Ionia County Road Commission

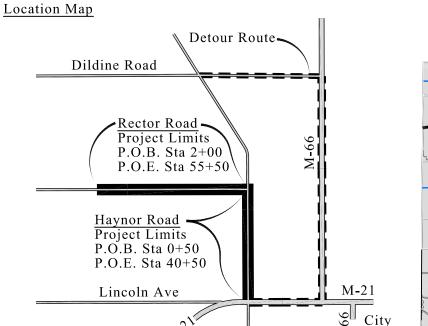
In Cooperation with

Herbrucks Poultry Ranch, the Michigan Transportation Economic Development Fund, Community Development Block Grant,

Easton Township, and the Michigan Department of Agriculture and Rural Development

Proposed Improvements of Rector Road and Haynor Road

from one mile west of Haynor Road to Haynor Road and from Rector Road to M-21



General Note

Materials and workmanship shall be in accordance with the Michigan Department of Transportation Standard Specifications for Construction, 2012, except where otherwise indicated on these plans or in the proposal or supplemental specification. All traffic controls shall be in accordance with the Michigan Manual of Uniform Traffic Control Devices, 2011.

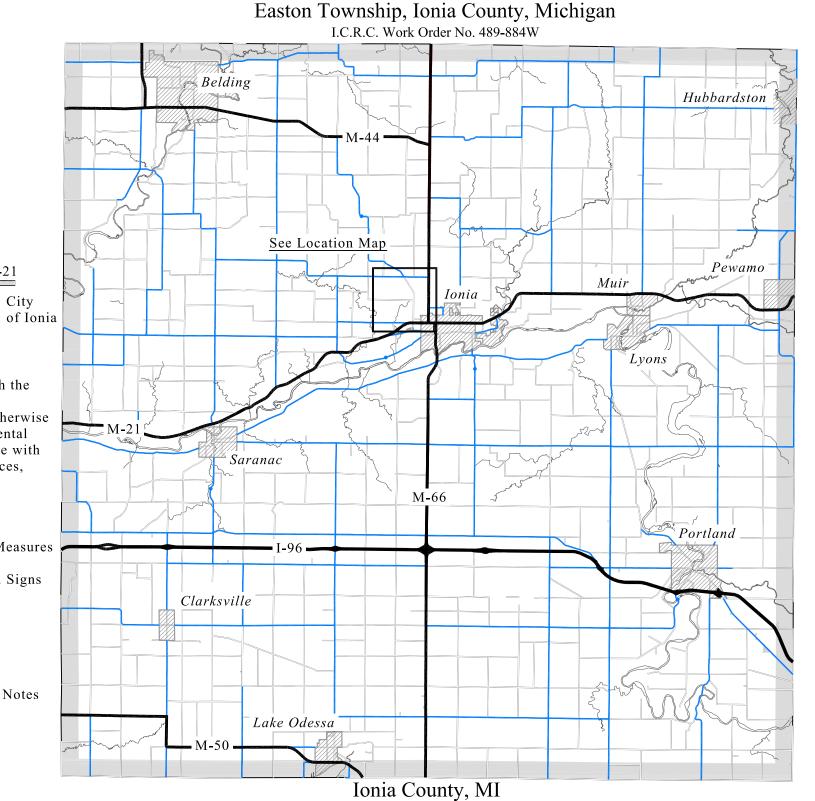
MDOT Standard Plans

Detail	Description
R-96- E	Soil Erosion & Sedimentation Control Measures
WZD-125-E*	Temporary Traffic Control Devices

WZD-100-A Ground Driven Sign Supports for Temp. Signs

Index of Sheets

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Sheet 2	Typical Cross Sections - Rector Road
Sheet 3	Typical Cross Sections - Haynor Road
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Sheet 16 to 23	Plan & Profile - Haynor Road
Sheet 24 to 26	Cross Sections - Rector Road
Sheet 27 & 28	Cross Sections - Haynor Road
Sheet 29	Permanent Pavement Markings
Sheet 30	Quantity Breakdown



Ctilities	I HOHE IVO.
AT&T (phone and fiber)	
221 E. Harris St, Cadillac, MI 49601	
Attn: Jeff Schuster	231-779-8451
Charter (cable tv and internet)	
915 Davis St, Grand Haven, MI 49417	
Attn: David Young	616-607-2359
City of Ionia (water and sewer)	
720 Wells St, Ionia, MI 48846	
Attn: Chris Kenyon	616-527-0370
Consumers Energy (overhead electric)	
700 E. Stemberg Rd, Norton Shores, MI 49	9441
Attn: Michele Andree	231-332-2621
Consumers Energy (natural gas)	
530 W. Willow, Lansing, MI 48906	
Attn: Adam Bertram	517-374-2375

Phone No.

Note:

Utilities

These plans do not assure the presence or location of utilities. the contractor shall notify "miss dig" toll free at 1-800-482-7171 OR simply 811 three (3) days before the start of construction, excluding saturdays, sundays and holidays.

Contract For: 1.77 miles of reconstruction including tree removal, earthwork, pavement removal, subbase, base, HMA Base Crushing and Shaping, HMA paving, pavement marking, and maintaining traffic.

Road plans prepared under the supervision of:

Paul A. Spitzley Date:
Registered Professional Engineer Number: 61383
Managing Director:

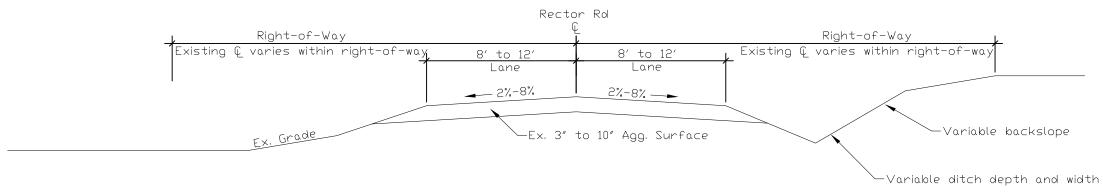
Dorothy G. Pohl

Ionia County Board of County Road Commissioners:

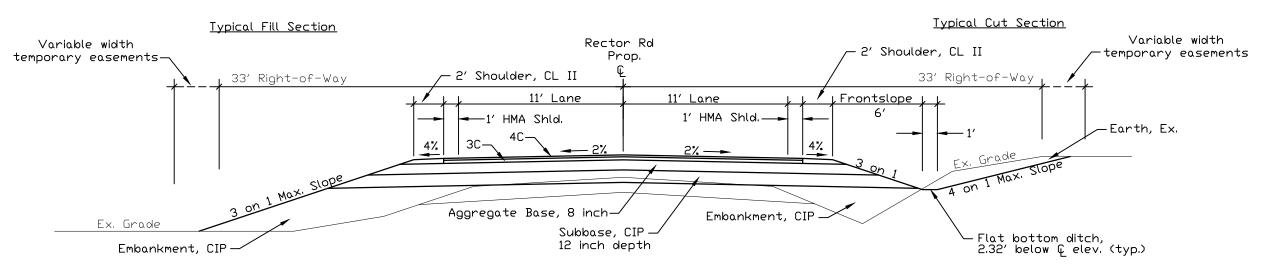
Karen D. Bota, Chairperson Charles G. Minkley, Vice Chairperson Albert A. Almy, Member Robert G. Dunton, Member Kenneth L. Gasper, Member

^{*}Special detail included in plans

Typical Cross Sections

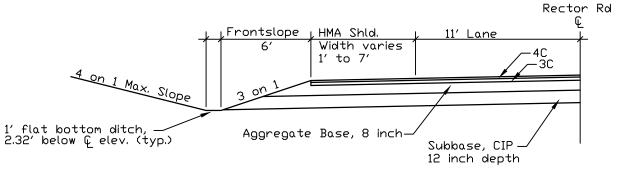


Existing Section Rector Road Applies From Sta. 2+00 to 54+50



<u>Proposed Section #1</u> <u>Rector Road</u>

Applies From Sta. 2+00 to 54+50 Proposed © is the north 1/4 line of Sec. 14 and Sec. 13, Easton Twp.



Proposed Section #2

Rector Road

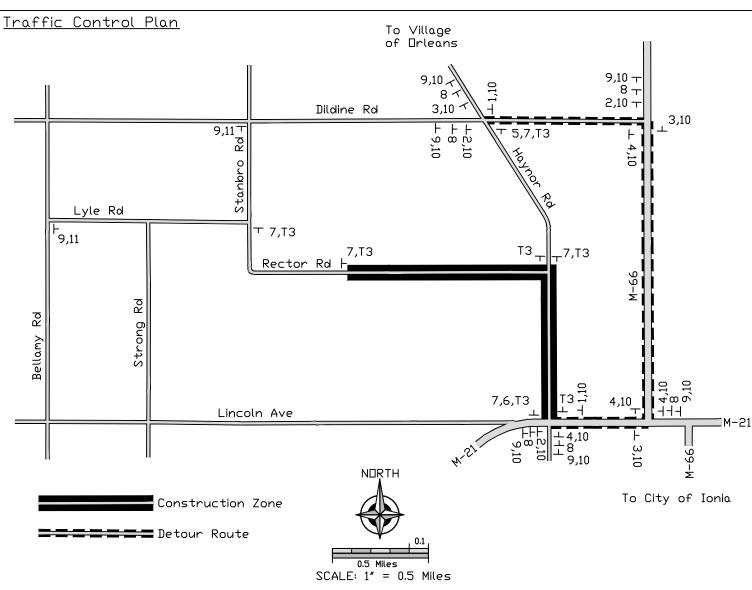
Applies From Left Sta. 4+00 to 11+00

PAVEMENT MATERIALS APPLICATION TABLE

IDENT.	ITEM	APPLICATI□N	PERFORMANCE	REMARKS
		RATE	GRADE	
CS	HMA Base Crushing and Shaping	12 inch depth		
	HMA, 4C	165 lb/syd	PG 64-28	Min. AWI of 260
30	HMA, 3C	220 lb/syd	PG 64-28	
AP	HMA Approach	330 lb/syd	PG 64-28	Depth for Commercial Driveways
		220 lb/syd	PG 64-28	Depth for Residential Driveways
	Aggregate Base	as needed pe	r ton	For HMA and conc. driveways
	Driveway, Nonreinf Conc. 6 inch	6 inch		
	Approach, Cl II	as needed pe	r ton	

			TYPICAL CRE	ISS SECTIONS
			RECTI	JR R□AD
DRAWN BY:PAS	DATE: 11/17/17	I.C.R.C. W.D. 489-884W		SHEET 02 OF 30

Typical Cross Sections Haynor Rd 33' Right-of-Way 33' Right-of-Way 11' Lane 11' Lane <u>---</u> 2%-3% 2%-3% —**-**Ex. Grade Ex. Grade -Ex. 5" to 8" HMA Surface Variable backslope -Ex. 8" to 10" Agg. Base Existing Section Variable ditch depth and width Haynor Road Applies From Sta. 0+50 to 40+50 Variable width Variable width Typical Cut Section Typical Fill Section temporary easements Haynor Rd temporary easements-33' Right-of-Way 33' Right-of-Way Prior to crushing and shaping: 28' HMA Base Crushing and Shaping - 8" Depth Trench existing roadside as needed for Varies 11' Lane , Varies proposed alignment. Trenching to be paid 3′-5′ 3'-5' for as Earth, Ex. per Cyd. Suitable excavated materials can be used for -Earth, Ex. 2%--Ex. HMA Surface embankment throughout project. Ex. Grade 4 on 1 Max. Slope Ex. Agg. Base Aggregate Base, 8 inch Ex. Grade Subbase, CIP — 12 inch depth Embankment, CIP Subbase, CIP Flat bottom ditch, 2.32' below Prop. (£ elev. (typ.) 12" depth Working Section #3 Haynor Road Applies From Sta. 0+50 to 40+50 Construct proposed cross section based on Haynor Rd existing centerline elevation of Haynor Road HMA Shld. HMA Shld. after crushing and shaping process. 3' ¿Frontslope ¡ 11' Lane 11' Lane Proposed centerline elevations may vary ~4C ∕~3C from those shown based on field conditions. Crush and Shape Materials-Subbase Flat bottom ditch, 2.32' below Prop. & elev. (typ.) Proposed Section #3 Haynor Road Applies From Sta. 0+50 to 40+50 TYPICAL CROSS SECTIONS HAYNOR ROAD DRAWN BY:PAS DATE: 11/17/17 I.C.R.C. W.D. 489-884W SHEET 03 DF 30



				OO! ILL.	1 0.0 1 110				
REFERENCE ND.	SIGN	SIGN TYPE/ SIZE	QUANTITY	PAY QUANTITY (SFT)	REFERENCE ND.	SIGN	SIGN TYPE/ SIZE	QUANTITY	PAY QUANTITY (SFT)
1	DETOUR ENDS	M4-8a 24" × 18"	2	6		RDAD	W20-3		
2	DETOUR	M4-9 30" × 24"	3	15	9	CLOSED	36" × 36"	8	72
3	DET⊟UR ←───	M4-9(L) 30" × 24"	3	15	10	HAYNDR RDAD	D3-2a 36" × 12"	18	54
4	DETOUR	M4-9(R) 30" × 24"	4	20	11	RECTUR ROAD	D3-2α 36" × 12"	2	6
5	DETOUR	M4-10(L) 48" × 18"	1	6	Т3		TYPE III BARRICADE	. 8	
6	DETOUR	M4-10(L) 48" × 18"	1	6					
7	ROAD CLOSED TO THRU TRAFFIC	R11-4 60" × 30"	5	62.5	duration	ry signs are of the pro	ject.		
	/ TRICE TRAIT TO	22 A 30			removal this wor	ry signs will as the road k. Re-opened	ds are to	o be clos ads betw	sed for een the
8	DETOUR AHEAD	W20-2 36" × 36"	6	54		moval work (l driven sigi			

foot.

the project. The sign covers will be paid for

under the item: Sign, Temp, Cover per square

GENERAL PLAN NOTES

UTILTIES

THE CONTRACTOR SHALL COOPERATE AND COORDINATE CONSTRUCTION ACTIVITIES WITH THE OWNERS OF UTILITIES AS STATED IN SECTION 104.08 OF THE 2012 MDOT STANDARD SPECIFICATIONS FOR CONSTRUCTION. IN ADDITION, FOR THE PROTECTION OF UNDERGROUND UTILITIES, THE CONTRACTOR SHALL FOLLOW THE REQUIREMENTS IN SECTION 107.12 OF THE 2012 STANDARD SPECIFICATIONS FOR CONSTRUCTION.

TRFF RFMUVAL

ALL TREES, 3 INCHES AND LARGER, SHALL BE REMOVED PRIOR TO MARCH 31ST, 2018. STUMPS ARE NOT INCLUDED IN THIS SEASONAL REQUIREMENT.

ALL ADJACENT PROPERTY OWNERS SHALL HAVE FIRST RIGHTS TO ALL TREES REMOVED. ONLY LEAVE TIMBER 3 INCHES IN DIAMETER TO 24 INCHES IN DIAMETER FOR PROPERTY OWNERS FOR WOOD BURNERS, ALL STUMPS AND BRUSH SHALL BE REMOVED FROM SITE.

STUMP REMOVALS ARE INCLUDED IN THE COST OF THE TREE REMOVAL ITEM PER EACH RESPECTIVELY. HOWEVER, EXISTING STUMPS MAY NEED TO BE REMOVED FOR GRADING, AS DIRECTED BY THE ENGINEER, TO BE PAID FOR AS STUMP, REM, PER EACH.

