

S U M M A R Y

I T E M	UNIT	QUANTITY	SEGREGATION OF QUANTITIES	
			STATE	NH-18(8)
MOBILIZATION AND TRAFFIC CONTROL				
Mobilization	All	All	-	100%
On-The-Job Training	Hour	1,000	-	1,000
Temporary Protection and Direction of Traffic	All	All	-	100%
Temporary Signs	Sq. Ft.	1,321	-	1,321
Temporary Barricades	Each	35	-	35
Temporary Concrete Barrier, Reflectorized	Lin. Ft.	650	-	650
Temporary Flexible Pavement Markers	Each	20,000	-	20,000
Striping and Stripe Removal Mobilization	Each	3	-	3
Stripe Removal	Lin. Ft.	5,000	-	5,000
Sequential Arrow Signs	Each	1	-	1
Flaggers	Hour	5,040	-	5,040
ROADWORK				
Removal of Structures and Obstructions	All	All	-	100%
Clearing and Grubbing	All	All	-	100%
Embankment in Place	Cu. Yd.	41,675	-	41,675
Watering	M-Gal.	1,635	-	1,635
Finishing Roadbeds	All	All	-	100%
Obliterating Roadways	All	All	-	100%
Loose Riprap, Class 50	Cu. Yd.	40	-	40
Sta. 41+39 to 41+65 Lt.				
Gravity Retaining Wall	All	All	-	100%
Sta. 107+90 to 111+50 Lt. (Br. 17216)				
Retaining Walls	Sq. Ft.	6,460	-	6,460
DRAINAGE AND SEWERS				
Trench Excavation	Cu. Yd.	386	-	386
8-inch Drain Pipe	Lin. Ft.	370	-	370
18-inch Culvert Pipe	Lin. Ft.	64	-	64
24-inch Culvert Pipe	Lin. Ft.	62	-	62
36-inch Culvert Pipe	Lin. Ft.	150	-	150
12-inch Storm Sewer Pipe	Lin. Ft.	204	-	204
24-inch Storm Sewer Pipe	Lin. Ft.	50	-	50
18-inch Irrigation Pipe	Lin. Ft.	18	-	18
36-inch Irrigation Pipe	Lin. Ft.	396	-	396
18-Inch Canal Gate	Each	1	-	1
24-Inch Canal Gate	Each	1	-	1
Concrete Inlets, Type G-2	Each	5	-	5
Concrete Inlets, Type G-2, Modified	Each	6	-	6
Concrete Diversion Boxes	Each	1	-	1
Concrete Irrigation Boxes	Each	2	-	2
Trash Rack	Each	1	-	1
Adjusting Manholes	Each	1	-	1
Adjusting Boxes	Each	9	-	9
Drainage Curbs	Lin. Ft.	113	-	113

S U M M A R Y C O N T ' D.

I T E M	UNIT	QUANTITY	SEGREGATION OF QUANTITIES	
			STATE	NH-18(8)
BRIDGES				
Bridge No. 1628A				
Bridge Removal Work	All	All	-	100%
Shoring & Cribbing, Etc.	All	All	-	100%
Structure Excavation	Cu. Yd.	635	-	635
Furnish Pile Driving Equipment	All	All	-	100%
Furnish PP 12-3/4" X 0.281" Steel Pipe Piles	Lin. Ft.	400	-	400
Furnish PP 12-3/4" X 0.375" Steel Pipe Piles	Lin. Ft.	400	-	400
Drive PP 12-3/4" X 0.281" Steel Pipe Piles	Each	10	-	10
Drive PP 12-3/4" X 0.375" Steel Pipe Piles	Each	8	-	8
Steel Pile Splices Beyond Estimated Length	Each	4	-	4
Reinforcement	All	All	-	100%
Coated Reinforcement	All	All	-	100%
Structural Concrete, Class 3300	All	All	-	100%
Structural Concrete, Class 4000	All	All	-	100%
Reinforced Concrete Bridge End Panels	Sq. Yd.	418	-	418
Post-tensioning	All	All	-	100%
Class I Preparation	Sq. Yd.	490	-	490
Furnish Latex Modified Concrete	Cu. Yd.	39	-	39
Construct LMC Resurfacing	Sq. Yd.	490	-	490
Concrete Bridge Rail	Lin. Ft.	272	-	272
BASES				
Cold Plane Pavement Removal	Sq. Yd.	3,750	-	3,750
Plant Mix Aggregate Base	Ton	25,040	-	25,040
WEARING SURFACES				
Asphalt in Tack Coat	Ton	37	-	37
Standard Duty Class "B" Asphalt Concrete Mixture	Ton	28,590	-	28,590
Standard Duty Class "F" Asphalt Concrete Mixture	Ton	8,555	-	8,555
PBA-3 or PBA-6 Asphalt in Mixture	Ton	1,572	-	1,572
PBA-6 Asphalt in Mixture	Ton	470	-	470
Extra for Asphalt Approaches	Each	64	-	64
Concrete Curbs, Type "C"	Lin. Ft.	1,580	-	1,580
Concrete Driveways	Sq. Yd.	36	-	36
Concrete Walks	Sq. Yd.	860	-	860
PERMANENT TRAFFIC CONTROL AND GUIDANCE DEVICES				
Guard Rail, Type 2A	Lin. Ft.	1,100	-	1,100
Guard Rail, Type 3	Lin. Ft.	50	-	50
Guard Rail Anchors, Type I	Each	6	-	6
Guard Rail End Pieces, Type C	Each	6	-	6
Guard Rail Transition	Each	4	-	4
Guard Rail Bridge Connections	Each	2	-	2
Delineators, Type 1	Each	52	-	52
Delineators, Type 4	Each	18	-	18
Milepost Marker Posts	Each	2	-	2

UMATILLA - McNARY SECTION				SHEET NO. 2F
COLUMBIA RIVER HIGHWAY				
UMATILLA COUNTY				TOTAL SHEETS 36
FED. ROAD DIV. NO.	STATE	PROJECT NUMBER	FISCAL YEAR	
10	OREGON			

NOT REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11,245

/usr/Td4/setter/white/projects/00899r44.dsm 30-NOV-1995 09:58

PIPE DATA SHEET

UMATILLA - McNARY SECTION COLUMBIA RIVER HIGHWAY UMATILLA COUNTY				SHEET No. 2E
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			See Other

- GENERAL NOTES:**
- A check (U) indicates column heading applies.
 - A new pipe culvert installation shall be of like material throughout.
 - Extension of existing metal culverts may be of unlike metal or corrugations. For connecting details, standard drg. 209-B.
 - Dimensions shown are nominal.
 - All pipes shall conform to the AASHTO specification applicable for the type of material and the diameter of the pipe involved.

- FOOTNOTES:**
- Design height of cover shall be measured to subgrade.
 - Cross-sectional dimensions may vary with different materials. When galvanized iron or steel and aluminum are acceptable alternatives use a separate line for each type of material.
 - Cross-sectional shape of pipe normal to longitudinal axis, prior to loading.
R = Round
E = Elliptical (5% nominal elongation)
 - Minimum allowable diameter for Class I nonreinforced concrete pipe is 15 inches.

- ⑤ Abbreviations for protective coatings for metal pipe
- A = Type A asphalt coated
C = Type C asphalt coated with paved invert
D = Type D asphalt coated and tully lined
AP = Asbestos protected
U = Uncoated
CM = Chevron Industrial membrane
Ep = Epoxy coated
- ⑥ Abbreviations for existing pipe materials
- AB = Asbestos cement
AI = Corrugated aluminum
Co = Concrete
PI = Plastic
St = Corrugated steel
X = Other material, see remarks column

- Drg. Nos.**
- 2050 Manholes-Cast-In-Place.Covers
 - 2050A Manholes Precast
 - 2091 Slope Anchors
 - 2094 Pipe Backfill/Compaction, Mut. Inst. & Substr. Drn.
 - 2098 Coupling Band
 - 2105 Conc. Inlets (G & GG Series, Curb Inlet)
 - 2105A Conc. Inlets (Type M-E, M-O & B)
 - 2105B Conc. Inlets (Type CG-3)
 - 212 Sloped Ends, Metal
 - 2121 Sloped Ends, Conc.
 - 2123 Paved End Slope
 - 2132 Slotted Drains
 - 2137 Large Precast Manhole

GAGE	GALV. IRON & STEEL THICKNESS IN INCHES	
	STEEL	ALUMINUM
18	0.052	0.048
16	0.064	0.060
14	0.079	0.075
12	0.109	0.105
10	0.138	0.135
8	0.168	0.164

SHEET NUMBER NOTE NO. ON PLANS (Foot)	PIPE					PIPE - ARCH		USE / INSTALLATION CRITERIA										TERMINAL TREATMENT		ALTERNATE MATERIALS												APPURTENANCES					EXTENSION		REMARKS		
	CIRCULAR OR ELLIPTICAL					ANNULAR OR HELICAL		DRAIN (DEGRADED)	CULVERT ROAD APPROACH	CULVERT (LONGIT.)	CULVERT (TRANSVERSE)	SIPHOON	STORM SEWER	SANITARY SEWER	OTHERS (SEE REMARKS)	WATER TIGHT JOINTS	SLOPE ANCHORS	IMPERFECT TRENCH	PH	RESISTIVITY (HUNDREDS)	ANNULAR OR HELICAL CORRUGATED METAL AND STRUCTURAL PLATE						RIGID						MANHOLES			INLETS		LEFT		RIGHT	
	SIZE IN INCHES					LENGTH (Feet)	RIVETED OR LOCK SEAM														STRUCTURAL PLATE	ALUMINUM				ALUMINUM COATED OR GALVANIZED IRON AND STEEL		PRE-CAST CONCRETE		CONC.	CAST-IN-PLACE CONCRETE	CORRUGATED POLYETHYLENE	DEPTH, TOP OF COVER TO INVERT		DIAMETER OF LARGEST PIPE IN BASE	TYPE					
	LENGTH IN FEET																					SIZE (Inches)	PLATE	PLATE	PLATE	PLATE	PLATE	PLATE	PLATE				PLATE	PLATE		PLATE	PLATE				PLATE
4	1.0	56																																							
4	1.0	64																																							
5	1.0		50																																						
7																																									
14																																									
15	1.0	34																																							
15	1.0	50																																							
8	1.0		46																																						
10	0.5	26																																							
10	0.5	32																																							
13	1.0		16																																						
13	0.5	18																																							
13	0.5		114																																						
13	0.5		282																																						
14	2.0		30																																						
14	1.0		88																																						
16	0.5	38																																							

Conn. To Extg. Inlet
For Details, See Shr. 2B-5

/usr6/archive/144/200899/008991d4.pdf 30-NOV-1995 08:41

R008991d4.pdf (51268.spot) satterwh@spot. Thu Nov 30 09:09:25 PST 1995

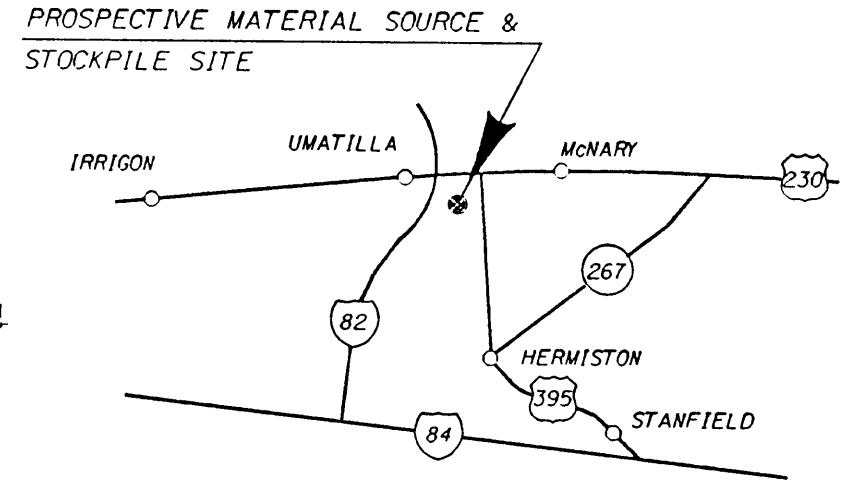
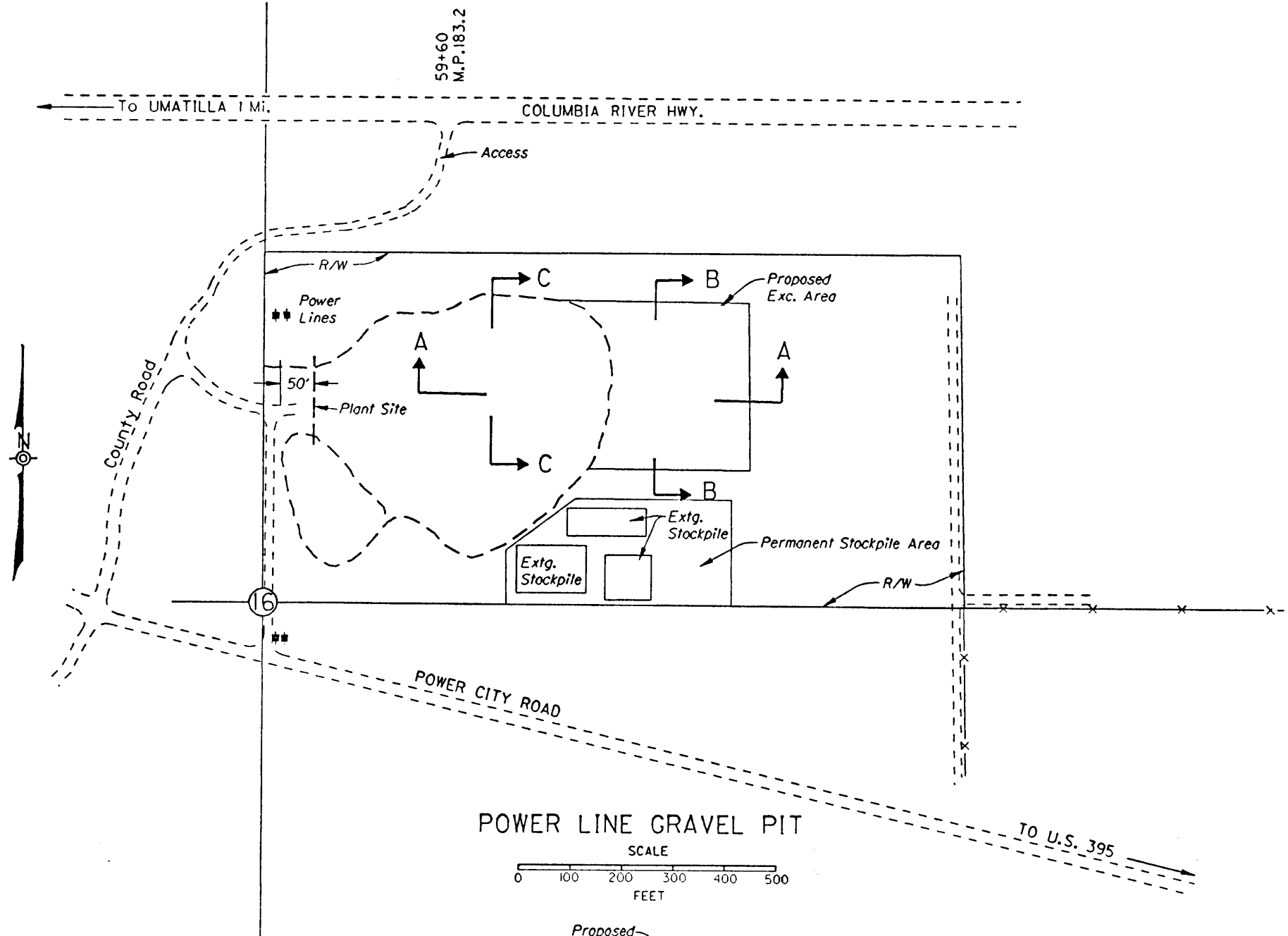
STOCKPILE SITE & PROSPECTIVE MATERIAL SOURCE 30-1-5 S¹/₂ SW¹/₄ NE¹/₄ SEC. 16, T.5N., R.28E., W.M.

UMATILLA - McNARY SECTION				SHEET No.
COLUMBIA RIVER HIGHWAY				2D
UMATILLA COUNTY				
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			10

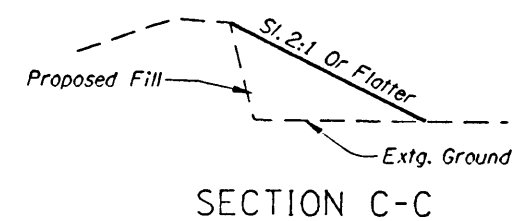
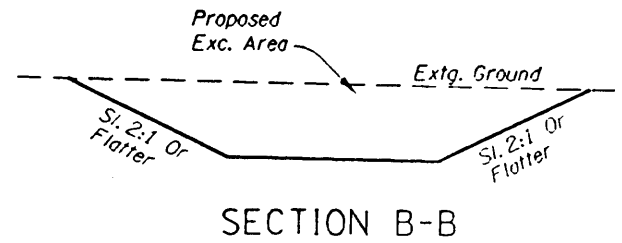
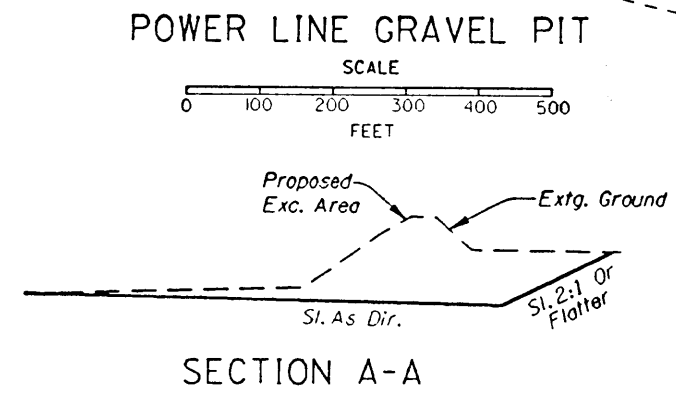
REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11,245

Map No. 1R-2-1686

/usr/1d/projects/00899f4.d12 30-NOV-1995 10:04



SKETCH MAP






STAGE VII

NOT REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11-245

24V-30

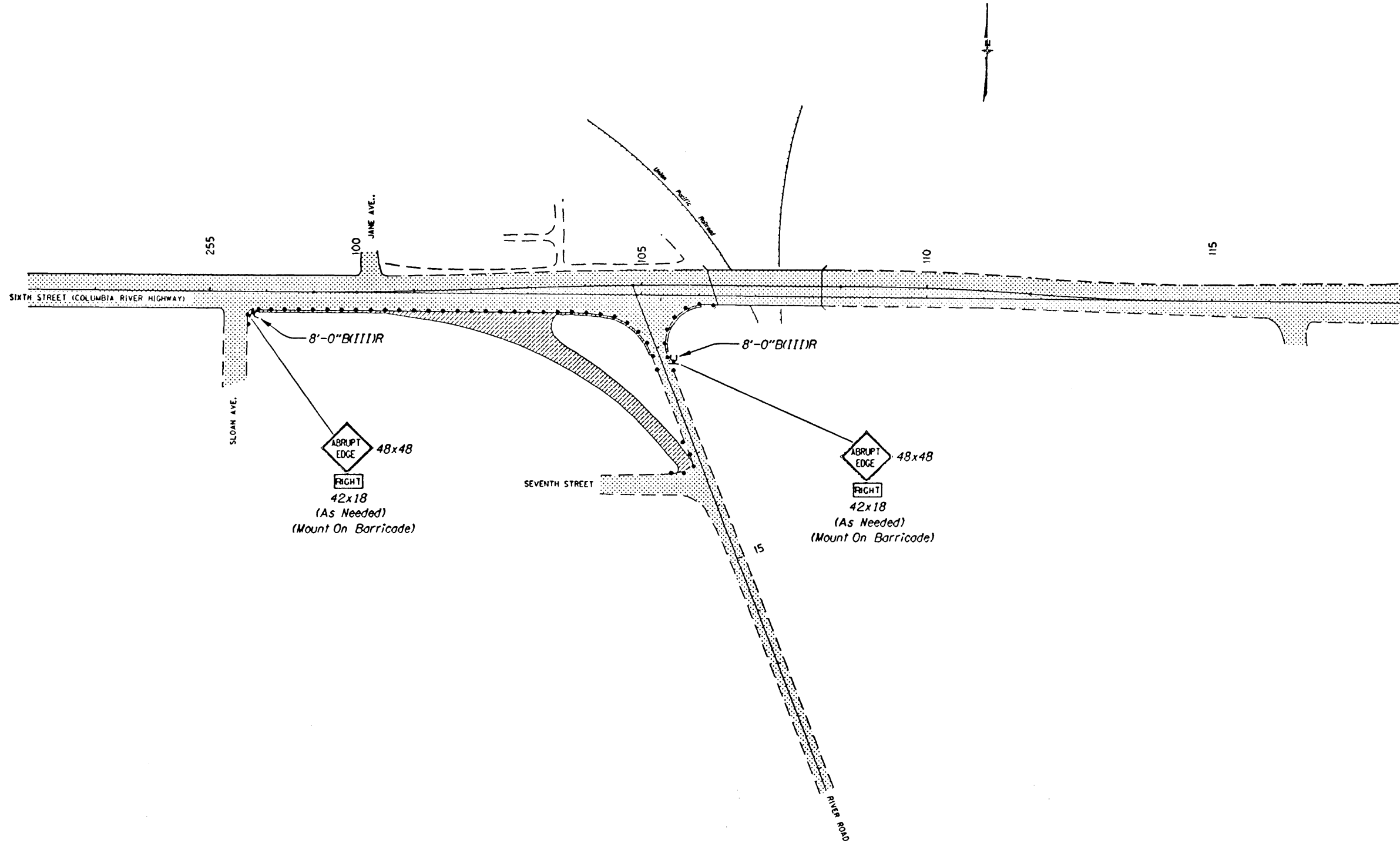
UMATILLA - McNARY SECTION COLUMBIA RIVER HIGHWAY UMATILLA COUNTY				SHEET No. 20-10
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			

STAGE CONSTRUCTION,
TEMPORARY PROTECTION
AND DIRECTION OF TRAFFIC

-  UNDER TRAFFIC
-  UNDER CONSTRUCTION
-  CONSTRUCTION UNDER TRAFFIC

28" Tubular Markers
On 25' Max. Spacing, Shown Thus:

Provide Access Across Work Areas
(As Directed)



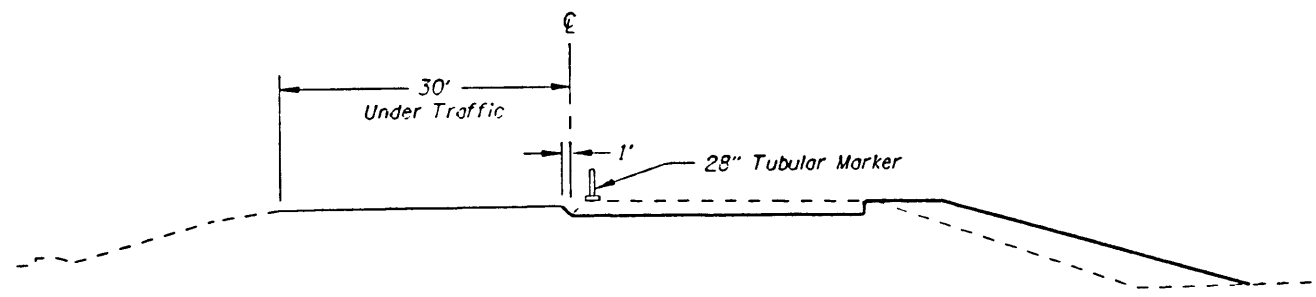
/usr6/archive/rd4/00899/00899r041.p3 30-NOV-1995 08:40

R:\0899\p3.L12(51267.spot) satterwh@spot. Thu Nov 30 09:08:42 PST 1995

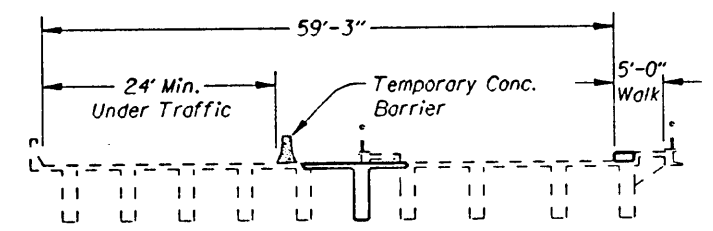
STAGE VI

NOT REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11.245

UMATILLA - McNARY SECTION				
COLUMBIA RIVER HIGHWAY				
UMATILLA COUNTY				
				SHEET NO. 2C-9
FED. ROAD DIV. NO.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			



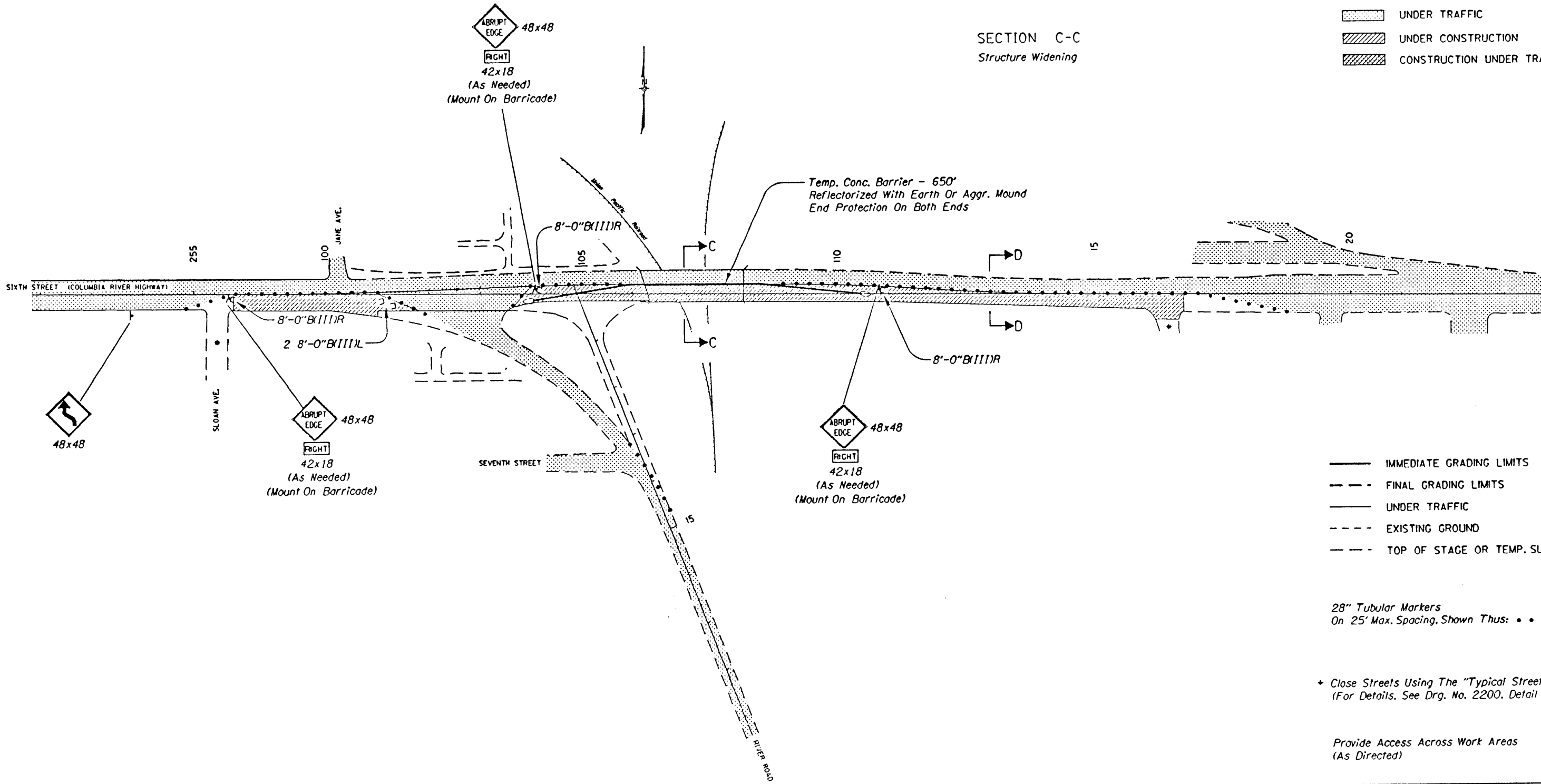
SECTION D-D



SECTION C-C
Structure Widening

STAGE CONSTRUCTION,
TEMPORARY PROTECTION
AND DIRECTION OF TRAFFIC

- UNDER TRAFFIC
- UNDER CONSTRUCTION
- CONSTRUCTION UNDER TRAFFIC



- IMMEDIATE GRADING LIMITS
- FINAL GRADING LIMITS
- UNDER TRAFFIC
- EXISTING GROUND
- TOP OF STAGE OR TEMP. SURFACING

28" Tubular Markers
On 25' Max. Spacing. Shown Thus:

+ Close Streets Using The "Typical Street Closure"
(For Details. See Drg. No. 2200. Detail "B")

Provide Access Across Work Areas
(As Directed)

/usr6/archive/1d4/00899/00899d41p3_30-NOV-1995_08:40

R00899j1p3K12(51266.spot) satterwh@spot. Thu Nov 30 09:07:57 PST 1995




STAGE V

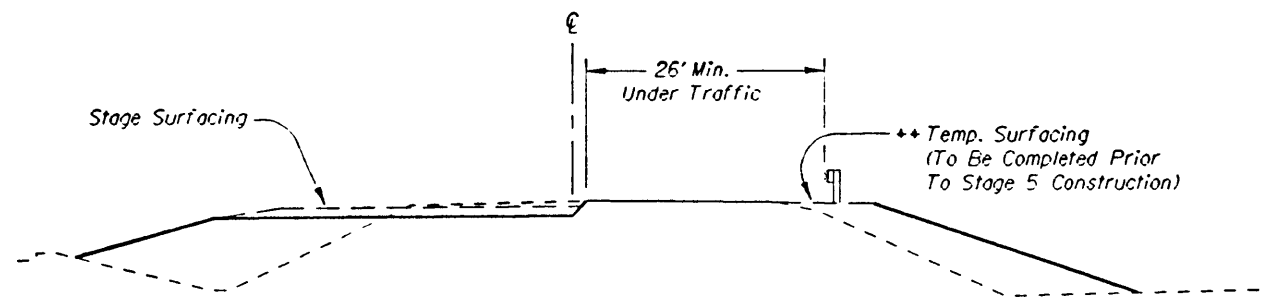
NOT REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11,245

24V-30

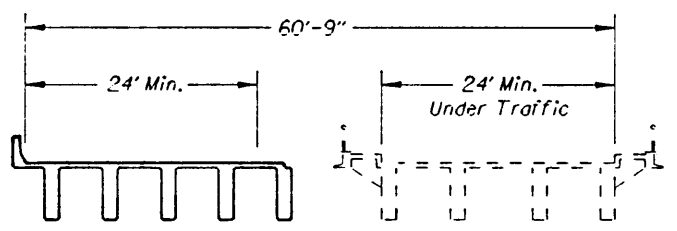
UMATILLA - McNARY SECTION				SHEET NO. 20-8
COLUMBIA RIVER HIGHWAY				
UMATILLA COUNTY				TOTAL SHEETS
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	
10	OREGON			

STAGE CONSTRUCTION,
TEMPORARY PROTECTION
AND DIRECTION OF TRAFFIC

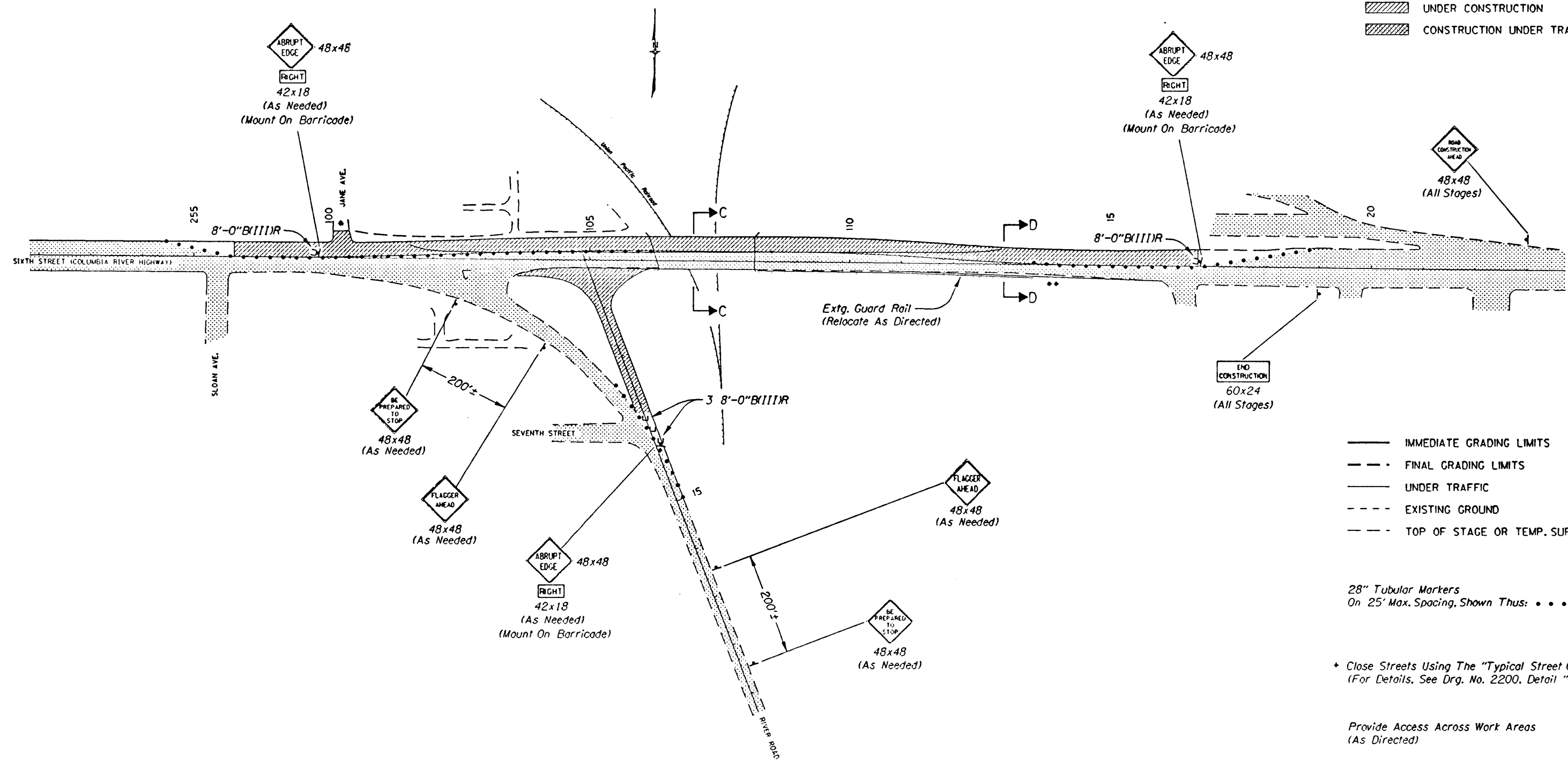
-  UNDER TRAFFIC
-  UNDER CONSTRUCTION
-  CONSTRUCTION UNDER TRAFFIC








SECTION D-D



SECTION C-C
Structure Widening



-  IMMEDIATE GRADING LIMITS
-  FINAL GRADING LIMITS
-  UNDER TRAFFIC
-  EXISTING GROUND
-  TOP OF STAGE OR TEMP. SURFACING

28" Tubular Markers
On 25' Max. Spacing, Shown Thus:

* Close Streets Using The "Typical Street Closure"
(For Details, See Drg. No. 2200, Detail "B")

Provide Access Across Work Areas
(As Directed)

