING REAR & FORWARD ABUTMENT SHALL BE REMOVED TO ELEV. 175.34.

SUITABLE WASTE MASONRY MEETING THE REQUIREMENTS OF CMS 601.08 MAY BE PLACED AS BANK PROTECTION AS DIRECTED BY THE ENGINEER.

5. **PROTECTION OF TRAFFIC:**

PRIOR TO DEMOLITION OF ANY PORTIONS OF THE EXISTING SUPERSTRUCTURE, THE CONTRACTOR SHALL SUBMIT HIS PLANS FOR THE PROTECTION OF TRAFFIC (VEHICULAR, PEDESTRIAN, BOAT, ETC.) ADJACENT TO AND/OR UNDER THE STRUCTURE TO THE ENGINEER FOR APPROVAL. THESE PLANS SHALL INCLUDE PROVISIONS FOR ANY DEVICES AND STRUCTURES THAT MAY BE NECESSARY TO ENSURE SUCH PROTECTION. TEMPORARY VERTICAL CLEARANCES SPECIFIED ON THE PLANS OR IN THE PROPOSAL SHALL BE MAINTAINED AT ALL TIMES EXCEPT AS OTHERWISE APPROVED BY THE ENGINEER.

THIS WORK WILL BE PAID FOR AT THE CONTRACT LUMP SUM PRICE BID, WHICH PRICE AND PAYMENT SHALL BE FULL COMPENSATION FOR ALL LABOR, EQUIPMENT, MATERIALS AND INCIDENTALS NECESSARY TO COMPLETE THE WORK IN CONFORMANCE WITH THESE REQUIREMENTS, WITH PERTINENT PROVISIONS OF ITEM 202, AND TO THE SATISFACTION OF THE ENGINEER.

6. **ITEM 503. UNCLASSIFIED EXCAVATION, AS PER PLAN:**

UNCLASSIFIED EXCAVATION SHALL BE IN ACCORDANCE WITH 503 EXCEPT THAT THE BACKFILL MATERIAL BEHIND THE ABUTMENTS SHALL BE 203 MATERIAL PLACED IN 150 mm LIFTS AND COMPACTED IN ACCORDANCE WITH 304.04

7. **PILES SHALL BE DRIVEN TO REFUSAL ON BEDROCK.** REFUSAL SHALL BE CONSIDERED AS OBTAINED BY PENETRATING SOFT BEDROCK FOR SEVERAL MILLIMETERS WITH A MINIMUM RESISTANCE OF 20 BLOWS PER 25 MM OR REFUSAL SHALL BE CONSIDERED AS OBTAINED AFTER THE PILE HAS CONTACTED HARD BEDROCK AND THE PILE HAS THEN RECEIVED AT LEAST 20 BLOWS.

THE ULTIMATE BEARING VALUE "R" = 2 x PILE LOAD = 974 KN PER PILE.

16 PILES 7 METERS LONG, ESTIMATED LENGTH
16 PILES OF ORDER LENGTH 7 METERS LONG
8 SPLICES

8. **ITEM 507. STEEL POINTS OR SHOES, AS PER PLAN:**

STEEL PILE POINTS OR SHOES SHALL BE USED TO PROTECT THE TIPS OF THE PROPOSED STEEL "H" PILING. THE STEEL POINTS SHALL BE FURNISHED BY ASSOCIATED PILE AND FITTING CORPORATION, 262 RUTHERFORD BLVD., CLIFFTON, NEW JERSEY 07014; DOUGHERTY FOUNDATION PRODUCTS, INC., P.O. BOX 688, FRANKLIN LAKES, NEW JERSEY 07417; VERSA STEEL INC., 3601 N.W. YEON AVE., P.O. BOX 10559, PORTLAND, OREGON 97210; PILING ACCESSORIES, INC., 3467 GRIBBLE ROAD, MATTHEWS, NC 28105 OR BY A MANUFACTURER THAT CAN FURNISH A STEEL POINT THAT IS ACCEPTABLE TO THE DIRECTOR. THE MATERIAL USED FOR THE MANUFACTURING OF PILE POINTS SHALL CONFORM TO ASTM A27 65/35 - CLASS 2 - HEAT TREATED OR AASHTO M103 65/35 - HEAT TREATED. A NOTARIZED COPY OF THE MILL TEST REPORT SHALL BE SUBMITTED TO THE ENGINEER.

9. **UTILITY LINES:**

ALL EXPENSE INVOLVED IN RELOCATING THE AFFECTED UTILITY LINES SHALL BE BORNE BY THE UTILITY(IES). THE CONTRACTOR AND UTILITY(IES) ARE TO COOPERATE BY ARRANGING THEIR WORK IN SUCH A MANNER THAT INCONVENIENCE TO EITHER WILL BE HELD TO A MINIMUM.

10. **BEARING PAD SHIMS:**

3 mm THICK PREFORMED BEARING PAD SHIMS, PLAN AREA 250 mm BY 300 mm, SHALL BE PLACED UNDER THE ELASTOMERIC BEARING PADS WHERE REQUIRED FOR PROPER BEARING. THE AMOUNT SUPPLIED IS SUFFICIENT FOR 2 SHIMS PER BEAM. PAYMENT WILL BE MADE AT THE CONTRACT BID PRICE FOR ITEM 516 - 3 mm PREFORMED BEARING PAD. ANY UNUSED SHIMS SHALL BECOME PROPERTY OF THE STATE.

11. **EXISTING STRUCTURE VERIFICATION:**

DETAILS AND DIMENSIONS SHOWN ON THESE PLANS PERTAINING TO THE EXISTING STRUCTURE HAVE BEEN OBTAINED FROM PLANS OF THE EXISTING STRUCTURE AND FROM FIELD OBSERVATIONS AND MEASUREMENTS. CONSEQUENTLY, THEY ARE INDICATIVE OF THE EXISTING STRUCTURE AND THE PROPOSED WORK BUT THEY SHALL BE CONSIDERED TENTATIVE AND APPROXIMATE. THE CONTRACTOR IS REFERRED TO CMS SECTIONS 102.05 AND 105.02.

CONTRACT BID PRICES SHALL BE BASED UPON A RECOGNITION OF THE UNCERTAINTIES DESCRIBED ABOVE AND UPON A PREBID EXAMINATION OF THE EXISTING STRUCTURE BY THE CONTRACTOR. HOWEVER, ALL PROJECT WORK SHALL BE BASED UPON ACTUAL DETAILS AND DIMENSIONS WHICH HAVE BEEN VERIFIED BY THE CONTRACTOR IN THE FIELD.

12. **DOWEL HOLES WITH NON-SHRINKNON-METALLIC GROUT:**

ALL DOWEL HOLES SHALL BE CORE DRILLED AND GROUTED WITH AN EPOXY MORTAR MEETING THE REQUIREMENTS OF CMS 510. PAYMENT FOR ALL OF THE ABOVE SHALL BE PER CMS 510.05.

13. **EXISTING 375mm VITRIFIED CLAY PIPES:**

THE LOCATION OF THE EXISTING 375mm VITRIFIED CLAY PIPES AT THE FORWARD ABUTMENT OF THE EXISTING STRUCTURE ARE BASED ON FIELD SURVEY DATA AND EXISTING UTILITY PLAN LAYOUT. THE CONTRACTOR SHALL BE REQUIRED TO DETERMINE THE EXACT LOCATION OF THESE PIPES IN RELATION TO THE PROPOSED FORWARD ABUTMENT PRIOR TO ANY CONSTRUCTION OF THIS ABUTMENT. THE ENGINEER SHALL DETERMINE IF ANY ADJUSTMENT TO THE FORMWORK, HALF-ROUND PIPE SLEEVE OR REINFORCING WILL BE NECESSARY. THE CONTRACTOR MAY PROCEED WITH CONSTRUCTION OF THE PROPOSED FORWARD ABUTMENT ONLY AFTER GIVEN APPROVAL BY THE ENGINEER.

14. **PROPOSAL NOTES:**

THE CONTRACTOR SHALL REFER TO THE APPROPRIATE PROPOSAL NOTES FOR THE FOLLOWING BID ITEMS:

ITEM DESCRIPTION

SPECIAL SEALING OF CONCRETE SURFACES (EPOXY-URETHANE)

517 RAILING (DEEP BEAM RAIL WITH STEEL TUBULAR BACKUP AND TYPE 2 STEEL POSTS AND ANCHOR BOLTS)

ESTIMATED QUANTITIES

CALC'D BY: R.C.H. DATE: 12/10/97
CHECKED BY: J.P.M. DATE: 9/3/98

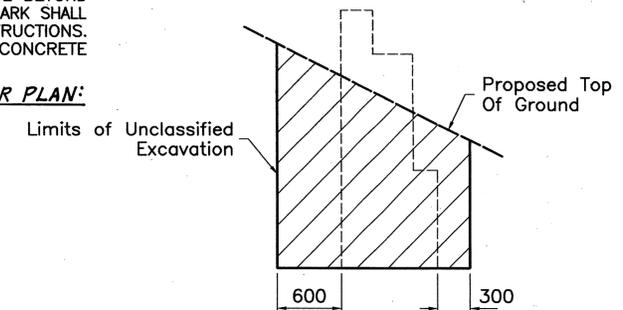
ITEM	ITEM EXT.	TOTAL	UNIT	DESCRIPTION	ABUTS	SUPER	GEN.	As Per Plan Sht. No.
202	11203	Lump		Portions Of Structure Removed, Over 6 Meter Span, As Per Plan			Lump	2/8 & 5/8
407	10000	110	Liter	Tack Coat		110		
407	14000	110	Liter	Tack Coat For Intermediate Course		110		
448	46010	18	Cu. Meter	Asphalt Concrete Intermediate Course, Type 1, PG64-28		18		
448	50000	12	Cu. Meter	Asphalt Concrete Surface Course, Type 1H		12		
503	11100	Lump		Cofferdams, Cribbs & Sheeting			Lump	
503	21301	Lump		Unclassified Excavation, As Per Plan			Lump	2/8
505	11100	Lump		Pile Driving Equipment Mobilization			Lump	
507	00100	112	Meter	Steel Piles HP250x62, Furnished	112			
507	00150	112	Meter	Steel Piles HP250x62, Driven	112			
507	50500	8	Each	Steel Pile Splices	8			
507	93301	16	Each	Steel Point (Or Shoe), As Per Plan	16			2/8
842	34450	6	Cu. Meter	Class S Concrete, Misc.: Existing Abutment Wall Cap			6	2/8 & 5/8
842	43501	54	Cu. Meter	Class C Concrete, Abutment Including Footing, As Per Plan	54			2/8
512	55910	Lump		Type 3 Waterproofing			Lump	
Special	51267510	152	Sq. Meter	Sealing Of Concrete Surfaces (Epoxy-Urethane)	39	46	67	2/8
516	13600	24	Sq. Meter	25 mm Prefomed Expansion Joint Filler	24			
Special	51631300	28	Meter	Polymer Modified Asphalt Expansion Joint System		28		
516	41100	22	Each	3 mm Prefomed Bearing Pad, 711.21		22		
516	43101	44	Each	Elastomeric Bearing With Internal Laminate Only (Neoprene), As Per Plan, (28 mm X 250 mm X 300 mm)		44		7/8
517	72300	49.53	Meter	Railing (Deep Beam Rail With Steel Tubular Backup And Type 2 Steel Posts And Anchor Bolts)		49.53		
518	21231	Lump		Porous Backfill With Filter Fabric As Per Plan			Lump	4/8
Special	51822300	54	Meter	Steel Drip Strip		54		
518	40000	38	Meter	150 mm Perforated Corrugated Plastic Pipe	38			
518	40010	8	Meter	150 mm Non-Perforated Corrugated Plastic Pipe, Including Specials	8			
865	10090	11	Each	Prestressed Concrete Non-Composite Box Beam Bridge Members Level 1, B840-1220		11		

15. **ITEM 842 - CLASS C AND CLASS S CONCRETE, AS PER PLAN:**
THE COARSE AGGREGATE SHALL CONSIST OF NO. 8 LIMESTONE. THESE ITEMS SHALL INCLUDE THE COSTS OF REINFORCING STEEL.

16. **SEALING OF CONCRETE SURFACES:**
EPOXY-URETHANE SHALL BE THE "BUFF" COLOR MEETING FEDERAL COLOR STANDARD NO. 37722 AS PER THE DETAILS IN THE PLANS.

17. **SURVEY DISC ON STRUCTURE:**
THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST ONE (1) WEEK IN ADVANCE OF POURING THE CONCRETE FOR COMPLETION OF THE ABUTMENT. THE ENGINEER WILL PROVIDE THE CONTRACTOR ONE (1) SURVEY DISC FOR EACH STRUCTURE (OBTAINED FROM THE DISTRICT SURVEYOR) WHICH THE CONTRACTOR SHALL PLACE IN THE SURFACE OF THE FRESH CONCRETE. THE LOCATION OF THE DISC SHALL BE ON THE ABUTMENT, AND ON A FLAT, HORIZONTAL SURFACE BEYOND THE EDGE OF DECK AND GUARDRAIL OR PARAPET. THE BENCHMARK SHALL BE ACCESSIBLE TO A SURVEYOR'S ROD WITHOUT ANY OBSTRUCTIONS. COST OF THIS WORK IS CONSIDERED INCIDENTAL TO THE CONCRETE BID ITEM.

