The following document is not readable via Optical Character Recognition. For more information or if you require the document to be read aloud please call: 304-399-5353

404/401 TABLE A

Streams Affected by the Proposed Project – Preferred Alternative

Stream Name	Description and Length Impacted	Drainage Basin	Total Length	Receiving Stream	Distance to Receiving Stream	Drainage Area/Area at Impact Site	Q(H)HEI Score/OEPA Use Designation
N/A	No Streams Impacted	N/A	N/A	N/A	N/A	N/A	N/A

Affects to Lake Erie by the Proposed Project – Preferred Alternative

Lake Name	Approx. Station Location	Proposed Structure or Action	Length of Shoreline Impacted	Excavation Volume Below OHW	Embankment Volume Below OHW	Disturbed Area Below OHW
Lake Erie	320+50 to 328+30	Proposed Revetment	780 ft.	7518 C.Y.	9005 C.Y. (Plus 200 C.Y. Temp.)	1.25 Acre (0.49 acre temp. in same footprint)
Lake Erie	320+50 to 328+30	Sand Pre-fill	Same (780 ft.)		1600 C.Y.	1.25 Acre (0.49 acre temp. in same footprint)
Lake Erie	272+79 to 283+83 299+30 to 320+50 330+64 to 335+73	Reconstructed Revetment	3733 ft.	371 C.Y.	1027 C.Y.	2.2 Acre

Wetlands Affected by the Proposed Project – Preferred Alternative

Wetland Name	Drainage Basin	Wetland Description	Cowardin et al. 1979 Classification	ORAM v. 5.0 Score	Provisional ORAM Designation	Adjacent Habitats	Hydrologic Connectivity	Total Size (Area Impacted)
Wetland 1	04110003 040	Sta. 278+83 to Sta. 280+25 RT., Sta. 295+75 to Sta. 298+50 RT.	PFO1E	78.5	Category 3	Residential, forested, roadway ditch	Connected to Indian Creek	>50 Ac. (0.016 Ac. Permanent)
Wetland 4	04110003 040	Sta. 312+12 LT.	PEME	44	Modified Category 2	Grassed slope	Connected to Lake Erie	0.010 Ac. (0.010 Ac. Permanent)
Wetland 5	04110003 040	Sta. 319+75 to Sta. 321+54 LT.	PFO1/EME	42	Modified Category 2	Grassed slope, Forested slope, Ex. revetment	Connected to Lake Erie	0.204 Ac. (0.204 Ac. Permanent)
Wetland 6	04110003 040	Sta. 331+06	PEME	39	Modified Category 2	Grassed slope, Ex. revetment	Connected to Lake Erie	0.006 Ac. (0.006 Ac. Permanent)
Wetland 8	04110003 040	Sta. 274+35 LT.	PEME	1	Category 1	Grassed slope, Ex. revetment	Connected to Lake Erie	0.007 Ac. (0.007 Ac. Permanent)
Total								>50 (0.243 Ac. Permanent)

404/401 TABLE B
Streams Affected by the Proposed Project – Minimum Degradation Alternative

Stream Name	Description and Length Impacted	Drainage Basin	Total Length	Receiving Stream	Distance to Receiving Stream	Drainage Area/Area at Impact Site	Q(H)HEI Score/OEPA Use Designation
N/A	No Streams Impacted	N/A	N/A	N/A	N/A	N/A	N/A

Affects to Lake Erie by the Proposed Project – Minimum Degradation Alternative

Lake Name	Approx. Station Location	Proposed Structure or Action	Length of Shoreline Impacted	Excavation Volume Below OHW	Embankment Volume Below OHW	Disturbed Area Below OHW
Lake Erie	320+50 to 328+30	Proposed Revetment	780 ft.	7518 C.Y.	9005 C.Y. (Plus 200 C.Y. Temp.)	1.25 Acre (0.49 acre temp. in same footprint)
Lake Erie	320+50 to 328+30	Sand Pre-fill	Same (780 ft.)		1600 C.Y.	1.25 Acre (0.49 acre temp. in same footprint)
Lake Erie	272+79 to 283+83 299+30 to 320+50 330+64 to 335+73	Reconstructed Revetment	3733 ft.	371 C.Y.	1027 C.Y.	2.20 Acre

Wetlands Affected by the Proposed Project – Minimum Degradation Alternative

Wetland Name	Drainage Basin	Wetland Description	Cowardin et al. 1979 Classification	ORAM v. 5.0 Score	Provisional ORAM Designation	Adjacent Habitats	Hydrologic Connectivity	Total Size (Area Impacted)
Wetland 1	04110003 040	Sta. 278+83 to Sta. 280+25 RT., Sta. 295+75 to Sta. 298+50 RT.	PFO1E	78.5	Category 3	Residential, forested, roadway ditch	Connected to Indian Creek	>50 Ac. (0.000 Ac. Permanent)
Wetland 4	04110003 040	Sta. 312+12 LT.	PEME	44	Modified Category 2	Grassed slope	Connected to Lake Erie	0.010 Ac. (0.010 Ac. Permanent)
Wetland 5	04110003 040	Sta. 319+75 to Sta. 321+54 LT.	PFO1/EME	42	Modified Category 2	Grassed slope, Forested slope, Ex. revetment	Connected to Lake Erie	0.204 Ac. (0.204 Ac. Permanent)
Wetland 6	04110003 040	Sta. 331+06	PEME	39	Modified Category 2	Grassed slope, Ex. revetment	Connected to Lake Erie	0.006 Ac. (0.006 Ac. Permanent)
Wetland 8	04110003 040	Sta. 274+35 LT.	PEME	1	Category 1	Grassed slope, Ex. revetment	Connected to Lake Erie	0.007 Ac. (0.007 Ac. Permanent)
Total								>50 (0.227 Ac. Permanent)

404/401 TABLE C
Nature of Proposed Activities by Impacted Feature for the Preferred Alternative

A. WETLANDS

Feature(s)	Station Location	Description	Total Area Impacted	Proposed Action	Direct Impacts (within construction limits)			Indirect Impact Area (outside construction limits)
					Volume Excavated	Volume Filled	Area Excavated and/or Filled	
Wetland 1	Sta. 278+83 to Sta. 280+25 RT., Sta. 295+75 to Sta. 298+50 RT.	PFO1E Non-Isolated	0.016 Acre	Grading for roadway embankment and ditches	2.20 C.Y.	0.00 C.Y.	0.016	N/A
Wetland 4	Sta. 312+12 LT.	PEME Non-Isolated	0.010 Acre	Slope grading for revetment	63.20 C.Y.	0.00 C.Y.	0.010 Acre	N/A
Wetland 5	Sta. 319+75 to Sta. 321+54 LT.	PFO1/EME Non-Isolated	0.204 Acre	Slope grading for revetment	20.90 C.Y.	212.30 C.Y.	0.204 Acre	N/A
Wetland 6	Sta. 331+06	PEME Non-Isolated	0.006 Acre	Slope grading for revetment	0.00 C.Y.	6.20 C.Y.	0.006 Acre	N/A
Wetland 8	Sta. 274+35 LT.	PEME Non-Isolated	0.007 Acre	Slope grading for revetment	0.00 C.Y.	13.20 C.Y.	0.007 Acre	N/A

B. WHOLE PROJECT SUMMARY OF ACTIVITIES

Total Project Lineal Lake Erie Disturbances			Total Project Excavation						Total Project Fill					
Total Shore Length Disturbed due to Proposed Structures, Highway Fill, or Revetment	Shore Length Disturbed due to Temporary Construction	Net Shore Length Disturbed	Lake Erie Excavated		Wetland Excavated		Total Excavation		Lake Erie Filled (standard road fill, rock, channel protection, temp. const., & sand pre-fill)		Wetland Filled		Total Lake Erie & Wetlands Filled	
			Volume	Area	Volume	Area	Volume	Area	Volume	Area	Volume	Area	Volume	Area
4513 FT	N/A	4513 FT	7889 CY	3.45 AC	86.3 CY	0.035 AC	7975 CY	3.485 AC	11,632 CY	3.45 AC	231.7 CY	0.208 AC	11,864 CY	3.658 AC

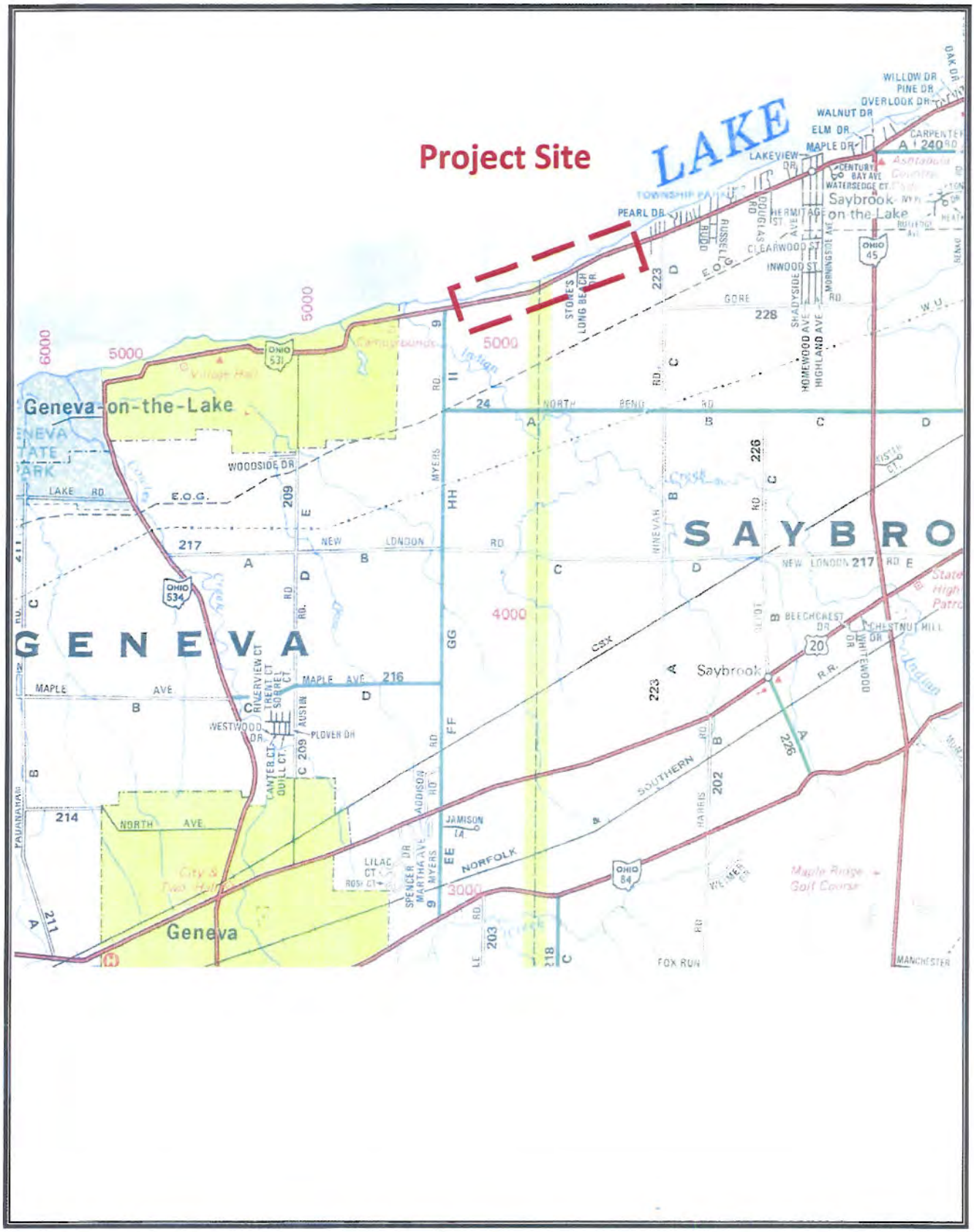
404/401 TABLE D
Nature of Proposed Activities by Impacted Feature for the Minimum Degradation Alternative

A. WETLANDS

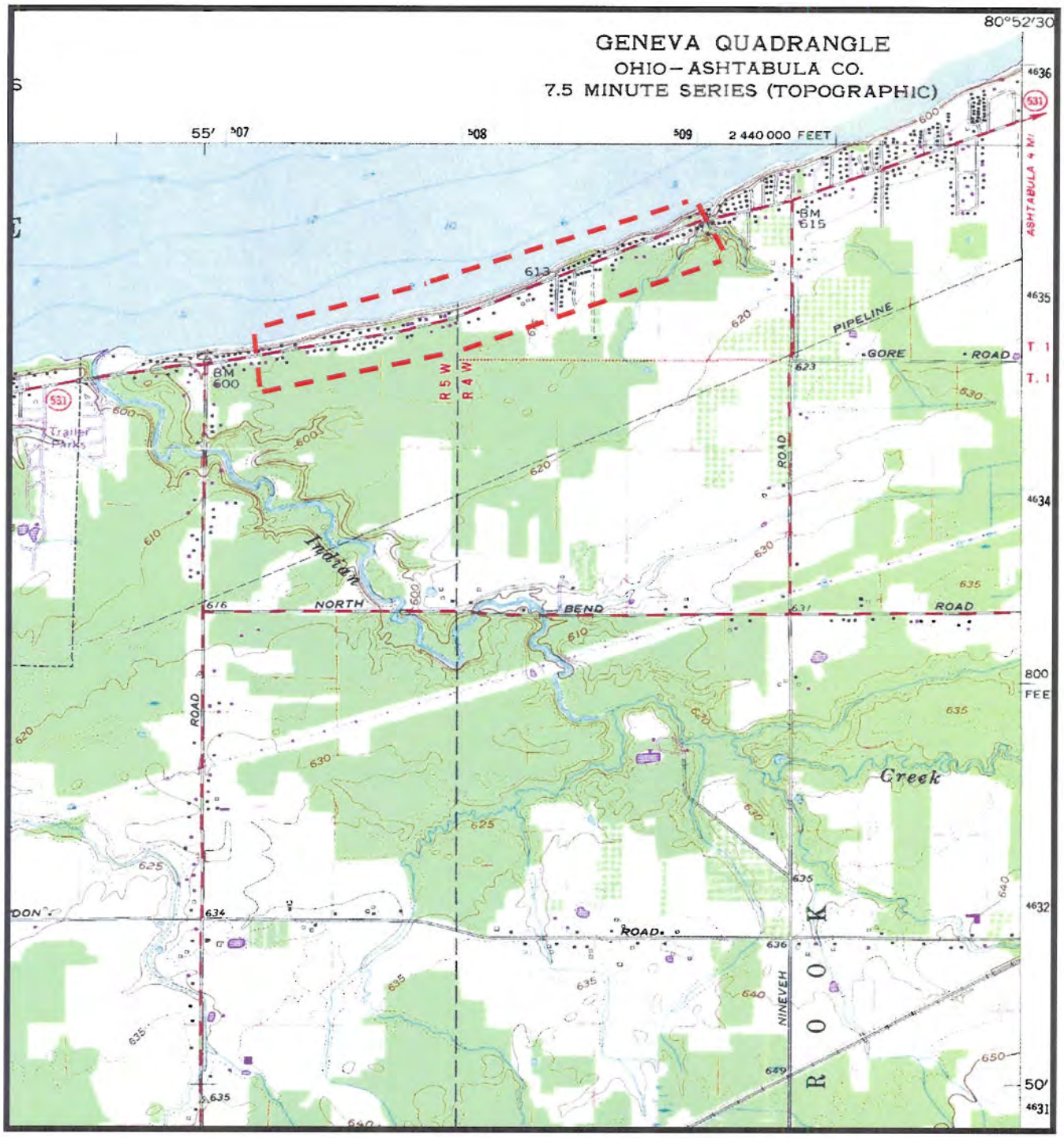
Feature(s)	Station Location	Description	Total Area Impacted	Proposed Action	Direct Impacts (within construction limits)			Indirect Impact Area (outside construction limits)
					Volume Excavated	Volume Filled	Area Excavated and/or Filled	
Wetland 1	Sta. 278+83 to Sta. 280+25 RT., Sta. 295+75 to Sta. 298+50 RT.	PFO1E Non-Isolated	0.000 Acre	None	0.00 C.Y.	0.00 C.Y.	0.000 Acre	N/A
Wetland 4	Sta. 312+12 LT.	PEME Non-Isolated	0.010 Acre	Slope grading for revetment	63.20 C.Y.	0.00 C.Y.	0.010 Acre	N/A
Wetland 5	Sta. 319+75 to Sta. 321+54 LT.	PFO1/EME Non-Isolated	0.204 Acre	Slope grading for revetment	20.90 C.Y.	212.30 C.Y.	0.204 Acre	N/A
Wetland 6	Sta. 331+06	PEME Non-Isolated	0.006 Acre	Slope grading for revetment	0.00 C.Y.	6.20 C.Y.	0.006 Acre	N/A
Wetland 8	Sta. 274+35 LT.	PEME Non-Isolated	0.007 Acre	Slope grading for revetment	0.00 C.Y.	13.20 C.Y.	0.007 Acre	N/A

B. WHOLE PROJECT SUMMARY OF ACTIVITIES

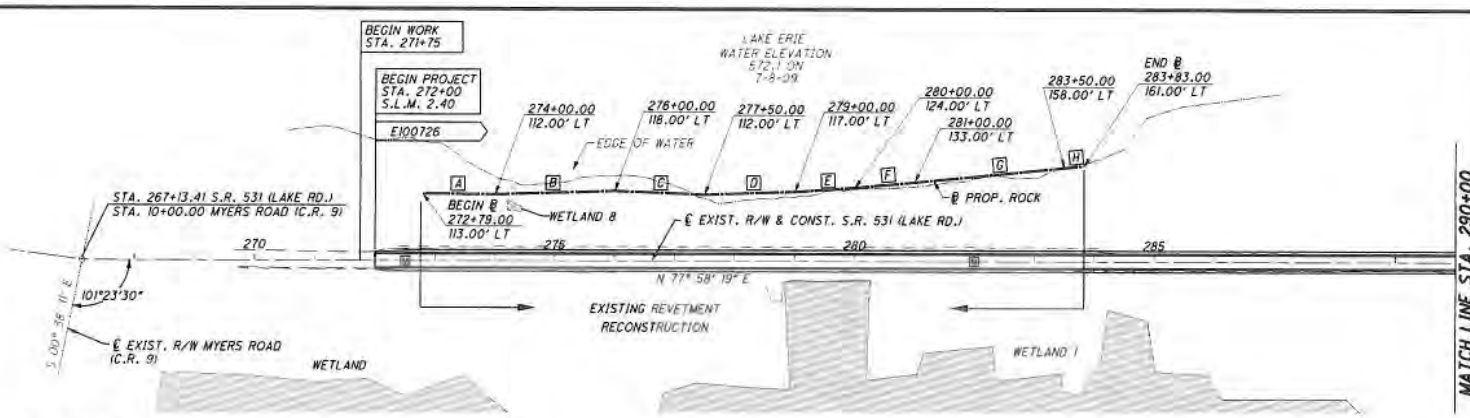
Total Project Lineal Lake Erie Disturbances			Total Project Excavation						Total Project Fill					
Total Shore Length Disturbed due to Proposed Structures, Highway Fill, or Revetment	Shore Length Disturbed due to Temporary Construction	Net Shore Length Disturbed	Lake Erie Excavated		Wetland Excavated		Total Excavation		Lake Erie Filled (standard road fill, rock, channel protection, temp. const., & sand pre-fill)		Wetland Filled		Total Lake Erie & Wetlands Filled	
			Volume	Area	Volume	Area	Volume	Area	Volume	Area	Volume	Area	Volume	Area
4513 FT	N/A	4513 FT	7889 CY	3.45 AC	84.1 C.Y.	0.019 AC	7973 CY	3.469AC	11,632 CY	3.45 AC	231.7 CY	0.208 AC	11,864 CY	3.658 AC