/usr6/archive/7d4/00899/00899d41.p3 30-NOV-1995 08:39




R:\00899\ip3\K11(51265.spot) satterwher.spot. Thu Nov 30 09:07:12 PST 1995

STAGE IV

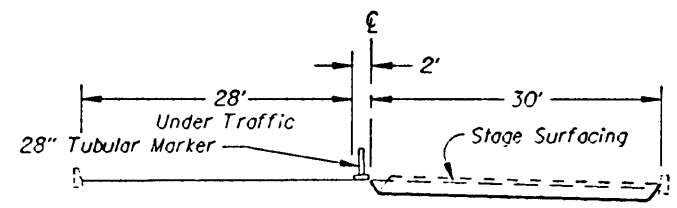
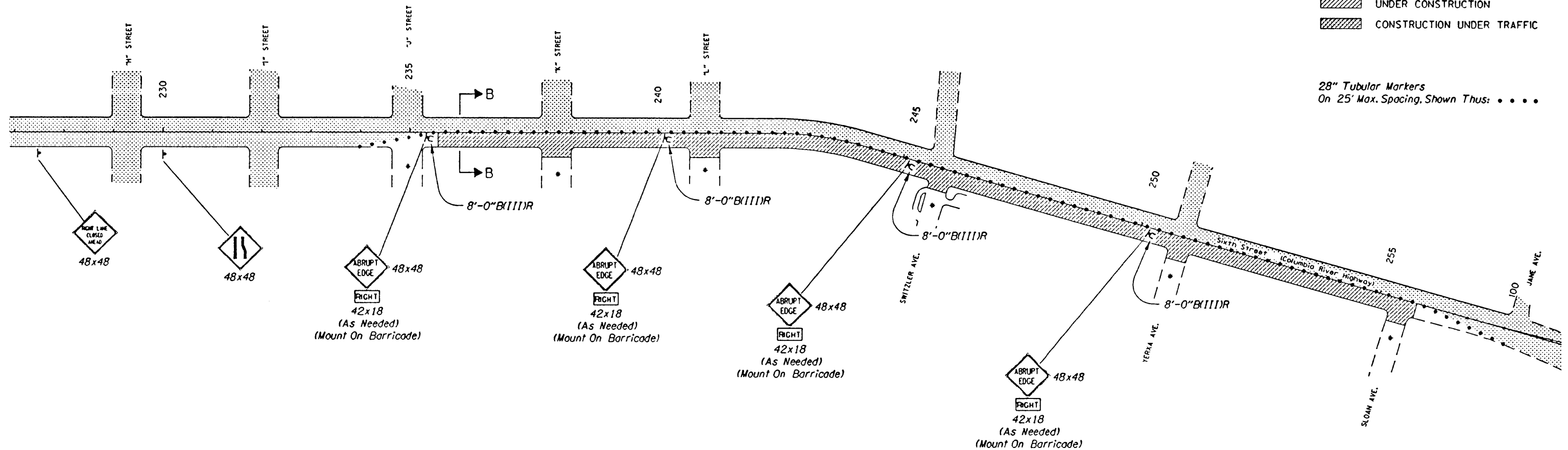
NOT REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11.245

24V-30				SHEET No. 2C-7
UMATILLA - McNARY SECTION COLUMBIA RIVER HIGHWAY UMATILLA COUNTY				
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			






STAGE CONSTRUCTION,
TEMPORARY PROTECTION
AND DIRECTION OF TRAFFIC

-  UNDER TRAFFIC
-  UNDER CONSTRUCTION
-  CONSTRUCTION UNDER TRAFFIC

28" Tubular Markers
On 25' Max. Spacing, Shown Thus:



SECTION B-B

-  IMMEDIATE GRADING LIMITS
-  FINAL GRADING LIMITS
-  UNDER TRAFFIC
-  EXISTING GROUND
-  TOP OF STAGE OR TEMP. SURFACING

* Close Streets Using The "Typical Street Closure"
(For Details, See Drg. No. 2200, Detail "B")

Provide Access Across Work Areas
(As Directed)

/usr6/archive/1d4/00899/00899r04.p2_30-NOV-1995_08:39

R:\00899\1d4\00899r04.p2_30-NOV-1995_08:39 Thu Nov 30 09:06:28 PST 1995




STAGE III

NOT REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11,245

24V-90

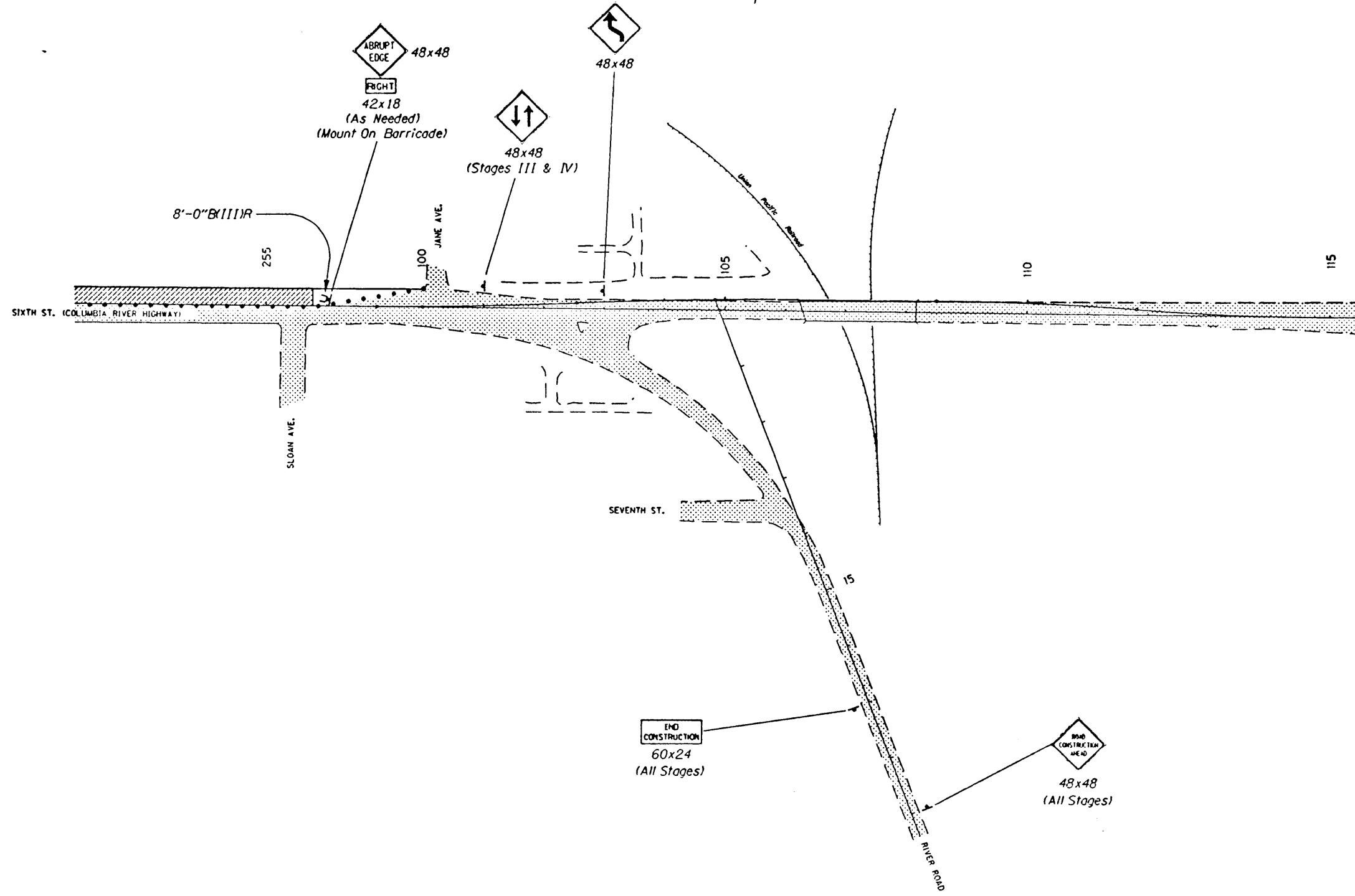
UMATILLA - McNARY SECTION COLUMBIA RIVER HIGHWAY UMATILLA COUNTY				SHEET NO. 20-6
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			

STAGE CONSTRUCTION,
TEMPORARY PROTECTION
AND DIRECTION OF TRAFFIC

-  UNDER TRAFFIC
-  UNDER CONSTRUCTION
-  CONSTRUCTION UNDER TRAFFIC

28" Tubular Markers
On 25' Max. Spacing, Shown Thus:

Provide Access Across Work Areas
(As Directed)



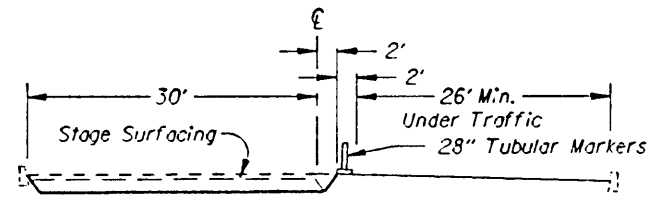
/usr6/archiver/144/00899/00899r/4.1p2 30-NOV-1995 08:36

STAGE III

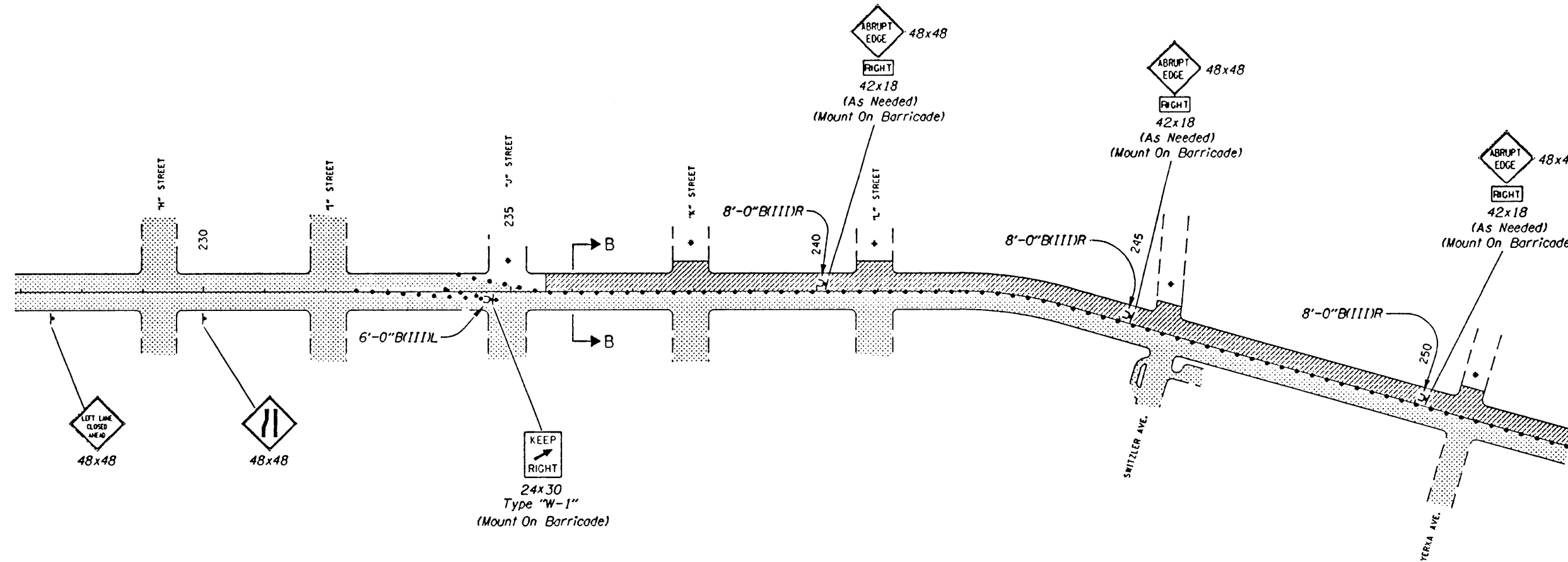
NOT REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11,245

24V-30

UMATILLA - McNARY SECTION				SHEET NO.
COLUMBIA RIVER HIGHWAY				2C-5
UMATILLA COUNTY				TOTAL SHEETS
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	
10	OREGON			



SECTION B-B



STAGE CONSTRUCTION,
TEMPORARY PROTECTION
AND DIRECTION OF TRAFFIC

- UNDER TRAFFIC
- UNDER CONSTRUCTION
- CONSTRUCTION UNDER TRAFFIC

28" Tubular Markers
On 25' Max. Spacing, Shown Thus:

- IMMEDIATE GRADING LIMITS
- FINAL GRADING LIMITS
- UNDER TRAFFIC
- EXISTING GROUND
- TOP OF STAGE OR TEMP. SURFACING

* Close Streets Using The "Typical Street Closure"
(For Details, See Drg. No. 2200, Detail "B")

Provide Access Across Work Areas
(As Directed)

I:\usr6\archive\144\00899\00899\44\1p2 30-NOV-1995 08:36

R00899\cftp-2\K6(5)1262.spot) sattenwh@spot. Thu Nov 30 09:05:02 PST 1995




STAGE II

NOT REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11-245

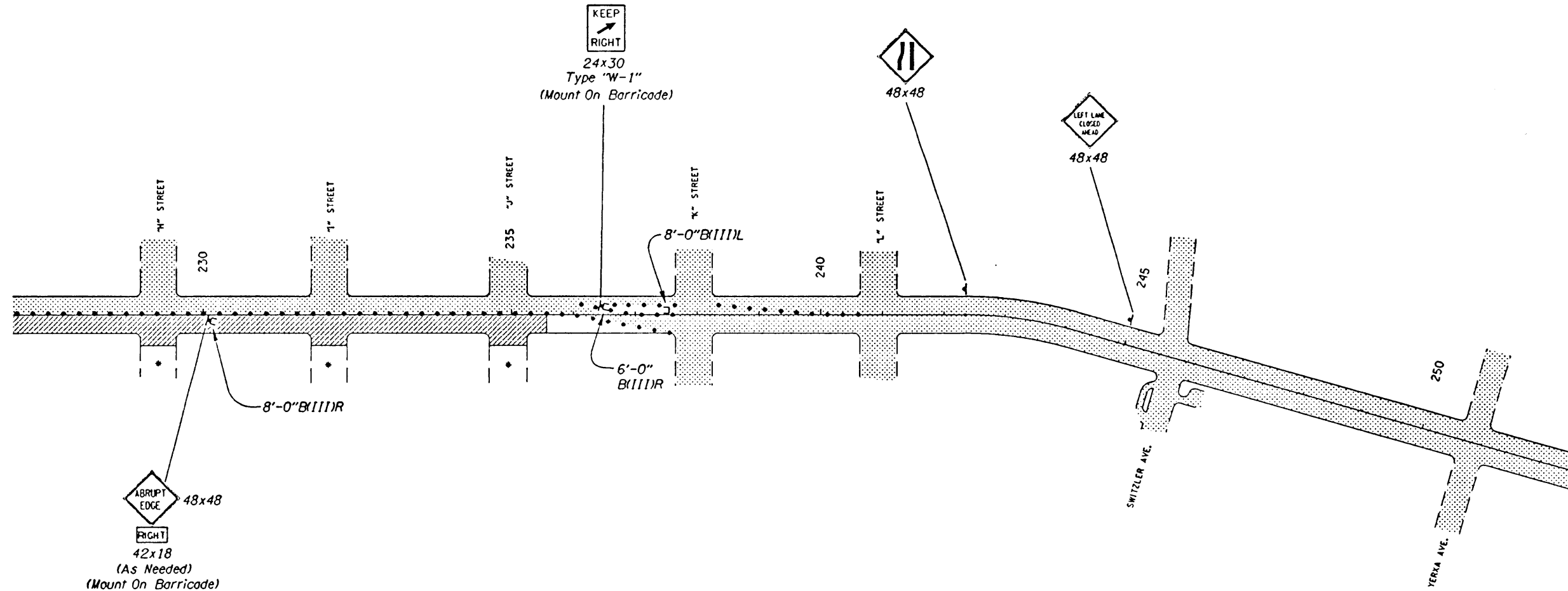
24V-50

UMATILLA - McNARY SECTION				SHEET NO.
COLUMBIA RIVER HIGHWAY				2C-4
UMATILLA COUNTY				
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			

STAGE CONSTRUCTION,
TEMPORARY PROTECTION
AND DIRECTION OF TRAFFIC

-  UNDER TRAFFIC
-  UNDER CONSTRUCTION
-  CONSTRUCTION UNDER TRAFFIC

28" Tubular Markers
On 25' Max. Spacing, Shown Thus:



* Close Streets Using The "Typical Street Closure"
(For Details, See Drg. No. 2200, Detail "B")

Provide Access Across Work Areas
(As Directed)

/usr6/archive/td4/00899/00899td4.plt 30-NOV-1995 08:35

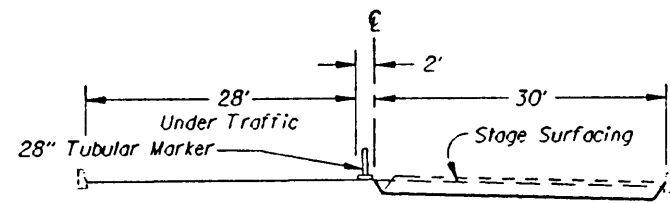
R:\00899\tdp1L2(51261.spx) sutterwh@spot. Thu Nov 30 09:04:20 PST 1995

STAGE II

NOT REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11-245

24V-30

UMATILLA - McNARY SECTION COLUMBIA RIVER HIGHWAY UMATILLA COUNTY				SHEET NO. 20-3
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			

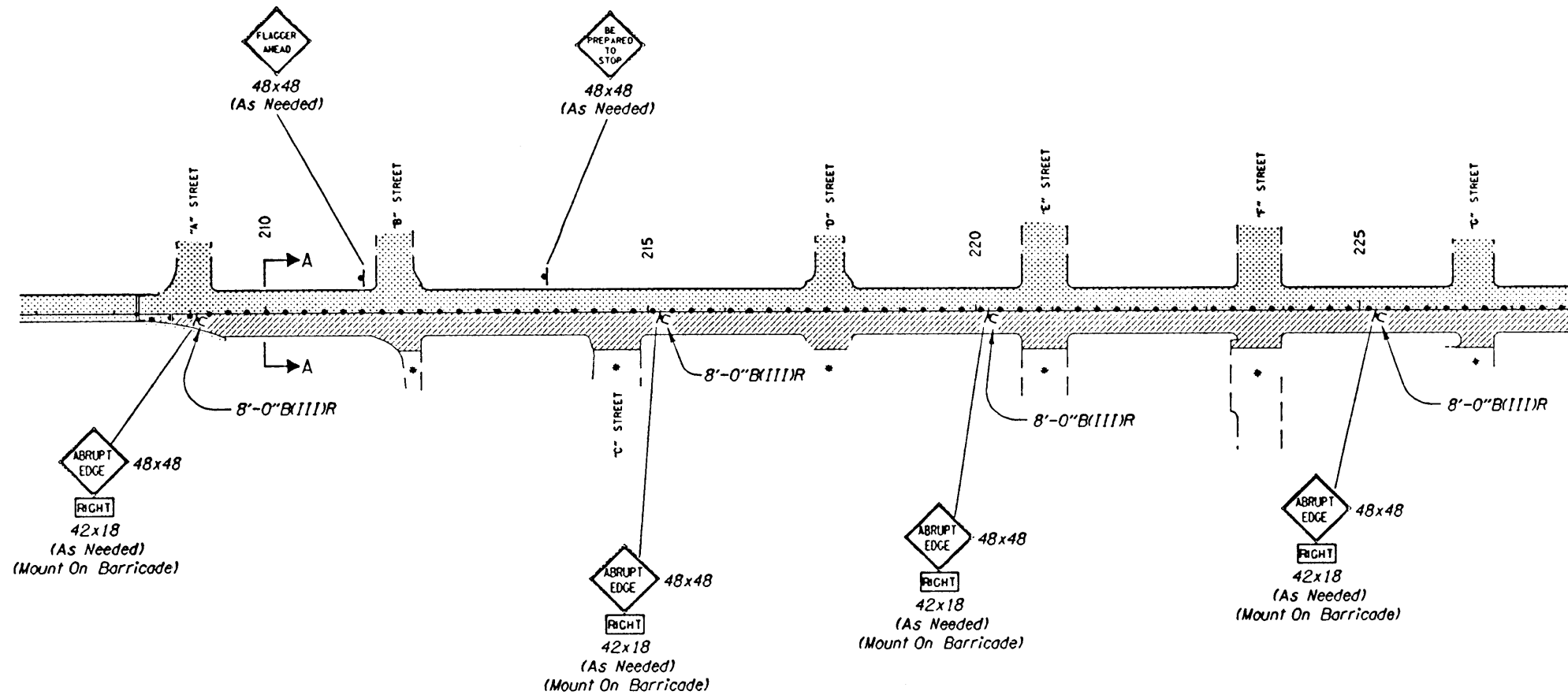


SECTION A-A

STAGE CONSTRUCTION,
TEMPORARY PROTECTION
AND DIRECTION OF TRAFFIC

- UNDER TRAFFIC
- UNDER CONSTRUCTION
- CONSTRUCTION UNDER TRAFFIC

28" Tubular Markers
On 25' Max. Spacing, Shown Thus:



- IMMEDIATE GRADING LIMITS
- FINAL GRADING LIMITS
- UNDER TRAFFIC
- EXISTING GROUND
- TOP OF STAGE OR TEMP. SURFACING

* Close Streets Using The "Typical Street Closure"
(For Details, See Drg. No. 2200, Detail "B")

Provide Access Across Work Areas
(As Directed)

/usr6/archive/14/00899/00899/d4.pl 30-NOV-1995 08:35

K00899/d4.pl (51260.spx) satterwh@spot. Thu Nov 30 09:03:38 PST 1995



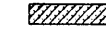
STAGE I

NOT REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11.245

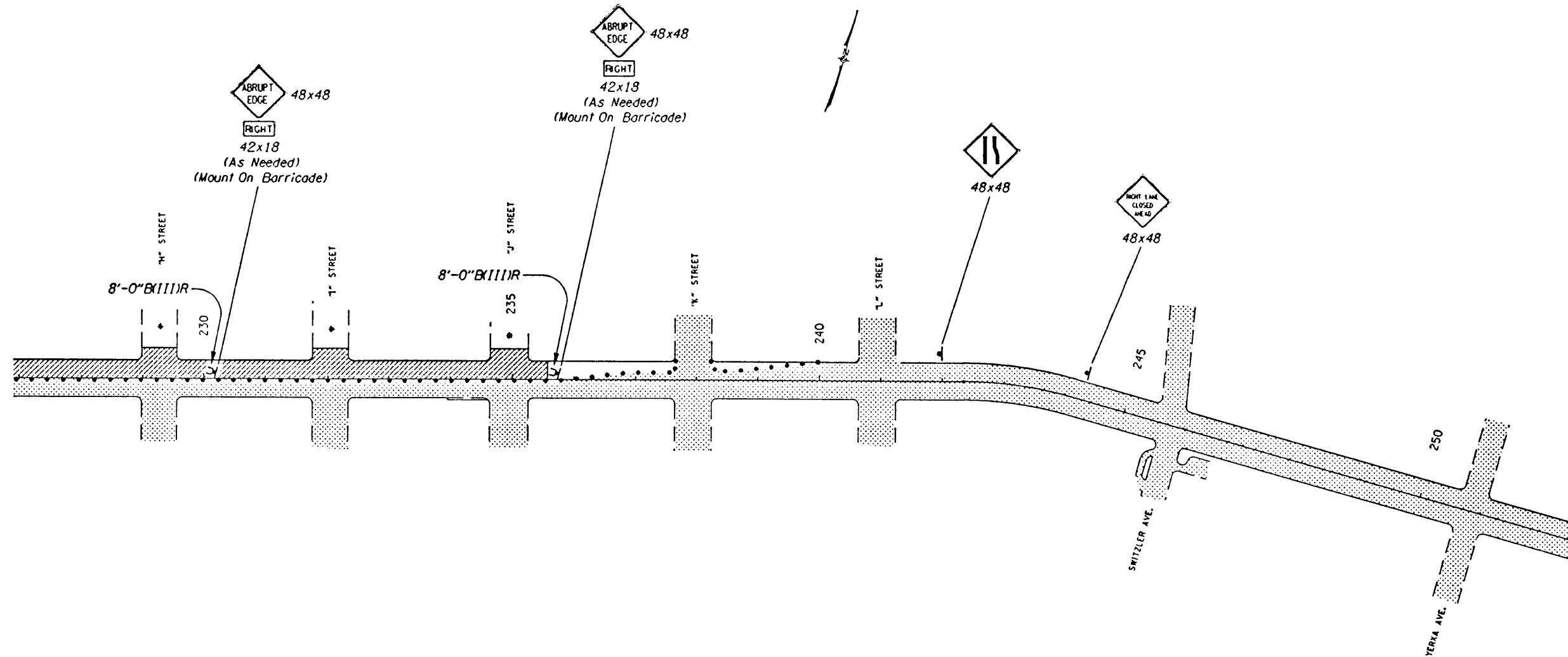
24V-90

UMATILLA - McNARY SECTION				SHEET NO.
COLUMBIA RIVER HIGHWAY				2C-2
UMATILLA COUNTY				TOTAL SHEETS
FED. ROAD DIST. NO.	STATE	PROJECT NUMBER	FISCAL YEAR	
10	OREGON			

STAGE CONSTRUCTION,
TEMPORARY PROTECTION
AND DIRECTION OF TRAFFIC

-  UNDER TRAFFIC
-  UNDER CONSTRUCTION
-  CONSTRUCTION UNDER TRAFFIC

28" Tubular Markers
On 25' Max. Spacing, Shown Thus:



* Close Streets Using The "Typical Street Closure"
(For Details, See Drg. No. 2200, Detail "B")

Provide Access Across Work Areas
(As Directed)

/usr6/archive/104/00899/00899/d4.p1 30-NOV-1995 08:35

VIEW#2

R:\0899\inp\K2(51259.spot) sutterwh@spot. Thu Nov 30 09:02:58 PST 1995

STAGE I

Accompanied By Drg. Nos.: 2126C, 2127, 2200, 2201, 2202 & 2203

24V-30

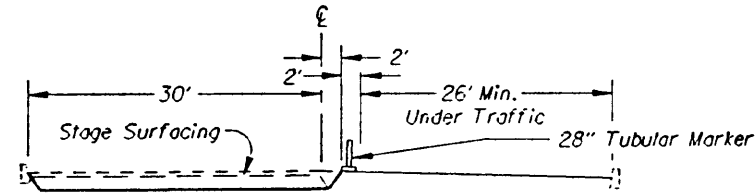
UMATILLA - McNARY SECTION COLUMBIA RIVER HIGHWAY UMATILLA COUNTY				
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	SHEET No. 20
10	OREGON			TOTAL SHEETS

See Sht. 20-8 For East End Advance Signing

See Sht. 20-6 For River Road Advance Signing

NOT REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11-245

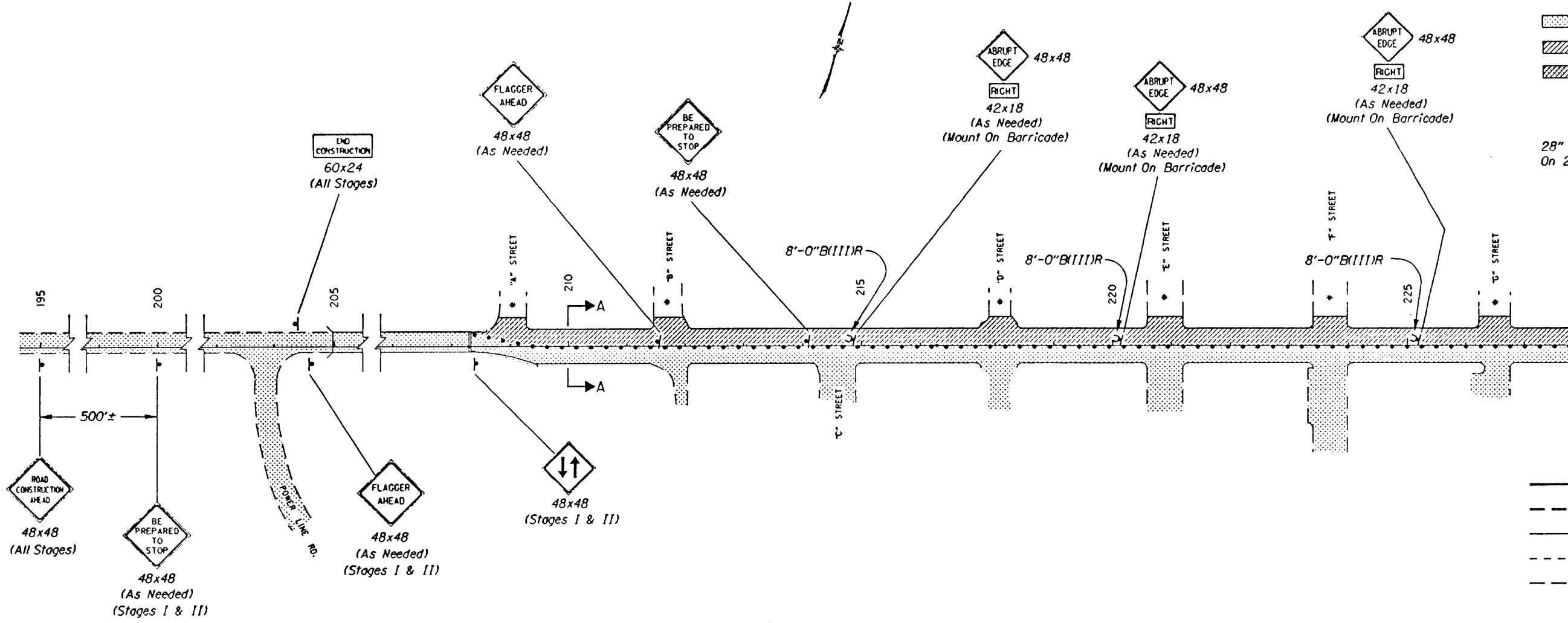
STAGE CONSTRUCTION,
TEMPORARY PROTECTION
AND DIRECTION OF TRAFFIC



SECTION A-A

- UNDER TRAFFIC
- UNDER CONSTRUCTION
- CONSTRUCTION UNDER TRAFFIC

28" Tubular Markers
On 25' Max. Spacing, Shown Thus:



- IMMEDIATE GRADING LIMITS
- FINAL GRADING LIMITS
- UNDER TRAFFIC
- EXISTING GROUND
- TOP OF STAGE OR TEMP. SURFACING

* Close Streets Using The "Typical Street Closure"
(For Details, See Drg. No. 2200, Detail "B")

Provide Access Across Work Areas
(As Directed)

NOTE:
The Appropriate "NO PARKING"
Signs Are To Be Installed As
Directed (All Stages)

TRAFFIC CONTROL PLANS & DETAILS	
	A. Anderson, Traffic Control Plans Engineer
	D. Alexander, Traffic Control Plans Designer
	Donald R. Morris, Drafter

/usr6/archive/144/00899/00899r041p1_30-NOV-1995_08:35

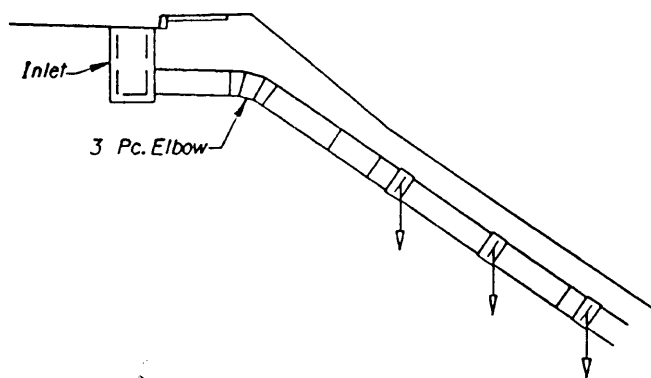
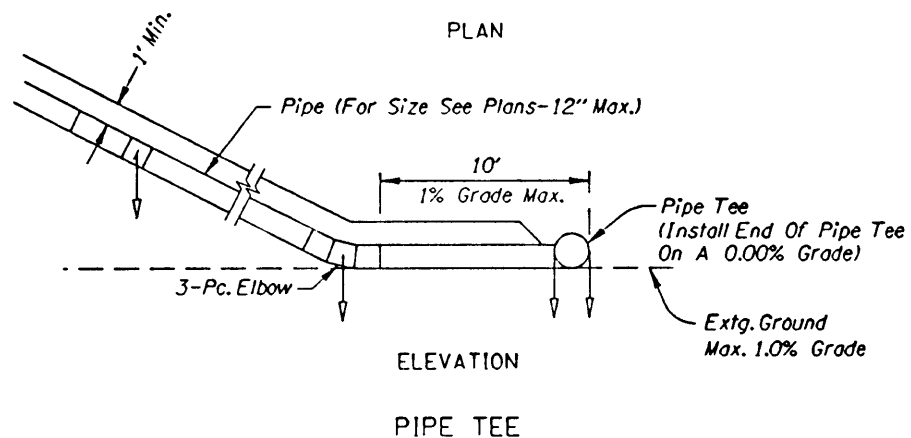
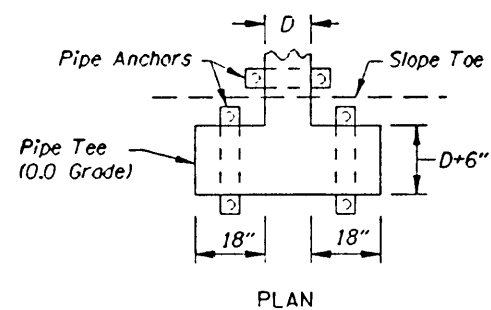
R00899r041p1.k (51258.spx) satterwh@spot. Thu Nov 30 09:02:11 PST 1995

D E T A I L S

24V-30

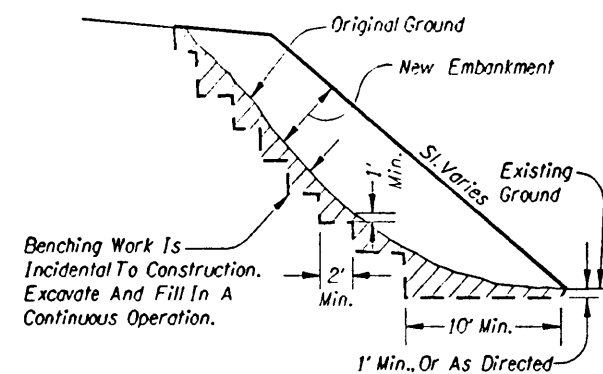
UMATILLA - McNARY SECTION				SHEET NO.
COLUMBIA RIVER HIGHWAY				2B-5
UMATILLA COUNTY				TOTAL SHEETS
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	10
10	OREGON			10

NOTE:
Metal Marking Post
By Each Installation
D = Pipe Diameter



PIPE DOWN SLOPE

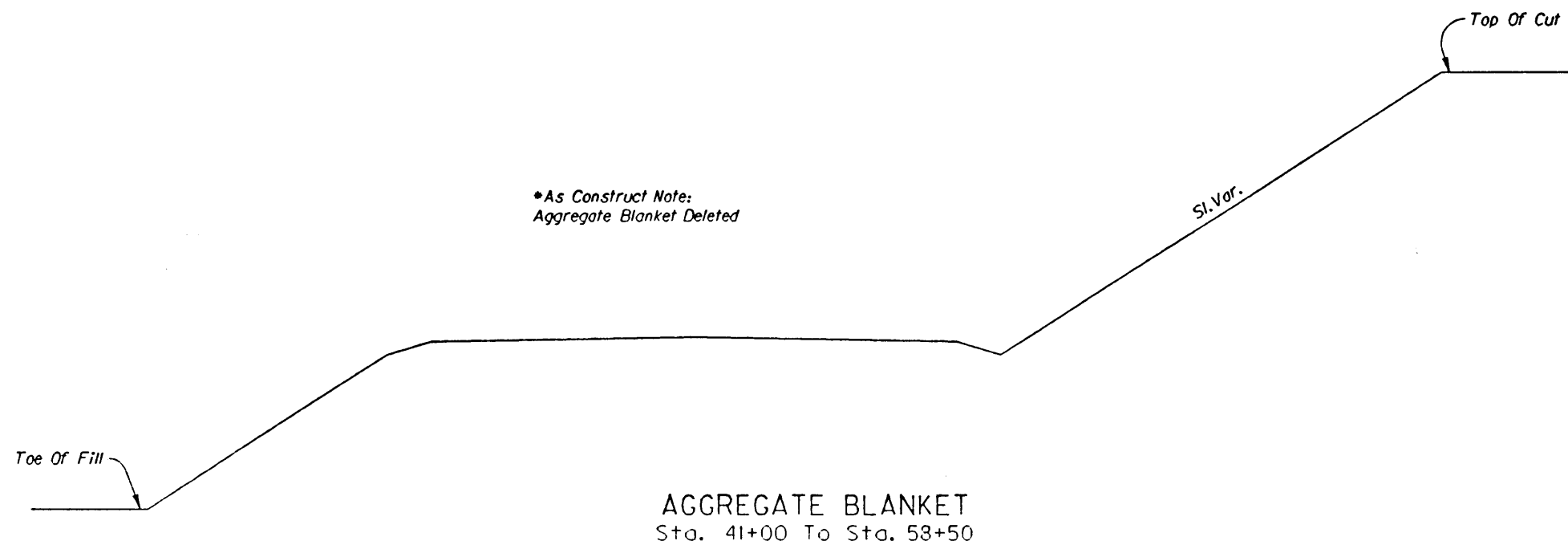
SLOPE PIPE
Sta. "R" 11+00
(For Location, See Plans)



NOTE:
Construct Benches On All Slopes
To Provide Positive Bond With
Existing Ground.