18. **ITEM 518 - POROUS BACKFILL WITH FILTER FABRIC, AS PER PLAN:**
THE MATERIAL SHALL BE NO. 57 GRAVEL



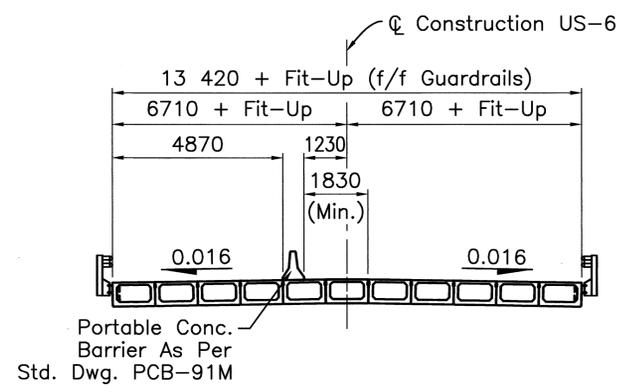
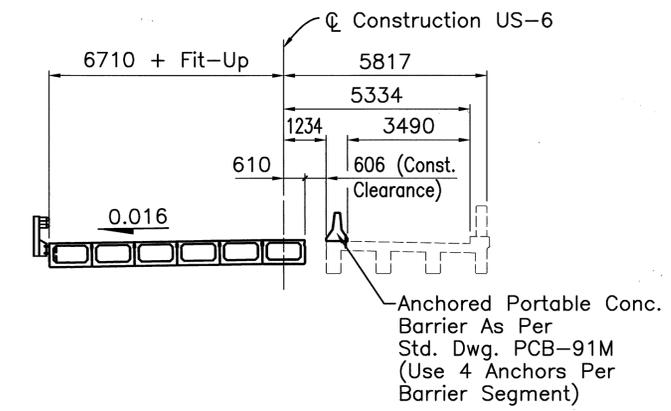
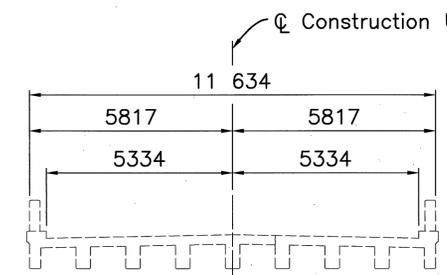
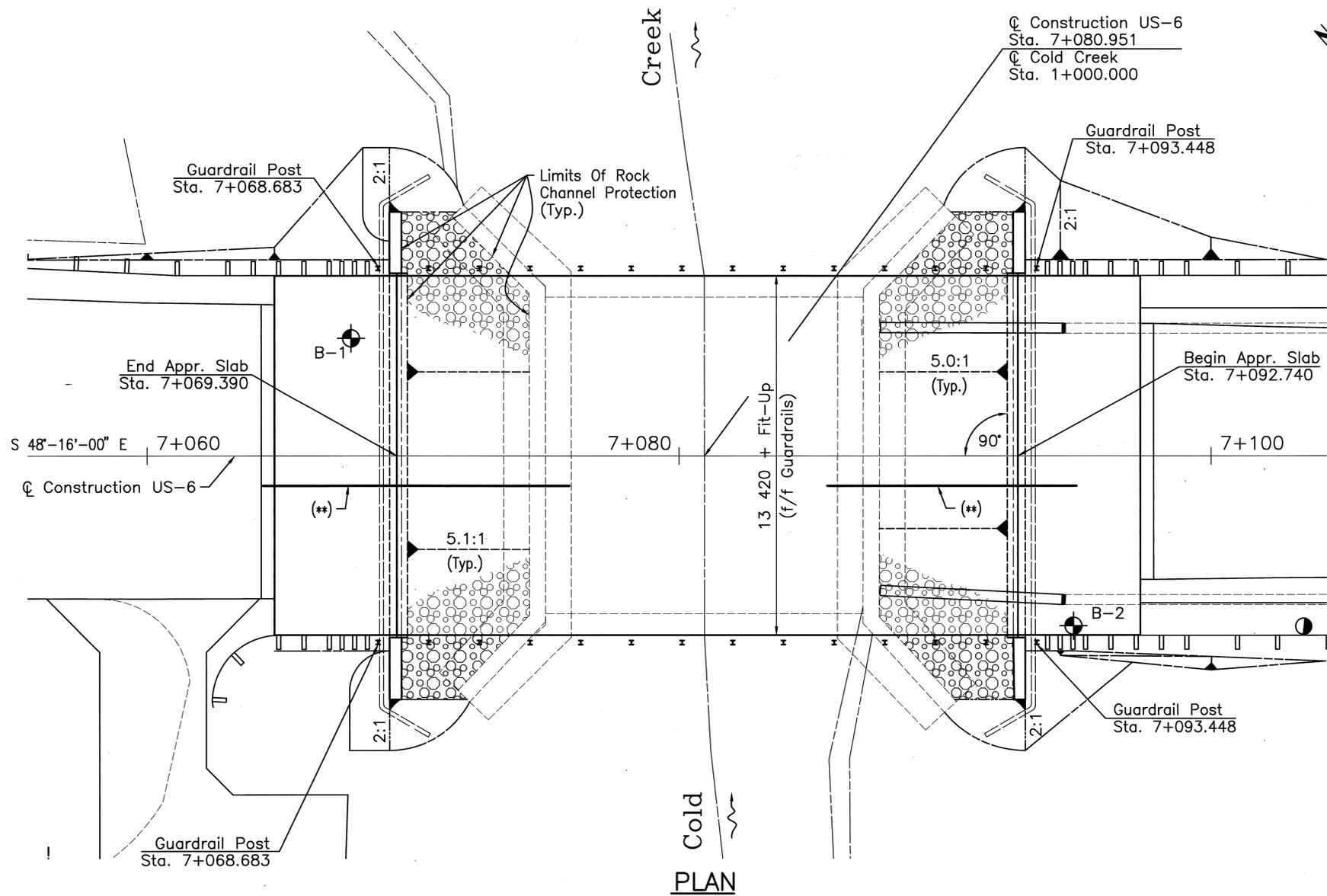
Excavation Detail

GENERAL NOTES & ESTIMATED QUANTITIES

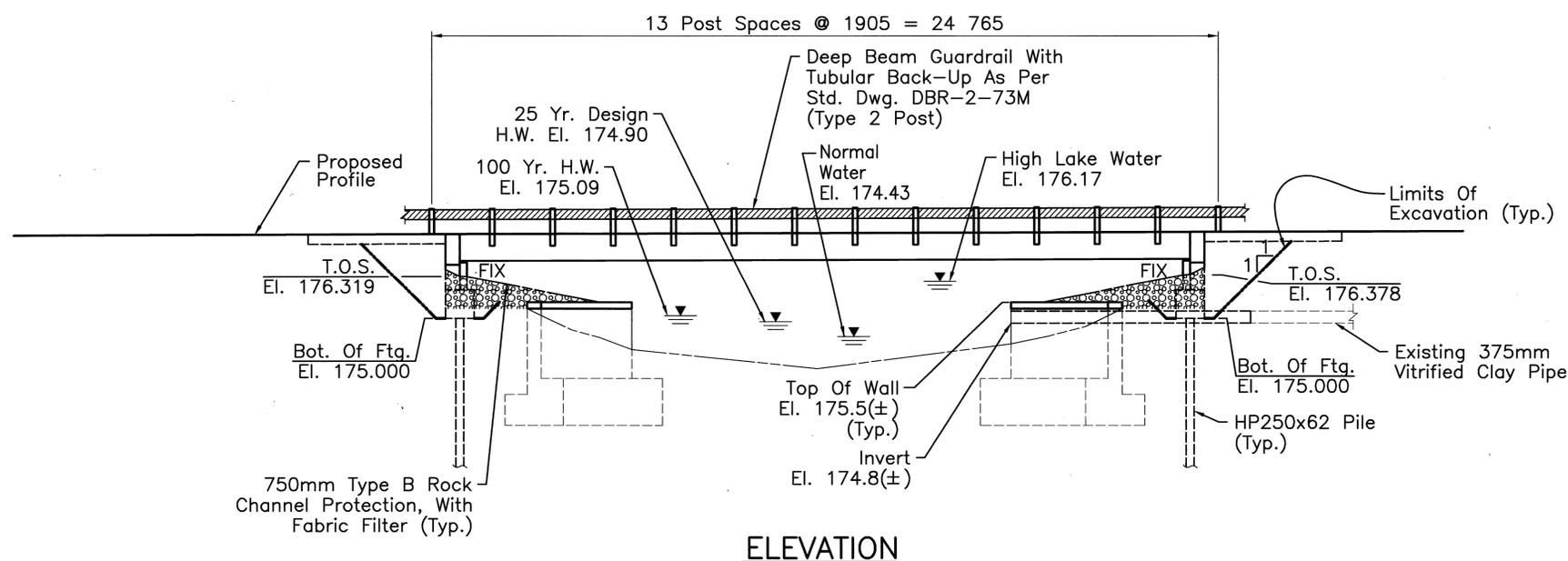
ERI-6-7.065

2 / 8

16
25



- NOTES & LEGEND:**
- ** Approximate Location For Temporary Shoring Required For Phase Construction.
 - Portion Of Existing Abutments To Be Removed As Per Item 202. See Sheet **5/8** For Details.
 - Existing Abutment Removal Limits Shall Be Located Such That Adequate Support Of The Remaining Deck Is Provided At All Times During Phase Construction.
 - Abutments And Superstructure Will Be Constructed In Two Phases For The Maintenance Of Traffic. See Sheets **4/8** & **6/8** And Sheet 6 Of 25 For The Maintenance Of Traffic Plans.
- ⊕ Drive Sample Core Boring.



DESIGN AGENCY
MANIUX & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 MAIN ROAD SUITE 400
MARIETTA, OHIO 43557

DATE: 9/98
REVIEWED R.F.B.
DRAWN R.C.H.
CALCULATED R.C.H.
CHECKED J.P.M.