TRAFFIC CONTROL FOR TREE WORK SHALL BE A ROAD CLOSURE AS SHOWN IN THE TRAFFIC CONTROL PLAN, SNOW REMOVAL MUST STILL BE ABLE TO BE ACCOMPLISHED DURING WINTER TREE REMOVAL CLOSURES, NO WORK SHALL BE PERFORMED DURING OR IMMEDIATELY FOLLOWING A WINTER STORM EVENT, THE CONTRACTOR IS TO COORDINATE WITH THE IONIA COUNTY ROAD COMMISSION REGARDING THE WINTER MAINTENANCE OF HAYNOR ROAD AND RECTOR ROAD.

<u>EXCAVATION AND EMBANKMENT</u>

BOTH ITEMS ARE TO BE PAID FOR PER CUBIC YARD COMPACTED IN PLACE AS SHOWN ON THE PLANS AND CALCULATED IN THE ITEM BREAKDOWN. VARIANCES FROM THESE QUANTITIES MUST BE APPROVED BY THE ENGINEER.

EMBANKMENT CAN BE SUITABLE EXCAVATED AND SALVAGED MATERIAL.

STORM SEWER (trench detail below)

ALL STORM SEWER AND CULVERTS WILL BE CORRUGATED, SMOOTH WALLED, M292 TYPE S PLASTIC PIPE OR AN APPROVED ALTERNATIVE.

UNDERDRAIN MAY BE REQUIRED IN AREAS, DETERMINED BY THE ENGINEER, THAT ARE NOT DRAINING AS NECESSARY FOR THE ROADWAY. THIS ITEM IS TO BE CONSIDERED MISCELLANEOUS AS EXACT LOCATIONS ARE NOT YET KNOWN. THE TRENCH DETAIL BELOW APPLIES TO POTENTIAL USE OF THE ITEM, UNDERDRAIN, 4 INCH DIA. MATERIAL WILL BE CORRUGATED, SINGLE WALLED, PLASTIC TILE OR AN APPROVED ALTERNATIVE. NO FILTER FABRIC (SOCK) IS TO BE ON UNDERDRAIN.

HMA BASE CRUSHING AND SHAPING (Applies to Haynor Road)

CONSTRUCT PROPOSED CROSS SECTION BASED ON EXISTING CENTERLINE GRADE OF HAYNOR ROAD AFTER CRUSHING AND SHAPING PROCESS. PROPOSED CENTERLINE ELEVATIONS MAY VARY FROM THOSE SHOWN BASED ON FIELD CONDITIONS.

EXISTING BOLLARD POSTS

EXISTING BOLLARD POSTS ARE TO BE REMOVED AS NECESSARY FOR EARTHWORK AND DRIVEWAYS. POSTS ARE TO BE SALVAGED BY CONTRACTOR. REINSTALLATION OF POSTS WILL BE PERFORMED BY OTHERS. ALL WORK INCLUDED FOR REMOVAL AND SALVAGING IS TO BE INCLUDED IN THE ITEM BOLLARD POST, REM PER EACH.

EXISTING ROAD SIGNS

EXISTING ROAD SIGNS ARE TO BE REMOVED AS NECESSARY FOR EARTHWORK. SIGNS ARE TO BE SALVAGED BY CONTRACTOR. REINSTALLATION OF SIGNS WILL BE PERFORMED BY OTHERS. ALL WORK INCLUDED FOR REMOVAL AND SALVAGING IS TO BE INCLUDED IN THE ITEM SIGN, TYPE II, REM PER EACH.

Schedule Detail

Install Temp. Signs - Close Const. Zone Tree Removal

Open Const. Zone - Cover Temp. Signs Un-cover Temp. Sign - Close Const. Zone Install and Maintain Temp. SESC Measures Earthwork and Storm Sewer Install Subbase, Base, and Paving Construction Slope Restoration

Open Constr. Zone - Remove Temp. Signs

Jan Feb Mar Apr May Jun Jul Aug Amazon 31st May 15th Aug. 31st

2018

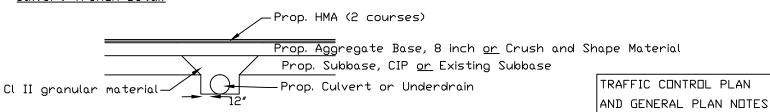
Underground Utility Detail

— TEL — TEL — Telephone
— GAS — GAS — Natural Gas
— WATER — WATER — Water
— SEVER — SEVER — SOWON

— SEWER — SEWER — Sewer — FIBER — FIBER — Fiber Optic Communications

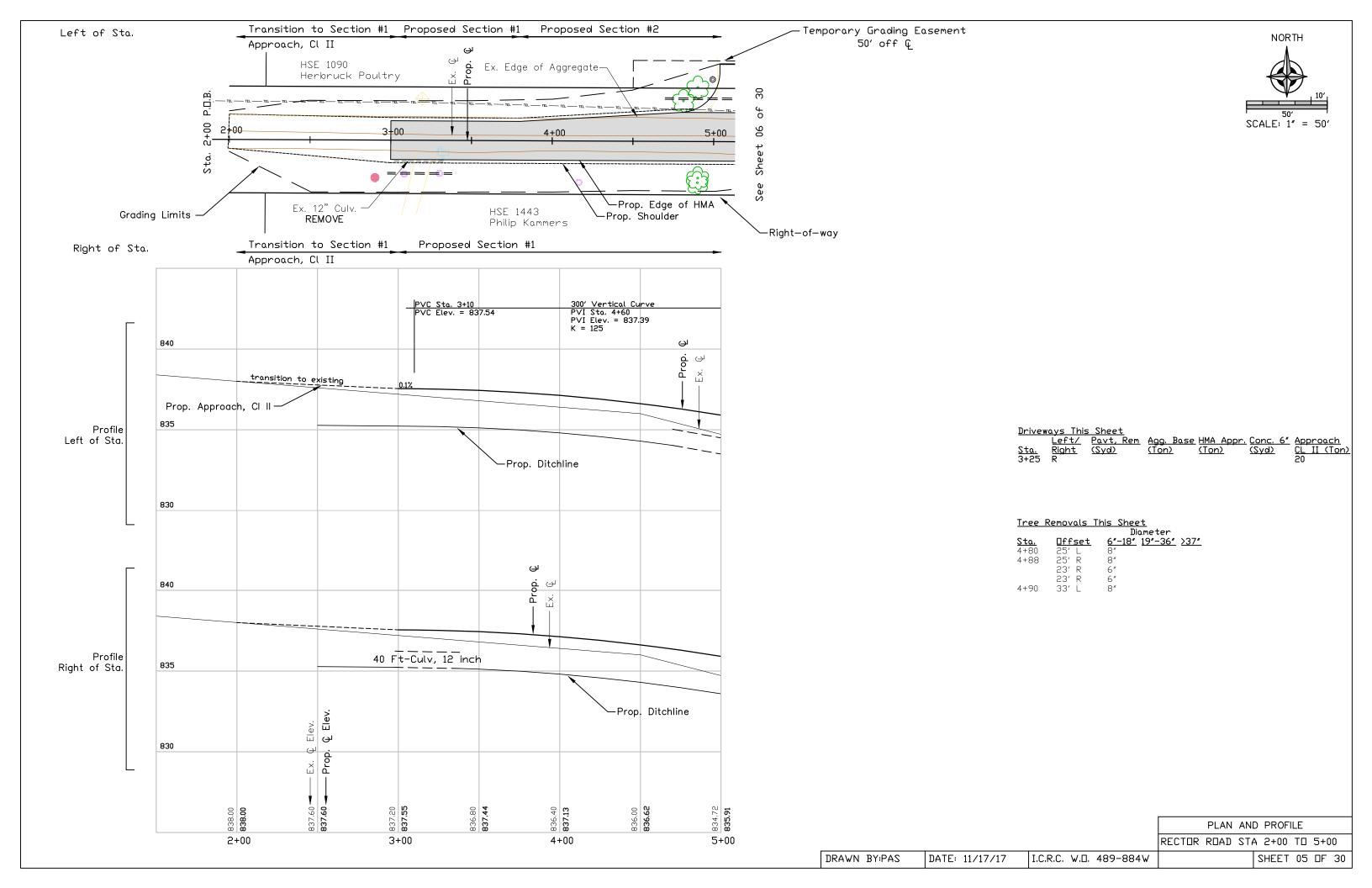
Locations shown on plans are approximate. Do not use in lieu of Miss Dig locating.