STANDARD EMBANKMENT CONSTRUCTION

REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11-245



/usr6/archive/Td4/00899/00899/d4.d12 30-NOV-1995 08:34

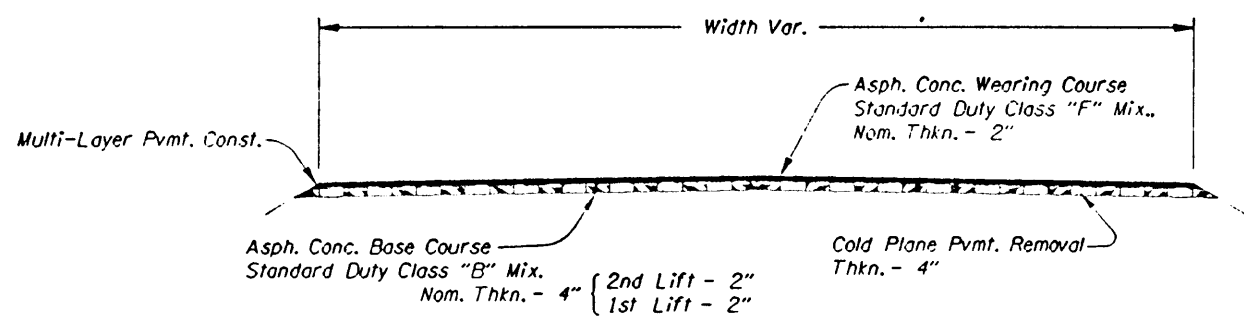
R:\MS99\ld12\H7(51257.spot) satterwh@spot. Thu Nov 30 09:01:29 PST 1995

D E T A I L S

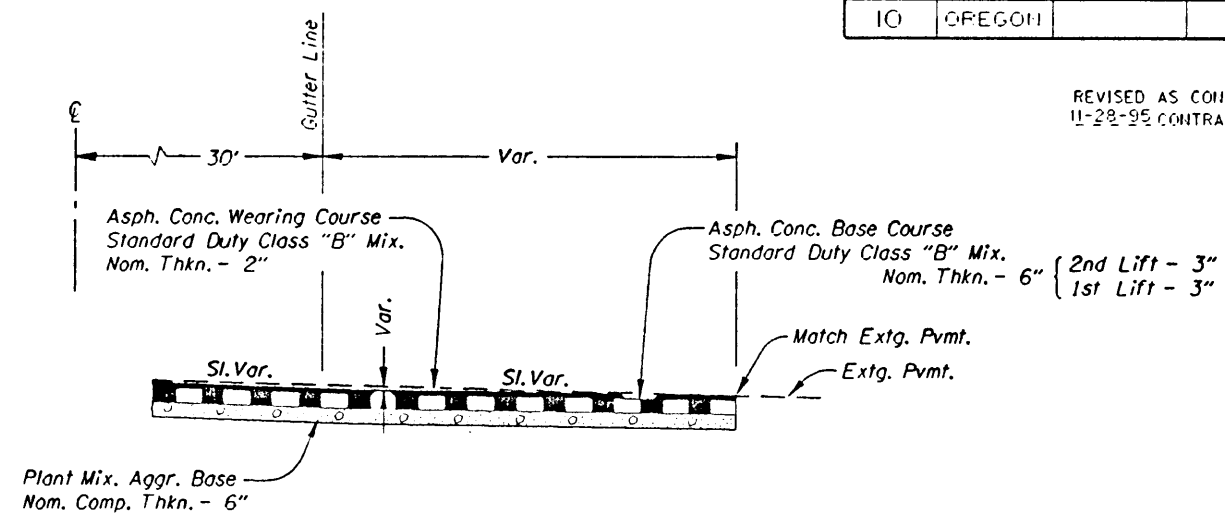
24V-90

UMATILLA - McNARY SECTION				SHEET No.
COLUMBIA RIVER HIGHWAY				28-4
UMATILLA COUNTY				
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			11

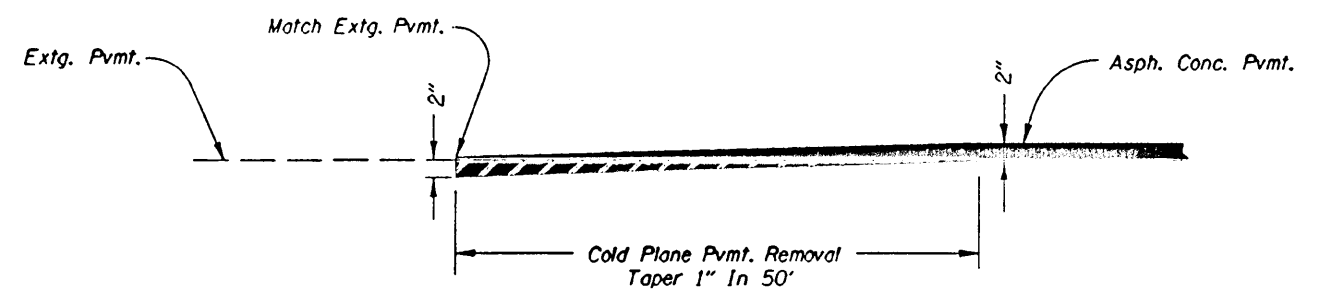
REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11.245



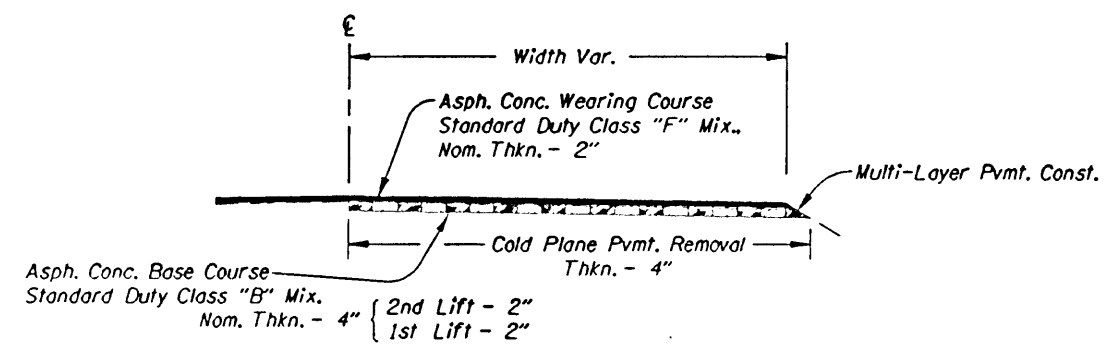
COLD PLANE PVMT. REMOVAL
UMATILLA - STANFIELD HWY.



CONNECTING STREETS



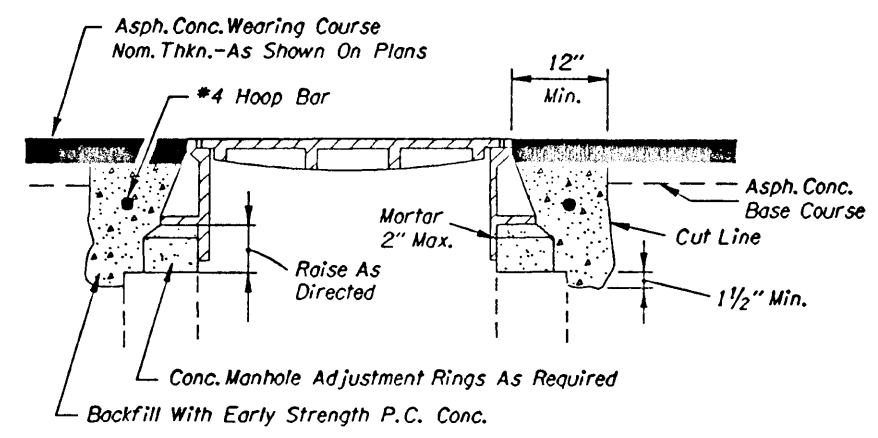
METHOD OF COLD PLANING AT PROJECT END



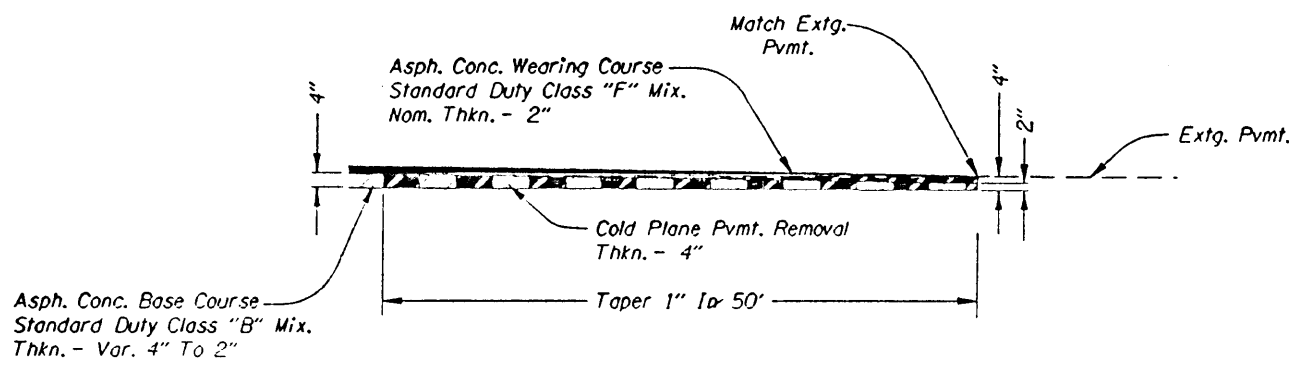
COLD PLANE PVMT. REMOVAL
STA. 66+25 To STA. 70+55

MANHOLE ADJUSTMENT SEQUENCE

(For Details Not Shown, See Sheet 1, Manhole Drg. Nos.)



1. Cover Manhole With Building Paper And Const. Asph. Conc. Base Course.
2. Cut Square Or Circular Excavation Around Manhole 12" Min. From M. H. Frame.
3. Raise Manhole Frame And Cover To Finish Grade By Installing Conc. Rings And Leveling Mortar.
4. Backfill With Early Strength P. C. Conc.
5. Const. Asph. Conc. Wearing Course.



METHOD OF COLD PLANING AT UMATILLA-STANFIELD HIGHWAY

/usr6/archive/144/00899/00899r4.d11 30-NOV-1995 08:33

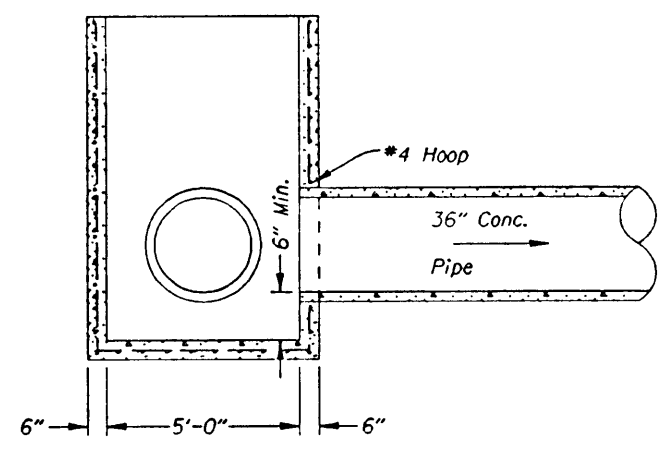
R:\899\ddt1143(51253.spot) sattenwh@spot. Thu Nov 30 08:56:49 PST 1995

IRRIGATION BOX DETAILS

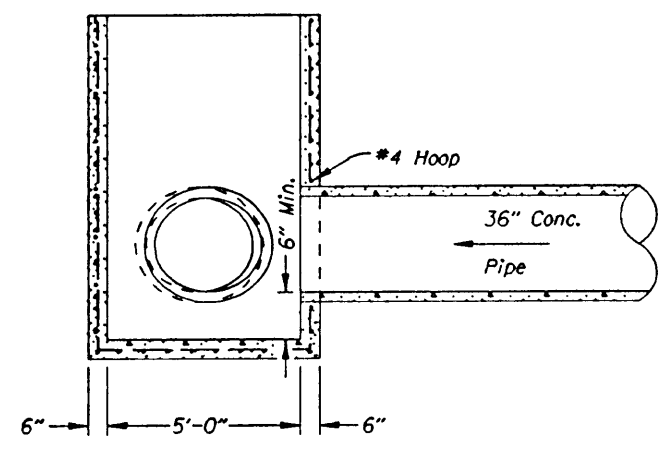
UMATILLA - McNARY SECTION				SHEET No. 2B-3
COLUMBIA RIVER HIGHWAY				
UMATILLA COUNTY				TOTAL SHEETS 11
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	
10	OREGON			

REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11.245

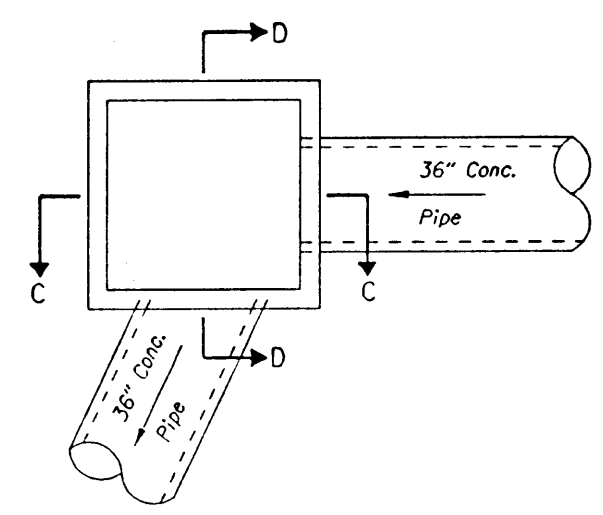
- NOTE:
1. All Wood Shall Be Pressure Treated
 2. All Reinforcement To Be No. 4 Bars At 18" Ctrs. Max
 3. All Bar To Be 2" Clear Of Nearest Face Of Concrete



SECTION D-D

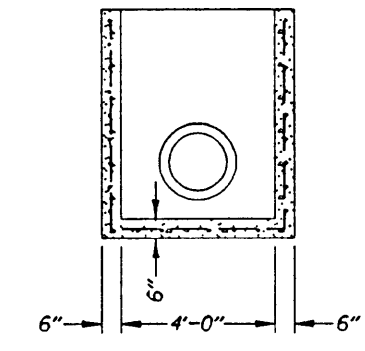


SECTION C-C

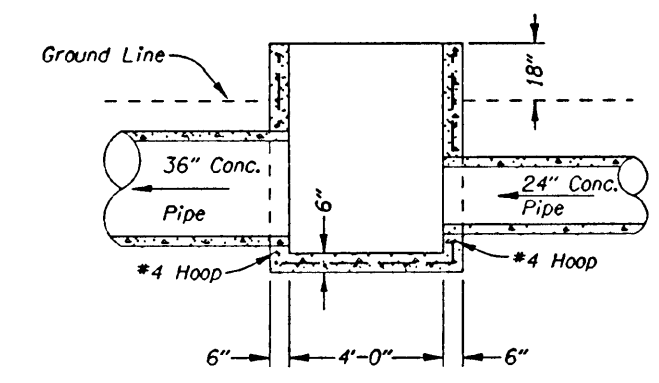


PLAN

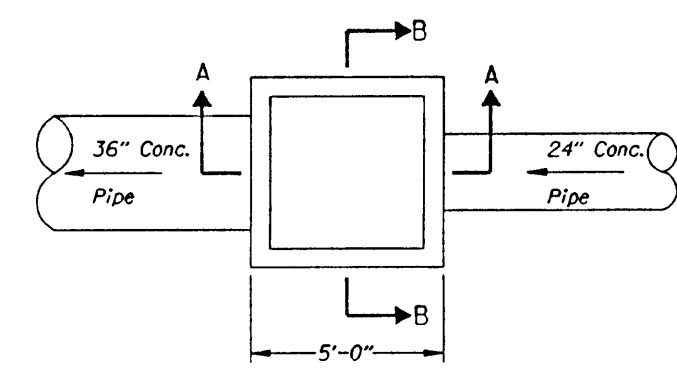
STA. 76+40



SECTION B-B

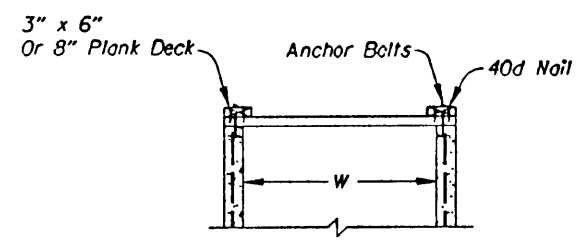


SECTION A-A

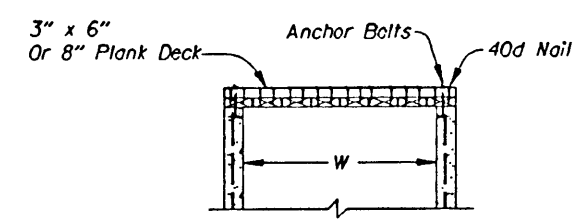


PLAN

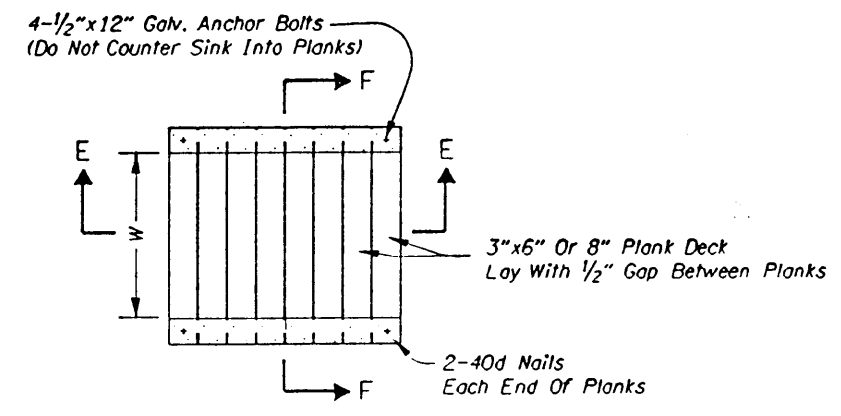
STA. 80+30



SECTION F-F



SECTION E-E



PLAN

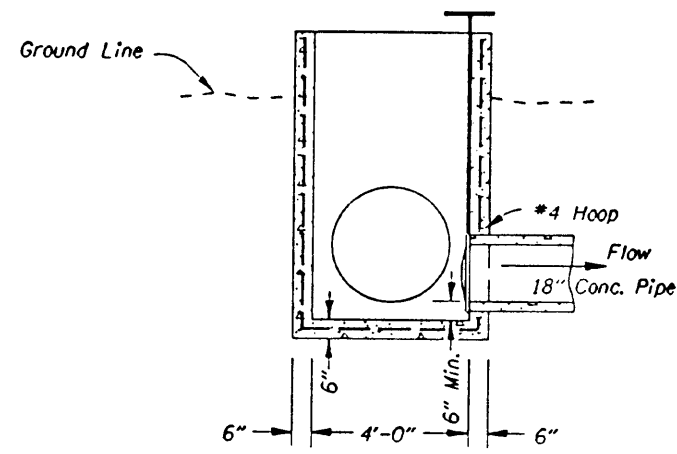
COVER

/usr/local/projects/00899f44.d12 30-NOV-1995 10:06

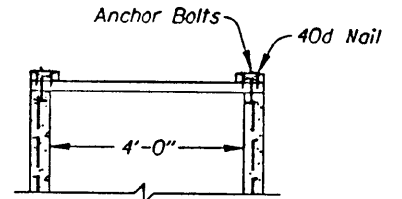
RWIS-99(14.mf(3388:ld6040d) satterwh@ld6040d. Thu Nov 30 10:07:47 PST 1995

REVISED AS CONSTRUCTED
11-22-95 CONTRACT 11,245

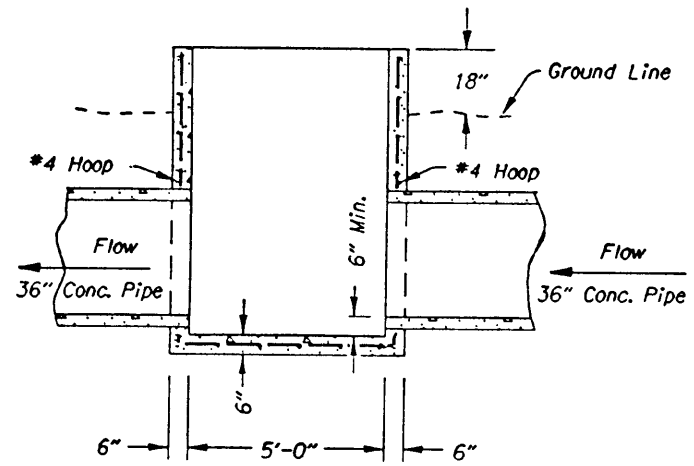
UMATILLA - McNARY SECTION COLUMBIA RIVER HIGHWAY UMATILLA COUNTY				SHEET No. 2B-2
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			5



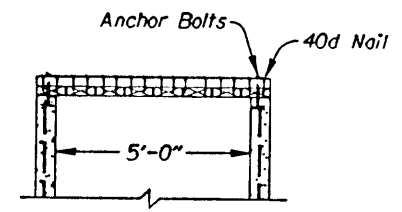
SECTION B-B



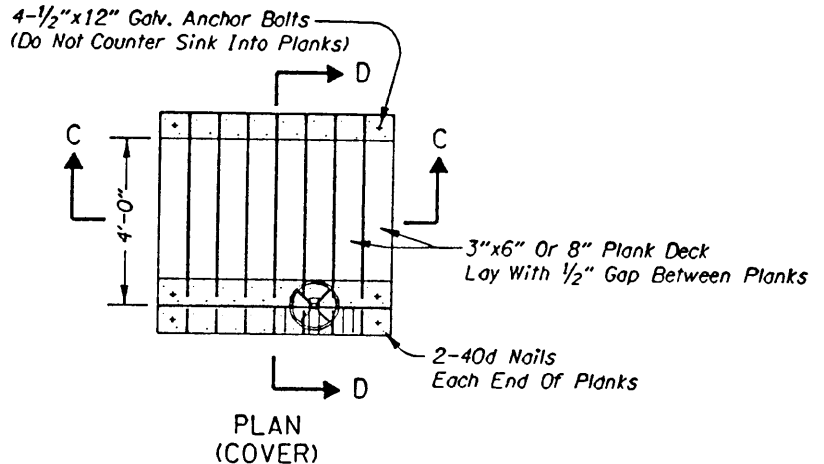
SECTION D-D



SECTION A-A



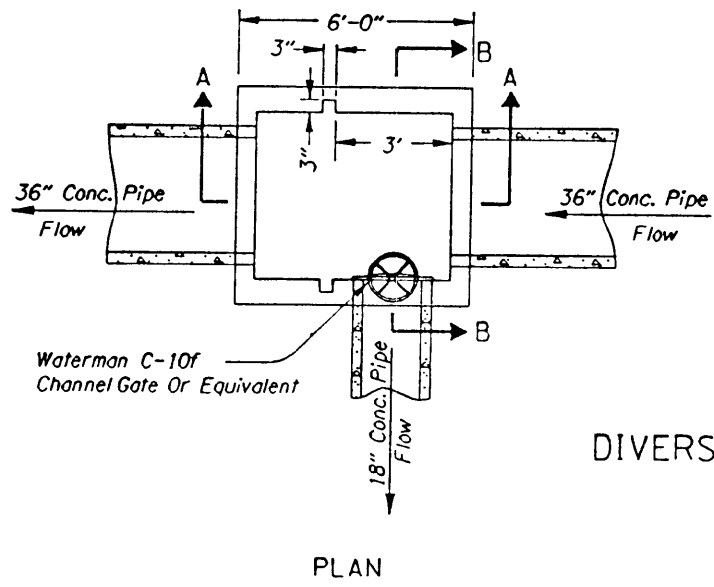
SECTION C-C



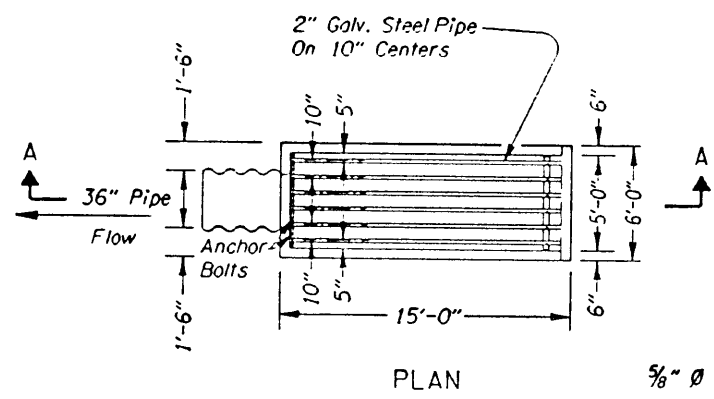
PLAN (COVER)

- NOTE:
1. All Wood Shall Be Pressure Treated
 2. All Reinforcement To Be No. 4 Bars At 18" Ctrs. Max
 3. All Bar To Be 2" Clear Of Nearest Face Of Concrete

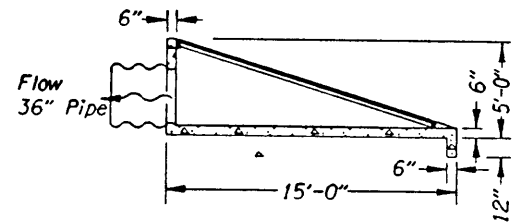
DIVERSION BOX & COVER
STA. 77+50



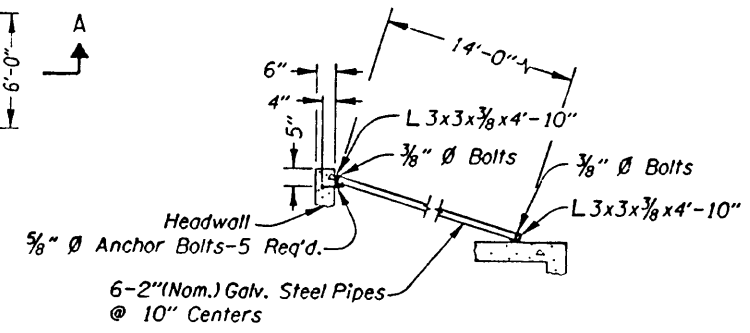
PLAN



PLAN



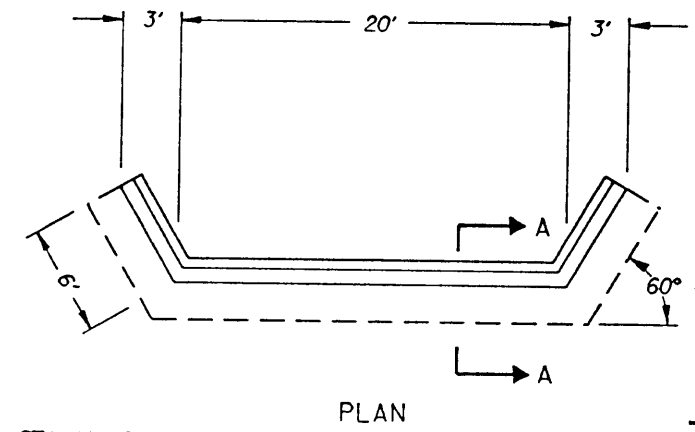
SECTION A-A



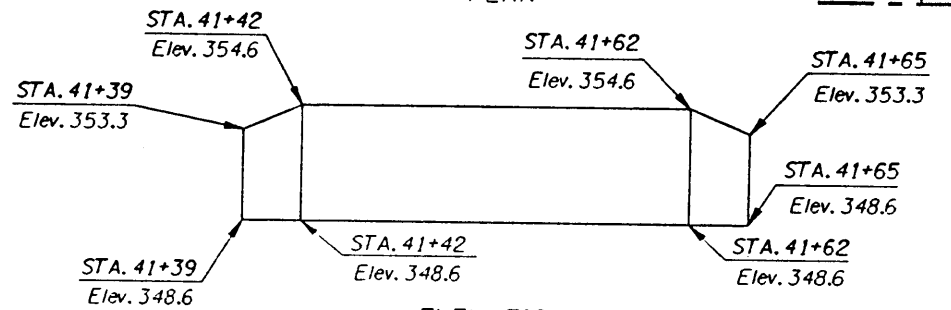
DETAIL

NOTE:
All Reinforcing Steel To Be #3 Bars Spaced 9" Center To Center In All Walls And Slabs.
Lap All Joints 20 Dia. All Reinforcing Steel Shall Be Placed 2" Clear Of All Faces And Openings.

TRASH RACK
STA. 93+18 Rt.

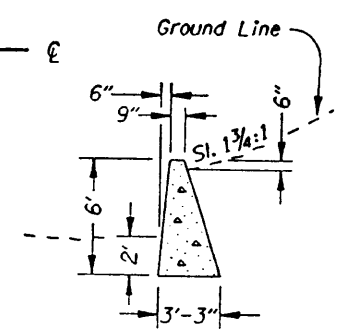


PLAN



ELEVATION

NOTE: Elevations To Be Field Verified
GRAVITY RETAINING WALL
STA. 41+52 Lt.
(For Details Not Shown, See Drg. No. 45409)



SECTION A-A

BRIDGE DETAILS CHECKED

/usr6/archive/7d4/00899/00899g4.d11 30-NOV-1995 08:33

R00899jcd1114(51254.spot) sutterwh@spot. Thu Nov 30 08:57:37 PST 1995

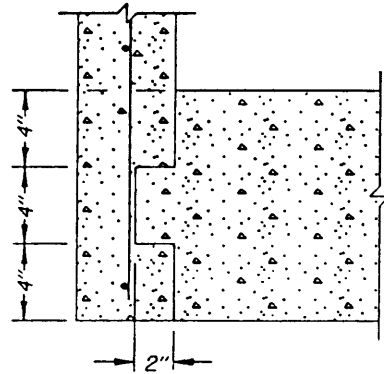
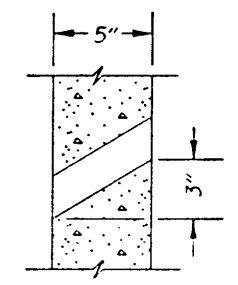
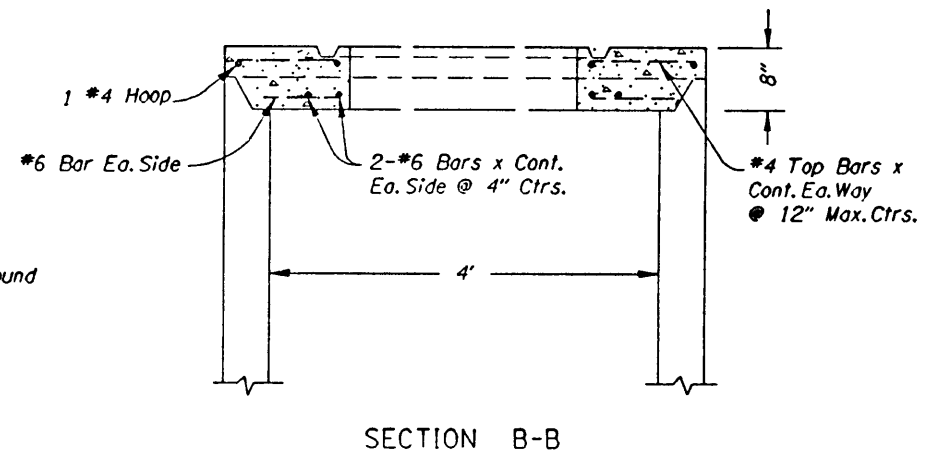
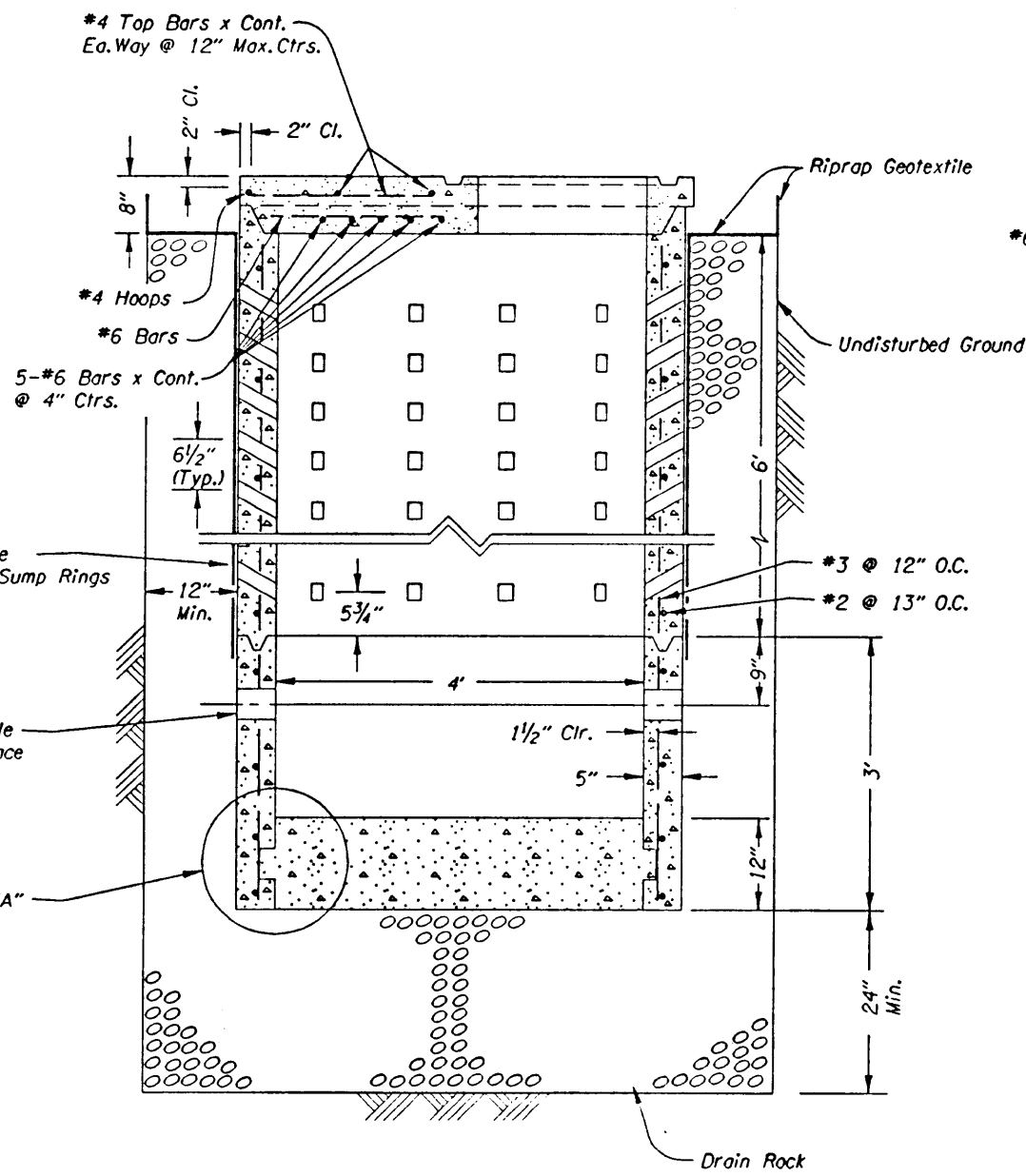
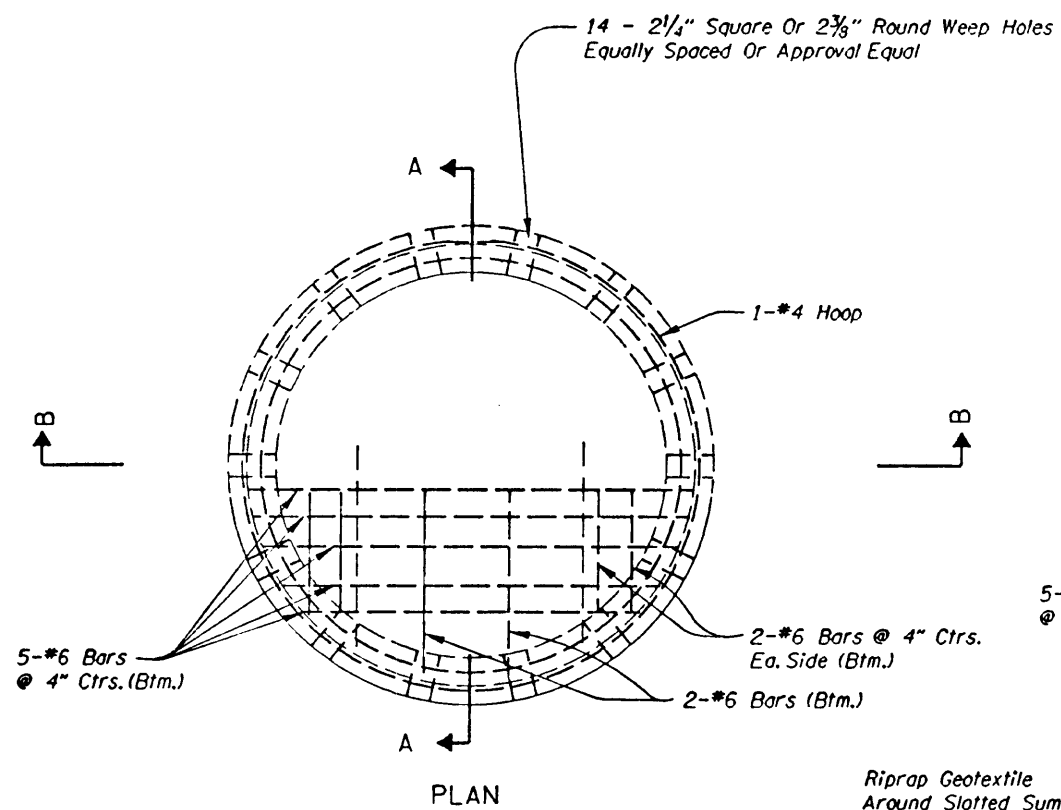
D E T A I L S

24V-30

UMATILLA - McNARY SECTION COLUMBIA RIVER HIGHWAY UMATILLA COUNTY				SHEET No. 2B
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			5

REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11,245

*As Construct Note:
"G-2" Inlets Were Constructed At Each Location
Calling For "G-2" Mod. Inlets In Plans. The Modified
Portions (Sumps) Were Moved To Side Streets.
Lids Were Modified Manhole Type.