STRUCTURE FILE NUMBER: 2201542

GENERAL PLAN & PHASE CONSTRUCTION DETAILS
ERI-6-0711.3
OVER COLD CREEK

ERI-6-7.065

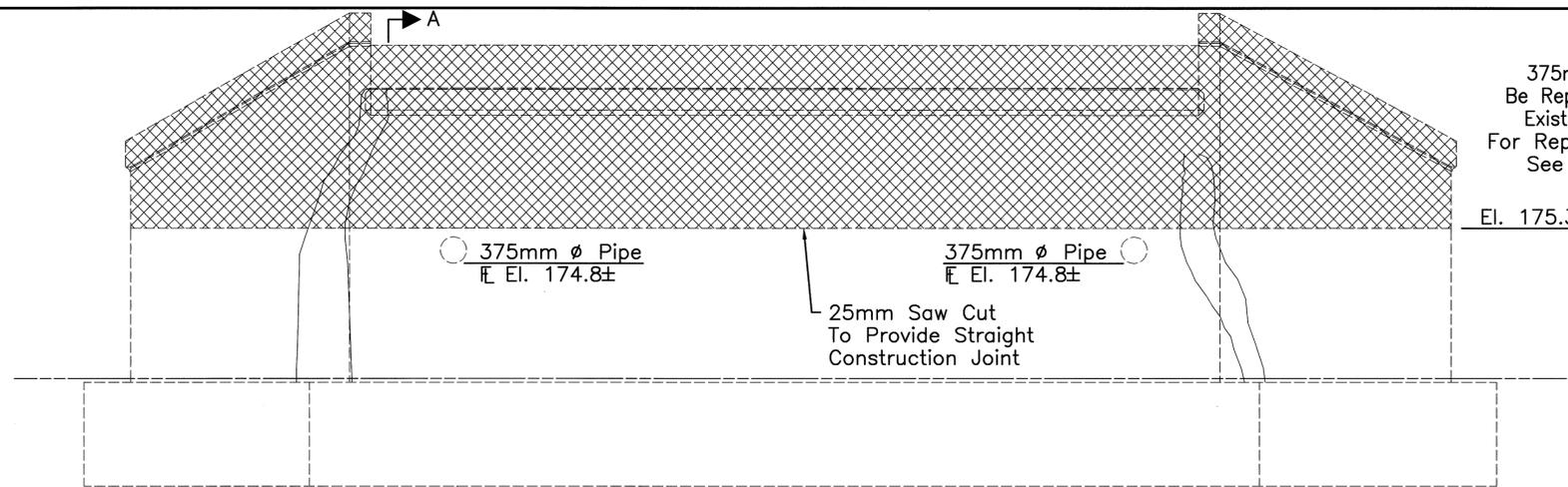
3 / 8

17 / 25

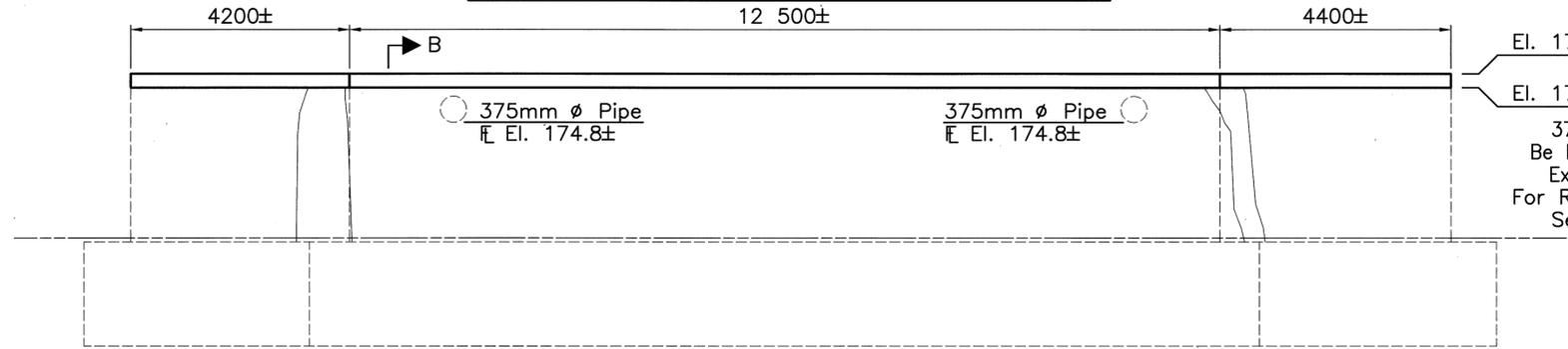
OHDJ4

PLANNING PLOT
10/25/98
1:100

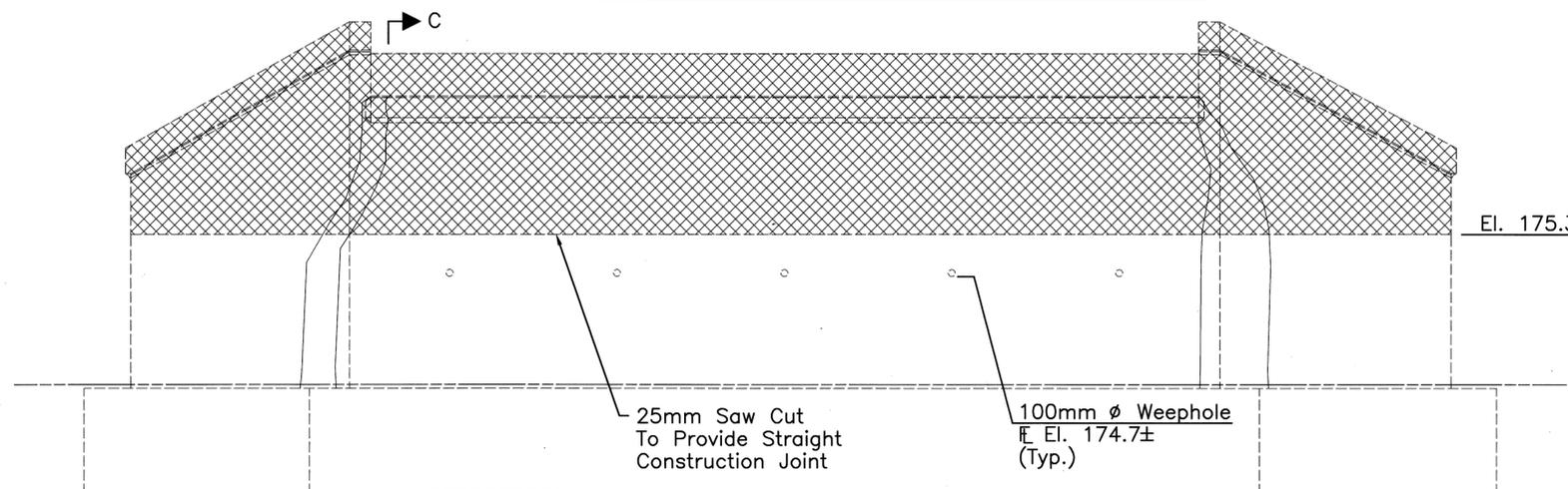
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 Last CAD Revision: 10/26/98
 Description: FINAL TRACKING PLOT



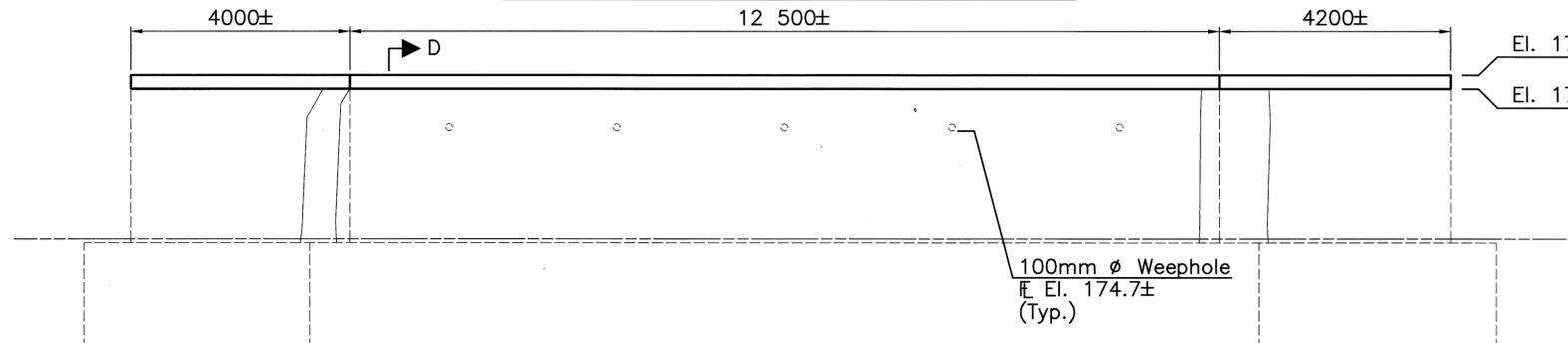
FORWARD ABUTMENT REMOVAL DETAIL



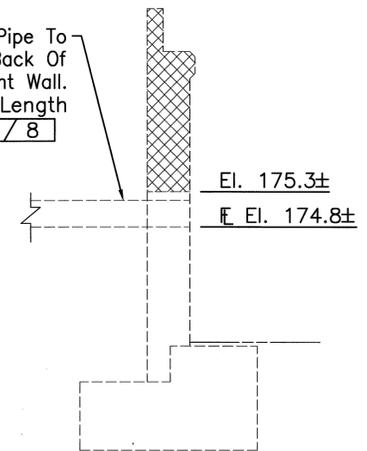
FORWARD ABUTMENT REHABILITATION DETAIL



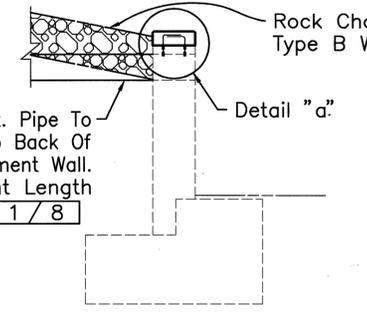
REAR ABUTMENT REMOVAL DETAIL



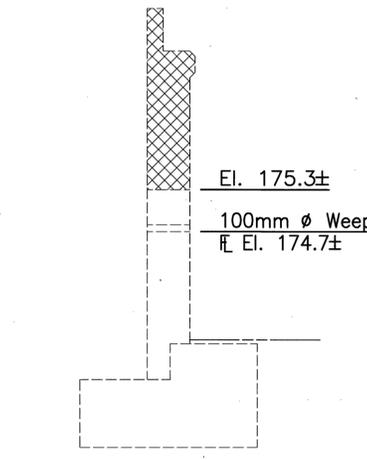
REAR ABUTMENT REHABILITATION DETAIL



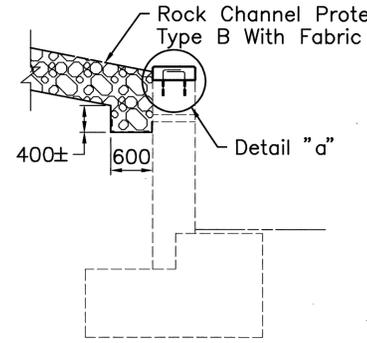
SECTION A-A



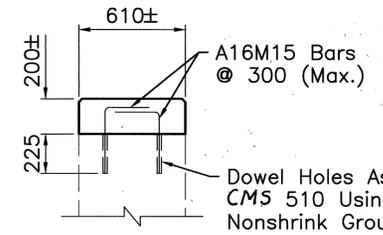
SECTION B-B



SECTION C-C



SECTION D-D



DETAIL "a"

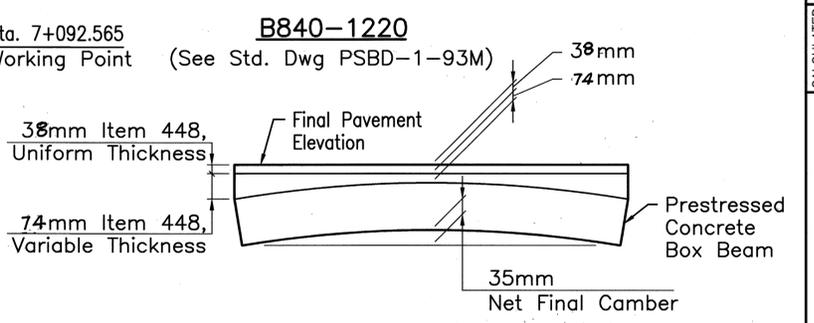
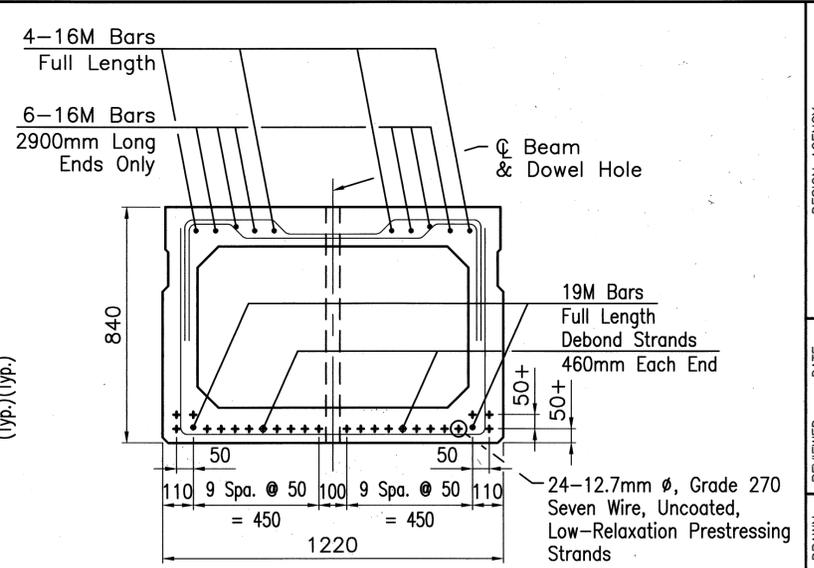
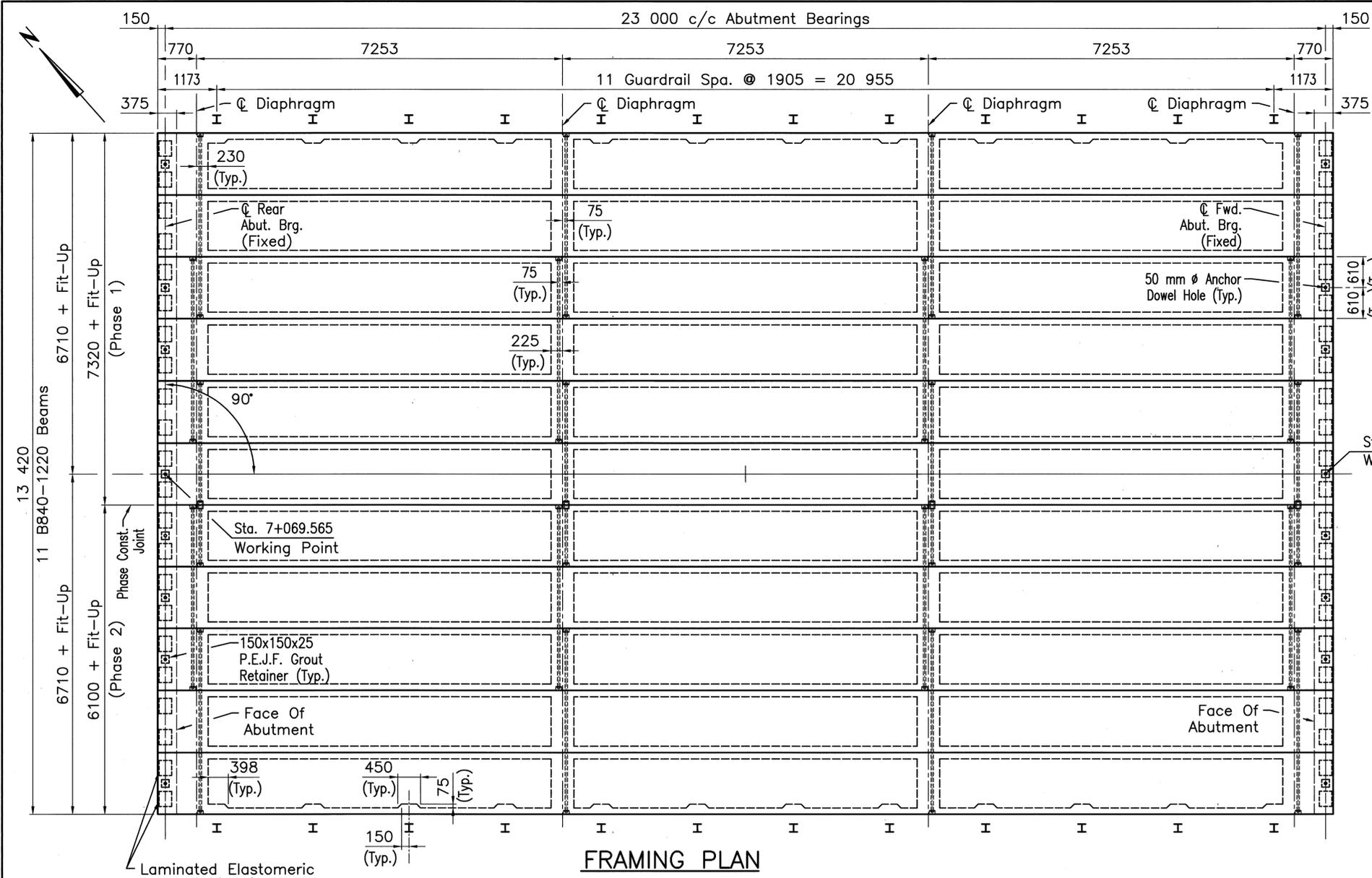
NOTES:

1. The 200mm Deep Cap To Be Poured On Top Of The Remaining Portion Of The Existing Abutments Shall Be Class S Concrete Conforming To CMS Item **842**.
2. Care Shall Be Taken While Backfilling And Placing Rock Channel Protection In The Area Of The 375 ϕ Vit. Clay Pipes At The Forward Abutment. Any Portion Of The Pipes Which Are Damaged During Construction Shall Be Repaired Or Replaced At The Contractors Expense.
3. After All Construction Is Completed And All Concrete Has Cured, All Of The Exposed Faces Of The Remaining Abutment Wall Shall Be Sealed With An *Epoxy-Urethane Sealer* Down To An Elevation Approximately 150mm Above The Low Water Elevation.