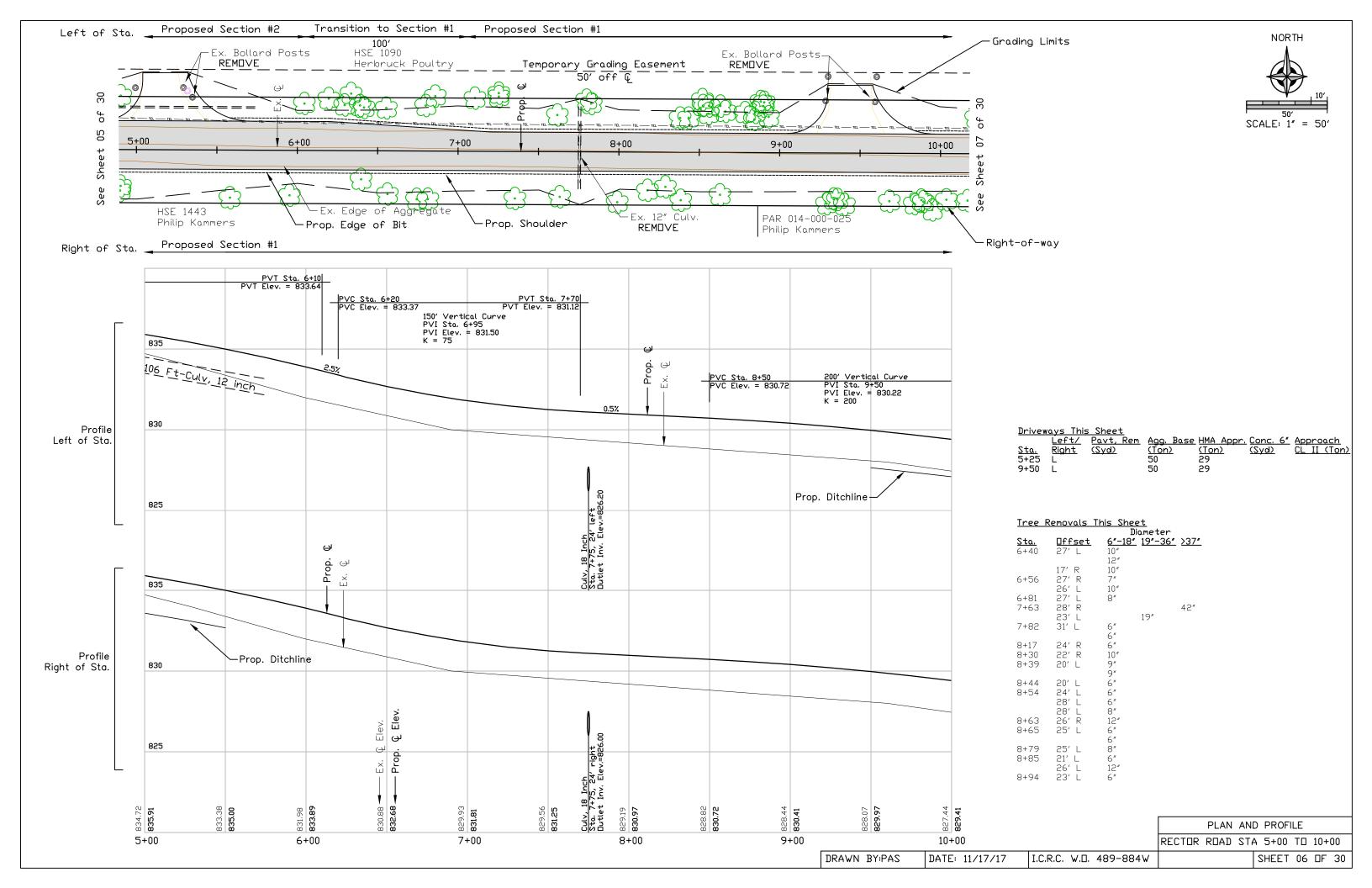
Culvert Trench Detail

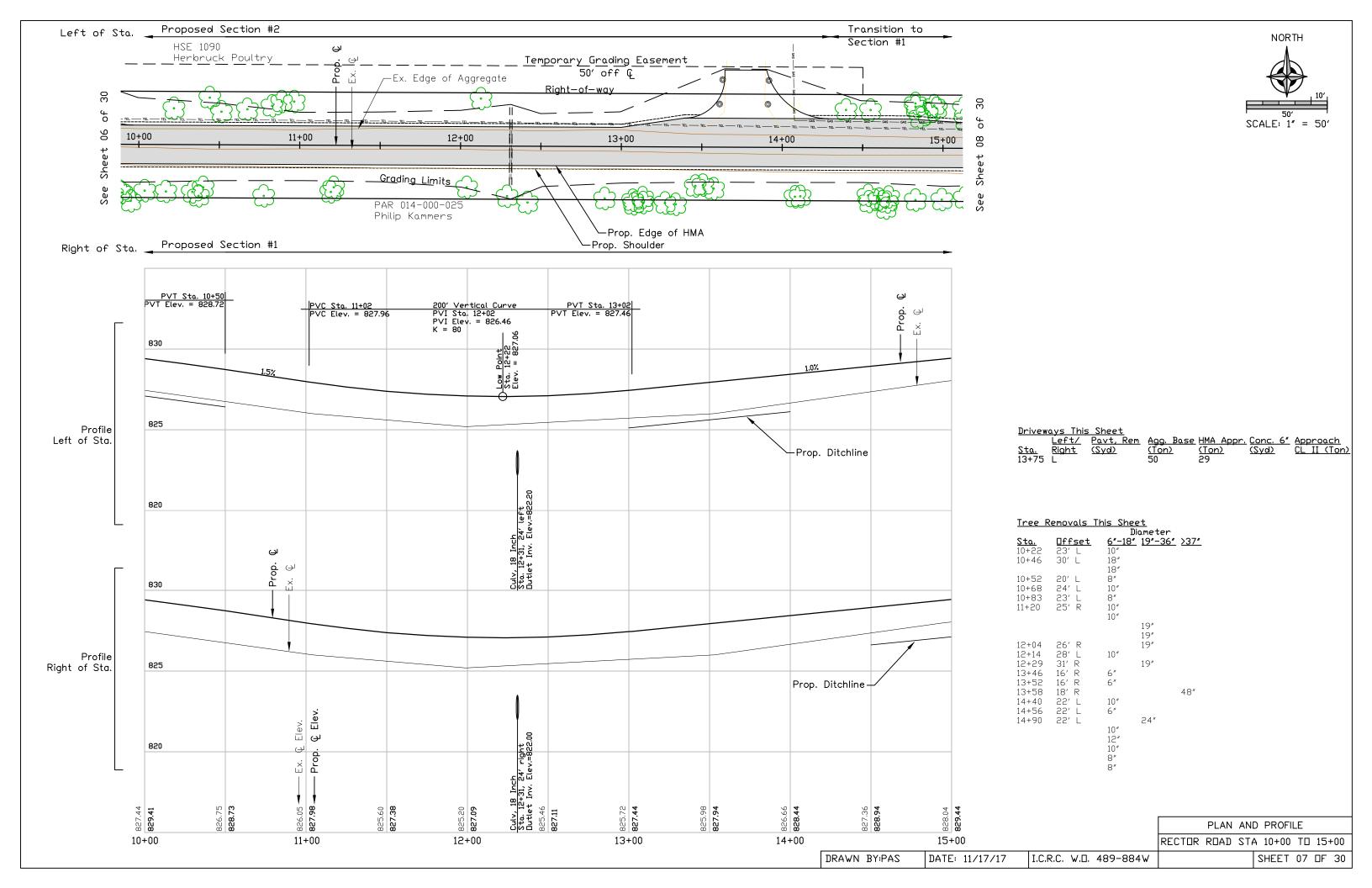


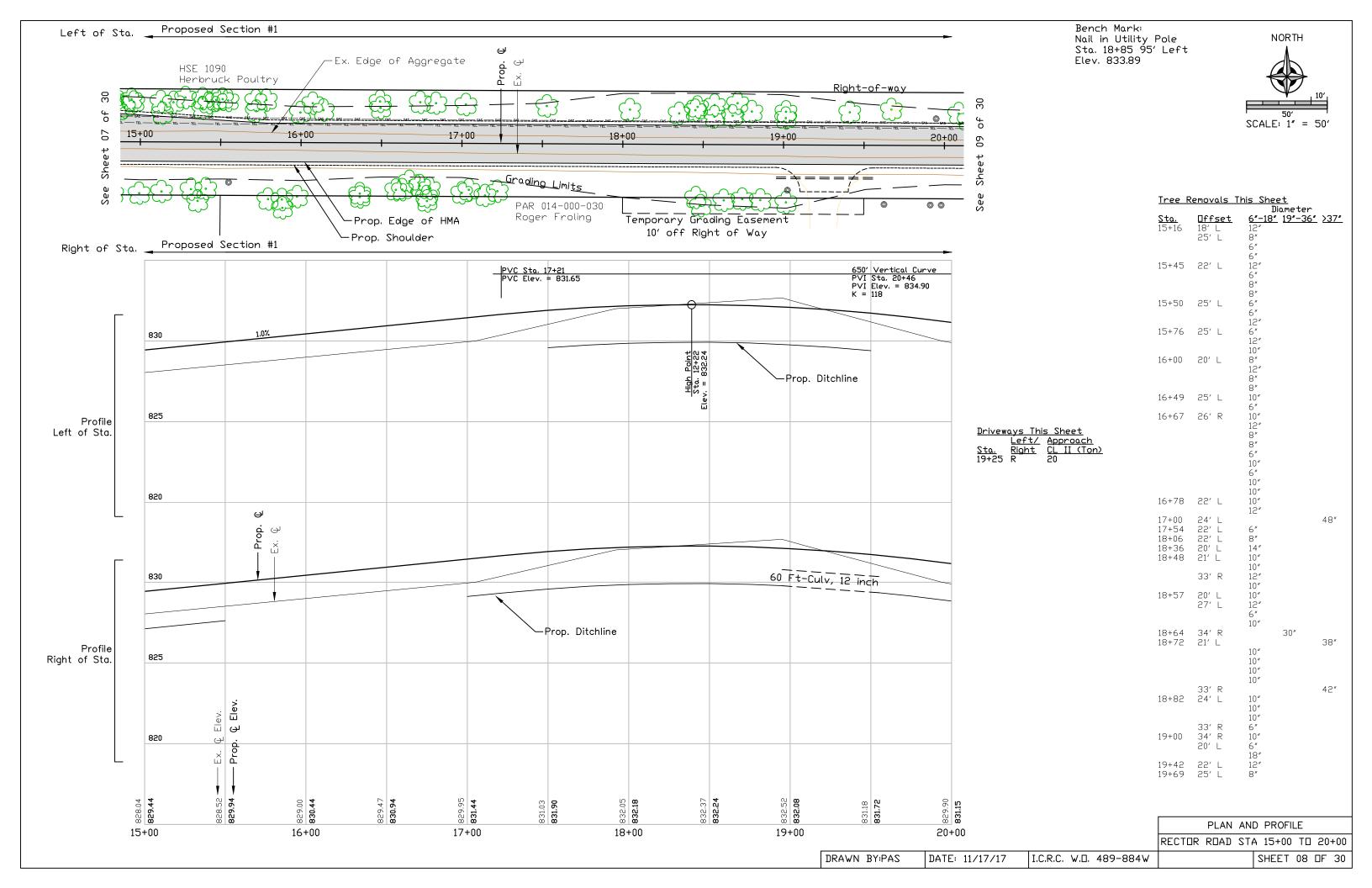
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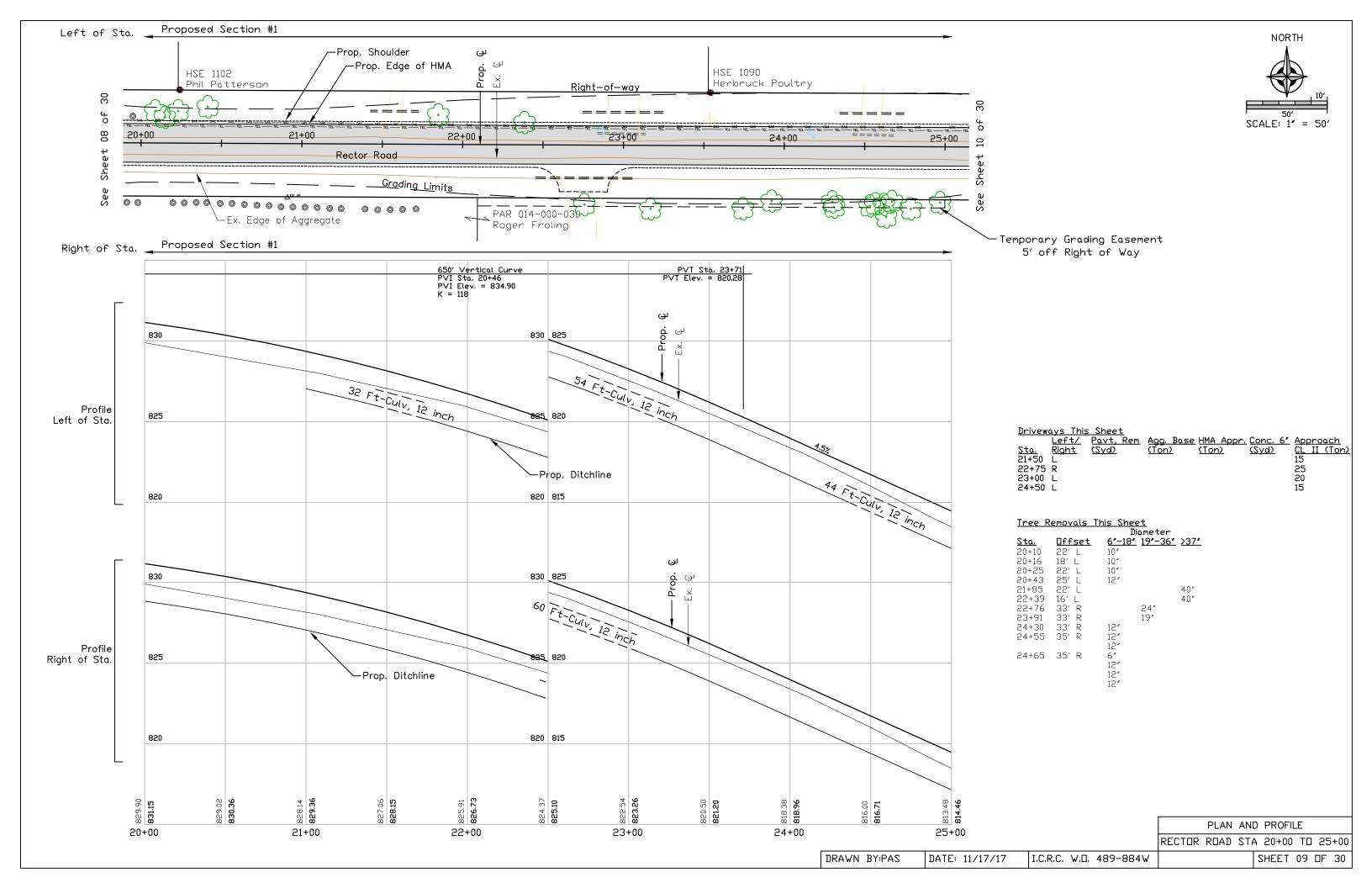
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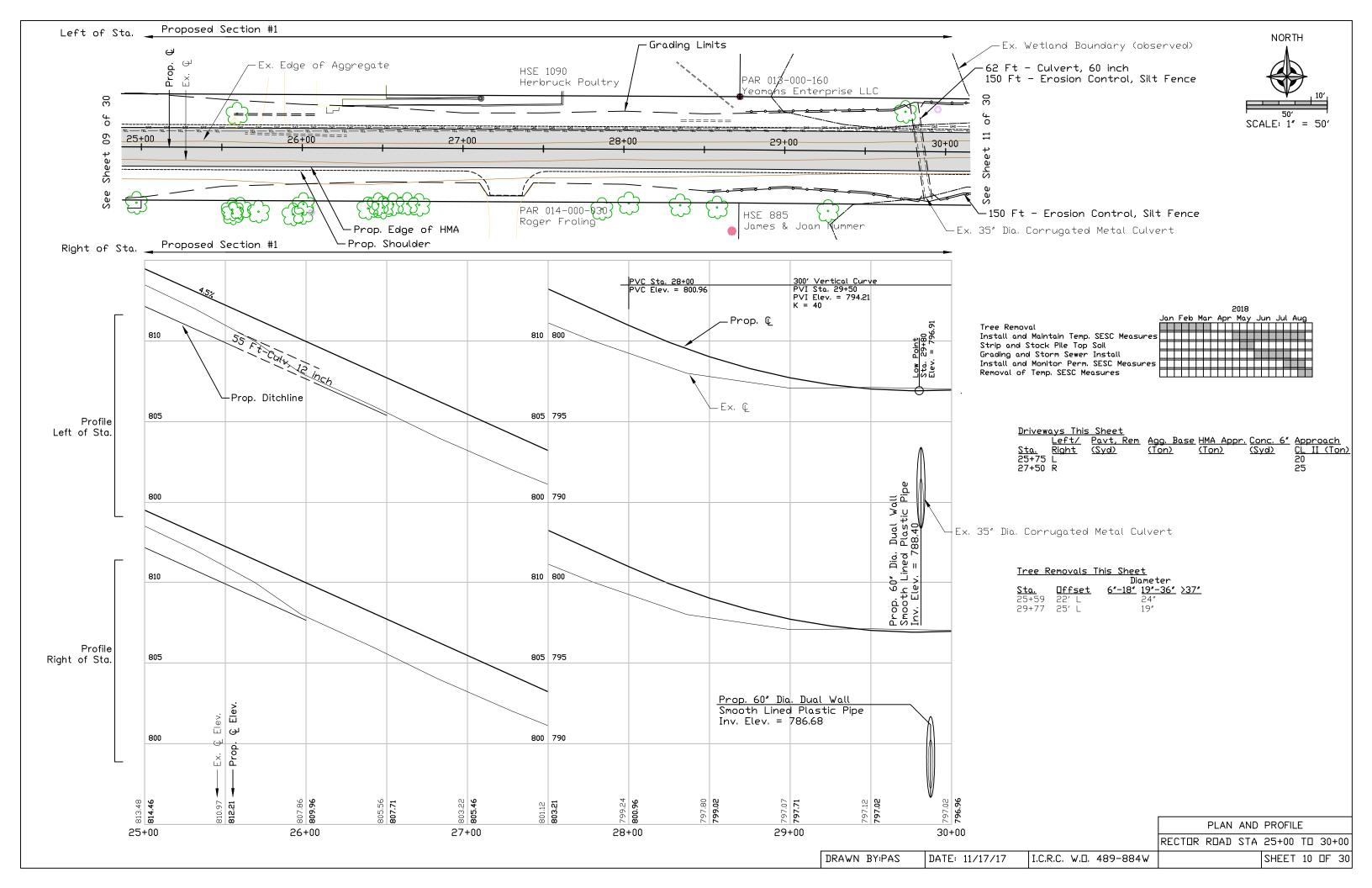