Source: Portion of the Ashtabula County Highway Map 2001 by The Nation Survey a Division of Universal Map	**Vicinity Map** *ATB-531-2.40/2.90 – PID 78883* *Figure (2)*	**NORTH**



Source: **Portion of 1960 USGS Geneva Quadrangle (USGS 7.5' topographic map) Photorevised 1984**	**1960 USGS Topographic Map** **ATB-531-2.40/2.90**	**NORTH**



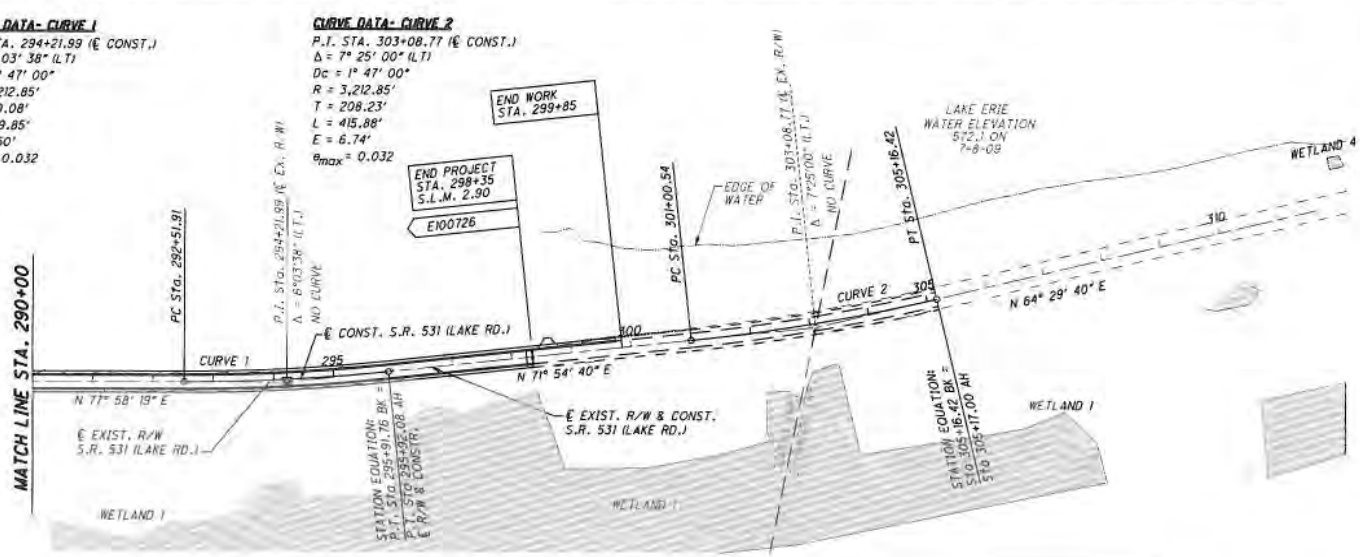
℄ PROPOSED ROCK		
SEGMENT	BEARING	DISTANCE
A	N78°26'43"E	121.00'
B	N76°15'13"E	200.09'
C	N80°15'45"E	150.12'
D	N76°03'46"E	150.08'
E	N73°58'04"E	100.24'
F	N72°49'45"E	100.40'
G	N72°15'41"E	251.25'
H	N72°46'39"E	33.14'

CURVE DATA- CURVE 1

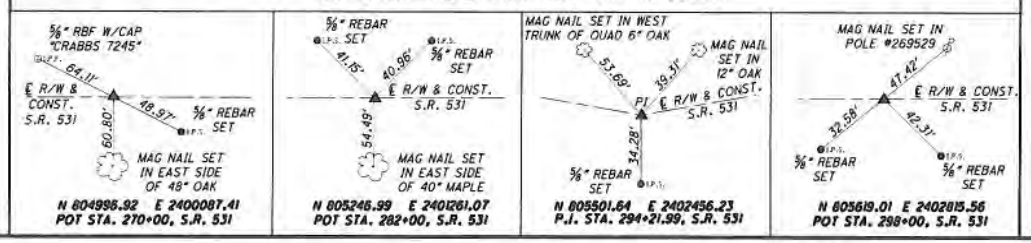
P.I. STA. 294+21.99 (℄ CONST.)
Δ = 6° 03' 38" (LT)
Dc = 1° 47' 00"
R = 3,212.85'
T = 170.08'
L = 339.85'
E = 4.50'
e_{max} = 0.032

CURVE DATA- CURVE 2

P.I. STA. 303+08.77 (℄ CONST.)
Δ = 7° 25' 00" (LT)
Dc = 1° 47' 00"
R = 3,212.85'
T = 208.23'
L = 415.88'
E = 6.74'
e_{max} = 0.032



CENTERLINE REFERENCE TIES (NOT TO SCALE)



LEGEND

▲ 3" NAIL WITH ¾" HEAD STAMPED "SURVEY MARK" SET.

▣ PROPOSED CENTERLINE MONUMENT BOX.

NOTES:
THERE ARE NO EXISTING LANDSCAPED AREAS WITHIN THE WORK LIMITS.

FOR MONUMENT LOCATIONS SEE CENTERLINE PLAT IN THE RIGHT OF WAY PLANS.

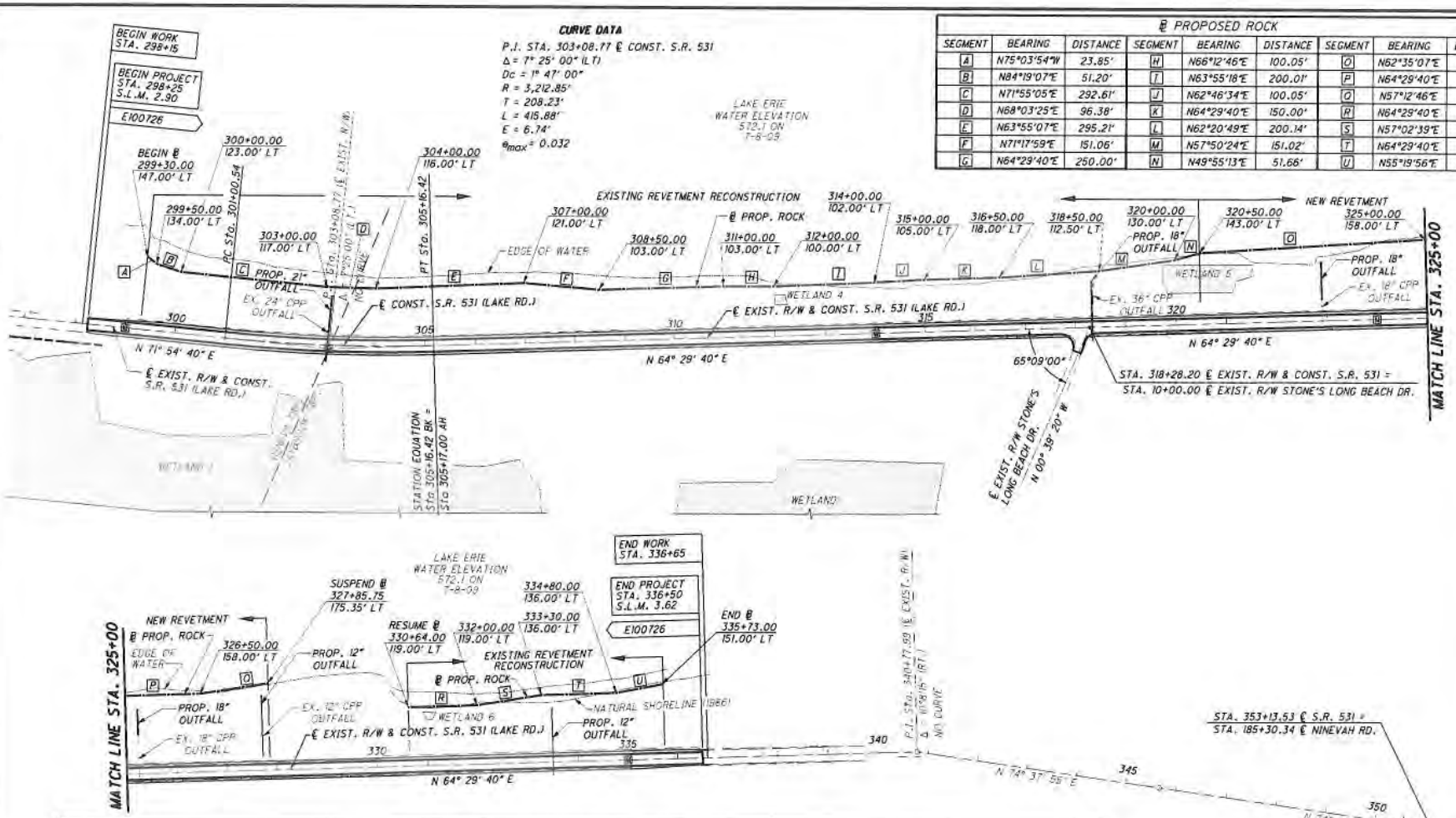
℄ PROPOSED ROCK STATION AND OFFSETS ARE TAKEN FROM ℄ CONSTRUCTION S.R. 531.

HORIZONTAL SCALE IN FEET

SCHEMATIC PLAN

ATB-531-2.40

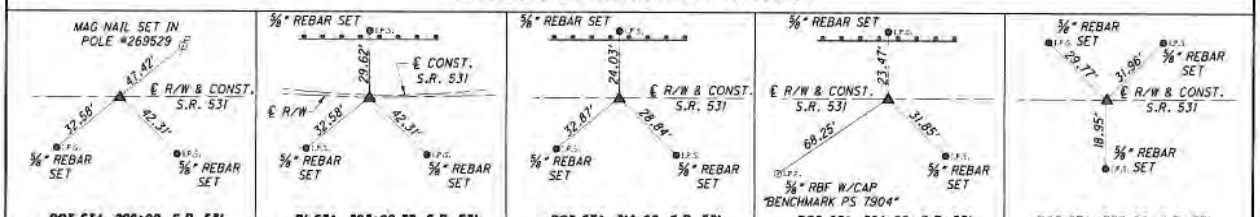
2/09/2010 dgn



℄ PROPOSED ROCK

SEGMENT	BEARING	DISTANCE	SEGMENT	BEARING	DISTANCE	SEGMENT	BEARING	DISTANCE
A	N75°03'54"W	23.85'	H	N66°12'46"E	100.05'	O	N62°35'07"E	450.25'
B	N84°19'07"E	51.20'	I	N63°55'18"E	200.01'	P	N64°29'40"E	150.00'
C	N71°55'05"E	292.61'	J	N62°46'34"E	100.05'	Q	N57°12'46"E	136.86'
D	N68°03'25"E	96.38'	K	N64°29'40"E	150.00'	R	N64°29'40"E	136.00'
E	N63°55'07"E	295.21'	L	N62°20'49"E	200.14'	S	N57°02'39"E	131.11'
F	N71°17'59"E	151.06'	M	N57°50'24"E	151.02'	T	N64°29'40"E	150.00'
G	N64°29'40"E	250.00'	N	N49°55'13"E	51.66'	U	N55°19'56"E	94.20'

CENTERLINE REFERENCES (NOT TO SCALE)



LEGEND

▲ 3" NAIL WITH 3/4" HEAD STAMPED "SURVEY MARK" SET.

M PROPOSED CENTERLINE MONUMENT BOX.

NOTES:
THERE ARE NO EXISTING LANDSCAPED AREAS WITHIN THE WORK LIMITS.

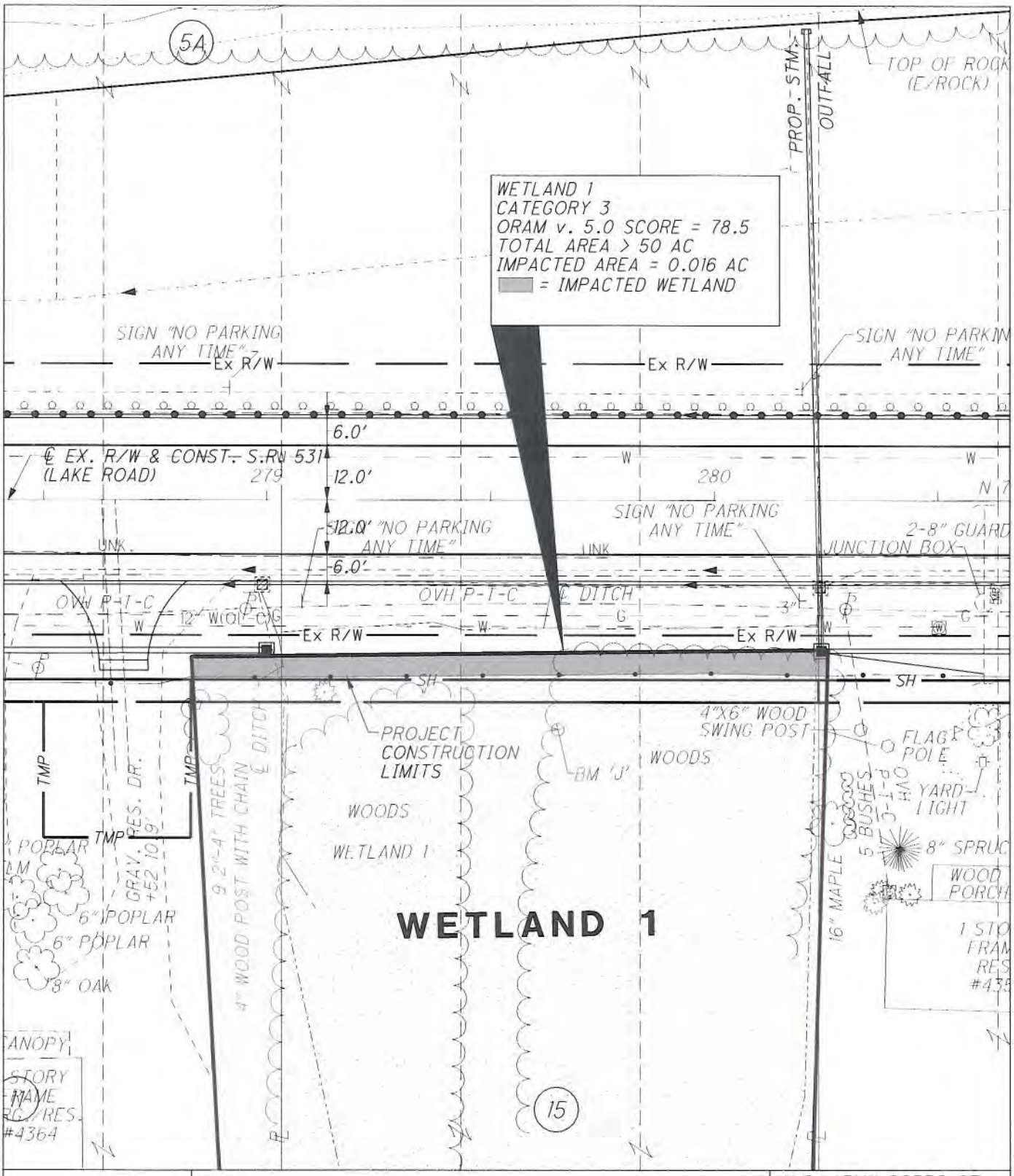
FOR MONUMENT LOCATIONS SEE CENTERLINE PLAT IN THE RIGHT OF WAY PLANS.

℄ PROPOSED ROCK STATION AND OFFSETS ARE TAKEN FROM ℄ CONSTRUCTION S.R. 531.