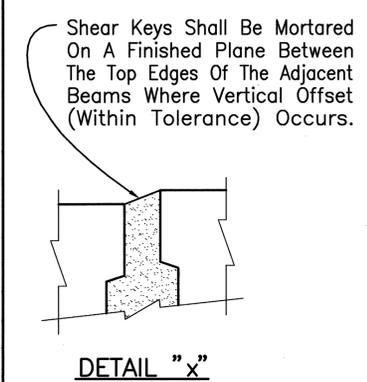
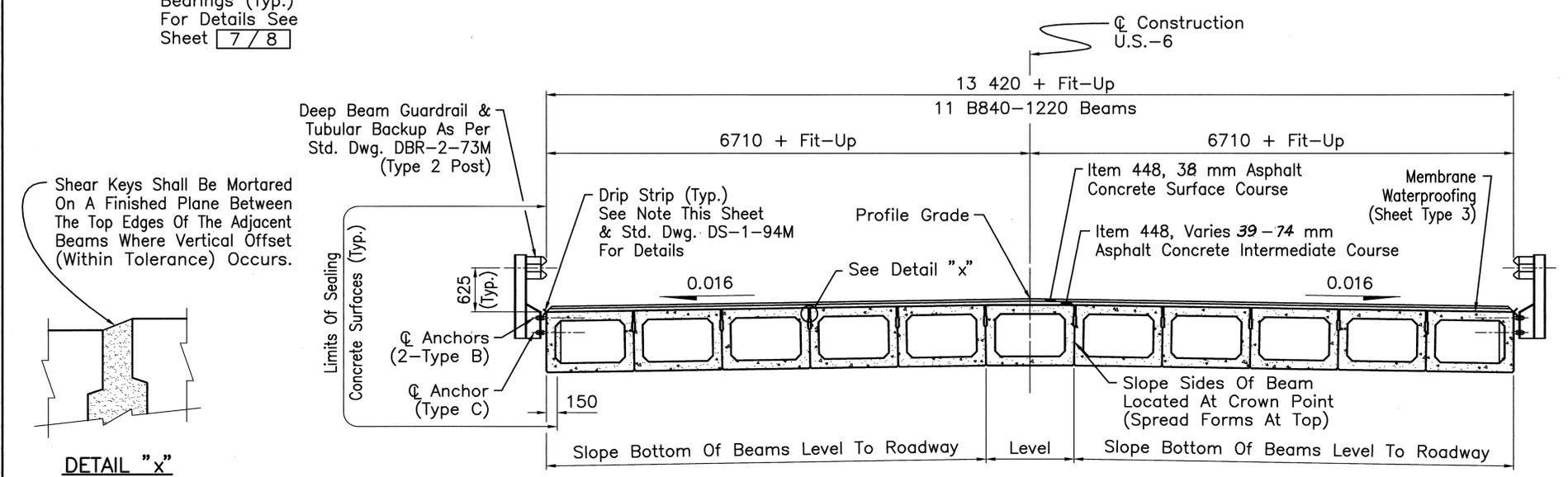
LEGEND:

Portions Of Abutment To Be Removed

DESIGN AGENCY MANNIK & SMITH, INC. CONSULTING ENGINEERS & SURVEYORS 1800 JEFFERSON ROAD, SUITE 100 MAUMEE, OHIO 43537	
DATE	9/98
REVIEWED	R.F.B.
DRAWN	J.P.M.
CALCULATED	J.P.M.
CHECKED	R.C.H.
STRUCTURE FILE NUMBER	2201542
EXISTING ABUTMENT REMOVAL & REHAB DETAILS ERI-6-07113 OVER COLD CREEK	
ERI-6-7.065	
5 / 8	
19 25	
OHDJ4	



- NOTES:**
- ASPHALT CONCRETE:** Asphalt Concrete Surface Course Shall Consist Of A Variable Thickness Item 448 (Type 1) And 38mm Uniform Thickness Item 448 (Type 1H). The 448 (Type 1) Shall Be Placed In Two Operations. The First Course Shall Be 32mm Uniform Thickness. The Second Course Shall Be Feathered To Place The Surface Parallel To, And 38 mm Below Final Surface Elevation.
 - CALCULATED CAMBER** At Time Of Paving, Including Allowance For Camber Growth Due To Creep Is 4.3mm. Calculated Deflection Due To Weight Of Surface Course And Railing Is 8mm. Net Final Camber Of Beams Is 35mm. This Is 35mm In Excess Of The Amount Required To Place The Top Of The Beam Parallel To Profile Grade. This Excess Amount Shall Be Compensated For By Thickening The 448 (Type 1) Leveling Course From 39 mm At Center Of Spans To 74 mm At Ends Of Spans.
 - STAINLESS STEEL DRIP STRIP:** Prior To Applying The Membrane Waterproofing, A Bent Drip Strip Shall Be Installed Along The Edges Of The Deck. An Additional 300mm Long Drip Strip Shall Be Installed Centered On Each Post. The Strips Shall Be Fastened At 450mm c/c Maximum With 32 x 3 mm Galvanized Or Stainless Button Head Spikes (Length x Shank Dia.) Or 3mm Galvanized Screws And Expansion Anchors, Subject To The Approval Of The Engineer. The Strips Shall Be Placed The Full Length Of The Deck, Ending At The Abutments. The Strips Shall Be 200mm Wide x 0.8mm Thick. Where Splices Are Required The Individual Pieces Shall Be Butted Together. Stainless Steel Shall Be ASTM A167, Type 304, Mill Finish. Payment Shall Be At The Contract Price Bid For Item Special, Meter, Steel Drip Strip, Which Shall Include All Materials, Labor, Tools, And Incidentals Necessary To Complete The Item.
 - For Prestress Box Beam Details See ODOT Std. Dwg. PSBD-1-93M.



DESIGN AGENCY	MANNIK & SMITH, INC. CONSULTING ENGINEERS & SURVEYORS 1800 INDIAN WOOD CIRCLE MAUMEE, OHIO 43537		
DATE	9/98	STRUCTURE FILE NUMBER	2201542
REVIEWED	R.F.B.	CHECKED	J.P.M.
DRAWN	R.C.H.	REVISOR	
CALCULATED	R.C.H.	CHECKED	J.P.M.
SUPERSTRUCTURE DETAILS			
ERI-6-07113 OVER COLD CREEK			
ERI-6-7.065			
6 / 8			
20 25			
OHDJ4			

H:\BRIDGE\OH\4\454\454A.dwg
 Date: 09/01/98
 Last Revision: 07/23/98
 Description: FINAL PLOTTING PLAN

ABUTMENT REINFORCEMENT

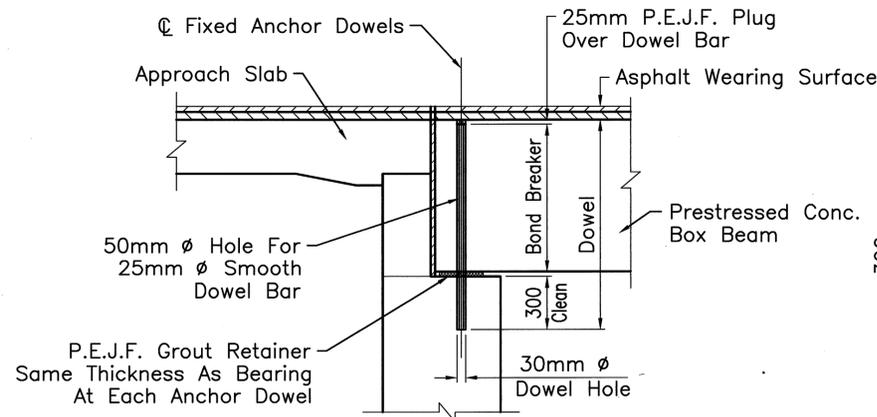
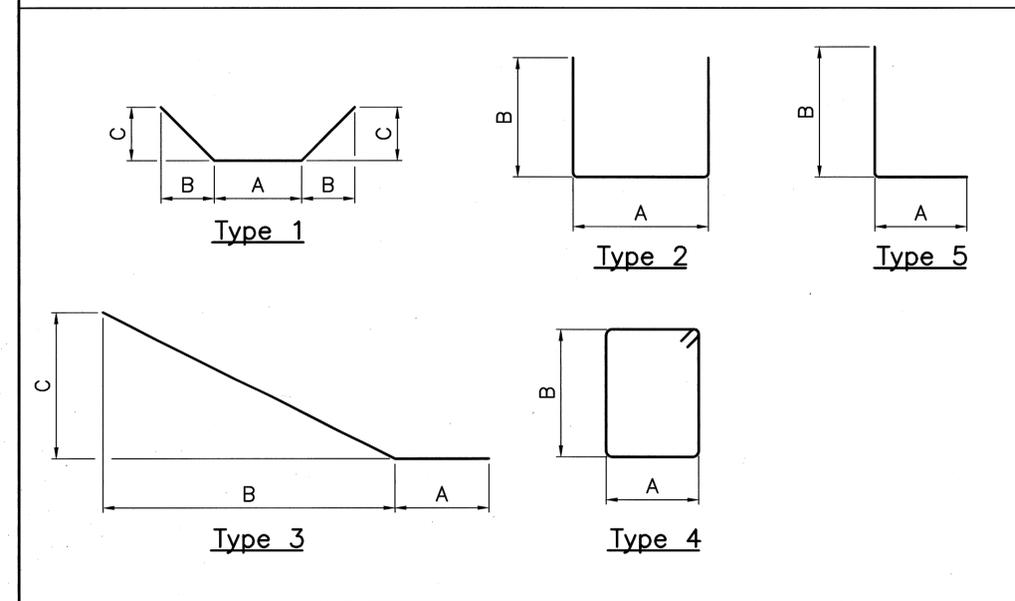
Mark	Number			Length	Type	a	b	c	Inc.	Mass [⊙] (kg)
	Rear	Forward	Total							
A13M01	16	16	32	2650	4	530	730			84
≠ A16M01	4	4	8	9950	Str.					124
≠ A16M02	4	4	8	8130	Str.					101
≠ A16M03	10	10	20	7650	Str.					237
≠ A16M04	10	10	20	5830	Str.					181
≠ A16M05	96	96	192	2120	2	800	700			632
≠ A16M06	14	14	28	2390	2	350	1060			104
≠ A16M07	34	34	68	2820	2	575	1160			298
≠ A16M08	12	12	24	2870	Str.					107
≠ A16M09	2 Ser. 5	2 Ser. 5	4 Ser. 5	1850 To 3250	2	350	790 To 1490		350	79
≠ A16M10	4	4	8	3470	2	350	1600			43
≠ A16M11	4	4	8	2410	3	540	1670	830		30
≠ A16M12	4	4	8	1880	Str.					23
≠ A16M13	4	4	8	1220	Str.					15
≠ A16M14	34	34	68	1820	2	575	640			192
(*) A16M15	138	140	278	525	5	300	250			227
A19M01	34	34	68	1180	2	175	500			179
A19M02	34	34	68	2360	2	175	1140			359
≠ A25M01		4	4	3840	Str.					61
≠ A25M02		16	16	2050	3	1200	580			130
≠ A25M03		4	4	5200	Str.					83
≠ A25M04		4	4	3930	Str.					62
≠ A25M05		4	4	3390	Str.					54
≠ A25M06	4		4	9950	Str.					158
≠ A25M07	4		4	8130	Str.					129
≠ A25M08	4	4	8	7650	Str.					243
≠ A25M09	4	4	8	5830	Str.					185
≠ A25M10	34	34	68	1340	1	500	305	305		362
≠ A25M11		8	8	1300	Str.					41
TOTAL:										4523

≠ Denotes Bars Which Utilize Mechanical Connectors

(*) Denotes Bars To Be Used In Cap On Existing Abutment Walls

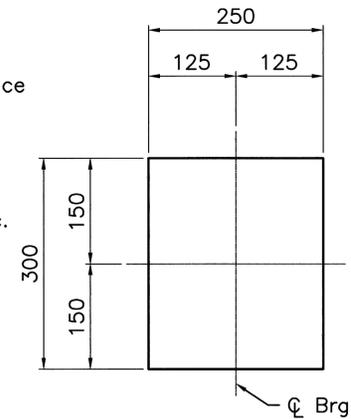
⊙ The Mass Of The Reinforcing Steel Is Shown For Informational Purposes Only

BENDING DIAGRAMS

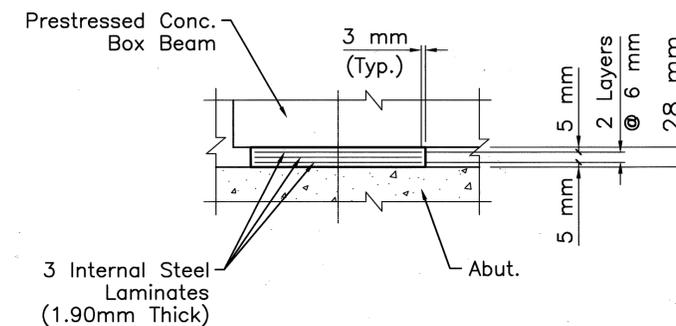


FIXED ANCHOR DOWEL DETAIL

PROCEDURE: Place Preformed Expansion Joint Filler. Drill And Clean Dowel Hole. Then Place Non-Shrinking Grout As Per Std. Dwg. PSBD-1-93M, Dowel Bar, And PEJF Plug.