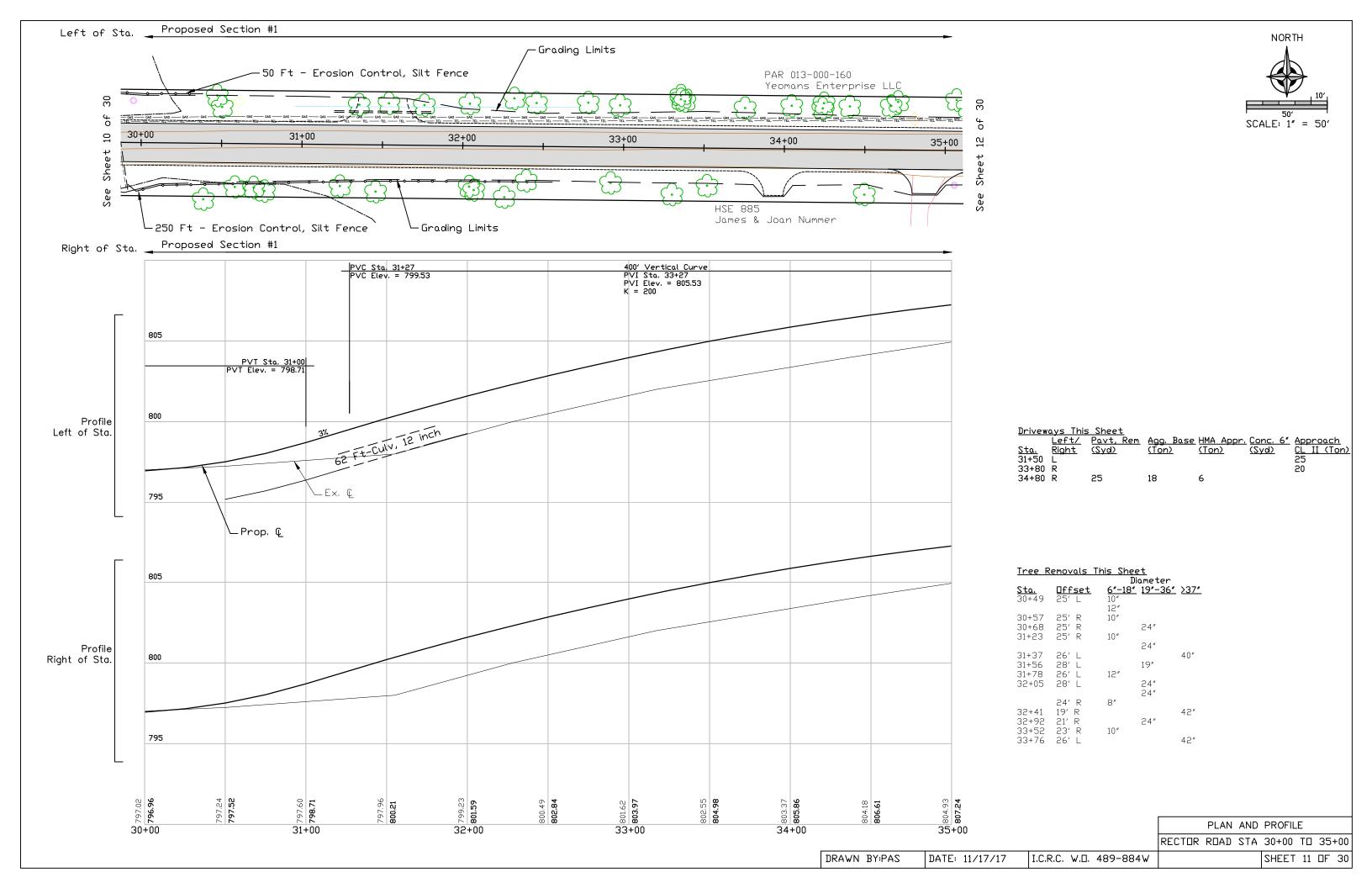


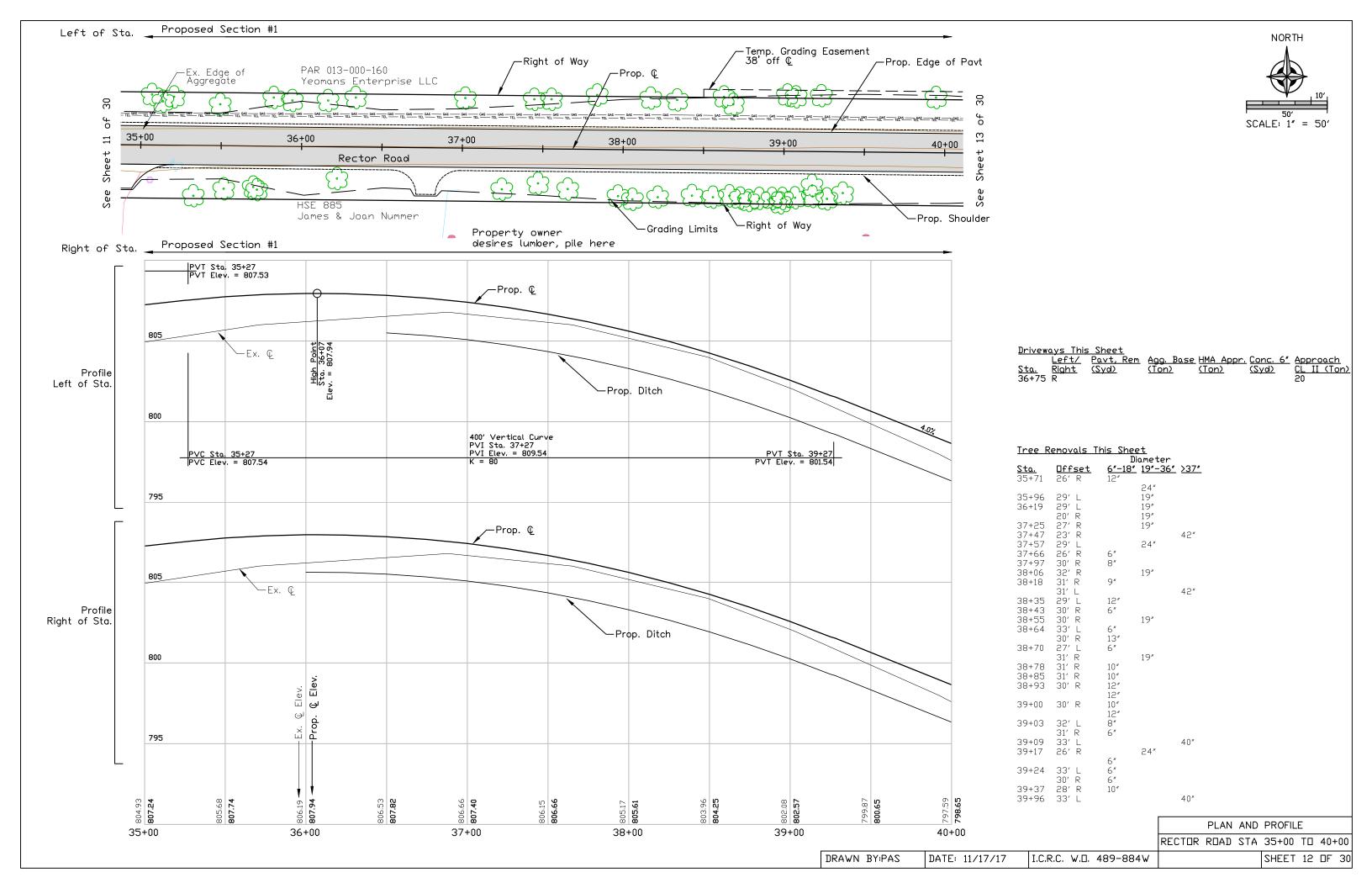


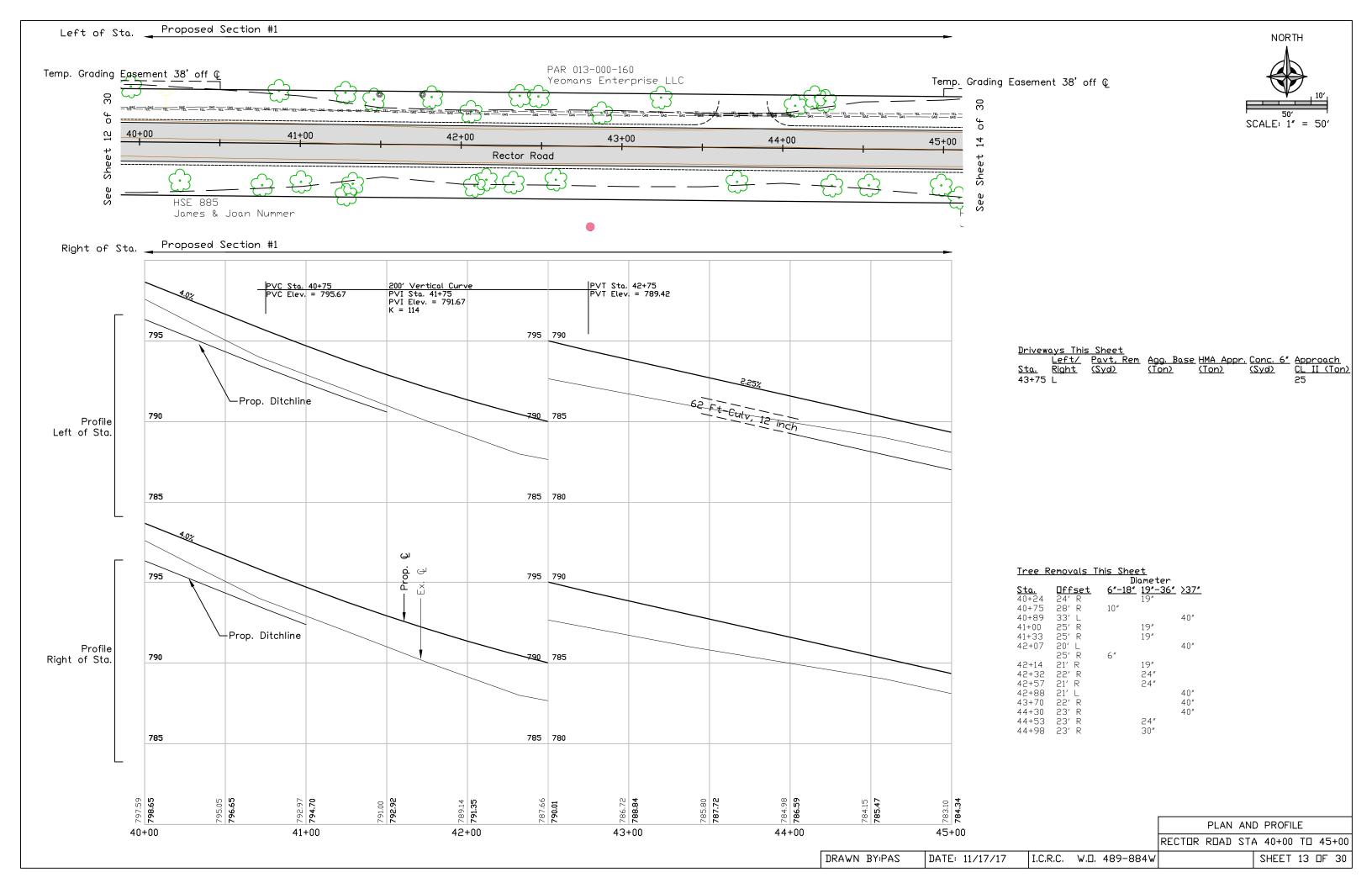


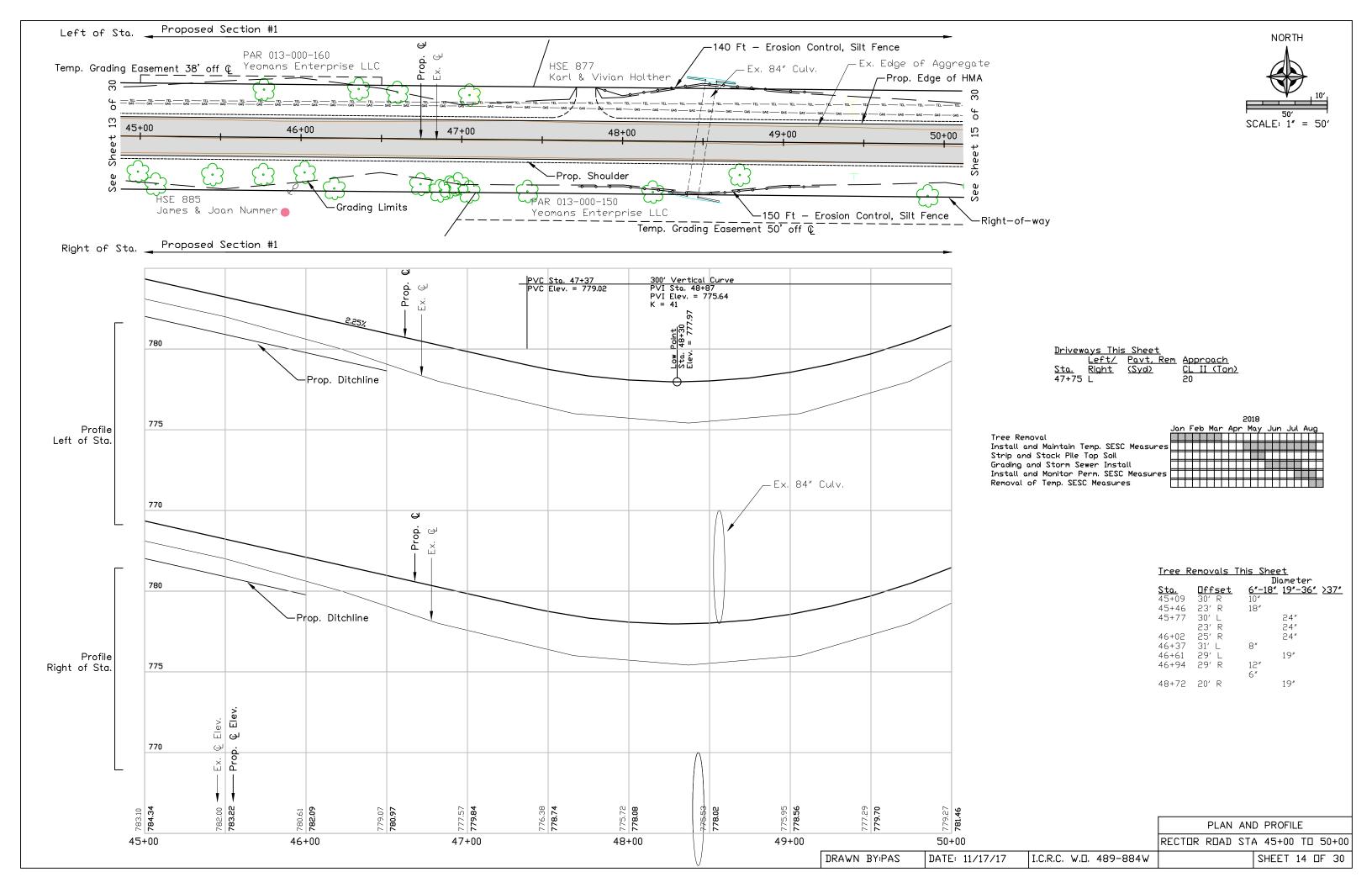


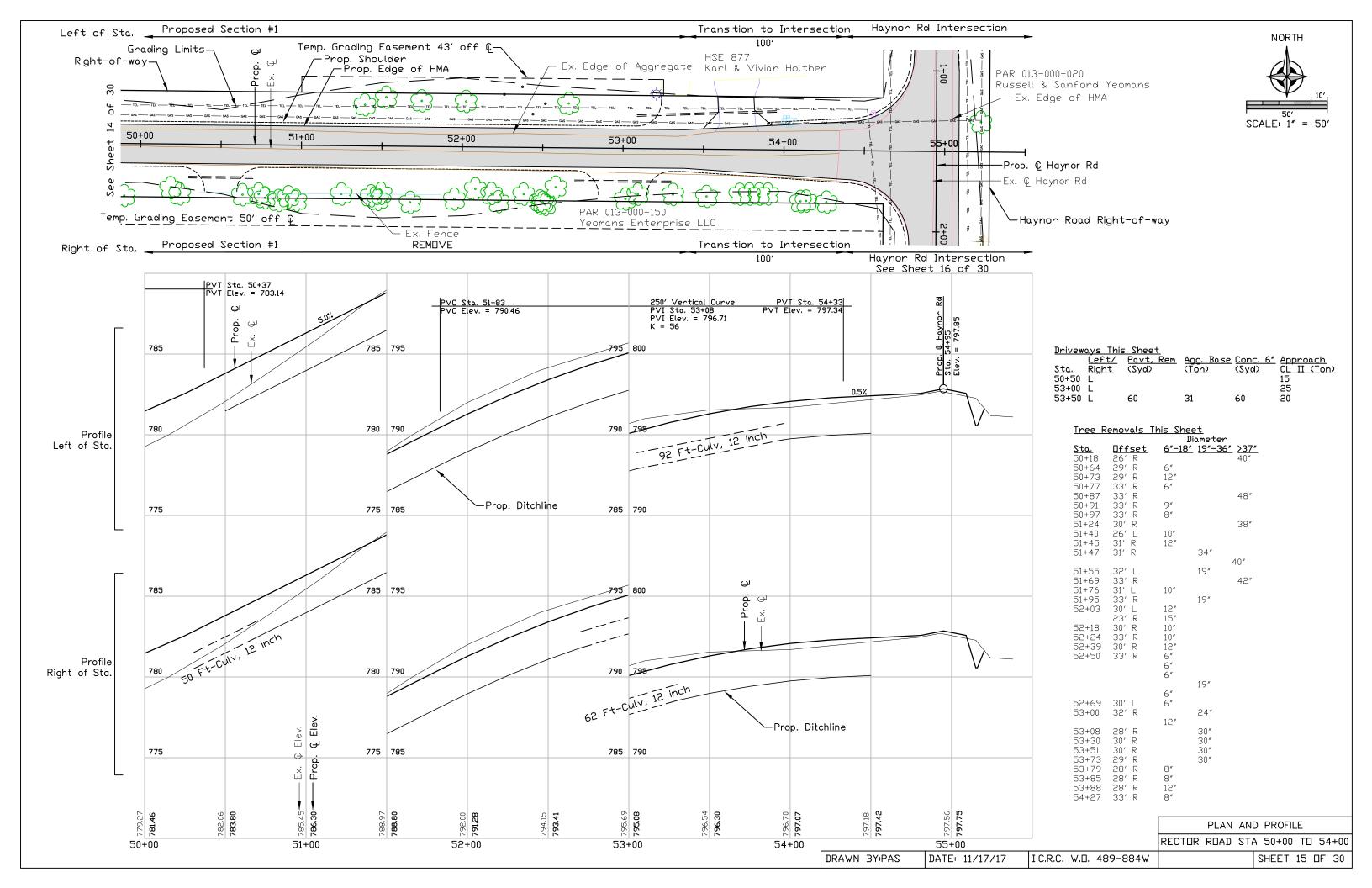


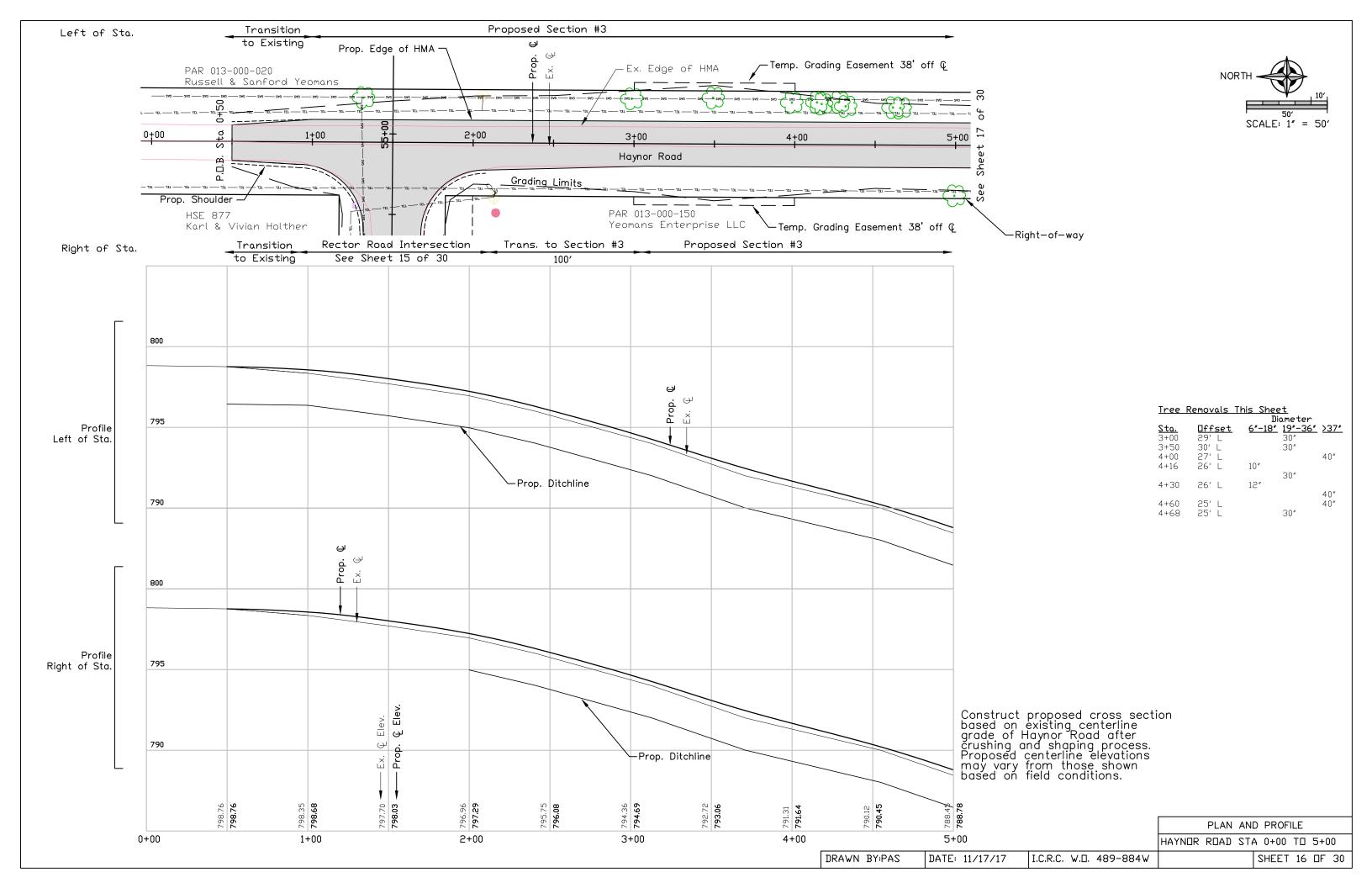


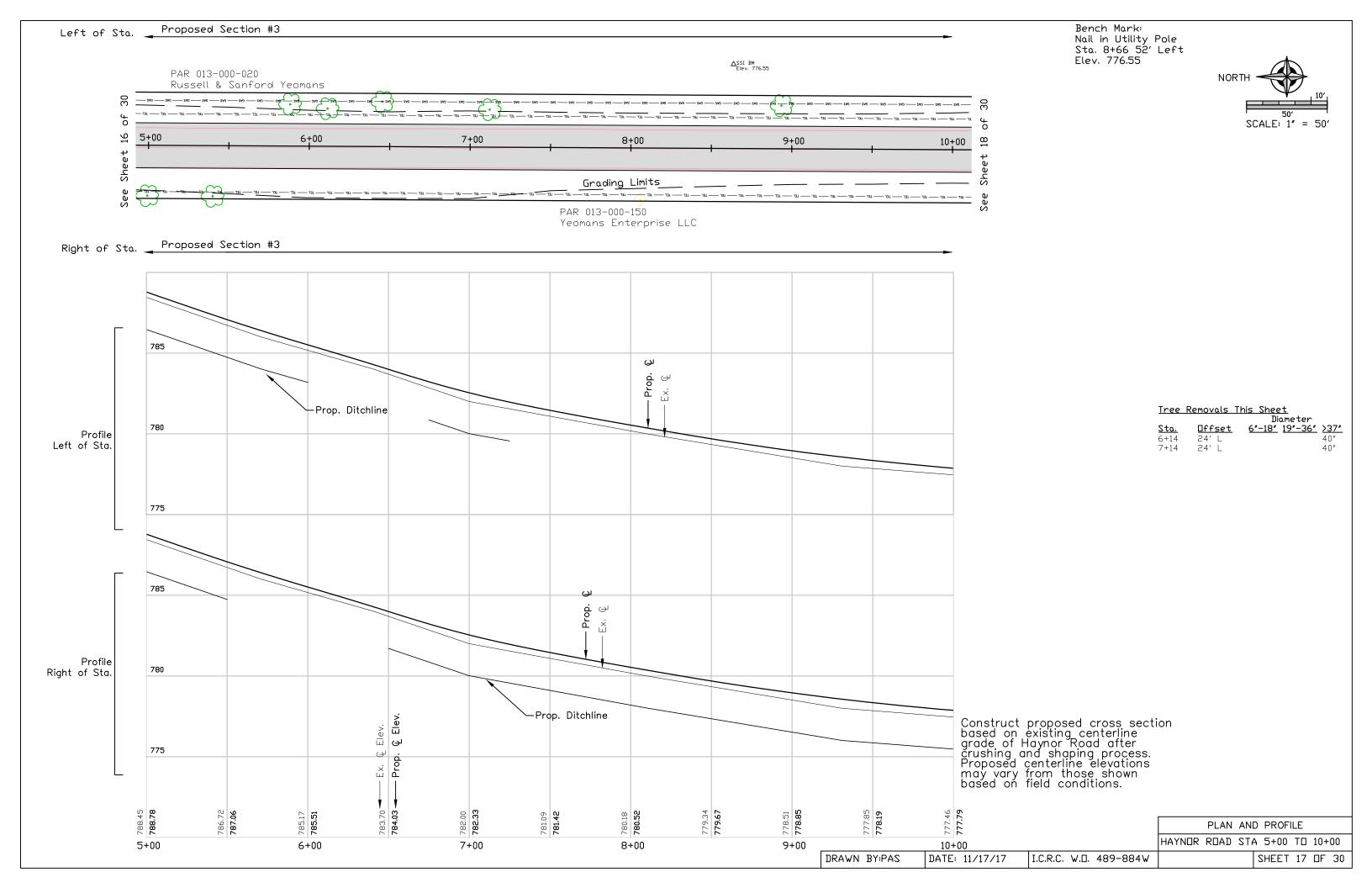


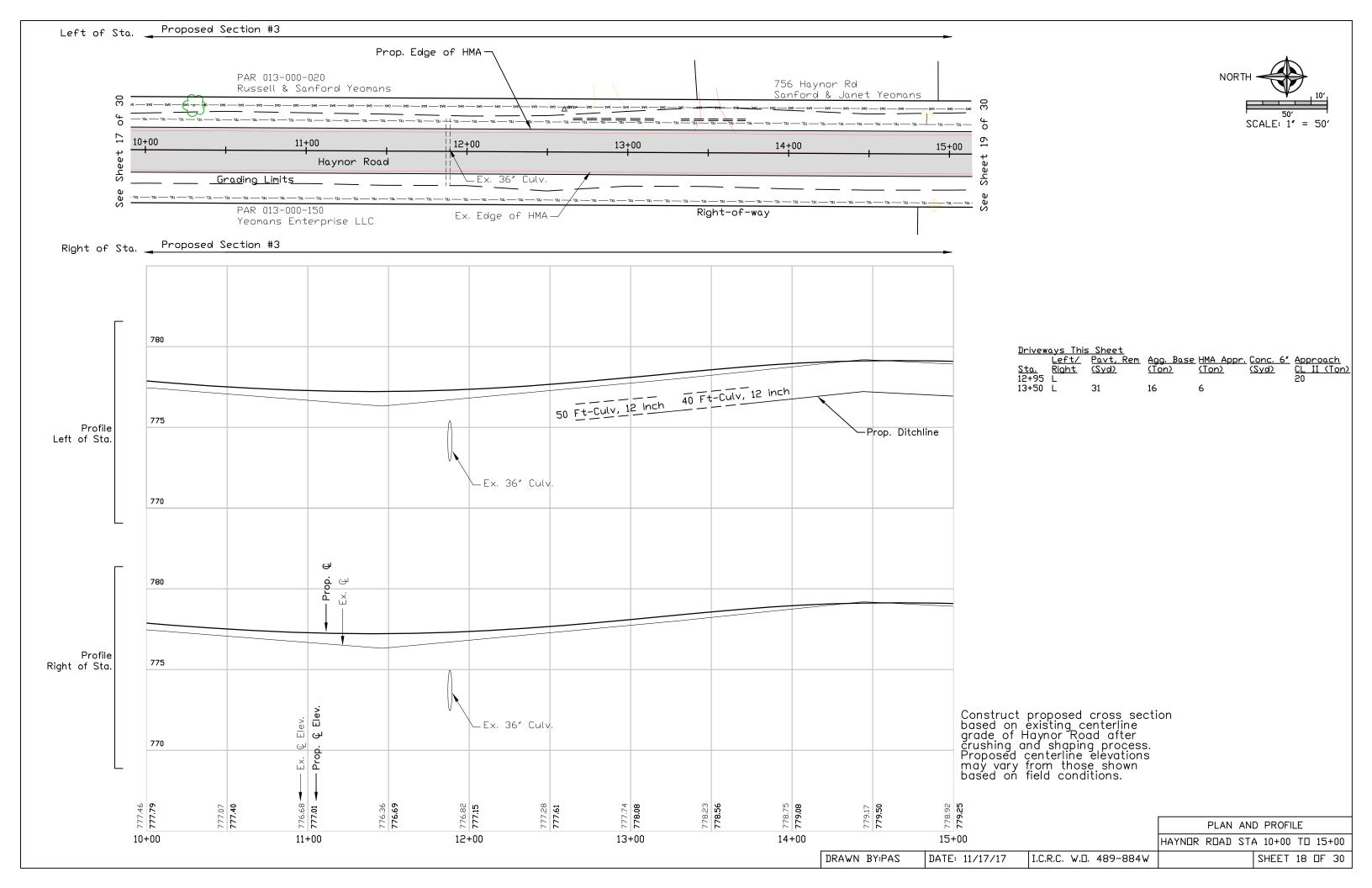


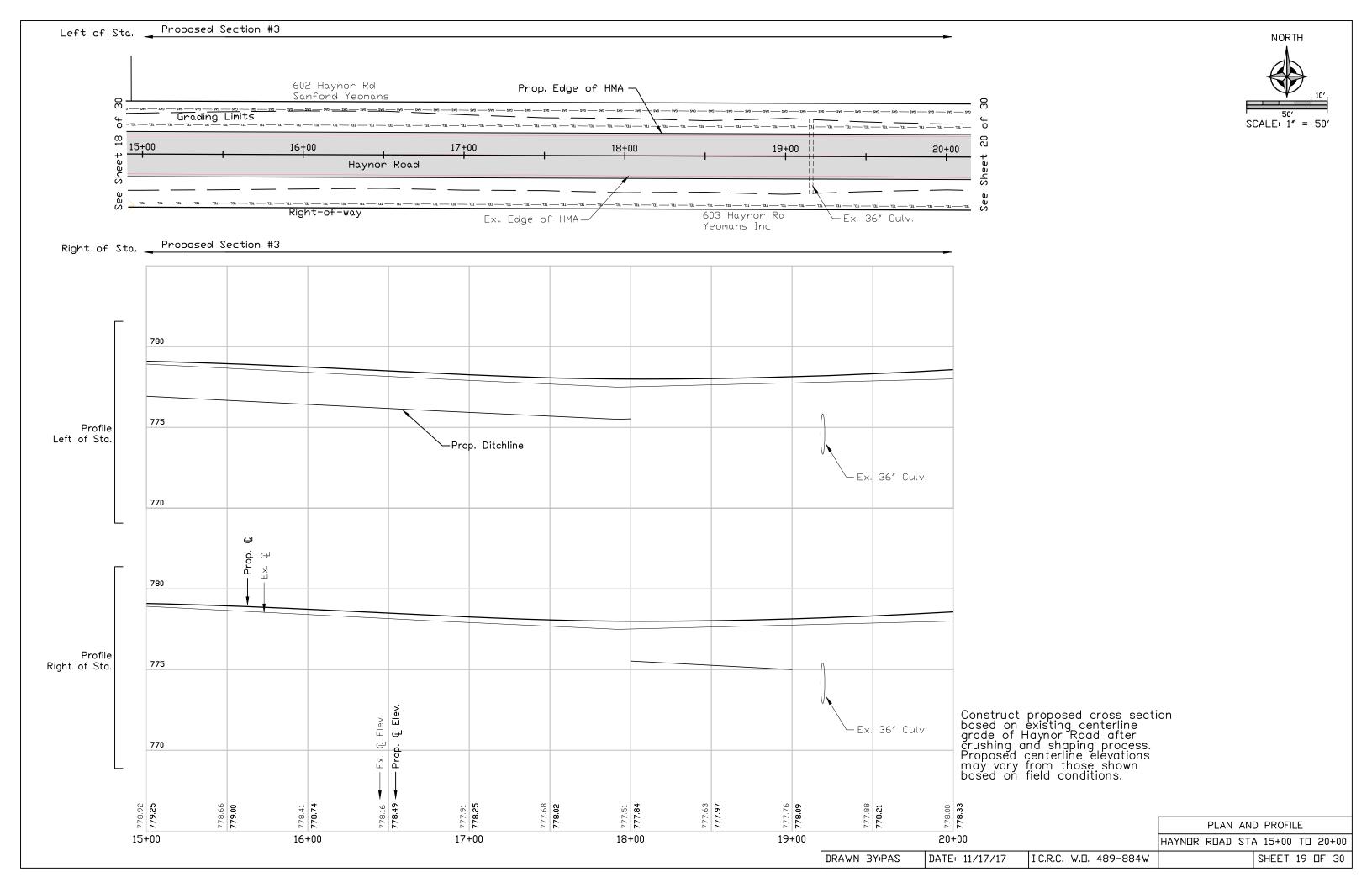


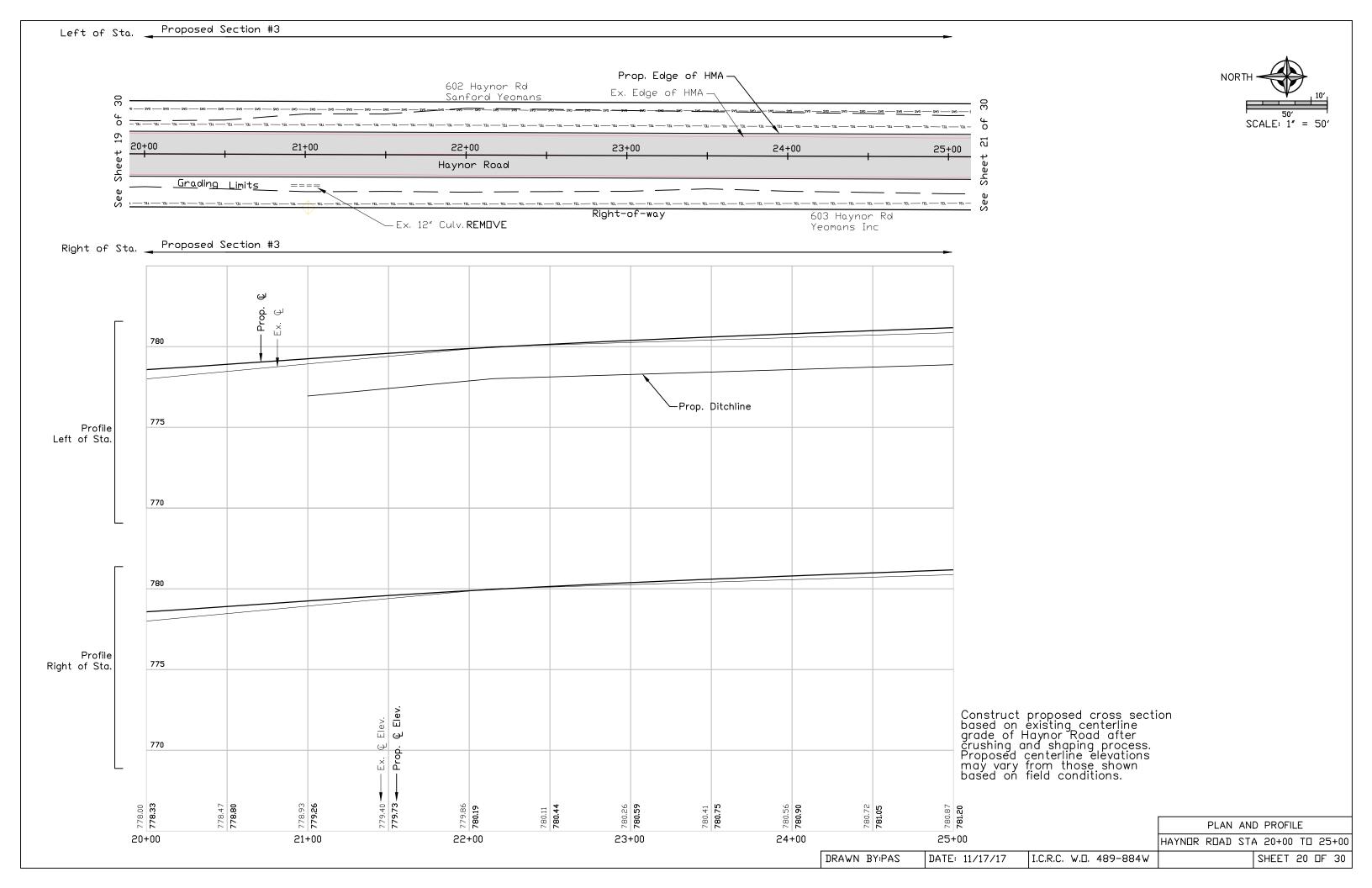


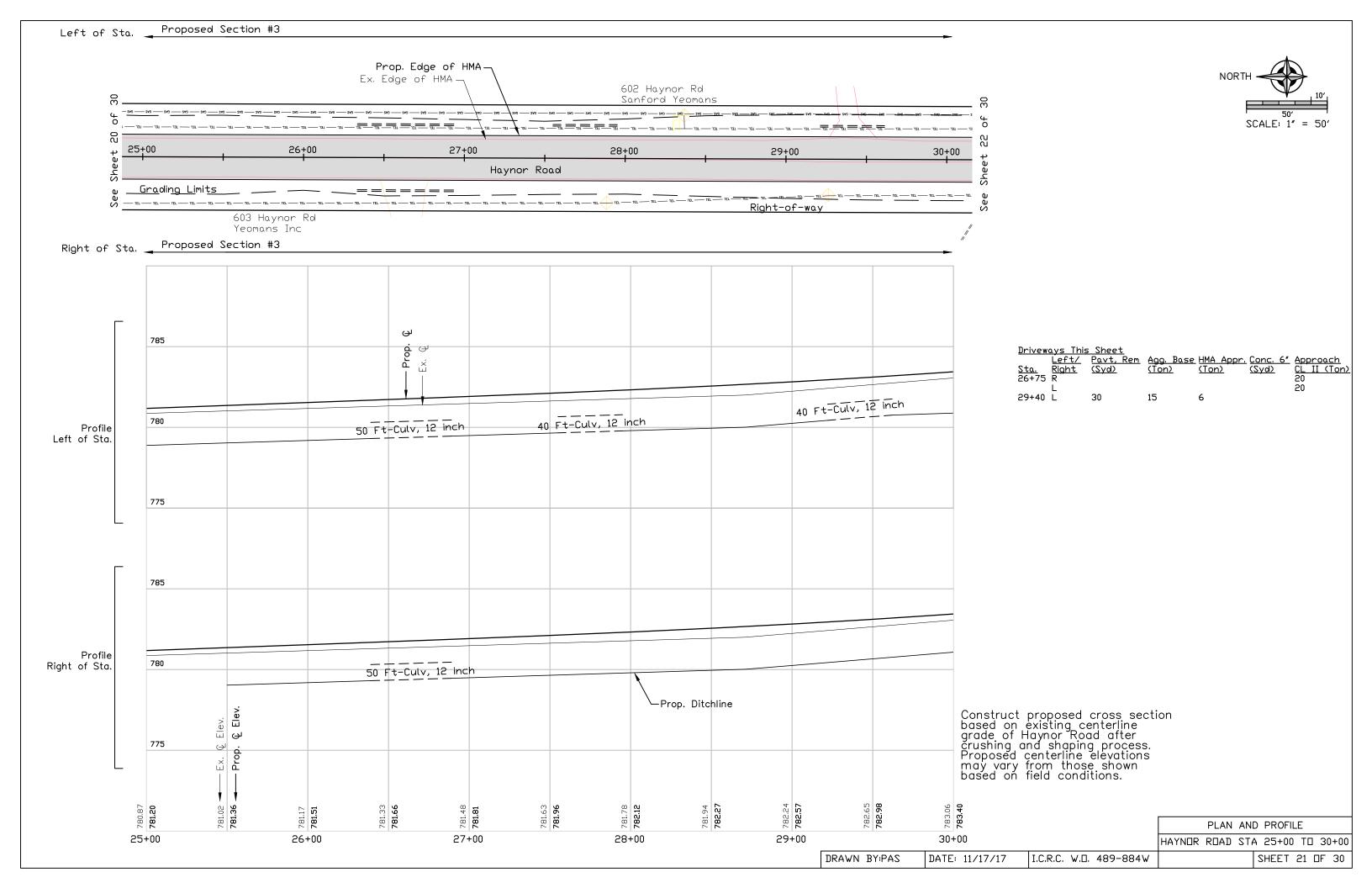


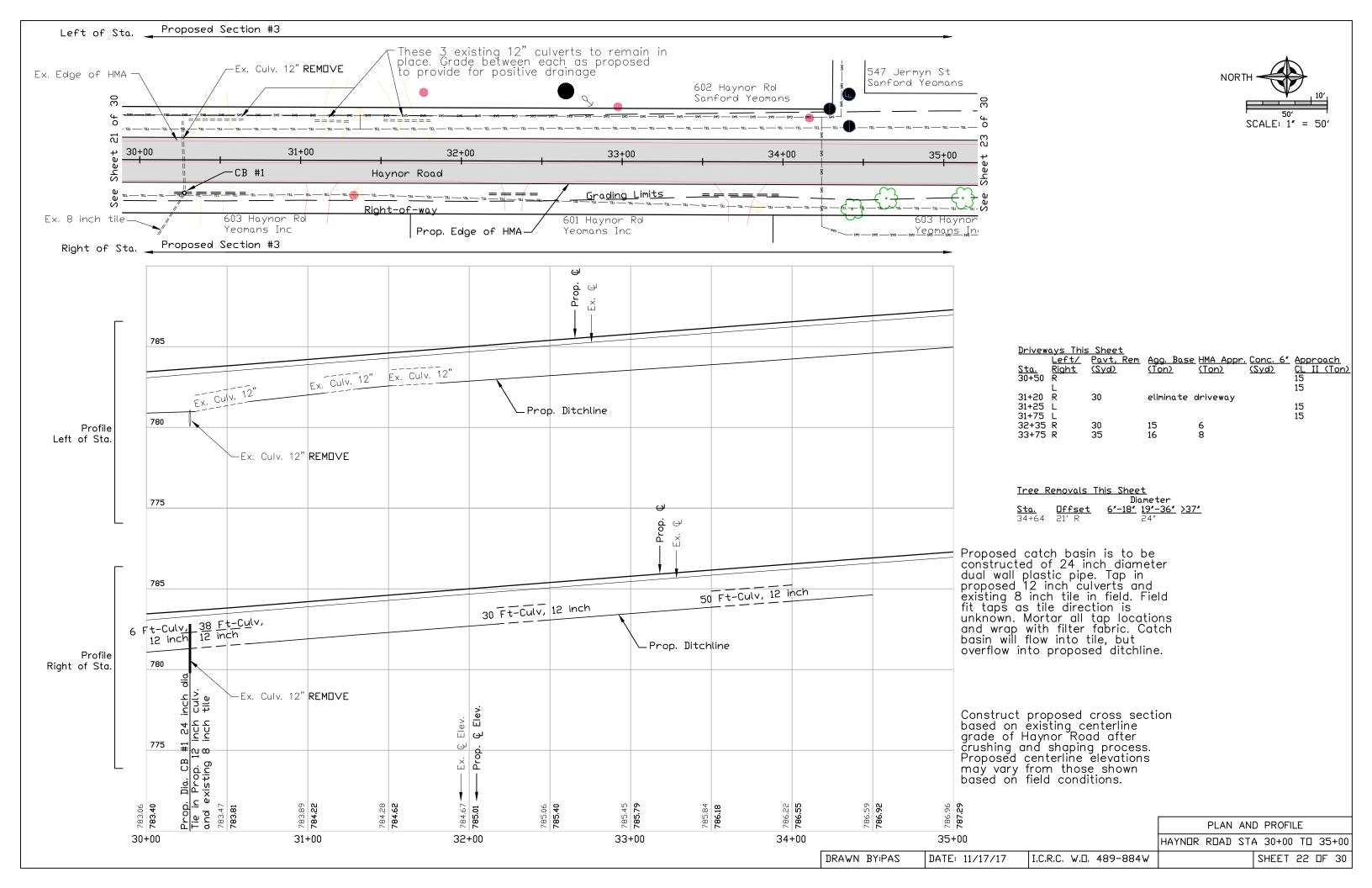


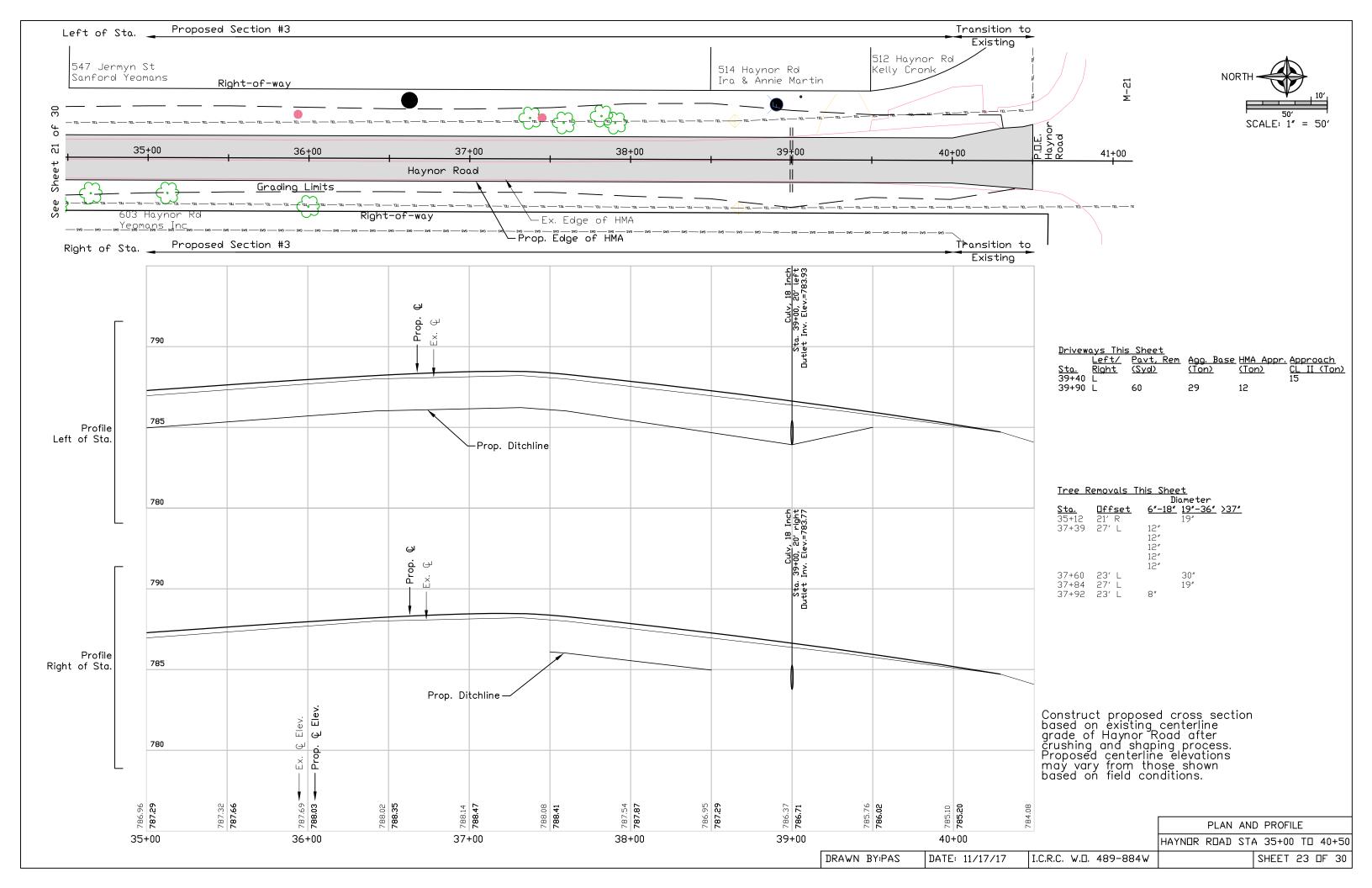


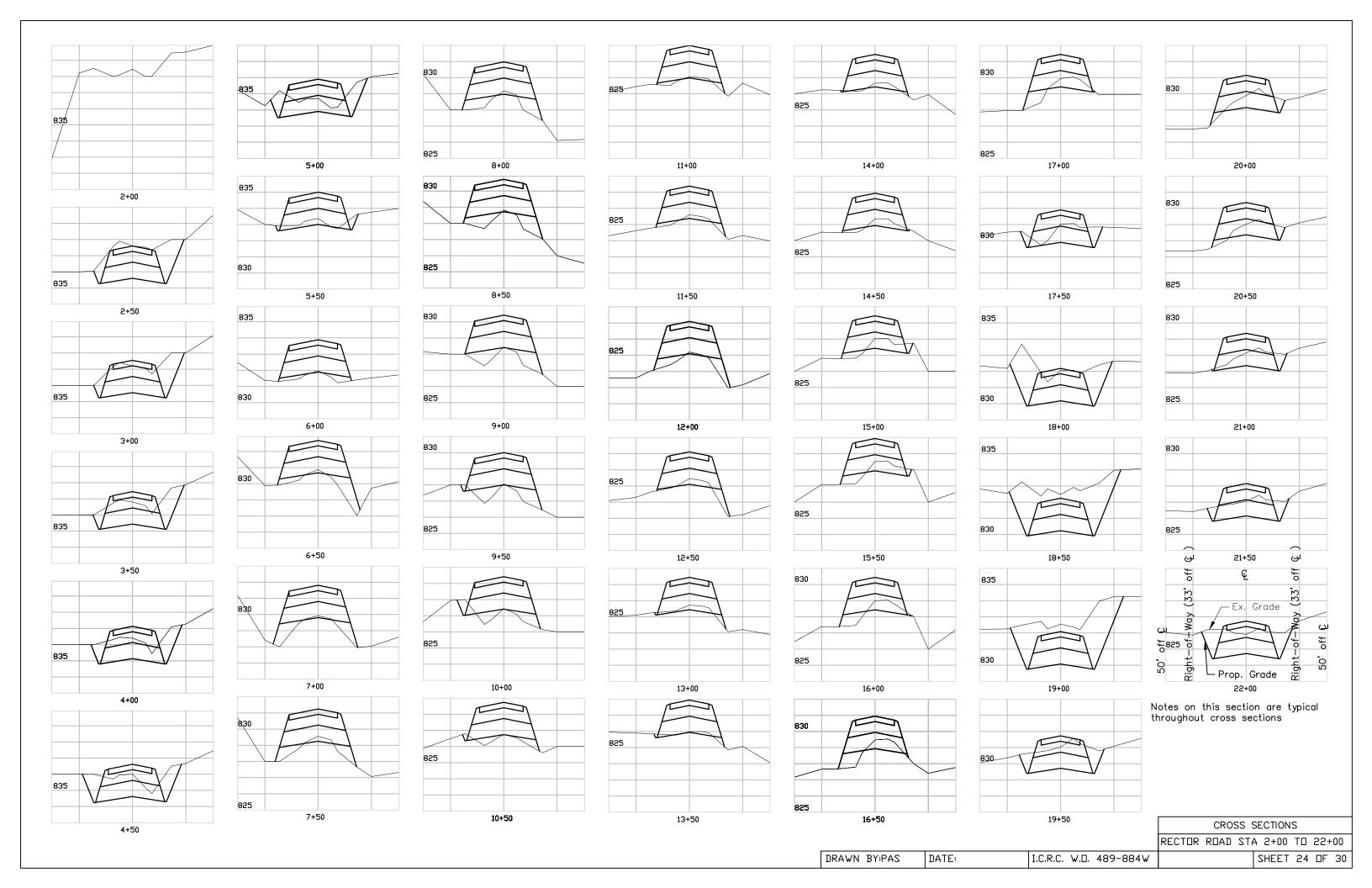


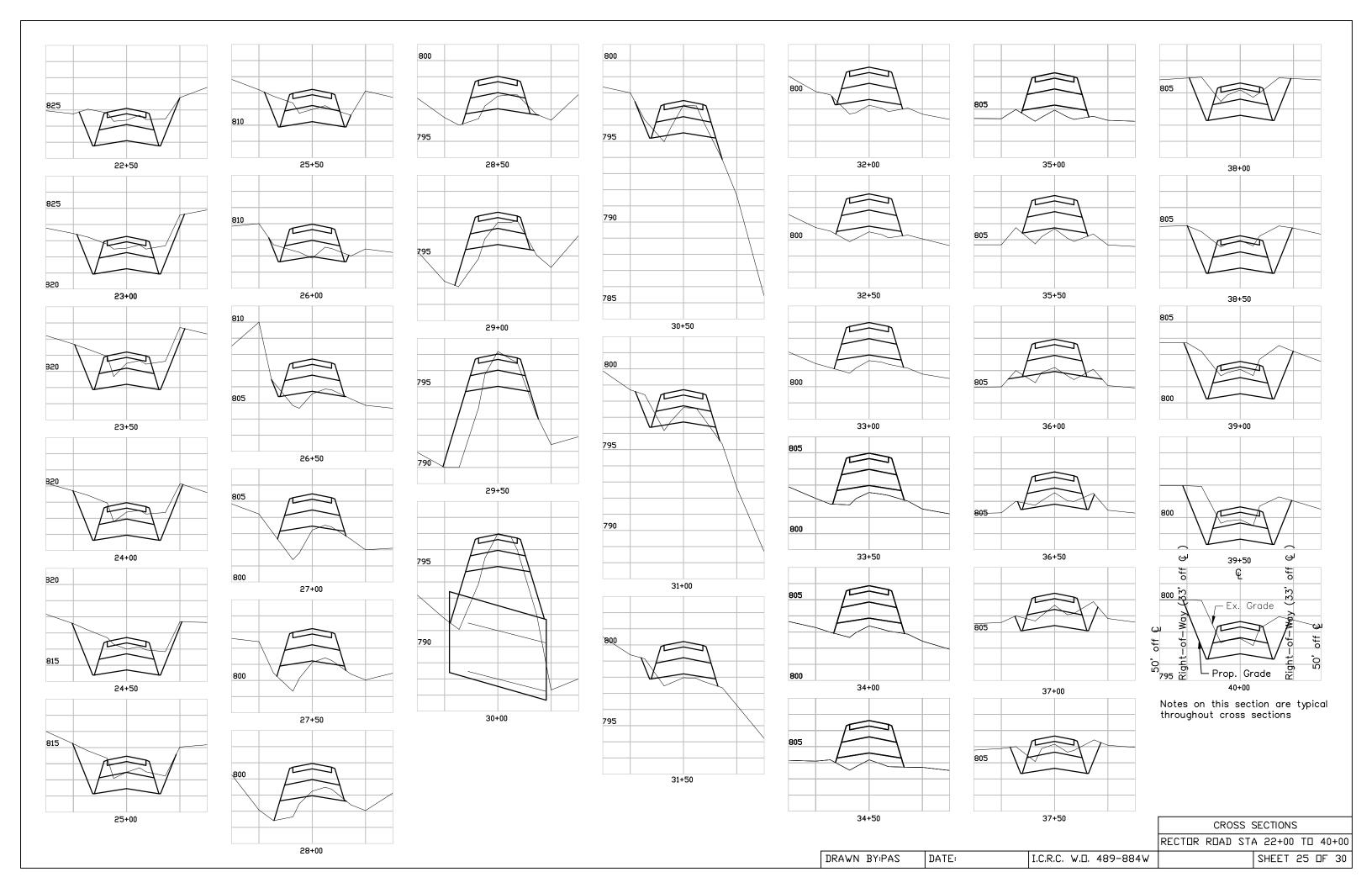


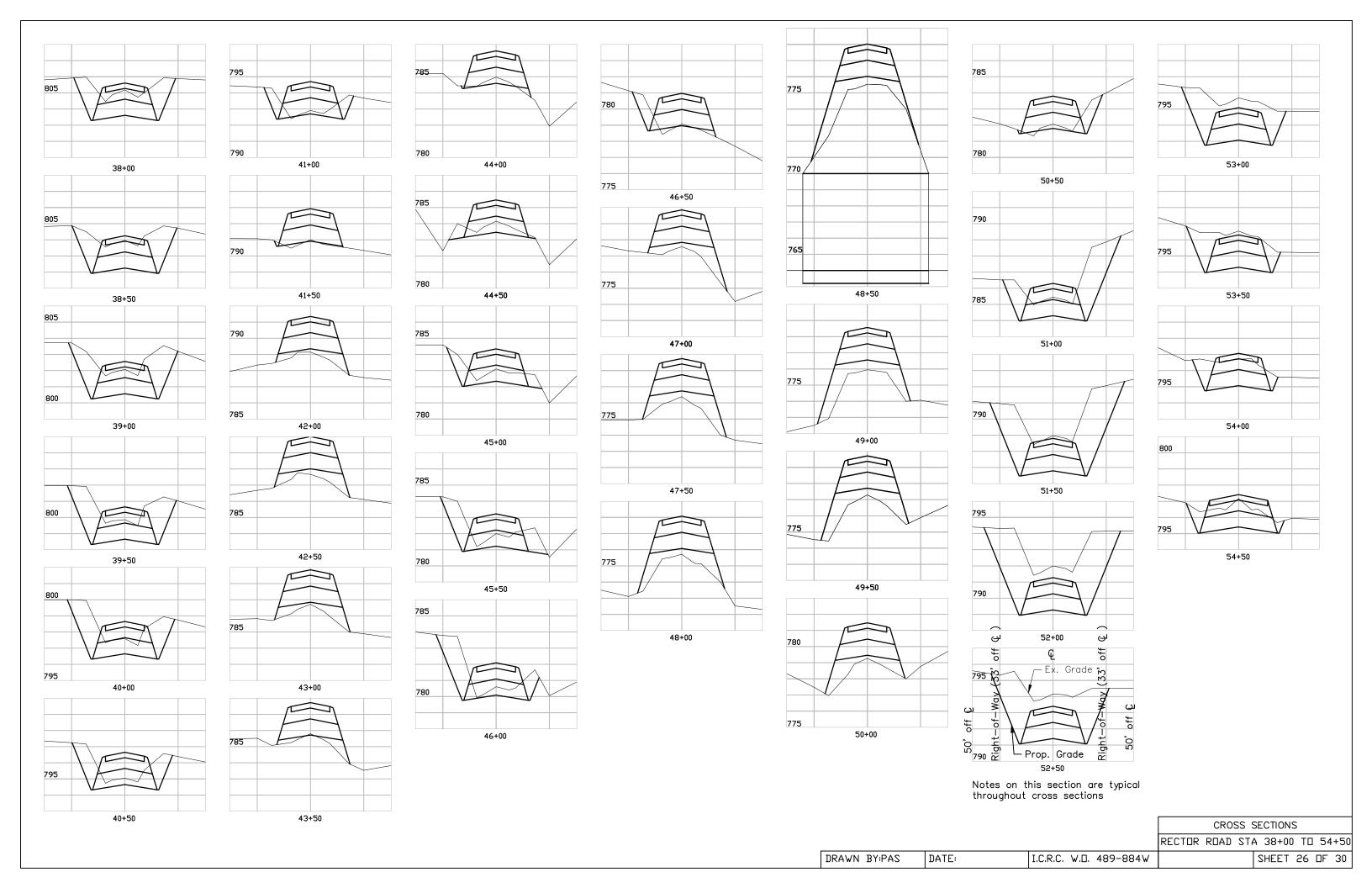


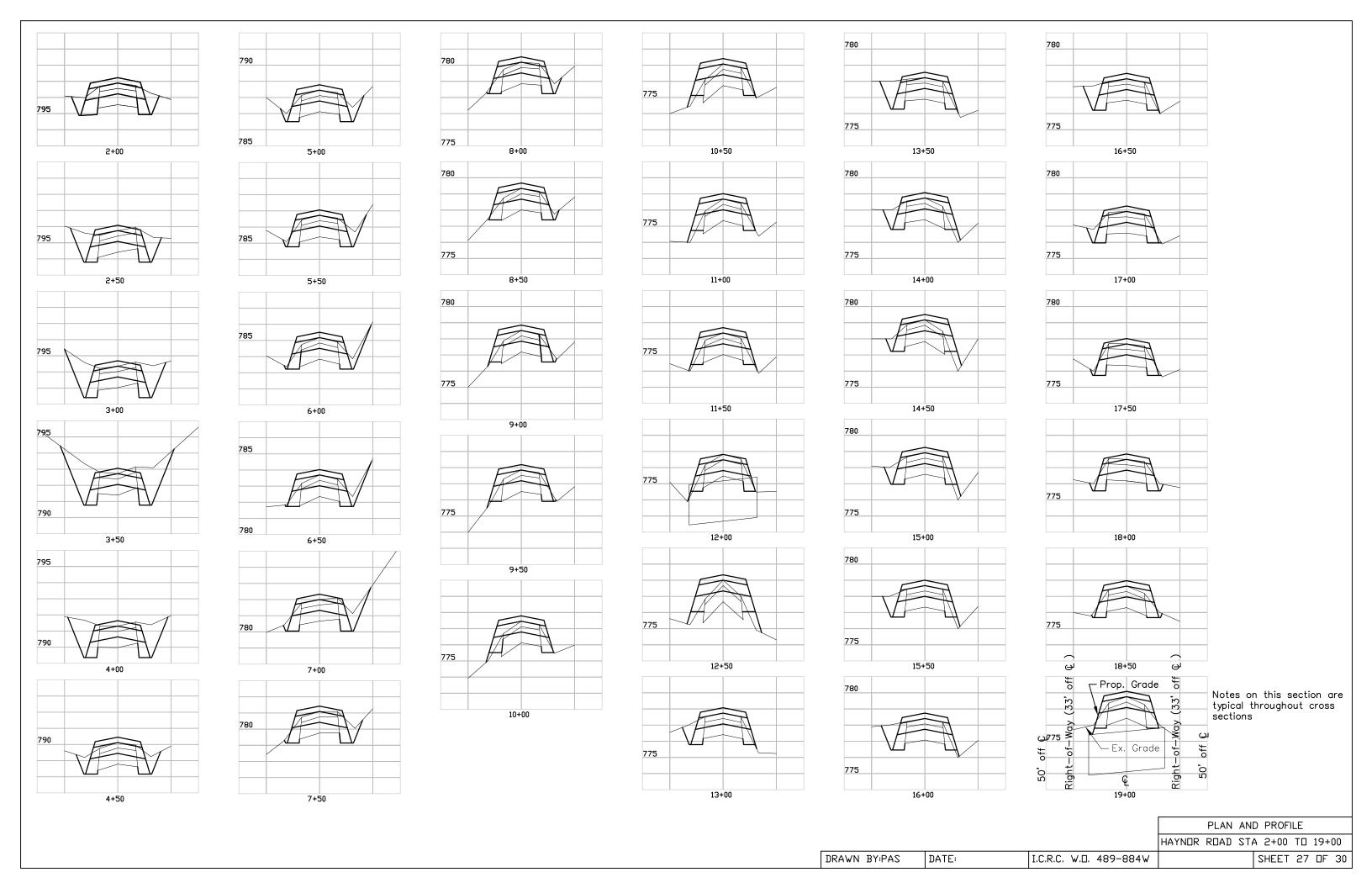


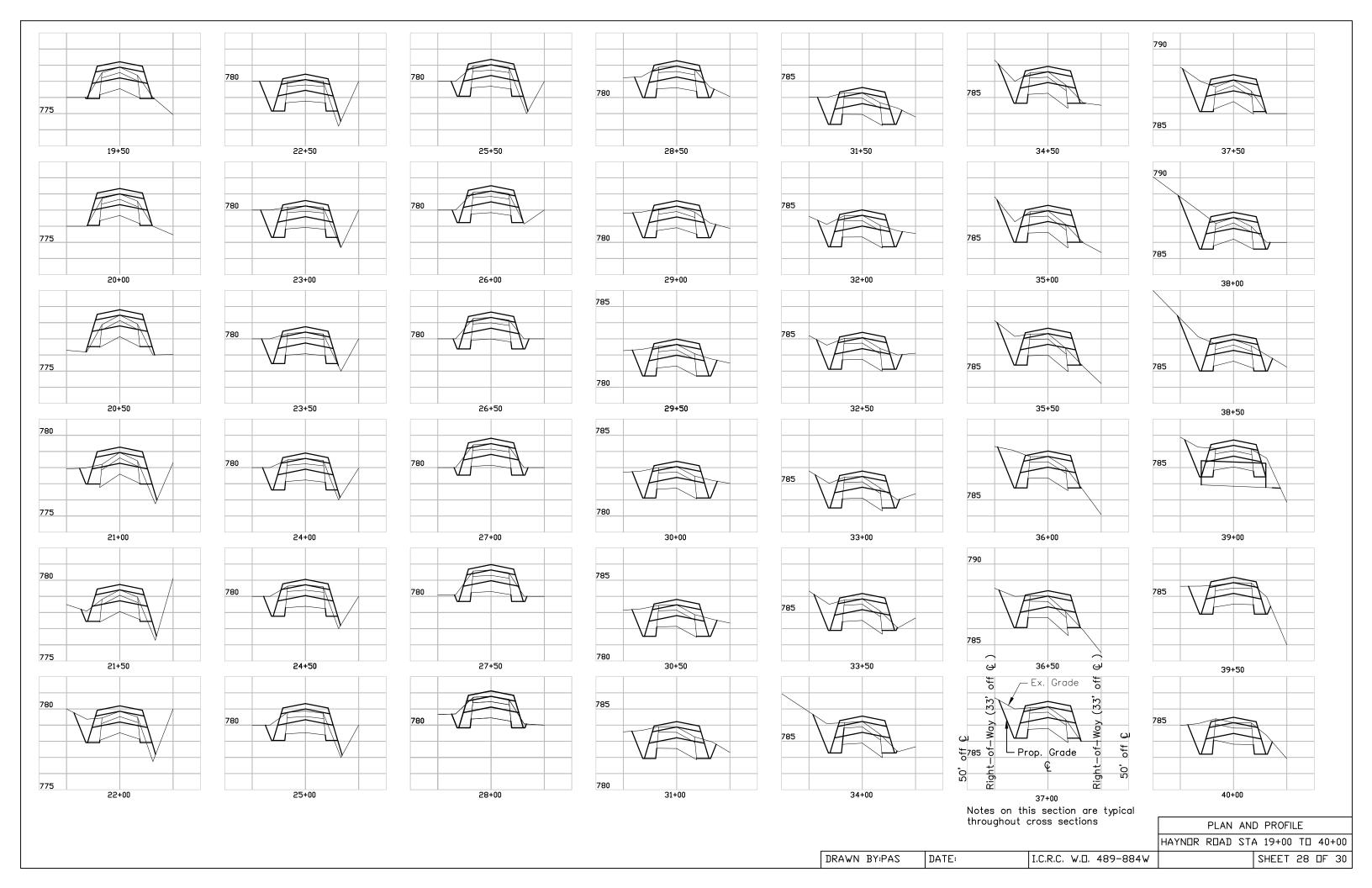


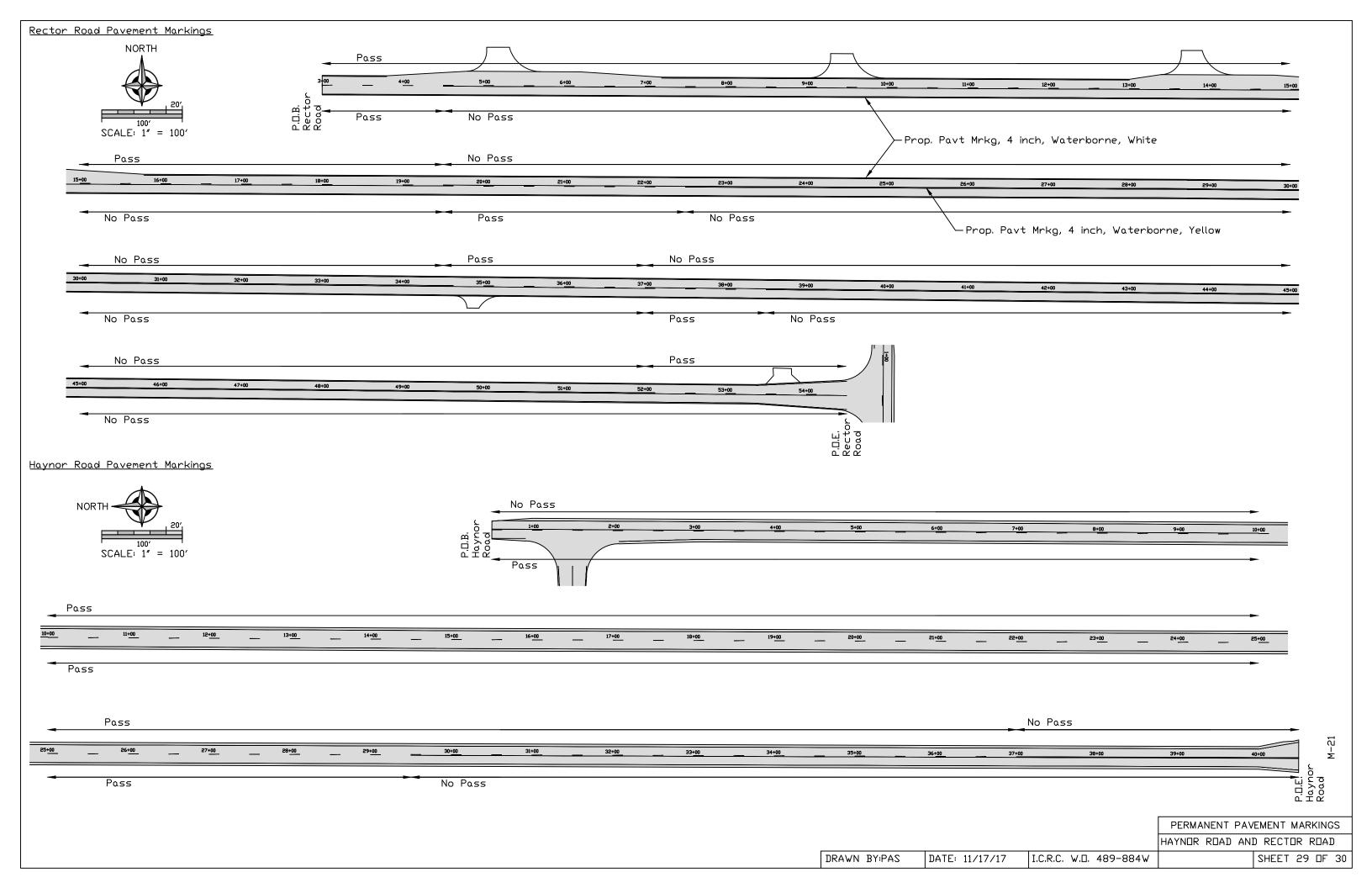












				Earthwo	rk & Drainag	ge Items						
		Earth	Embankment	Culv, Rem,	Culv, 12 inch	Culv, 18 inch	Culv, 60 inch	Underdrain, 4		•	Erosion Control,	Slope
		Excavation	CIP	less than 60	dia	dia		inch dia	Тар	foot dia	Silt Fence	Restoration
	Stations	per Cu Yard	per Cu Yard	per Foot	per Foot	per Foot	: per Foot	per Foot	t per Each	per Each	per Foot	per Sq Yard