- NOTES:**
- (1) All Precast Sections Shall Conform To Requirements Of A.S.T.M. C478
 - (2) All Piping To And From Precast Sump Shall Have At Least 6" Of 1 1/2" - 0" Clean Crushed Rock Cover Continuously Around Pipe Where Drain Rock Would Otherwise Be In Contact With Pipe.
 - (3) Invert Shall Be Level And Smooth

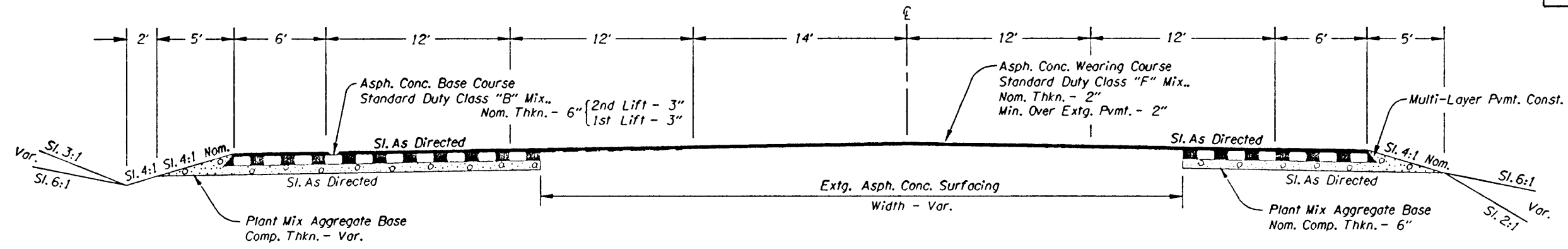
SUMP

/usr6/archive/144/00899/00899r4.dwt 30-NOV-1995 08:33

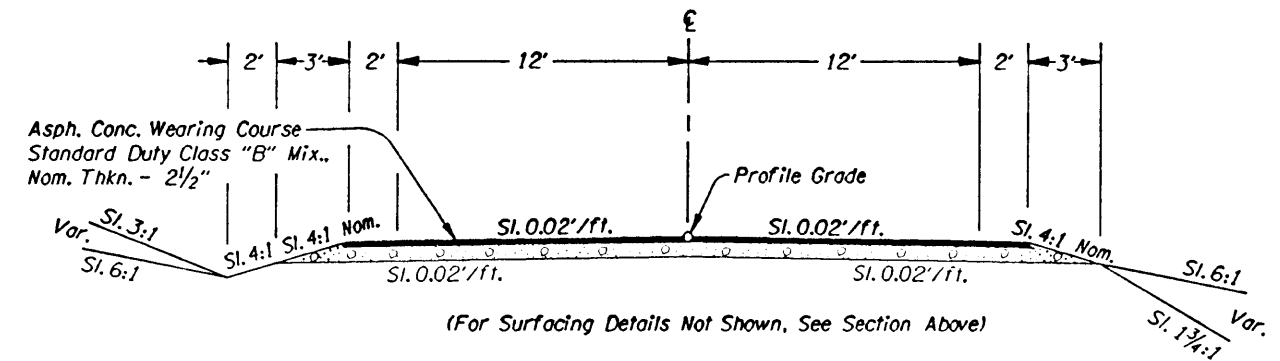
R:\ms99\jcdh1115(51255.spot) sutterwh@spot. Thu Nov 30 08:58:28 PST 1995

UMATILLA - McNARY SECTION				SHEET NO.
COLUMBIA RIVER HIGHWAY				2A-3
UMATILLA COUNTY				
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			10

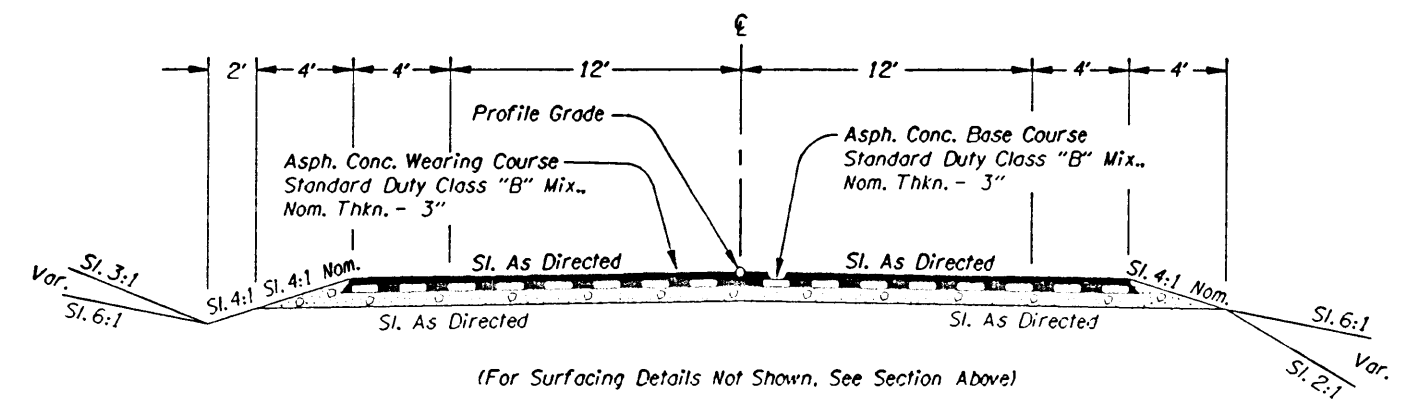
REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11,245



STA. 100+00 To STA. 107+70 (Taper Section)
 107+70 To 114+40
 114+40 To 129+80 (Taper Section)



STA. "C"40+30 To STA. "C"45+00



STA. "R"10+30 To STA. "R"15+00

/usr6/archive/164/00899/00899f04.ty 30-NOV-1995 08:32

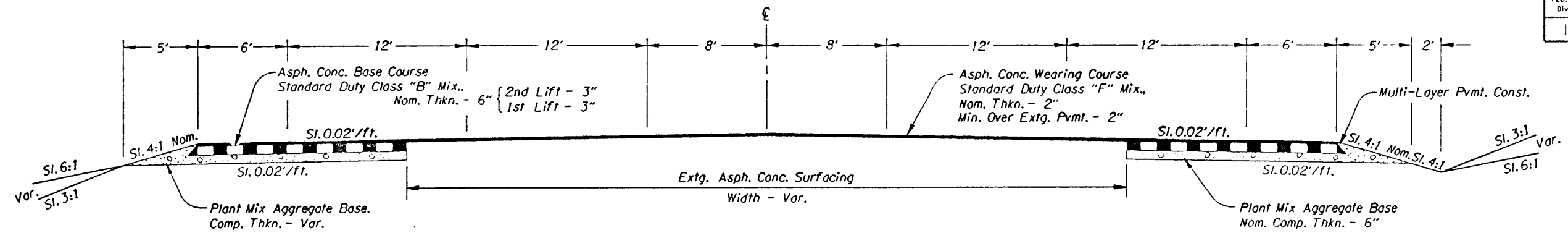
R:\0899\city\104\51251.spt) sattenwh@spot. Thu Nov 30 08:55:19 PST 1995

T Y P I C A L S E C T I O N S

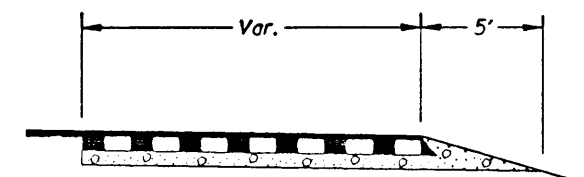
24V-30

UMATILLA - McNARY SECTION				SHEET NO.
COLUMBIA RIVER HIGHWAY				2A-2
UMATILLA COUNTY				TOTAL SHEETS
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			7

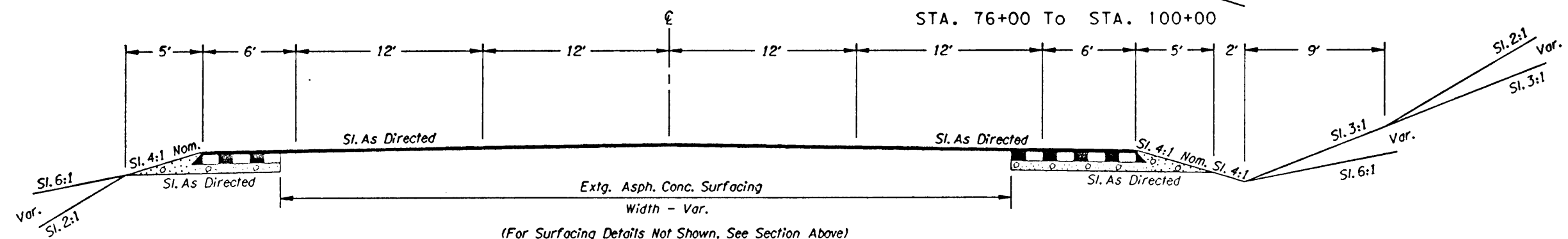
REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11-245



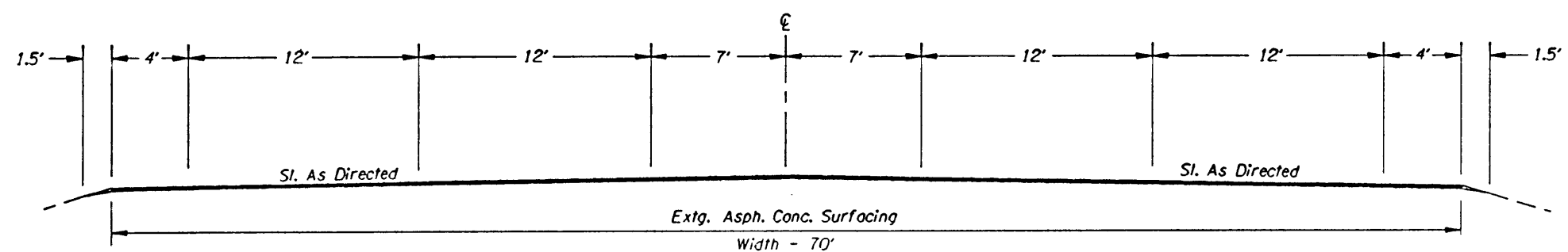
STA. 32+50 To STA. 41+00
41+00 To 45+40 (Taper Section)



STA. 76+00 To STA. 100+00



(For Surfacing Details Not Shown, See Section Above)
STA. 45+40 To STA. 62+00
76+00 To 100+00



(For Surfacing Details Not Shown, See Section Above)
STA. 62+00 To STA. 65+50 (Taper Section)
65+50 To 72+50
72+50 To 76+00 (Taper Section)

/usr6/archivew/rd4/00899/00899r4.ly1 30-NOV-1995 08:37

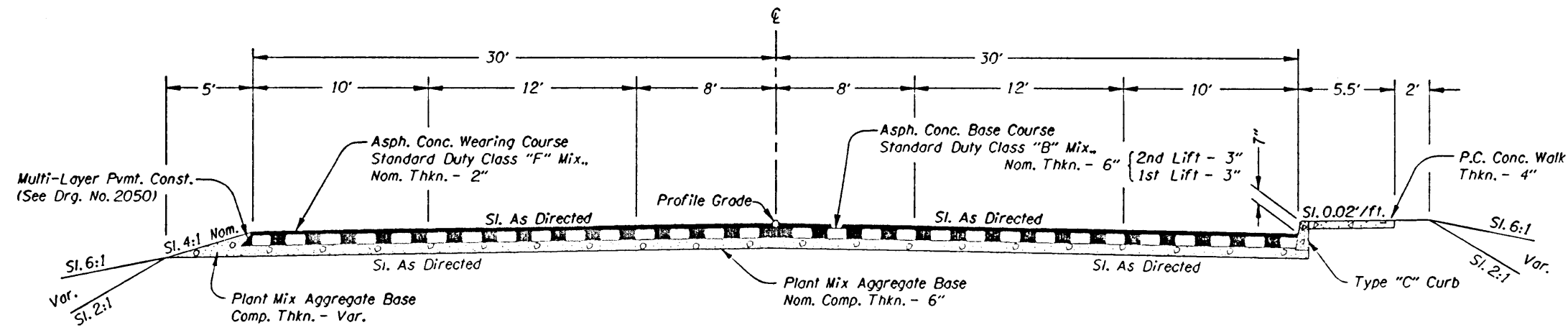
R068991.dwg (5/12/50.spot) satterwh@spot. Thu Nov 30 08:54:36 PST 1995

T Y P I C A L S E C T I O N S

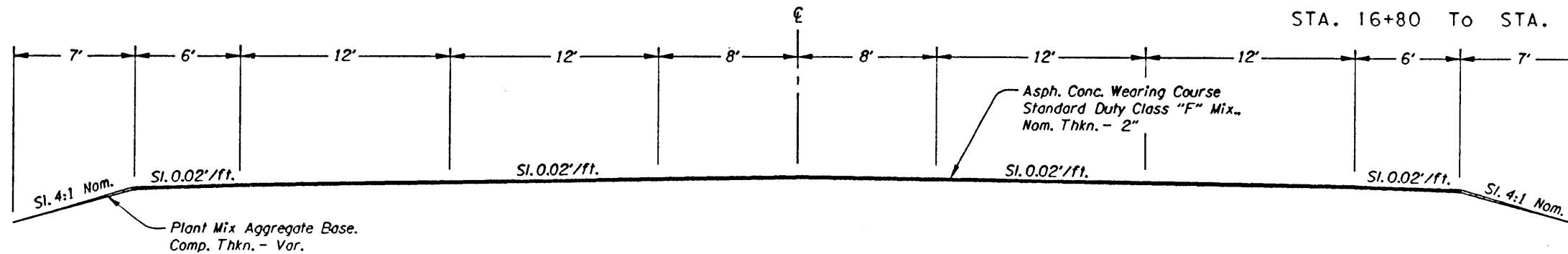
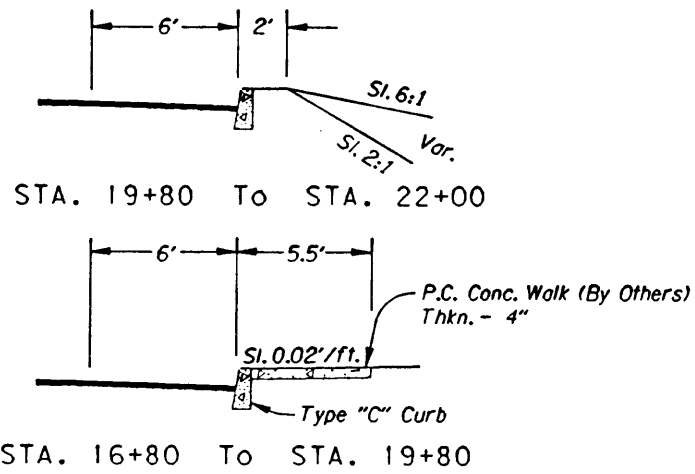
24V-90

UMATILLA - McNARY SECTION COLUMBIA RIVER HIGHWAY UMATILLA COUNTY				SHEET No. 2A
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			5

REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11-245



STA. "L"106+31.17 To STA. "L"108+16.17 (Structure)
"L"108+16.17 To "L"114+00



"L"114+00 Thru [EQUA. $\frac{"L"115+11.13 \text{ Bk.} =}{15+10.77 \text{ Ah.}}$] To STA. 15+20
15+20 To 20+00 (Taper Section)
20+00 To 32+50

BRIDGE DETAILS CHECKED

/usr6/archive/r04/00899/00899f04.tj 30-NOV-1995 08:32

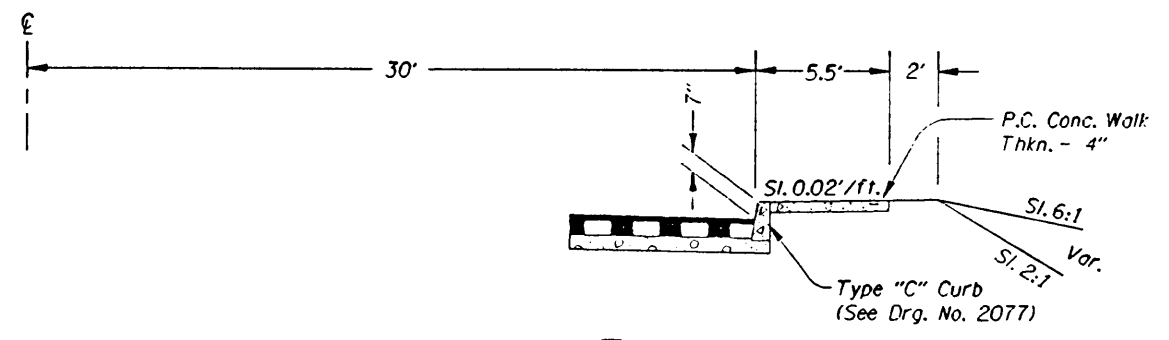
R00899f04j02(51252.spot) satterwh@spot. Thu Nov 30 08:56:05 PST 1995

T Y P I C A L S E C T I O N S

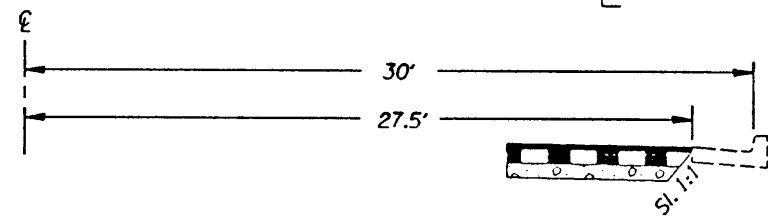
24V-90

UMATILLA - McNARY SECTION				SHEET No.
COLUMBIA RIVER HIGHWAY				2
UMATILLA COUNTY				TOTAL SHEETS
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	No.
10	OREGON			1

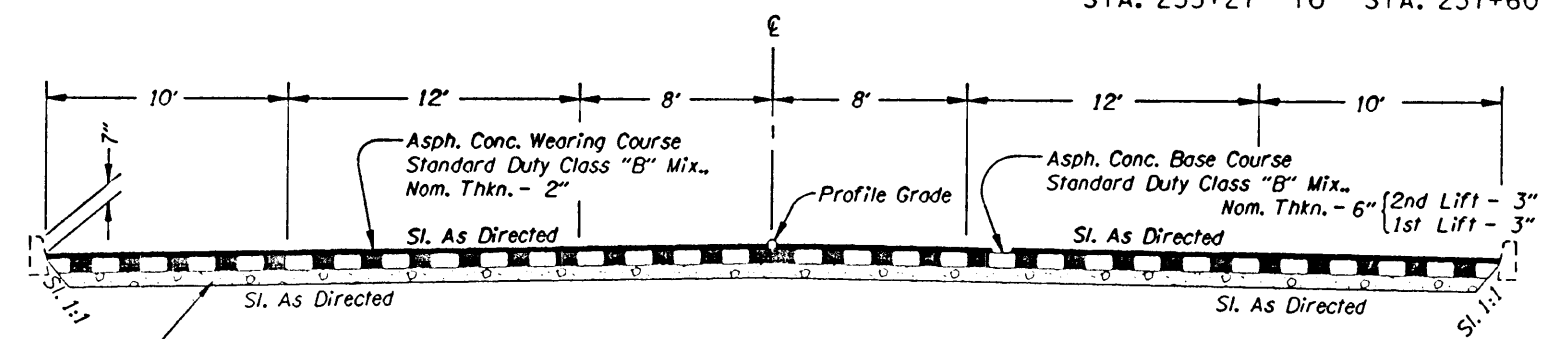
REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11,245



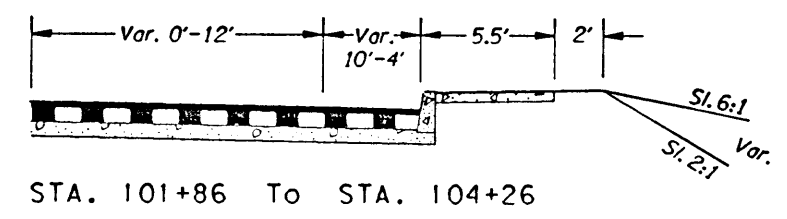
STA. 255+70 Thru $\left[\text{Equa. } \frac{256+83.11 \text{ P.O.T. Bk.} =}{\text{"L" } 99+23.87 \text{ P.C. Ah.}} \right]$ To STA. 100+00 Rt.



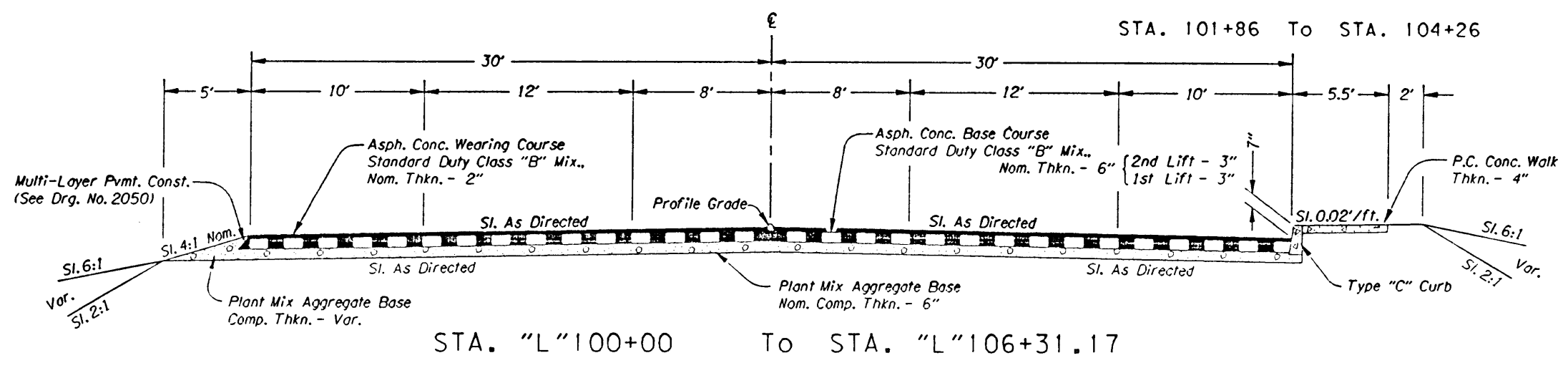
STA. 235+27 To STA. 237+60 Rt.



STA. 208+29.44 To STA. 209+50 (Taper Section)
209+50 Thru $\left[\text{Equa. } \frac{216+29.1 \text{ Bk.} =}{217+00 \text{ Ah.}} \right]$ Thru $\left[\text{Equa. } \frac{256+83.11 \text{ P.O.T. Bk.} =}{\text{"L" } 99+23.87 \text{ P.C. Ah.}} \right]$ To STA. "L" 100+00



STA. 101+86 To STA. 104+26



STA. "L" 100+00 To STA. "L" 106+31.17

R/W Map No. 10B-1-25

/usr6/archive/144/00899/00899r44.ty1 30-MAY-1995 08:37

RUNSPTTY1G1(51249.spx) satterwh@spot. Thu Nov 30 08:53:46 PST 1995

ROADWAY PLANS & DETAILS		
	Jerry C. Street, Design Team Leader	
	David W. Greenberg, Designer	
	Ray Satterwhite, Drafter	

UMATILLA - McNARY SECTION				SHEET No.
COLUMBIA RIVER HIGHWAY				1A
UMATILLA COUNTY				
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			

REVISED AS CONSTRUCTED
 11-22-93. CONTRACT 11245
 PROJ. MGR. Idoy, George

DRAWING NO.	DESCRIPTION
	BRIDGE NO. 1628A
47751	Plan & Elevation
47752	Footing Plan
47753	Foundation Data
47754	Plan - Spans 1 & 2
47755	Plan - Spans 3 & 4
47756	Deck Steel & Rail Details
47757	Elevation Beam A1 Thru D1 & A2 Thru D2
47758	Elevation Beam A3 Thru D3 & A4 Thru D4
47759	Elevation Beam A5 Thru D5 & A6 Thru D6
47760	Plan & Elevation - Bent 1
47761	Plan & Elevation - Bent 2
47762	Plan & Elevation - Bent 3
47763	Plan & Elevation - Bent 4
47764	Plan & Elevation - Bent 5
47765	Wing Wall "A" Details
47766	Paving Ledge Anchorage
47767	Stage Construction Sequence
	BRIDGE NO. 17216
47768	Plan & Elevation
	PERMANENT SIGNING
S-1729 Thru S-1734	Signing Installation
	TRAFFIC SIGNALS
10180	Traffic Signal Installation

- Standard Drg. Nos.
- 2050 - Miscellaneous Structures
 - 2077 - Curbs
 - 2077B - Driveways & Approaches
 - 2077C - Sidewalk Ramps
 - 2085 - Barbed Wire & Woven Wire Fences
 - 2091 - Sloped Anchors
 - 2091A - Pipe Backfill/Compaction & Multiple Installations
 - 2091B - Coupling Bands
 - 2105 - Concrete Inlets
 - 2117 - Chain Link Fence
 - 2121 - Sloped Ends
 - 2122 - Slope Rounding
 - 2126, 2126A, 2126B, 2126F, 2126G, 2126I } - Guard Rail
 - 2126C - Barricades
 - 2127 - Precast Concrete Barrier
 - 2136 - Mailbox Installations
 - 43422 - Standard Bridge End Panels
 - 43495 - Standard Concrete Bridge Rail Type "F"
 - 43496 - Standard Transition Concrete Bridge Rail To Guard Rail
 - 44636 - Standard Expansion Joint W/Compression Seal
 - 45409 - Standard Gravity Retaining Wall
 - S-1 Thru S-8 Incl. 2200, 2201, 2202, 2203, 43206, 45913, TS-108 } - Temporary & Permanent Signing
 - TS-107 - Loop Detector Details

2624100.103.000899F.D.T.S1 06-Jul-1992 13:52

INDEX OF SHEETS	
SHEET NO.	DESCRIPTION
1	Title Sheet
1A	Index Of Sheets Cont'd. & Standard Drawing Nos.
2, 2A, 2A-2 2A-3	Typical Sections
2B Thru 2B-5 Incl.	Details
2C, 2C-2 Thru 2C-10 Incl.	Stage Construction, Temporary Protection & Direction Of Traffic
2D	Stockpile Site & Prospective Material Source
2E	Pipe Data
2F, 2F-2	Summary
3 Thru 6 Incl.	Plan & Profile
7	Plan
7A	Profile
7B	Superelevation Diagram
8 Thru 17 Incl.	Plan & Profile
18 Thru 21 Incl.	Water System Plan & Details

STATE OF OREGON
DEPARTMENT OF TRANSPORTATION

PLANS FOR PROPOSED PROJECT

GRADING, STRUCTURES, PAVING, SIGNING, AND SIGNALS

UMATILLA - McNARY SECTION

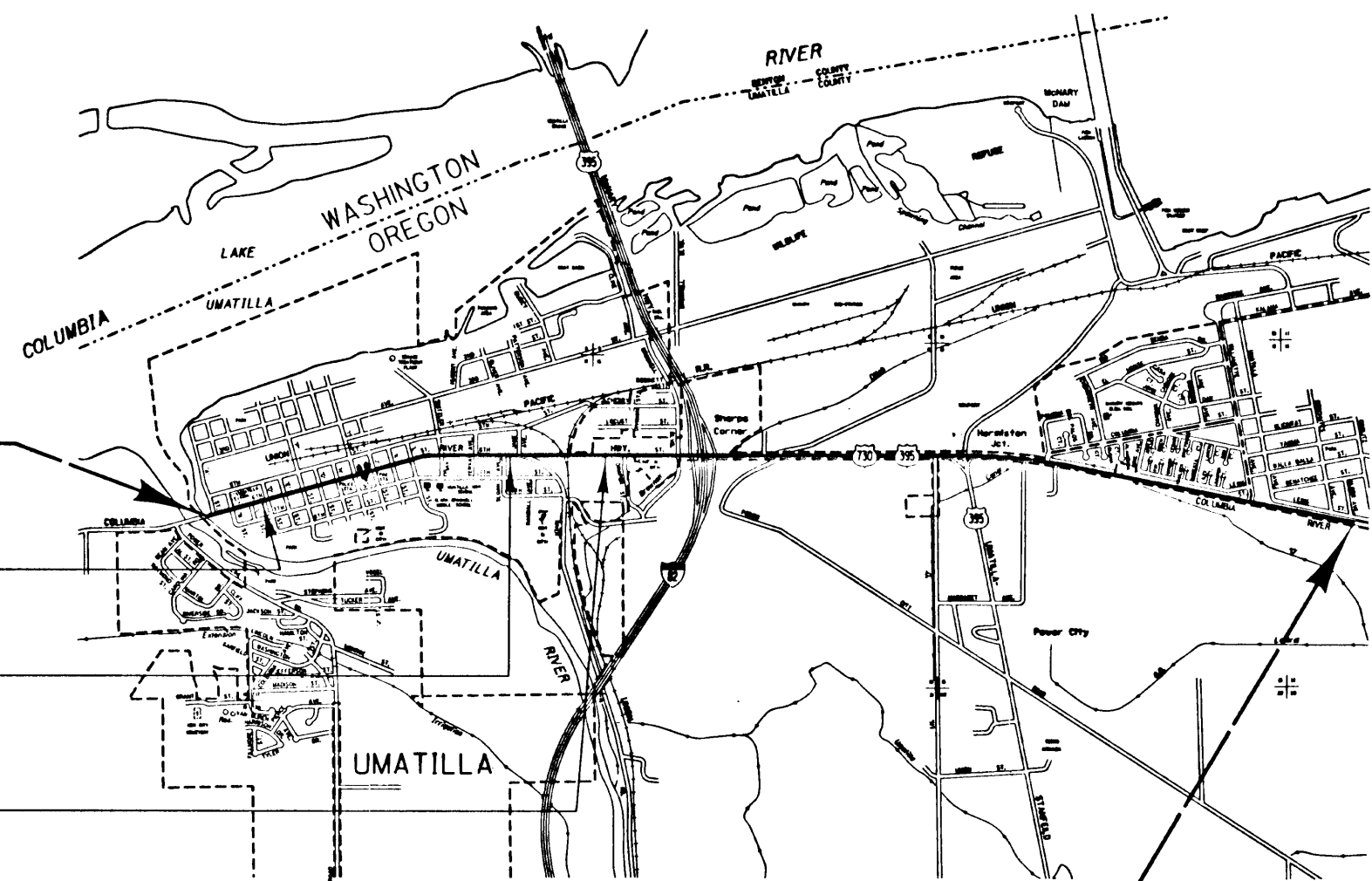
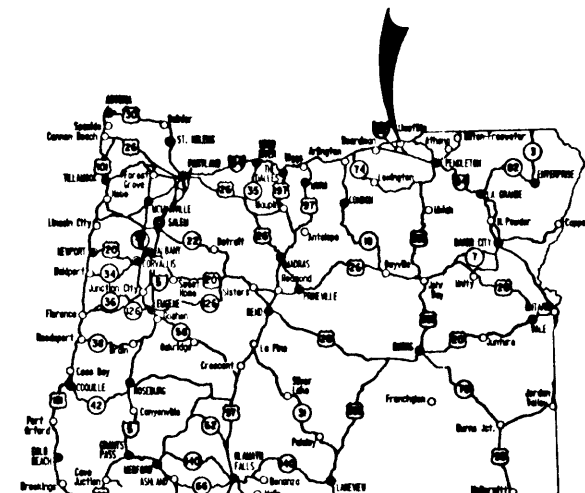
COLUMBIA RIVER HIGHWAY

UMATILLA COUNTY

AUGUST, 1992

UMATILLA - McNARY SECTION				SHEET No.
COLUMBIA RIVER HIGHWAY				1
UMATILLA COUNTY				
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON	NH-18(8)		1

REVISED AS CONSTRUCTED
11-28-93 CONTRACT 11245
PROJ. MGR. Terry GREGG



NH-18(8)
BEGINNING OF PROJECT

STA. 208 + 29.44 (M.P. 182.60)

EQUA. $\frac{216+29.10}{217+00} \text{ Bk.} = \text{Ah.}$

EQUA. $\frac{256+83.09}{99+23.86} \text{ Bk.} = \text{Ah.}$

EQUA. $\frac{115+11.13}{15+10.78} \text{ Bk.} = \text{Ah.}$

END OF PROJECT NH-18(8)

STA. 129 + 80 (M.P. 185.70)

ZG24100.103J00899FD.TS1 06-Jul-1992 13:56

OREGON TRANSPORTATION COMMISSION

- Michael P. Hollern CHAIRMAN
- John Whitty VICE CHAIRMAN
- David F. Bolender COMMISSIONER
- Cynthia J. Ford COMMISSIONER
- Roger L. Brezley COMMISSIONER
- Donald E. Forbes DIRECTOR OF TRANSPORTATION



Thomas D. Lulay

TECHNICAL SERVICES MANAGING ENGINEER

UMATILLA - McNARY SECTION COLUMBIA RIVER HIGHWAY UMATILLA COUNTY				SHEET No. 21
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			See Index

NOT REVISED AS CONSTRUCTED
11-28-93 CONTRACT 11,245

- THRUST BLOCK NOTES**
- THRUST BLOCKS SHALL BE REQUIRED AT THE FOLLOWING LOCATIONS:
 - ALL CHANGES IN DIRECTION.
 - ALL DEAD-ENDS.
 - ALL VALVES 12-INCH AND LARGER (SIZE FOR CLOSED CONDITION).
 - AT OTHER LOCATIONS REQUIRED BY THE ENGINEER.
 - THRUST BLOCKS SHALL BE SIZED AS REQUIRED BY SOIL CONDITIONS AND DESIGN PRESSURE.
 - PLACE CONCRETE AGAINST UNDISTURBED TRENCH WALL.
 - CONCRETE SHALL BE 2,800 PSI MINIMUM.
 - ALL CONCRETE SHALL BE PLACED SO THAT PIPE, FITTING JOINTS, BOLTS AND NUTS, ETC., WILL BE ACCESSIBLE FOR REPAIRS.
 - PLACE ONE LAYER OF VISQUEEN BETWEEN FITTING AND CONCRETE TO FACILITATE FUTURE REMOVAL OF THRUST BLOCK IF REQUIRED.
 - ANCHOR RODS SHALL BE 3/4" DIAMETER GALVANIZED STEEL RODS OR #8 EPOXY COATED REINFORCEMENT BAR, AASHTO M284, HAVING AN 18" MINIMUM EMBEDMENT IN CONCRETE.
 - ALL THRUST BLOCKS SHALL BE SIZED FOR A 150 PSI WATER PRESSURE.
 - IF THE REQUIRED BEARING AREA IS LESS THAN 1 SQUARE FOOT, A THRUST BLOCK SHALL NOT BE REQUIRED.

DETERMINATION OF THRUST BLOCK BEARING AREA

NOTE: WHEN THRUST BLOCK BEARING AREA IS NOT SPECIFIED ON THE PLANS OR DETERMINED BY THE ENGINEER, THE FOLLOWING PROCEDURE SHALL BE USED TO DETERMINE REQUIRED BEARING AREA.

- DETERMINE THRUST (T) AT FITTING AS REQUIRED FOR TYPE OF FITTING, SIZE OF PIPE, AND DESIGN PRESSURE FROM TABLE NO. 1.
- DETERMINE BEARING CAPACITY (B) OF SOIL FROM TABLE NO. 2.
- DETERMINE REQUIRED BEARING AREA (A) AS FOLLOWS:

$A = T \div B$

EXAMPLE: DESIGN PRESSURE = 175 PSI
PIPE = 12"
FITTING = TEE
SOIL = SANDY GRAVEL

FROM TABLE NO. 1: T = 15,310 LB.
FROM TABLE NO. 2: B = 3,000 LB/FT²

$A = 15,310 \div 3,000 = 5.10 \text{ FT}^2$

TABLE NO. 1

THRUST AT FITTINGS IN POUNDS AT 100 PSI OF WATER PRESSURE

PIPE SIZE	TEES AND DEAD ENDS	90° BEND	45° BEND	22½° BEND	11¼° BEND
4"	1,850	2,610	1,420	720	394
6"	3,800	5,370	2,910	1,470	810
8"	6,580	9,300	5,040	2,550	1,372
10"	10,760	15,200	8,240	4,170	2,216
12"	15,310	21,640	11,720	5,940	3,128
14"	20,770	29,360	15,910	8,060	4,241
16"	26,880	38,010	20,590	10,430	5,488
18"	29,865	42,235	22,858	11,853	5,855

NOTE: FOR WATER PRESSURES DIFFERENT THAN 100 PSI, MULTIPLY THRUST FOUND IN TABLE NO. 1 BY REQUIRED PROPORTION.