PLAN



ELEVATION

LAMINATED ELASTOMERIC BEARING DETAIL

NOTES:

- ELASTOMERIC BEARINGS Shall Comply With 516 And Articles 18.2.5 Through 18.2.8 Of Section 18, Bearing Devices, Division II, Construction, Of The AASHTO, "STANDARD SPECIFICATION FOR HIGHWAY BRIDGES". Bearings Shall Be Grade 3, 50 Durometer Elastomer, And Shall Be Subjected To The Load Testing Requirements Corresponding To Design Method "A". Testing Shall Be Included In The Unit Price Bid For Item 516 - Elastomeric Bearing With Internal Laminate Only (Neoprene) (28mm x 250mm x 300mm), As Per Plan.

Bearings Have Been Designed For The Following Reactions:

Dead Load	-	100 kN
Live Load (Without Impact)	-	43 kN
Total	-	143 kN

- All Abutment Reinforcing Bars Shall Be Epoxy Coated.
- Reinforcing Dimensions Are Out To Out Unless Otherwise Indicated.

DESIGN AGENCY
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
10000 ROSSVILLE
MAYFIELD, OHIO 43537

DATE
9/98
REVIEWED
R.F.B.
STRUCTURE FILE NUMBER
2201542

DRAWN
R.C.H.
CHECKED
J.P.M.

ELASTOMERIC BEARING DETAILS & REINFORCEMENT SCHEDULE
ERI-6-07113
OVER COLD CREEK

ERI-6-7.065

7 / 8

21
25

OHDJ4

A:\BIDDING\07-06-98\07-06-98\ERI-6-7.065.dwg
 User: CAD Revision: 10/26/98
 Description: FINAL TRACKING PLOT

GENERAL NOTES FOR POLYMER MODIFIED ASPHALT EXPANSION JOINT

1. ITEM SPECIAL -- POLYMER-MODIFIED ASPHALT EXPANSION JOINT SYSTEM

THIS ITEM WILL BE USED TO SEAL THE EXPANSION/CONTRACTION JOINTS AS PER THESE DETAILS AND THE MANUFACTURER'S REQUIREMENTS USING A POLYMER-MODIFIED ASPHALT SYSTEM. THE PRIME CONTRACTOR WILL OBTAIN THE SERVICES OF ONE OF THE FOLLOWING APPROVED APPLICATORS WHO WILL FURNISH AND INSTALL THE NEW BRIDGE EXPANSION JOINT SYSTEM AFTER ALL PAVING ON THE AFFECTED BRIDGE(S) HAS BEEN COMPLETED.

D.S. BROWN COMPANY P.O. BOX 158 300 E. CHERRY ST. N. BALTIMORE, OH 45872-0158 TEL: 1-800-258-0162	LINEAR DYNAMICS, INC. RD #2 BOX 311 MUNCY, PA 17756 TEL: (717) 546-6041
---	--

HARRIS SPECIALTY CHEMICAL, INC. 10245 CENTURION PARKWAY, N. JACKSONVILLE, FL 32256 TEL: (904) 996-6000	INFRASTRUCTURE SYSTEMS, INC. 830 E. HIGGINS ROAD CHICAGO, IL 60173-4792 SUITE 111 M TEL: (708) 706-9230
---	---

2. MATERIALS:

BRIDGING PLATE:

MILD STEEL 3 mm OR 6 mm THICK PLATE, 200 mm WIDE OR 18 GAUGE (APPROX. 1.3 mm) ALUMINUM, 204 mm WIDE.

BINDER:

TYPE:	POLYMER MODIFIED ASPHALT
SOFTENING POINT:	180° F. MIN.
FLOW:	3 MM. MAX. AT 140 DEGREES F.
PENETRATION:	9 MM. MAX AT 77 DEGREES F. 1 MM. MAX AT 0 DEGREES F. ASTM D 3407
DUCTILITY:	40 CM. MIN. ASTM D 113
RESILIENCE:	60% MIN. AT 77 DEGREES F.
TENSILE ADHESION:	700% MIN.
SPECIFIC GRAVITY:	1:10± 0.05
POURING TEMP:	350-390 DEGREES F.

AGGREGATE:

TYPE: CRUSHED, DOUBLE WASHED, AND DRIED GRANITE OR BASALT

GRADATION: THE GRADATION OF THE AGGREGATE VARIES BY MANUFACTURER AND WILL BE AS PER THE MANUFACTURER'S RECOMMENDATIONS FOR THE SYSTEM BEING USED ON THIS PROJECT.

BACKER ROD:

THE BACKER ROD SHALL BE A CLOSED CELL FOAM EXPANSION JOINT FILLER CAPABLE OF WITHSTANDING THE PLACEMENT TEMPERATURE OF THE POLYMER MODIFIED ASPHALT.

3. INSTALLATION PROCEDURES:

SAWING AND SURFACE PREPARATION:

AFTER ALL PAVING OPERATIONS ARE COMPLETE, THE OVERLAY IS TO BE TRANSVERSELY SAW CUT FULL DEPTH NO LESS THAN 51 MILLIMETERS DEEP (508 mm CENTERED OVER JOINT OPENING, UNLESS OTHERWISE NOTED). REMOVE ALL MATERIAL, INCLUDING WATER-PROOFING MATERIAL, BETWEEN SAW CUTS. THOROUGHLY CLEAN AND DRY EXPOSED CONCRETE, STEEL, AND CUT SURFACES USING COMPRESSED AIR AND A HOT COMPRESSED AIR (HCA) LANCE. THE LANCE MUST PRODUCE A FLAME RETARDED AIR STREAM TEMPERATURE OF 1649 DEGREES C. AT A VELOCITY OF 914 METERS PER SECOND WITH 103.4 kPa GAGE CHAMBER PRESSURE. IF THERE IS AN INTERRUPTION DUE TO WEATHER OR OTHER CAUSES, THE OPERATION WILL BE REPEATED WITH THE HCA LANCE IMMEDIATELY BEFORE THE BINDER COAT OPERATION. ALSO, 152 mm OF THE ROAD SURFACE ON EITHER SIDE OF THE JOINT WILL BE DRIED SO THAT A SUITABLE SURFACE FOR BITUMEN ADHESION IS OBTAINED.

4. SEALING OF EXPANSION JOINT: (PRE-STRESSED BOX OR CONCRETE SLAB)

THE EXPANSION JOINT GAP IS TO BE SEALED AND A BRIDGING PLATE CENTERED ALONG IT. A VERY NARROW GAP WILL BE SEALED BY POURING HOT BINDER INTO THE GAP. GAPS OF 3 mm OR MORE WILL FIRST BE FILLED WITH AN APPROPRIATELY SIZED BACKER ROD. THE BACKER ROD WILL BE INSTALLED SO THAT IT IS BETWEEN 3 mm AND 30 mm BELOW THE TOP OF THE EXISTING GAP. THE GAP WILL THEN BE FILLED WITH BINDER.

5. BOND BREAKER:

SPREAD BINDER OVER SURFACE AREA WHERE THE METAL BRIDGING PLATE WILL BE PLACED. CENTER THE BRIDGING PLATE OVER THE EXISTING JOINT AND BED INTO THE HOT BINDER. BUTT JOINT THE BRIDGING PLATES TO ACCOMMODATE THE ENTIRE JOINT LENGTH. SPIKE HOLES WILL BE DRILLED AT 300 mm INTERVALS ALONG THE LONGITUDINAL CENTERLINE OF THE PLATES. SECURE BRIDGING PLATE WITH NAILS OR SPIKES. SEAL BUTT JOINTS WITH HOT BINDER AND ALLOW BINDER TO SETUP BEFORE NEXT OPERATION. WHEN ALUMINUM BRIDGING PLATES ARE USED, ONLY THE BINDER IS REQUIRED TO SECURE THE INDIVIDUAL PLATES.

6. BINDER COAT:

SEAL ALL PREPARED, EXPOSED SURFACES OF THE JOINT WITH BINDER, POUR THE HOT BINDER OVER THE FLOOR AREA OF THE JOINT AND SPREAD TO COAT ALL EXPOSED SURFACES. THE BINDER WILL BE A MINIMUM OF 1 mm THICK ON THE BOTTOM OF THE JOINT CAVITY, WITH POOLS OF GREATER THICKNESS WHERE SURFACE IRREGULARITIES EXIST. THE BINDER APPLICATION TEMPERATURE WILL BE BETWEEN 177 AND 199 DEGREES C. THE BINDER WILL NOT BE ALLOWED TO BE HEATED ABOVE 210 DEGREES C. NOR ALLOWED TO EXCEED 199 DEGREES C. FOR MORE THAN 1 HOUR. A DOUBLE JACKETED OIL MELTER WILL BE USED TO HEAT THE BINDER. THE MELTER WILL BE EQUIPPED WITH A CONTINUOUS AGITATION SYSTEM, TEMPERATURE CONTROLS, AND A CALIBRATED THERMOMETER. ALSO A SYSTEM FOR ACCURATELY MEASURING THE WEIGHTS OF THE BINDER AND THE AGGREGATE WILL BE REQUIRED.

7. BUILD-UP OF JOINT LAYERS:

AGGREGATE PREPARATION:

HEAT THE AGGREGATE TO A TEMPERATURE OF 135 TO 163 DEGREES C., WITH A SUITABLE ROTATING DRUM WITH ATTACHED HEAT SOURCE OR A HOT COMPRESSED AIR LANCE, TO REMOVE DUST AND MOISTURE.

AGGREGATE PROPORTION AND LAYER THICKNESS:

MIX THE AGGREGATE WITH THE BINDER SUCH THAT THE MINIMUM AGGREGATE CONTENT BY WEIGHT WILL BE 68%. THE HEATED AGGREGATE AND BINDER WILL BE COMBINED IN LAYERS NOT LESS THAN 13 MILLIMETERS NOR EXCEEDING 64 MILLIMETERS. THE THICKNESS OF EACH LAYER CAN BE VARIED, WITHIN THESE LIMITS, TO ACHIEVE THE REQUIRED JOINT THICKNESS (MINIMUM 51 mm). THE OBJECTIVE IS TO COAT EACH STONE AND FILL THE VOIDS WHILE AVOIDING AN EXCESS OF BINDER. THIS WILL ACHIEVE THE MAXIMUM CONTENT OF STONE CONSISTENT WITH ALL STONES BEING COATED WITH BINDER. RAKE THE MIXTURE TO MIX AND LEVEL.

THE TOP LAYER THICKNESS WILL VARY BETWEEN 13 mm AND 25 mm. IN PREPARING THE TOP LAYER, THE RATIO OF AGGREGATE TO BINDER WILL BE APPROXIMATELY 6:1 BY WEIGHT. OVERFILL THE TOP LAYER AND COMPACT TO THE LEVEL OF THE ADJACENT SURFACES USING A ROLLER OR VIBRATORY PLATE COMPACTOR. IMMEDIATELY AFTER COMPLETION OF THE COMPACTION, POUR SUFFICIENT BINDER OVER THE JOINT TO FILL THE SURFACE VOIDS AND COAT THE SURFACE STONE. DUST THE FINISHED JOINT WITH A FINE, DRY AGGREGATE TO PREVENT TACKINESS.