Rector Road Sheet 5	2 +00 to 5 +00	792		30	40							856
Sheet 6	5 +00 to 10 +00	100	312	36	103	51						1,102
Sheet 7	10 +00 to 15 +00	89	110	35		48						1,013
Sheet 8	15 +00 to 20 +00	1,152	77		60							1,399
Sheet 9	20 +00 to 25 +00	1,292	7	28	190							1,672
Sheet 10	25 +00 to 30 +00	463	315	143	55		62				300	1,283
Sheet 11	30 +00 to 35 +00	166	349		62						300	1,141
Sheet 12	35 +00 to 40 +00	1,160	58									1,543
Sheet 13	40 +00 to 45 +00	352	155		62							1,271
Sheet 14	45 +00 to 50 +00	322	556								290	1,720
Sheet 15	50 +00 to 55 +00	2,137	34		204							1,900
<u>Haynor Road</u> Sheet 16	0 +50 to 5 +00	651										1,286
Sheet 17	5 +00 to 10 +00	361	2									1,015
Sheet 18	10 +00 to 15 +00	260	35		90							913
Sheet 19	15 +00 to 20 +00	351	6									862
Sheet 20	20 +00 to 25 +00	373	28	18								1,020
Sheet 21	25 +00 to 30 +00	457	5		180							990
Sheet 22	30 +00 to 35 +00	794		43	124					1		1,194
Sheet 23	35 +00 to 40 +50	687				40						1,326
Misc	cellaneous	600	100	27	80			100	2			
,	Totals	12,559	2,149	360	1,250	139	62	100	2	1	890	23,506

Pavement Items									
		HMA Base Crushing and Shaping	Subbase, CIP	Aggregate Base, 8 inch	HMA, 3C	HMA, 4C	Shoulder, Cl II		