HORIZONTAL SCALE IN FEET

SCHEMATIC PLAN

ATB-531-2.90



N

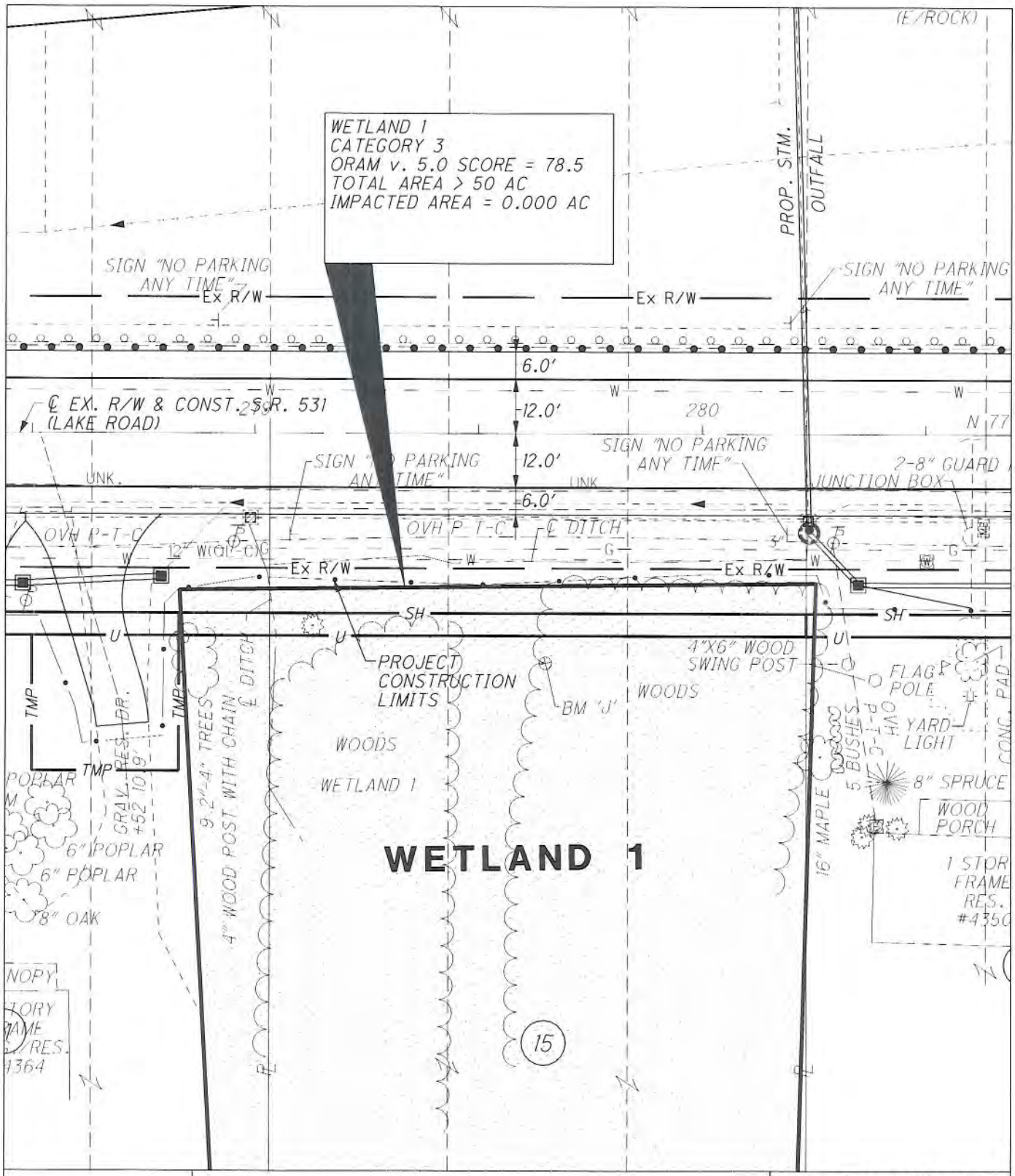
0 15
7.5 30
HORIZONTAL SCALE IN FEET

WETLAND IMPACT DRAWING

WETLAND 1

PREFERRED ALTERNATIVE

U.S. ARMY CORPS OF ENGINEERS 404 PERMIT AND OEPA SECTION 401 WATER QUALITY CERTIFICATION APPLICATION



N

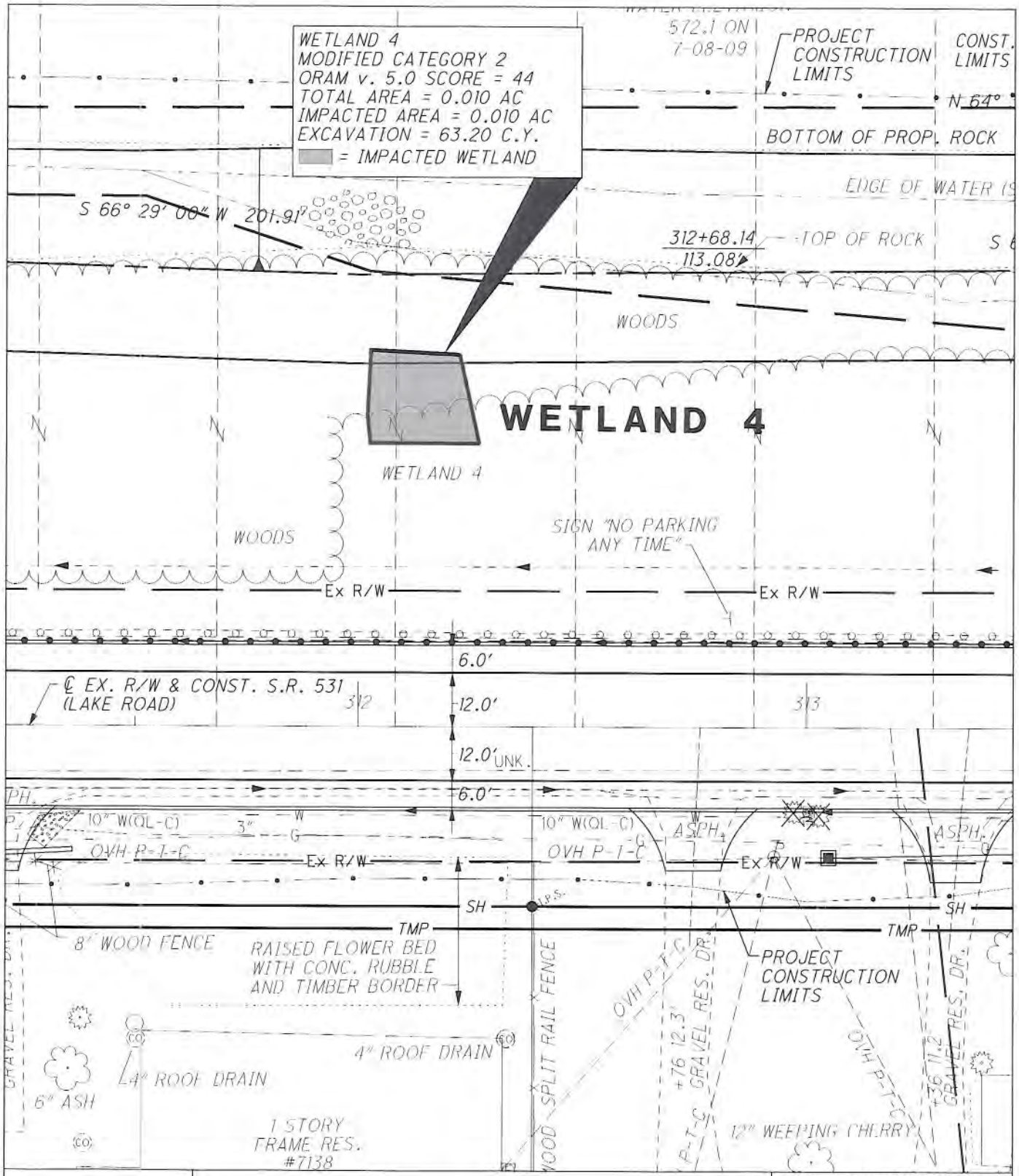
0 15
7.5 30
HORIZONTAL SCALE IN FEET

WETLAND IMPACT DRAWING

WETLAND 1

MINIMAL DEGRADATION ALTERNATIVE

U.S. ARMY CORPS OF ENGINEERS 404 PERMIT AND OEPA SECTION 401 WATER QUALITY CERTIFICATION APPLICATION

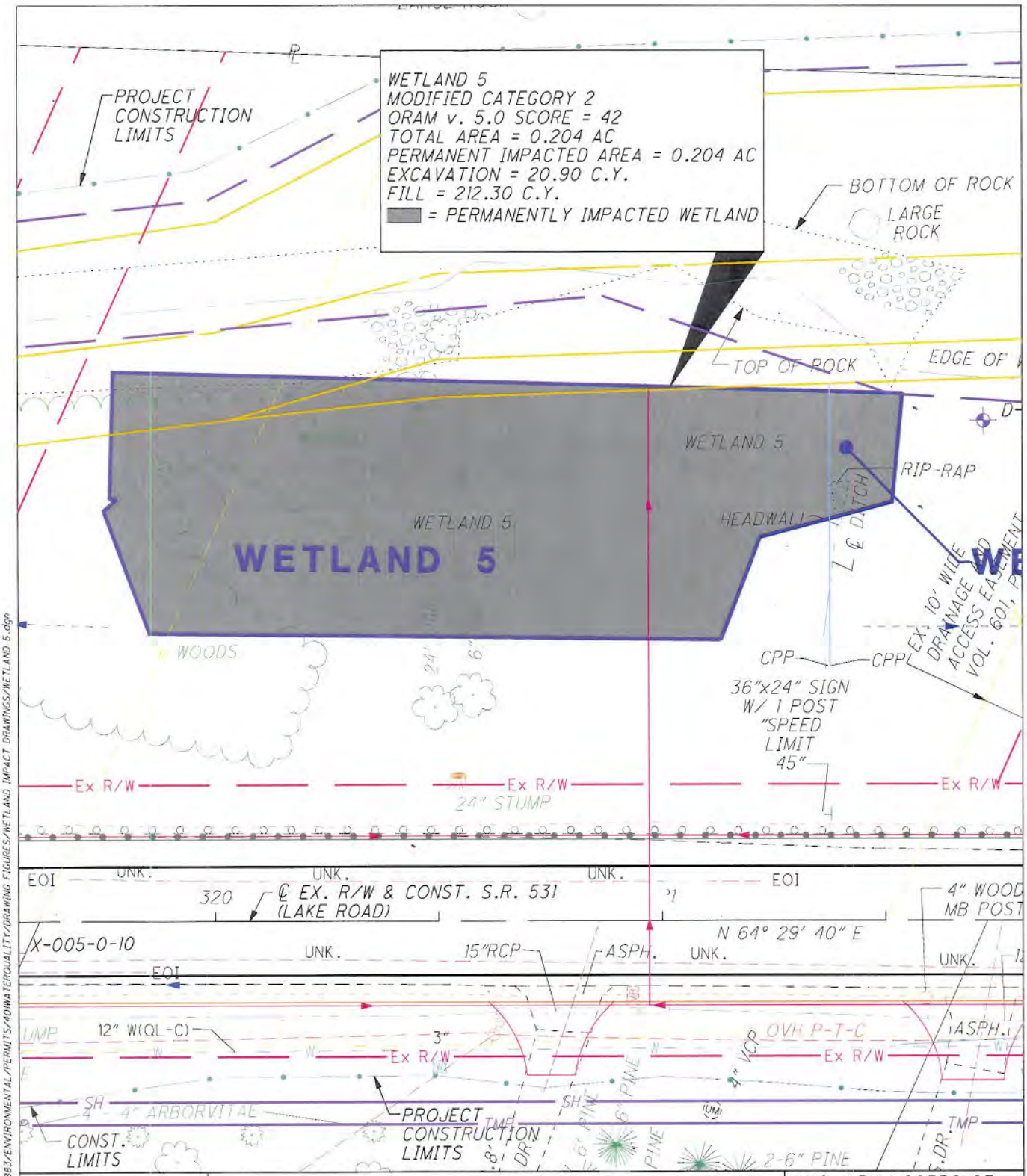


WETLAND IMPACT DRAWING

WETLAND 4

PREFERRED & MINIMAL DEGRADATION ALTERNATIVES

U.S. ARMY CORPS OF ENGINEERS 404 PERMIT AND OEPA SECTION 401 WATER QUALITY CERTIFICATION APPLICATION



N

0 15
7.5 30
HORIZONTAL SCALE IN FEET

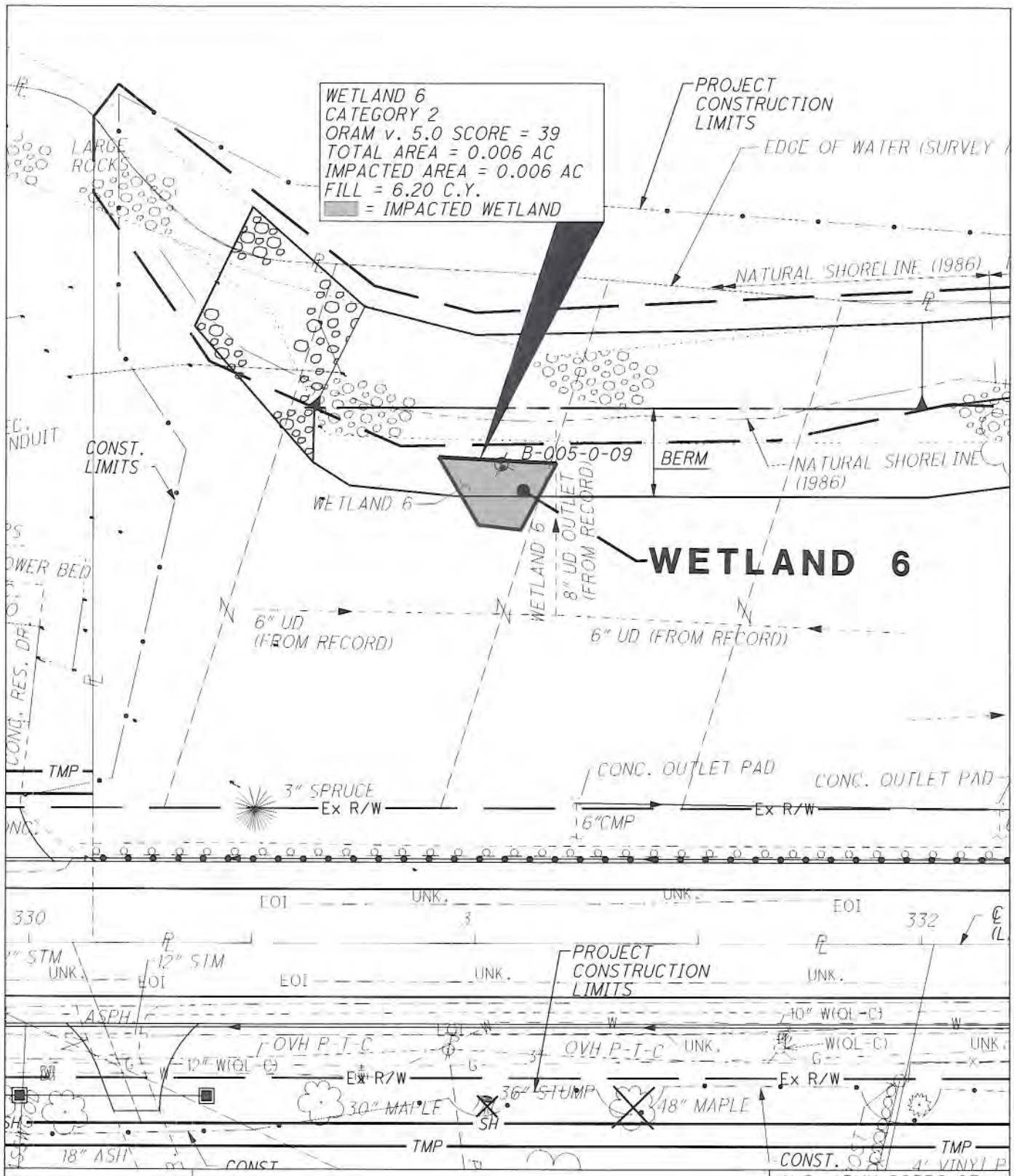
WETLAND IMPACT DRAWING

WETLAND 5

PREFERRED & MINIMAL DEGRADATION ALTERNATIVES

U.S. ARMY CORPS OF ENGINEERS 404 PERMIT AND OEPA SECTION 401 WATER QUALITY CERTIFICATION APPLICATION

P:\21090485-ATB-531 PART 2\ATB/78883/ENVIRONMENTAL/PERMITS/401WATERQUALITY/DRAWING FIGURES/WETLAND IMPACT DRAWINGS/WETLAND 5.dgn



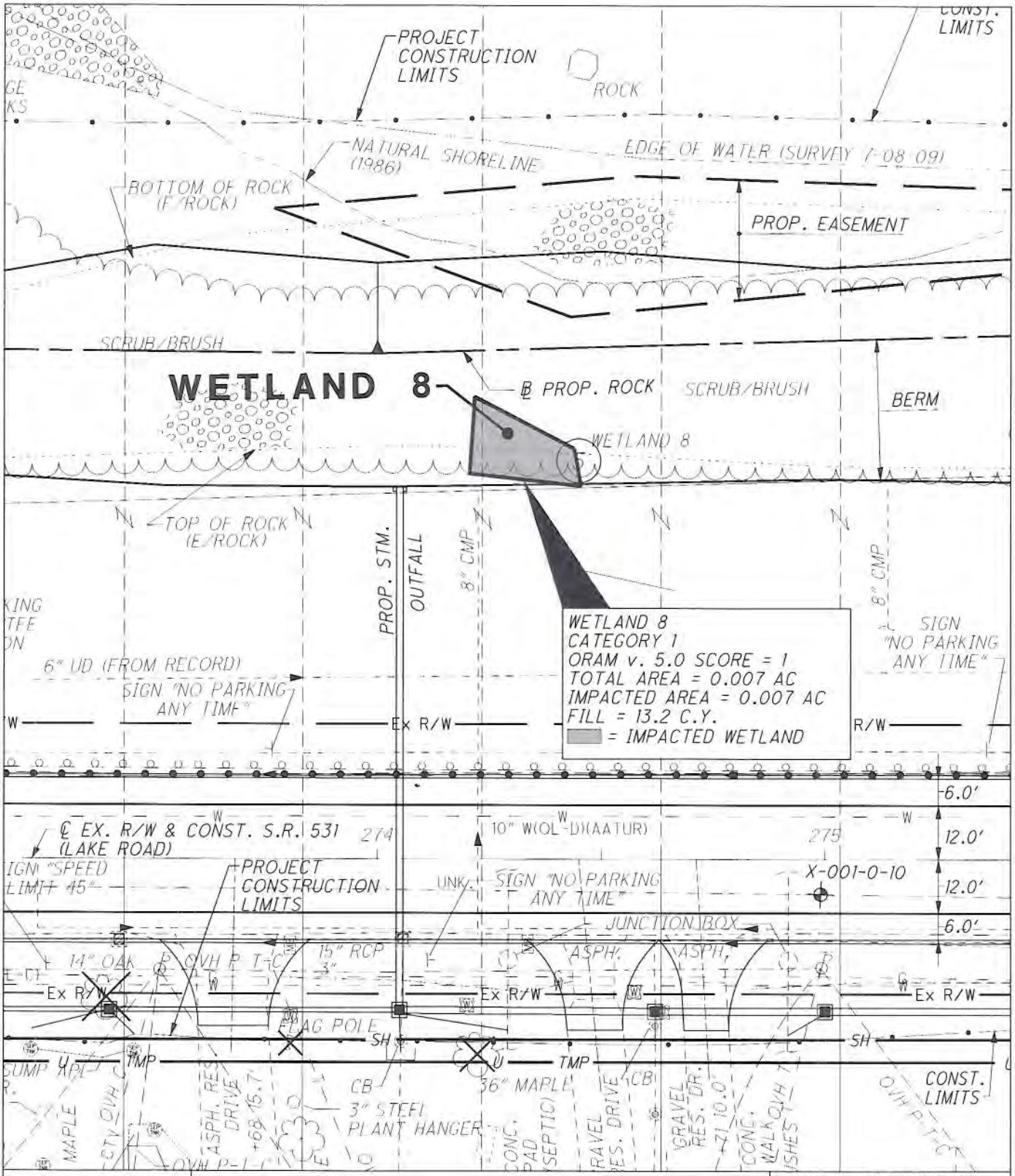
HORIZONTAL SCALE IN FEET

WETLAND IMPACT DRAWING

WETLAND 6

PREFERRED & MINIMAL DEGRADATION ALTERNATIVES

U.S. ARMY CORPS OF ENGINEERS 404 PERMIT AND OEPA SECTION 401 WATER QUALITY CERTIFICATION APPLICATION



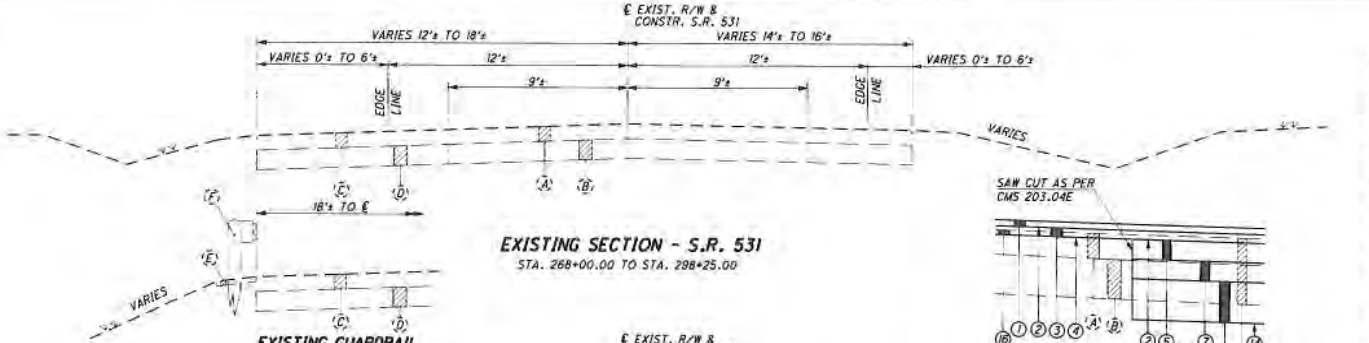
HORIZONTAL SCALE IN FEET

WETLAND IMPACT DRAWING

WETLAND 8

PREFERRED & MINIMAL DEGRADATION ALTERNATIVES

U.S. ARMY CORPS OF ENGINEERS 404 PERMIT AND OEPA SECTION 401 WATER QUALITY CERTIFICATION APPLICATION

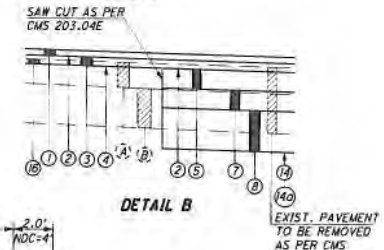


EXISTING SECTION - S.R. 531

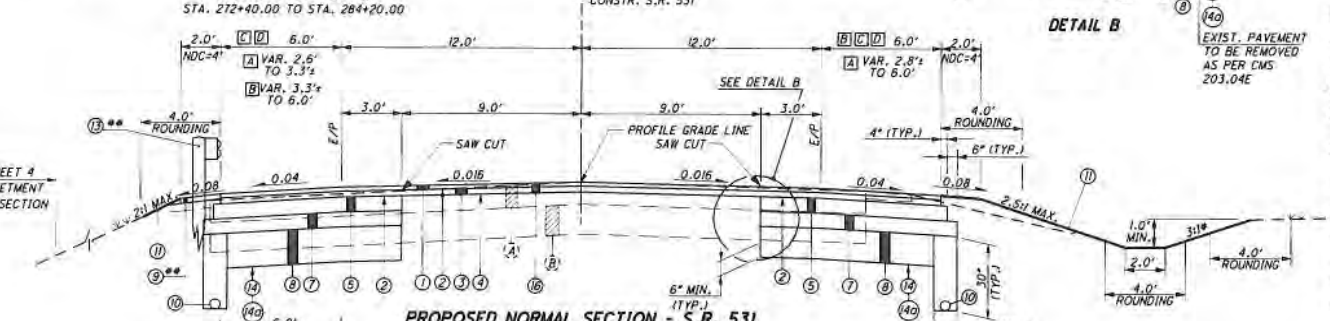
STA. 268+00.00 TO STA. 298+25.00

EXISTING GUARDRAIL

STA. 272+40.00 TO STA. 284+20.00



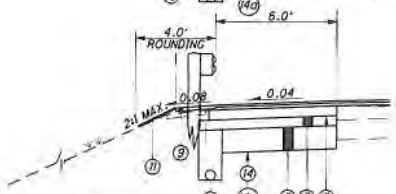
DETAIL B



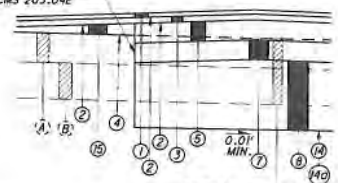
PROPOSED NORMAL SECTION - S.R. 531

SECTION APPLIES:

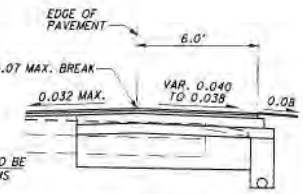
A	STA. 272+00.00 TO STA. 272+17.00	=	17.00 FT.
B	STA. 272+17.00 TO STA. 272+85.00	=	68.00 FT.
C	STA. 272+85.00 TO STA. 291+62.31	=	1877.31 FT.
D	STA. 296+81.68 TO STA. 298+35.00	=	153.32 FT.
	TOTAL = 2115.63 FT.		



LEFT SHOULDER SECTION APPLIES: STA. 298+35 TO STA. 299+75 LT

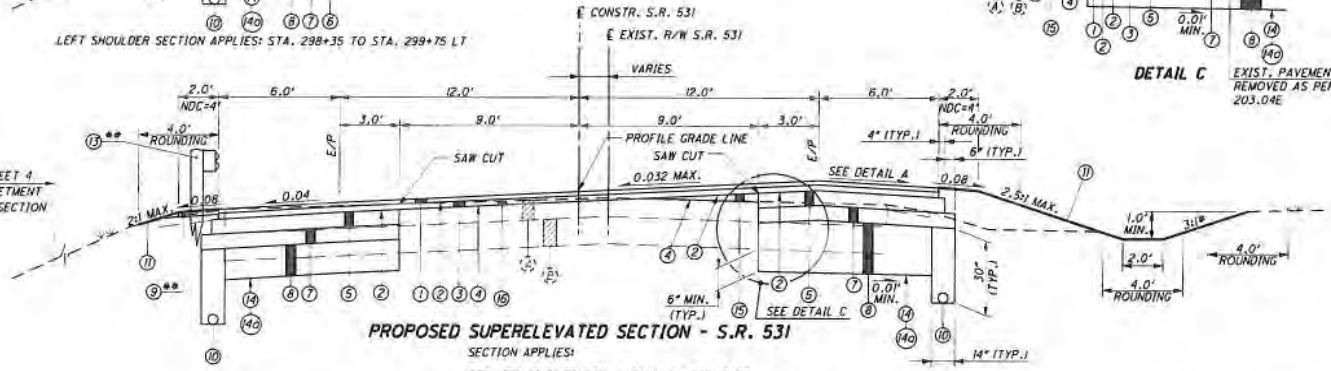


DETAIL C



DETAIL A

HIGH SIDE SHOULDER SLOPE



PROPOSED SUPERELEVATED SECTION - S.R. 531

SECTION APPLIES:

STA. 291+62.31 TO STA. 296+81.68 = 519.05 FT.
STATION EQUATION: STA 295+91.76 (BK) = STA 295+92.08 (AH)

LEGEND

1. ITEM 448 - 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22
2. ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE
3. ITEM 448 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22
4. ITEM 407 - TACK COAT
5. ITEM 302 - 6" ASPHALT CONCRETE BASE, PG64-22
6. NOT USED
7. ITEM 304 - 6" AGGREGATE BASE, AS PER PLAN
8. ITEM 204 - 12" (AVG.) GRANULAR MATERIAL, TYPE B
9. ITEM 448 - 2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22, UNDER GUARDRAIL, AS PER PLAN
10. ITEM 605 - 6" SHALLOW PIPE UNDERDRAINS
11. ITEM 659 - SEEDING AND MULCHING, CLASS I
12. ITEM 659 - SEEDING AND MULCHING, CLASS 3C
13. ITEM 606 - GUARDRAIL, TYPE 5
14. ITEM 204 - SUBGRADE COMPACTION
14a. ITEM 204 - PROOF ROLLING
15. ITEM 448 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (0" MIN. TO 1½" MAX.)
16. ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (1½" MIN., 4½" MAX.)

A. ASPHALT CONCRETE (9"±)
B. SLAG BASE (VAR. 9" MIN. TO 15" MAX.)
C. ASPHALT CONCRETE (VAR. 6" MIN. TO 18" MAX.)
D. GRANULAR BASE (VAR. 3" MIN. TO 14" MAX.)
E. ASPHALT CONCRETE UNDER GUARDRAIL
F. GUARDRAIL

NOTES:

* UNLESS OTHERWISE SHOWN ON THE CROSS SECTIONS.

** GUARDRAIL SECTION APPLIES FROM STA. 272+50 TO STA. 284+25, LEFT SIDE.

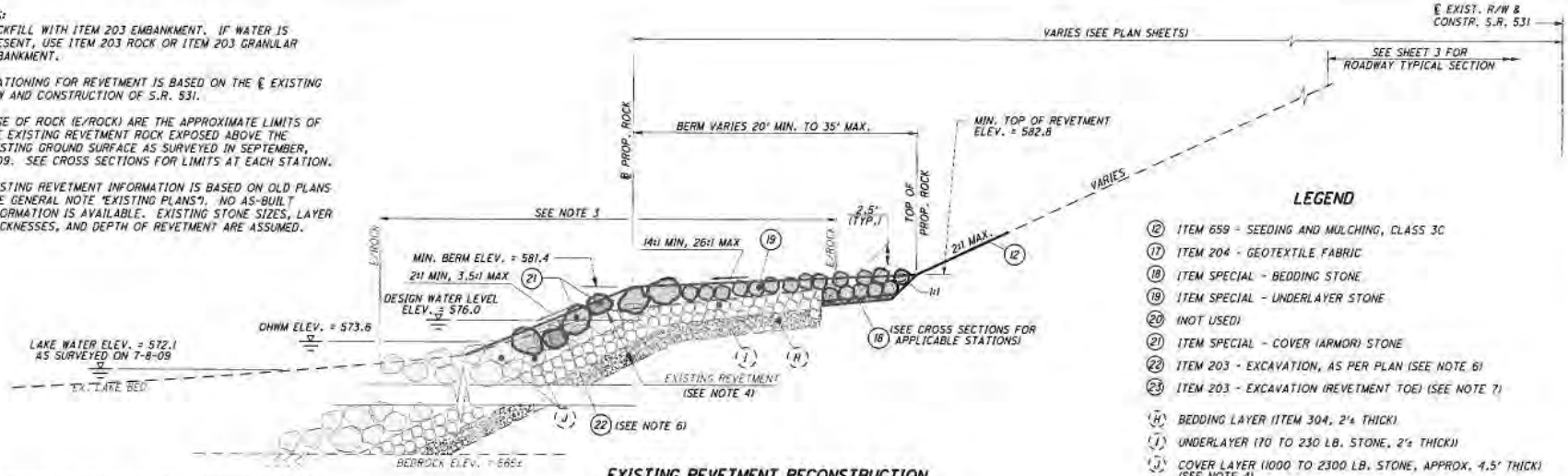
TYPICAL SECTIONS - S.R. 531

ATB-531-2.40

8/26/2021 10:01 sjm

NOTES:

1. BACKFILL WITH ITEM 203 EMBANKMENT. IF WATER IS PRESENT, USE ITEM 203 ROCK OR ITEM 203 GRANULAR EMBANKMENT.
2. STATIONING FOR REVETMENT IS BASED ON THE ℄ EXISTING R/W AND CONSTRUCTION OF S.R. 531.
3. EDGE OF ROCK (E/ROCK) ARE THE APPROXIMATE LIMITS OF THE EXISTING REVETMENT ROCK EXPOSED ABOVE THE EXISTING GROUND SURFACE AS SURVEYED IN SEPTEMBER, 2009. SEE CROSS SECTIONS FOR LIMITS AT EACH STATION.
4. EXISTING REVETMENT INFORMATION IS BASED ON OLD PLANS (SEE GENERAL NOTE "EXISTING PLANS"). NO AS-BUILT INFORMATION IS AVAILABLE. EXISTING STONE SIZES, LAYER THICKNESSES, AND DEPTH OF REVETMENT ARE ASSUMED.
5. THE INTENT OF RECONSTRUCTING THE EXISTING REVETMENTS IS TO REPAIR AND FORTIFY THE REVETMENTS ACCORDING TO THE FOLLOWING CRITERIA:
   1. REMOVE AND DISPOSE OF ALL NON-STONE AND NON-CONCRETE MATERIALS INCLUDING: DRIFTWOOD, TIRES, HOUSEHOLD TRASH, TREES AND SHRUBS, ETC.
   2. RAISE THE BERM GRADE AS A MINIMUM TO THE DESIGN ELEVATION OF 581.4 BY USING APPROPRIATELY SIZED COVER STONES AND UNDERLAYER STONES.
   3. REPAIR THE SLOPE FACE BY FILLING VOIDS AND CREVICES CREATED BY DISLODGED, UNSETTLED, OR FRACTURED/SPLIT COVER STONES. NEW COVER STONES SHALL BE SIZED SIMILAR TO THE SIZE OF VOIDS BEING FILLED. THE EXISTING COVER STONES MAY BE REPOSITIONED AS APPROPRIATE. THE RATE OF THE FINISHED SLOPE FACE SHOULD GENERALLY BE MAINTAINED CLOSE TO EXISTING BETWEEN 2:1 AND 3.5:1. IN NO CASE SHALL THE SLOPE FACE BE STEEPER THAN 2:1.
6. IT IS THE INTENT OF THESE PLANS TO MINIMIZE THE DISTURBANCE TO THE EXISTING STONES AND TO THE SLOPE ANGLE DURING REPAIR AND RECONSTRUCTION OF THE EXISTING REVETMENTS. HOWEVER, PORTIONS OF THE EXISTING COVER (ARMOR) STONES MAY BE REMOVED/REPOSITIONED TO ALLOW FOR THE PLACEMENT OF THE PROPOSED COVER (ARMOR) STONES. THE ACTUAL EXTENT OF REMOVAL OR REPOSITIONING OF THE EXISTING COVER STONES NECESSARY FOR THE PLACEMENT OF THE PROPOSED COVER STONES AND FOR OBTAINING THE DESIRED CROSS SECTION GEOMETRY SHALL BE CLOSELY MONITORED AND ADJUSTED AS NECESSARY IN THE FIELD BY THE PROJECT ENGINEER. FOR ADDITIONAL NOTES ON THE REMOVAL OF THE EXISTING COVER STONES, SEE GENERAL NOTE "ITEM 203-EXCAVATION, AS PER PLAN".
7. ANY SAND AND GRAVEL WITHIN THE FOOTPRINT OF THE EXCAVATION NECESSARY FOR THE CONSTRUCTION OF THE REVETMENT OR ROCK CHANNEL PROTECTION SHALL BE SIDECAST INTO THE LAKE TO SUSTAIN THE LITTORAL SYSTEM.
8. FOR ADDITIONAL DETAILS AND INFORMATION ON REVETMENT MATERIALS, SEE GENERAL NOTE "STONE REVETMENTS" ON SHEET 8.



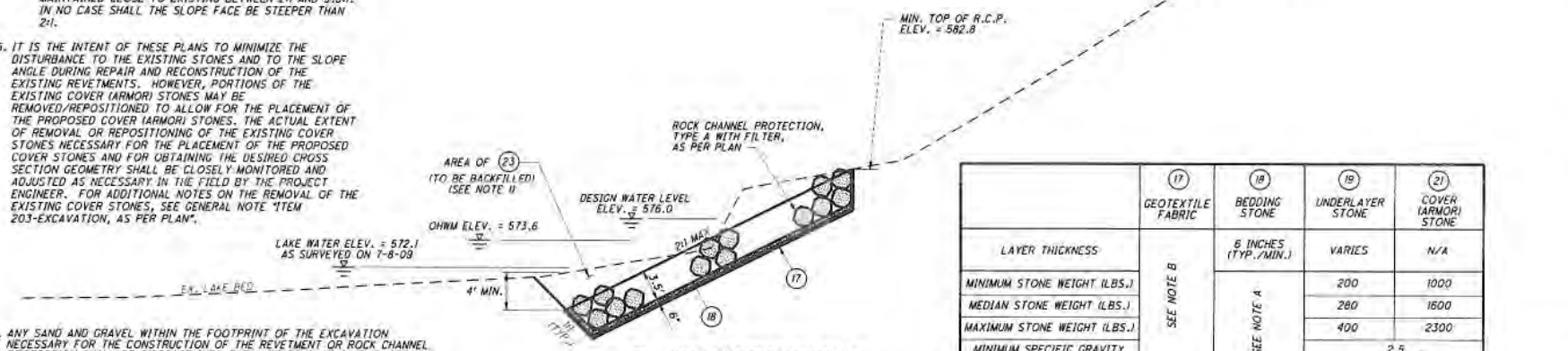
EXISTING REVETMENT RECONSTRUCTION TYPICAL SECTION

SECTION APPLIES:

STA. 272+79.00 TO STA. 283+83.00 (SEE NOTE 2)

LEGEND

- (12) ITEM 659 - SEEDING AND MULCHING, CLASS 3C
- (17) ITEM 204 - GEOTEXTILE FABRIC
- (18) ITEM SPECIAL - BEDDING STONE
- (19) ITEM SPECIAL - UNDERLAYER STONE
- (20) (NOT USED)
- (21) ITEM SPECIAL - COVER (ARMOR) STONE
- (22) ITEM 203 - EXCAVATION, AS PER PLAN (SEE NOTE 6)
- (23) ITEM 203 - EXCAVATION (REVETMENT TOE) (SEE NOTE 7)
- (H) BEDDING LAYER (ITEM 304, 2'± THICK)
- (I) UNDERLAYER (70 TO 230 LB. STONE, 2'± THICK))
- (J) COVER LAYER (1000 TO 2300 LB. STONE, APPROX. 4.5' THICK) (SEE NOTE 4)



FLANKING PROTECTION DETAIL

SECTION APPLIES:

STA. 283+97 TO STA. 284+41

	(17) GEOTEXTILE FABRIC	(18) BEDDING STONE	(19) UNDERLAYER STONE	(21) COVER (ARMOR) STONE
LAYER THICKNESS	SEE NOTE B	6 INCHES (TYP./MIN.)	VARIES	N/A
MINIMUM STONE WEIGHT (LBS.)		SEE NOTE A	200	1000
MEDIAN STONE WEIGHT (LBS.)			280	1600
MAXIMUM STONE WEIGHT (LBS.)			400	2300
MINIMUM SPECIFIC GRAVITY (DENSITY) OF STONE			2.5 (156 LB/FT³)	

NOTE A: USE ODOT ITEM 304 AGGREGATE BASE, RESTRICTED TO NO. 2 STONE. SLAG MATERIAL NOT PERMITTED.

NOTE B: USE ODOT ITEM 204 GEOTEXTILE FABRIC (712.09, TYPE B).