EXAMPLE: DESIGN PRESSURE = 175 PSI. MULTIPLY VALUE IN TABLE BY 1.75

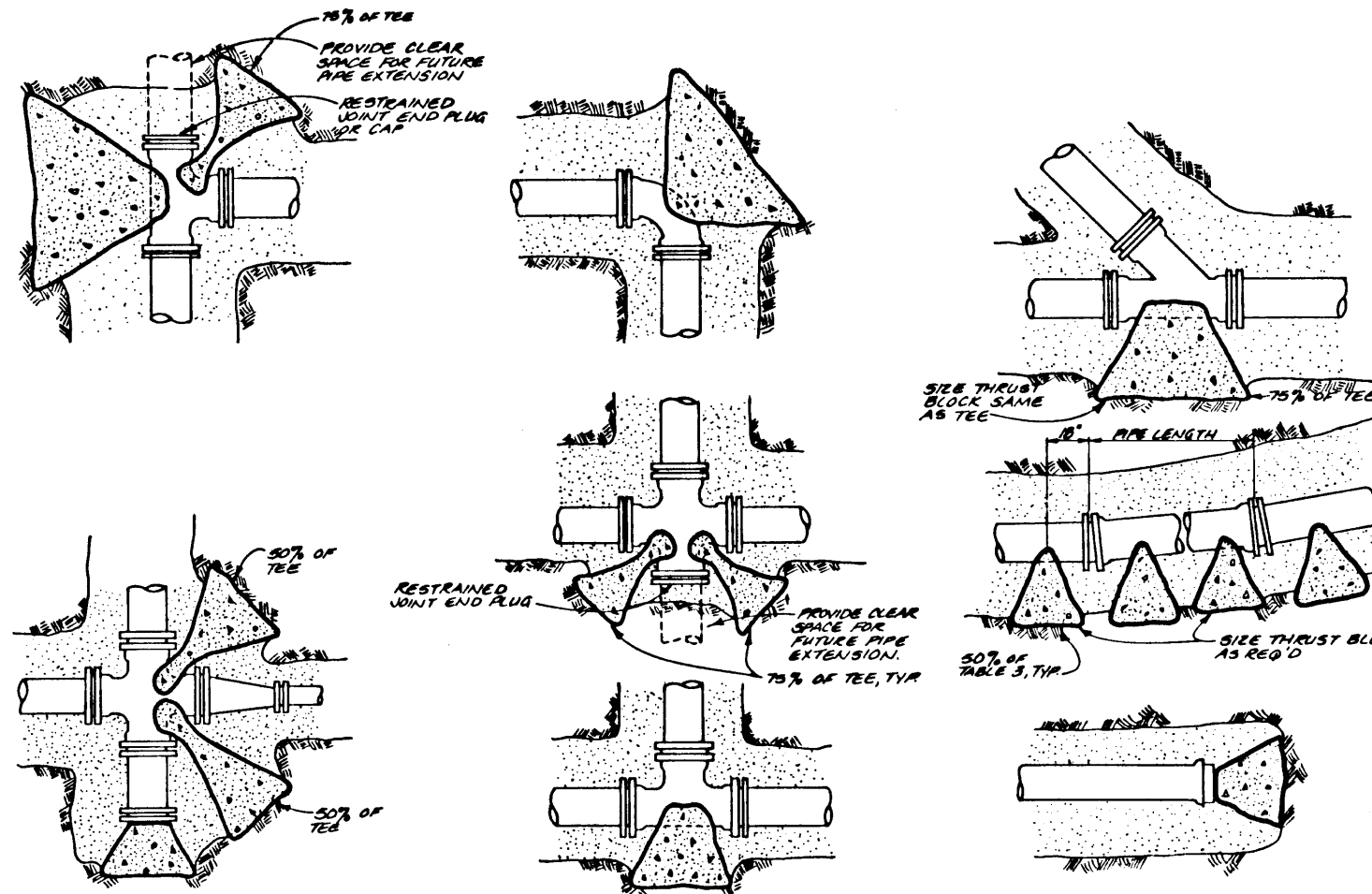
TABLE NO. 2

SOIL	SAFE BEARING LOAD LB/FT ²
SOFT CLAY	500
SILT	1,000
SAND	2,000
SAND AND GRAVEL	3,000
SAND AND GRAVEL CEMENTED WITH CLAY	4,000
HARD CLAY	4,000

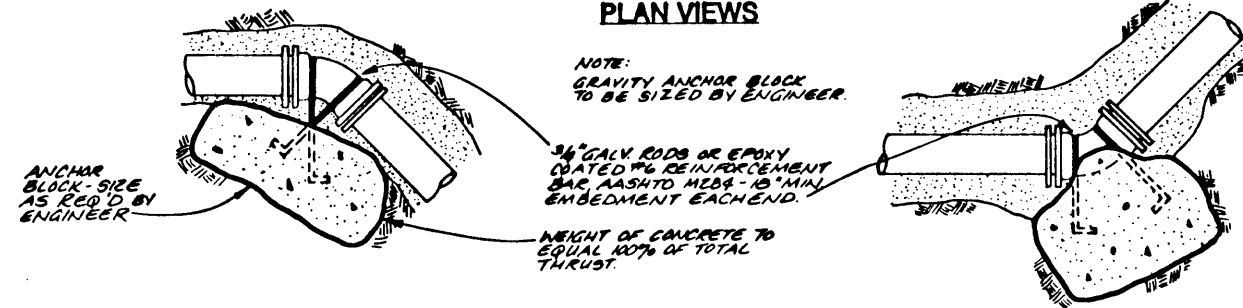
TABLE NO. 3

SIDE THRUST PER 100 LB./SQ. IN. PRESSURE PER DEGREE OF DEFLECTION			
PIPE SIZE	SIDE THRUST-LB.	PIPE SIZE	SIDE THRUST-LB.
4	N/A	14	377
6	N/A	16	486
8	N/A	18	665
10	197	20	790
12	276	24	1,150

MULTIPLY THRUST BY DEGREE OF DEFLECTION TO OBTAIN TOTAL THRUST



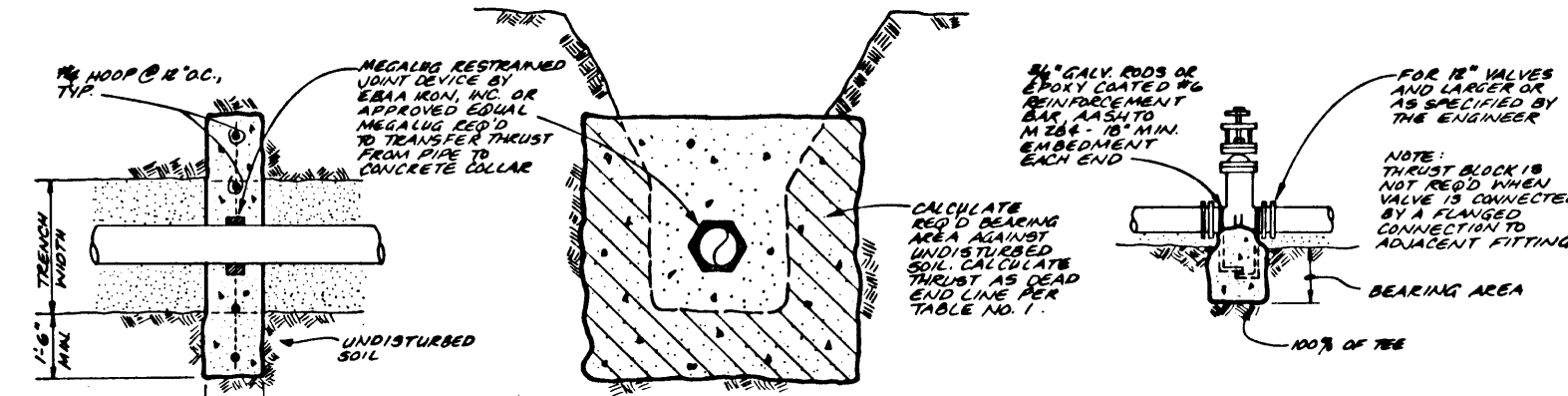
PLAN VIEWS



NOTE: GRAVITY ANCHOR BLOCK TO BE SIZED BY ENGINEER.

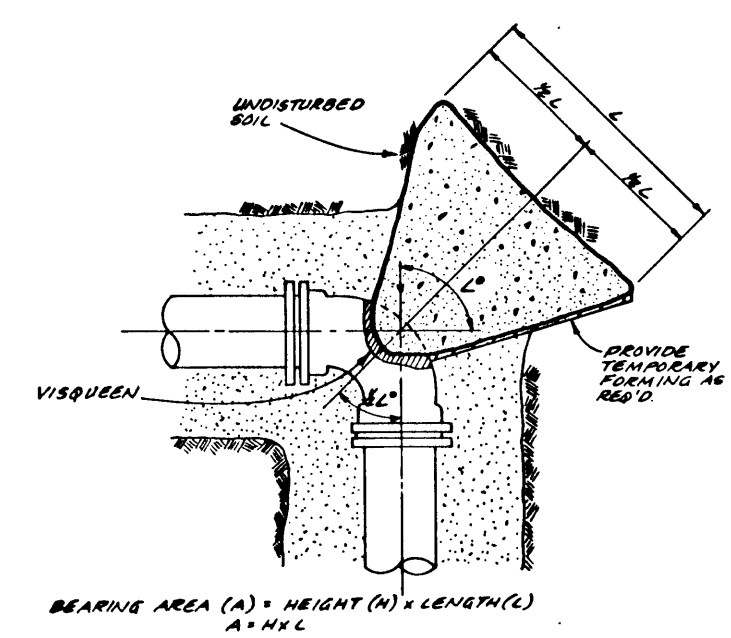
3/4" GALV. RODS OR EPOXY COATED #6 REINFORCEMENT BAR, AASHTO M284 - 18" MIN. EMBEDMENT EACH END.

WEIGHT OF CONCRETE TO EQUAL 100% OF TOTAL THRUST.

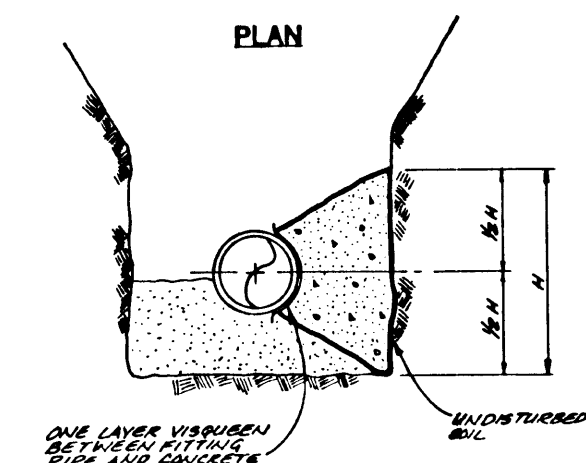


SECTION VIEWS

TYPICAL THRUST BLOCK LOCATIONS



PLAN



SECTION

TYPICAL THRUST BLOCK DETAILS

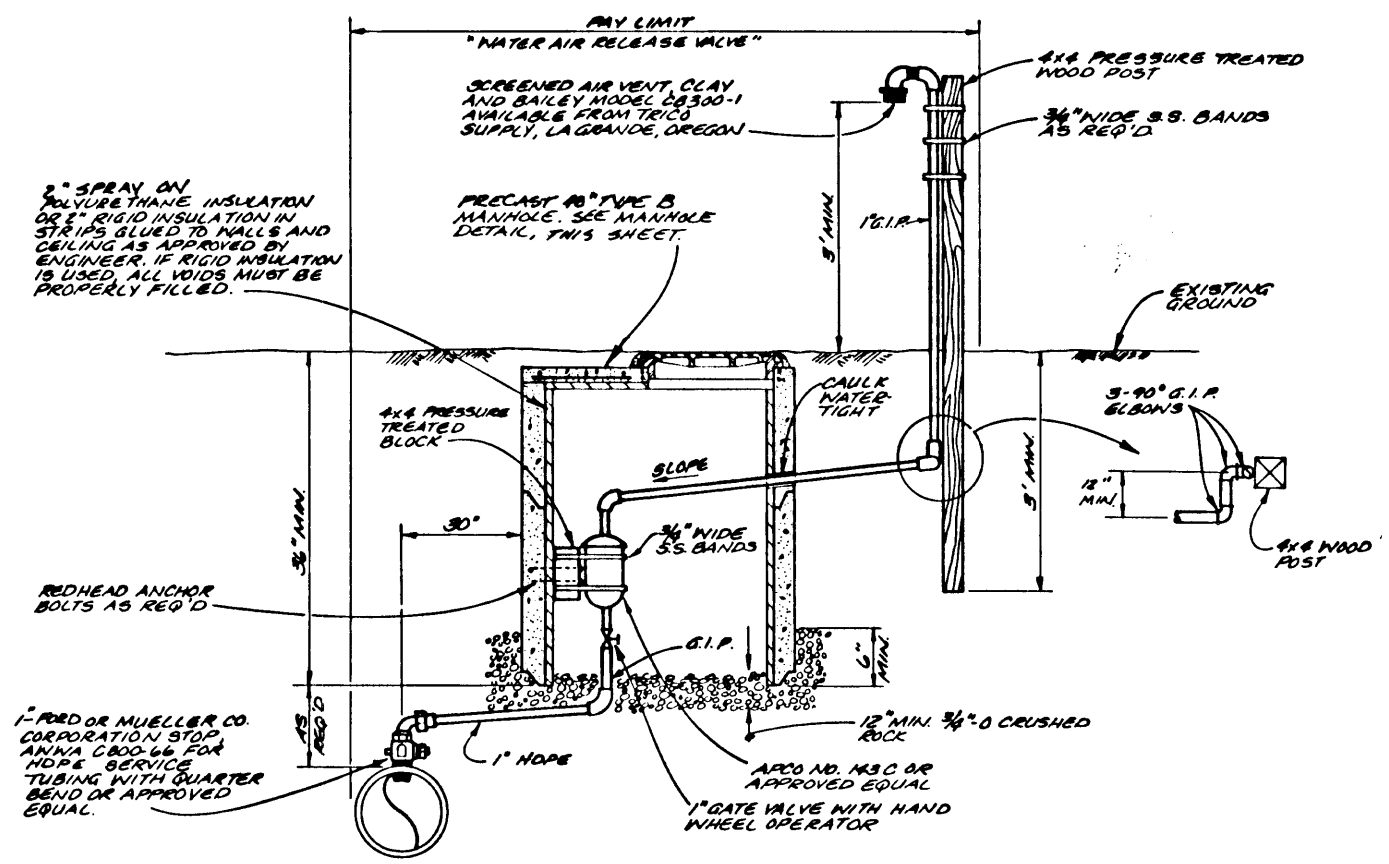


6/26/92

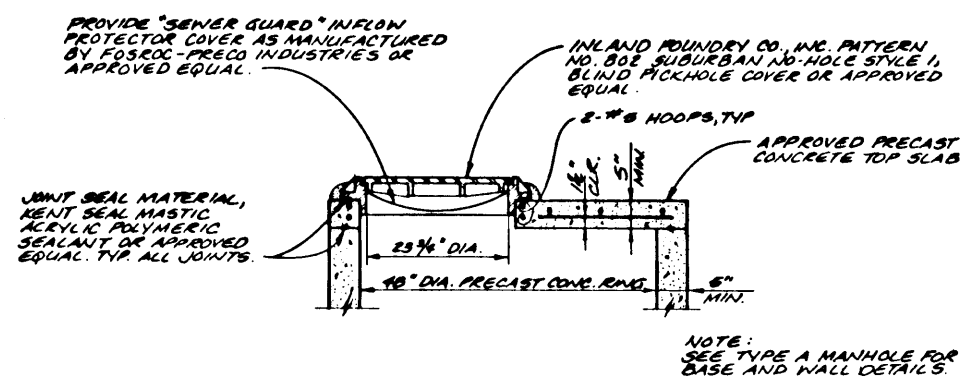


UMATILLA - McNARY SECTION COLUMBIA RIVER HIGHWAY UMATILLA COUNTY				SHEET No. 20
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			See Index

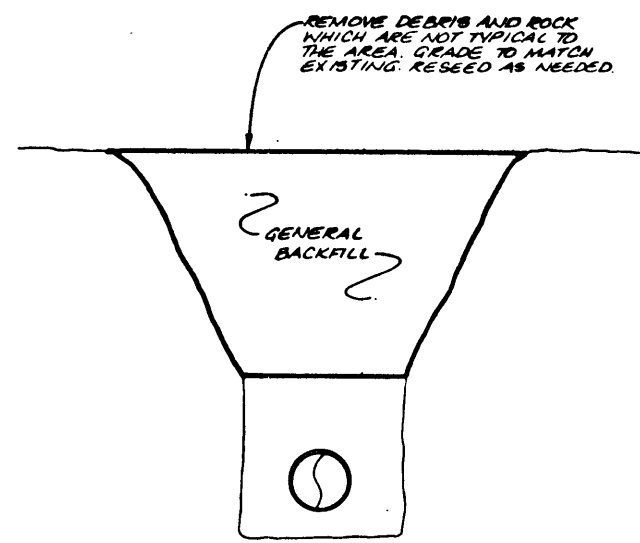
NOT REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11295



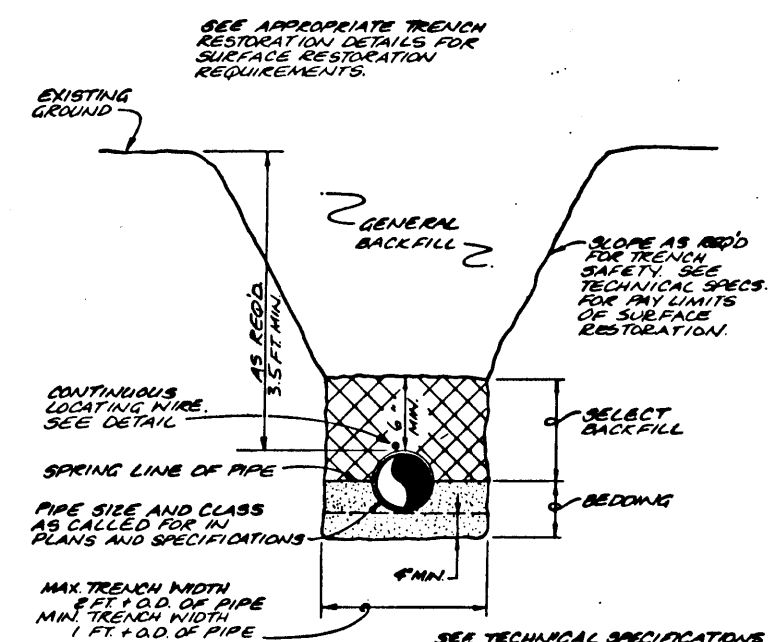
WATER AIR RELEASE VALVE



**PRECAST TOP SLAB MANHOLE
TYPE B**



**TRENCH RESTORATION
NATURAL AREAS**



TRENCH EXCAVATION AND BACKFILL

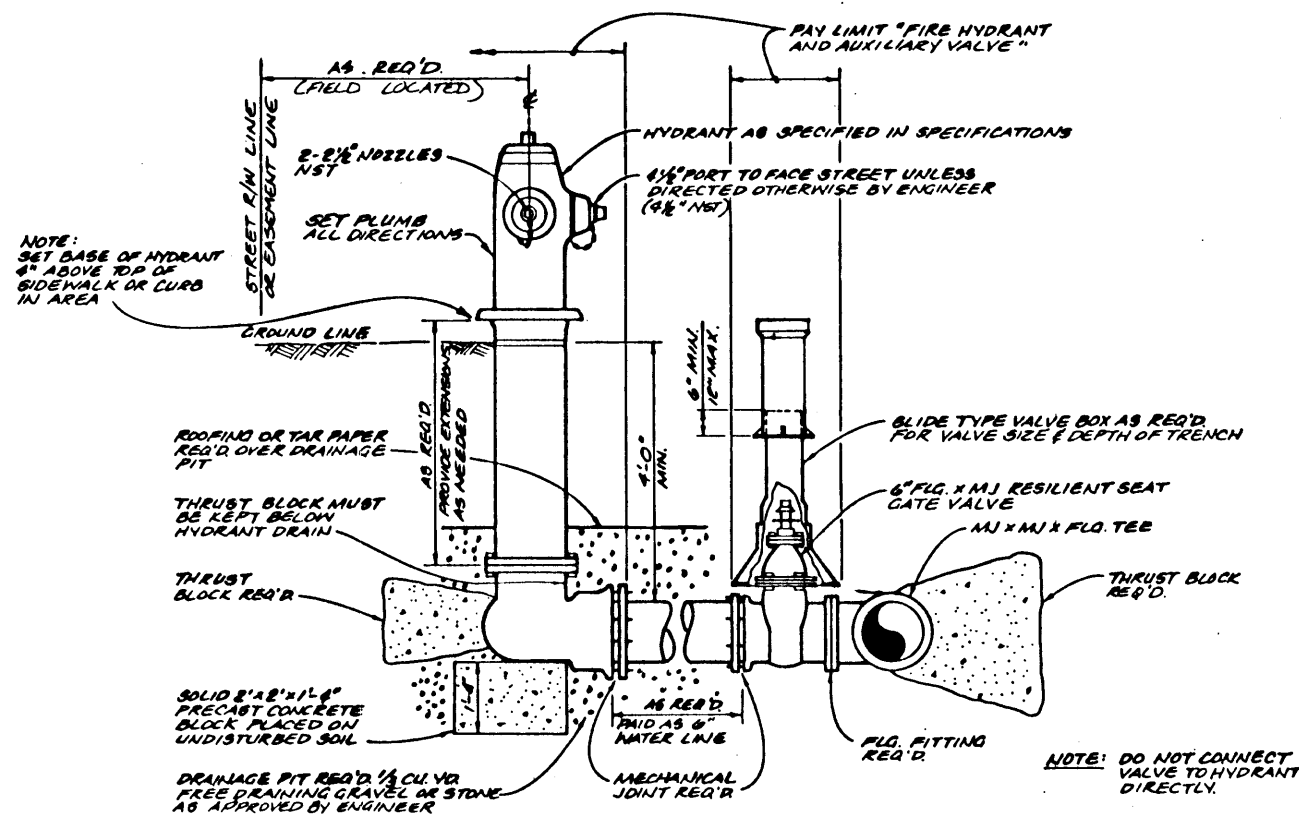


6/24/98

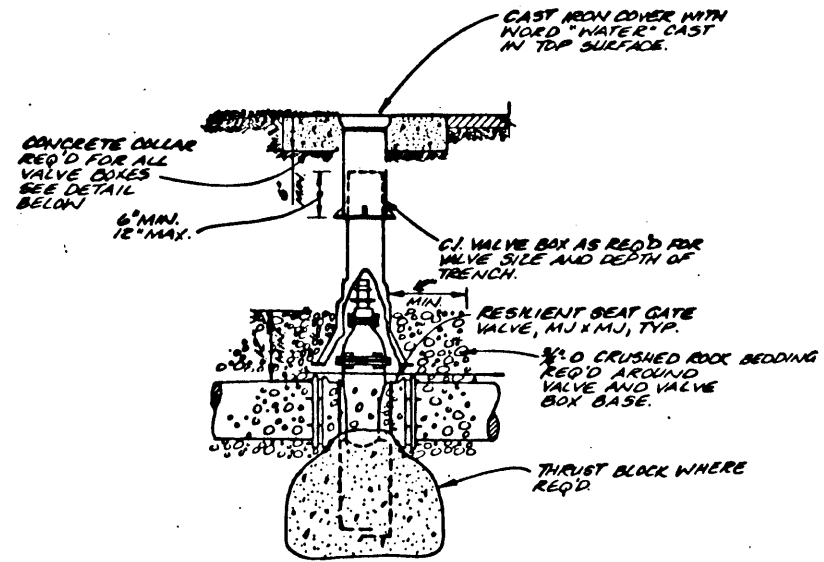


UMATILLA - McNARY SECTION COLUMBIA RIVER HIGHWAY UMATILLA COUNTY				SHEET No. 19
FED. ROAD Dist. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			See Index

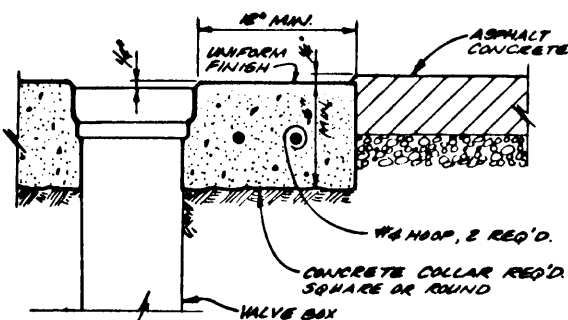
NOT REVISED AS CONSTRUCTED
11-28-99 CONTRACT JL293



FIRE HYDRANT AND AUXILIARY VALVE DETAIL

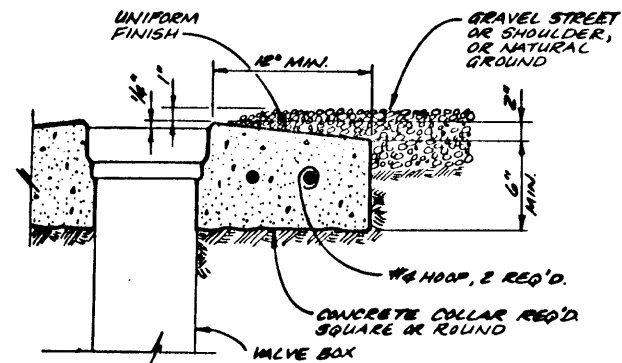


VALVE BOX DETAIL



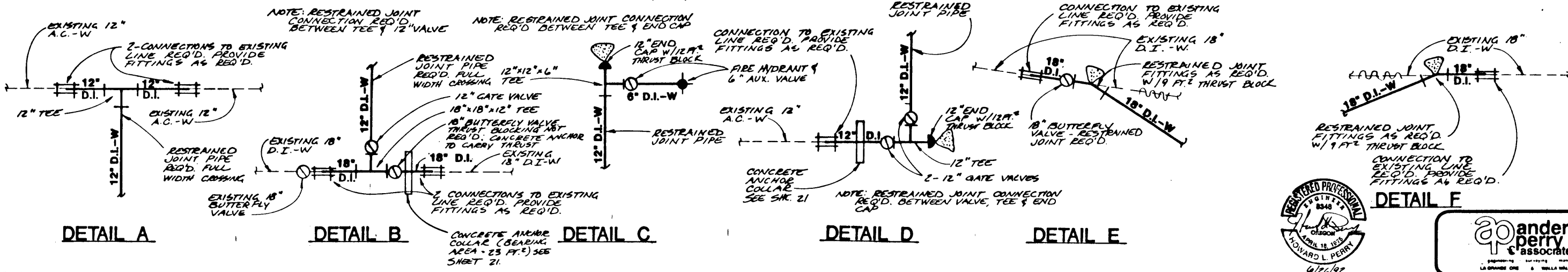
- REQUIREMENTS FOR CONCRETE COLLARS:
1. CONCRETE: 3/4" 7 SACK, 4000 PSI @ 28 DAYS, 3" TO 4" SLUMP.
 2. COLLAR TO BE FINISHED AND UNIFORMLY ROUND.
 3. SMOOTH BROOMED FINISH REQ'D.
 4. APPLY CONCRETE CURING COMPOUND.
 5. PROTECT FROM TRAFFIC FOR 4 DAYS MIN.

CONCRETE COLLAR DETAIL
IN ASPHALT PAVEMENT



- REQUIREMENTS FOR CONCRETE COLLARS:
1. CONCRETE: 3/4" 7 SACK, 4000 PSI @ 28 DAYS, 3" TO 4" SLUMP.
 2. COLLAR TO BE FINISHED AND UNIFORMLY ROUND.
 3. SMOOTH BROOMED FINISH REQ'D.
 4. APPLY CONCRETE CURING COMPOUND.
 5. PROTECT FROM TRAFFIC FOR 4 DAYS MIN.

CONCRETE COLLAR DETAIL
IN GRAVEL STREETS OR NATURAL GROUND



DETAIL A

DETAIL B

DETAIL C

DETAIL D

DETAIL E

DETAIL F



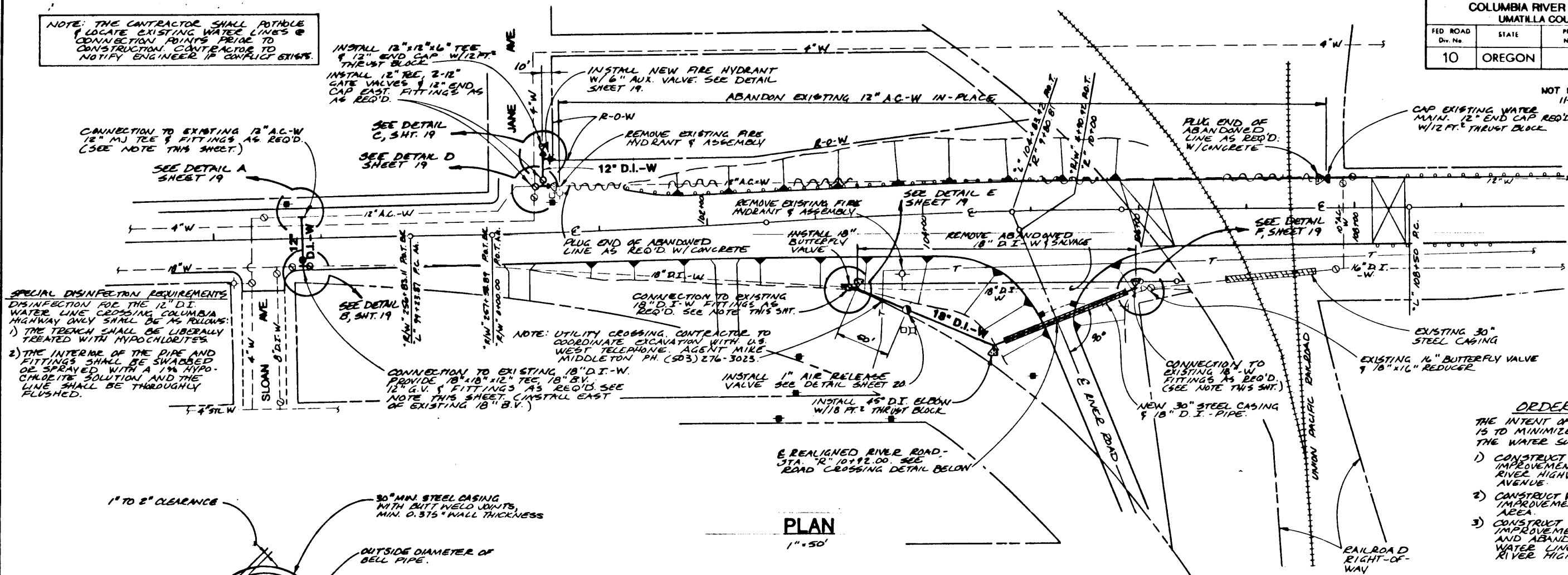
Anderson Perry & Associates, Inc.
ENGINEERS ARCHITECTS
1000 N. W. 11th St.
LA GRANDE, ORE. 97141 UMATILLA COUNTY

6/26/92

UMATILLA - McNARY SECTION COLUMBIA RIVER HIGHWAY UMATILLA COUNTY				SHEET No. 18
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			See Index

NOT REVISED AS CONSTRUCTED
11-22-92 CONTRACT U.I. 245

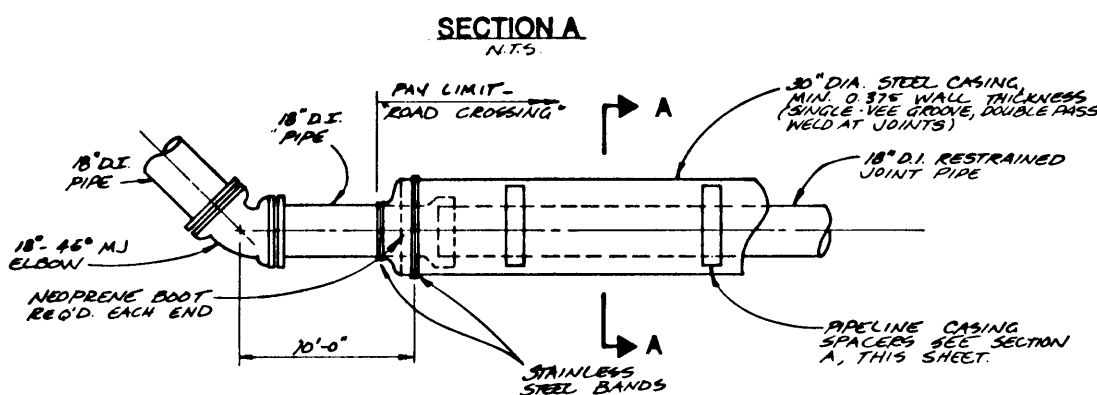
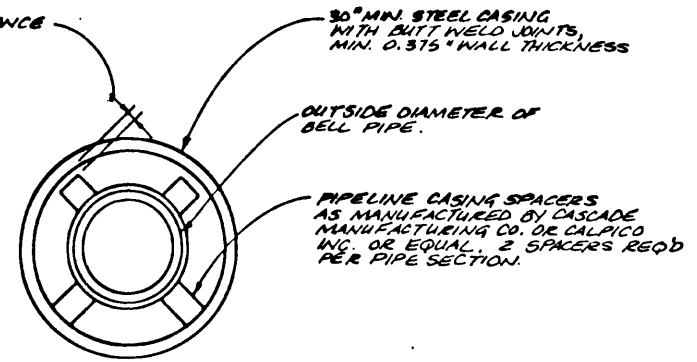
NOTE: THE CONTRACTOR SHALL POT-HOLE & LOCATE EXISTING WATER LINES @ CONNECTION POINTS PRIOR TO CONSTRUCTION. CONTRACTOR TO NOTIFY ENGINEER IF CONFLICT EXISTS.



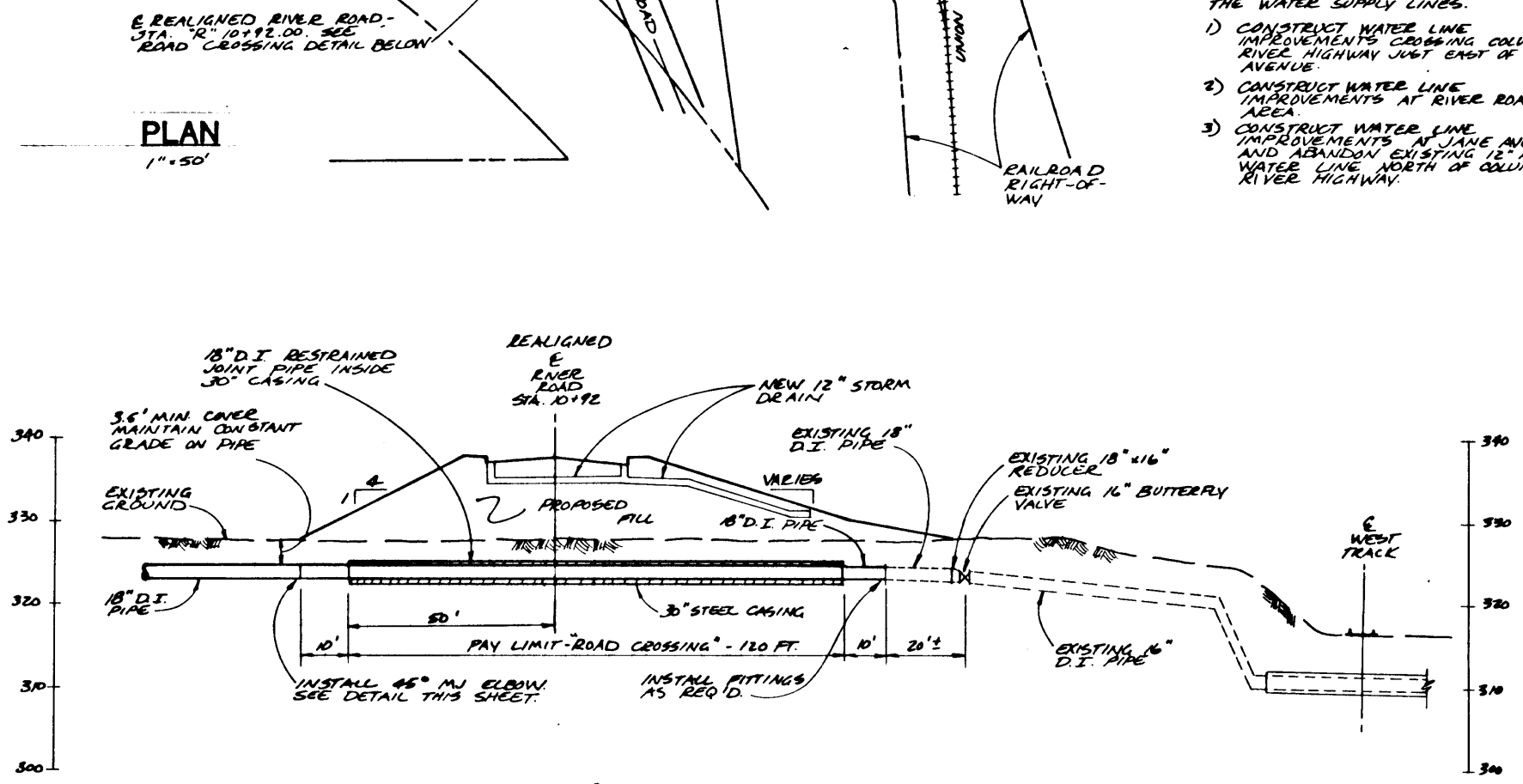
SPECIAL DISINFECTION REQUIREMENTS
DISINFECTION FOR THE 12" D.I. WATER LINE CROSSING COLUMBIA HIGHWAY ONLY SHALL BE AS FOLLOWS:
1) THE TRENCH SHALL BE LIBERALLY TREATED WITH HYPOCHLORITE'S
2) THE INTERIOR OF THE PIPE AND FITTINGS SHALL BE SWABBED OR SPRAYED WITH A 1% HYPOCHLORITE SOLUTION AND THE LINE SHALL BE THOROUGHLY FLUSHED.