	Stations	per Sq Yard	per Cyd	per Syd	per Ton	per Ton	per Ton		
Rector Road Sheet 5	2 +00 to 5 +00		489	1,350	65	56	41		
Sheet 6	5 +00 to 10 +00		815	2,250	162	140	35		
Sheet 7	10 +00 to 15 +00		815	2,250	162	140	35		
Sheet 8	15 +00 to 20 +00		665	1,750	147	110	35		
Sheet 9	20 +00 to 25 +00		665	1,750	147	110	35		
Sheet 10	25 +00 to 30 +00		665	1,750	147	110	35		
Sheet 11	30 +00 to 35 +00		665	1,750	147	110	35		
Sheet 12	35 +00 to 40 +00		665	1,750	147	110	35		
Sheet 13	40 +00 to 45 +00		665	1,750	147	110	35		
Sheet 14	45 +00 to 50 +00		665	1,750	147	110	35		
Sheet 15	50 +00 to 55 +00		665	1,750	147	110	35		
<u>Haynor Road</u> Sheet 16	0 +50 to 5 +00	1,301	270	504	154	116	16		
Sheet 17	5 +00 to 10 +00	1,445	270	560	171	129			
Sheet 18	10 +00 to 15 +00	1,445	270	560	171	129			
Sheet 19	15 +00 to 20 +00	1,445	270	560	171	129			
Sheet 20	20 +00 to 25 +00	1,445	270	560	171	129			
Sheet 21	25 +00 to 30 +00	1,445	270	560	171	129			
Sheet 22	30 +00 to 35 +00	1,445	270	560	171	129			
Sheet 23	35 +00 to 40 +50	1,590	270	616	188	141			
Miso	cellaneous		200		100	100	10		
	Totals	11,560	9,799	24,330	3,029	2,344	417		

Driveway Items										