TYPICAL SECTIONS - REVETMENT DETAILS

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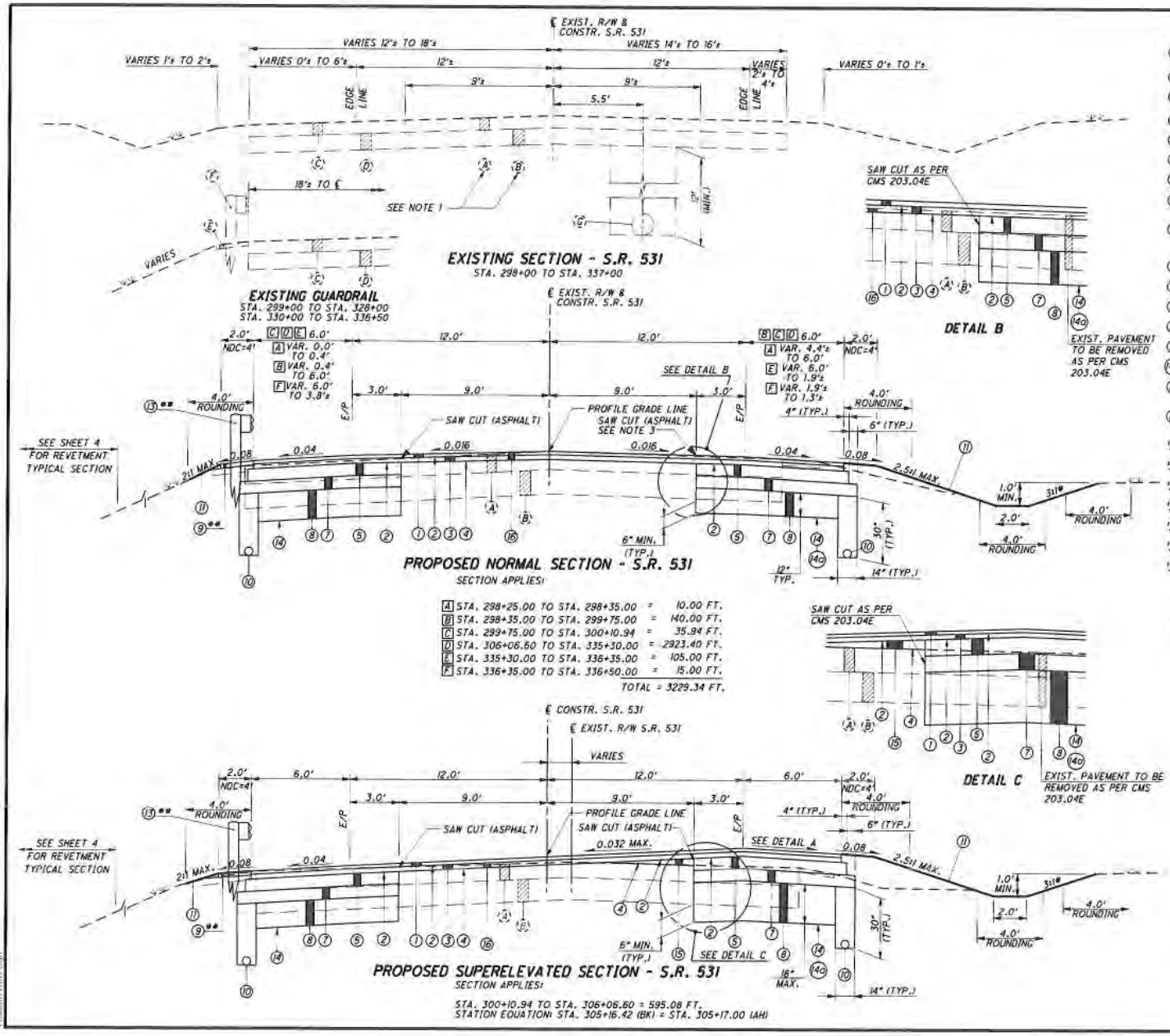

LEGEND

1. ITEM 448 - 1¼" ASPHALT CONCRETE SURFACE COURSE, TYPE 1, PG64-22
2. ITEM 407 - TACK COAT FOR INTERMEDIATE COURSE
3. ITEM 448 - 1¾" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22
4. ITEM 407 - TACK COAT
5. ITEM 302 - 6" ASPHALT CONCRETE BASE, PG64-22
6. NOT USED
7. ITEM 304 - 6" AGGREGATE BASE, AS PER PLAN
8. ITEM 204 - GRANULAR MATERIAL, TYPE B (10" MIN., 18" MAX.)
9. ITEM 448 - 2" ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 1, PG64-22, UNDER GUARDRAIL, AS PER PLAN
10. ITEM 605 - 6" SHALLOW PIPE UNDERDRAINS
11. ITEM 659 - SEEDING AND MULCHING, CLASS 1
12. ITEM 659 - SEEDING AND MULCHING, CLASS 3C (SEE NOTE 2)
13. ITEM 606 - GUARDRAIL, TYPE 5
14. ITEM 204 - SUBGRADE COMPACTION

14a. ITEM 204 - PROOF ROLLING

15. ITEM 448 - ASPHALT CONCRETE INTERMEDIATE COURSE, TYPE 2, PG64-22 (0" MIN. TO 4½" MAX.)
16. ITEM 254 - PAVEMENT PLANING, ASPHALT CONCRETE (1½" MIN., 4½" MAX.)

(A) ASPHALT CONCRETE (9"±) (SEE NOTE 1)

(B) SLAG BASE (VAR. 9" MIN. TO 15" MAX.) (SEE NOTE 1)

(C) ASPHALT CONCRETE (VAR. 6" MIN. TO 18" MAX.)

(D) GRANULAR BASE (VAR. 3" MIN. TO 14" MAX.)

(E) ASPHALT CONCRETE UNDER GUARDRAIL

(F) GUARDRAIL

(G) 8" UNDERDRAIN

NOTES:

* UNLESS OTHERWISE SHOWN ON THE CROSS SECTIONS.

** GUARDRAIL SECTION APPLIES FROM STA. 299+22.50 TO STA. 328+85 AND FROM STA. 330+15 TO STA. 337+04.85, LEFT SIDE. NO PAVING UNDER GUARDRAIL FROM STA. 336+27.35 TO STA. 337+04.85.

1. FROM APPROX. STA. 321+00 TO APPROX. STA. 328+50:

   (A) ASPHALT CONCRETE (6"±)

   (B) CONCRETE BASE (8"±) OVER AGGREGATE BASE (6"±)

2. USE SEEDING AND MULCHING, CLASS 1 FOR THE LEFT SIDE FROM STA. 298+25 TO STA. 299+50, FROM STA. 327+50 TO STA. 330+50, AND FROM STA. 335+50 TO STA. 336+50.

3. SAW CUT ASPHALT PAVEMENT AND CONCRETE BASE FROM APPROX. STA. 321+00 TO APPROX. STA. 328+50.

4. EXTENT OF PROPOSED PAVEMENT ALONG STONE'S LONG BEACH DRIVE SHALL BE FULL DEPTH.

TYPICAL SECTIONS - S.R. 531

ATB-531-2.90

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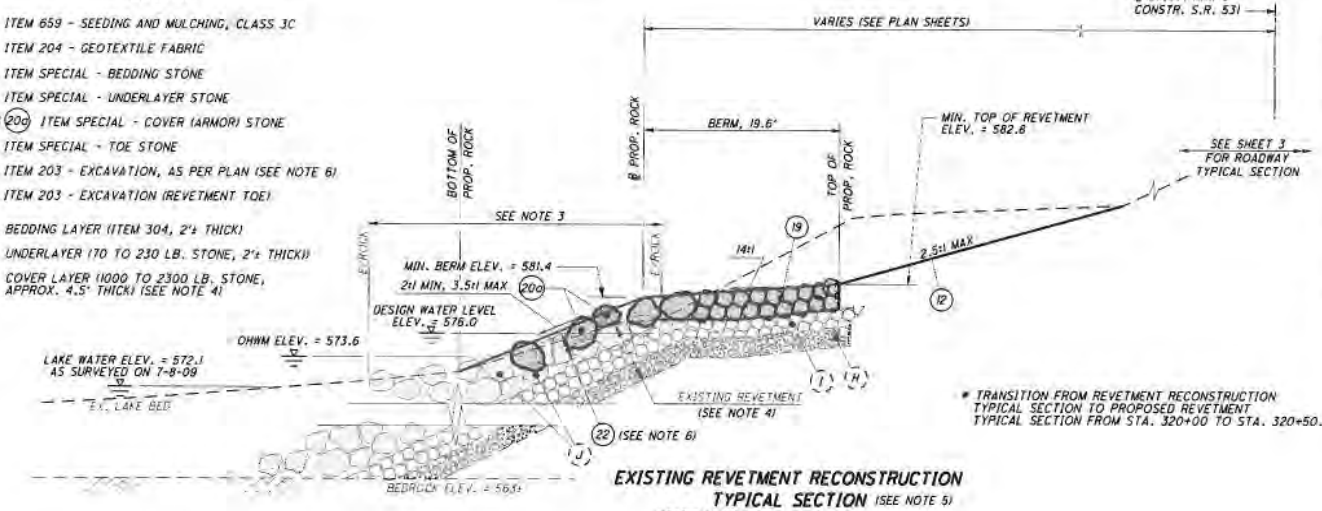
LEGEND

- (12) ITEM 659 - SEEDING AND MULCHING, CLASS 3C
- (17) ITEM 204 - GEOTEXTILE FABRIC
- (18) ITEM SPECIAL - BEDDING STONE
- (19) ITEM SPECIAL - UNDERLAYER STONE
- (20) & (20a) ITEM SPECIAL - COVER (ARMOR) STONE
- (21) ITEM SPECIAL - TOE STONE
- (22) ITEM 203 - EXCAVATION, AS PER PLAN (SEE NOTE 6)
- (23) ITEM 203 - EXCAVATION (REVETMENT TOE)
- (H) BEDDING LAYER (ITEM 304, 2'± THICK)
- (I) UNDERLAYER (70 TO 230 LB. STONE, 2'± THICK))
- (J) COVER LAYER (1000 TO 2300 LB. STONE, APPROX. 4.5' THICK) (SEE NOTE 4)

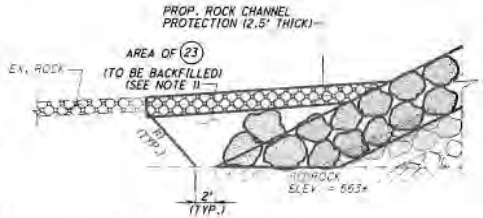


EXISTING REVETMENT RECONSTRUCTION TYPICAL SECTION (SEE NOTE 5)

SECTION APPLIES:

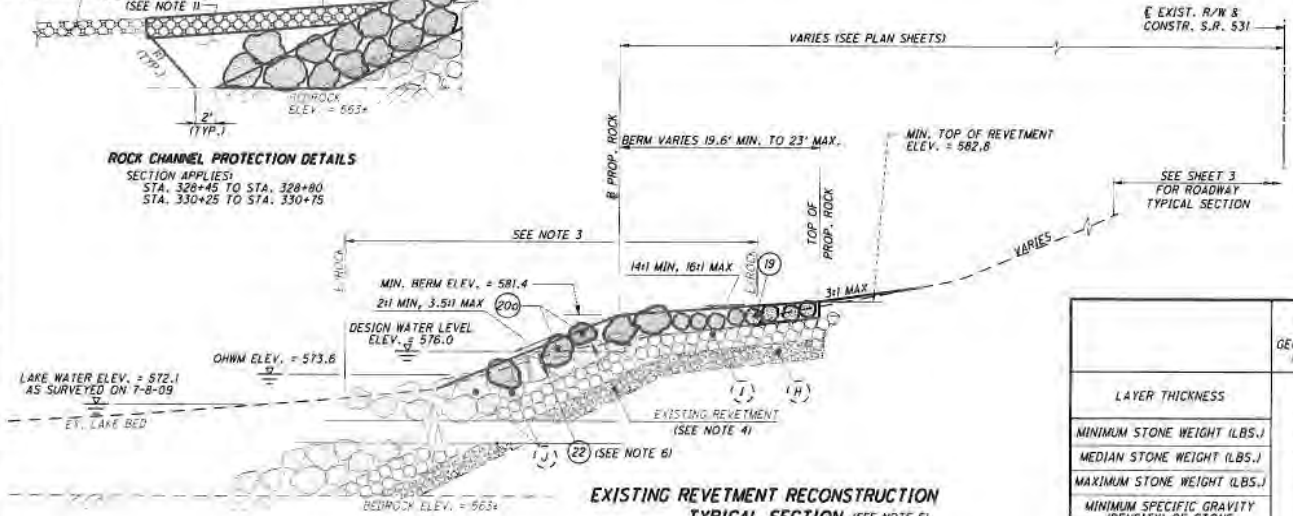
STA. 299+30.00 TO STA. 320+50.00*
(SEE NOTE 2)

* TRANSITION FROM REVETMENT RECONSTRUCTION TYPICAL SECTION TO PROPOSED REVETMENT TYPICAL SECTION FROM STA. 320+00 TO STA. 320+50.



ROCK CHANNEL PROTECTION DETAILS

SECTION APPLIES:
STA. 328+45 TO STA. 328+80
STA. 330+25 TO STA. 330+75



EXISTING REVETMENT RECONSTRUCTION TYPICAL SECTION (SEE NOTE 5)

SECTION APPLIES:

STA. 330+64.00 TO STA. 335+73.00
(SEE NOTE 2)

NOTES:

1. BACKFILL WITH ITEM 203 EMBANKMENT. IF WATER IS PRESENT, USE ITEM 203 ROCK OR ITEM 203 GRANULAR EMBANKMENT.
2. STATIONING FOR REVETMENT IS BASED ON THE ℄ EXISTING R/W AND CONSTRUCTION OF S.R. 531.
3. EDGE OF ROCK (E/ROCK) ARE THE APPROXIMATE LIMITS OF THE EXISTING REVETMENT ROCK EXPOSED ABOVE THE EXISTING GROUND SURFACE AS SURVEYED IN SEPTEMBER, 2009. SEE CROSS SECTIONS FOR LIMITS AT EACH STATION.
4. EXISTING REVETMENT INFORMATION IS BASED ON OLD PLANS (SEE GENERAL NOTE "EXISTING PLANS" ON SHEET 6). NO AS-BUILT INFORMATION IS AVAILABLE. EXISTING STONE SIZES, LAYER THICKNESSES, AND DEPTH OF REVETMENT ARE ASSUMED.
5. THE INTENT OF RECONSTRUCTING THE EXISTING REVETMENTS IS TO REPAIR AND FORTIFY THE REVETMENTS ACCORDING TO THE FOLLOWING CRITERIA:
   1. REMOVE AND DISPOSE OF ALL NON-STONE AND NON-CONCRETE MATERIALS INCLUDING: DRIFTWOOD, TIRES, HOUSEHOLD TRASH, TREES AND SHRUBS, ETC.
   2. RAISE THE BERM GRADE AS A MINIMUM TO THE DESIGN ELEVATION OF 581.4 BY USING APPROPRIATELY SIZED COVER STONES AND UNDERLAYER STONES.
   3. REPAIR THE SLOPE FACE BY FILLING VOIDS AND CREVICES CREATED BY DISLODGED, UNSETTLED, OR FRACTURED/SPLIT COVER STONES. NEW COVER STONES SHALL BE SIZED SIMILAR TO THE SIZE OF VOIDS BEING FILLED. THE EXISTING COVER STONES MAY BE REPOSITIONED AS APPROPRIATE. THE RATE OF THE FINISHED SLOPE FACE SHOULD GENERALLY BE MAINTAINED CLOSE TO EXISTING BETWEEN 2:1 AND 3.5:1. IN NO CASE SHALL THE SLOPE FACE BE STEEPER THAN 2:1.
6. IT IS THE INTENT OF THESE PLANS TO MINIMIZE THE DISTURBANCE TO THE EXISTING STONES AND TO THE SLOPE ANGLE DURING REPAIR AND RECONSTRUCTION OF THE EXISTING REVETMENTS. HOWEVER, PORTIONS OF THE EXISTING COVER (ARMOR) STONES MAY BE REMOVED/REPOSITIONED TO ALLOW FOR THE PLACEMENT OF THE PROPOSED COVER (ARMOR) STONES. THE ACTUAL EXTENT OF REMOVAL OR REPOSITIONING OF THE EXISTING COVER STONES NECESSARY FOR THE PLACEMENT OF THE PROPOSED COVER STONES AND FOR OBTAINING THE DESIRED CROSS SECTION GEOMETRY SHALL BE CLOSELY MONITORED AND ADJUSTED AS NECESSARY IN THE FIELD BY THE PROJECT ENGINEER. FOR ADDITIONAL NOTES ON THE REMOVAL OF THE EXISTING COVER STONES, SEE GENERAL NOTE "ITEM 203 - EXCAVATION, AS PER PLAN" ON SHEET 6.
7. ANY NATIVE SAND AND GRAVEL WITHIN THE FOOTPRINT OF THE EXCAVATION NECESSARY FOR THE CONSTRUCTION OF THE REVETMENT OR ROCK CHANNEL PROTECTION SHALL BE SIDECAST INTO THE LAKE TO SUSTAIN THE LITTORALSYSTEM. SEE "SIDECASTING OF LITTORAL MATERIAL" NOTE ON SHEET 13.
8. FOR ADDITIONAL DETAILS AND INFORMATION ON REVETMENT MATERIALS, SEE GENERAL NOTE "STONE REVETMENTS" ON SHEET 9.

	(17) GEOTEXTILE FABRIC	(18) BEDDING STONE	(19) UNDERLAYER STONE	(20) COVER (ARMOR) STONE	(20a)	(21) TOE STONE
LAYER THICKNESS	SEE NOTE B	2.0 FT. (TYP./MIN.) 2.5 FT. (MAX.)	2.5 FT. (TYP./MIN.) 3.0 FT. (MAX.)	5.5 FT. (TYP./MIN.) 6.5 FT. (MAX.)	N/A	TWO (2) STONES THICK
MINIMUM STONE WEIGHT (LBS.)		SEE NOTE A	200	2100	1000	4100
MEDIAN STONE WEIGHT (LBS.)			280	2800	1600	4800
MAXIMUM STONE WEIGHT (LBS.)			400	3500	2300	5500
MINIMUM SPECIFIC GRAVITY (DENSITY) OF STONE			2.5 (156 LB/FT³)			

NOTE A: USE ODOT ITEM 304 AGGREGATE BASE, RESTRICTED TO NO. 2 STONE, LIMESTONE ONLY. SLAG MATERIAL NOT PERMITTED.

NOTE B: USE ODOT ITEM 204 GEOTEXTILE FABRIC (712.09, TYPE B).

TYPICAL SECTIONS - REVETMENT DETAILS

ATB-531-2.90

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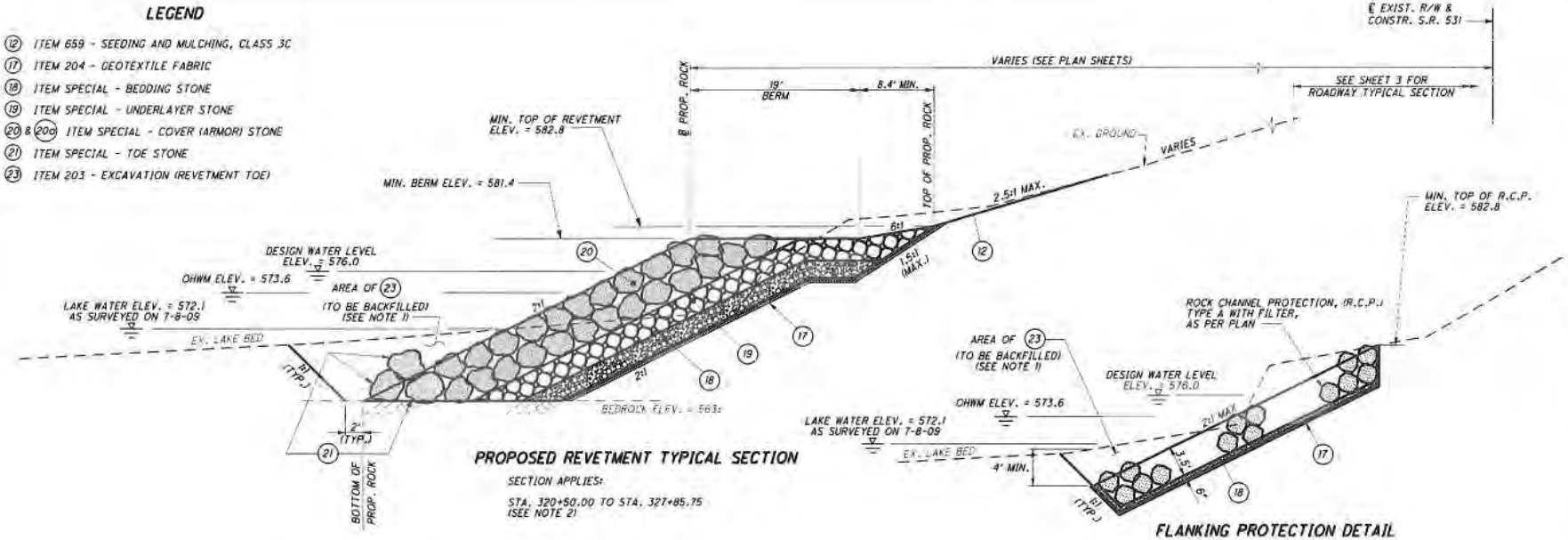
LEGEND

- (12) ITEM 659 - SEEDING AND MULCHING, CLASS 3C
- (17) ITEM 204 - GEOTEXTILE FABRIC
- (18) ITEM SPECIAL - BEDDING STONE
- (19) ITEM SPECIAL - UNDERLAYER STONE
- (20) & (20a) ITEM SPECIAL - COVER (ARMOR) STONE
- (21) ITEM SPECIAL - TOE STONE
- (23) ITEM 203 - EXCAVATION (REVETMENT TOE)



PROPOSED REVETMENT TYPICAL SECTION

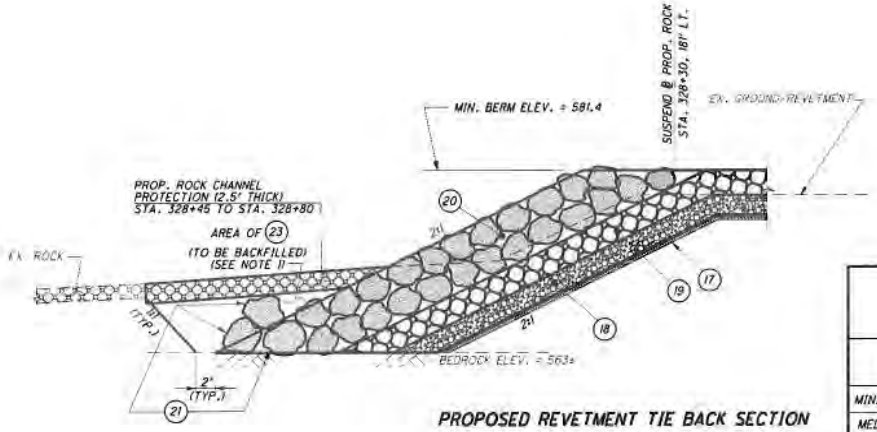
SECTION APPLIES:

STA. 320+50.00 TO STA. 327+85.75 (SEE NOTE 2)

FLANKING PROTECTION DETAIL

SECTION APPLIES:

STA. 328+14 TO STA. 328+59
STA. 330+37 TO STA. 330+75



PROPOSED REVETMENT TIE BACK SECTION

SECTION A-A, SEE SHEET 3B

SECTION APPLIES:

STA. 327+85.75, 175.35' LT.