NOTE: UTILITY CROSSING CONTRACTOR TO COORDINATE EXCAVATION WITH U.S. WEST TELEPHONE. AGENT MIKE MIDDLETON PH. (503) 276-3025.

ORDER OF WORK
THE INTENT OF THE ORDER OF WORK IS TO MINIMIZE "DOWN TIME" FOR THE WATER SUPPLY LINES.
1) CONSTRUCT WATER LINE IMPROVEMENTS CROSSING COLUMBIA RIVER HIGHWAY JUST EAST OF SLOAN AVENUE.
2) CONSTRUCT WATER LINE IMPROVEMENTS AT RIVER ROAD AREA.
3) CONSTRUCT WATER LINE IMPROVEMENTS AT JANE AVENUE AND ABANDON EXISTING 12" A.C. WATER LINE NORTH OF COLUMBIA RIVER HIGHWAY.



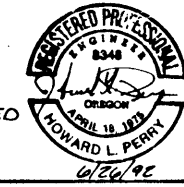
ELEVATION
CASING DETAILS
N.T.S.



ROAD CROSSING DETAIL

1" = 20' HORIZ.
1" = 10' VERT.

WATER LINE IMPROVEMENTS TO BE INSTALLED PRIOR TO PLACEMENT OF ROADWAY EMBANKMENT IN THIS AREA.

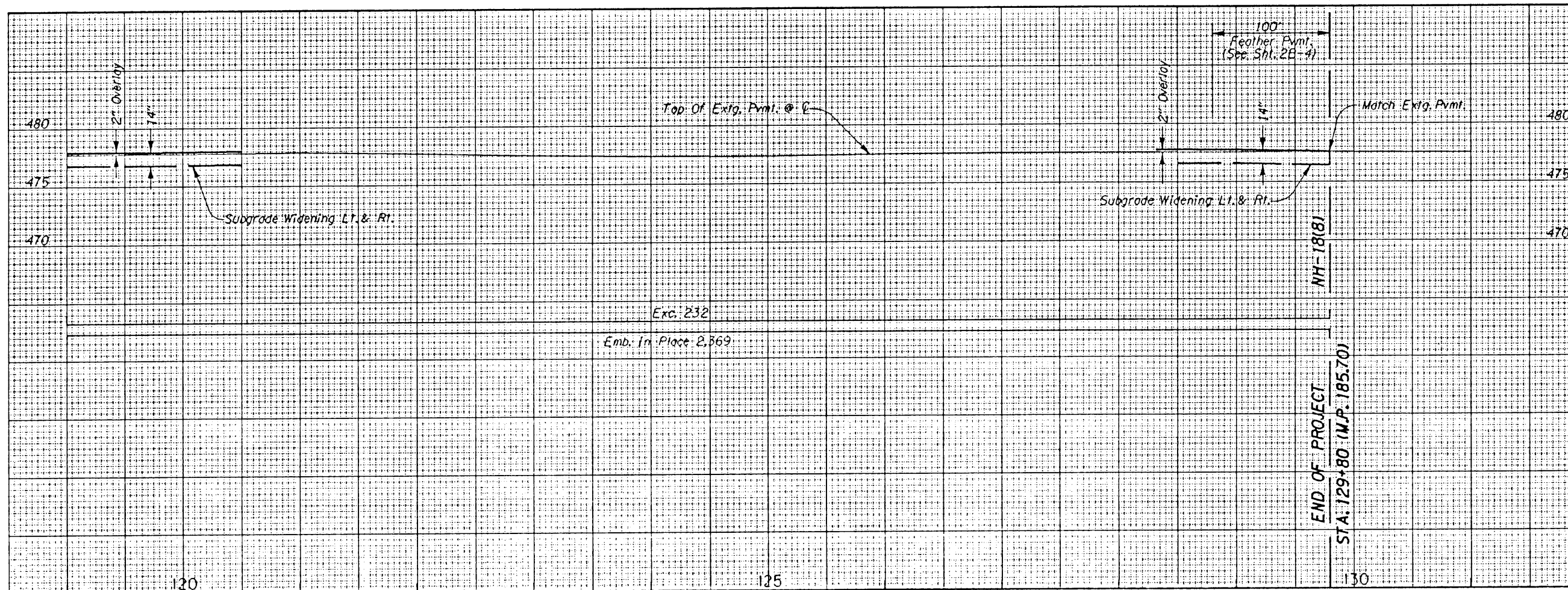
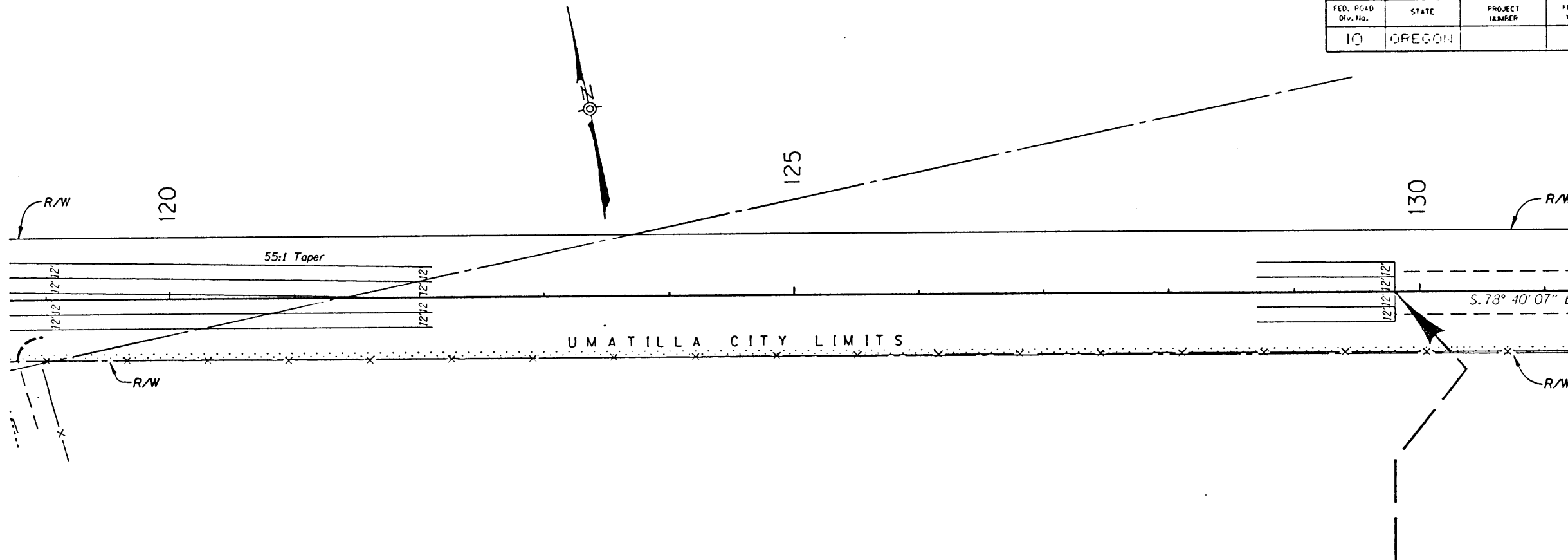


Sec. 14, T. 5N., R. 28E., W. M.
UMATILLA

REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11,245

24V-30

UMATILLA - McNARY SECTION COLUMBIA RIVER HIGHWAY UMATILLA COUNTY				SHEET No. 17
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			17



usr6/at/chive/144/00899/00899f44-4pp_30-NOV-1995_08-05

R:\08991-4pp\E17(51247.spot) satterwh@spot. Thu Nov 30 08:48:29 PST 1995

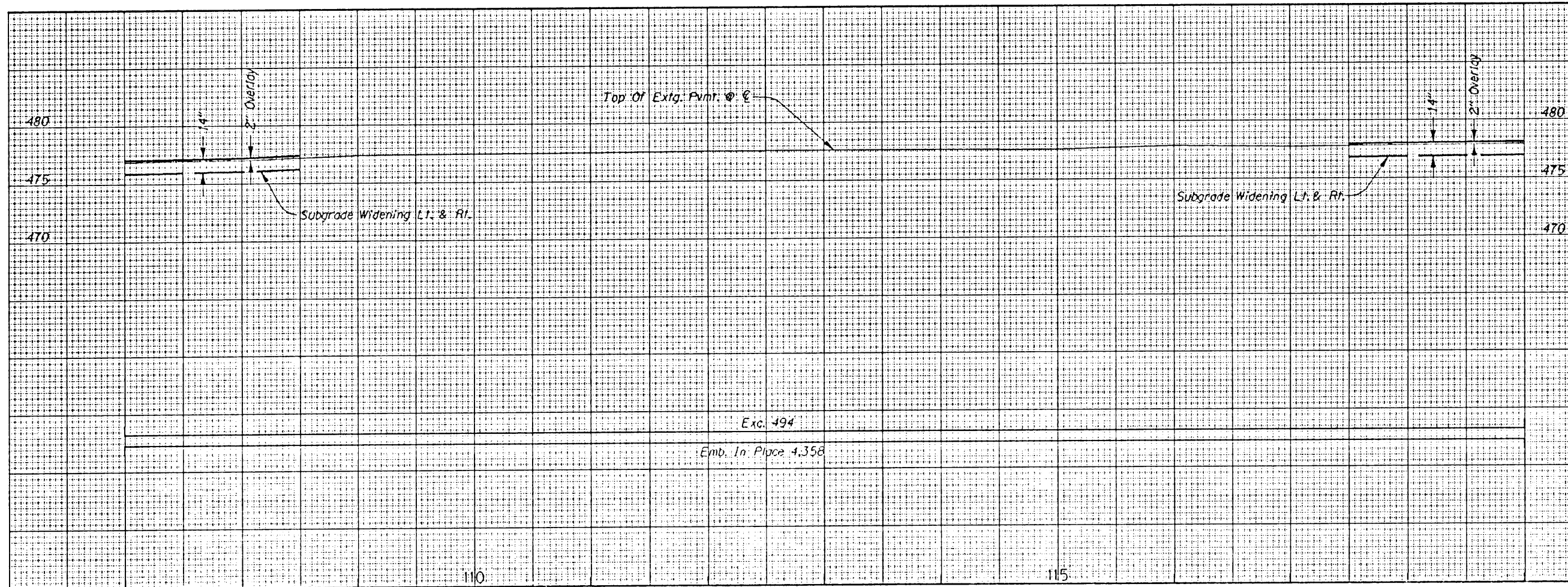
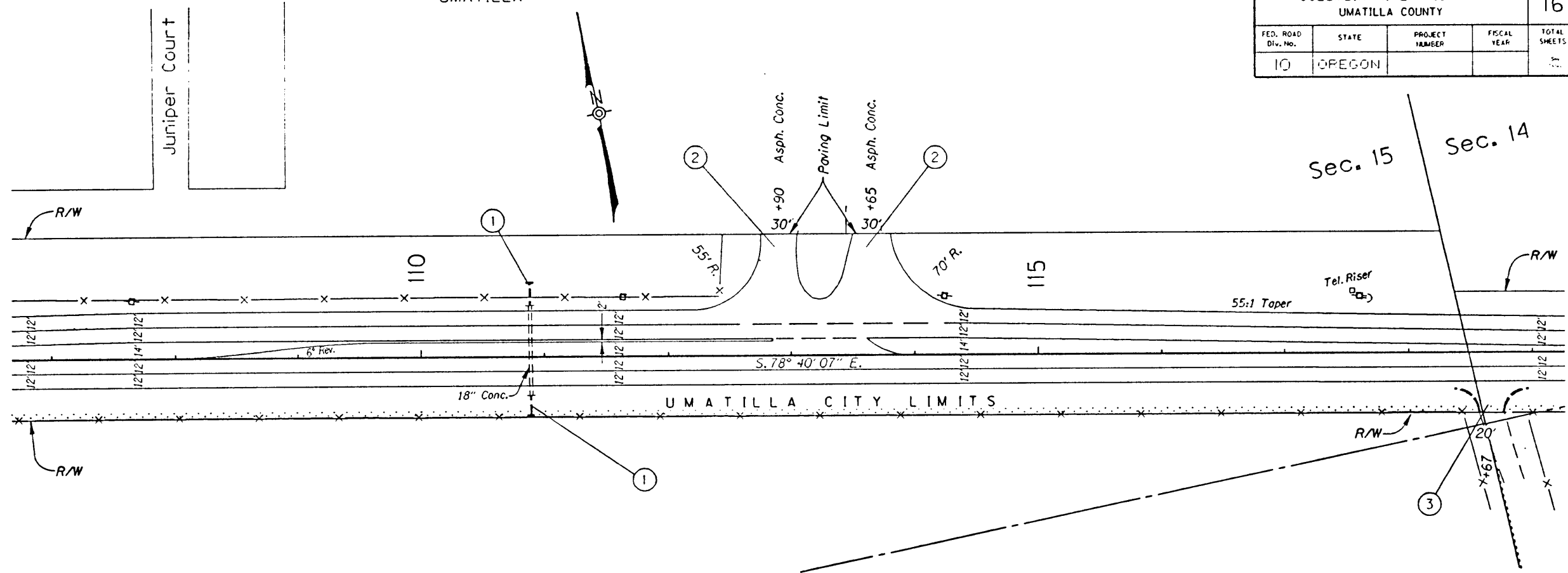
T. 5N. , R. 28E. , W. M.
UMATILLA

REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11,245

24V-30

UMATILLA - McNARY SECTION				SHEET NO.
COLUMBIA RIVER HIGHWAY				16
UMATILLA COUNTY				TOTAL SHEETS
FED. ROAD DIST. NO.	STATE	PROJECT NUMBER	FISCAL YEAR	
10	OREGON			

- ① Sta. 110+87
18" Con. Pipe - 72' (In Pl.)
Extend - 18' Lt.
- 20' Rt.
Tr. Exc. = 12 C.Y.
- ② Const. Road Conn. - 2
- ③ Const. Appr.



Y:\s\6\archive\144\00899\00899r44 4pp 30-NOV-1995 08:05

R:\18899\4pp\E\16(51246.spot) switterwh@spot. Thu Nov 30 08:33:53 PST 1995

1 Const. Appr.

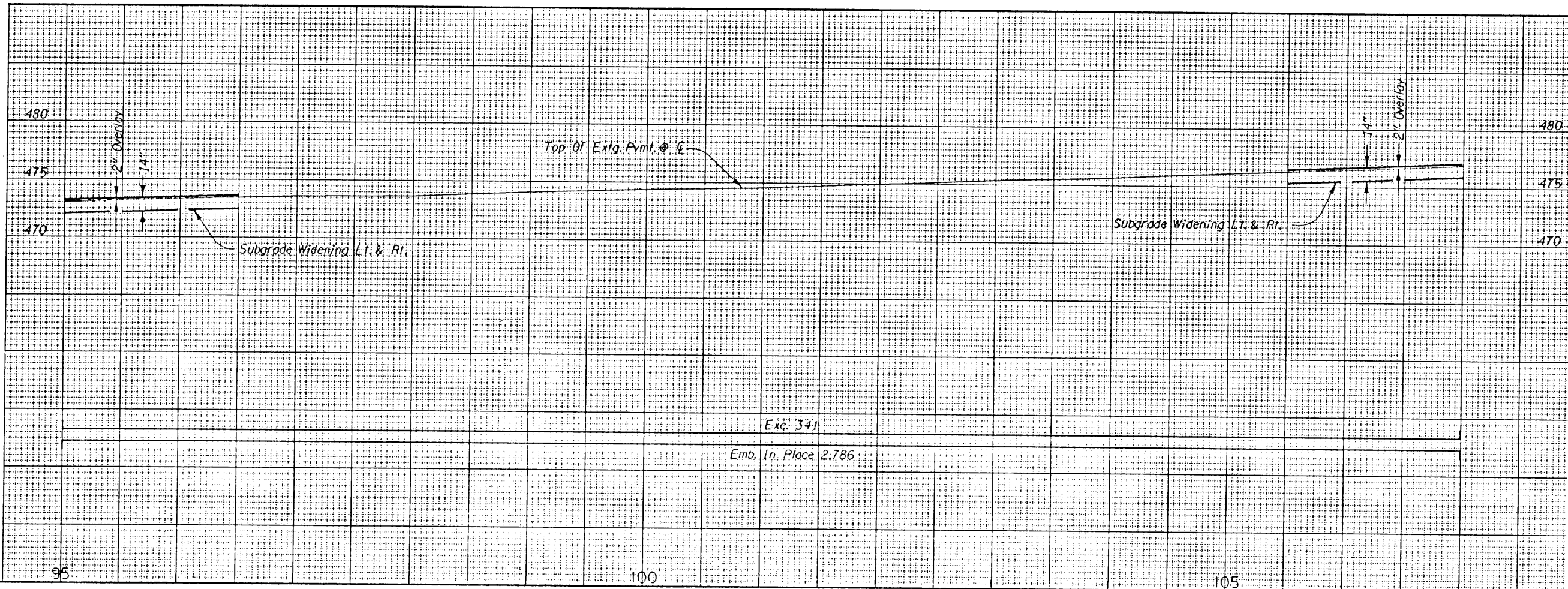
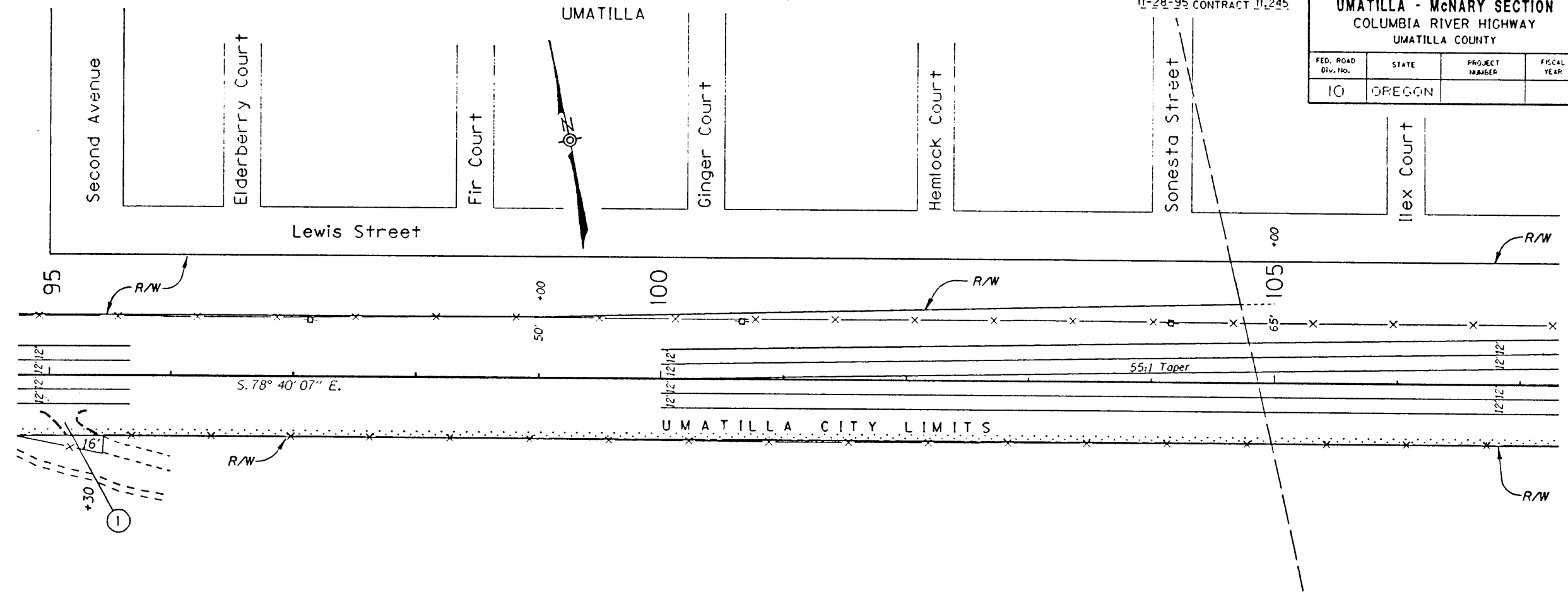
Sec. 15, T. 5 N., R. 28 E., W.M.

UMATILLA

REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11,245

24V-90

UMATILLA - McNARY SECTION COLUMBIA RIVER HIGHWAY UMATILLA COUNTY				SHEET NO. 15
FED. ROAD DIST. NO.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			15



Exc. 341
Emb. In. Place 2,786

us6/archive/104/00899/00899r4_3pp 30-NOV-1995 06:04

00899r4_3ppE14(51245.spot) satterwh@spot. Thu Nov 30 08:31:29 PST 1995

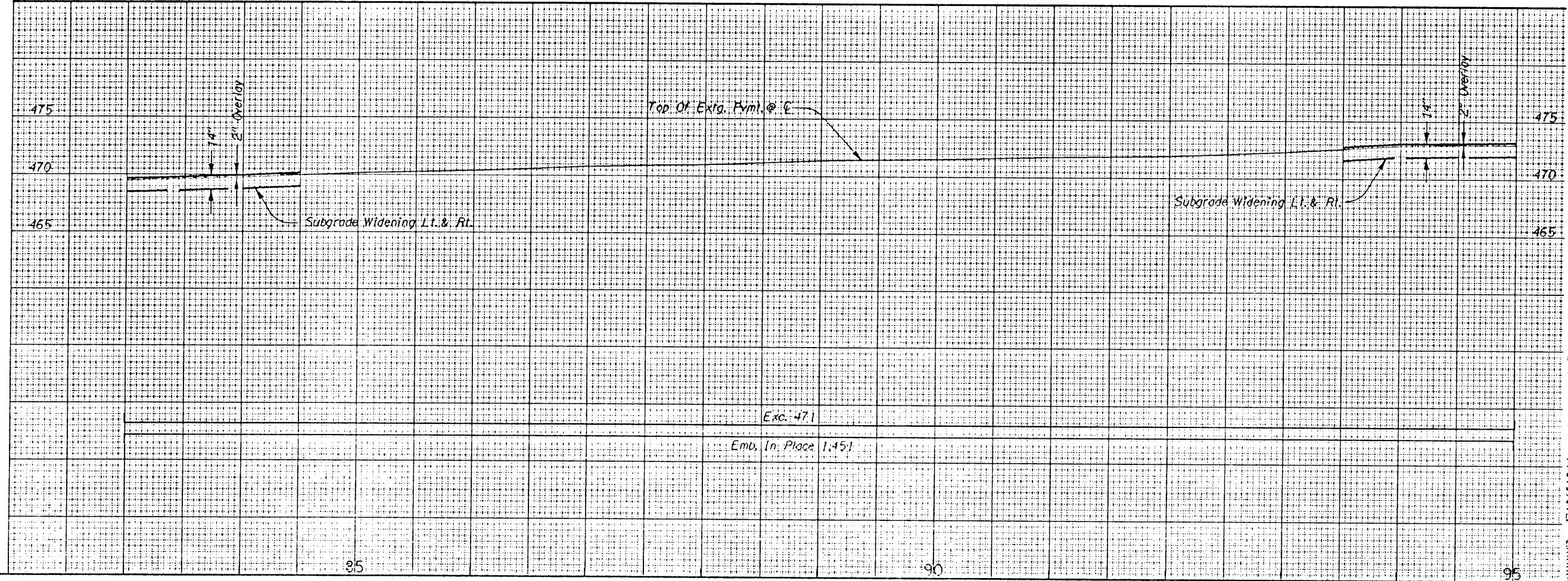
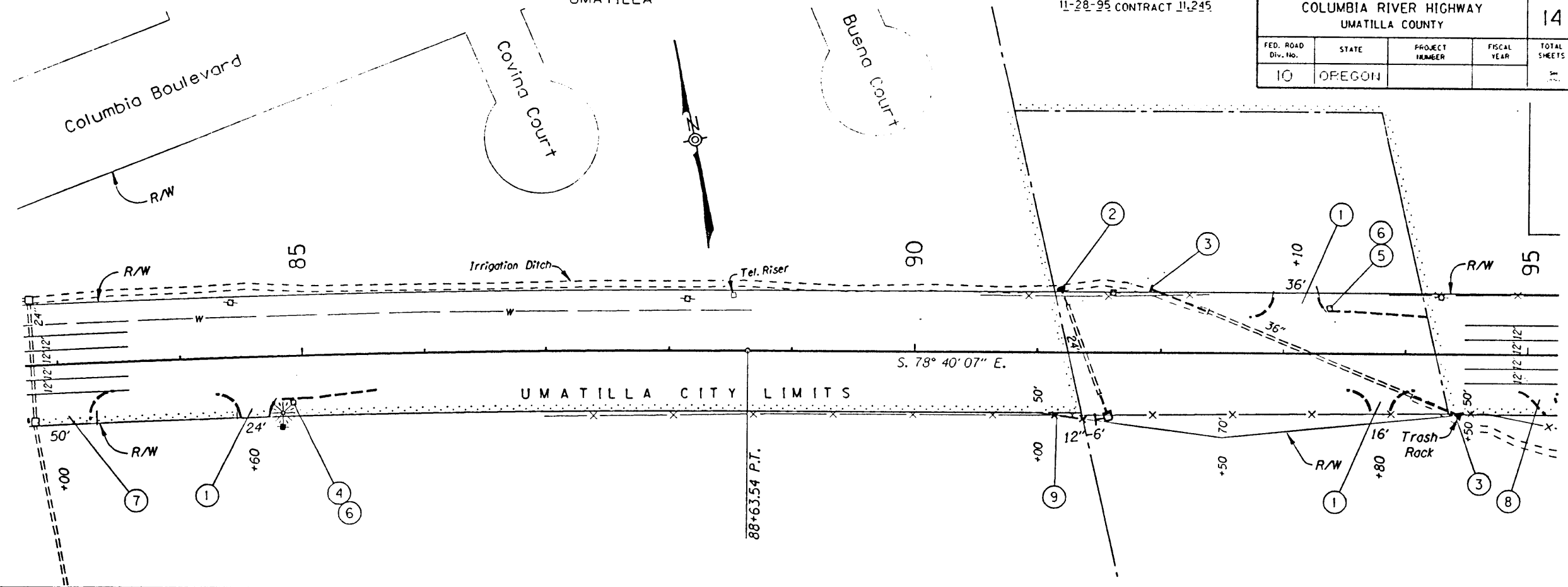
Sec. 15, T. 5 N., R. 28 E., W.M.
UMATILLA

24V-98

REVISED AS CONSTRUCTED
11-28-95 CONTRACT J1245

UMATILLA - McNARY SECTION COLUMBIA RIVER HIGHWAY UMATILLA COUNTY				
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	SHEET No. TOTAL SHEETS
10	OREGON			14 11

- ① Const. Appr. - 3
- ② Sta. 91+42
Inst. Waterman C10-C Canal
Gate Or Equivalent
Const. Conc. Irrig. Box
24" Cuv. Pipe - 76' (In Pl.)
Extend - 14' Lt.
- 16' Rt.
Inst. 12" Cuv. Pipr - 6'
Tr. Exc. - 2 C.Y.
- ③ Sta. 93+18
36" Cuv. Pipe - 172' (In Pl.)
Extend - 50' Lt.
- 38' Rt.
Const. Trash Rack
Tr. Exc. - 8 C.Y.
(For Details, See Sht. 2B-2)
- ④ Sta. 84+87 Rt.
Inst. Multiple Mailbox Support
Const. Conc. Collar
- ⑤ Sta. 93+40 Lt.
Inst. Single Mailbox Support
Const. Conc. Collar
- ⑥ Const. Mailbox Service Turnout - 2
- ⑦ See Sht. 13, Note 1
- ⑧ See Sht. 15, Note 1
- ⑨ Const. Type "1-5W" Fence



R:\usr6\archive\144\00899\00899r14_3pp_30-nov-1995_0804

R:\00899\3pp\El:3(51244.spot) sutterwh@spot. Thu Nov 30 08:10:05 PST 1995

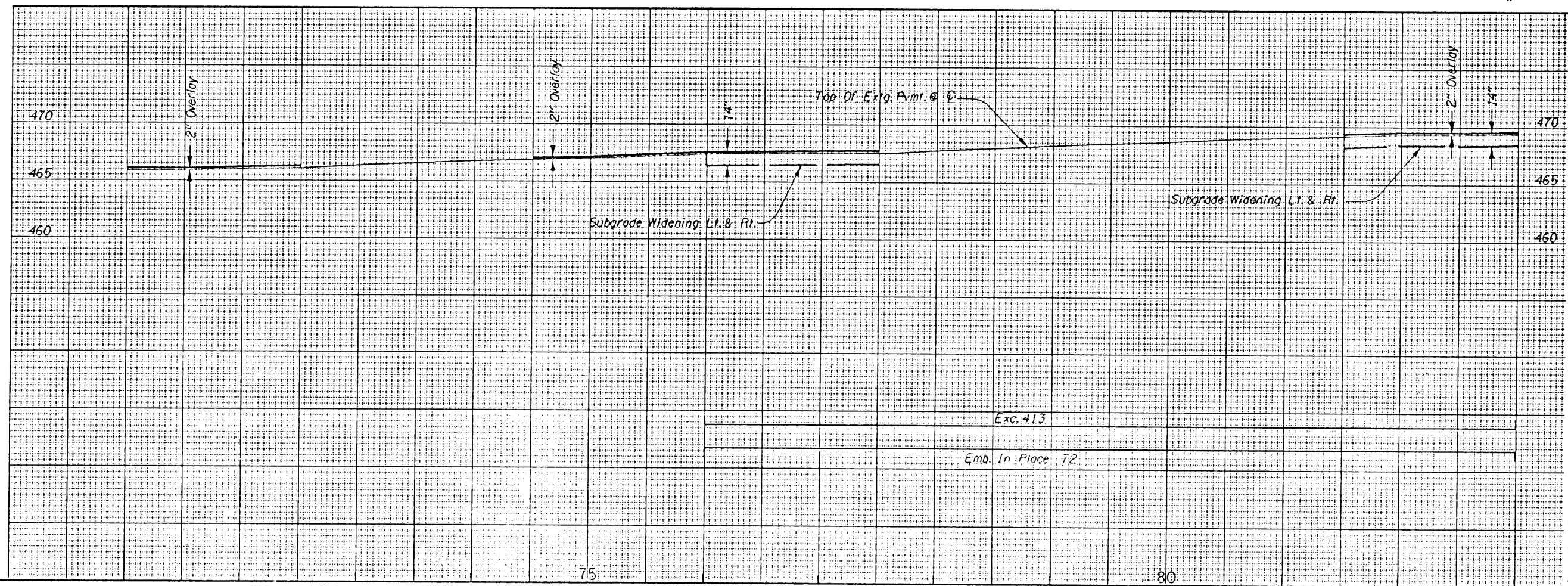
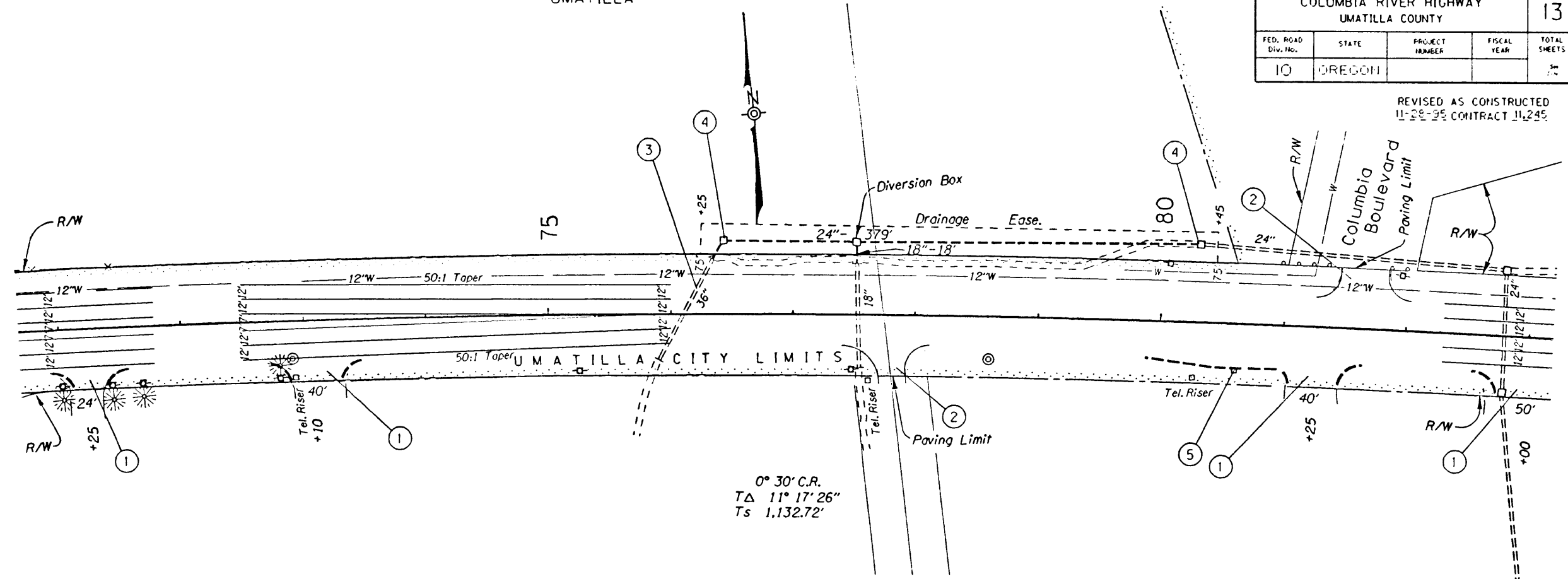
Sec. 15, T. 5 N., R. 28 E., W.M.
UMATILLA

24V-98

UMATILLA - McNARY SECTION				SHEET No.
COLUMBIA RIVER HIGHWAY				13
UMATILLA COUNTY				
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			74

REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11,245

- ① Const. Appr. - 4
- ② Const. Road Conn. - 2
- ③ Sta. 76+22
36" Culv. Pipe - 96' (In Pl.)
Extend - 16' Lt.
Tr. Exc. - 6 C.Y.
- ④ Sta. 76+40 To Sta. 80+30
18" Irrig. Pipe - (In Pl.)
Extend - 18' Lt.
Const. Conc. Diversion Box
Inst. Waterman "C-10F" Channel Gate Or Equiv.
Const. Conc. Irrig. Box - 2
Inst. 24" Irrig. Pipe - 379'
Tr. Exc. - 227 C.Y.
(For Details, See Sht. 2B-2 & Sht. 2B-3)
- ⑤ Sta. 80+60 Rt.
Inst. Single Mailbox Support
Const. Conc. Collar
Const. Mailbox Turnout