8. MAINTENANCE OF TRAFFIC:

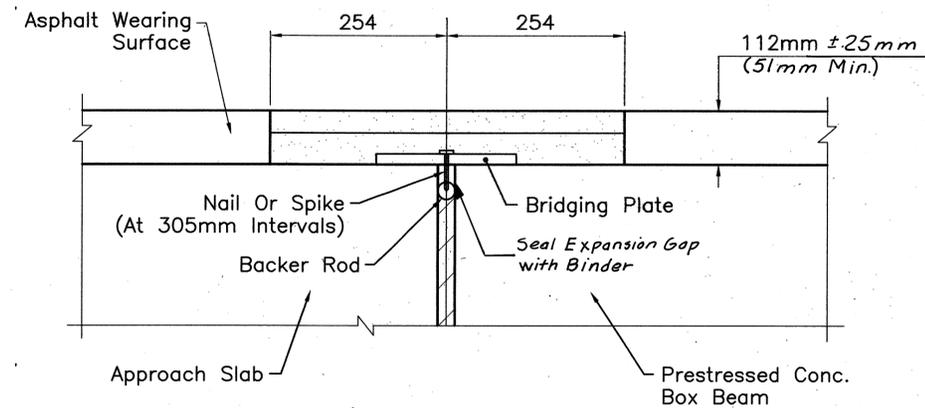
IF NECESSARY TO FACILITATE TRAFFIC MAINTENANCE, THE JOINT WILL BE INSTALLED IN TWO (2) HALF-WIDTH PHASES. DURING PHASE 1 APPROXIMATELY HALF OF THE TOTAL JOINT WILL BE INSTALLED. DURING PHASE 2, A MINIMUM OF 51 MILLIMETERS OF THE PHASE 1 JOINT WILL BE REMOVED, AT OR NEAR THE CENTERLINE, WITH THE REMAINDER OF THE JOINT INSTALLED. IN ALL CASES, OPERATIONS WILL BE SCHEDULED SO THAT ALL LANES CAN BE OPEN TO TRAFFIC DURING ALL NON-WORKING HOURS.

9. TESTING:

CERTIFICATION WILL BE SUPPLIED FOR EACH PROJECT SHOWING BINDER COMPLIANCE WITH REQUIRED PROPERTIES. A ONE LITER SAMPLE OF BINDER WILL BE RETRIEVED FROM EACH BRIDGE FOR FURTHER TESTING BY THE O.D.O.T. TESTING LABORATORY.

10. PAYMENT:

PAYMENT FOR ALL THE ABOVE WILL BE AT THE UNIT PRICE BID PER LINEAR METER OF SEALED JOINT IN PLACE FOR ITEM SPECIAL 516 31300, POLYMER MODIFIED ASPHALT EXPANSION JOINT SYSTEM (112 MILLIMETERS THICK). THIS WILL INCLUDE ALL LABOR, EQUIPMENT, MATERIALS, AND INCIDENTALS NECESSARY TO COMPLETE THE ABOVE WORK.



POLYMER MODIFIED ASPHALT EXPANSION JOINT

DESIGN AGENCY
MANNIK & SMITH, INC.
CONSULTING ENGINEERS & SURVEYORS
1800 INDIAN WOOD CIRCLE
MAUMEE, OHIO 43537

DATE
9/98
REVIEWED
R.F.B.
STRUCTURE FILE NUMBER
2201542

DRAWN
R.C.H.
REVISION
CALCULATED
R.C.H.
CHECKED
J.P.M.

POLYMER MODIFIED ASPHALT EXPANSION JOINT DETAILS

ERI-6-07113
OVER COLD CREEK

ERI-6-7.065

8 / 8

22
25



ERI-6-7.065 (4.39)
ANNEXATION NORTH OF SECTION 2, MARGARETTA TOWNSHIP,
OLD TOWN PLAT OF VENICE
CITY OF SANDUSKY, ERIE COUNTY, OHIO

Centerline Monuments Are To Be Set During Construction At The Following Stations At A Tolerance Of ±0.02 Feet.

Location	Station To Or At	Adjustable Monument
U.S. 6	7+010.000	1
U.S. 6	7+150.000	1
Totals		2

● Indicates Centerline Monument Location

LEGEND

- ◻ = CENTERLINE ADJUSTABLE MONUMENT TO BE SET
- = EXIST. O.D.O.T. R/W MONUMENT FOUND
- M = MEASURED
- P = PLAN

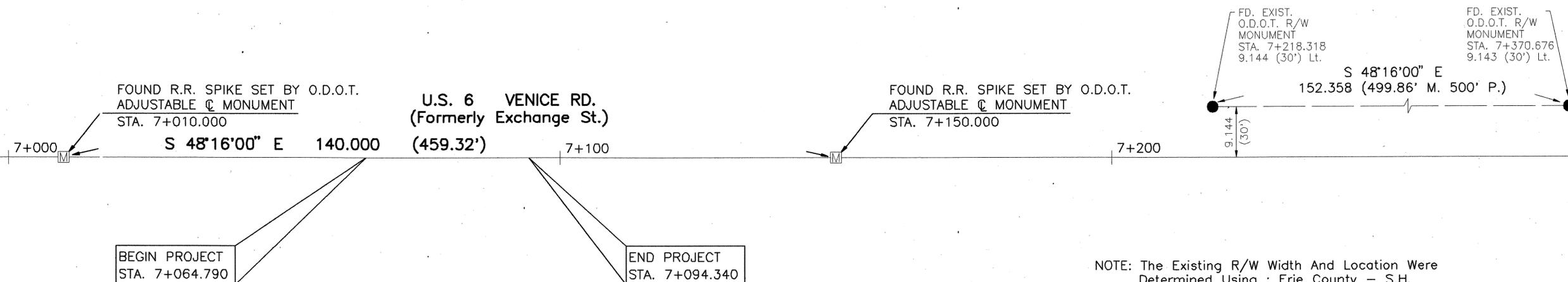
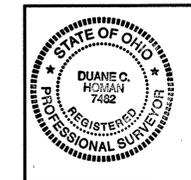
Centerline Monuments And Centerline Reference Monuments Are Shown On Standard Construction Drawing RM-1.1M (Rev. 4-8-97) Of The Ohio Department Of Transportation. The Placing Of The Monuments Shall Be Under The Direction Of A Registered Surveyor And Are To Be Set, As Shown, By The Highway Contractor At The Time Of Construction. Any Alterations, With Prior Approval Of The Ohio Department Of Transportation, Shall Be Noted And O.D.O.T. Shall Be Notified Of The New Locations.



PLD NO. 13355

I Hereby Certify That This Plat Made By Mannik And Smith Is A True Delineation Of A Survey By The Department Of Transportation In 1996.

Duane C. Homan 12/96
Duane C. Homan No. 7482 Date



NOTE: The Existing R/W Width And Location Were Determined Using : Erie County - S.H. (I.C.H.) No. 22 - Sec. A.1, Dated 1931.

BASIS FOR BEARINGS

All Bearings Shown Are For Project Use Only. The Bearing Of S 48°16'00" E For The Centerline Of State Route 6 Is Taken From Existing Plan Erie County - S.H. (I.C.H.) No. 22 - Sec. A.1, Dated 1931.

RECEIVED	_____, 19
RECORDED	_____, 19
BOOK	_____, PAGE
COUNTY RECORDER	

CENTERLINE PLAT

ERI-6-7.065 (4.39)

1 / 3

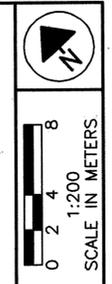
23
25

OHDJ4

H:\ROADWAY\OHIO\OHIO\ARCP
 AutoCAD Plot Scale (Meters) 1:400
 Last Revision By: LUK
 Date: 11/17/98
 Description: FINAL TACKLING



Annexation North of Section 2 in Margaretta Township



PID NO. 13355

RIGHT OF WAY PLAN STA. 6+695 TO STA. 7+120

ERI-6-7.065 (4.39)

3 / 3

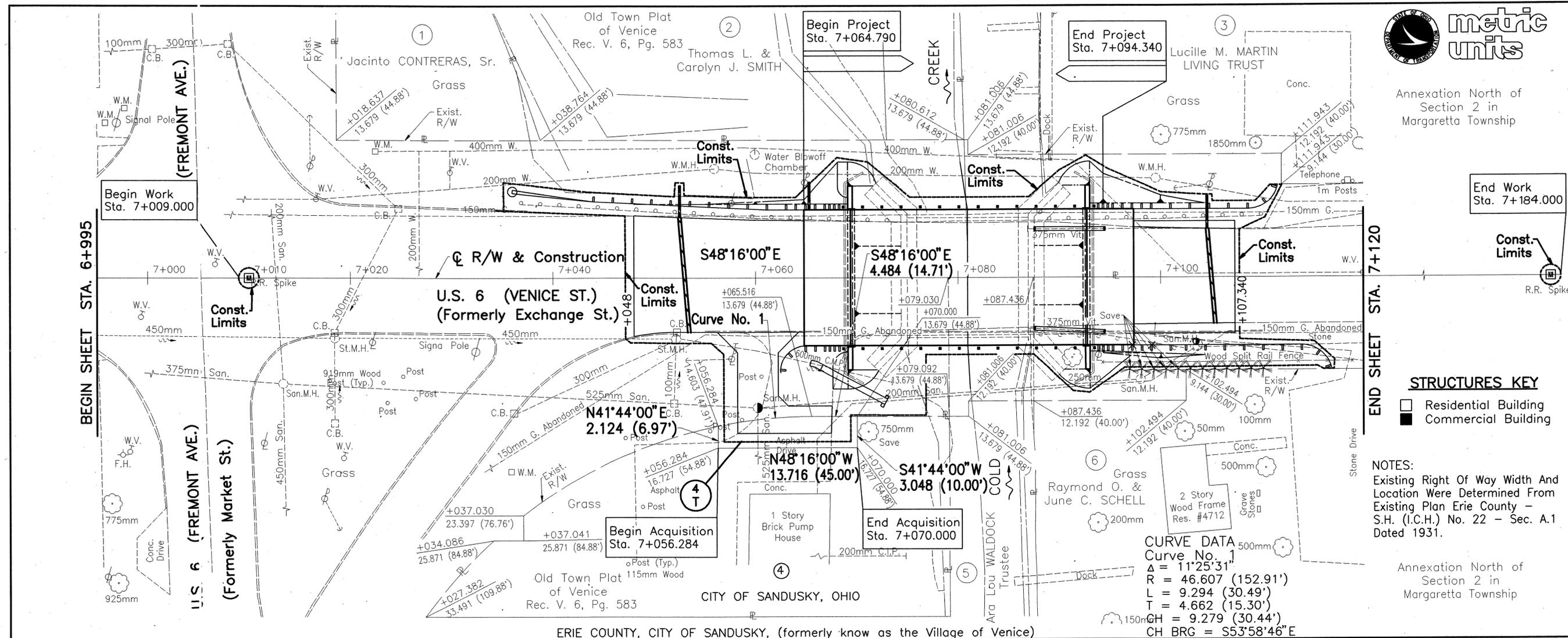
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25

3 / 3

25

OHJ4



STRUCTURES KEY
 □ Residential Building
 ■ Commercial Building

NOTES:
 Existing Right Of Way Width And Location Were Determined From Existing Plan Erie County - S.H. (I.C.H.) No. 22 - Sec. A.1 Dated 1931.

Annexation North of Section 2 in Margaretta Township

CURVE DATA
 Curve No. 1
 $\Delta = 11^{\circ}25'31''$
 $R = 46.607 (152.91')$
 $L = 9.294 (30.49')$
 $T = 4.662 (15.30')$
 $CH BRG = S53^{\circ}58'46''E$

ERIE COUNTY, CITY OF SANDUSKY, (formerly know as the Village of Venice)

- 1 Ownerships
- 0 Total Takes
- 0 Ownerships With Structures Involved
- 0 Ownerships With "P" Items

SUMMARY OF ADDITIONAL RIGHT OF WAY

Parcel No.	Type Funds	Property Owners	Recorded		Deed Area	Total P.R.O.	Gross Take	P.R.O. Take	Net Take	Net Residue		Bldg.	Perm. Parcel No.	Remarks And Personality	As Acquired	
			Volume	Page						Left	Right				Book	Page
1	STATE	Jacinto CONTRERAS, Sr.	443	74	0.047 (0.117 Ac.)	0.0 (0.0 Ac.)						N	60-00062-000 60-00063-000	NO RIGHT OF WAY REQUIRED		
2	STATE	Thomas L. & Carolyn J. SMITH	503 550	197 85	0.851 (2.102 Ac.)	0.0 (0.0 Ac.)						N	*	NO RIGHT OF WAY REQUIRED		
3	STATE	Lucille M. MARTIN LIVING TRUST	O.R. 167	925	3.571 (8.824 Ac.)	0.096 (0.238 Ac.)						N	**	NO RIGHT OF WAY REQUIRED		
4T	STATE	CITY OF SANDUSKY, OHIO	426	885	0.083 (0.204 Ac.)	0.0 (0.0 Ac.)	39 m ² (420 SF)	---	39 m ² (420 SF)			N	NO RECORD	CONSTRUCT DRIVE APPROACH		
5	STATE	Ara Lou WALDOCK, Trustee	O.R. 505	48	6.016 (14.868 Ac.)	0.025 (0.062 Ac.)						N	***	NO RIGHT OF WAY REQUIRED		
6	STATE	Raymond O. & June C. SCHELL	492	912	0.340 (0.84 Ac.)	0.048 (0.119 Ac.)						N	60-00619-000	NO RIGHT OF WAY REQUIRED		

GRANTEE: All Right Of Way Acquired In The Name Of STATE OF OHIO Unless Otherwise Shown.
 All Areas In Square Meters
 State Job No. _____

- * Parcel No.'s
 60-00271-000
 60-00272-000 0.125 (0.31 Ac.)
 60-00273-000
 60-00274-000
 60-00275-000
 60-00276-000
 60-00277-000
 60-00278-000
 60-00279-000
 60-00280-000
 60-00281-000
 60-00282-000
 60-00366-000 0.109 (0.27 Ac.)
- *** Parcel No.'s
 60-00105-000 3.573 (8.829 Ac.)
 60-00618.002 0.295 (0.729 Ac.)
 60-00618.003 0.367 (0.908 Ac.)
 60-00618.004 0.296 (0.731 Ac.)
 60-00624.004 0.372 (0.918 Ac.)
 60-00624.005 0.195 (0.483 Ac.)
 60-00624.006 0.198 (0.490 Ac.)
 60-00624.007 0.204 (0.505 Ac.)
 60-00624.008 0.244 (0.604 Ac.)
 60-00624.009 0.272 (0.671 Ac.)
- ** Parcel No.'s
 60-00007-000 0.104 (0.257 Ac.)
 60-00074-000 0.104 (0.257 Ac.)
 60-00185-000 0.115 (0.284 Ac.)
 60-00248-000 0.830 (2.05 Ac.)
 60-00249-000 0.104 (0.257 Ac.)
 60-00250-000 0.104 (0.257 Ac.)
 60-00251-000 0.334 (0.826 Ac.)
 60-00252-000 0.372 (0.918 Ac.)
 60-00253-000 0.104 (0.257 Ac.)
 60-00696-000 1.260 (3.113 Ac.)