		Pavt, Rem			Driveway Nonreinf Conc, 6 inch	Approach, Cl II				
	Stations	per Sq Yard	per Ton	per Ton	per Sq Yard	per Ton				
Rector Road Sheet 5	2 +00 to 5 +00					20				
Sheet 6	5 +00 to 10 +00		100	58						
Sheet 7	10 +00 to 15 +00		50	29						
Sheet 8	15 +00 to 20 +00					20				
Sheet 9	20 +00 to 25 +00					80				
Sheet 10	25 +00 to 30 +00					45				
Sheet 11	30 +00 to 35 +00	25	18	6		45				
Sheet 12	35 +00 to 40 +00					20				
Sheet 13	40 +00 to 45 +00					25				
Sheet 14	45 +00 to 50 +00					20				
Sheet 15	50 +00 to 55 +00	60	61		60	60				
<u>Haynor Road</u> Sheet 18	10 +00 to 15 +00	31	16	6		20				
Sheet 21	15 +00 to 20 +00	30	15	6		40				
Sheet 22	20 +00 to 25 +00	95	31	14		60				
Sheet 23	25 +00 to 30 +50	60	29	12		15				
Misc	ellaneous	10	10	5		20				
	Totals	311	330	136	60	490				

Traffic Control Items										
	Maintain	Barricade,	Sign, Type II,	Plastic Drum,	Sign, Type II,	Pavt Mrkg,	Pavt Mrkg,			
	Mailboxes	Type III,	Temp, Driven	High Intensity	Rem*	Waterborne, 4	Waterborne, 4			
		Double Sided				inch, Yellow	inch, White			
	per Each	per Each	per Sft	per Each	per Each	per Foot	per Foot			
Sheet 4	6	8	317							
Sheet 29 Miscellaneous					4	12,372	18,300			