SEE PLAN SHEET FOR LOCATION.

NOTES:

1. BACKFILL WITH ITEM 203 EMBANKMENT, AS PER PLAN. IF WATER IS PRESENT, USE ITEM 203 ROCK OR ITEM 203 GRANULAR EMBANKMENT.
2. STATIONING FOR REVETMENT IS BASED ON THE ℄ EXISTING R/W AND CONSTRUCTION OF S.R. 531.
3. ANY NATIVE SAND AND GRAVEL WITHIN THE FOOTPRINT OF THE EXCAVATION NECESSARY FOR THE CONSTRUCTION OF THE REVETMENT OR ROCK CHANNEL PROTECTION SHALL BE SIDECAST INTO THE LAKE TO SUSTAIN THE LITTORALSYSTEM. SEE "SIDECASTING OF LITTORAL MATERIAL" NOTE ON SHEET 13.
4. FOR ADDITIONAL DETAILS AND INFORMATION ON REVETMENT MATERIALS, SEE GENERAL NOTE "STONE REVETMENTS" ON SHEET 9.

	(17) GEOTEXTILE FABRIC	(18) BEDDING STONE	(19) UNDERLAYER STONE	(20) COVER (ARMOR) STONE	(20a)	(21) TOE STONE
LAYER THICKNESS	SEE NOTE B	2.0 FT. (TYP./MIN.) 2.5 FT. (MAX.)	2.5 FT. (TYP./MIN.) 3.0 FT. (MAX.)	5.5 FT. (TYP./MIN.) 6.5 FT. (MAX.)	N/A	TWO (2) STONES THICK
MINIMUM STONE WEIGHT (LBS.)		SEE NOTE A	200	2100	1000	4100
MEDIAN STONE WEIGHT (LBS.)			280	2800	1600	4800
MAXIMUM STONE WEIGHT (LBS.)			400	3500	2300	5500
MINIMUM SPECIFIC GRAVITY (DENSITY) OF STONE			2.5 (156 LB/FT³)			

NOTE A: USE ODOT ITEM 304 AGGREGATE BASE, RESTRICTED TO NO. 2 STONE, LIMESTONE ONLY. SLAG MATERIAL NOT PERMITTED.

NOTE B: USE ODOT ITEM 204 GEOTEXTILE FABRIC (712.09, TYPE B).

TYPICAL SECTIONS - REVETMENT DETAILS

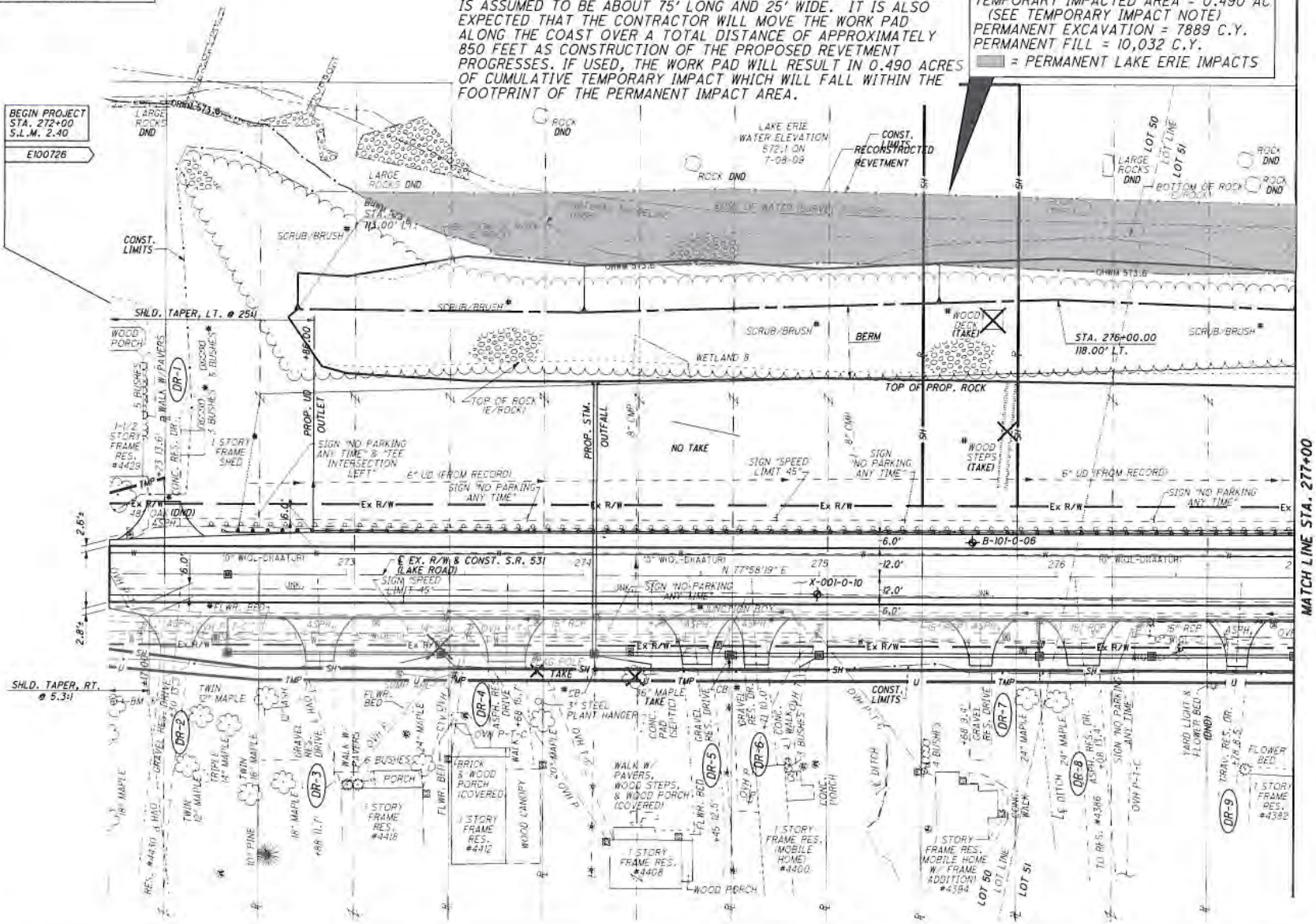
ATB-531-2.90

ODOT CADD 08.08.02

BENCHMARK K: ELEV. 608.05
MAG NAIL N. SIDE OF TWIN 18" MAPLE
AT HOUSE #4430
STA. 272+01.98, 55.97± (RT)

TEMPORARY IMPACT NOTE
THE TEMPORARY IMPACT AREA IS A MOVEABLE WORK PAD FOR THE CONTRACTOR'S USE IN CONSTRUCTING NEW REVETMENT. THE PAD IS ASSUMED TO BE ABOUT 75' LONG AND 25' WIDE. IT IS ALSO EXPECTED THAT THE CONTRACTOR WILL MOVE THE WORK PAD ALONG THE COAST OVER A TOTAL DISTANCE OF APPROXIMATELY 850 FEET AS CONSTRUCTION OF THE PROPOSED REVETMENT PROGRESSES. IF USED, THE WORK PAD WILL RESULT IN 0.490 ACRES OF CUMULATIVE TEMPORARY IMPACT WHICH WILL FALL WITHIN THE FOOTPRINT OF THE PERMANENT IMPACT AREA.

LAKE ERIE IMPACT
PERMANENT IMPACTED AREA = 3.450 AC
TEMPORARY IMPACTED AREA = 0.490 AC
(SEE TEMPORARY IMPACT NOTE)
PERMANENT EXCAVATION = 7889 C.Y.
PERMANENT FILL = 10,032 C.Y.
= PERMANENT LAKE ERIE IMPACTS



HORIZONTAL SCALE IN FEET

CALCULATED CMK
CHECKED SAC

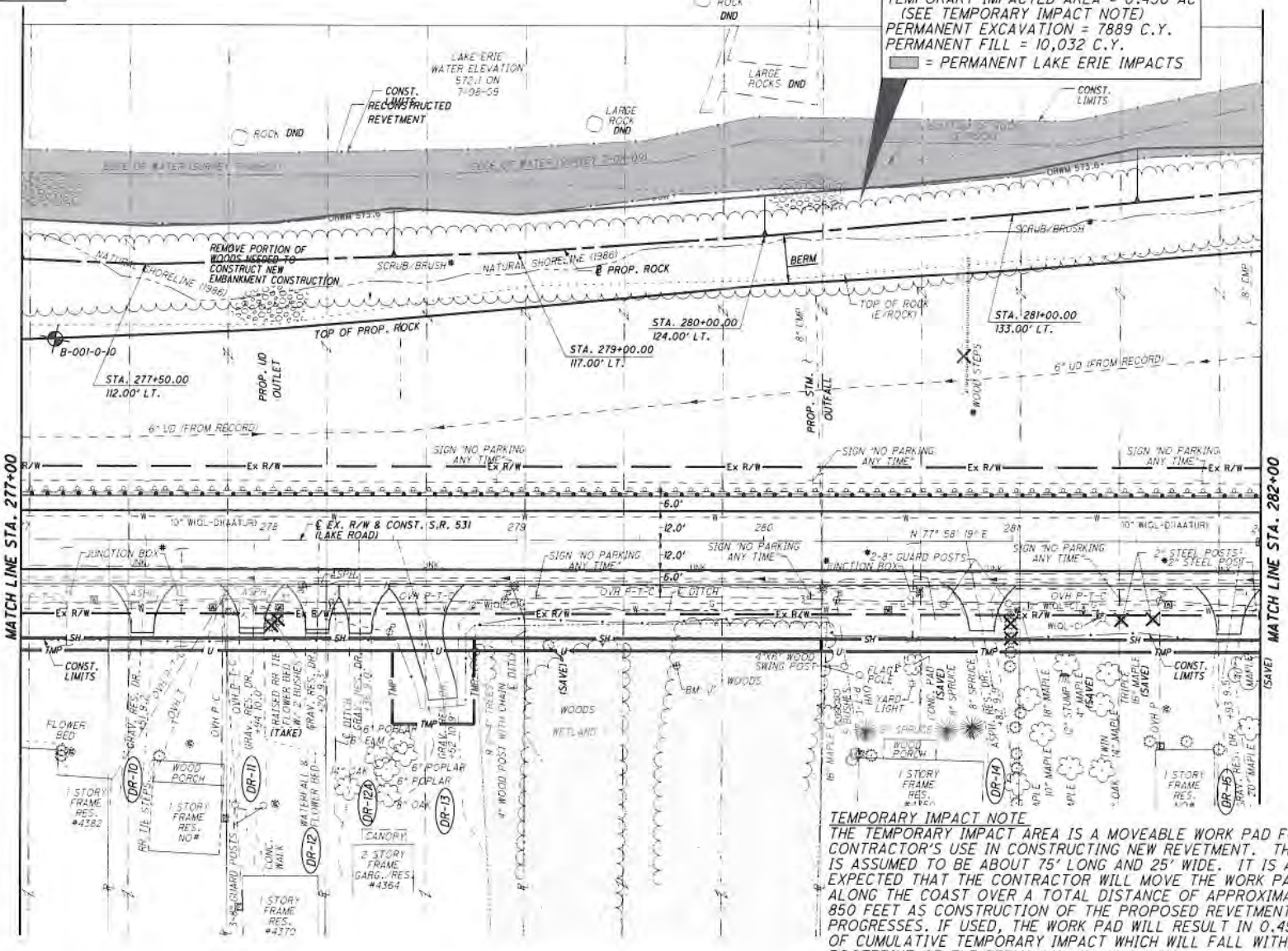
LAKE ERIE IMPACT DRAWING
S.R. 531 - STA. 272+00 TO STA. 277+00

ATB-531-2.40

1 / 11

BENCHMARK J: ELEV. 609.73
MAG NAIL N.E. SIDE OF 16" MAPLE
±120' W OF ℄ DRIVE TO HOUSE #4350
STA. 279+65±, 50'± (RT)

LAKE ERIE IMPACT
PERMANENT IMPACTED AREA = 3.450 AC
TEMPORARY IMPACTED AREA = 0.490 AC
(SEE TEMPORARY IMPACT NOTE)
PERMANENT EXCAVATION = 7889 C.Y.
PERMANENT FILL = 10,032 C.Y.
= PERMANENT LAKE ERIE IMPACTS



TEMPORARY IMPACT NOTE
THE TEMPORARY IMPACT AREA IS A MOVEABLE WORK PAD FOR THE CONTRACTOR'S USE IN CONSTRUCTING NEW REVETMENT. THE PAD IS ASSUMED TO BE ABOUT 75' LONG AND 25' WIDE. IT IS ALSO EXPECTED THAT THE CONTRACTOR WILL MOVE THE WORK PAD ALONG THE COAST OVER A TOTAL DISTANCE OF APPROXIMATELY 850 FEET AS CONSTRUCTION OF THE PROPOSED REVETMENT PROGRESSES. IF USED, THE WORK PAD WILL RESULT IN 0.490 ACRES OF CUMULATIVE TEMPORARY IMPACT WHICH WILL FALL WITHIN THE FOOTPRINT OF THE PERMANENT IMPACT AREA.

HORIZONTAL SCALE IN FEET

DESIGNED CMK
CHECKED SAC

LAKE ERIE IMPACT DRAWING
S.R. 531 - STA. 277+00 TO STA. 282+00

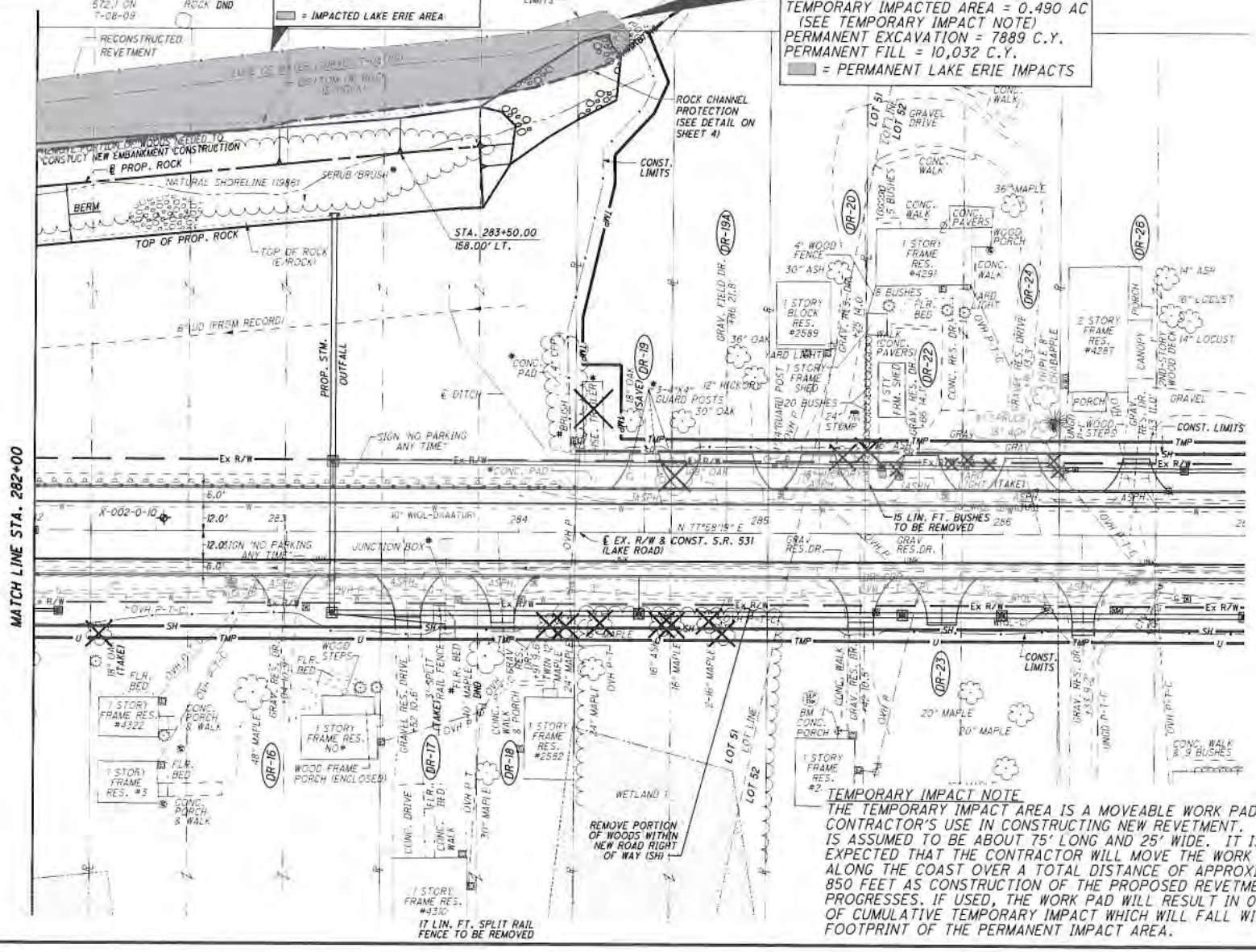
ATB-531-2.40

2/11

BENCHMARK 1: ELEV. 611.41
N.W. CORNER OF CONC. STOOP
AT HOUSE #2588
STA. 285+32.87, 82.52' (RT)

LAKE ERIE IMPACT
PERMANENT IMPACTED AREA = 3.450 AC
TEMPORARY IMPACTED AREA = 0.490 AC
EXCAVATION = 7889 C.Y.
FILL = 10,032 C.Y.
= IMPACTED LAKE ERIE AREA

LAKE ERIE IMPACT
PERMANENT IMPACTED AREA = 3.450 AC
TEMPORARY IMPACTED AREA = 0.490 AC
(SEE TEMPORARY IMPACT NOTE)
PERMANENT EXCAVATION = 7889 C.Y.
PERMANENT FILL = 10,032 C.Y.
= PERMANENT LAKE ERIE IMPACTS



TEMPORARY IMPACT NOTE

THE TEMPORARY IMPACT AREA IS A MOVEABLE WORK PAD FOR THE CONTRACTOR'S USE IN CONSTRUCTING NEW REVETMENT. THE PAD IS ASSUMED TO BE ABOUT 75' LONG AND 25' WIDE. IT IS ALSO EXPECTED THAT THE CONTRACTOR WILL MOVE THE WORK PAD ALONG THE COAST OVER A TOTAL DISTANCE OF APPROXIMATELY 850 FEET AS CONSTRUCTION OF THE PROPOSED REVETMENT PROGRESSES. IF USED, THE WORK PAD WILL RESULT IN 0.490 ACRES OF CUMULATIVE TEMPORARY IMPACT WHICH WILL FALL WITHIN THE FOOTPRINT OF THE PERMANENT IMPACT AREA.