NOTE: Under No Circumstances Are Temporary Easements Acquired For The Purpose Of Structure Removal To Be Used For Storage Of Material Or Equipment By The Contractor. Upon Completion Of The Work Required For Such Removal And Subsequent Reclamation, The Easement Shall Be Vacated Immediately.

**ERIE COUNTY
 CITY OF SANDUSKY
 (formerly Village of Venice)**

NOTES: All Temporary Parcels To Be Of 18 Months Duration.
 Unless Specified Otherwise, Areas Are Stated In Hectares With English Equivalents In (Acres)
 1 Hectare = 2.471044 Acres
 * Denotes Right Of Way Encroachment.

Rev. No.	Date	Description
1	11-4-98	Rev end work sta.
2		
3		

HYDROWAY OHIO/ARCA
 AutoCAD 2000
 Scale: 1" = 100'
 Last Revision: 11/1/98
 Description: FINAL PLANNING

LEGEND FOR PROJECT AVERAGE RESULTS OF TEST 7 SAMPLES TESTED

DESCRIPTION	H.R.B. CLASS	OHIO CLASS	% AGG.	% C.SAND	% F.SAND	% SILT	% CLAY	LIQUID LIMIT	PLASTICITY INDEX	WATER CONTENT	SAMPLES TESTED
SILT AND CLAY	A-6a	A-6a(7)	2	9	19	36	34	29	12	16	3
SILTY CLAY	A-6b	A-6b(11)	1	9	7	41	42	38	17	24	1
CLAY	A-7-6	A-7-6(15)	0	7	7	37	49	51	24	39	3
GRAVEL AND/OR STONE FRAGMENTS WITH SAND											VISUAL CLASSIFICATION
RANDOM FILL											VISUAL CLASSIFICATION
LIMESTONE											VISUAL CLASSIFICATION
ASPHALT											VISUAL CLASSIFICATION

NOTE:

- ALL AVAILABLE SOIL AND BEDROCK INFORMATION WHICH CAN BE CONVENIENTLY SHOWN ON THE SOIL PROFILE FOUNDATION INVESTIGATION SHEETS HAS BEEN SO REPORTED. ADDITIONAL SUBSURFACE INVESTIGATION, SOIL TESTS, AND BEDROCK BORINGS MAY HAVE BEEN MADE TO STUDY SOME SPECIAL ASPECT OF THE PROJECT. COPIES OF THIS DATA, IF ANY, MAY BE INSPECTED IN DISTRICT ONE, THE OFFICE OF MATERIAL MANAGEMENT AT 1600 WEST BROAD STREET, THE PAVEMENT AND SOILS SECTION OF THE OFFICE OF ROADWAY ENGINEERING OR IN THE OFFICE OF STRUCTURAL ENGINEERING AT 25 SOUTH FRONT STREET.
- INFORMATION SHOWN BY THIS SUBGRADE PROFILE WAS OBTAINED SOLELY FOR USE IN ESTABLISHING DESIGN CONTROLS FOR THE PROJECT. THE STATE OF OHIO DOES NOT GUARANTEE THE ACCURACY OF THIS DATA AND IT IS NOT TO BE CONSTRUED AS PART OF THE PLANS GOVERNING CONSTRUCTION OF THE PROJECT.
- FIGURES BESIDE BORINGS INDICATE WATER CONTENT IN PERCENT e.g. 15
- DRIVE SAMPLE AND/OR CORE BORING PLOTTED TO VERTICAL SCALE ONLY
- EXPLORATORY BORINGS WERE DRILLED ON 2/6/97 USING HOLLOW STEM AUGERS AND ROCK CORING.
- BORING LOCATIONS AND ELEVATIONS WERE PROVIDED BY THE CLIENT.
- THESE LOGS ARE SUBJECT TO THE LIMITATIONS, CONCLUSIONS AND RECOMMENDATIONS IN THIS REPORT.

SOIL SAMPLERS

STANDARD PENETRATION TEST (UNITS ARE BLOWS/MILLIMETERS)

ROCK CORE

- NR - NO RECOVERY
- W - FREE WATER
- ▼ - STATIC WATER
- ↑ - AUGER REFUSAL

NUMBERS OF BLOWS FOR 'STANDARD PENETRATION' TEST.
 X = NUMBERS OF BLOWS FOR FIRST 150 MILLIMETERS
 Y = NUMBER OF BLOWS FOR SECOND 150 MILLIMETERS
 Z = NUMBER OF BLOWS FOR THIRD 150 MILLIMETERS

DRIVE SAMPLE AND/OR CORE BORING - PLAN VIEW

ERI-6-7.065

SITE GEOLOGY

THE STRUCTURE IS LOCATED IN A LAKE DEPOSIT AREA OF NORTHERN OHIO. THE SOIL DEPOSITS GENERALLY CONSIST OF TOLEDO-FULTON SILTY CLAY TO CLAY LOAMS OVERLYING COLUMBUS AND DELAWARE LIMESTONES AND SHALES ASSOCIATED WITH DEVONIAN AGE.

EXPLORATION

TWO TEST BORINGS, DESIGNATED AS B-1 AND B-2, HAVE BEEN MADE AS PART OF THIS INVESTIGATION. THE TEST BORINGS WERE DRILLED ON FEBRUARY 6, 1997. THE LOCATIONS OF THE TEST BORINGS WERE DETERMINED IN THE FIELD BY TOLTEST PERSONNEL. THE TEST BORINGS LOCATIONS ARE SHOWN ON THE FOLLOWING STRUCTURE FOUNDATION INVESTIGATION PLANS.

THE TEST BORINGS WERE DRILLED WITH A TRUCK MOUNTED DRILLING RIG UTILIZING 95 MILLIMETER DIAMETER HOLLOW STEM AUGERS AND ROCK CORING TECHNIQUES TO DEPTHS OF 11.0 TO 11.6 METERS BELOW THE EXISTING GROUND SURFACE.

WITHIN THE TEST BORINGS, SOIL SAMPLES WERE GENERALLY OBTAINED AT 0.75 METER INTERVALS. THE SOIL SAMPLES WERE SECURED BY DRIVING A FIFTY MILLIMETER OUTSIDE DIAMETER SPLIT-SPOON SAMPLER INTO THE SOILS USING A 63.5-KILOGRAM WEIGHT FALLING FREELY THROUGH A DISTANCE OF 0.75 METERS. THE NUMBER OF BLOWS REQUIRED TO DRIVE THE SAMPLER FOR EACH OF THREE SUCCESSIVE 150 MILLIMETER INCREMENTS WAS RECORDED AND IS PRESENTED ON THE INDIVIDUAL LOGS OF TEST BORING. THE NUMBER OF BLOWS REQUIRED TO ADVANCE THE SAMPLER FOR THE LAST 300 MILLIMETERS IS TERMED THE STANDARD PENETRATION RESISTANCE (N). SOIL SAMPLES RECOVERED ARE DESIGNATED AS "SS" ON THE TABULATION OF TEST DATA SHEETS. THE SAMPLES WERE SEALED IN JAR CONTAINERS AND TRANSPORTED TO OUR LABORATORY FOR FURTHER CLASSIFICATION AND TESTING. SELECTED SAMPLES WERE TESTED FOR NATURAL MOISTURE CONTENT, IN-PLACE DRY DENSITY, PARTICLE SIZE ANALYSIS, AND ATTERBERG LIMITS (LIQUID AND PLASTIC LIMITS) TESTS.

REPRESENTATIVE SAMPLES OF THE SUBSURFACE ROCK AT THE SITE WERE OBTAINED USING A DIAMOND TIPPED CORE BARREL. A 3.0 METER ROCK CORE WAS EXTRACTED FROM BORINGS B-1 AND B-2. RECOVERY OF THE SAMPLES ARE EXPRESSED AS THE PERCENTAGE RATIO OF THE SAMPLE RECOVERED TO THE TOTAL LENGTH OF THE RUN. THE ROCK QUALITY DESIGNATION (RQD) IS THE PERCENTAGE RATIO OF THE LENGTH OF ROCK PIECES GREATER THAN 100 MILLIMETERS LONG TO THE TOTAL LENGTH OF THE RUN. THE ROCK CORE SAMPLES ARE DESIGNATED AS "RC" ON THE BORING LOGS.

IN ADDITION, THE BORING LOGS PRESENT INFORMATION RELATING TO SAMPLE DATA, STANDARD PENETRATION TEST RESULTS, WATER CONDITIONS OBSERVED IN THE BORING, PERSONNEL INVOLVED, AND OTHER PERTINENT DATA.

INVESTIGATION AND FINDINGS

BASED ON THE INFORMATION DEVELOPED DURING THE COURSE OF THIS INVESTIGATION, IT APPEARS THE SUBSURFACE CONDITIONS ENCOUNTERED BENEATH THE EXISTING PAVEMENT SECTION GENERALLY CONSISTS OF COHESIVE SOILS TO 8.5 METERS IN B-1 AND 9.0 METERS IN B-2. THE BORINGS TERMINATED IN BEDROCK AT 11.6 AND 12.0 METERS.

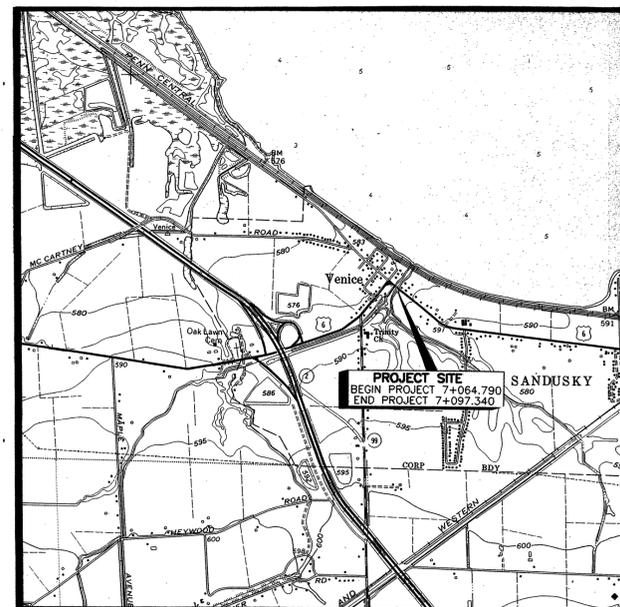
TWO BORINGS, DESIGNATED AS B-1 AND B-2, WERE DRILLED NEAR THE EXISTING BRIDGE ABUTMENTS FOR BRIDGE NO. ERI-6-07.081. BOTH BORINGS WERE DRILLED DOWN TO THE UNDERLYING LIMESTONE AT A DEPTH OF 8.5 METERS IN BORING B-1 AND AT A DEPTH OF 8.0 METERS IN B-2. BORING B-1 WAS DRILLED IN THE WEST BOUND LANE OF CLEVELAND ROAD, 6.7 METERS WEST OF THE BRIDGE ABUTMENT AND 1.2 METERS SOUTH OF THE EDGE OF PAVEMENT. BORING B-2 WAS DRILLED IN THE EAST BOUND LANE OF CLEVELAND ROAD, 7.3 METERS EAST OF THE BRIDGE ABUTMENT AND 1.5 METERS SOUTH OF THE EDGE OF PAVEMENT. THE STRATIGRAPHY ENCOUNTERED IN EACH OF THE TEST BORINGS CAN BE DESCRIBED AS FOLLOWS:

UNDERLYING THE PAVEMENT SECTION OF 102 MILLIMETERS (MM) OF ASPHALT OVER 203 MM OF CONCRETE IN BORING B-1, FILL MATERIALS CONSISTING OF STIFF SILT AND CLAY UNDERLAIN BY LOOSE SAND AND CRUSHED STONE WAS ENCOUNTERED TO 2.6 METERS. SOFT SILT AND CLAY WITH SOME SAND AND A LITTLE ORGANICS UNDERLAD THE FILL AND EXTENDED TO 3.4 METERS. SOFT TO MEDIUM STIFF CLAY TO SILTY CLAY EXTENDED FROM 3.4 TO 8.5 METERS. A ROCK CORE, FROM 8.5 TO 11.6 METERS, WAS THEN EXTRACTED FROM THE UNDERLYING ROCK REVEALING OCCASIONALLY FRACTURED GRAY LIMESTONE WITH A RECOVERY OF 100 PERCENT AND AN RQD VALUE OF 98 PERCENT.

BENEATH A PAVEMENT SECTION OF 152 MM OF ASPHALT IN BORING B-2, MEDIUM STIFF SILT AND CLAY FILL WAS NOTED TO A DEPTH OF 1.8 METERS. VERY SOFT TO STIFF SILT AND CLAY/CLAY/SILTY CLAY EXTENDED TO 8.0 METERS IN B-2. A ROCK CORE, FROM 8.0 TO 11.0 METERS WAS THEN EXTRACTED FROM THE UNDERLYING ROCK REVEALING LITTLE FRACTURED GREY LIMESTONE WITH A RECOVERY OF 80 PERCENT AND AN RQD VALUE OF 71 PERCENT.