	2	1	20	25	2	100	150			
Totals	8	9	337	25	6	12,472	18,450			

	Removal Items								
		Tree, Rem, 6	Tree, Rem, 19	Tree, Rem, 37	Stump, Rem, 6	Stump, Rem, 19	Stump, Rem, 37	Bollard Post,	Fence, Rem
		to 18 inch dia	to 36 inch dia	inch dia or larger	to 18 inch dia	to 36 inch dia	inch dia or larger	Rem	
	Stations	per Each	per Each	per Each	per Each	per Each	per Each	per Each	per Foot
Rector Road Sheet 5	2 +00 to 5 +00	5							
Sheet 6	5 +00 to 10 +00	23	1	1				4	
Sheet 7	10 +00 to 15 +00	18	5	1				4	
Sheet 8	15 +00 to 20 +00	55	1	3					
Sheet 9	20 +00 to 25 +00	11	2	2				2	
Sheet 10	25 +00 to 30 +00		2						
Sheet 11	30 +00 to 35 +00	7	6	3					200
Sheet 12	35 +00 to 40 +00	21	10	4					
Sheet 13	40 +00 to 45 +00	2	8	5					
Sheet 14	45 +00 to 50 +00	5	5						
Sheet 15	50 +00 to 55 +00	23	9	5					150
<u>Haynor Road</u> Sheet 16	0 +50 to 5 +00	2	4	3					
Sheet 17	5 +00 to 10 +00			2					
Sheet 22	10 +00 to 15 +00		1						
Sheet 23	15 +00 to 20 +50	6	3						
Miso	cellaneous	30	20	5	10	2	2		
	Totals	208	77	34	10	2	2	10	350

				QUANTITY E	REAKDOWN
				HAYNOR ROAD AN	D RECTOR ROAD
DRAWN BY:PAS	DATE: 11/17/17	I.C.R.C. W.□.	489-884W		SHEET 30 DF 30