HORIZONTAL SCALE IN FEET

CALCULATED CMK
CHECKED SAC

LAKE ERIE IMPACT DRAWING
S.R. 531 - STA. 282+00 TO STA. 287+00

ATB-531-2.40

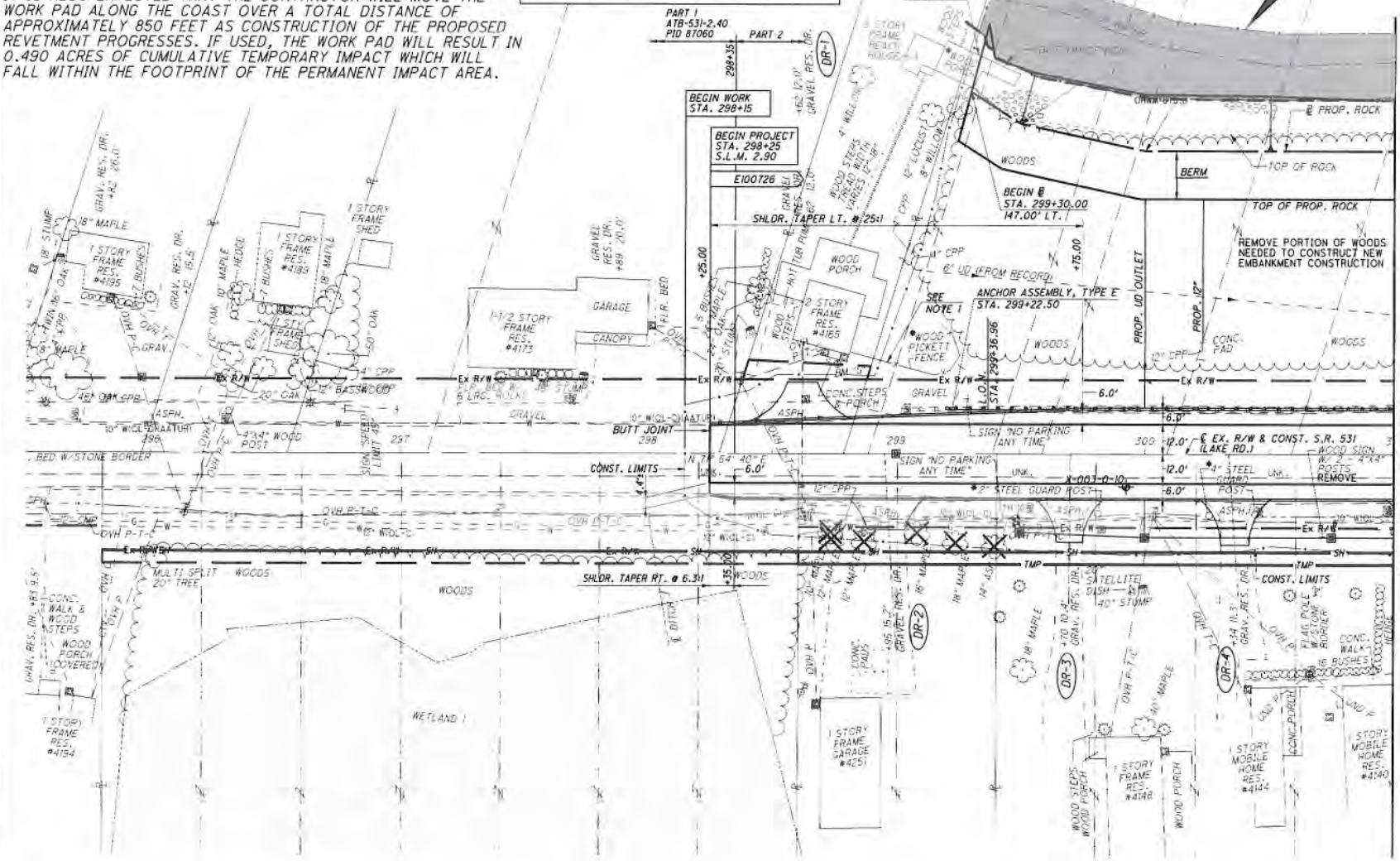
3/11

BENCHMARK G: ELEV. 612.98
TOP OF STEEL STUD AT SE CORNER OF
BOTTOM STEP AT FRONT OF HOUSE #4165
STA. 298+76, 36' (LT.)

TEMPORARY IMPACT NOTE
THE TEMPORARY IMPACT AREA IS A MOVEABLE WORK PAD FOR THE CONTRACTOR'S USE IN CONSTRUCTING NEW REVETMENT. THE PAD IS ASSUMED TO BE ABOUT 75' LONG AND 25' WIDE. IT IS ALSO EXPECTED THAT THE CONTRACTOR WILL MOVE THE WORK PAD ALONG THE COAST OVER A TOTAL DISTANCE OF APPROXIMATELY 850 FEET AS CONSTRUCTION OF THE PROPOSED REVETMENT PROGRESSES. IF USED, THE WORK PAD WILL RESULT IN 0.490 ACRES OF CUMULATIVE TEMPORARY IMPACT WHICH WILL FALL WITHIN THE FOOTPRINT OF THE PERMANENT IMPACT AREA.

LAKE ERIE IMPACT
PERMANENT IMPACTED AREA = 3.450 AC
TEMPORARY IMPACTED AREA = 0.490 AC
(SEE TEMPORARY IMPACT NOTE)
PERMANENT EXCAVATION = 7889 C.Y.
PERMANENT FILL = 10,032 C.Y.
= PERMANENT LAKE ERIE IMPACTS

LAKE ERIE IMPACT
PERMANENT IMPACTED AREA = 3.450 AC
TEMPORARY IMPACTED AREA = 0.490 AC
EXCAVATION = 7889 C.Y.
FILL = 10,032 C.Y.
= IMPACTED LAKE ERIE AREA

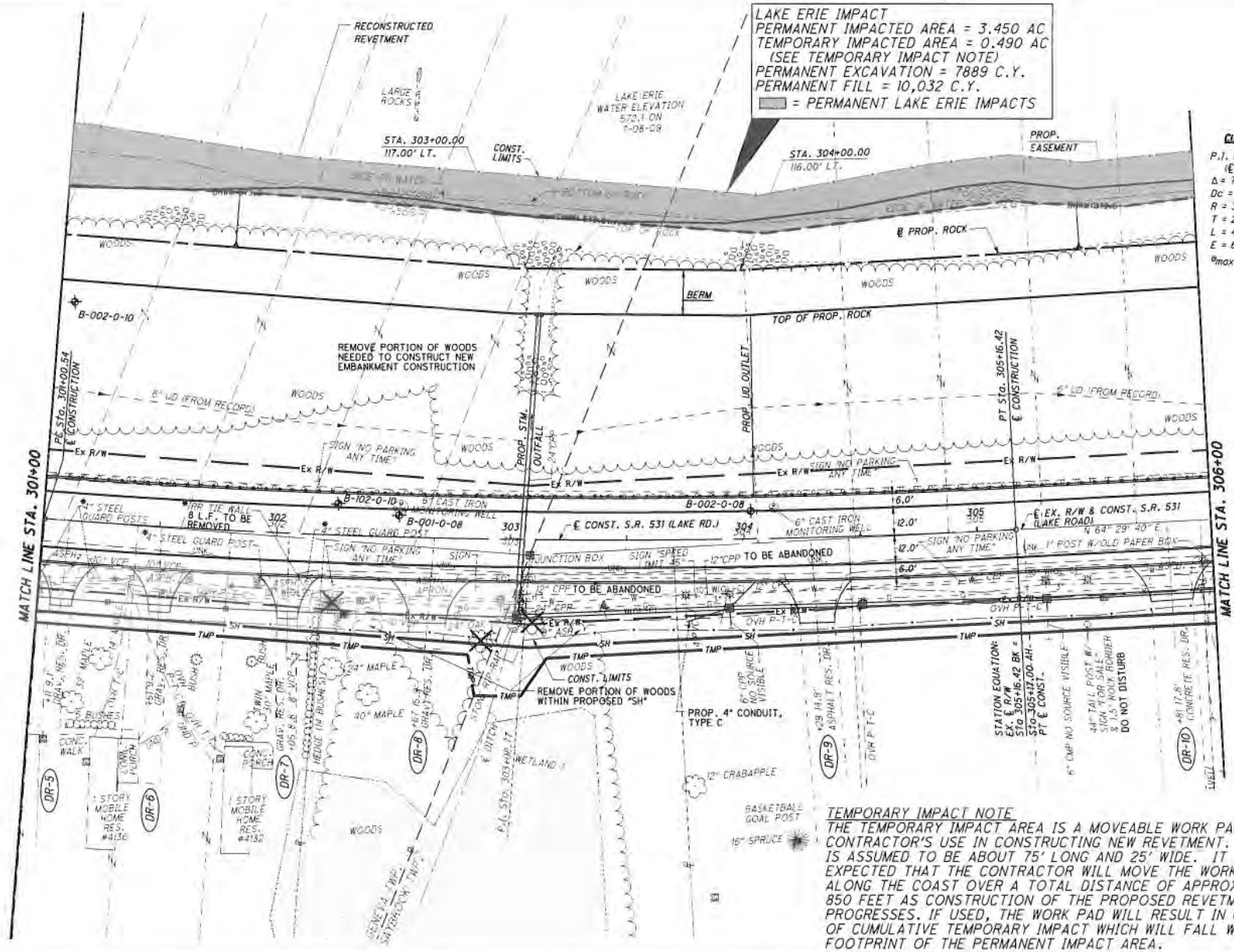


CALCULATED CMK
CHECKED WEB
HORIZONTAL SCALE IN FEET

LAKE ERIE IMPACT DRAWING
S.R. 531 - STA. 296+00 TO STA. 301+00

ATB-531-2.90

76883/PU01.dgn



TEMPORARY IMPACT NOTE

THE TEMPORARY IMPACT AREA IS A MOVEABLE WORK PAD FOR THE CONTRACTOR'S USE IN CONSTRUCTING NEW REVETMENT. THE PAD IS ASSUMED TO BE ABOUT 75' LONG AND 25' WIDE. IT IS ALSO EXPECTED THAT THE CONTRACTOR WILL MOVE THE WORK PAD ALONG THE COAST OVER A TOTAL DISTANCE OF APPROXIMATELY 850 FEET AS CONSTRUCTION OF THE PROPOSED REVETMENT PROGRESSES. IF USED, THE WORK PAD WILL RESULT IN 0.490 ACRES OF CUMULATIVE TEMPORARY IMPACT WHICH WILL FALL WITHIN THE FOOTPRINT OF THE PERMANENT IMPACT AREA.

HORIZONTAL SCALE IN FEET

CALCULATED CMK
CHECKED WEB

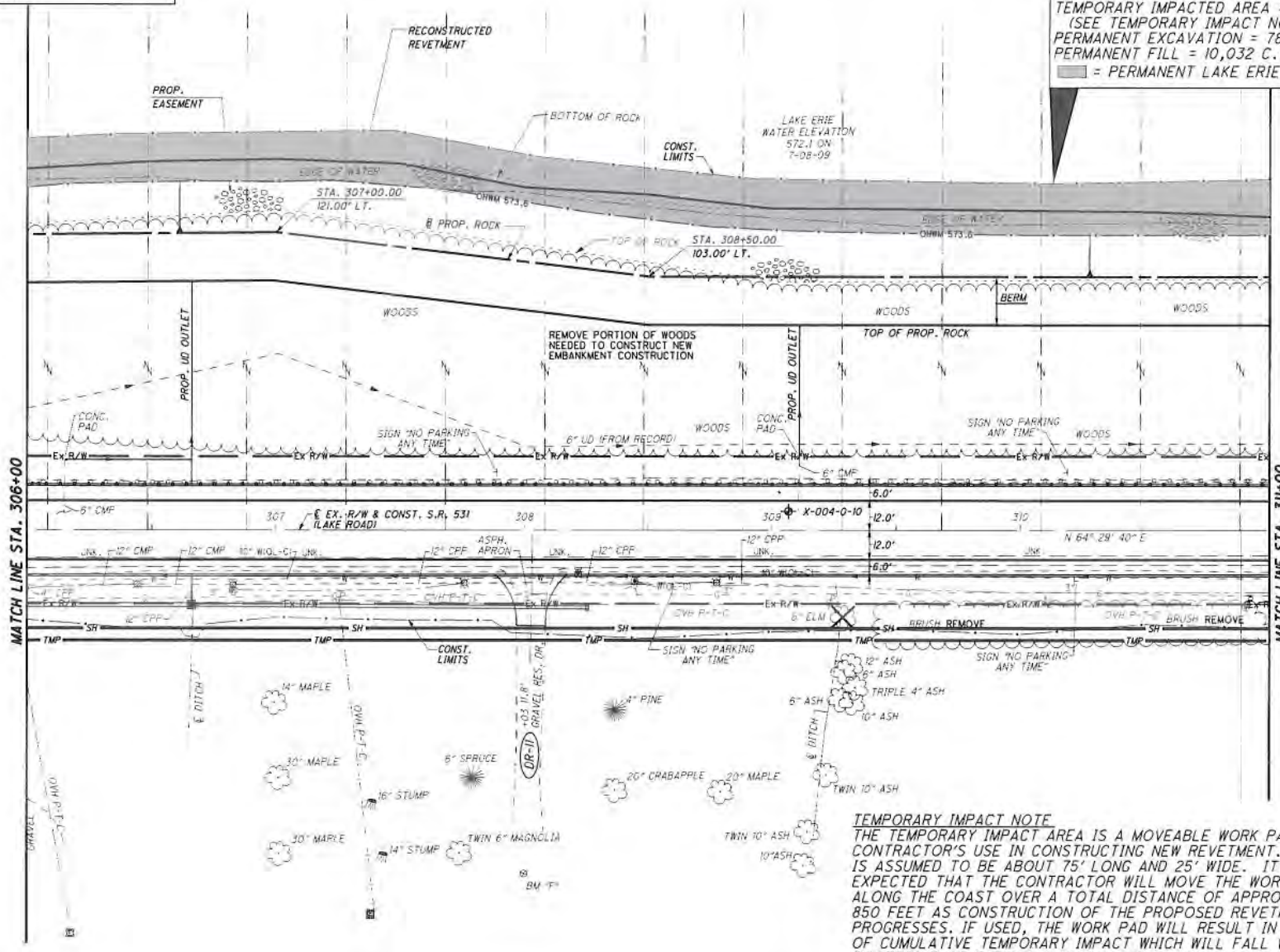
LAKE ERIE IMPACT DRAWING

S.R. 531 - STA. 301+00 TO STA. 306+00

ATB-531-2.90

BENCHMARK F: ELEV. 613.16
NE CORNER OF CONCRETE STOOP CLOSEST
TO GARAGE DOOR AT HOUSE #7230
STA. 308+00±, 140'± (RT)

LAKE ERIE IMPACT
PERMANENT IMPACTED AREA = 3.450 AC
TEMPORARY IMPACTED AREA = 0.490 AC
(SEE TEMPORARY IMPACT NOTE)
PERMANENT EXCAVATION = 7889 C.Y.
PERMANENT FILL = 10,032 C.Y.
= PERMANENT LAKE ERIE IMPACTS



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HORIZONTAL SCALE IN FEET

CALCULATED CMK
CHECKED WEB

LAKE ERIE IMPACT DRAWING
S.R. 531 - STA. 306+00 TO STA. 311+00

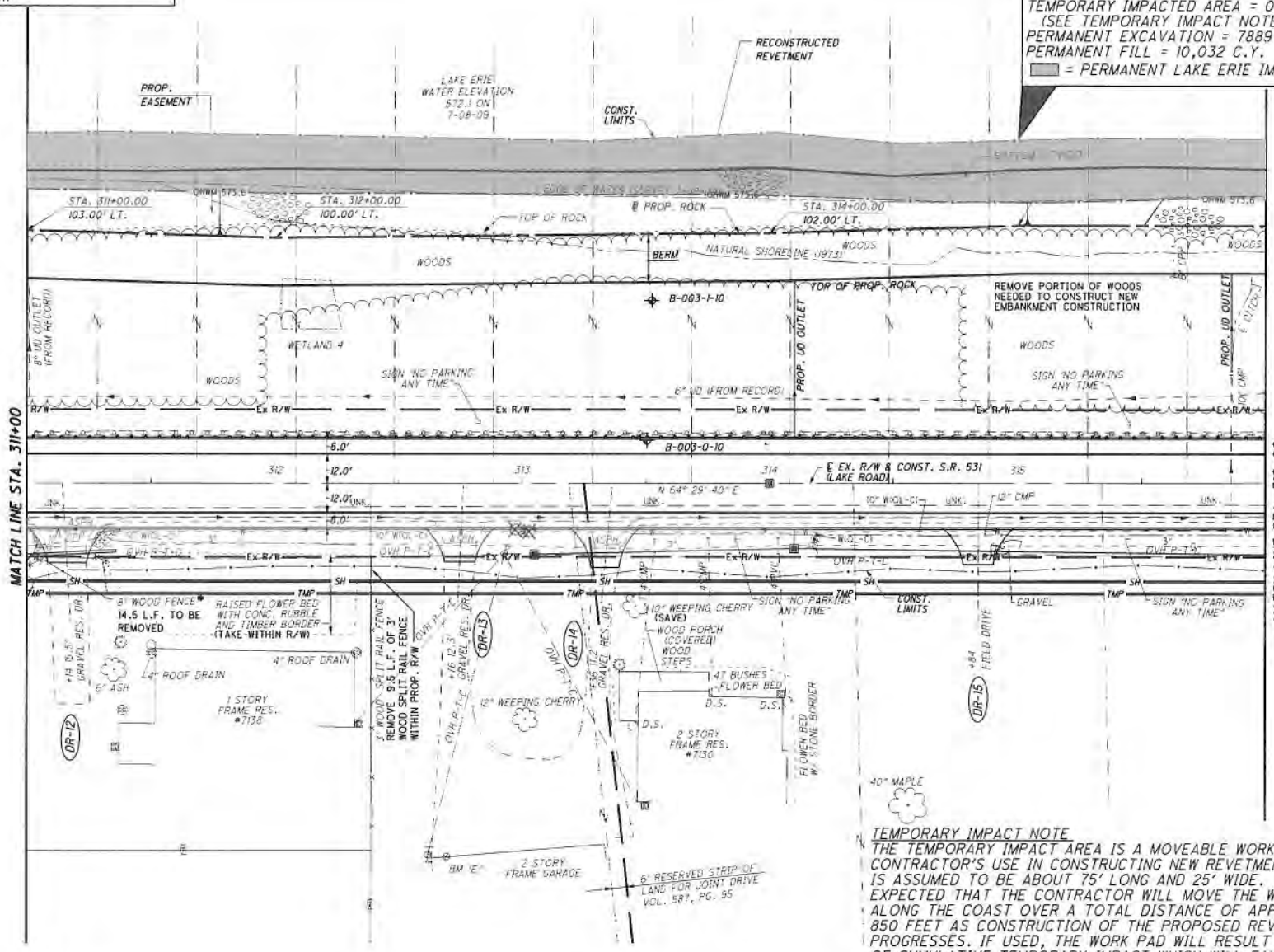
ATB-531-2.90

6/11

7888.SGP003.dgn

BENCHMARK E1 ELEV. 615.07
CONCRETE GARAGE FLOOR AT W. END OF WESTER MOST GARAGE DOOR OF TWO STORY GARAGE/APT.
STA. 312+70, 153' (RT)