GROUNDWATER WAS ENCOUNTERED IN BORING B-1 AT 6.4 METERS AND AT 0.2 METERS IN B-2 DURING THE DRILLING OPERATION. ON COMPLETION OF THE DRILLING OPERATION, GROUNDWATER WAS ENCOUNTERED AT 3.6 AND 1.0 METERS IN B-1 AND B-2, RESPECTIVELY. EXPERIENCE INDICATES THAT GROUNDWATER MOVEMENTS AND LEVELS WILL FLUCTUATE DUE TO SEASONAL INFLUENCES.

A SCOUR ANALYSIS HAS BEEN PERFORMED TO DETERMINE THE D50 SIZE OF THE PARTICLES ON SAMPLES TAKEN FROM BORING B-2 AT A DEPTH FROM ABOUT 4.6 METERS TO 7.6 METERS. THE D50 SIZE WAS FOUND TO BE APPROXIMATELY 0.0032 MM FROM A DEPTH OF 4.6 TO 5.2 METERS. FROM 5.2 TO 6.4 METERS, THE D50 SIZE WAS FOUND TO BE APPROXIMATELY 0.0075 MM, FROM 6.4 TO 7.0 METERS THE SIZE WAS FOUND TO BE APPROXIMATELY 0.023 MM, AND FROM 7.0 TO 7.6 METERS THE SIZE WAS FOUND TO BE APPROXIMATELY 0.018 MM.



PROJECT INDEX

FROM STATION	TO	PLAIN VIEW SHEET	PROFILE SHEET
7+064.790	7+097.340	2	2
STRUCTURE FOUNDATION INVESTIGATION			3

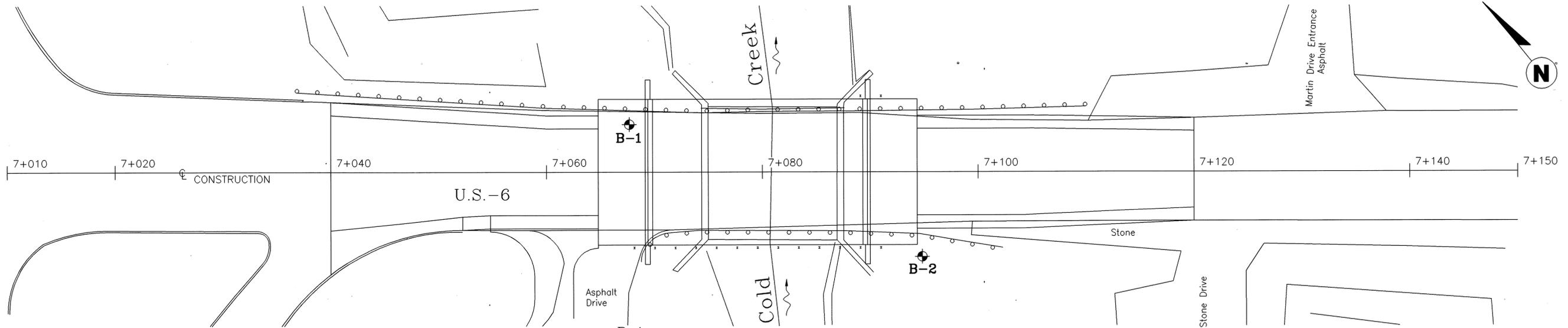
TOLTEST, INC.
 1915 N. 12th STREET
 TOLEDO, OHIO 43624

DRAWN BY: B.A.L.
 DATE: 2-27-97
 DRAWING NO.: 335511
 PROJECT NO.: 33551.01

STRUCTURE FOUNDATION INVESTIGATION
 BRIDGE NO. ERI-6-7.113 OVER COLD CREEK

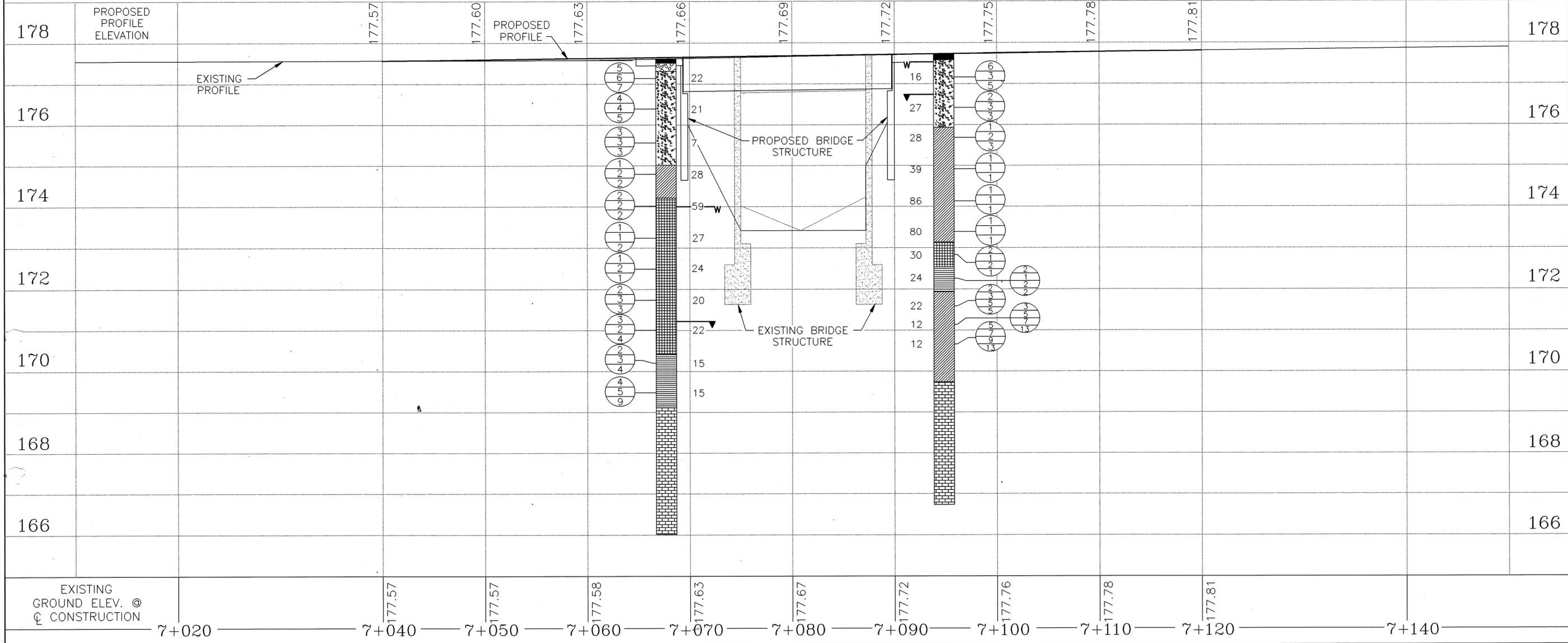
ERI-6-7.065

1/3



B-1
 STA 7+067.7
 LT 4.4m
 ELEV. 177.6m
 ASPHALT 102mm
 CONCRETE 203mm

B-2
 STA 7+094.8
 RT 7.8m
 ELEV. 177.7m
 ASPHALT 152mm



SCALE IN METERS
 HORIZONTAL
 0 2 4 8

PROJECT NO. 33551.01
 DRAWING NO. 335512
 DATE: 2-27-97
 B.A.L.
 DRAWN BY:

STRUCTURE FOUNDATION INVESTIGATION
 BRIDGE NO. ERI-6-7.113 OVER COLD CREEK

ERI-6-7.065



MOLES INC.
 1915 N. 12th STREET
 TOLEDO, OHIO 43624

LOG OF TEST BORING															
PROJECT: ODOT ERIE - 6 - 7.065										BORING NO. <u>B-1</u>					
LOCATION: SEE PLAN & PROFILE SHEET 2 OF 3										DATE: <u>2/6/97</u>					
DRILL METHOD: 3 3/4" HOLLOW STEM AUGERS										JOB #: <u>33551.01</u>					
ENCOUNTERED WATER DEPTH (m): <u>6.4 M</u>										ELEV.: <u>177.6m</u>					
DEPTH TO - WATER (m): _____										DRILLERS: <u>NW/GM</u>					
CAVING: _____										COMPLETION (m): <u>3.6 M</u>					
DATE CHECKED: _____															
DEPTH (m)	ELEVATION	SOIL DESCRIPTION	STRATA PLOT	SAMPLES			DENSITY (kg/m ³)	MOISTURE CONTENT %	GRAVEL %	C. SAND %	F. SAND %	SILT %	CLAY %	GROUP DESIGNATION INDEX	
				TYPE	BLOW COUNTS	NUMBER									N-VALUE
0	177.6	ASPHALT -101.6 mm													
	177.5	CONCRETE - 203.2 mm													
	177.3	FILL -Moist Grey Brown Stiff SILT and CLAY w/Little Sand and Trace Crushed Stone	5/6/7	SS-1	13	1531	22								
1		-w/Some Sand	4/4/5	SS-2	9	1507	21								
2		FILL -Damp Light Grey Loose SAND and CRUSHED STONE	3/3/3	SS-3	6		7								
3	175.0	Moist Brown Dark Grey Soft SILT and CLAY w/Some Sand and Little Organics (Peat and Roots)	1/2/2	SS-4	4	1394	28								
	174.2	Wet Soft Brown/Grey CLAY w/Some Sand and Silt, A-7-6 (17)	2/2/2	SS-5	4	1032	59	0	21	12	33	34	67	39	A-7-6(17)
4		Moist Grey Soft CLAY w/Silt and Trace Sand, A-7-6 (12)	1/1/2	SS-6	3	1531	27	0	0	3	43	54	41	22	A-7-6(12)
5		-Medium Stiff	1/2/1	SS-7	3	1511	24								
6		-w/Some Sand	2/3/3	SS-8	6	1661	20								
			3/2/4	SS-9	5	1791	22								
7	170.4	Moist Medium Stiff Brown/Grey SILTY CLAY w/Little Sand	2/3/4	SS-10	7	1842	15								
8			4/5/9	SS-11	14	1858	15								
9	169.1	Occasionally Fractured Grey LIMESTONE 3.0 M Run 100% Recovery 98% ROD													
10				RC-1											
11															
12	166.0	End of Borehole													

NOTES: Auger refusal at 8.4 M then 3.0 M of rock was cored.

LOG OF TEST BORING															
PROJECT: ODOT ERIE - 6 - 7.065										BORING NO. <u>B-2</u>					
LOCATION: SEE PLAN & PROFILE SHEET 2 OF 3										DATE: <u>2/6/97</u>					
DRILL METHOD: 3 3/4" HOLLOW STEM AUGERS										JOB #: <u>33551.01</u>					
ENCOUNTERED WATER DEPTH (m): <u>0.2 M</u>										ELEV.: <u>177.7m</u>					
DEPTH TO - WATER (m): _____										DRILLERS: <u>NW/GM</u>					
CAVING: _____										COMPLETION (m): <u>1.0 M</u>					
DATE CHECKED: _____															
DEPTH (m)	ELEVATION	SOIL DESCRIPTION	STRATA PLOT	SAMPLES			DENSITY (kg/m ³)	MOISTURE CONTENT %	GRAVEL %	C. SAND %	F. SAND %	SILT %	CLAY %	GROUP DESIGNATION INDEX	
				TYPE	BLOW COUNTS	NUMBER									N-VALUE
0	177.7	ASPHALT -152.4 mm													
	177.5	FILL -Moist Grey Brown Medium Stiff SILT and CLAY w/Little Sand	6/3/5	SS-1	8	1696	16								
1		-w/Trace Gravel	2/3/3	SS-2	6	1490	27								
2	175.9	Moist Brown Grey Medium Stiff SILT and CLAY w/Little Sand and Trace Gravel	1/2/3	SS-3	5	1471	28								
3		-Wet Very Soft w/Some Sand and Little Organics (Roots and Peat)	1/1/1	SS-4	2	1314	39								
			1/1/1	SS-5	2	798	86								
4			1/1/1	SS-6	2	793	80								
5	173.1	Moist Grey Soft CLAY w/SILT and Trace Sand, A-7-6 (15)	2/1/2/1	SS-7	3	1410	30	0	1	6	33	60	46	24	A-7-6(15)
	172.5	Moist Grey Soft SILTY CLAY w/Trace Sand and Gravel, A-6b (11)	2/1/2/2	SS-8	3	1653	24	1	9	7	41	42	38	21	A-6b(11)
6	171.9	Moist Grey Medium Stiff SILT and CLAY w/Little Sand, A-6a (10)	2/3/5/5	SS-9	8	1632	22	0	0	16	42	42	32	19	A-6a(10)
		-Stiff w/Some Sand and Trace Gravel, A-6a (6)	3/5/7/1/3	SS-10	12	1780	12	6	15	18	33	28	27	16	A-6a(6)
7		-and Sand	5/7/9/1/3	SS-11	16	1905	12	0	11	23	33	30	28	11	A-6a(6)
8	169.7	Little Fractured Grey LIMESTONE 3.0 M Run 80% Recovery 71% ROD													
9															
10				RC-1											
11	166.7	End of Borehole													

NOTES: Auger refusal at 9.0 M then 3.0 M of rock was cored.