[usr:6 archive/1d4.00899/00899r1d4.3pp_30-NOV-1995_08:04

R:\MS99\3pp\12(51243.spot) satterwh@spot. Thu Nov 30 08:09:09 PST 1995

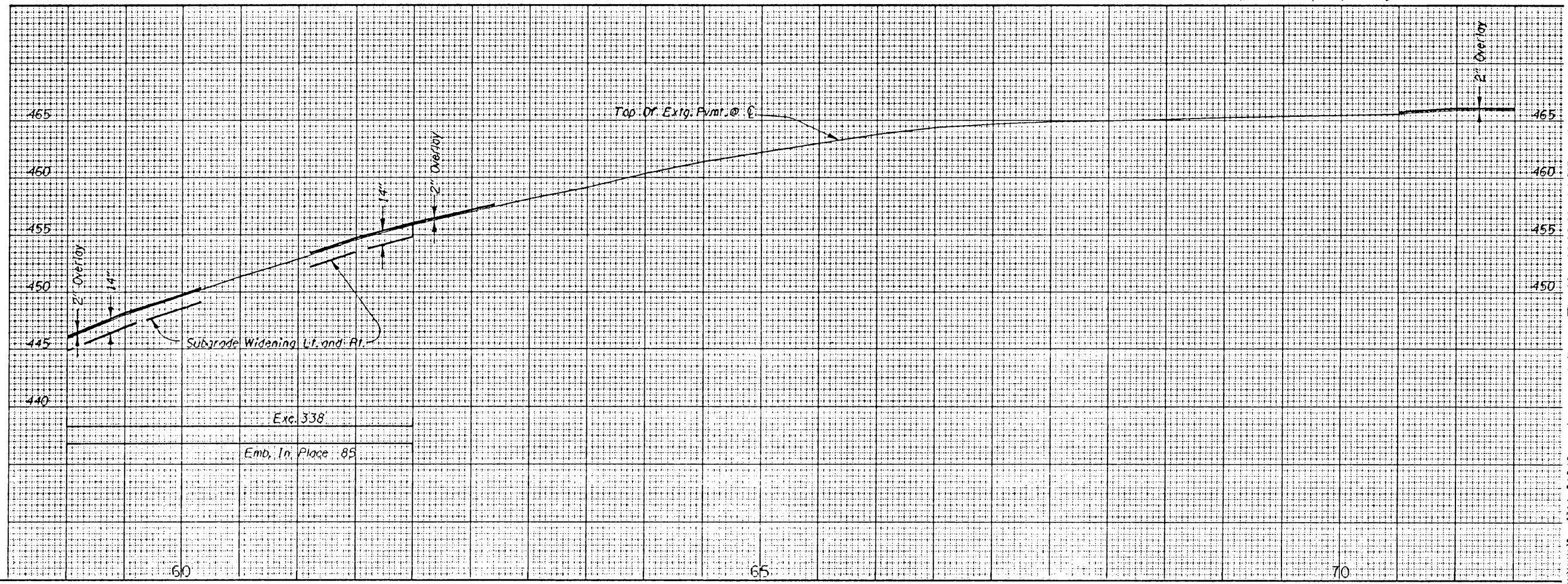
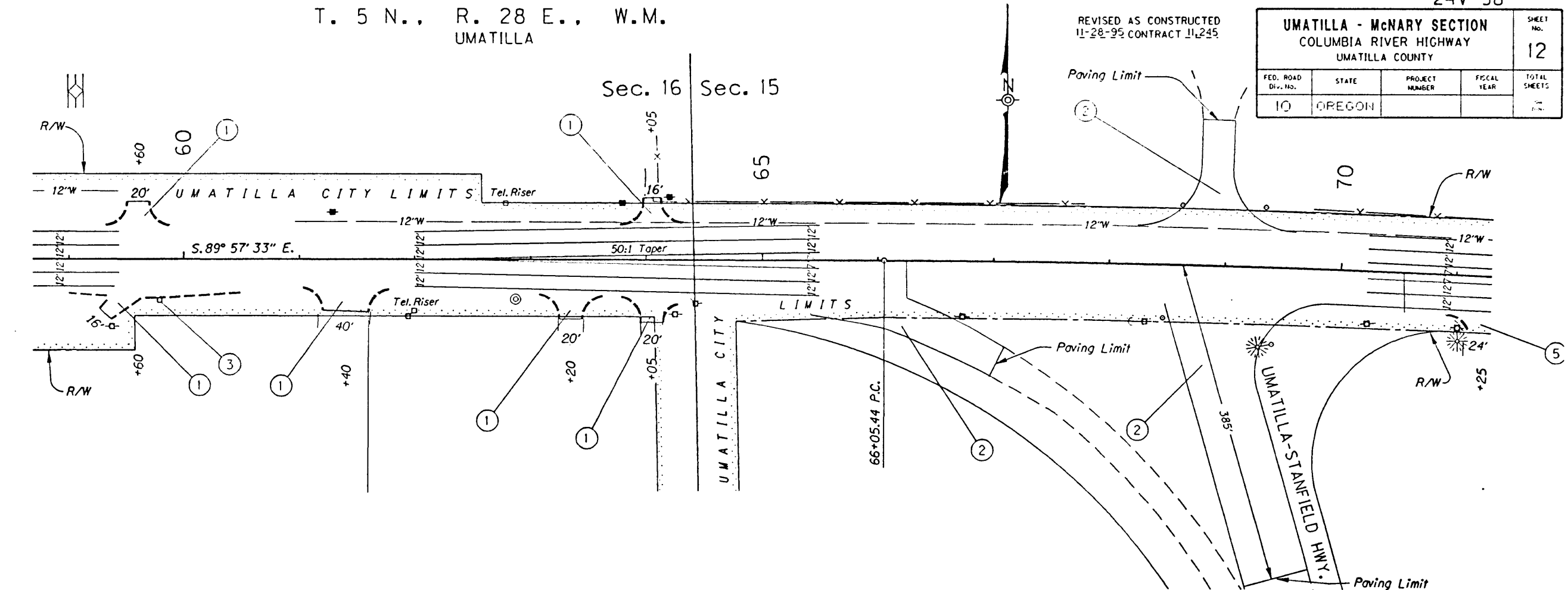
T. 5 N., R. 28 E., W.M.
UMATILLA

24V-98

REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11,245

UMATILLA - McNARY SECTION COLUMBIA RIVER HIGHWAY UMATILLA COUNTY				SHEET NO.
FED. ROAD Dist. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			12

- ① Const. Appr. - 6
- ② Const. Road Conn. - 3
- ③ Sta. 59+85 Rt.
Inst. Single Mailbox Support
Const. Conc. Collar
Const. Mailbox Turnout
(See Drg. No. 2136)
- ⑤ See Sht. 13, Note 1



usr6/archiver/d4/00899/00899r04.3pp 30-NOV-1995 08:04

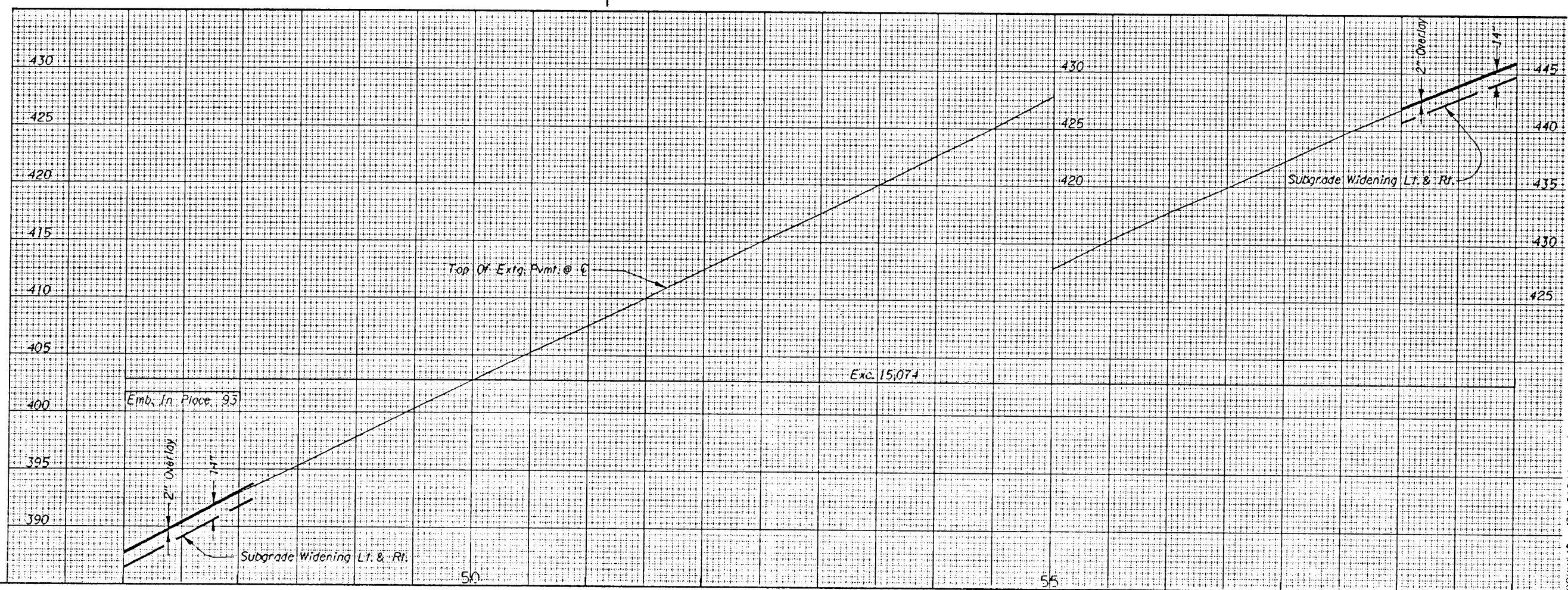
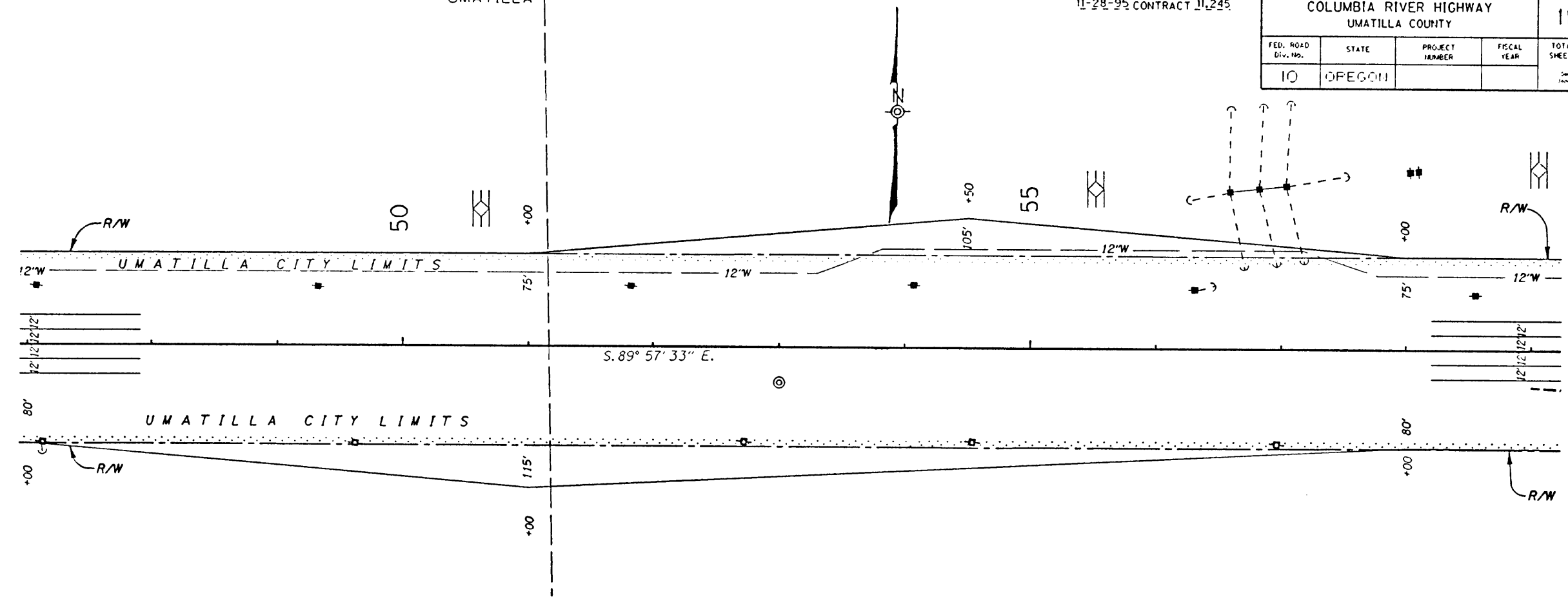
R:\00899\3pp\11(5)1242.spot satterwh@spot. Thu Nov 30 08:08:13 PST 1995

Sec. 16, T. 5 N., R. 28 E., W.M.
UMATILLA

REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11,245

24V-30

UMATILLA - McNARY SECTION				SHEET NO.
COLUMBIA RIVER HIGHWAY				11
UMATILLA COUNTY				
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			11



I:\st6\archive\14\00899\00899\14_2pp_30-NOV-1995_0801

R:\0899\12ppE9\51241.spot) satterwh@spot. Thu Nov 30 08:07:21 PST 1995

Sec. 16, T. 5 N., R. 28 E., W.M.

UMATILLA

UMATILLA - McNARY SECTION				
COLUMBIA RIVER HIGHWAY				
UMATILLA COUNTY				
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			10

REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11,245

1 Const. Appr. - 2

3 Note Removed From Plan

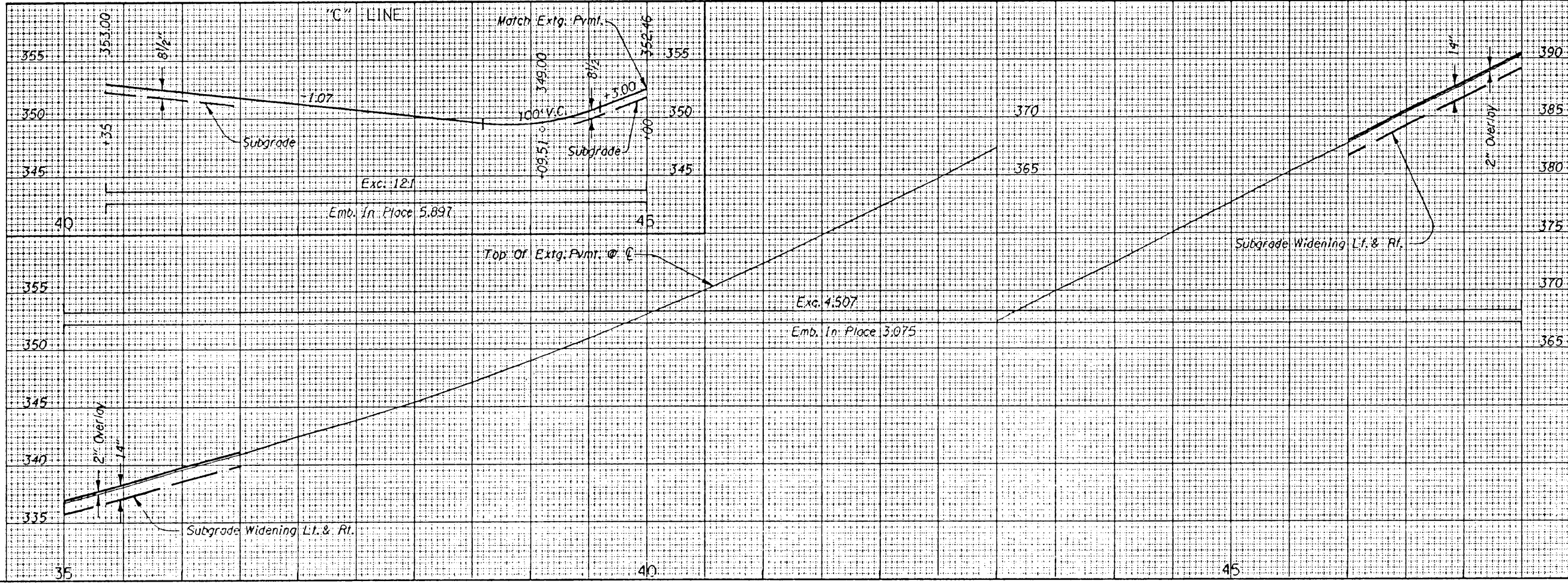
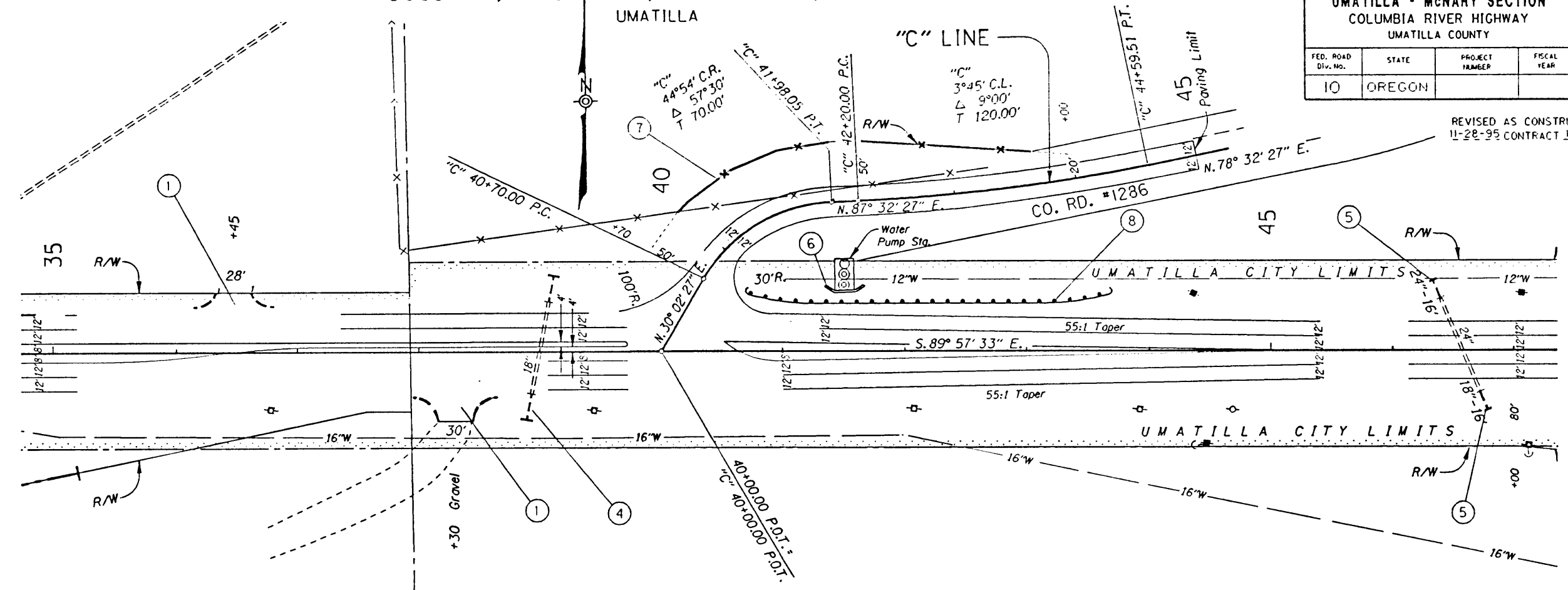
4 Sta. 39+00
18" Culv. Pipe - 76' (In Pl.)
Extend - 22' Lt.
- 22' Rt.
Tr. Exc. - 4 C.Y.

5 Sta. 46+62
24" Culv. Pipe - 84' (In Pl.)
Extend - 16' Lt.
Inst. 18" Pipe - 16'
Tr. Exc. - 14 C.Y.

6 Sta. 41+52 Lt.
Const. Gravity Retaining Wall
(For Details, See Sht. 2B-2)

7 Const. Type 2 Fence

8 Sta. 40+70 To Sta. 43+70 Lt.
Const. Guard Rail - 300' (Type 2A)
Flare Rate=15:1, W=8.1', E=2'
Const. Anchor - 2 (Type 1)
Const. End Piece - 2 (Type C)

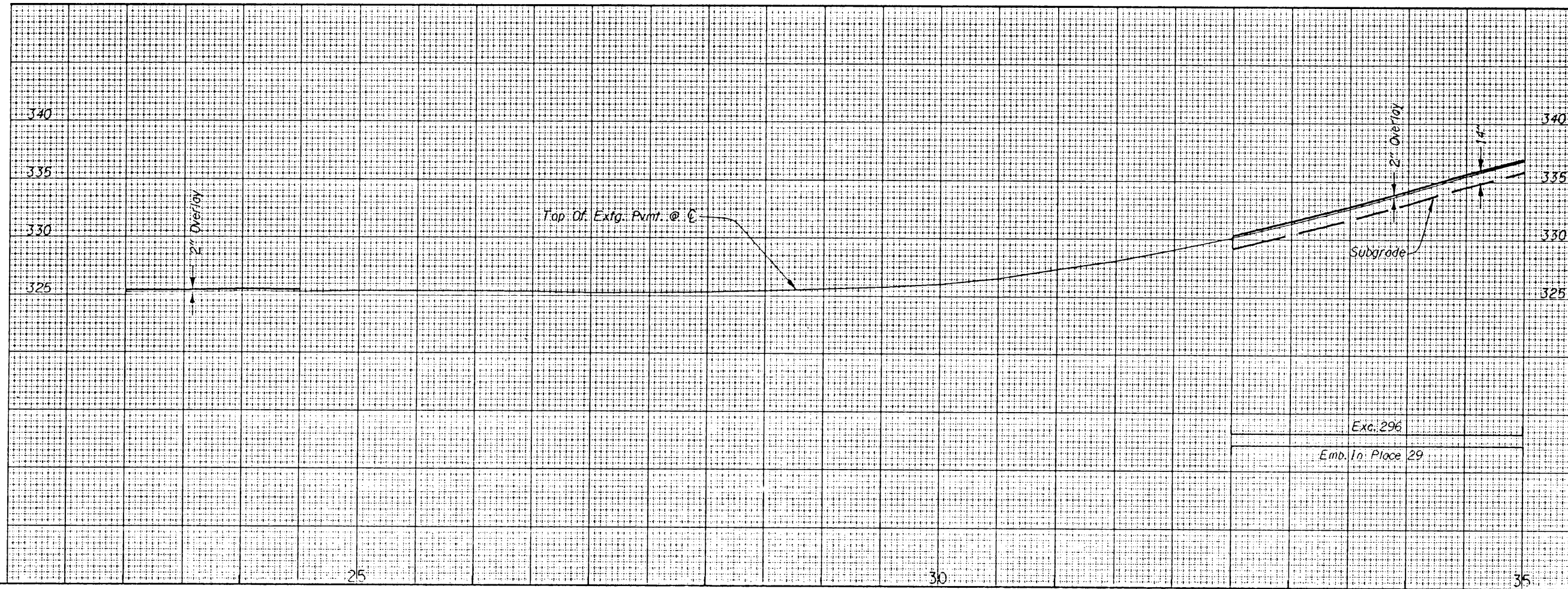
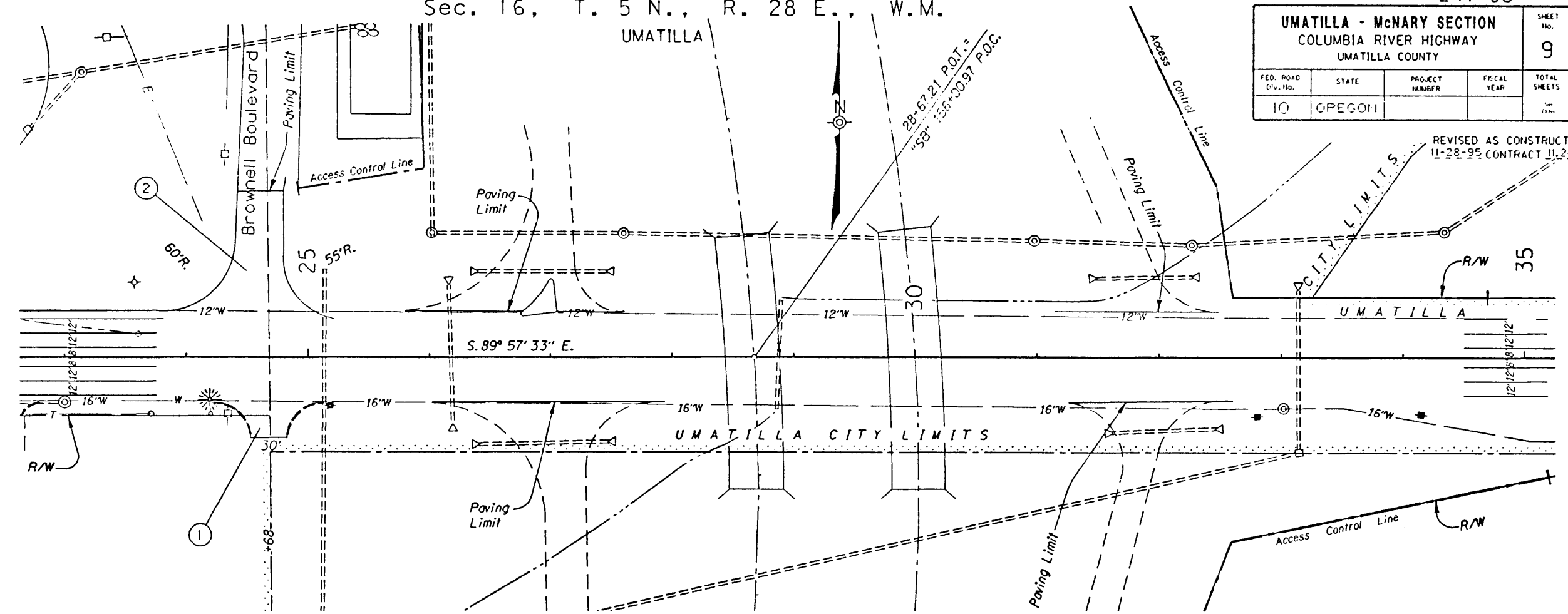


usr6/archive/14/00899/008991.d+2pp 30-MOV-1995 08:01

R:\0899\12\pp\ES\1240.spot suttentv@spot Thu Nov 30 08:06:22 PST 1995

UMATILLA - McNARY SECTION				SHEET NO.
COLUMBIA RIVER HIGHWAY				9
UMATILLA COUNTY				TOTAL SHEETS
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	24
10	OREGON			

- ① Const. Appr.
- ② Const. Road Conn.



Exc.	296
Emb. In Place	29

[usr6/archive/1d4/00899/00899/d42pp_30-nov-1995_06:01

R:\0899\1d4\ppE7(5)1239.spot) satterwh@spot. Thu Nov 30 08:05:21 PST 1995

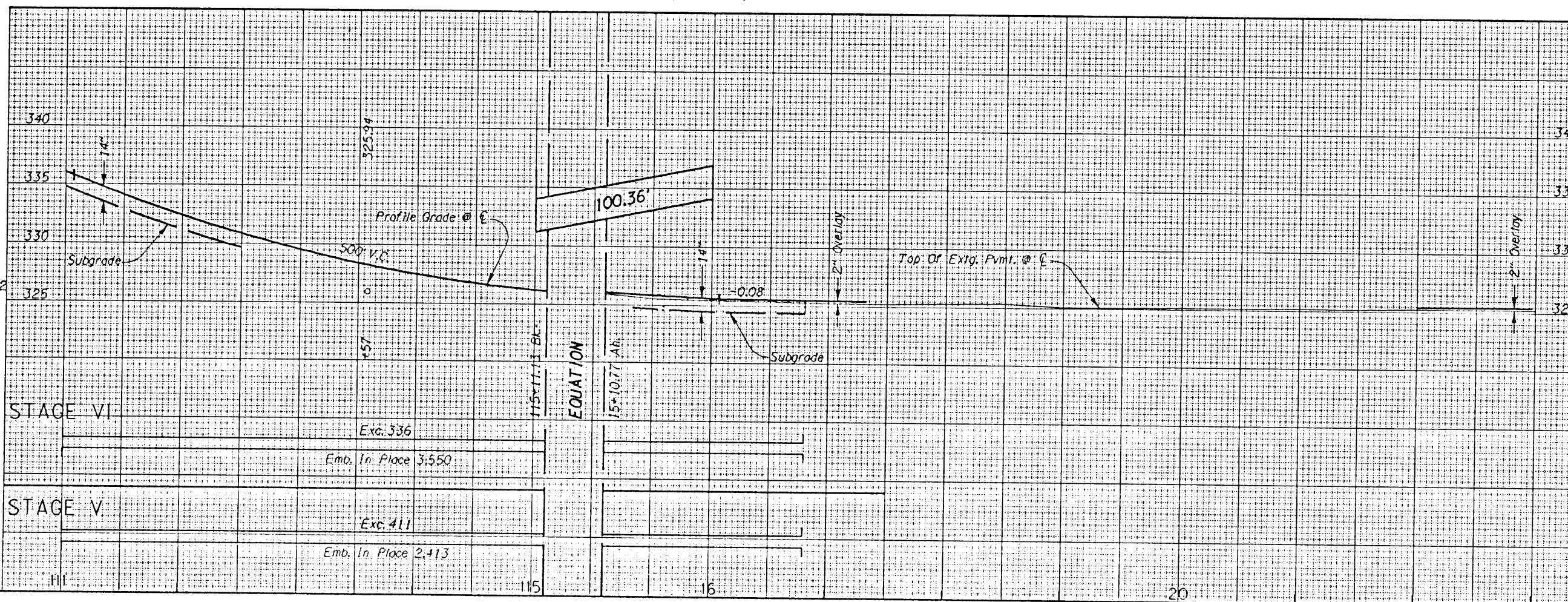
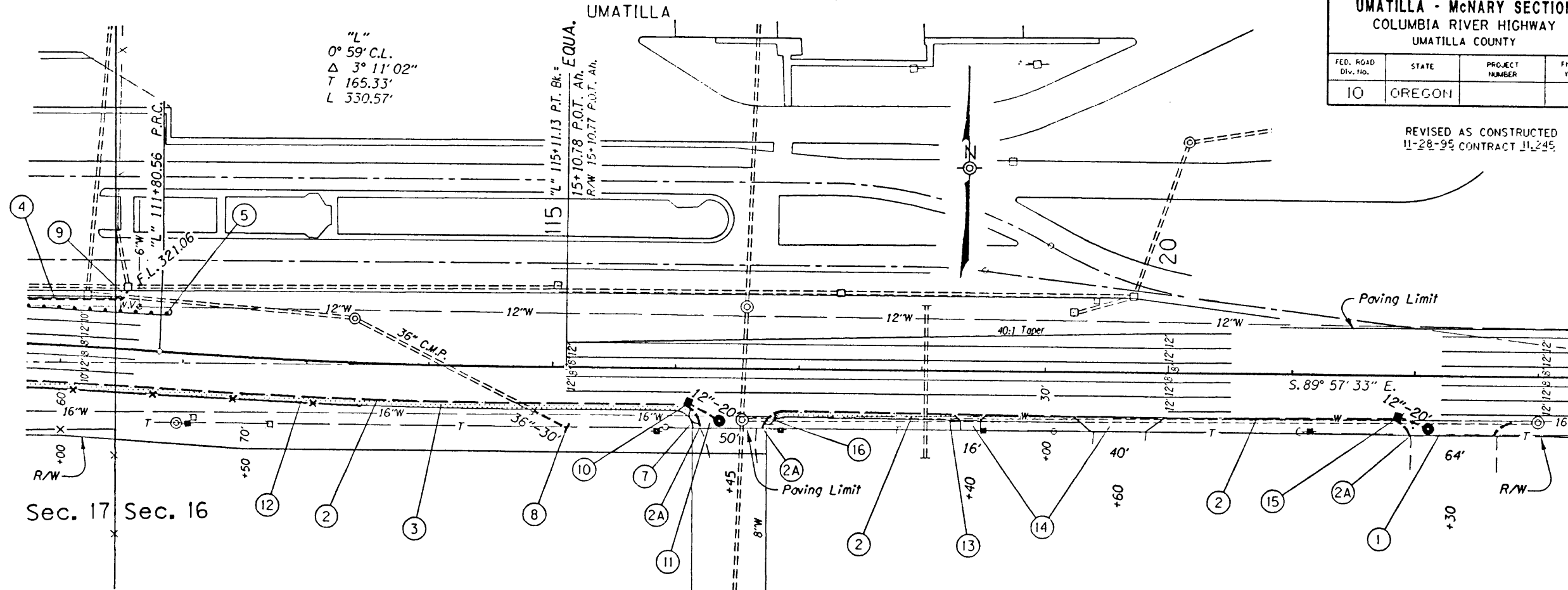
Sec. 16 & 17, T. 5 N., R. 28 E., W.M.

24V-30

UMATILLA - McNARY SECTION				SHEET No.
COLUMBIA RIVER HIGHWAY				8
UMATILLA COUNTY				
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			

REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11245

- 1 Const. Appr.
- 2 Const. Type "C" Curb
(2A) Const. Curb Ending - 3
- 3 Const. P.C. Conc. Walk
- 4 See Sht. 7, Note 7
- 5 See Sht. 7, Note 8
- 7 Const. Sidewalk Ramp
- 8 Sta. 114+15
36" Culv. Pipe - 162' (In Pl.)
Extend - 30' Rt.
Tr. Exc. - 34 C.Y.
- 9 See Sht. 7, Note 14
- 10 Sta. 115+85
Const. "G-2" Inlet
Const. Sump
Inst. 12" Pipe - 20'
(For Details, See Sht. 2B)
- 11 Const. Street Conn.
- 12 See Sht. 7, Note 13
- 13 Const. P.C. Conc. Walk (By Others)
- 14 Const. Asph. Conc. Dwy. Type "A-1" - 2
- 15 Sta. 21+80
Const. "G-2" Inlet
Const. Sump
Inst. 12" Pipe - 20'
(For Details, See Sht. 2B)
- 16 Const. Sidewalk Ramp (By Others)



STAGE VI	Exc. 336	
	Emb. In Place 3,550	
STAGE V	Exc. 411	
	Emb. In Place 2,413	

I:\st6\archive\14\00899\00899.dwg 30-MAY-1995 08:01

R:\0899\12\ppE6(5)238.spot satterwh@spot. Thu Nov 30 08:04:15 PST 1995

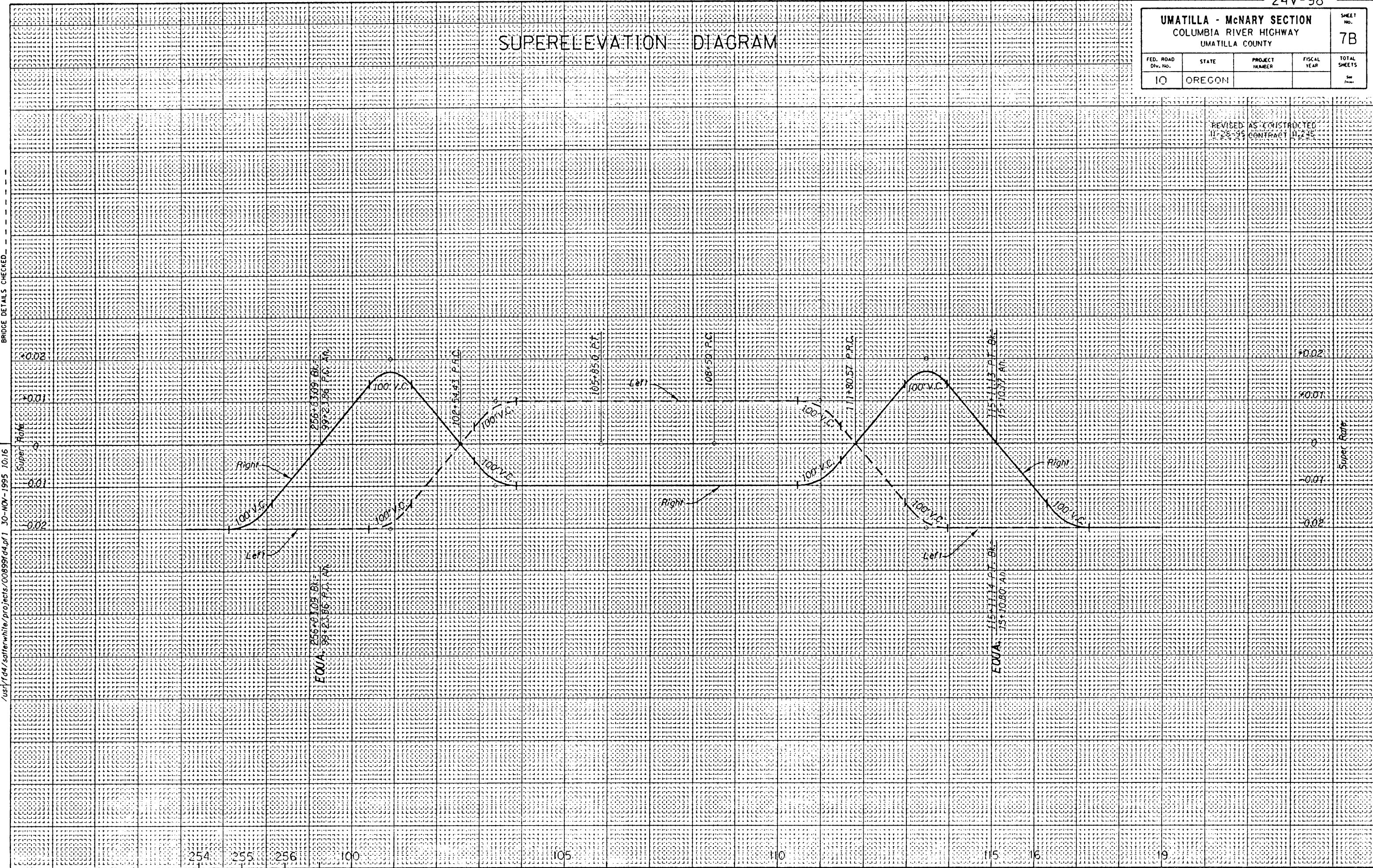
SUPERELEVATION DIAGRAM

UMATILLA - McNARY SECTION COLUMBIA RIVER HIGHWAY UMATILLA COUNTY				SHEET NO. 7B
FED. ROAD DIV. NO. 10	STATE OREGON	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS See Index

REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11-28-95

BRIDGE DETAILS CHECKED

/usr/local/satlerwhite/projects/00899/d4.pl 30-NOV-1995 10:16

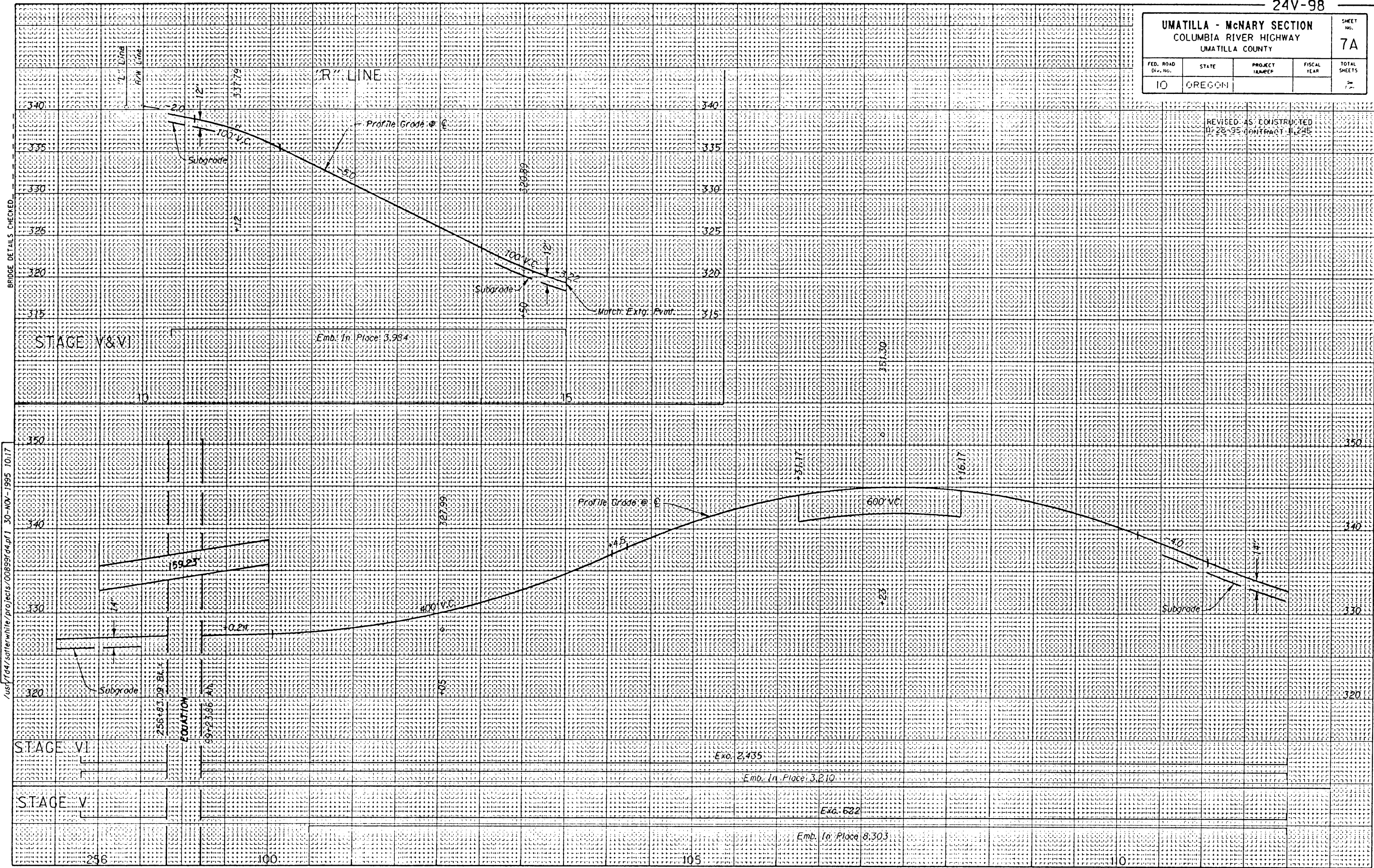


UMATILLA - McNARY SECTION
COLUMBIA RIVER HIGHWAY
UMATILLA COUNTY

SHEET NO.
7A

FED. ROAD Dist. No.	STATE	PROJECT NAME/REF	FISCAL YEAR	TOTAL SHEETS
10	OREGON			7

REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11-245



BRIDGE DETAILS CHECKED

30-NOV-1995 10:17

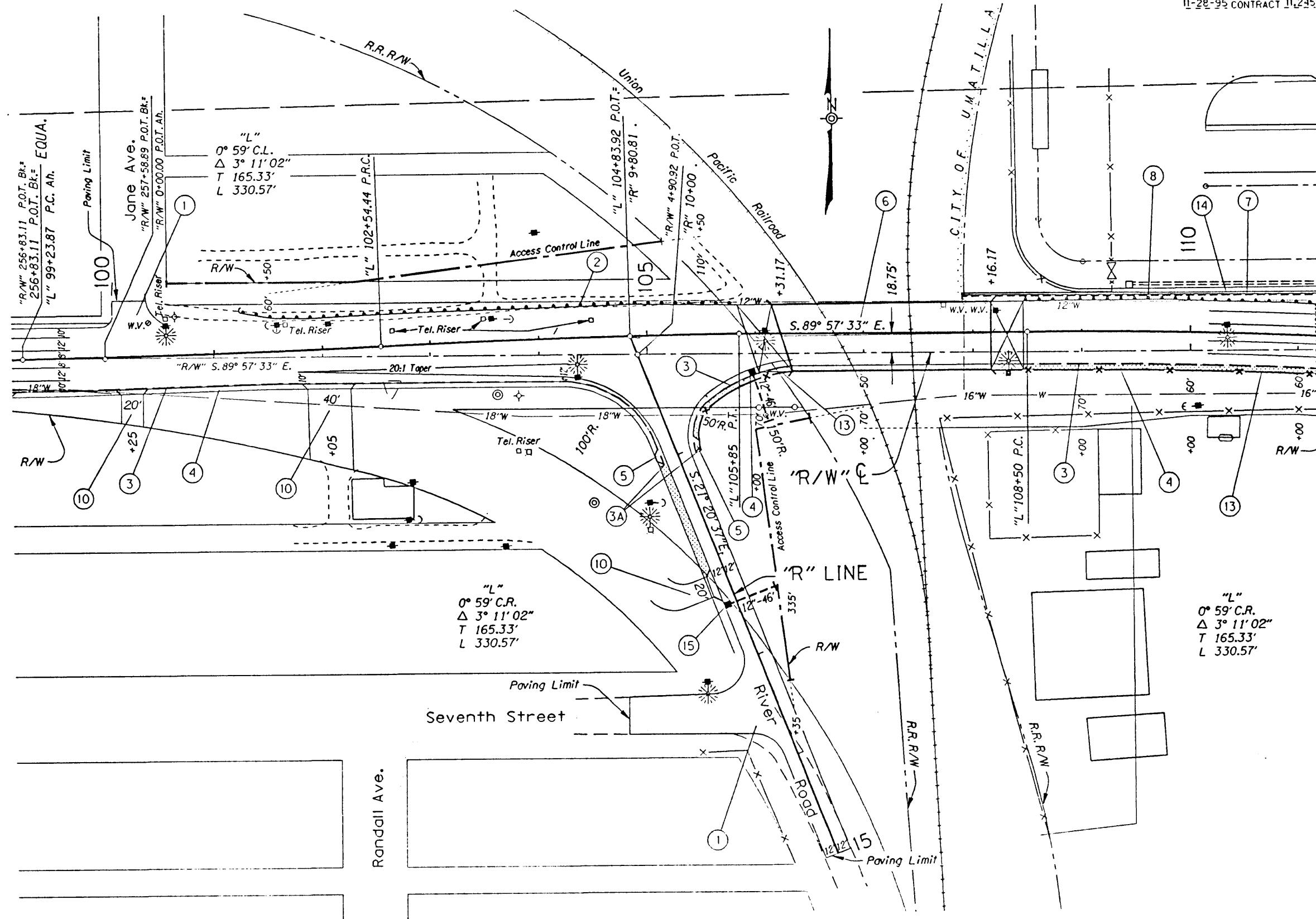
Sec. 17, T. 5 N., R. 28 E., W.M.
UMATILLA

24V-30

UMATILLA - McNARY SECTION				SHEET NO.
COLUMBIA RIVER HIGHWAY				7
UMATILLA COUNTY				
FED. ROAD DIV. NO.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			50

REVISED AS CONSTRUCTED
11-28-95 CONTRACT 114245

- 1 Const. Road Conn. - 2
- 2 Sta. 101+25 To Sta. 105+85
Const. Guard Rail - 437.5' (Type 2A)
- 12.5' (Type 3)
Const. Guard Rail Transition
Flare Rate = 15:1, W=8.1, E=0
Const. Anchor (Type 1)
Inst. End Piece (Type C)
- 3 Const. Type "C" Curb
3A Const. Curb Ending
- 4 Const. P.C. Conc. Walk
- 5 Const. Sidewalk Ramps - 2
- 6 Bridge No. 1628A
Widen Extg. Structure - Length 185'
Rdwy. Width - 59'-3"
And Reinf. Panels At Bridge Ends
(See Drg. Nos. 47751 Thru 47768)
- 7 Bridge No. 1628A
Sta. 107+90 To Sta. 111+50
Const. Retaining Wall
(See Drg. No. 47768)
- 8 Sta. 108+50 To Sta. 111+90 Lt.
Const. Guard Rail - 212.5' (Type 2A)
- 12.5' (Type 3)
Const. Guard Rail Transition
Flare Rate=15:1, W=8.1, E=0
Const. Anchor (Type 1)
Inst. End Piece (Type C)
- 10 Const. P.C. Conc. Dwy. (Type A) - 3
Const. Asph. Appr. - 2
(See Drg. No. 2077B)
- 13 Const. Type CL-4 Chain Link Fence
(See Drg. No. 2117)
- 14 Sta. 107+90 To Sta. 111+50
Inst. 8" Drain Pipe - 370'
Conn. To Extg. Inlet
Tr. Exc. - 4 C.Y.
(See Drg. No. 47768)
- 15 Sta. "R" 12+40
Const. Type "G-2" Inlet
Inst. 12" Sewer Pipe - 46'



BRIDGE DETAILS CHECKED

I:\us16\archive\144\00899\00899.dwg.plt 30-NOV-1995 07:59

R00899(dpl11B1(51235.spx)) satterwh@spot. Thu Nov 30 08:01:50 PST 1995

Sec. 17, T. 5 N., R. 28 E., W.M.

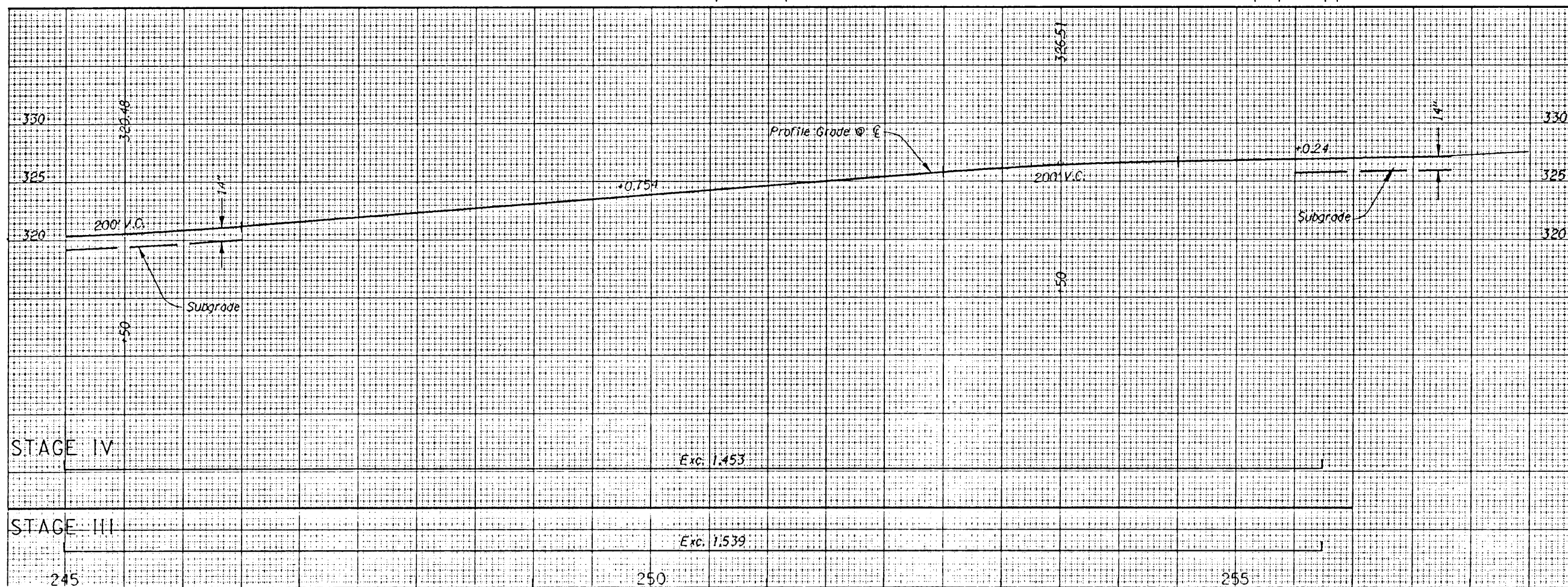
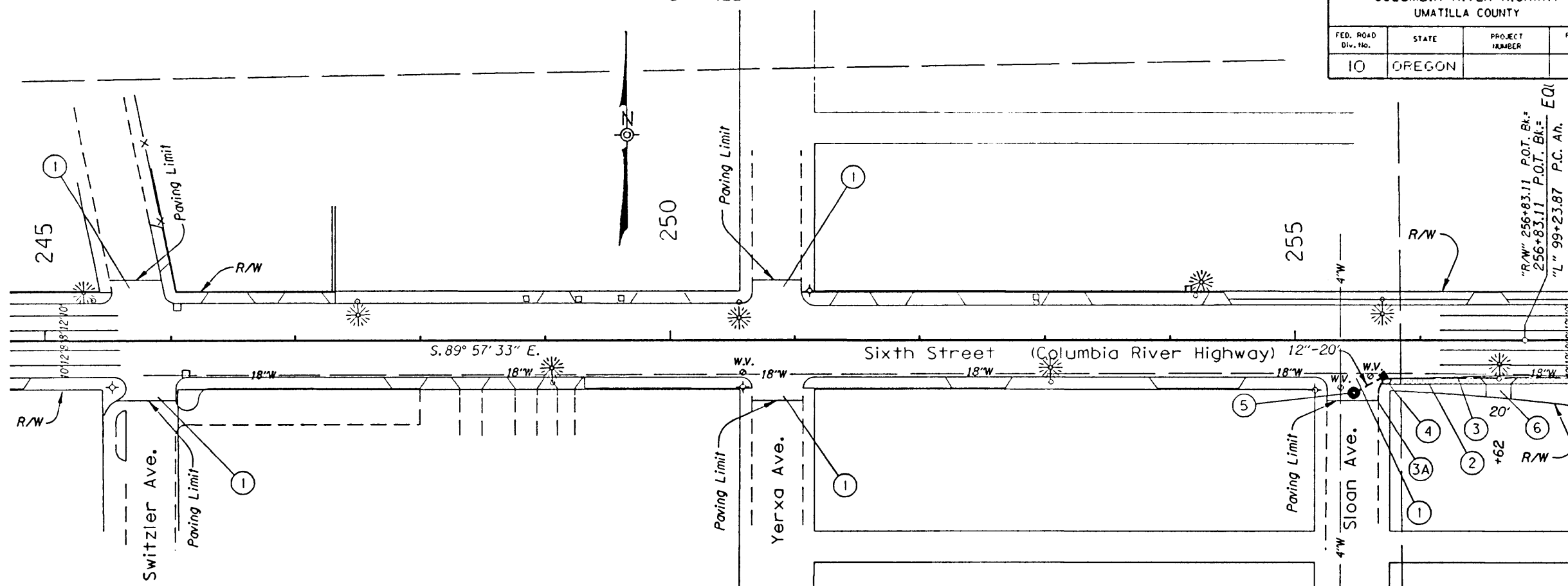
UMATILLA

REVISED AS CONSTRUCTED
11-28-95 CONTRACT 112245

24V-30

UMATILLA - McNARY SECTION				SHEET No.
COLUMBIA RIVER HIGHWAY				6
UMATILLA COUNTY				TOTAL SHEETS
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	
10	OREGON			

- 1 Const. Street Conn. - 5
(For Details, See Sht. 2B-4)
- 2 Const. 5' P.C. Conc. Walk
- 3 Const. Type "C" Curb
3A Const. Curb Ending
(See Drg. No. 2077)
- 4 Const. Sidewalk Ramp
(See Drg. No. 2077C)
- 5 Const. P.C. Conc. Dwy. (Type A)
- 6 Sta. 255+75 Rt.
Const. Type "G-2" Inlet
Const. Sump
Inst. 12" Pipe - 20'
(For Details, See Sht. 2B)



[us6/archive/164/00899/00899r04.1pp 30-NOV-1995 07:58

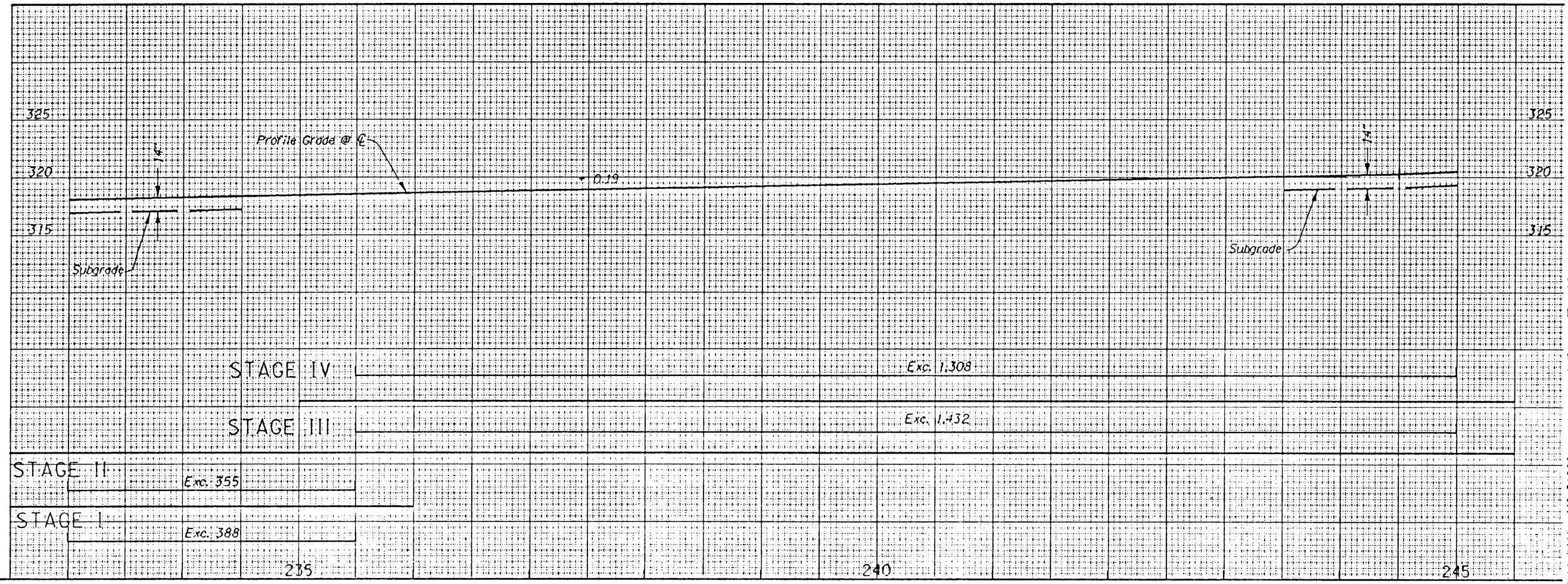
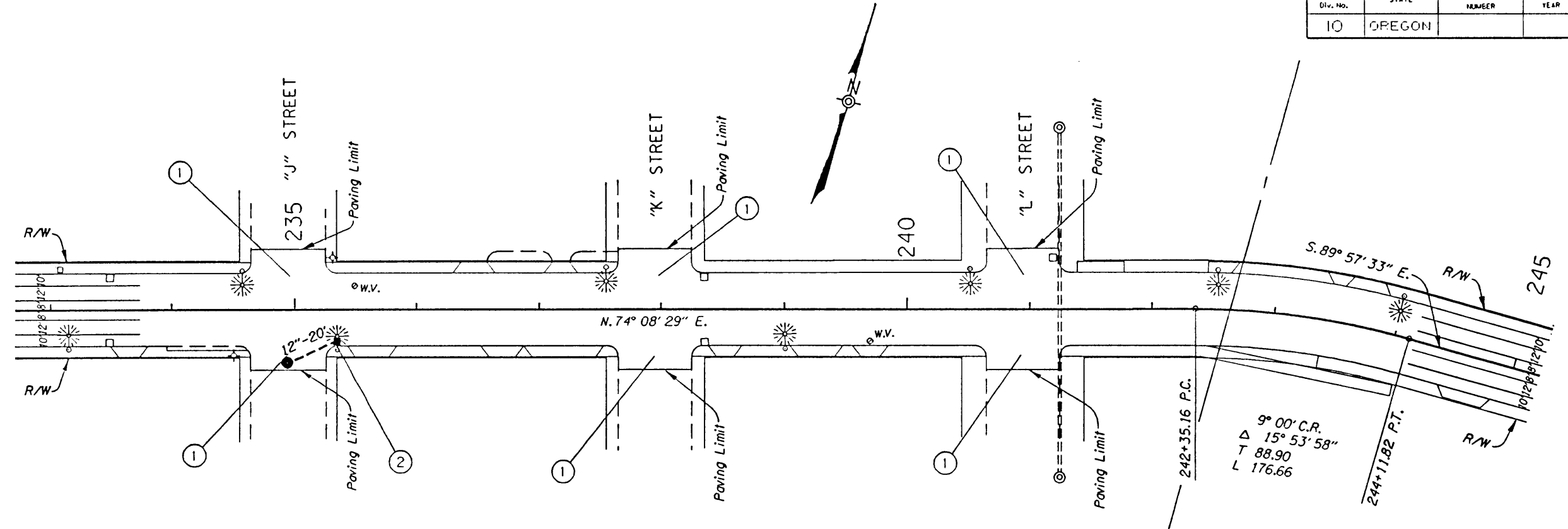
R:\0899\01\ppE-4(5)1234.spot) satterwh@spot. Thu Nov 30 08:00:59 PST 1995

Sec. 17, T. 5 N., R. 28 E., W.M.
UMATILLA

REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11,245

UMATILLA - McNARY SECTION COLUMBIA RIVER HIGHWAY UMATILLA COUNTY				SHEET No. 5
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	TOTAL SHEETS
10	OREGON			5

- ① Const. Street Conn. - 6
(For Details, See Sht. 2B-4)
- ② Sta. 235+35 Rt.
Const. Type "G-2" Inlet
Const. Sump
Inst. 12" Pipe - 20'
(For Details, See Sht. 2B)



I:\usr6\archive\14\00899\00899.d4.tpp 30-NOV-1995 07:58

R:\00899\dl\ppE3\51233.spot\ sutterwh@spot. Thu Nov 30 08:00:07 PST 1995

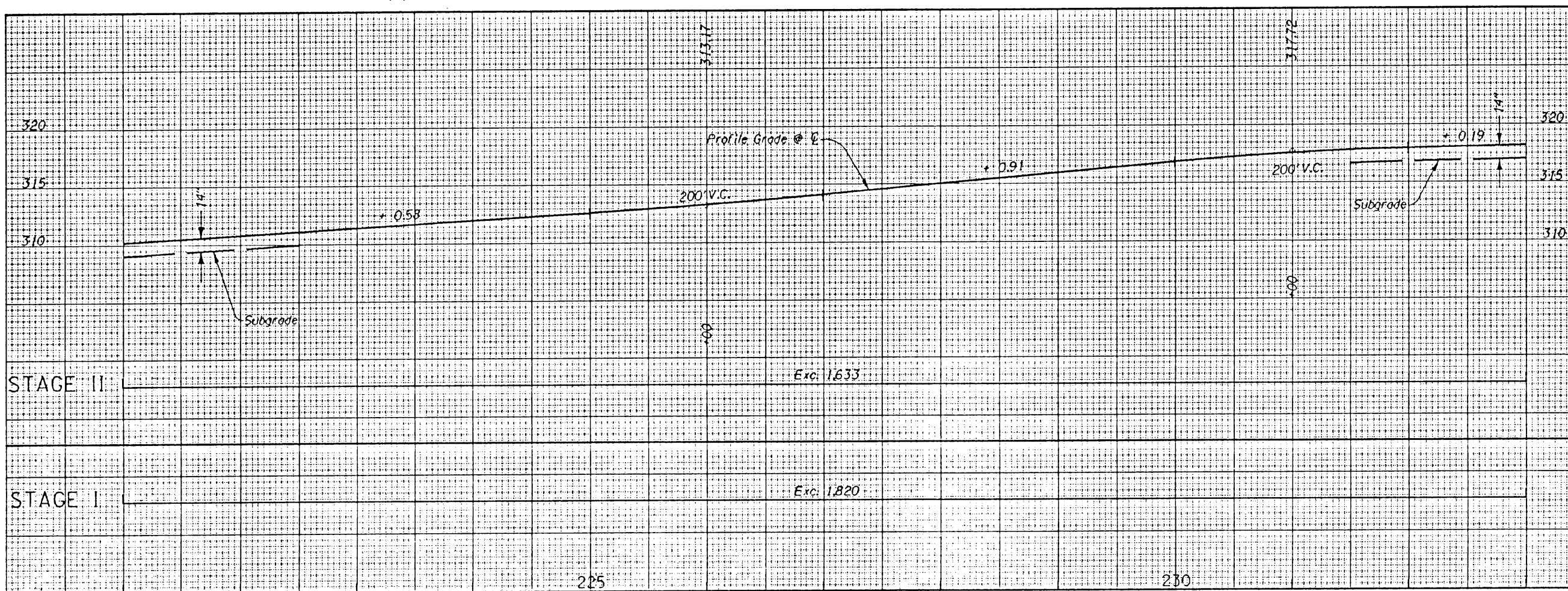
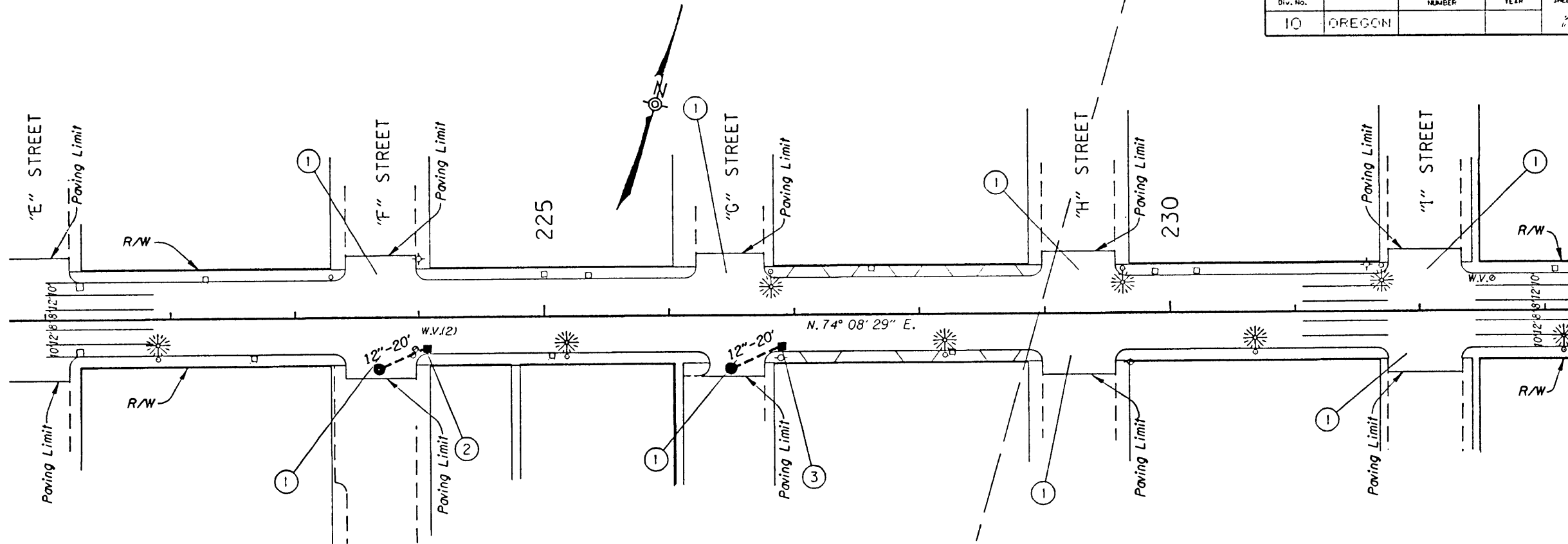
Sec. 17, T. 5 N., R. 28 E., W.M.
UMATILLA

REVISED AS CONSTRUCTED
11-28-95 CONTRACT 11.245

24V-90

UMATILLA - McNARY SECTION				SHEET No.
COLUMBIA RIVER HIGHWAY				4
UMATILLA COUNTY				TOTAL SHEETS
FED. ROAD Div. No.	STATE	PROJECT NUMBER	FISCAL YEAR	
10	OREGON			

- ① Const. Street Conn. - 8
(For Details, See Sht. 2B-4)
- ② Sta. 224+07 Rt.
Const. Type "G-2" Inlet
Const. Sump
Inst. 12" Pipe - 20'
(For Details, See Sht. 2B)
- ③ Sta. 226+90 Rt.
Const. Type "G-2" Inlet
Const. Sump
Inst. 12" Pipe - 20'
(For Details, See Sht. 2B)



I:\usr6\archive\1d4\00899\00899r.d4.1pp 30-NOV-1995 07:58

R:\00899\1ppE2\51232.spot) satterwh@spot. Thu Nov 30 07:59:19 PST 1995

T. 5 N., R. 28 E., W.M.
UMATILLA

24V-30

GENERAL CONSTRUCTION ITEMS

Sta. 208+30 To Sta. 242+00
Adjust Boxes - 9

Const. Aggregate Blanket
(For Details, See Sht. 2B-5)

UMATILLA - McNARY SECTION				
COLUMBIA RIVER HIGHWAY				
UMATILLA COUNTY				
FED. ROAD DIST. NO.	STATE	PROJECT NUMBER	FISCAL YEAR	SHEET NO.
10	OREGON			3
				TOTAL SHEETS
				11

REVISED AS CONSTRUCTED
11-28-35 CONTRACT 11,245

1 Sta. 208+30 To Sta. 209+50 Rt.
Const. Bridge Conn.
Const. Guard Rail Transition
Const. Guard Rail - 12.5' (Type 3)
Const. Guard Rail - 12.5' (Type 2A)
Flare Rate: 8:1, W=18.9', E=0
Const. Anchor (Type 1)
Inst. End Piece (Type C)
(See Drg. Nos. 2126, 2126A, 2126B, 2126F, 2126G & 2126I)

2 Sta. 208+20 To Sta. 209+40
Const. Bridge Conn.
Const. Guard Rail Transition
Const. Guard Rail - 12.5' (Type 3)
Const. Guard Rail - 25' (Type 2A)
Const. Anchor (Type 1)
Const. End Piece (Type C)

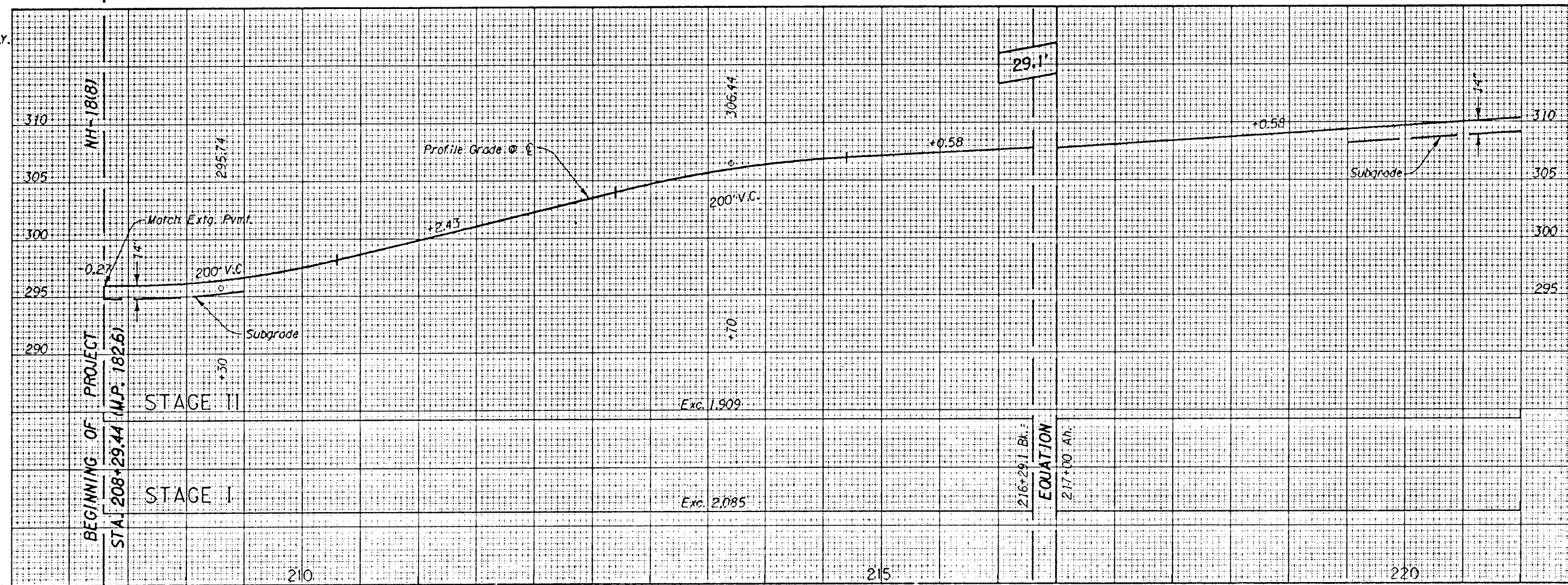
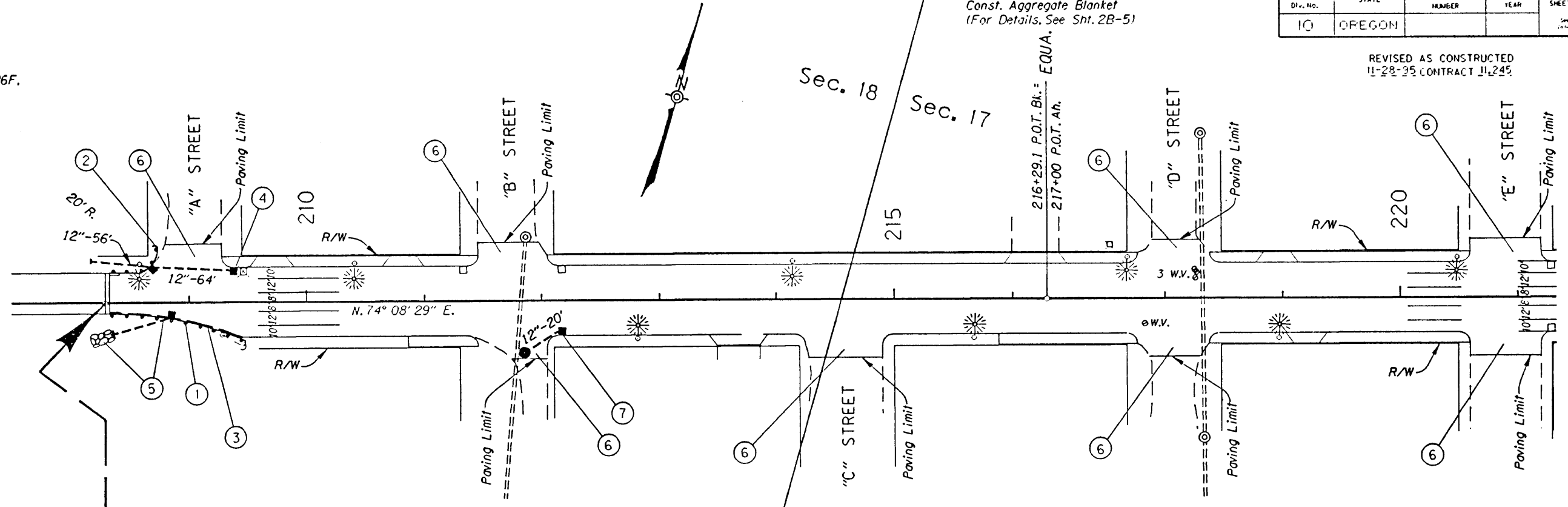
3 Const. P.C. Conc. Drainage Curb
(See Drg. No. 2077)

4 Sta. 208+20 To Sta. 209+40 Lt.
Remove Inlet
Const. Type "G-2" Inlet - 2
Inst. 12" Sewer Pipe - 120'
Tr. Exc. - 57 C.Y.
(See Drg. No. 2091A)

5 Sta. 208+85 Rt.
Const. Type "G-2" Inlet
Inst. 24" Sew. Pipe - 50'
Const. Loose Riprap (Class 50) - 40 C.Y.
Tr. Exc. - 7 C.Y.

6 Const. Street Conn. - 8
(For Details, See Sht. 2B-4)

7 Sta. 212+15 Rt.
Const. Type "G-2" Inlet
Const. Sump
Inst. 12" Pipe - 20'
(For Details, See Sht. 2B)



BRIDGE DETAILS CHECKED

Y:\stb\archive\144\00899\00899r4.dwg 30-NOV-1995 07:57

R:\00899\01\ppE1(51231.spot) satterwh@spot. Thu Nov 30 07:58:27 PST 1995