LAKE ERIE IMPACT
PERMANENT IMPACTED AREA = 3.450 AC
TEMPORARY IMPACTED AREA = 0.490 AC
(SEE TEMPORARY IMPACT NOTE)
PERMANENT EXCAVATION = 7889 C.Y.
PERMANENT FILL = 10,032 C.Y.
= PERMANENT LAKE ERIE IMPACTS



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HORIZONTAL SCALE IN FEET

CALCULATED CMK
CHECKED WEB

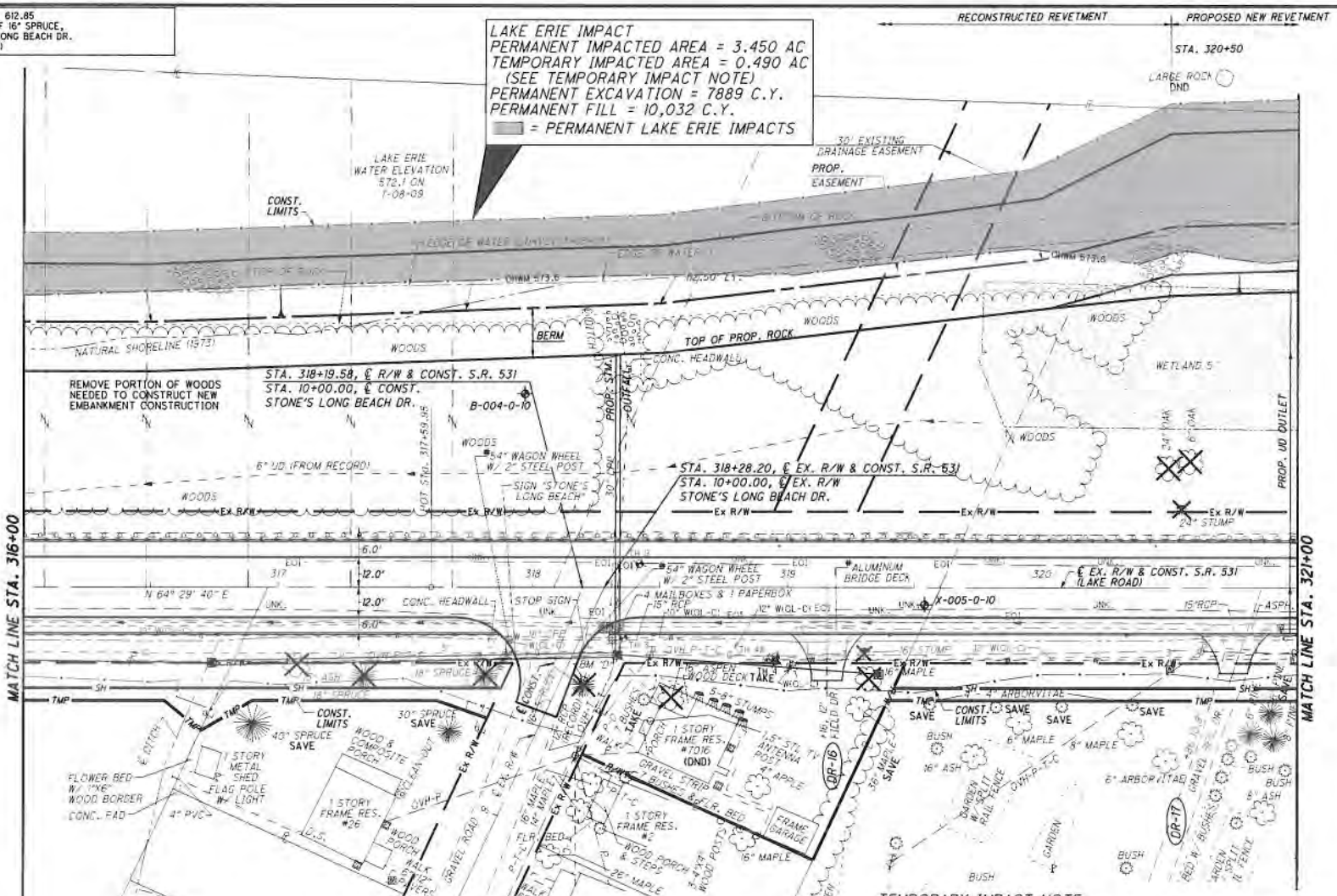
LAKE ERIE IMPACT DRAWING
S.R. 531 - STA. 311+00 TO STA. 316+00

ATB-531-2.90

7 / 11

BENCHMARK D: ELEV. 612.85
60d SPIKE N. SIDE OF 16" SPRUCE,
15'± E. OF STONE'S LONG BEACH DR.
STA. 318+20, 39' (RT)

LAKE ERIE IMPACT
PERMANENT IMPACTED AREA = 3.450 AC
TEMPORARY IMPACTED AREA = 0.490 AC
(SEE TEMPORARY IMPACT NOTE)
PERMANENT EXCAVATION = 7889 C.Y.
PERMANENT FILL = 10,032 C.Y.
= PERMANENT LAKE ERIE IMPACTS



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HORIZONTAL SCALE IN FEET

CALCULATED CMK
CHECKED WEB

LAKE ERIE IMPACT DRAWING
S.R. 531 - STA. 316+00 TO STA. 321+00

ATB-531-2.90

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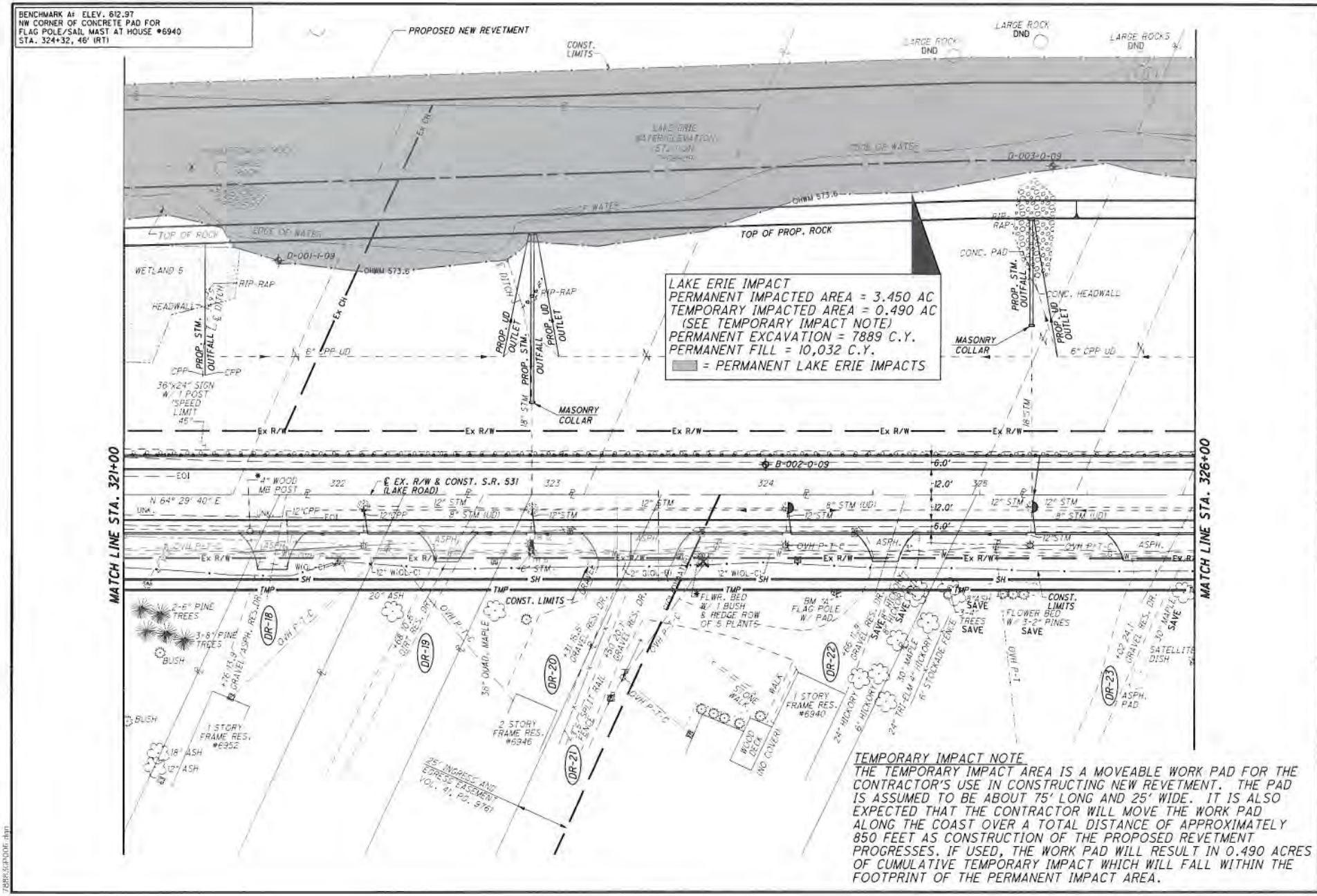

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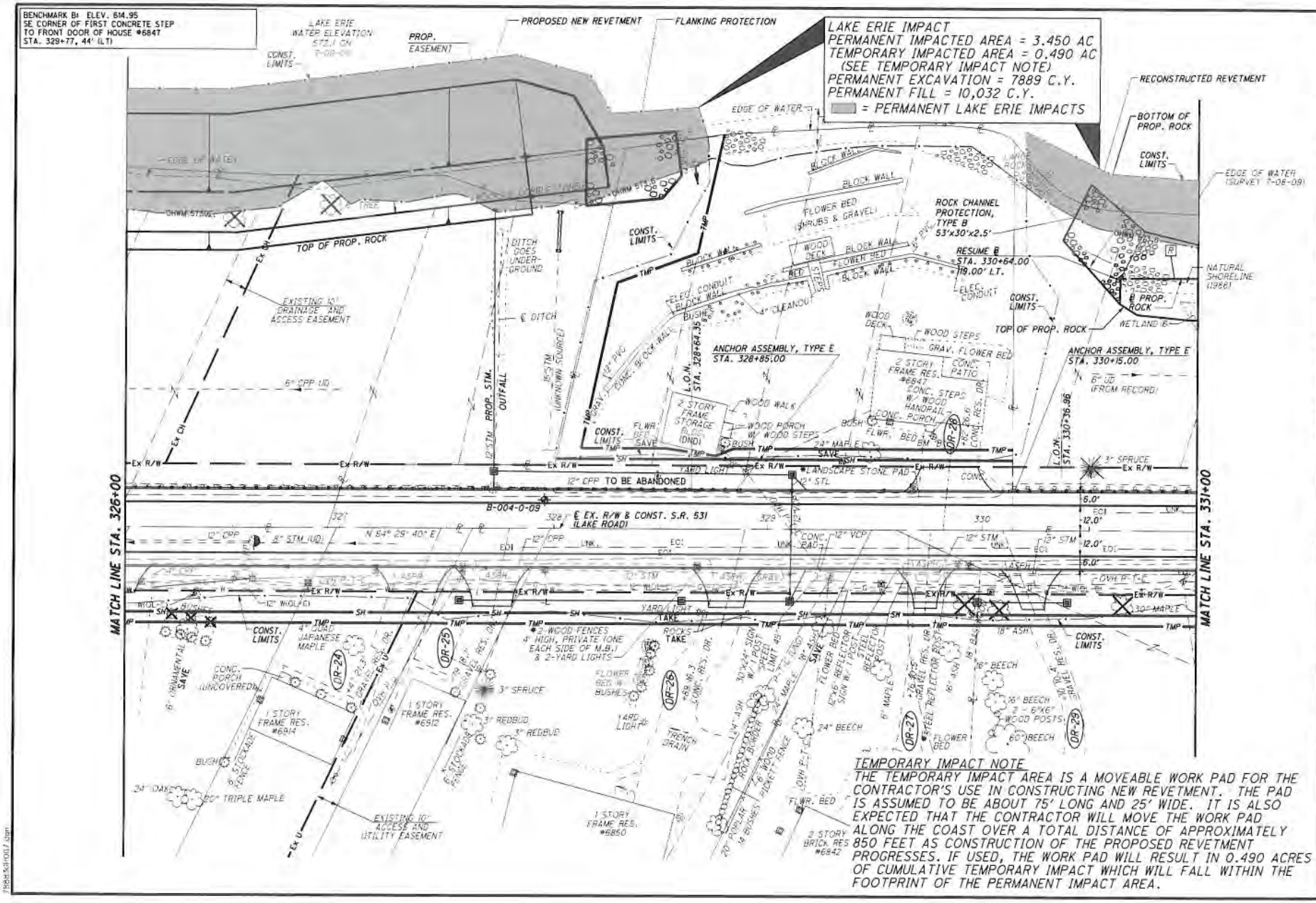
CALCULATED CMK
CHECKED WEB

LAKE ERIE IMPACT DRAWING
S.R. 531 - STA. 321+00 TO STA. 326+00

ATB-531-2.90



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HORIZONTAL SCALE IN FEET

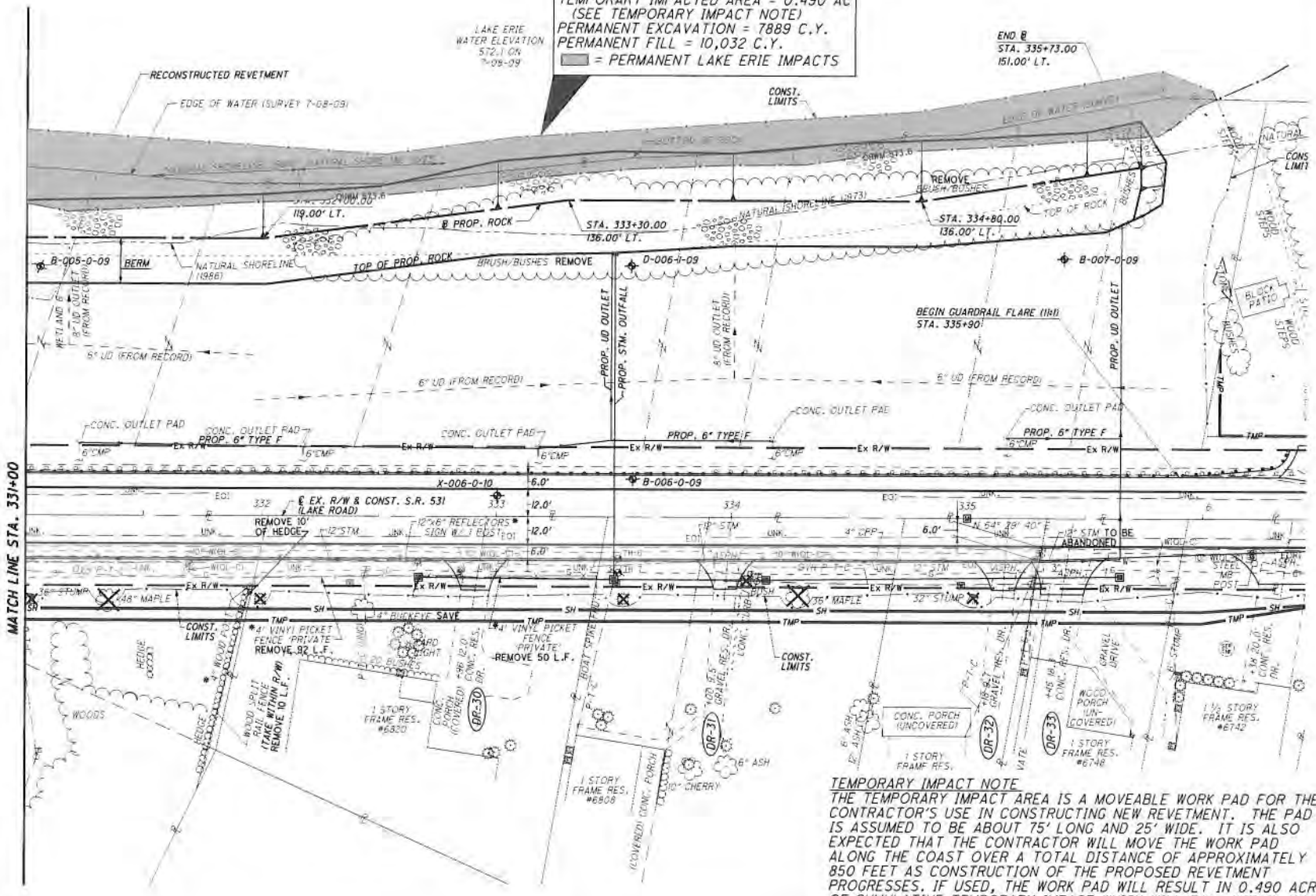
CALCULATED CMK
CHECKED WEB

LAKE ERIE IMPACT DRAWING
S.R. 531 - STA. 326+00 TO STA. 331+00

ATB-531-2.90

10
11

LAKE ERIE IMPACT
PERMANENT IMPACTED AREA = 3.450 AC
TEMPORARY IMPACTED AREA = 0.490 AC
(SEE TEMPORARY IMPACT NOTE)
PERMANENT EXCAVATION = 7889 C.Y.
PERMANENT FILL = 10,032 C.Y.
= PERMANENT LAKE ERIE IMPACTS



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HORIZONTAL SCALE IN FEET

CALCULATED CMK
CHECKED WEB

LAKE ERIE IMPACT DRAWING

S.R. 531 - STA. 331+00 TO STA. 336+00

ATB-531-2.90

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